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EDITORIAL

The Journal of Banking is a research and policy-based publication of The Chartered Institute of Bankers of Nigeria (CIBN) which typically focuses on topical issues in the core areas of banking and finance as well as other related disciplines with emphasis on implications for banking policy.

For this edition, articles were selected across various subject matters- ranging from monetary policy, stock market and bank performance to job mobility. Though the content of this edition is diverse, it is clear that most authors attempted to either establish models and relationships between predetermined variables or focus on the efficiency of existing models.

Ekpo. A. H conducted a study on monetary policy during the economic downturn in Nigeria using panel data spanning from 2007 – 2016 with data analysis conducted through Econometric modelling. Econometric results show that monetary policy was ineffective during the period in question. However, the study also found that monetary policy had negative relationship with economic development and output growth.

Obademi & Akano on the other hand investigated the impact of job mobility on banking sector performance in Nigeria. The paper which utilized Correlation Analysis of data collected, found that job insecurity and staff welfare as it concerns employees remuneration and benefits were largely responsible for job mobility. Alternatively, factors such as target selling and excessive workload were found to have no significant impact on mobility and bank performance.

Tella & Alimi tested the validity of the Greenwood and Jovanovich hypothesis in an interest free economy. Their hypothesis was tested by examining the impact of zero interest money supply measure of financial development on poverty and income inequality in Nigeria. The study employed the use of the Vector Error Correction model to estimate both short-run and long-run relationships for the periods between Q1/1981 and Q4/2012. The result showed that non-interest banking and financial development measured by narrow money as a percentage of GDP has positive and negative significant impacts on income inequality and poverty rates respectively. The study recommended the support of zero-interest economy for the real welfare improvement of average Nigerians to be guaranteed.

Osamwoyi & Kasimu examined various characteristics which could influence investor's behaviour in the Nigerian Stock Market. The study which employed the use of Cross tabulation, descriptive statistics, correlation matrix and Chi-square data analysis found that investors' behaviour in the Nigerian Stock Market is consistent with predictions stated in the Cumulative Prospect Theory. The study also identified behavioural bias factors such as feelings, news of loss and crowd influence as important. The study recommended that major participants in the Nigerian financial market should design products and strategies that would cover the risk framework of the individual investors in the stock market.

Finally, Ogbeide S.O. conducted a research on the effect of cashless policy on financial performance in Nigeria. To achieve this, the study utilized the Augmented Dickey Fuller test to determine the stationary state of 5 variables between 2007 and 2016 representing 50 annual observations. Findings indicated that the cashless policy largely influences banks' financial performance. This conclusion was particularly deduced from observations on the increased volume of trade via platforms such as the Automated Teller Machines (ATMs)

and Point of Sale (POS) Devices which in turn indicated an increased bank performance.

It is our belief that studies in this edition would fill gaps present in the financial services ecosystem and the economy at large and add value to economic as well as financial management techniques. This edition would also form the basis for further studies and discussion. Potential contributors are therefore encouraged to send to us new articles, complementary/critical to those published in this edition.

'Seye Awojobi, FCIB
Registrar/ Chief Executive

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MONETARY POLICY DURING ECONOMIC DOWNTURN: NIGERIA 1981 - 2016

By

Ekpo A.H[1]

Abstract

The paper argues that the aim of monetary policy especially during the declining and recovery phases of the business cycle is to utilize available instruments to prevent and/or minimize the adverse effects of economic downturn by sacrificing some inflation for growth. Econometric results show that monetary policy was ineffective during the period 1981-2016. The growth of money supply had a negative relationship with income by capita and economic development. There was no evidence of fiscal dominance during the period under study. The results indicated the absence of co-ordination between monetary and fiscal policy. Monetary policy must be aggressive in addressing the issue of high lending rates if the economy is to return to a path of positive growth trajectory via revamping the real sector of the economy.

Keywords: *Stagflation, Monetary and Fiscal Dominance, Business Cycle*

1 Professor of Economics and Director General, West African Institute for Financial and Economic Management (WAIFEM), Lagos.

1.0 Introduction

Economies that are dominated by the market framework are subject to cyclical fluctuations in economic activities. Such economies go through periods of boom and bust with declining and recovery episodes. The Nigerian Economy has exhibited a roll-a-coaster nature in the last 56 years of nationhood partly due to the adoption of the market framework economic system as well as her existence on the periphery of the global economy.

In spite of the implementation of various types of monetary and fiscal policies (with the absence of structural policies), the policy-makers are yet to reduce poverty to an acceptable level and provide basic necessities of life to millions of Nigerians. The economic performance index, the misery and discomfort indices were trending in the wrong direction.

Furthermore, macroeconomic fundamentals such as inflation, exchange rate, unemployment, lending rates, growth of gross domestic product (GDP) are moving in the wrong direction. Even the seemingly positive growth of almost 6 percent between 1999 and 2007 did not result in economic development.

Beginning March, 2016, the economy was in a state of stagflation (economic downturn) characterized by declining productivity, rising inflation and unemployment. The Central Bank of Nigeria utilized monetary policy to maintain price stability and generate unemployment to no avail. The rate of inflation rose from 9.6 per cent in 2015 to 17.9 per cent in the 3rd

quarter of 2016 and rose to 18.55 per cent in 4th quarter of the same year. Apart from the structural causes, the foreign exchange policy increased speculation which partly increased the rate of inflation. Hence, stabilizing the foreign exchange market became a challenge. The economy is now in a recession of a special type affecting both the demand supply of the economy.

However, the concern of this paper is on the effectiveness of monetary policy is reversing the economic downturn. Has monetary policy been effective? Has fiscal policy interfered with the implementation of monetary policy? It is generally agreed that it is the co-ordination of both monetary and fiscal policy that can restore an economy in a stagflation phase to restoring a positive growth trajectory. This paper would not stress the issue of co-ordination but notes that in the monetary policy space, fiscal policy must be accommodated and vice-versa.

The paper is organized as follows; section 2 briefly examines the performance of the Nigerian economy while section 3 reviews related studies and discusses the theoretical framework. Section 4 provides the empirical analytics and section 5 concludes the paper. It is expected that the findings in the paper would enrich the debate not just on the effectiveness or otherwise monetary policy in Nigeria but also proffer solutions to reversing the economic downturn.

1.1 Performance of the Nigerian Economy

The Nigerian economy is in a recession with rising unemployment, rising inflation, negative growth and a depreciated domestic currency. This situation is not surprising when we revisit how the economy has been battered hitherto. There was the removal of oil subsidy, non-payment of salaries and allowances to workers in about 24 states, sharp decline in global oil prices thus reducing the foreign exchange reserve, epileptic power supply, other decayed hard infrastructures as well as unprecedented looting of the treasury and sluggish global economic recovery, among others.

Before the recession, despite positive growth trajectories for almost 15 years, there was no economic development. The economy was still at the primary stage of development given the dominance of peasant agriculture and mining. The manufacturing sector on average contributed only 5 per cent to GDP from 2004-2015. In the first two quarters of 2016, the contribution of manufacturing to GDP was negative -7 percent and -3 percent respectively.

Before and after the rebasing of the GDP, the structure of the economy was not transformed. The economy remained and is still at the primary stage of production. A movement towards the secondary stage where manufacturing dominates would have reflected some degree of diversification (see Table 1 below).

Table 1
Nigeria: Real Sectoral GDP Growth after Rebasing
2010 – 2016 (%)

Item	2010	2011	2012	2013	2015	2016
Agriculture	2.92	6.70	2.94	2.9	1.72	4.11
Mining & Quarrying	2.41	-4.78	-12.81	-12.8	-5.27	-14.45
Manufacturing	17.82	13.46	21.80	21.7	-1.46	-4.32
Construction	15.71	9.44	14.22	14.2	4.35	4.00
Trade	7.21	2.21	6.64	6.6	5.14	-1.24
Arts, Entertainment &Recreation	48.3	27.36	14.93	14.9	9.40	1.72
Finance & Insurance	-26.9	21.02	8.63	8.6	7.12	4.54
Real Estate	0.43	5.65	11.98	11.9	2.11	
GDP Growth	5.31	4.21	5.49	5.5	2.75	-1.58

Source: *National Bureau of Statistics, Abuja.*

The mining and quarrying sector driven by oil production consistently registered negative growth from 2011- 2016. It grew by -4.78 per cent in 2011 and further contracted by -14.45 per cent in 2016. With the declining growth of key sectors of the economy from 2011, the signs of an economic downturn were evident hence policy and strategies would have been put in place to address the challenge.

Table 2 indicates that services dominated the structure of the economy from 2012 to 2016 averaging almost 52 per cent. This phenomenon should be interpreted with caution. The services sector is rudimentary and of low quality. The dominance of

services at this stage of the country's development is known as tertiarization. Hence, the economy is still at the level of primary production. It is interesting to state that the oil sector has been contracting from 2012 when it grew by -4.95 per cent and further declined in 2016 by -14.45 per cent.

Table 2
Nigeria Annual Real Contribution and Growth Rates by Sectors (%) Year-on-Year

Contribution to GDP	2012	2013	2014	2015	2016
Agriculture	23.91	23.33	22.91	23.11	24.45
Industries	25.61	24.81	24.93	23.71	21.96
Services	50.48	51.86	52.16	53.18	53.59
Total	100.00	100.00	100.00	100.00	100.00
Growth	**2012**	**2013**	**2014**	**2015**	**2016**
Agriculture	6.7	2.94	4.27	3.72	4.11
Industries	2.43	2.16	6.76	-2.24	-8.85
Services	3.97	8.38	6.85	4.78	-0.82
Real Growth at Basic Price	4.21	5.49	6.22	2.79	-1.58
Real Growth at Market Price	4.28	5.39	6.31	2.65	-1.62
Non-Oil Growth Rate	5.81	8.42	7.18	3.77	-0.22
Oil Growth Rate	-4.95	-13.07	-1.32	-5.45	-14.45

***Source**: National Bureau of Statistics, Abuja*

The unemployment situation clearly shows that the economy is producing at less than full-employment output. The rate of unemployment is way beyond the full-employment rate of 5 per cent. The rates of unemployment and underemployment rose from 21.4 per cent in 2010 to almost 33 per cent in 2016. The output loss and the adverse implications of a growing army of unemployed persons need no emphasis. From 2007-2016, the economy grew by almost 6 per cent but unemployment was around 33 per cent hence the growth was a non-employment generating growth – a type of paper growth.

The misery and discomfort indices show uncomfortable trends throughout the period 2006-2016. The economic performance index which captures most relevant macroeconomic indices dropped from 76 per cent in 2006 to 56 per cent in 2016 while the misery index kept rising, averaging 72 per cent in 2016 (see Tables A3-A4 in the appendix).

An analysis of the available data confirms the unsatisfactory performance of the Nigerian economy for the period 1981-2016. In the empirical section the precise relationship between monetary policy and output would be examined.

2.0 Review of Related Studies and Theoretical Framework

There are several studies on economic downturn and macroeconomic policies in the literature. A summary of such studies is in (Weishbrot, Mark et al, 2009). Any market economy

experiences phases of boom, decline, trough and recovery in a typical business cycle and/or period of economic fluctuation. In each phase macroeconomic policies are relevant in stabilizing the economy.

Theoretically, economic downturn (stagflation) occurs if any two of the following conditions exist within a year; (i) declining productivity (ii) rising inflation (usually double - digit); and (iii) rising unemployment (significantly above 5 per cent). When an economy is in a stagflation phase, monetary and fiscal policies can reverse the situation. However, it is the visible hand of government through increased spending that can enable an economy to exit a recession, that is, implementation of fiscal and structural policies.

In the context of an economy like Nigeria whose domestic currency is not convertible, the exchange rate plays a vital role in ensuring over-all stability. The studies on exchange rate pass-through in Nigeria have mixed findings. There is no common stance on the size of the exchange rate pass-through. (Adeyemi and Samuel, 2013; Essien, 2015; Bartini, 2008) found that the pass-though was incomplete, small and non-significant in the short-run but increasing in the long-run to about 0.9 while others found a small (0.2) pass-through in the long-run (Zubairu, Okorie and Sanni, 2013).

A recent study which included the year 2014 and 2015 capturing the period of exchange rate pressures obtained different results.

Larian, Ana et al (2016) found that there was no stable long-run relationship between the exchange rate and prices and that changes in the exchange rate had no significant pass-through effect on inflation. However, the pass-through effect on core inflation was significant.

Theoretically, the role of monetary policy is to moderate inflation and enhance the growth of the economy. The core mandate of central Banks is to ensure price stability. The other developmental functions of employment generation, exchange rate stability, and moderate interest rates are derivatives of monetary policy.

3.0 Methodology

Inflation is an increase in the average price of goods and services in terms of money. Hence to understand inflation implies investigating the market for money.

The demand for real money balances can be specified thus:

$$L = L(r, y) \quad (1)$$

Where:

L = demand for real money balances

r = nominal interest rate

y = real income

The demand for real money balances is decreasing in nominal interest rate $\left(\frac{\partial l}{\partial r} L < 0\right)$ and increasing in real income $\left({}^{\partial L}/_{\partial y} > o\right)$

With M as the money stock and p as the price level the equilibrium in the money market is given as:

$\frac{M}{p} = L$(r,y) (2)

Equation (2) means that the price level is:

$p = \frac{M}{L(r,y)}$ (3)[2]

The implication of equation (2) is that there are many potential sources of inflation. The price level can rise due to increases in money supply, increases in interest rates, decreases in output as well as decreases in money demand for a given r and y.

However, in understanding inflation in the long term the growth of money supply is the major factor. There is no other factor that is likely to lead to persistent increases in the price level. According to (Romer, 2012) "long-term declines in output are unlikely. The expected inflation component of nominal interest rates reflects inflation itself, and the observed variation in the real interest rates component is limited – there is no reason to expect repeated large falls in money demand for a given r and y."

[2] With some manipulation, equation (3) can incorporate expected inflation and $r = i + \pi$^e where π^e is expected inflation and $p + M/L(i + iie, y)$

Furthermore, the money supply can grow at almost any rate based on various research results (Goldfield and Sichel, 1990; Tanner, E, 2017). Consequently, money growth plays a unique role in determining inflation because empirically it varies more than other determinants of inflation.

It is interesting to note that the global economic crisis of 2008/2009 introduced new theoretical insights into the macroeconomic management of economies during economic downturn. The new concepts of unconventional monetary policy (UMP) and its various cohorts do not negate the principles enunciated by the simpler analytics provided above. The brief theoretical discourse would guide the empirical specification and discussion on the effectiveness of monetary policy on the Nigerian economy during economic downturn. For a detail exposition of the theoretical framework stressing fiscal dominance in the conduct of monetary policy see (Ekpo, Asiama and Akosah, 2014).

4.0 Empirical Analysis

The graphs below (figures1-2) show the trend of the growth of money supply and key macroeconomic variables. The growth of M1 and M2 indicate similar trajectory for the period 1975-1996. The rate of inflation trended below the growth of money supply from 2001 to 2009.

From 2012 to 2014, inflation grew faster than M1 and M2 but from 2015 the reverse was the case. In value terms both M1 and

M2 grew almost at the same rate but from 2001, M2 exceeded M1. Both M1 and M2 dominated fiscal balance from 2003 to 2015. It seems that monetary policy was dominant in the Nigerian economy during the period 2003 to 2015. It should be noted that though the economy was characterized by fiscal deficits, the magnitude was not large enough to dominate fiscal policy. Though the Central Bank's reaction function accommodates fiscal aspect of the economy, the fiscal operations of sub-national governments are often not captured. This omission could further explain the dominance of monetary policy (see figure 1 below).

Figure 1 below reveals that the Nigerian economy has experienced a typical business cycle. The economy contracted at various times during the period 1975 to 2015. The growth of money supply did not result in the growth of output. During the period of positive growth trajectory, monetary policy was not able to reverse the unemployment situation. However, monetary policy was able to keep inflation on check particularly during the period 1999-2015. It should also be noted that there was no pressure on the foreign exchange market as the CBN had enough reserves to support the Naira. Towards the end of 2015, the situation was reversed as the sharp decline in oil prices resulted in decreased foreign exchange and the economy could not match the demand for foreign exchange.

4.1 Nigeria: Growth of Money Supply (M1 and M2) and Inflation Rates, 1975-2015.

In figure 1, from 2009 to 2016 the rate of unemployment exceeded the growth of money supply, growth of GDP and the rate of inflation. This demonstrates that both monetary and fiscal policies were no longer impacting on the economy as fundamental macroeconomic variables were moving in the wrong direction (figures 2 and 3 below)

Figure 1
Nigeria: Growth of Money Supply (M1 and M2) and Inflation Rates 1975-2015.

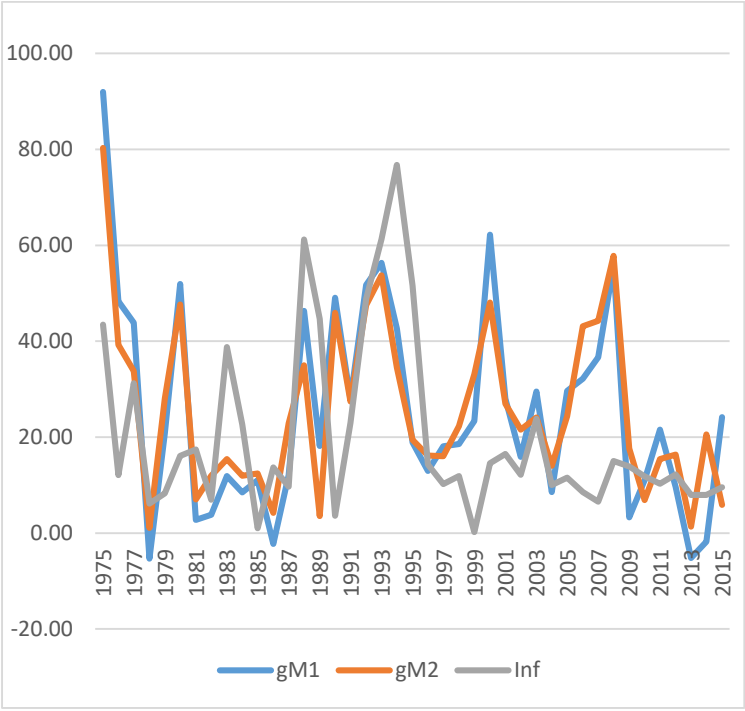
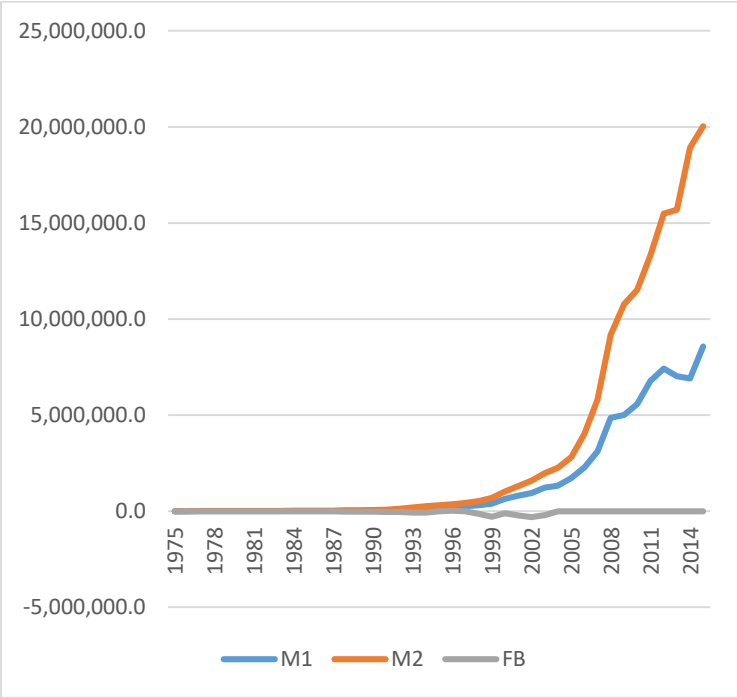


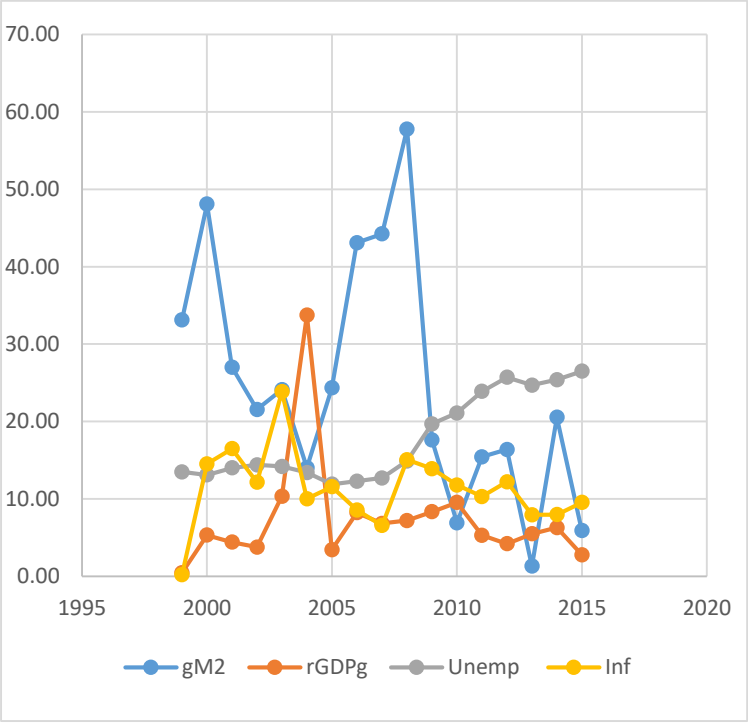
Figure 2
Trend in M1 and M2 1975-2015



It is also useful to examine the relationship between the monetary policy rate (MPR) and lending rates of commercial banks. For the period 1998-2016 (see Table A1 in the appendix) both the prime and maximum lending rates exceeded in

significant magnitudes the MPR reflecting the profit-making motive of commercial banks.

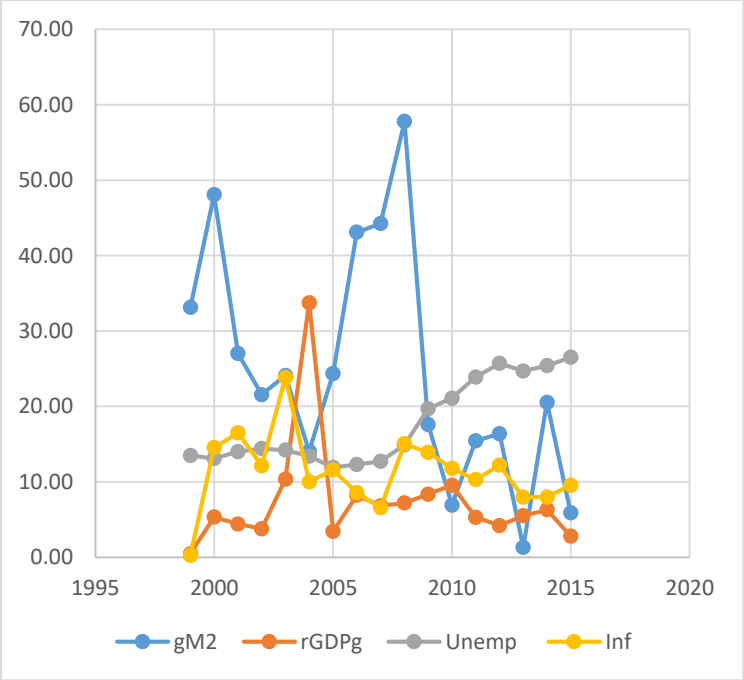
Figure 3
Growth in M2, GDP, Unemployment and Inflation
1998-2016



However, selected significant episodes present themselves. From 1986-1993, the period of structural adjustment, the minimum rediscount rate (as it was then called) had no

significant impact on inflation as the later remained very high peaking at 61.2 per cent, 48.8 per cent and 61.3 per cent in 1988, 1992 and 1993 respectively. For the same period, lending

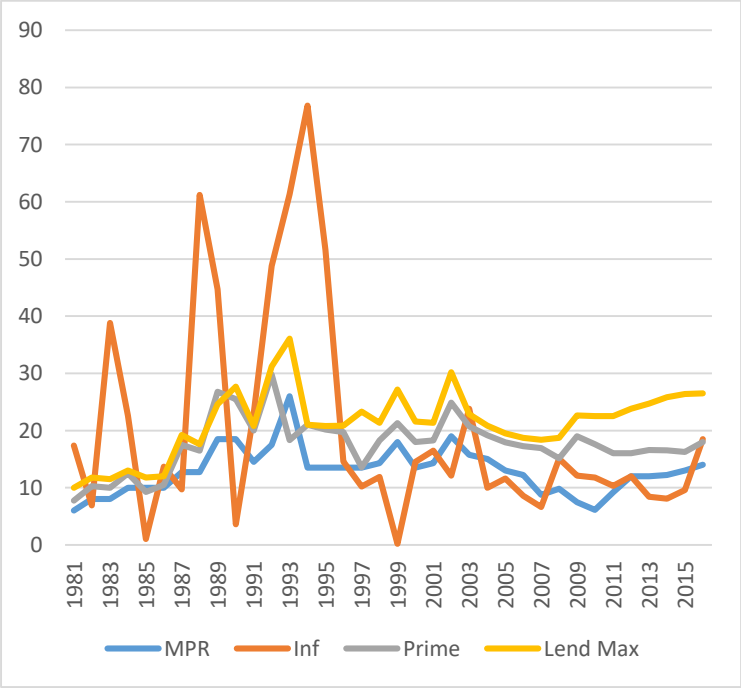
Figure 4
Growth in M2, GDP, Unemployment and Inflation
1998-2016



rates remained at high double-digits. There was no major difference between the prime and the maximum lending rates of commercial banks.

On the other hand, during the period of guided de-regulation, with double-digit rediscount rate, inflation reduced from 76.8 per cent in 1994 to 14.6 per cent in 1996 and further decreased to 11.9 per cent in 1998. It can be inferred that lending rates in the economy have always been high but due to the liquidity in the public sector enhanced by oil revenues, the economy was generally resilient.

Figure 5
MPR, Inf, Prime and Maximum Lending rates 1981-2015



Furthermore, the introduction and implementation of a new monetary policy regime of the CBN in November, 2006 reduced sharply the rate of inflation. The rate of inflation was slightly above the threshold of 9 per cent from 2006-2011. It appears, therefore, that the CBN became pre-occupied with maintaining price stability which is its primary mandate. The data show that lending rates continued to rise reflecting no impact from the MPR. Banks do not necessarily depend on investment to make profit. The buying of government financial papers which is risk-free is enough to guarantee the profits of banks.

The activities in the foreign exchange market characterized by speculation and round-tripping has a pass through to prices hence inflation rate rose sharply from 9.6 per cent in 2015 to 18.5 in 2016 making mockery of monetary policy. It must be noted that during this period, there was the near absence of fiscal policy, sharp decline in oil revenues, among other factors, moving the economy into a recession. This scenario implies a disconnect between monetary and fiscal policies in the Nigerian economy.

An examination of the trend suggests mixed results regarding both fiscal and monetary dominance. Figure 4 provides an intuitive analysis, both fiscal balance and money supply moved in the same direction (proxy for policy co-ordination) but from 2002-2015 monetary policy became dominant. Nonetheless, this is not tantamount to a case of monetary dominance.

The figures above particularly the ones highlighting fiscal balance confirms the non-co-ordination between fiscal and monetary policy. On the fiscal side, as was earlier stated, the fiscal operations of states and local governments are excluded yet these levels of government incur large deficits during the period under review. Within this context, it becomes challenging to ascertain whether the economy exhibits fiscal dominance or not. For selected periods, the dominance of monetary policy is apparent. Another variable to consider is either the debt/GDP or the debt/Revenue ratios bearing in mind that these ratios do not constitute the primary balance theoretically. However, given the rebasing of the country's GDP, the debt/GDP ratio provides more fiscal space. It, therefore, becomes more intuitive to examine the debt/revenue situation since revenue pays debt and not GDP. However, we do not attempt an empirical analysis of the said ratios because of lack of data at the sub-national levels of government.

Consequently, we then estimate the precise relationship between the monetary policy rate, inflation, output gap and fiscal policy in order to determine the existence of fiscal dominance or not during the implementation of monetary policy. Using time series data [all variables were tested for their time series properties and they exhibited I(0)] for the period 1981-2015, we obtain the following results:

$$r = \underset{(2.85)}{5.677} ** + \underset{(3.28)}{0.504} ** r - 1 + \underset{(1.50)}{0.0472} * INF - 1 - \underset{(0.17)}{0.0244} Ygap - \underset{(0.71)}{6.030} PB \quad (4)$$

$$R^2 = 0.42;\ F\ (4{,}28) = 5.03; D.W = 1.93$$

t scores are in parenthesis; **significant at 5%; *significant at 10%.

Notwithstanding the weak power of equation (4), both lagged MPR (r) and lagged inflation have positive relationship with the MPR and the lagged r is statistically significant. The negative relationship between fiscal balance (PB) and MPR indicates that the former does not affect the conduct of monetary policy directly. It further shows that monetary and fiscal policies might have moved in opposite direction implying the lack of fiscal policy co-ordination between the monetary and fiscal authorities.

Equation (4) generally relates to the behaviour of the monetary authority and how fiscal policy affects monetary policy. In addition, it is linked to the co-ordination between monetary and fiscal policy as well as possibly the reaction function of the central banks.

We have shown elsewhere the ineffectiveness of monetary policy in the Nigerian economy for the period 1980-2015 (Ekpo, 2017a). From equations (5) and (6) below lagged output has no positive relationship with income per capita (proxy for economic development). Though not statistically significant, a higher rate of unemployment reduces income per capita as well as output. It is interesting to note the ineffectiveness of money supply. An increase in money supply (M1 and M2) reduces output and per capita income. This result is contrary to expectation. However, we need to interpret the results with caution. Equations (5) and

(6) do not have the usual accommodating fiscal variables and in addition the explanatory power is rather weak.

$$^{Y}/_{p} = 22.96^{xx} - 0.684_{y-1} - 0.009m_1 - 0.394U + 124d_1^x - o.20d_2 \quad (5)$$
$$(2.45) \quad (-0.467) \quad (-0.538) \quad (-0.352) \quad (1.24) \quad (-0.815)$$
$$R^2 = 0.43;\ \mathcal{D}\omega = 2.05; SE\ of\ Regression\ = 29.7$$

$$\Delta y = 26.86^{xx} - 0.068_{y-1} - 0.007m_2^{xx} - 0.506\mathcal{U} + 12.5d_1^x + 0.55d_2 \quad (6)$$
$$(2.745) \quad (-0.467) \quad (-3.95) \quad (-0.436) \quad (1.22) \quad (-0.029)$$
$$R^2 = 0.40;\ \mathcal{D}\omega = 2.04; SE\ of\ Regression = 30.51$$

t scores in parenthesis; ^{xx} significant at 5%; ^{x} significant at 10%

Where:

Y/p	=	per capita income
Δy	=	growth in GDP
$\mathcal{U}$	=	Unemployment at full Employment
Opn	=	Openness
m_2	=	growth in money supply
$y-1$	=	lagged output
Sap	=	Structural Adjustment Programme
d_1	=	during; o for SAP; 1 otherwise (1980 – 1982)
d_2	=	o for beginning of democracy (1991); 1 otherwise
$edem$	=	effectiveness of democracy

The growth in money supply (M2) has a negative relationship with the growth of output and lagged output; growth in money supply reduces growth of output and it is statistically significant.

Theoretically, growth in money supply ought to enhance growth the contrary result may be due to structural rigidities in the economy as well as failing the capture the fiscal profile of sub-national governments.

When the economy begins to recover, an aggressive monetary policy would be required to increase aggregate output and ensure that the economy remains on a positive growth trajectory.

5.0 Conclusion

Monetary policy during economic downturn in the Nigerian economy has been ineffective. Fiscal policy seems not to have interfered with implementation of monetary policy and the latter dominated the policy space from 2014-2016. Regression results, though with weak explanatory power, suggest that monetary policy had no positive relationship with economic development and growth in output. Though the drop in output is marginal, it is the negative relationship that is disturbing. It may be that the monetary policy framework (Central Bank's reaction functions) partially accommodates the fiscal side of the federal government. The fiscal profiles of sub-national governments (36 states, 1 Federal Capital Territory and 774 local governments) are not captured in the monetary policy framework. This explains partly why the results do not mirror the a priori expectations.

The monetary policy stance during the declining and trough phases of the economy was restrictive. The tightening of monetary policy would be effective during boom/peak periods reflecting countercyclical intervention. Furthermore, when there are signs of impending economic downturn, it is more useful to sacrifice some inflation for growth. Quantitative easing is the policy to adopt when an economy is experiencing both decline and recovery phases within the cycle.

In addition, lending rates are very high, averaging about 25 per cent (see Table A1 in the appendix). Monetary policy needs to address the problem of high lending rates. The MPR is supposed to be an anchor rate. While the MPR has some bearing on the inter-bank rates, it has no impact on lending rates. Market forces would not bring down the lending rates due to the oligopolistic banking structure in the economy. It must be stressed that at any phase of the cycle there must be co-ordination between monetary and fiscal policy.

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Appendix

Table A1
Nigeria: Monetary Policy Rate, Inflation and Commercial Banks Lending Rates 1981-2016 (%)

Year	MPR	Annual Inflation	Prime lending rates	(Maximum) Lending Rates
1981	6.00	17.4	7.75	10.00
1982	8.00	6.9	10.25	11.75
1983	8.00	38.8	10.00	11.50
1984	10.00	22.6	12.50	13.00
1985	10.00	1.0	9.25	11.75
1986	10.00	13.7	10.50	12.00
1987	12.75	9.7	17.50	19.20
1988	12.75	61.2	16.50	17.60
1989	18.50	44.7	26.80	24.60
1990	18.50	3.6	25.50	27.70
1991	14.50	23.0	20.01	20.80
1992	17.50	48.8	29.80	31.20
1993	26.00	61.3	18.32	36.09
1994	13.50	76.8	21.00	21.00
1995	13.50	51.6	20.18	20.79
1996	13.50	14.6	19.74	20.86
1997	13.50	10.2	13.54	23.32
1998	14.31	11.9	18.29	21.34

1999	18.00	0.2	21.32	27.19
2000	13.50	14.5	17.98	21.55
2001	14.31	16.5	18.29	21.34
2002	19.00	12.1	24.85	30.19
2003	15.75	23.8	20.71	22.88
2004	15.00	10.0	19.18	20.82
2005	13.00	11.6	17.95	19.49
2006	12.25	8.6	17.26	18.70
2007	8.75	6.6	16.94	18.36
2008	9.81	15.1	15.14	18.70
2009	7.44	12.1	18.99	22.62
2010	6.13	11.8	17.59	22.51
2011	9.19	10.3	16.02	22.51
2012	12.00	12.0	16.02	23.79
2013	12.00	8.4	16.59	24.69
2014	12.25	8.1	16.55	25.80
2015	13.00	9.6	16.28	26.40
2016	14.00	18.5	18.00	26.5

***Source**: Statistical Bulletins, CBN, Abuja*

Table A2
Nigeria: Fiscal Balance (₦ billion) and Deficit/GDP (%)
1981 – 2016

Year	Surplus /Deficit (N'billion)	Def /GDP%
1981	-3.90	-4.14
1982	-6.10	-6.04
1983	-3.36	-3.06
1984	-2.66	-2.29
1985	-3.04	-2.26
1986	-8.25	-6.13
1987	-5.89	-3.05
1988	-12.16	-4.62
1989	15.13	-3.96
1990	-22.12	-6.73
1991	-35.76	-6.55
1992	-39.53	-4.52
1993	-65.16	-5.98
1994	-70.27	-5.02
1995	1.00	0.03
1996	32.05	0.79
1997	-5.00	-0.12
1998	-133.39	-3.34
1999	-285.10	-6.09
2000	-103.78	-1.55
2001	-221.05	-3.21
2002	-301.40	-3.87

2003	-202.72	-2.04
2004	-172.60	-1.51
2005	-161.41	-1.10
2006	-101.40	-0.55
2007	-117.24	-0.57
2008	-47.38	-0.20
2009	-810.01	-3.27
2010	-1,105.40	-2.04
2011	-1158.52	-1.83
2012	-975.68	-1.37
2013	-1153.49	0.00
2014	-978.43	-1.10
2015	-1.65	-0.84
2016	-2.78	-2.80

***Source**: CBN, Statistical Bulletin, vol. 25, 2014*

Table A3

Nigeria: Rates of Unemployment and Underemployment

Year	Old (1)	New (2)	ILO (3)	Under-employment (4)	(2)+(4)
2010	21.4	5.1	1.9	16.3	21.4
2011	23.9	6.0	2.2	17.9	23.9
2012	27.4	10.6	7.6	16.8	27.4
2013	24.7	10.0	7.1	14.8	24.8
2014	25.4	7.8	4.8	17.5	25.4
2015:Q4	29.1	10.4	2.1	18.7	29.1
2016:Q2	32.8	13.4	4.0	19.4	32.8

Source: *National Bureau of Statistics, Lagos.*

Table A4

Nigeria Economic Performance Indicator, Misery and Discomfort Indices, 2006 – 2015(%)

Year	EPI	MI	DI
2006	76.1	34.8	29.7
2010	68.2	30.3	34.8
2013	67.6	50.8	37.2
2014	73.8	55.08	33.4
2015	68.0	57.27	36.7
2016	56.4	72.3	52.1

Source: *Calculated by Author*

Notes: EPI = economic performance index; a score above 80% is deemed satisfactory; MI = Misery index; DI = Discomfort Index; for a calculation of these indices see (Ekpo, 2015).

JOB MOBILITY AND BANKING SECTOR PERFORMANCE: EVIDENCE FROM NIGERIA.

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&

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Abstract

In this study an examination and analysis of the dynamics of job mobility and its impact on the Nigerian banking sector was done through survey with special focus on commercial banks in Nigeria. Seven commercial banks were selected randomly based on their consistency in respect of non-financial and financial indicators of performance. A total of 200 copies of the questionnaire were administered on bank employees randomly selected and 151 copies were retrieved. A correlation analysis of the data collected was done to ascertain the strength of relationship of the variables. The findings were that job insecurity and staff welfare as it concern salary/wages are largely responsible for job mobility while other factors like target setting, excessive workload among others have no significant impact on mobility and bank performance. It was also observed that the relationship between age and some job mobility factors are negatively correlated meaning that as the employee gets older, his or her desire to leave the organization due to

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unrealized target and excess workload decreases. However the overall industry performance is not negatively impacted by job mobility, bank-specific underperformance is a great possibility and as such it is recommended that a better job climate, adequate reward and compensation plans should be put in place to ensure that bank employees give their best towards achieving better bank performance.

Keywords: Job Mobility, Insecurity, Bank Performance, Workload, Welfare

1.0 Introduction

Against the backdrop of the wave of globalization in recent years, its impact on job mobility and its resultant effect on economic growth and sector-specific issues have been a subject for discussions and research within academic circles. Job mobility has been of great concern to employers and organizations worldwide and the banking sector in particular as organizations are finding it increasingly difficult today to retain employees especially in the banking industry due to outrageous and unrealistic expectations in form of cash deposit and other targets given to employees as a measure of performance in the banking industry.

According to Moscarini and Thommson (2007) the concept of mobility is linked to the notion of opportunity while job mobility is the ability of an employee to change his position within a

profession or to change occupation. The term is used to describe the many phases of changes and movements in the course of individuals' working life, either between employers, occupations and steps on the career ladder or between different types of contract and in and out of employment.

According to Anderson, Hensen and Pedesen (2008) job mobility is an indicator that labour is attracted to firms where demand is high, and where labour productivity and wages are the highest, and that labour is hence leaving less productive sectors and firms. Conversely, low levels of job mobility can be seen as an indicator of the presence of barriers preventing workers from moving to places and occupations where there are vacancies, entailing a resource-market inefficiency which may lead to structural unemployment, this explains the dynamics in the banking industry. In this study, the concept of job mobility is taken to be synonymous with labour turnover and as such the terms are used interchangeably for convenience.

Actual job mobility is the composite of voluntary quits and involuntary layoffs, which are difficult to separate and in most cases also intertwined with the employee's intention to look for a new job. This affects both workers and firms because workers may need to learn new job-specific skills, whilst firms incur the costs of hiring and training new workers.

1.1 Objectives of the study

The broad objective of this study is to analyze the impact of job mobility on the performance of the banking industry while the specific objectives are

1. To understand the trend of job mobility in the Nigerian banking industry.
2. To investigate the reason behind the movement of the employees in the banking industry.
3. To assess the extent to which the training of employees impacts job mobility

2.0 Literature Review

Several studies have shown the effects of job mobility on the banking sector. For example, Dwomoh and Korankye (2012) in their study found a significant relationship between labour turnover and bank performance. Though there seems not to be a standard framework for understanding employee's turnover process as a whole, a wide range of factors have been found useful in interpreting employee turnover. In a way, the equity theory as propounded by Adams (1963) has been used in some instances to explain labour mobility. In this regard, it was posited that people engage in social comparisons of efforts and rewards and as such employees are likely to exit a job they feel is not paying them enough for their efforts when compared to what their contemporaries earn on similar jobs.

Other reasons apart from wage differential however includes gender inequality, transportation expenses, and forgone income

during movement as well as differences in climate, religion, habit, language, customs, tastes, illiteracy, ignorance of available job elsewhere, poor financial incentive for new entrants, fear of losing certain rights, and activities of trade unions. In addition better education and acquisition of new skills and competencies predisposes an individual to better opportunities that can trigger a desire to leave one job for another.

Also according to Obaidli (2011) a study on organizational climate and turnover in Islamic banking in United Arab Emirate found that employees' perception of the job environment or climate has a role to play in labour turnover or mobility.

A study by Guest and Conway (2000) brought up the dimension of policies relating to promotion of staff. They posited that promotion policies that are not transparent in which case they are not clearly defined and made known to staff by the management as in situations of ambiguities lead to high labour turnover.

The loss associated with job mobility could be enormous especially for positions where rare skills are needed to function effectively like the information technology units of banks. The most common means by which a competing bank can have access to the skills and competence of another organization is where there is job mobility.

Analyzing the Nigerian banking industry from the view of Weibo, Kaur and Zhi (2010), it is obvious that the rate of job turnover

became worrisome as employees were not growing with a particular bank all through their career life and for banking institutions whose nature of business is relationship-based and contractual, this trend is unhealthy.

On the flip side job mobility benefits organizations in situations where less productive employees leave or when innovation, and adjustment to market conditions and other considerations become imperative in enhancing productivity. Hence, this study aims at examining the dynamics of job mobility and its effect on the performance of the Nigerian banking industry.

Ordinarily, it is common knowledge that the quality of the human capital or employees in organizations will impact on service delivery and productivity hence deliberate steps are often taken to attract and retain the best hands in organizations.

Ordinarily, labour turnover in the banking sector has a lot of cost implications on the industry from the perspective of training cost, cost associated with exit interview, cost of replacing new employees hence efforts ought to be made to minimize such costs by retaining employees in the organization. In most cases, the cost of replacing any staff that leave is often higher than if such staff was retained. Most of these costs can be attributed to mistakes, errors and poor service the newly recruited employee will provide to customers whilst learning on the job. The research work done by Shukla and Sinha (2013) cited a negative relationship between labour turnover and banking sector

performance on the part of the firm losing the staff when they are valuable and skilled staff.

There is the general belief that job mobility behavior is more associated with men due to their traditional gender role as married and employed women are more likely to be less mobile than men.

With reference to the peculiar stressful nature of banking job, it is believed that because of the amount of time employees spent on their jobs, in the long-run it results in a decrease in their performance and induces job mobility hence the case for work-life balance in recent times.

It must also be considered that job mobility can be treated as both a direct cause of certain effects and as an outcome of other forces shaping the economy. Thus thinking forward, job mobility affect economic growth, but it is even more likely that economic growth affects job mobility rates which is a case of bi-directional causality as it were.

Fundamentally, there is the notion that if we find a positive relationship between job mobility and economic growth, one cannot exclude the possibility that the causality runs from economic growth to mobility. It is likely that more growth leads to more mobility, but the relationship is probably non-linear, i.e. job mobility may increase with increased growth, but the relation may be weak at very low or very high growth rates, for instance, the relationship between growth and job mobility is also likely to be related to the business cycle, with the relation probably being

stronger at the top of the cycle, with a high degree of factory utilization and low unemployment, than at the bottom of the cycle where labor is surplus. Similarly, a high level of job mobility may also be associated with positive social effects, such as a for instance a rapid spread of new competences at the level of entire societies

2.1 Theoretical Framework

There are several theories that explain the focus of this study in order to understand the dynamics of job mobility. The theory of motivation (two factor theory) is used to identify what keeps an employee in an organization and makes them committed to the organization. The affective event theory is also used to explain how emotions and moods influence job satisfaction which could be linked to managing work stress and experiencing work life balance. Job characteristic theory also is used to understand how job characteristic affect job satisfaction and job mobility while the self-actualization theory is also used to understand the growth of an individual towards fulfillment and the outcome of performance of organizations. The career equilibrium theory is also sometimes relevant.

Among the content theories of motivation, Herzberg (1959) theory emphasizes the motivator-hygiene factors and sought to explain satisfaction and motivation in organizations. The theory focuses on outcomes of satisfaction and dissatisfaction. The theory as postulated is that certain aspects of a job causes

satisfaction and therefore motivation, but certain aspects cause job dissatisfaction and in turn could lead to job mobility.

This theory states that job satisfaction and dissatisfaction is a product of different factors – motivation and hygiene respectively. Motivation is seen as an inner force that drives individuals to attain personal and organizational goals. Motivational factors are those aspects of the job that make people want to perform and provide people with satisfaction. Hygiene factors include aspects of the working environment like work conditions, interpersonal matters, organizational policies etc.

3.0 Methodology and theoretical foundation for the model.

This study was carried out using survey approach and questionnaires were administered to elicit relevant and essential responses from bank employees which were later analyzed. This model herein is underpinned by a combination of the theories of motivation and job characteristics and self-actualization.

Model specification

$$BP = f(JM)$$

JM is proxied by the factors that induces mobility.

Based on theoretical literature on job mobility the present study

has specified that job mobility in the banking industry is a function of different factors. There exist different sets of variables that contribute to job mobility in the banking industry which affects its performance. The dependent variable which is the banking industry performance was measured by looking at the information on the financial reports as regards the profit made by the banks. This was compared with the employees that work in the bank at a given period of time to measure the productivity of the employees. The difference in productivity of new intakes measures the effect of customer loyalty on the success of banks. The employee ratio over a period of time can also measure the labour turnover rate.

Bank performance was gauged using the organizational performance questionnaire which also indicates how employees view the performance of the organization. This could be biased in a way and that is why information about the performance of banks was also gotten from the financial report of the banks selected.

The relationship and impact on the dependent variable by the independent variables vis-à-vis unrealized target, poor leadership, job insecurity, excess workload, little or no training for career development or wage rate, were used to test the relationship

3.1 Estimation technique

For the banks' performance analysis, we estimate a series of fixed effects using linear regression equations of bank performance as a function of the level of job mobility and firm characteristic in the banking industry. This indicates that firm performance which is the dependent variable takes effect as a result of the rate of job mobility in the firm which is the independent variable.

For the rate of job mobility to be measured, it is a dependent variable for some factors hence job mobility expressed y1 is the dummy variable in the regression that analyzes job insecurity, unrealized target, poor leadership, training, excess workload, wages. X1 is a vector observable variable. B (beta), is the corresponding vector of coefficient to be estimated. $\propto_1$, $\propto_2$, $\propto_3$, $\propto_4$, $\propto_5$ and $\propto_6$ measure the estimated impact of job insecurity (J), Unrealized target (UT), poor leadership (L), excess workload (WL), Training (T), Wages (W). e_i is the part of the error term which is constant along time, it varies across individuals and it depicts the individual unobserved heterogeneity.

$$Y1 = x1\beta + \propto 1J + \propto 2UT + \propto 3L + \propto 4WL + \propto 5T + \propto 6W + ei \quad (1)$$

When the job mobility rate is determined through the linear regression stated above which shows job mobility as the dependent variable and other factors as the independent variable, the next step was to make firm performance the dependent variable to the job mobility and firm characteristics to

analyze the relationship between the dependent variable and the independent variable.

4.0 Analysis of data

4.1 Correlation analysis

Correlation analysis which is a method of evaluating the strength of a relationship between the dependent and independent variable was performed between the dependent variables and set of independent variables.

The correlation between the age of the employees and the employees decision on unrealized target and excess workload stimulated their desire to leave the organization r = -0.624 where n = 147 and p value is .000 which indicates a statistical relationship between the two variables. This indicates a negatively correlated relationship which means that as the age of employees' increase, the desire to leave the organization due to unrealized target and excess workload decreases. It also shows a strong positive relationship between the age of employees and those that supported the claim that wage rate stimulated their desire to leave the organization and a slightly positive relationship between the employees that reported that wage rate would stimulate their desire to leave the organization and the employees that supported that unrealized target and excess workload would fuel the desire to leave the organization with (r =0.723 n= 0.135 p =0.135) and (r = 0.425 n = 148 p = 0.000) respectively.

Table 2
Correlations: Age of employees against employees' decision on unrealized target and excess workload

Correlations					
		Age	Unrealized target and work would fuel my desire to leave the organization	The wage rate would fuel my desire to leave the organization	Non training in my organization would fuel my desire to leave
Age	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	150			
Unrealized target and work would fuel my desire to leave the organization	Pearson Correlation	-0.624**	1		
	Sig. (2-tailed)	.006			
	N	147	148		
The wage rate would fuel my desire to leave the	Pearson Correlation	.723	.475**	1	
	Sig. (2-tailed)	.135	.000		
	N	148	148	149	

organiza-tion					
Non training in my organiza-tion would fuel my desire to leave	Pearson Correlation	-.504	.319**	.173*	1
	Sig. (2-tailed)	.206	.000	.035	
	N	149	148	149	150
****. Correlation is significant at the 0.01 level (2-tailed).**					
***. Correlation is significant at the 0.05 level (2-tailed).**					

It was also observed from the table that employees that claimed that lack of training will fuel their desire to leave the organization has a negative correlation with the age of the employees, a slight correlation with employees that admitted that unrealized target and excess work load will stimulate their desire to leave the organization but it has no correlation with employee that supported that wage rate could make them leave the organization.

Table 3 shows the correlation between employees decision on leaving the organization due to job insecurity and if they are well paid, or if they feel like part of the organization and if their knowledge and skills are appreciated in the organization. It was observed that employees acceptance of being well compensated on their job or who admitted that their ideas are welcome in the organization has no correlation with their decision to leave the organization due to job insecurity.

(r =-0.125, n= 145, p =0.133) and (r = 0.08, n = 144, p = 0.351)

The relationship between the decision of the employee to leave the organization due to job insecurity and their acceptance of being part of the organization is negatively correlated with (r = -0.616, n= 144, p = 0.009).

Table 3

Correlations: Employees' decision on leaving the organization against job insecurity, wages, knowledge and skills

Correlations					
		I would like to leave the organi-zation because of the job insecuri-ty	I am well compen-sated when I deliver result	I feel like I'm part of my organi zation	My skills, know-ledge and ideas are always wel-come in my organi-zation
I would like to leave the organiza-tion because of the	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	147			

job insecurity					
I am well compensated when I deliver result	Pearson Correlation	-.125	1		
	Sig. (2-tailed)	.133			
	N	145	148		
I feel like am part of my organization	Pearson Correlation	-.616**	.186*	1	
	Sig. (2-tailed)	.009	.025		
	N	145	146	149	
My skills, knowledge and ideas are always welcome in my organization	Pearson Correlation	-.008	.580**	.332**	1
	Sig. (2-tailed)	.351	.000	.000	
	N	144	147	146	147
****. Correlation is significant at the 0.01 level (2-tailed).**					
***. Correlation is significant at the 0.05 level (2-tailed).**					

Table 4 explains that employees decision to leave the organization due to leadership style and their acceptance that their boss is encouraging and motivating has very low negative correlation and there is statistical significance between the two variables. (r = -.278, n =147, p = 0.001). Their decision to leave the organization and the desire to be like their boss has a

positive correlation and is statistically significant (r = .589, n = 147 p = 0.22). It is also shown that the employees that are not comfortable with their bosses has no correlation with their acceptance on their bosses being motivating and encouraging. There exist a statistical significance. (r = .187, n = 149, p = 0.000).

Table 4

Correlations: Employees' decision to leave the organization against leadership style, encouragement and motivation

Correlations					
		The leader-ship style in my organi-zation would make me leave	**My boss is encoura-ging and motiva-ting**	**I aspire to be like my boss**	**I don't like my unit because of my boss**
The leader-ship style in my organiza-tion would make me leave	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	148			

My boss is encouraging and motivating	Pearson Correlation	-.278**	1		
	Sig. (2-tailed)	.001			
	N	147	150		
I aspire to be like my boss	Pearson Correlation	.589*	.674**	1	
	Sig. (2-tailed)	.022	.000		
	N	147	149	150	
I don't like my unit because of my boss	Pearson Correlation	.120	.187**	-.412**	1
	Sig. (2-tailed)	.147	.000	.000	
	N	148	150	150	151
****. Correlation is significant at the 0.01 level (2-tailed).**					
***. Correlation is significant at the 0.05 level (2-tailed).**					

Table 5

Correlations: Employees' decision on leaving the organization against the acceptance that the organization often train the employees

Correlations				
	Non training in my organiza-tion would fuel my	**My organiza-tion establish training often for employe e**	**I would like to stay in the organiza-tion because they**	**I would like to stay in the organiza-tion**

		desire to leave		expect so much	
Non training in my organization would fuel my desire to leave	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	150			
My organization establish training often for employees	Pearson Correlation	-.449*	1		
	Sig. (2-tailed)	.070			
	N	148	148		
I would like to stay in the organization because they expect so much	Pearson Correlation	.191*	-.163*	1	
	Sig. (2-tailed)	.020	.049		
	N	147	147	147	
I would like to stay in the organization	Pearson Correlation	.078	.240**	-.056	1
	Sig. (2-tailed)	.350	.004	.507	
	N	145	145	144	145
***. Correlation is significant at the 0.05 level (2-tailed).**					
****. Correlation is significant at the 0.01 level (2-tailed).**					

Table 5 test the correlation between employees' decision on leaving the organization and their acceptance that their organization often train the employees. There exist a negative correlation between these two variables. (r = -.449, n=148, p=0.70). This p value indicate that there is no significant relationship between these variables. It also shows that employee's decision on leaving the organization due to lack of training and decision to leave the organization because they expect so much from them is not statistically significant.

Table 6

Correlations: Employees' decision to leave the organization against unrealized target, excess workload, acceptance of being overburdened by work and inability to meet targets since inception of joining the organization

Correlations					
		Unreali-zed target and work would fuel my desire to leave the organiza tion	I have not met my target since I started working in this unit	My target increase anytime I meet the current one	My work is too much for me to do
Unrealiz-ed target	Pearson Correlation	1	.172*	.188*	.231**

and work would fuel my desire to leave the organiza-tion	Sig. (2-tailed)		.036	.023	.005
	N	148	148	146	147
I have not met my target since I started working in this unit	Pearson Correlation	.172*	1	.076	.225**
	Sig. (2-tailed)	.036		.354	.006
	N	148	151	149	150
My target increase anytime I meet the current one	Pearson Correlation	.188*	.076	1	.238**
	Sig. (2-tailed)	.023	.354		.004
	N	146	149	149	148
My work is too much for me to do	Pearson Correlation	.231**	.225**	.238**	1
	Sig. (2-tailed)	.005	.006	.004	
	N	147	150	148	150
***. Correlation is significant at the 0.05 level (2-tailed).**					
****. Correlation is significant at the 0.01 level (2-tailed).**					

Table 6 explains the relationship between the employee's decision to leave the organization due to unrealized target and excess workload and their acceptance that they are overburdened by work or they have not met their targets since they started working with the organization. It was observed that

there is a weak correlation between these variables (r = .231, n= 147, p = 0.005), (r=0.172, n= 148, p = 0.36).

4.2 Regression Analysis

An attempt was made using multiple regression analysis in a form of linear modelling to examine the relationship between the dependent variable and independent variable, with the intent of examining the predictive ability of sets of the independent variables on each dependent variable. Applying multiple regressions is borne out of the fact that relationship and prediction in real life scenario, as in this case are best established and made by a combination of factors. By applying this, the relative contribution of each independent variable in explaining variance in the criterion variable can be determined. Specifically, the interest here is to predict respondent decision on job mobility, what influence their decision as well as their view on the current performance of the organization.

Table 7
Model Summary

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.514[a]	.460	.390	.263	2.043

a. Predictors: (Constant), leaving the organisation due to job insecurity, wage rate, workload and leadership style
b. Dependent Variable: the performance of the firm

Table 7 shows the multiple regression model summary and overall fit statistics. We find the adjusted R^2 of our model is 0.390 with the R^2 =0.460 that means the linear regression explains 46.0% of the variance in the data. The value of R shows significantly positive relationship between variables such as leaving the organization due to job insecurity, wage rate and workload and leadership style and performance of the organization. The value of R square shows that model 1 explains 46% variance in performance of the firm.

As earlier presented the analyses and discussion of the relationships between the performance of the banking industry and job mobility, the explanatory power and the effect of these factors having been explored, the result obtained aided our understanding of the impact of the factors that determine job mobility and how these factor also affect the performance of the industry.

5.0 Findings, conclusion and recommendations.

From the analysis done in this study, the findings therefrom are as listed below;

a. Staff welfare as it concern or relates to salary, wages and benefits is the highest motivating factor in the consideration for job mobility.
b. Job insecurity also comes next in employee's consideration for leaving a job
c. Opportunities for career growth outside the present

work environment also trigger the desire for change of job within the banking industry.

d. As the age of the employee increases, employees desire to leave banks due to unrealized targets and excess workload decreases.
e. Unrealized targets and excess workload and lack of training though are factors considered in staff desires to change jobs, they are not a significant factors that induces job mobility.
f. Interestingly, job mobility seems not to have any significant impact on the industry though it has bank-specific impacts especially when valuable and competent staff move to other banks.

In conclusion, though the banking industry experiences huge labour turnover among the players in the industry, it is not expected to significantly impact on the industry as long as such staff do not exit the banking sector for other sectors.

It is thus recommended that to check bank-specific negative consequences of job mobility, adequate attention must be paid to staff welfare as it concern salaries, wages and benefits. In addition the work environment or work climate must be made more conducive for employees.

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TESTING THE GREENWOOD AND JOVANOVICH HYPOTHESIS IN AN INTEREST FREE ECONOMY: EVIDENCE FROM NIGERIA

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Abstract

This study tests the validity of Greenwood and Jovanovich Hypothesis by examining the impact of zero interest money supply measure of financial development on poverty and income inequality in Nigeria. The study employs the vector error correction model to estimate both short-run and long-run relationships for the periods 1981:Q1-2012:Q4. The study regressed an interest free measure of financial development, per capita income, trade openness and inflation rate on poverty and income inequality. The result shows that non-interest banking financial development measured by narrow money as a percentage of GDP has positive and negative significant impacts on income inequality and poverty rate respectively. It implies that at the initial stage of financial system development, the gap in income between the rich and the poor increase but later drop in the long-run and by extension the number of poor people decreases. This study found empirical support for the validity of Greenwood and Jovanovich (1990) hypothesis in an

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interest free economy. Therefore, the study recommends the support of zero-interest economy for real welfare improvement of average Nigerians to be guaranteed.

Keywords**:** Narrow money, poverty rate, income inequality, and Nigeria.

1.0 Introduction

In the 2000 summit organised by the United Nation by all member states, they proposed the Millennium Development Goals aimed towards eradicating number of people living in extreme poverty and also promote human dignity, equality and sustainable social development by 2015 (Salum and Aini, 2016;Tella and Alimi, 2016). In addition, both government and non-government agencies have also declared war against poverty as a global agenda. United Nation tagged the program as "the most successful anti-poverty movement in history" as the Word Development Indicator (WDI, 2015) notes that 29.09% in 1999 of poverty headcount ratio of US$1.90/day as a ratio of the world population has reduced to 12.73% in 2012.

The reverse has been the case for Sub-Saharan African developing region as the region recorded relatively slight cut in poverty headcount from 77.87% in 1999 to 66.97% in 2012 (WDI, 2015). Sadly, the achievement recorded in Nigeria is not impressive as the country's poverty headcount ratio of US$1.90/day increased from 64.5% in 2002 to 70.0% in 2009, which later fell to66.6% in 2012.

Scholars such as Babalola, Zubairu and Muhammad (2014) noted that one of the major problems inhibiting policies effectiveness on poverty is partial exclusion of the poor in developed countries and full or nearly full exclusion in less developed countries (LDCs). For instance, the common state of affairs prevalent among the Nigerian financial institutions is that they often give preference on credit allocation to the upper class of individuals or groups because collateral on loan and ability to re-pay both principal and interest rate charges are often guaranteed (Tella *et al.*, 2016).

In literature, most of the indicators used for measuring financial system development by one way or the other have interest rate components whereas interest rate has been a controversial concept in the field of economics. Some thoughts believed economies should adhere strictly to its origin meaning by the "Canon law in Middle Ages" that forbid "Ususry" that is "repayment of loan beyond the principal". The modern thought from the Medieval Latin "*interrese*" implies penalty paid on late of default loan (Mobolaji and Yusuf 2014) which has degenerates to legitimate and acceptable payment on loans.

However, past studies have focused on two structures of financial development – bank and capital market (stock and bond) (Beck, Demirguc-Kunt and Levine, 2001 and Kim and Lin, 2011). Most studies have condemned the conventional measure of financial development which has interest rate components that has created inequality of income between the rich and the poor and subsequently increasing the number of poor. The assertion of these studies negate the Greenwood and

Jovanovich (1990) hypothesis that the development of the financial system fashion out better opportunities for the poor to access fund at a reduced or low transaction cost so as to enhance high yields on investment.

This study is set to empirically investigate the impact of interest-free measure of financial development (using the narrow money that is money outside the banking system to the size of the economy) on income inequality and poverty in Nigeria. The use of this type of financial development measures will lend support to the global spread of interest free financial institution and also put a stop to the controversy of introducing the non interest financial institution in Nigeria.

The question this study answer is that: how valid is the Greenwood and Jovanovich hypothesis in developing countries like Nigeria if they operate an interest free component of finance? Other parts of this study are divided into four sections. The second section provides the literature review and the section three gives methodology for the study. The fourth section presents data analysis and interpretation and the last section concludes and proffers policy options.

2.0 Literature Review

The theoretical foundation for interest rate can be traced through history from the classical school which regards interest rate as the equilibrating factor or price between saving and investment, to the neo-classical thesis represented by the Loanable Fund theory proposed by Knut Wicksell and the Keynesian liquidity preference theory that sees interest rate and monetary sector

variable and linked credit creation or demand and supply of money to interest rate. Hicks (1958) tried to link the Keynesian and classical theories of interest rate together, in what has become known as the General Equilibrium Theory of Interest Rate or the IS-LM thesis.

However, the seminal works of McKinnon (1973) and Shaw (1973) brought to the fore the role of interest rate in mobilization of money, particularly in the developing economies. All the theories see interest as monetary gain that serves as incentive for savers to part with their money or lenders to give out credits to borrowers. In Islamic banking or even Christian theocracy, interest is seen as a sin punishable by God and should not be paid or collected on loans.

Scholars have provided contrary views on the role of financial system development towards the reduction of poverty and ensuring equal distribution of income in every economy. The first view was posted by Greenwood and Jovanovich (1990) and they argued that an economy with a good financial system create better opportunities for the poor to access fund at a reduced or low transaction cost so as to enhance high yields on investment. They recognized the fact that at first the development of financial system increases inequality in the distribution of income but later in the long-run, the gap in income between the rich and the poor will eventually reduce and by extension the number of poor people will be reduced (Ang, 2008).

However, scholars like Banerjee and Newman (1993), Galor and Zeira (1993), Aghion and Bolton (1997), Mookharjee and Ray (2003, 2006) provide a contrary view to the axiom of Greenwood and Jovanovich (1990) that the imperfection in the market (de-likes of asymmetric information and moral hazard) constraint borrowings and this makes the financial system worsen the condition of poor people and probably increase inequality between the rich and the poor. They argued further that the poor have no access to funds or financial services to finance the capital projects that could transit them from low income level to high income level. Also, the poor often have no collateral to secure adequate credit to finance their investment, whereas the rich are guaranteed credit facilities as they are able to provide collateral to secure funds through credit.

Unfortunately, these two competing views failed to recognise the impact of interest rate on funds provided by financial institutions to users of finances or financial services. The conventional banking system was premised to operate or perform their functions based on interest which has been a controversial issue in the history of economics.

The issue of interest rate has generated a lot of controversies dated as early as 16th century. Mobolaji and Yusuf (2014) note that the concept of interest rate had gone through four stages, starting from the era of wide disapproval of interest rate in the 16th an17th centuries to restrictive permission era in the late 18th century, to an era where the restrictive permission form basis for financial transaction in the 19th and 20th century and lastly to the resurrection of zero interest rate in the late 21st

century. Several thoughts have been presented on the concept of interest. Under the Classical thought, the concept of interest is treated on the basis of abstinence theory that savers should be compensated for delaying their present consumption.

The Keynesian treated the concept under the time theory preference of money that lenders are to be compensated for discounting their future holdings. The notion of interest charges on funds on the basis that the provider should be compensated have been condemned from the religion perspectives (both Christianity and Islam). From the Islamic Jurisprudence, it was argued that credit providers ought to function as investment provider, whereas profit or loss should be shared at an agreed percentage. The Bible (Luke 6:34-35, Leviticus 25:36-37, Exodus 25:25) also support the Islamic notion (Q30:39, Q4:161, Q3:130 and Q2:275:278) on the condemnation of interest charges on finances. The foundation of the modern Islamic banking recognised the need for commercial bank operating as an interest free banking system. The concept of interest free relied on profit and loss sharing formula. They adduced that depositors' fund should be based on the size of the bank's return on investment and not on a predetermined fixed interest rate.

The introduction of non-interest banking has been widely accepted in both Muslim and non-Muslim countries. The first modern Islamic banking system in Muslim countries was traced to the establishment of MitGhamr Saving Bank in Egypt in 1963 while Islamic Bank of Britain was first bank licensed to operate non-interest banking in a non-Muslim country (Mobolaji *et al.*, 2014). In Nigeria, the coexistence of non-interest banking and

financial products with the country's financial institution was allowed to commence in 1991 after 100 years of existence under the interest bearing ordinance (Mobolaji *et al.*, 2014). Over the short period of Islamic banking practise in Nigeria, there have been controversies on the basis of religion sentiment, particularly with respect to Nigeria (see Alao and Alao 2012).

This controversy boils down on the fact that most people see Non-Interest banking being synonymous with Islamic banking, whereas the latter only borrowed the former as a concept under the Section 1 of the Banks and Other Financial Act of 1991. They neglect the purpose of this Act as it speaks of profit and loss sharing banking which simple means non-interest financial services and the negative effects of interest to investors and the economy.

Mobolaji *et al.*(2014) list four negative effects of interest as documented in the work of Siddiqi (1983) and Chapra (1984) which are:

> "*(i) Imposition of interest rate on consumption loan may further worsen the income inequality, as it may transfer wealth from the deficit unit (borrower who eventually pays the principal and the interest element) to surplus unit (savers, unit who receives his principal amount saved plus interest; (ii) it may also create an idle class of people, who earn income from accumulated wealth; (iii) Interest paid on loan is considered as a cost of capital to borrower, and further considered as cost of production for firms,*

which is sometimes transfer to final consumer through prices; and (iv) it can also impose unilateral risk on the consumer or borrower which strangulate entrepreneurial and stiffen innovation."

Empirical studies on financial development focus on two structures that is bank and capital market (stock market and bond market) (Beck, Demirguc-Kunt and Levine, 2001 and Kim and Lin, 2011). This study considers the banking structure of financial development whereas all its indicators (domestic credit as a ratio of GDP and money supply (M_2) as a ratio of GDP) have interest rate components. Mobolaji *et al.* (2014) proposed the use of narrow money instead of broad money as it is interest free and dealt with money outside the banking system. The authors suggest its use due to insufficient data for many interest free asset and the newness of the topic in Nigeria. Thus, this paper uses narrow money (being an interest free money component of finance) as a percentage of GDP to proxy financial development. Some of the findings of past studies are further reviewed.

Furthermore, there are two strands of studies for the relationship between financial development and income inequality and poverty rate. The first strand that support the Greenwood and Jovanovich (1990) are Kirkpatrick (2000), Jalilian and Kirkpatrick (2002), Odhiambo (2009), Odhiambo (2010a), Odhiambo (2010b), Shahbaz (2009) among others, and studies such as Ang (2008), Gokan (2011), Uddin et al. (2014) rejected the hypothesis. In Pakistan, Imran and Khalil (2012) evaluated the impact of financial development on poverty reduction

through the development of manufacturing industry. They employed the error correction model and found positive relationship between financial development and poverty reduction through industrial growth. More so, Fowowe and Abidoye (2010) carried out a quantitative assessment of the effect of financial development on poverty in sub Saharan Africa using panel GMM estimator. They reported that financial development does not significantly influence poverty in SSA.
Findings of a study carried out by Yinusa and Alimi (2015) reveal that financial development does not reduce poverty and income inequality significantly, therefore, the Greenwood and Jonavonish (1990) hypothesis doe1s not hold in Nigeria.

3.0 Methodology

This study adapts the model of Beck, Demirgue-Kunt & Levine (2007), Ang (2010) and Kim & Lin (2011) by regressing poverty and income inequality rate on financial development and other control variables following the theoretical proposition of Greenwood and Jovanovich (1990). The model is summarized below as:

$$Y'_t = \beta_0 + \beta_1 FD + \beta_2 CV + \mu_t \quad (1)$$

Where $Y' =$ poverty rate and income inequality;

$FD =$ Financial development;

$CV =$ Control variables;

$\beta_0 =$ Constant;

$\beta_{1-2} =$ Slopes; and

μ_t = Uncorrelated white noise residuals.

The indicator of financial development from the banking structure is nominal money as a percentage of economic size (GDP) because it is interest free and dealt with money outside the banking system. The control variables (CV) include inflation rate (i.e. the changes in the rate of consumer price index) to measure macroeconomic stability; per capita real GDP (i.e. real GDP to population) to capture the Kuznet-curve that inequality increases with economic growth at low levels of income per capita (Kim & Lin, 2011), and then decreases once a threshold or turning point level of income per capita is passed; and total trade to GDP (i.e. trade openness) to measure degree of openness of an economy.

From the equation (1), the model is extended to incorporate our defined bank-based financial development indicator and control variables as shown below:

$$Y'_t = \beta_0 + \beta_1 FD_t + \beta_2 PCI_t + \alpha_3 TR_t + \alpha_4 INF_t + \mu_t \quad (2)$$

Where:

Y' = Poverty rate (POV) and income inequality (IIQ);
FD = Financial development measured by narrow money as a percentage of GDP;
PCI = Per capita income;
TR = Trade openness;
INF = Inflation rate;
β_0 = Constant

β_{1-4} = Slopes; and
μ_t = Uncorrelated white noise residuals;
t = Time.

This study used the Vector Autoregressive (VAR) model developed by Sims to further explain the interrelationship among the variables. Therefore, equation (2) is expressed thusly:

$$Z_t = A_0 + \alpha_1 Z_{t-k} + \alpha_2 Z_{t-k} + \cdots + \alpha_k Z_{t-k} + \mu_t \qquad (3)$$

Where $Z_t = [Y'_t, FD_t, PCI_t, TR_t, INF_t]$

The equation (3) can be re-written more compactly as:

$$Z_t = A_0 + \beta_1 \sum_{i=1}^{k} Z_{t-j} + \mu_i \qquad (4)$$

Furthermore, the Vector Error Correction Model (VECM) technique was employed to analyse the dynamic relationship between the variables in the above equation (2). The stationary level of our variables at first difference and the long-run relationship are confirmed prior to VECM estimation. This method helps to provide both the short-run and long-run estimates and also determines the causation direction between our variables. According to Rahmaddi and Ichihashi (2011), its cointegrating analysis which is a property of long-run equilibrium provides information about the long-run relationship among the variables while the granger causality test indicating the short-run phenomenon provides information on short-run dynamics among the variables (Saibu, Omoju and Nwosa, 2012).
In a VECM form, equation (4) is written as:

$$\Delta Z_t = A_0 + \Pi Z_{t-1} + \sum_{i=1}^{k} \Gamma_j \Delta Z_{t-j} + \mu_i \quad (5)$$

Where Δ is the difference operator, Z_t is a 4 by 1 dimensional vector of non-stationary I(1) endogenous variables of the model, A_0 is a 4 by 1 dimensional vector of constant; Π is the long-run matrix that determines the number of co-integrating vectors that consists of $\propto$ and β representing the speed of adjustment towards long-run equilibrium and long-run parameter respectively; Γ is the vector of parameters that represents the short term relationship; and μ_i is k-dimensional vector of the stochastic error term normally distributed with white noise properties $N(0, \sigma^2)$.

All data were sourced from the Central Bank of Nigeria statistical bulletin, volume 25, 2014 and World development indicator (WDI), 2015. The period of study covers from 1981:Q1 to 2012:Q4. Again, financial development measured by narrow money as a percentage of GDP implies money outside the banking system to the size of the economy. Poverty rate measures the percentage of the poor living below US$1/day while income inequality measures the unequal distribution of income among citizen in the economy. Per capita income measured by growth rate of real GDP to population. Inflation rate measure the macroeconomic stability and trade openness measured as total trade as a ratio of GDP reveal the openness and liberalization of trade in the country. The use of factors as a share of GDP also helps to avoid the problem of multi-

collinearity between independent variables. All the factors are in growth rates.

4.0 Data Analysis and Interpretation

4.1 Descriptive Analysis

Table 1 presents the descriptive statistics of the time series properties of the variables included in the model. The table shows that the average of income inequality (IIQ), poverty rate (POV) and interest free measure of financial development (FD) correspondingly stood at 45.61%, 55.61% and 11.35%. It shows that income inequality and poverty rate respectively grew at a higher rate, approximately four and five time of the non-interest measure of financial development in Nigeria. Also, the mean values of inflation rate (INF), trade openness (TR) and per capita income growth (PCIG) were 20.76%, 53.31% and 0.93% respectively. It explains the reason why many Nigerians still live below US$1/day because the average rate of per capita income for the period 1981:Q1-2012:Q4 is 0.93%. Moreover, the standard deviation of IIQ, POV, and interest free measure of FD, INF, TR and PCI from their respective long term mean values every year point at 3.9%, 12.09%, 3.8%, 18.65%, 15.65% and 8.01%.

The probability value of Jarque-Bera statistics for all factors shows their distribution level at mean zero and constant variance. It indicates that only trade openness is normally distributed among all the variables of interest.

Table 1
Descriptive Statistics

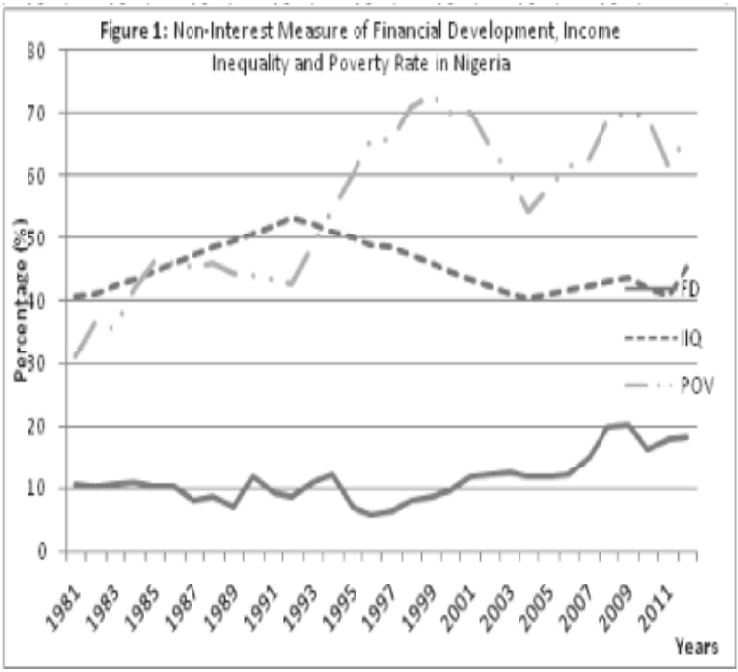
	IIQ	POV	FD	INF	PCIG	TR
Mean	45.611	55.606	11.354	20.764	0.929	53.313
Maximum	53.622	73.463	20.883	80.716	36.181	85.299
Minimum	40.057	29.836	5.396	-0.022	-18.721	20.651
Std. Dev.	3.896	12.085	3.797	18.652	8.005	15.651
Skewness	0.446	-0.271	0.889	1.487	1.185	-0.333
Kurtosis	1.906	1.788	3.207	4.054	8.498	2.419
Jarque/Bera	10.629	9.399	17.092	53.085	191.145	4.164
Probability	0.0049	0.009	0.0002	0.0000	0.0000	0.1247
Obs.	128	128	128	128	128	128

***Source**: Author's computation (2016).*

Figure 1 and 2 illustrates the relationship among non-interest measure of financial development, macroeconomic factors, income inequality and poverty rate in Nigeria during the period of 1981:Q1 to 2012:Q4.

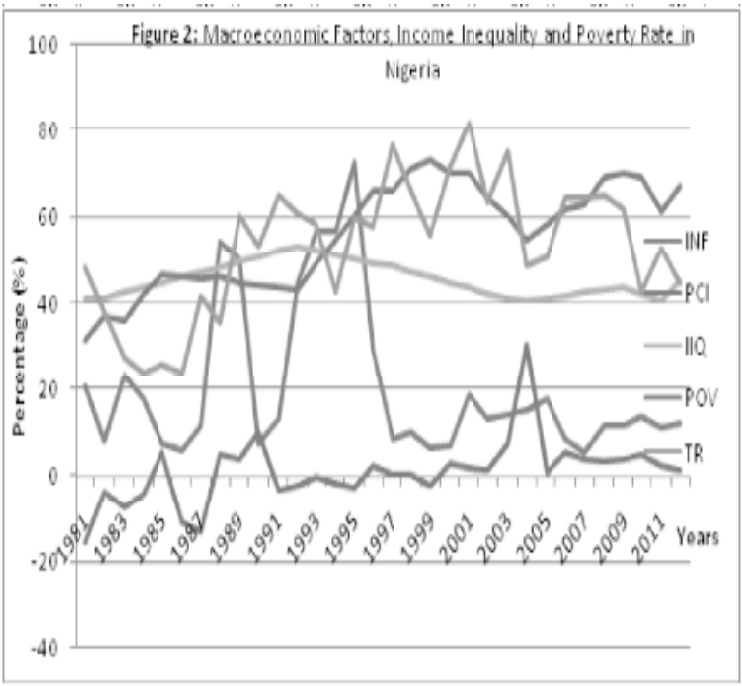
Figure 1 shows that money outside the banking system as a percentage of GDP is between 5% and 21% within the periods considered. The relationship between non-interest rate measure of financial development and poverty rate/income inequality indicate both positive and negative trends across different periods.

Figure 1



The inconclusiveness of the direction necessitates the need for empirical analysis. Additionally, Figure 2 shows the trend movement of other macroeconomic factors, poverty rate and income inequality.

Figure 2



4.2 Unit Root Test Results

Table 2 presents the results of the time series properties of the variables included in the model. This pre-test was carried out before estimating the long-run and short-run relationship among non-interest rate measure of financial development, poverty rate and income inequality in Nigeria (1981:Q1-2012:Q4).

The Augmented Dickey Fuller (ADF) unit root test results as presented in Table 2 indicate that all the variables are stationary at first difference [I(1)]. Thus, they are non-mean reverting at

levels and do not converge to their long-run equilibrium until they are first differenced.

Table 2
ADF Unit Root Test Results [Trend and Intercept]

Variable	ADF Tau Statistics Levels	First Difference	Order of Integration
POV	-2.4372 (5) [-4.0350]	-3.5975 (2) [-4.0337]**	1
IIQ	-2.2639 (4) [-4.0344]	-6.3270 (1) [-4.0331]*	1
FD	-1.9730 (11) [-4.0391]	-4.3483 (4) [-4.0350]*	1
PCI	-3.1843 (7) [-4.0363]	-5.2033 (4) [-4.0350]*	1
TR	-0.9433 (6) [-4.0357]	-5.6632 (5) [-4.0357]*	1
INF	-2.9299 (11) [-4.0391]	-3.8580 (11) [-4.0398]**	1

Note: ** significant at 1%; ** significant at 5%; *** significant at 10% Mackinnon critical values and are shown in parenthesis. The lagged numbers shown in brackets are selected using the minimum Schwarz and Akaike Information criteria.*

Source*: Author's computation (2016).*

4.3 Co-integration Estimates

For income inequality model involving IIQ, FD, INF, TR, PCI. Table 3 below reveals that the null hypothesis of no co-integration for $r = 0$ and $r \leq 1$ was rejected for trace statistics and $r \leq 1$ rejected for the maximum Eigen-value statistics. The statistical values of these tests were greater than their 95% critical values. However, the null hypotheses of no co-integration, $r \leq 1$ were accepted for trace statistics and no co-

integration for maximum Eigen at 5% significance level. The statistical value of the trace statistics was greater than its critical value at r ≤ 1 while the maximum Eigen-value statistics at r ≤ 1 was less than its critical value. Moreover, the null hypothesis of no co-integration for r ≤ 2 was rejected by both trace statistics and the maximum Eigen-value statistics.

The statistical values of the two techniques at r ≤ 2 were lesser than the critical values. The trace and maximum Eigen-value statistics at r ≤ 3 report similar findings as discussed for r ≤ 2 but both are significant for r ≤ 4 at 5%. Therefore, the result of the co-integration indicated there is one co-integrating equation at 5% significant level. This implies the possibility that a long-run relationship exist between non-interest component of money supply as a ratio of GDP and income inequality taking into consideration some macroeconomic factors as depicted in model I.

In respect to the poverty rate model (model II involving POV, FD, PCI, TR, INF); it was observed that the null hypothesis of no co-integration for r = 0 was rejected for both trace statistics and the maximum Eigen-value statistics. The statistical values of these tests were greater than their 95% critical values. The null hypothesis of no co-integration for r ≤ 1 was rejected by both trace statistics and the maximum Eigen-value statistics at 5%. Similar results were reported for null hypotheses for r ≤ 2, r ≤ 3 and r ≤ 4 at 5% significance level indicating no co-integrating equations at two, three and four.

Table 3
Summary of Co-integration Estimates [Lag interval: 1-3]

			Trace Test		Maximum Test	EigenValue
	Null Hypotheses	Eigen-value	Statistics	95% critical values	Statistics	95% critical values
Model I	r = 0	0.273293	94.98363*	69.81889	39.58479*	33.87687
	r ≤ 1	0.187907	55.39884*	47.85613	25.80940	27.58434
	r ≤ 2	0.129413	29.58944	29.79707	17.18480	21.13162
	r ≤ 3	0.053121	12.40464	15.49471	6.768390	14.26460
	r ≤ 4	0.044436	5.636253*	3.841466	5.636253*	3.841466
Model II	r = 0	0.282947	75.24779*	69.81889	41.24310*	33.87687
	r ≤ 1	0.124067	34.00469	47.85613	16.42576	27.58434
	r ≤ 2	0.080476	17.57892	29.79707	10.40348	21.13162
	r ≤ 3	0.040574	7.175441	15.49471	5.136128	14.26460
	r ≤ 4	0.016312	2.039314	3.841466	2.039314	3.841466

Source: *Authors' computation (2016).*

Thus, the result indicates one co-integrating equation at 5 per cent. Thus, it implied the possibility of a long-run relationship between non interest banking measure of financial development and poverty rate taking into account other macroeconomic factors in model II.

4.4 Vector Error-Correction Model (VECM) Estimates

4.4.1 Long-run Relationship among Narrow Money, Per Capita Income, Trade Openness, Inflation Rate, and Socio Welfare Indicator (Poverty and Inequality) in Nigeria

The results for the two models (income inequality and poverty rate) show the existence of long-run co-integration relationship among the variables. The long-run estimates of the relationships (co-integrating equations) are expressed thus:

Model I: Long-run Co-integrating Income Inequality Equation

$$IIQ_t = -27.394 + 0.102FD_{t-1} + 0.836PCI_{t-1} - 0.309TR_{t-1} - 0.180INF_{t-1} + \varepsilon_t$$

S.E:	(0.1722)	(0.0792)	(0.0423)	(0.0335)
T-test:	[0.5929]	[10.5659]*	[−7.3092]*	[−5.3765]*

* indicates significance at 5%.

With emphasis on non-interest measure of financial development and income inequality, model I (the income inequality equation) showed that non-interest banking financial development measured by narrow money as a percentage of GDP and per capita income have direct impact on income inequality in Nigeria and these negate theoretical expectation. It indicates that a 10% increase in non-interest banking financial development measured by narrow money as a percentage of GDP increase unequal distribution of income by 1.02%.

The positive effect of narrow money on income inequality in Nigeria is insignificant at 5%. Also, an increase in per capita income by 10% will reduce per capita income by 2.26%. The other two macroeconomic factors report a negative relationship with income inequality. A 10% increase in total openness and inflation rate reduce income inequality by 3.09% and 0.18% correspondingly. Thus, based on the co-integration equation of income inequality, it can be concluded that there exists a weak positive relationship between non-interest measure of financial development and income inequality.

Model II: Long-run Co-integrating Poverty Rate Equation

$$POV_t = 87.898 - 3.518FD_{t-1} + 5.806PCI_{t-1} - 1.963TR_{t-1} - 0.232INF_{t-1} + \varepsilon_t$$
S.E: (1.2172) (0.0792) (0.281) (0.2467)
T-test: $[-2.8901]^*[10.0590]^*$ $[-6.9955]^*$ $[-0.9410]$

* indicates significance at 5%

The second model (poverty rate equation) shows that narrow money as a ratio of GDP measuring financial development have negative and significant impact on the level of poverty in Nigeria. Similar relationship was reported in the case of trade openness and price instability, whereas the former is found significant at 5% and insignificant for the latter. Specifically, the result showed that a one per cent increase in money outside the banking system to GDP would reduce the number of Nigerians living below US$1/day by 3.52%. Additionally, a 1% increase in trade openness decreases the level of poverty in Nigeria by 1.96%. Poverty rate reduces by 0.23% as a result of 1% change in inflation rate.

Furthermore, per capita income has positive significant direct relationship with poverty rate by 5.81% due to 1% changes. Drawing from the co-integration test and co-integration equation, there exist a negative relationship between non-interest banking development and poverty rate in the long-run.

Thus, the validity of Greenwood and Jovanovich (1990) hypothesis in an interest free economy can be considered weak in the case of Nigeria.

4.4.2 Short-run Relationship among Narrow Money, Per Capita Income, Trade Openness, Inflation Rate, and Socio Welfare Indicator (Poverty and Inequality) in Nigeria

Table 4 shows that the error correction terms for the co-integrating equation of poverty rate is negative and significant at 5%, whereas the error correction term for income inequality is positive and not significant. The coefficient estimates of the error correction term of -0.002 for poverty rate equation implies that when there is an exogenous shock in the model, the model correct its disequilibrium by 2.0% speed of adjustment per year in order to return its equilibrium. In addition, changes in the first lag of interest free measure of financial banking development have positive impact on the two equations in the short-run.

It implies that there is no existence of the Greenwood and Jovanovich (1990) hypothesis in the short-run. The model further shows that the high level of poverty and inequitable distribution of income in the previous quarter have impact on the current level poverty and income inequality in Nigeria. The models passed the fitness test as they explain over 60% changes in the dependent variables. Likewise, the Fischer tests indicate that the overall tests are significant at 5%.

Note: In Table 4 Standard errors in ( ) & t-statistics in [ ]. *, ** & *** signify 1%, 5% & 10% significance levels.

Table 4

Summary of Short-run Estimates

Dependent variables	Independent variables					
	∆IIQ(-1)	**∆FD(-1)**	**∆PCI(1)**	**∆TR(-1)**	**∆INF(-1)**	**ECT**
∆IIQ	0.861	0.004	0.001	0.002	-0.001	0.002
	(0.048)	(0.027)	(0.006)	(0.004)	0.004	(0.003)
	[17.902]*	[0.137]	[0.099]	[0.444]	[0.176]	[0.694]
	Adj. R^2		**F-stat**		**S.E. Equation**	
	0.735		58.858		0.202	
	∆POV(-1)	**∆FD(-1)**	**∆PCI(1)**	**∆TR(-1)**	**∆INF(-1)**	**ECT**
∆POV	0.807	0.012	-0.003	-0.001	0.002	-0.002
	(0.055)	(0.097)	(0.020)	(0.016)	(0.013)	(0.0007)
	[14.742]*	[0.128]	[-0.135]	[-0.078]	[0.142]	[-2.857]*
	Adj. R^2		**F-stat**		**S.E. Equation**	
	0.662		63.101		0.728	

Source: *Authors' computation (2016).*

5.0 Conclusion and Policy Options

This paper test the validity of Greenwood and Jovanovich (1990) hypothesis in an interest free economy by examining the relationship between zero interest measure of financial development, income inequality and poverty rate in Nigeria between 1981:Q1 to 2012:Q4.Under the conventional interest rate measures of financial development (banking and capital markets), two strands of studies exist on the validity of hypothesis, some studies supported while some rejected it.

The hypothesis proposed that a good financial system make funds easily accessible to the poor at a low transaction cost for investment purposes. Using the free interest measure of financial development, this study employed the VECM

technique to evaluate both the long-run and short-run impacts on poverty and income inequality. Prior to the VECM estimates, the study confirmed that the indicators are stationary at first difference. In addition, the existence of long-run relationship among the variables was also confirmed.

The results of the long-run estimates report that non-interest measure of financial development proxy as narrow money as a percentage of GDP has positive and negative significant impacts on income inequality and poverty rate respectively. It indicates that at the initial stage of financial system development, the gap in income between the rich and the poor increase but later drop in the long-run and by extension the number of poor people decreases.

This study found empirical evidence for the validity of Greenwood and Jovanovich (1990) hypothesis in Nigeria. Thus, the study suggests that interest free financial resources are major option for reducing poverty rate in Nigeria. This will also guarantee evenly income distribution between the poor and the rich. On this note, there is need for interest free economy as this is not only feasible but also viable compared to the invented interest measure of financial development that often leads to unevenly distribution of income and increase the number of people living below the poverty line. Therefore, the government should embrace the rebirth of interest free economy in order to improve the welfare of average Nigerians.

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BEHAVIOURAL BIAS FACTORS AND INVESTMENT BEHAVIOUR IN THE NIGERIAN STOCK MARKET

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Abstract

This paper considers investment behaviour in the Nigerian stock market with particular reference to the Cumulative Prospect Theory. As an exploratory study a small sample set is surveyed using structured questionnaires; the study examined various investors' characteristics that can influence investor's behaviour in the stock market. Cross tabulation, descriptive statistics, correlation matrix and Chi-square are employed for data analysis. From the analysis, the study finds that investment behaviour in the Nigerian stock market is consistent with the prediction of the Cumulative Prospect Theory. Individuals are risk – averse over gains and risk – seeking over losses, and that they tend to overweight low – probability events while underweighting the likelihood of high – probability ones. The study identifies some behavioural bias factors such as feelings, news of loss, and crowd influence as important. The study tends to suggest that the major participants in the Nigerian financial markets should design products and strategies that will cover

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the risk framework of the individual investors in the stock market. This will improve securities pricing predictability.

Keywords: Investment Behaviour, Cumulative Prospect Theory, Nigerian Stock Market

1.0 Introduction

Behavioural finance is a relatively new field that goes beyond conventional finance paradigm to a fast growing amalgam of behavioural and cognitive psychological theories to explain why people make irrational financial decisions. According to conventional financial theory, economic agents are rational "wealth maximizers". And when there are mispricing, arbitrageurs will act to realign prices. However, in many instances, emotion and psychology influences decision making, resulting in irrational decisions. These are behavioural biases. Behavioural biases are usually wrong and potentially damaging behaviours driven by erroneous decisions (Domeier & Sachse, 2015).

The decisions could be damaging because the outcomes are usually negative and at best suboptimal except in the cases where luck or serendipity, or some corrective actions occur. Also important is that there are cases where mispricing is sustained (De Bondt & Richard, 1985). In finance, investment behaviour can be seen from the perspective of either quantitative analysis such as Markowitz (1952a), Sharpe (1964), and Lintner (1965) or from qualitative analysis such as Kahneman and Tversky (1973), Walker and Tversky (1993), and Tversky and Kahneman

(2016) covering psychology, neuro-economic, and Cumulative Prospect Theory.

These improve the understanding of investment decisions under uncertainty and explain certain stock market inefficiencies. Markowitz (1952b) suggests mean-variance framework for portfolio decisions. Also see Alexander, Sharpe and Bailey, (2001). Kahneman and Tversky (1973, 1979) observe that investors do not respond evenly to gains and losses; and thus advances Prospect Theory and later Cumulative Prospect Theory, laying claim to heuristics and biases. The aim of this paper is to examine the relationship between behavioural bias factors and investment behaviour in the Nigerian stock market.

1.1 Statement of Research Problem

Behavioural finance confirms that feelings, animal spirit and head mentality significantly influence investment decision making. Also, other studies such as Barberies, Mukherjee and Wang (2016), and Yechiam, Ashby and Pachur (2017) have used psychological variables such as emotional intelligence, personality and impulsiveness to study investment behaviour.

Cumulative Prospect Theory is now important in identifying the impacts of behavioural bias factors (Tversky and Kahneman, 2016). Many studies of behavioural bias factors as they affect investment behaviour have been done in many developed economies but they are virtually lacking in Nigeria (Raja & Imran, 2017). Moreover, mean-variance framework studies are often the case in Nigeria. This study seeks to fill the gap in literature and to evaluate the relevance of Cumulative Prospect Theory to

investment behaviour in Nigeria. In this study, some demographic characteristics are also considered.

1.2 Objective of the Study

The main objective of the paper is to identify the behavioural bias factors in the context of Cumulative Prospect Theory that affects investment behaviour in the Nigerian stock market. Specific objectives are to:

1. Examine if there is any relationship between risk and investors' past experiences;
2. Examine whether there is a relationship between risk and investors' feelings;
3. Examine the relationship between investors' risky position and news of loss in the stock market; and
4. Identify other factors that may influence investment behaviour in the Nigerian stock market.

2.0 Review of Related Literature

Gains and losses from investment in the stock market are a normal part of the economic cycle to which investors differ in their reactions. Investors feel positive emotions from gains realized but relatively stronger negative emotions from losses of the same size realized. As a result, some investors sell their winners prematurely while hanging on to their losers, some trade too much, others too little (Shefrin and Statman 1985; Barber and Odean 1999). Some of the investors who can beat the market index are those who trade against known cycles of emotion – buying when others are in panic state over the market condition and selling when others are basking in their new found

fortune. Perceived risk is a function of uncertainty and consequences (Cox 1967).

This uncertainty could be over the type of financial product for investment, wealth status of investor, the general price conditions of the economy and other intervening variables in the investment climate. Different investors respond to perceived risk from investment securities differently depending on their risk class – risk averse, neutral, or prone to risk taking (Concina, 2014).

In studying investor's behaviour, Meyer and Salovey (1997) coin a model for emotional intelligence called the ability-based model. In their model, they describe four distinct competencies which are *perceived emotions* (emotional signals in the face of investors and those deduced via other communication channels); *using emotion* (this border on actions that make good use of disruptive feelings to assist reasoning, problem solving, and decision making); *understanding emotions* (analysing emotions, predicting how emotional states will change over time, and evaluating the influence of emotions on an outcome); and *managing emotions* (understanding and controlling response to emotional stimuli in the context of some specific goal or social situation).

Lerner, Small and Loewenstein (2004), and John, Tanja and Peter (2009) indicate that low – emotionally intelligent (EI) individuals were prone to making poor decisions than others. Different from normal participants in the financial markets, the low – EI individuals exhibit an inability to learn from past

mistakes. And also that their poor decisions are even more when it is not possible to ascertain the exact calculations of a future outcome for an investment, and choices had to be based on approximations, as prevalent in financial decision making. John and Srivastava (1999) developed the Big Five Inventory (BFI) to measure personality as a major determinant influencing investment behaviour. This appears to be the most reliable of the shorter personality tests. The five categories that form the list are: *Extraversion* – the propensity of investors to be talkative, energetic, and assertive; *Agreeableness* – the likelihood of the investor to be kind, warm, and sympathetic; *Conscientiousness* – the tendency of the investor to be efficient (utilizing information), organized, "planful" and thorough; *Neuroticism/Negative Affectivity* – the tendency to be moody, tense, and anxious (resulting in band wagon effect); and *Intellect/Openness to Experience* – the dimension of having wide interests and being imaginative (predicting market trends), complex (interrelating variables), and insightful.

Just as corporate earnings and stock prices exhibit no perfect relationship, so also personality and investment decisions have no direct relationship, but may reveal certain trends or patterns. Based on personality, some investors who act spontaneously tend to make decisions faster than non-impulsive individuals, and they frequently can take higher risks (Zuckerman & Kuhlman, 2000; Kahneman, 2011). The financial implications of impulsiveness depend on whether the risk taking is motivated by hedonic pleasure (stimulating risk taking) or risk taking involving striving for a long-term future profit or benefit which is achievement and goal-oriented (instrumental risk taking).

The stimulating risk taking tend to be rapid, effortless, and automatic displaying in such activities as impulse buying, gambling and extreme sports while the instrumental risk taking involves a more complex function in information processing. The two traits associated with stimulating form of risk taking are *Urgency* which is difficulty in controlling or coping with the urge to act in reaction to negative emotions and *Lack of premeditation* which is the likelihood of taking action before careful thinking and planning can occur.

Investors with high emotional intelligence EI (that is, with the emotions managing ability) are not likely to be either risk averse or risk seeking (Salovey, 2001), those with a higher EI-Managing score are less likely to fall into the high-equity group. These are people who feel comfortable dealing with their emotions, and thus keep away from most of the largest emotional investment traps. Different from emotion, an individual's willingness to take risk (risk aversion) reduces as the investor's wealth rises, while also other factors such as age, income and education increase. This will be in terms of absolute and relative risk aversion.

2.1 Theories of Investment Behaviour

Theories of behavioural finance have incorporated various aspects of human behaviour into traditional finance theory to improve our understanding of investors' decision making process (McGoun and Skubic, 2000; Barberis, Shleifer, and Vishny, 1997). Some of the theories are discussed below:

Regret Theory: this provides explanation for the emotional response that investors experience when they discover that there are errors in their judgment. For example, when the price of a particular stock goes up, investors may regret not buying such stock.

Anchoring Theory: refers to the tendency to attach our decisions to a reference point - even though the reference point may have no logical relevance. Anchoring can be a source of frustration when investors base their decisions on irrelevant figures and statistics.

Mental Accounting Theory: refers to the tendency for people to separate their money holdings into separate accounts based on a variety of subjective criteria such as sources and uses. The theory holds that individuals assign different functions to each asset group, with detrimental effect on their consumption and investment decisions, despite the fact that with total wealth, money is fungible. See Thaler, (1999, 2001).

Confirmation and Hindsight Biases Theory: Confirmation Bias is a type of selective thinking in which the tendency is to selectively filter and focus more attention on information that confirms some pre-existing opinions, while ignoring or rationalizing the rest. Hindsight Bias tends to occur when a person believes (after the fact) that some past event that could not have been predicted was predictable and very obvious. This leads to overconfidence.

Gambler's Fallacy Theory: When it comes to probability, a lack of understanding can lead to incorrect assumptions and predictions about the onset of events. One of these incorrect assumptions is the gambler's fallacy, in which an individual erroneously believes that the onset of a certain random event is less likely to happen following an event or a series of events. This line of thinking is incorrect because past events do not change the probability that certain events will occur in the future.

Herd Behaviour Theory: This explains why bubbles keep occurring. Herd behaviour is the tendency for individuals to mimic the actions (rational or irrational) of a larger group. Reasons for herding behaviour include the social pressure to conform, and the belief that a large group could not be wrong.

Overconfidence Theory: Confidence implies realistically trusting your abilities, while overconfidence usually implies an overly optimistic assessment of your control over a situation. Overconfident investors tend to believe they are better than others at choosing the best stocks and best times to enter or exit a position. See Tapia and Yermo (2007).

Overreaction and the Availability Bias Theory: One consequence of having emotion in the stock market is the overreaction toward new information, creating a larger-than-appropriate effect on a security's price (Zouaoui, Nouyrigat, &

Beer, 2010). According to the availability bias, people tend to heavily weigh their decisions toward more recent information.

Prospect Theory and Cumulative Prospect Theory: Traditionally, it is believed the net effect of the gains and losses involved with each choice are combined to present an overall evaluation of the desirability. However, research has found that we do not actually process information in such a rational way.

Kahneman and Tversky (1979) present an idea called prospect theory, which contends that people value gains and losses differently, and, as such, will base decisions on perceived gains rather than perceived losses. Individuals are more stressed by prospective losses than they are happy from equal gains.

According to them, losses are weighted more heavily than an equivalent amount of gains thus creating the asymmetric value function. This function is a representation of the difference in utility (amount of pain or joy) that is achieved as a result of a certain amount of gain or loss. The main feature is how a loss creates a greater feeling of pain compared to the joy created by an equivalent gain. The prospect theory can be used to explain quite a few illogical financial behaviours such as when people refuse to work overtime because they do not want to pay more taxes.

Although these people would benefit financially from the additional after-tax income, prospect theory suggests that the benefit (or utility gained) from the extra money is not enough to overcome the feelings of loss incurred by paying taxes. Prospect theory also explains the occurrence of the disposition effect,

which is the tendency for investors to hold on to losing stocks for too long and sell winning stocks too soon; taking more risks to avoid losses than to realize gains.

It is believed that the objects of choice are prospects, defined in terms of gains and losses relative to neutral reference point, rather than acts defined in terms of final asset positions. It has been observed that people are generally risk averse for gains, risk seeking for losses, and that losses loom larger than gains (Markowitz, 1952b; Kahneman and Tversky 1979). Kahneman and Tversky (1979) further developed Prospect theory into Cumulative Prospect Theory (CPT). It combines the two preceding generalizations of Expected Utility. A set of prospects is *sign-comonotonic* if it is both cosigned and comonotonic.

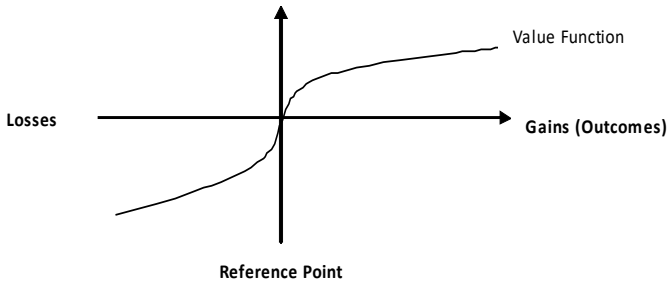
A set is sign-comonotonic if and only if it is a subset of a set A. Hence set A is the maximal sign-comonotonic set. It is of the form $\{f \in A(o(1)) \leq ... \leq f(o(k)) \leq 0 \leq f(o(k+1)) \leq ... \leq f(o(n))\}$, for some permutation o, integer k, and event A = {o(k + 1), ..., o(n)}. In CPT there exists an additive representation within each set A. CPT is an alternative to the expected utility theory for deciding between alternatives in risky situation.

The decision processes consist of two stages: (see Fig. 1)

Editing – this stage consists of ordering possible outcomes by some heuristic (experiential), and then setting reference point with which to classify lower outcomes as losses and higher outcomes as gains;

Evaluation – this compute a value (utility) based on potential outcomes and respective probabilities, and then choose the alternative having a higher utility.

Figure 1: The Value Function



Source: Author

The S shape which passes through the reference point is the value function. The asymmetry implies that given the same variation in absolute value that there is a bigger impact of losses than of gains (loss aversion). It is concave in the sphere of gains (risk – averse) and convex in the area of losses (risk – seeking). The utility function is given as:

$$U= \sum_i w(P_i)v(X_i) = w(P_1)v\,(X_1) + w(P_2)v\,(X_2) + \ldots,$$

Where

X_i, X_2 = potential outcomes;
P_1, P_2 = respective probabilities;
v = value function that assigns a value to outcome;
w = probability weighting.

The violation of the first – order stochastic dominance in the Prospect Theory (that is, prospect that B might be preferred to A even if the probability of receiving payoff x or greater is at least as high under prospect A if not greater for some value of x) gave rise to CPT (Osamwonyi, 2011). Cumulative Prospect Theory shifted from using probabilities of individual outcomes to cumulative probability functions. The perspectives of the theory are that investors tend to think of possible outcomes usually relative to a certain reference point instead of the final status (framing effect). That investors exhibit different risk attitude towards gains (above reference point) and towards losses (below), and that people care more about potential losses than potential gains (loss aversion).

Radner Theory: This theory was first introduced by Radner (Radner, 1972). He explores the conditions of competitive equilibrium and the extent of its applicability to the case of uncertainty. The theory relates how investors use information at their disposal in their environment to make choices in ensuring optimum allocation of resources. In his theory, he describes an equilibrium system as a point where each consumer maximizes his preferences subject to his wealth constraint; that each producer maximizes his profit and that total demand equal total supply. He assumed some elements of the perfect market system in resolving decision making in an incomplete financial market. Radner competitive equilibrium modelled uncertainty in the financial markets. It relates economics in decision in a world of uncertainty and in incomplete – market economies. Radner reconsider the Arrow-Debreu model and introduces differences

in information across agents, but does not come to grips with market incompleteness.

This decisive contribution was generalized in Radner (1979). Radner theory attempts to resolve incompleteness in the financial market and its effect on the quality of investment by investors, CPT resolves preferences, choices and emotions as they influence investment behaviour. This is why the study prefers the use of Cumulative Prospect Theory for evaluating the influence of behavioural bias factors on investment behaviour.

2.2 Empirical Review

There exists ample evidence that feelings significantly affect decision making particularly when the decision involves risk and uncertainty (Schwarz 1990; Forgas 1995; Isen 2000; Loewenstein, Weber, Hsee, and Welch, 2001). John, Tanja and Peter (2009) explore the relationship between investment decisions and three psychological variables: emotional intelligence, personality, and impulsiveness. They found important relationships among aspects of these three psychological constructs and various investment behaviours.

In examining personality as a major influence of the investment behaviour, it reveals that introversion, lack of neuroticism, and lack of agreeableness determine higher levels of household savings in the real population and that conscientiousness and lack of neuroticism foretell preretirement planning and that extraversion and lack of conscientiousness are related to impulse buying (Nyhus and Webley, 2001; Hershey and Mowen, 2000; Verplanken and Herabadi, 2001).

Harbaugh, Krause and Vesterlund (2009) test the fourfold pattern of risk attitudes for a risky prospect: risk – seeking over low – probability gains, risk – seeking over high – probability gains, risk – averse over low – probability losses, and risk – seeking over high – probability losses. Employing two different elicitation procedures they found that the fourfold pattern is a very good predictor of risk attitudes only when people are asked to report their willingness to pay for a risky prospect. They found that decisions are not different from random when asked to choose between the gamble and its expected value.

Tversky A. and Kahneman D. (1992) developed another version called Cumulative Prospect Theory, and it applies to uncertain as well as to risky prospects with any number of outcomes, and it allows different weighting functions for gains and for losses. Two principles, diminishing sensitivity and loss aversion, are invoked to explain the characteristic curvature of the value function and the weighting functions. A review of the experimental evidence and the results of a new experiment confirm a distinctive fourfold pattern of risk attitudes: risk aversion for gains and risk seeking for losses of high probability; risk seeking for gains and risk aversion for losses of low probability.

Tversky A. and Kahneman D. (2016) in the resulting model, combines some of the attractive features of both developments. See also Luce and Fishburn, (1991) *Journal of Risk Uncertain* 4, 29–59. It gives rise to different evaluations of gains and losses, which are not distinguished in the standard cumulative

model, and it provides a unified treatment of both risk and uncertainty.

Yang and Liang (2016) employs the framework of the Cumulative Prospect Theory to introduce the income perception matrix, and then applies it to the equilibrium analysis on the bounded rational main body of green behaviour. While Zhao, Zhu and Li (2018) propose an optimal execution model with transient price impact and permanent price impact. Traders' behaviours are described using Cumulative Prospect Theory.

Momen, Esfahanipour and Seifi (2017) attempt to develop a prescriptive portfolio selection (PPS) model based on a compromise between the idea of "fast" and "slow" thinking proposed by Kahneman (2011). This is the first study that includes overconfidence in modeling portfolio selection for the purpose of achieving a portfolio that has a reasonable performance and one that investors are comfortable with.

Gong, Xu and Wang (2017) present an Efficient Adaptive Real Coded Genetic Algorithm to Solve the Portfolio Choice Problem under Cumulative Prospect Theory while Deng and Liu (2017) focus on the interaction between investors and portfolio managers, employing a Cumulative Prospect Theory approach to the investor's preferences.

Fan and Cao (2014) provides a method for the Portfolio Selection considering the Psychological Behaviours and the Mental Accounts of the Investor. Zou and Zagst (2017) optimal

investment problems are studied under the framework of Cumulative Prospect Theory (CPT).

Song, Bi, Li and Zhang (2017) investigate continuous-time optimal portfolio and consumption problems under loss aversion in an infinite horizon.

Yang G. and Liu X. (2018) propose goal-based portfolio selection model with discounted preference. Firstly, we discuss the goal-based portfolio selection problem and then modify the portfolio selection model based on cumulative prospect theory (CPT) as well as considering investors' discounted preference in psychology.

Hayashi T. (2017) briefly review the general equilibrium theory, which is traditional: preference and the concept of ordinal utility, demand, and comparative statics, the definition of Arrow–Debreu equilibrium, Pareto efficiency, and welfare theorems, welfare comparison, and compensation principle, and incomplete asset markets. It frames it like Radner.

3.0 Methodological Review

John, Tanja and Peter (2009) investigate emotional intelligence and investor's behaviour by employing stacked or panel regression technique with quarterly observations to assess the relationship between psychological characteristics and attain rates of return using a specified model as:

$$Rit = \alpha i + \tau Pi + BXi + Tt + \varepsilon it,$$

Where the dependent variable, *Rit*, is the quarterly rate of return for individual *i* at time *t*. The independent variables and controls include the vector of psychological characteristics of interest, for each individual; a set of control variables for other individual characteristics, **X**; and a set of period dummy variables, *T*, that captures difference in the regular returns achieved by sample members in each period.

In examining factors that influence individual's investment decisions at the Nairobi Stock Exchange, Ambrose and Vincent (2014) used structured questionnaire containing 28 items to elicit data from 42 investors which form the sample size intended. They employed frequencies, mean scores, standard deviations, percentages, Friedman's test and Factor analysis techniques to analyse their data. The conceptual frame work adopted here is Cumulative Prospect Theory.

3.1 Methodology

This study is exploratory and a survey research design is employed. Because of the exploratory nature, the population of the study is that of the University of Benin. This is a first generation university established in 1970, located in Benin City, Edo State, Nigeria. From the data set of the Federal Government Needs assessment Committee of 2012, the students population is 56,501, academic staff 1,418 and non-academic staff 4,326. The University of Benin is one of the most sought after universities in Nigeria. From casual empiricism, the general reaction of the university population to the 2007/2008 global financial crisis tends to indicate a high level of investment culture especially in the stock market.

However, given the exploratory nature of the study, only 50 participants were randomly selected, inclusive of academic staff and students. Those who had no investment experience were dropped. It is noted that while results generated may not be easily generalizable but they are indicative. Moreover, this study leaves the behaviour of corporate investors and portfolio managers for further study.

The data needed for analysis were collected from the target audience through the use of questionnaire. As noted by Mugenda and Mugenda (1999), a survey research design collect data from members of a population and describe certain selected phenomena by eliciting information. Cross tabulation, frequency distribution, correlation and Chi-square are employed to explain the relevant variables. The questionnaire was structured to include 17 questions, focusing on different aspects of investment behaviour such as feelings, heuristic preferences, and risk perception; demographics are included (see appendix I).

4.0 Empirical Analysis

For data gathering, 50 copies of the questionnaire were distributed, but 40 were retrieved and analysed. Among the retrieved copies of the questionnaire, some of the variables in the cases had no responses hence the missing values as show in appendix II. The research instrument was subjected to both validity and reliability tests. Content construct, test-retest, and inter-rater reliability tests using pre-study field tests and expert review confirmed reliability of the instrument. Copies of the

questionnaire were analysed using cross tabulation, descriptive statistics, correlation and chi-square where applicable (See Appendices).

The target audience were randomly selected using convenience random sampling method (administering the questionnaire to people available by contact). The respondent covers both students and staff of the University of Benin who are investors in one way or the other. Institutional investors were not considered.

The descriptive statistics are used to describe the distribution of the data; the cross tabulation shows relationships within the data which may not be obvious when analyzing total survey responses; the box plot is used to show the shape of the distribution, its central value, and its variability; the histogram is used for clearer picture of the frequency of score occurrences in the distribution; the Chi-square and correlation test are used for testing significant relationships between categorical variables.

4.1 Discussion of Findings

The results of the analysis revealed that investor's behaviour is dependent on heuristic biases and many other factors such as emotions, fad, and income level of investors. The higher the level of investor's income, the more risky positions the investors are ready to assume (both declining relative and absolute risk aversion). Educational level of investors to a great extent influenced investor's behaviour. Also, previous experiences also influence investor's behaviour.

The findings of the study is in consonance with the views of Tversky and Kahneman (1992) that decision makers may be inclined to think of potential outcome typically in relation to a certain reference point instead of the ending outcome (framing effect). This was shown by the variable that shows how investors learn from history in taking their investment decision. 14% were averse to learning from the past while 16% are influenced by the past in their investment decision with 8% not sure whether their current investment decision is influenced by past experiences (see Appendix II: History Learning table). The variable news of loss shows that the extent to which the financial market is information efficient in responding to news of losses has great influences on the behaviour of investors in the financial market place.

The cross tabulation for the variable INV REASON shows that most of investors examined are risk averse investors in the first instance. They are such that will want a fair game for a bet. About 34% only take an investment position after they have clearly analysed the prospect from such investment and are assured of profitable returns. While just a few fractions invest because others are doing it or they have idle funds. Investors were found to exhibit different attitude particularly influenced by factors such as emotion, income level, employed or unemployed, doing what others are doing, level of education, family attachment, and news of losses in the stock market (see Appendix II: INV REASON table).

5.0 Concluding Remarks

In summary, the study reveals that investor's behaviour is dependent on heuristic biases and many other factors such as emotions, fad, and income level of investors. It also provides evidence of the existence of declining relative and absolute risk aversion in the Nigerian financial market. The conclusion of the study follows the line of thought of the assumptions of Cumulative Prospect Theory, that individuals are risk –averse over gains and risk – seeking over losses, and that they tend to overweight low – probability events while underweighting the likelihood of high – probability ones. This is a paradigm shift in stock market investment behaviour in Nigeria, away from the popular mean-variance framework.

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Appendix I
QUESTIONNAIRE

Dear Respondent,

We are conducting an academic study, and your responses to questions on investor's behaviour in our financial markets will be very helpful. All information will strictly be used for the study. Thank You. The Researcher

Instructions: Please tick the appropriate box

Section A
Demographic Information

1. Investors monthly income bracket:

   ₦18,000 – ₦50,000 □; ₦50,000 – ₦200,000□;

   ₦200,000–₦1,000,000 □.

2. Gender: Male □; Female □.
3. Indicate the type of investor you are: Individual investor □;

   Institutional investor □
4. What is your level of education:

   Primary qualification □; Secondary qualification □;

   Tertiary qualification □ Professional qualification □.
5. Indicate Marital Status: Married □; Single □
6. Employment Status: Employed □; Unemployed □
7. Indicate years you made some investment:

Before major financial crisis periods (Before 2007) □; During major financial crisis periods (2007 - 2010) □; After major financial crisis periods (2010 and above) □

8. Indicate your age range:16 years – 35 years□; 35 years – 65 years □; 65 years & above □

Section B
Investor Behaviour; Risk Perception and Revealing Preferences

9. Will you put your entire money in an investment that promises double returns? Yes □; No □; Not Sure □
10. If you had made some losses from certain business in the past and you are recently told that the same investment is paying better returns. Will you invest in it? Yes □; No □; Not Sure □.
11. For the Married:- Will you change an investment decision appealing to you because your spouse is against it? Yes □; No □; Not Sure □.
12. For the Single:- Will you change an investment decision appealing to you because your significant orders are against it? Yes □; No □; Not Sure □.
13. Is your education important in your investment decision? Yes □; No □; Not Sure □.

14. If you feel good about an investment decision but others are withdrawing from it, will you still go ahead with such a decision? Yes □; No □; Not Sure □.
15. What percentage of your total income can you put on a certain investment that looks appealing to you? 100% □; 50% □; 0% □.
16. Why do you take certain investment decision? Because others are taking it □;
    Because I have clearly analysed the prospect □; because I have excess idle funds □.
17. Does news of loss in the financial market dissuade you from seeking investment opportunity?
    Yes □; No □; Not Sure □.

Thank you for your Kind response.

Appendix II

RESULTS FROM THE DATA ANALYSIS

Descriptive Statistics on Variables of Investors Behaviour

	N	Mean	Std. Deviation	Missing	
				Count	Percent
INVINC	30	1.6333	.71840	10	25.0
GENDER	40	1.5250	.50574	0	.0
INVTYPE	38	1.0526	.22629	2	5.0
EDUC	40	3.1250	.60712	0	.0
MARITAL	40	1.5750	.54948	0	.0
EMPLOYMENT	39	1.3077	.46757	1	2.5
YEARINVEST	37	2.3243	.85160	3	7.5
AGE	38	1.4474	.60168	2	5.0
INVESTWHOLE	40	1.9250	.52563	0	.0
HISTORYLEARN	38	1.7895	.77661	2	5.0
EMOTIONMARRIED	15	1.8667	.83381	25	62.5
EMOTIONSINGLE	30	1.7000	.65126	10	25.0
EDUINFLINV	40	1.2750	.45220	0	.0
INVFEELING	39	1.3846	.74747	1	2.5
RISKPROPENSITY	40	1.9750	.27619	0	.0
INVREASON	40	2.0500	.38895	0	.0
LOSSNEWS	40	1.4750	.59861	0	.0

b. Number of cases outside the range (Q1 - 1.5*IQR, Q3 + 1.5*IQR).

***Source**: Authors Computation Using SPSS, 2016*

Cross Tabulation Presentations: LOSS NEWS

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	LOSS NEWS	N	Percent	N	Percent	N	Percent
RISK PROPENSITY	YES	23	100.0%	0	.0%	23	100.0%
	NO	15	100.0%	0	.0%	15	100.0%
	NOT SURE	2	100.0%	0	.0%	2	100.0%

Source: Authors Computation Using SPSS, 2016

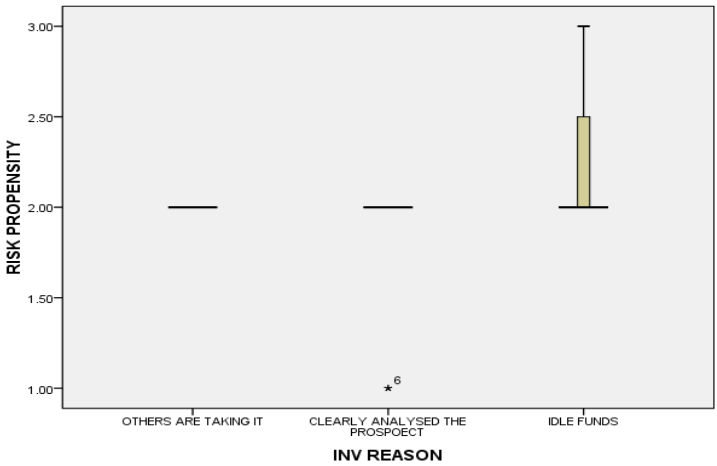
INV REASON

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	INV REASON	N	Percent	N	Percent	N	Percent
RISK PROPENSITY	OTHERS ARE TAKING IT	2	100.0%	0	.0%	2	100.0%
	CLEARLY ANALYSED THE PROSPOECT	34	100.0%	0	.0%	34	100.0%
	IDLE FUNDS	4	100.0%	0	.0%	4	100.0%

Source: *Authors Computation Using SPSS, 2016*

Boxplots



Source: *Authors Computation Using SPSS, 2016*

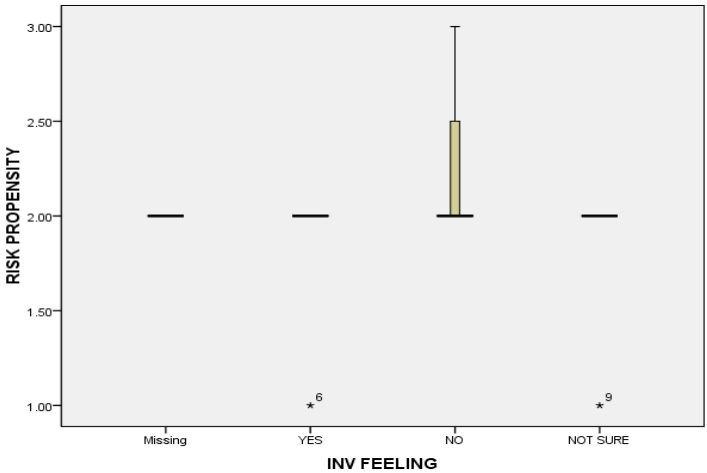
INV FEELING

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	INV FEELING	N	Percent	N	Percent	N	Percent
RISK PROPENSITY	. (Missing)	1	100.0%	0	.0%	1	100.0%
	YES	30	100.0%	0	.0%	30	100.0%
	NO	3	100.0%	0	.0%	3	100.0%
	NOT SURE	6	100.0%	0	.0%	6	100.0%

Source: *Authors Computation Using SPSS, 2016*

Boxplots



EDU INFL INVEST

Case Processing Summary

	EDU INFL INVEST	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
RISK PROPENSITY	YES	29	100.0%	0	.0%	29	100.0%
	NO	11	100.0%	0	.0%	11	100.0%

Source: *Authors Computation Using SPSS, 2016*

S EMOTIONAL FACTOR

Case Processing Summary

	S EMOTIONAL FACTOR	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
RISK PROPENSITY	. (Missing)	10	100.0%	0	.0%	10	100.0%
	YES	12	100.0%	0	.0%	12	100.0%
	NO	15	100.0%	0	.0%	15	100.0%
	NOT SURE	3	100.0%	0	.0%	3	100.0%

Source: *Authors Computation Using SPSS, 2016*

M EMOTIONAL FACTOR

Case Processing Summary

	M EMOTIONAL FACTOR	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
RISK PROPENSITY	. (Missing)	25	100.0%	0	.0%	25	100.0%
	YES	6	100.0%	0	.0%	6	100.0%
	NO	5	100.0%	0	.0%	5	100.0%
	NOT SURE	4	100.0%	0	.0%	4	100.0%

Source: *Authors Computation Using SPSS, 2016*

HISTORY LEARNING

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	HISTORY LEARNING	N	Percent	N	Percent	N	Percent
RISK PROPENSITY	. (Missing)	2	100.0%	0	.0%	2	100.0%
	YES	16	100.0%	0	.0%	16	100.0%
	NO	14	100.0%	0	.0%	14	100.0%
	NOT SURE	8	100.0%	0	.0%	8	100.0%

Source: *Authors Computation Using SPSS, 2016*

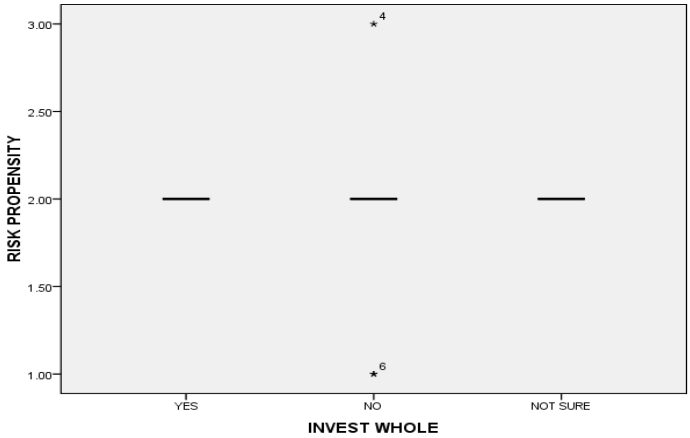
INVEST WHOLE

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	INVEST WHOLE	N	Percent	N	Percent	N	Percent
RISK PROPENSITY	YES	7	100.0%	0	.0%	7	100.0%
	NO	29	100.0%	0	.0%	29	100.0%
	NOT SURE	4	100.0%	0	.0%	4	100.0%

Source*: Authors Computation Using SPSS, 2016*

Boxplots



Source: *Authors Computation Using SPSS, 2016*

AGE RANGE

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	AGE RANGE	N	Percent	N	Percent	N	Percent
RISK PROPENSITY	. (Missing)	2	100.0%	0	.0%	2	100.0%
	16YEARS - 35YEARS	23	100.0%	0	.0%	23	100.0%
	35YEARS - 65YEARS	13	100.0%	0	.0%	13	100.0%
	65YEARS & ABOVE	2	100.0%	0	.0%	2	100.0%

Source: *Authors Computation Using SPSS, 2016*

YEARS INV MADE
Case Processing Summary

	YEARS INV MADE	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
RISK PROPENSITY	. (Missing)	3	100.0%	0	.0%	3	100.0%
	2007	9	100.0%	0	.0%	9	100.0%
	2007 – 2010	7	100.0%	0	.0%	7	100.0%
	2010 AND ABOVE	21	100.0%	0	.0%	21	100.0%

***Source**: Authors Computation Using SPSS, 2016*

EMPL STATUS
Case Processing Summary

	EMPL STATUS	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
RISK PROPENSITY	. (Missing)	1	100.0%	0	.0%	1	100.0%
	EMPLOYED	27	100.0%	0	.0%	27	100.0%
	UNEMPLOYED	12	100.0%	0	.0%	12	100.0%

***Source**: Authors Computation Using SPSS, 2016*

MARITAL STATUS

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	MARITAL STATUS	N	Percent	N	Percent	N	Percent
RISK PROPENSITY	MARRIED	18	100.0%	0	.0%	18	100.0%
	SINGLE	21	100.0%	0	.0%	21	100.0%
	3	1	100.0%	0	.0%	1	100.0%

Source: *Authors Computation Using SPSS, 2016*

EDUCATION

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	EDUCATION	N	Percent	N	Percent	N	Percent
RISK PROPENSITY	PRIMARY	1	100.0%	0	.0%	1	100.0%
	SECONDARY	2	100.0%	0	.0%	2	100.0%
	TETIARY	28	100.0%	0	.0%	28	100.0%
	PROFESSIONAL	9	100.0%	0	.0%	9	100.0%

Source*: Authors Computation Using SPSS, 2016*

INVESTOR TYPE

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	INVESTOR TYPE	N	Percent	N	Percent	N	Percent
RISK PROPENSITY	. (Missing)	2	100.0%	0	.0%	2	100.0%
	INDIVIDUAL INV	36	100.0%	0	.0%	36	100.0%
	INSTITUTIONAL INVESTOR	2	100.0%	0	.0%	2	100.0%

Source: *Authors Computation Using SPSS, 2016*

SEX

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	SEX	N	Percent	N	Percent	N	Percent
RISK PROPENSITY	MAEL	19	100.0%	0	.0%	19	100.0%
	FEMALE	21	100.0%	0	.0%	21	100.0%

Source: *Authors Computation Using SPSS, 2016*

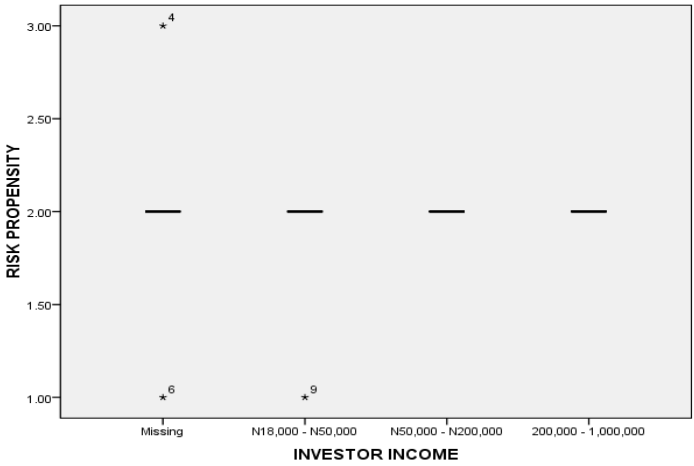
INVESTOR INCOME

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	INVESTOR INCOME	N	Percent	N	Percent	N	Percent
RISK PROPENSITY	. (Missing)	10	100.0%	0	.0%	10	100.0%
	N18,000 - N50,000	15	100.0%	0	.0%	15	100.0%
	N50,000 - N200,000	11	100.0%	0	.0%	11	100.0%
	200,000 - 1,000,000	4	100.0%	0	.0%	4	100.0%

Source: *Authors Computation Using SPSS, 2016*

Boxplot



Source: *Authors Computation Using SPSS, 2016*

The relationships between feeling and investment decision for the Married and Singles

Descriptive Statistics

	Mean	Std. Deviation	N
RISK PROPENSITY	2.2000	.44721	5
M EMOTIONAL FACTOR	2.4000	.54772	5
S EMOTIONAL FACTOR	2.0000	.70711	5
INV FEELING	1.6000	.89443	5
MARITAL STATUS	1.6000	.54772	5

Source: Authors Computation Using SPSS, 2016

Correlations

		RISK PROPENSITY	M EMOTIONAL FACTOR	S EMOTIONAL FACTOR	INV FEELING	MARITAL STATUS
Pearson Correlation	RISK PROPENSITY	1.000	-.408	-.791	.250	.408
	M EMOTIONAL FACTOR	-.408	1.000	.645	-.612	-.167
	S EMOTIONAL FACTOR	-.791	.645	1.000	-.395	-.645
	INV FEELING	.250	-.612	-.395	1.000	-.408
	MARITAL STATUS	.408	-.167	-.645	-.408	1.000
Sig. (1-tailed)	RISK PROPENSITY	.	.248	.056	.343	.248
	M EMOTIONAL FACTOR	.248	.	.120	.136	.394
	S EMOTIONAL FACTOR	.056	.120	.	.255	.120
	INV FEELING	.343	.136	.255	.	.248
	MARITAL STATUS	.248	.394	.120	.248	.
N	RISK PROPENSITY	5	5	5	5	5
	M EMOTIONAL FACTOR	5	5	5	5	5
	S EMOTIONAL FACTOR	5	5	5	5	5
	INV FEELING	5	5	5	5	5
	MARITAL STATUS	5	5	5	5	5

Source: *Authors Computation Using SPSS, 2016*

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.0000	3.0000	2.2000	.44721	5
Residual	.00000	.00000	.00000	.00000	5
Std. Predicted Value	-.447	1.789	.000	1.000	5
Std. Residual	.	.	.	.	0

a. Dependent Variable: RISK PROPENSITY

***Source**: Authors Computation Using SPSS, 2016*

Regression on the influences of past experiences (history) on investment decision

Descriptive Statistics			
	Mean	Std. Deviation	N
RISK PROPENSITY	2.2000	.44721	5
M EMOTIONAL FACTOR	2.4000	.54772	5
S EMOTIONAL FACTOR	2.0000	.70711	5
INV FEELING	1.6000	.89443	5
MARITAL STATUS	1.6000	.54772	5

***Source:** Authors Computation Using SPSS, 2016*

Correlation						
Correla-tions		**RISK PROPENSITY**	**M EMOTIONAL FACTOR**	**S EMOTIONAL FACTOR**	**INV FEELING**	**MARITAL STATUS**
Pearson Correla-tion	RISK PROPENSITY	1.000	-.408	-.791	.250	.408
	M EMOTIONAL FACTOR	-.408	1.000	.645	-.612	-.167
	S EMOTIONAL FACTOR	-.791	.645	1.000	-.395	-.645
	INV FEELING	.250	-.612	-.395	1.000	-.408
	MARITAL STATUS	.408	-.167	-.645	-.408	1.000
Sig. (1-tailed)	RISK PROPENSITY	.	.248	.056	.343	.248
	M EMOTIONAL FACTOR	.248	.	.120	.136	.394
	S EMOTIONAL FACTOR	.056	.120	.	.255	.120
	INV FEELING	.343	.136	.255	.	.248
	MARITAL STATUS	.248	.394	.120	.248	.

N	RISK PROPENSITY	5	5	5	5	5
	M EMOTIONAL FACTOR	5	5	5	5	5
	S EMOTIONAL FACTOR	5	5	5	5	5
	INV FEELING	5	5	5	5	5
	MARITAL STATUS	5	5	5	5	5

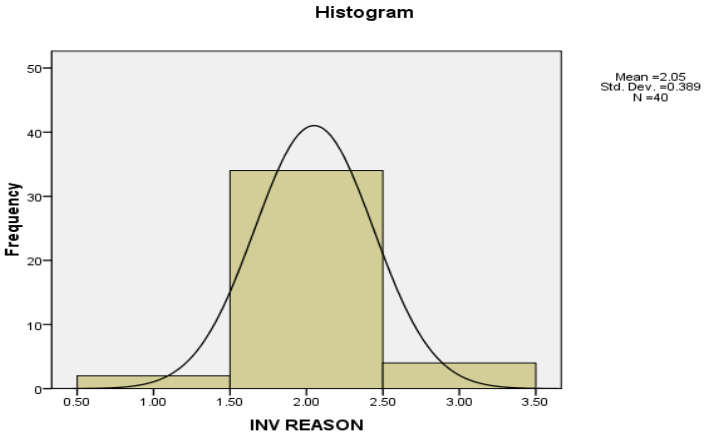
Source: *Authors Computation Using SPSS, 2016*

Investment Reasons or Factors Influencing Investment Decisions

INV REASON

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	OTHERS ARE TAKING IT	2	5.0	5.0	5.0
	CLEARLY ANALYSED THE PROSPOECT	34	85.0	85.0	90.0
	IDLE FUNDS	4	10.0	10.0	100.0
	Total	40	100.0	100.0	

Source: *Authors Computation Using SPSS, 2016*



***Source**: Authors Computation Using SPSS, 2016*

Reasons for Investment Decision
INV REASON * RISK PROPENSITY

Crosstab					
Count		RISK PROPENSITY			
		100%	50%	0%	Total
INV REASON	OTHERS ARE TAKING IT	0	2	0	2
	CLEARLY ANALYSED THE PROSPOECT	2	32	0	34
	IDLE FUNDS	0	3	1	4
Total		2	37	1	40

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.507[a]	4	0.05
Likelihood Ratio	5.418	4	0.247
Linear-by-Linear Association	2.45	1	0.118
N of Valid Cases	40		

a. 8 cells (88.9%) have expected count less than 5. The minimum expected count is .05.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	0.251	0.18	1.596	.119[c]
Ordinal by Ordinal	Spearman Correlation	0.252	0.188	1.607	.116[c]
No of Valid Cases		40			

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis
c. Based on normal approximation.

Source: *Authors Computation Using SPSS, 2016.*

EFFECT OF CASHLESS POLICY ON BANKS' FINANCIAL PERFORMANCE IN NIGERIA: AN EMPIRICAL ASSESSMENT

By

Ogbeide S. O.[1]

Abstract

This study examined cash less policy and the financial performance of banks in Nigeria. Time series data for the period 2007 to 2016 for five variables representing about fifty (50) annual observations was generated from the Central Bank of Nigeria Economic Reports and Nigeria Deposit Insurance Corporation Annual Reports. The study used Augmented Dickey Fuller test to determine the stationary state of the variables. It also employs the descriptive statistics and panel least square to analyse the data generated. The empirical findings revealed that cash less policy largely influence the financial performance of banks in Nigeria. The volume of Automated Teller Machine (ATMVL) and Point of Sales (POSVL) were found to increased banks financial performance though not statistically significant. The study recommends that more ATM centres be opened by banks through the influence of the Central Bank of Nigeria in order to enhance the success of the cash less policy.

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Keywords: Automated Teller Machines, Point of sale, Web based technique, Bank size, Return on assets.

1.0 Introduction

Theoretically, cashless policy is presumed to have a corollary effect on income generation, reduction of cost and consequently increase in performance level, customers' deposit, quick and easy assesses to financial services and size of banks in the banking sector. Osazevbawu, Sakpaide and Ibubune (2014) state that most banks in Nigeria in their operations under a cash based economy are known for the huge profit they declare each year, notwithstanding the fact that such system is characterized by high cost of operations. Cash dependency by Nigerians has been a major issue of concern to CBN prior to the cashless policy in Nigeria (Pius, 2014).

According to Osazevbawu, Sakpaide and Ibubune (2014), the cashless policy though new in Nigeria is quite enhancing to the business climate; it however has certain draw backs which includes high level of fraud and fraudulent practices is observed to associate with the cashless policy. The researchers noted that since the cashless policy is all about electronic money transactions, series of cybercrime and fraud have been a common thing with it in Nigeria over the years in addition with high level of unstable networks. Similarly, in the first quarter of 2017 the Central Bank of Nigeria mandating banks to charge 1.5% on cash withdrawals and deposits above five hundred thousand naira (N500, 000) has continued to elicit sharp reaction from members of the public(Vanguard, 15th April, 2017). A lot of persons have begun to nurse uncertainty as

regard the workability of the CBN cash less policy occasioned by this harsh policy development by the apex bank in Nigeria. While banks tend to mage huge earnings from this policy development, customers who are the depositors are at the receiving end. This could cause them to strategize alternative way of keeping their hard earned money.

This policy development could be seen as imbalance given the current harsh economic condition in Nigeria. These ills associated with the cash less policy and the recent CNB policy have the likelihood to make a lot of persons see the evolvement of the cashless policy as less preferable to the cash based policy/practices. Never the less these teething issues, the policy has tend to influence the attitude of Nigerian in cash handling, smooth and effective business transaction as well as other transactions with the banks. This presupposes that banks have a way of benefitting from the policy directly or indirectly. Directly, the policy has the propensity to increase the volume of deposit and indirectly, it could influence banks' earnings and consequently the financial performance. Premised on this, it of essence to empirically determine how the cash less policy has influenced banks financial performance in Nigeria (Ogbeide & Fapohunda, 2017).

Similarly, since the evolvement of the cashless policy in Nigeria, an avalanche of research works on both theoretical and empirical fronts have been effectuated but these prior studies (Akhalumen 2012; Odior and Bannso, 2012; Ejiofor and Rasak, 2012; Mieseigha and Ogbodo, 2013; Emegwu and Emeti, 2015) majorly focused on the prospect, benefit, problems and

challenges of the discourse with the exception of the study by Osazevbanu and Yomere (2015) on cashless policy and banks' profitability. Majority of the researches have not really examined the nature of relationships between cashless policy and the financial performance as well as the impact of the policy on banks in the Nigeria banking industry, hence this study is undertaken with a view to contributing to existing literature on the empirical fronts.

The paper is structured into five sections. Section one above deals with the introduction, section two is concerned with literature review, section three is the methodology used to undertake the study, section four is the data analysis, interpretation and discussion of findings while section five is on conclusion and recommendations.

2.0 Literature Review

2.1 Empirical Review

The volume of cash carried about by persons in the Nigerian society appears to have significantly reduced since the advent of the cashless policy by CBN. Observations in some nooks and crannies in urban cities in Nigeria indicates most persons have become friendly with the use of the Automated Teller Machine (ATMs) at effectuating varying bank transactions. Electronic money transfer seems to be on the ascendancy which is an indication that banks have fully embraced the policy and put necessary machineries to ensure a huge success. This obviously forms the increase of the number of ATM and POS centres. However, these facilities are not used by customers without certain financial charges. The income banks derive from

these charges occasioned by full implementation of the cashless policy increases the total revenue / income generated annually. This presupposes that on the theoretical front, a relationship should exist between the cashless policy and bank total income.

A lot of banks in Nigeria in terms of their operations under the cashless policy make huge profits yearly, judging by the astronomical figures usually declare quarterly, half-yearly and annually. Osazevbaru, Sakpaide and Ibubune (2014) study revealed that cash based economy is not without cost to the banking system, government and individuals; noting further that high cash usage results in high cost of processing borne by every entity across the value chain. They report that the cost of printing new notes as a result of frequent handling of cash is said to cost a colossal amount annually to bank customers, thus causing banks to profit from it.

Generally, cost of cash in Nigeria's financial system is high and on the increase (CBN, 2011; Nweke, 2012). Buttressing this further, extract from Central Bank of Nigeria (2012) reveals that cash in transit cost ₦27.3 billion, representing 24%, processing fees and cost stood at ₦89.1 billion representing 24% while vault management cost amount to ₦18.1 billion, representing 9% of the total cost of cash to the Nigerian financial system; the total cost of cash to both the Central Bank and other banks in 2009 resulted to startling figure of ₦114.5 billion. These statistical evidences actually provided the platform upon which the cashless policy was berthed. The CBN (2012) record shows that transaction volume from ATM withdrawals was 109,592,648; transaction volume from OTC cash withdrawals

amounted to 72,499,182; transaction volume with cheques was 29,159,960; POS was 1059,069 while web was 2,703,516. The CBN records also show that before the cashless policy, income to banks from ATM withdrawals was ₦547,963,240; with ₦5/mile bank changes; ₦362,499,060 and ₦5/mile from OTC withdrawal; ₦145,799,800 and ₦5/mile from cheques; ₦13,383,362.5 from POS while ₦189,246,120 from web. The aggregate income prior to the cashless policy as reported by the CBN in 2013 was₦1, 258,746,582.50.

According to Osazevbaru et al (2014), estimate of banks' income under a cashless policy appears quite different. For example, the study revealed that income to banks from ATM withdrawals was nil; the same for OTC cash withdrawals and cheques; POS was ₦2, 276,155750 while web was ₦189, 246,120.They reported that total income to banks from payment channels under the cashless policy was ₦2, 465,401,870 while prior to the cashless policy it was ₦1, 258,746,582.50.

Osezavbaru et al (2014) empirically determined that banking the unbanked will have a negative impact on banks' income. Prior to the estimation, they juxtaposed their views from the Nation (2014) reports which revealed that 36.3% of the country's adult population is served by the formal financial system. This revelation actually spurned them to find out if banking the outstanding percentage will impact negatively or positively on banks' income. They computed the total value of transaction from POS to be 502,385,386,600 while the income to banks was 46,279,817,325; web total value of transaction was

7,458,886,000 while the income to the banks was ₦522, 122,020.

The conclusion they drew was that banking the unbanked impacted positively on the income of banks given that the estimated income of the banks after the financial inclusion of the percentage bankable adults increased significantly from ₦2,465,401,870 to ₦6,801,939,345.The CBN (2011) reports had the cost of banks operation was expected to reduce by 30% in a cashless regime and the estimate of the total cost of operation of banks in a cash based economy was ₦450,000,000. Osazevbaru et al (2014) pointed out that the reduction in the cost of banks' operation had significant impact on the profit of banks after the full inclusion of the unbanked population into the formal banking system.

By implication, if cashless policy increases bank total income, the profitability can also be positively influenced given that every other factor is held constant. Theoretically, the cashless policy should enhance the volume of banking transaction; and consequently engender the financial performance. In Nigeria, the amount of profits banks churn out on early, half – yearly end quarterly basis is quite bewildering going by the stiff global challenges the economy is faced with. Nonetheless, the increase in profitability is deemed to be influenced by trading volume, high level of customer deposits influence of globalization, amongst other.

Osazevbaru and Yomere (2015) empirically examined the benefits and challenges of Nigeria's cashless policy. To address

the issue, secondary data were collected and analysed by means of content analysis. The study found that banks' income was higher in cashless setting than in cash based arrangement. The study concludes that cashless policy offers immense benefits to the banking sector; similarly, they recommended that appropriate infrastructures and legal support be provided to facilitate the implementation of the policy.

Itah and Ene (2014) determined the impact of cashless banking on banks' profitability in Nigeria. The study used proxies for cashless banking such as Automated Teller Machine (ATM), point of sale (POS) and web based transaction (WBT) to examine its impact on the aggregate return on equity (ROE) of deposit money banks in Nigeria through an ordinary least square (OLS) multiple regression method of analysis. The finding obtained indicates that ATM and POS are positively related to ROE, while WBT related negatively to ROE. The study attributed the mixed result to high rates of bank charges on online deposits.

CBN (2011) during the 24th NCS national conference through data reveals that 51% of withdrawal done in Nigeria was through ATM, while 33.6% was through over the counter (OTC). Cash withdrawals and 13.6% through cheques, payment system was also done through point of sales (POS) machine which accounted for 0.5% and web 1.3%. Therefore, if the introduction of ATM in Nigeria cash withdrawals system reduced OTC withdrawal; then it will implies that introduction of cashless policy supported by application of information technology can

achieve more to reduce over dependent on cash payment in Nigerian Economic System (Ezeamama et al., 2014).

In assessing the role of central bank in a cashless society, Claudia and De Grauwe (2001) stressed that central banks gradually lose their monopoly position in the provision of liquidity combined with its subsequent small size which makes it hard to control the short-term interest rates. On the contrary, Marco and Bandiera (2004) argue that increased usage of cashless banking instruments strengthens monetary policy effectiveness and that the current level of e-money usage does not pose a threat to the stability of the financial system. However, it does conclude that central banks can lose control over monetary policy if the government does not run" a responsible fiscal policy.

Hernado, MacCario and Zazzara (2006) examined the impact of cashless policy (e-banking) of a transactional website on financial performance using a sample of 72 Spanish commercial banks over the period of 1994 – 2002 and ascertained a positive impact on profitability which was similar to De Young, Lang and Nolle (2007), who found that internet banking are more profitable than non-internet banks, though no specification were made as to time of significant reality.

Onay, Ozsoz and Heivacroglu (2008) examined the impact of internet banking on banks' profitability of Turkish over the period 1995 – 2005. The study found that internet banking starts contributing to banks' ROE with a time lag of two years thus

confirming the empirical findings of Hernando et al (2007), while a negative impact was observed for one year lagged duming.

Malhotra and Singh (2009) examined the impact of internet banking on performance and risk tracing the experience of Indian commercial banks during June 2007. The study ascertained that the profitability and offering of internet (cashless policy) banking does not have any significant association; which corresponded with the finding of De Young (2005).

Mohammed and Saad (2011) empirically examined the impact of cashless policy on the performance of Jordanian banks over the period 2000 – 2010 using OLS regression. The study found that electronic banking otherwise refers to as cashless policy in the context of this study has a significant negative impact on banks performance.

Abaenewe, Ogbulu and Ndugbu (2013) empirically examined cashless policy and bank performance in Nigeria. The profitability performance of the banks was measured in terms of return on equity (ROE) and return on assets (ROA). The analysis was made using the standard statistical technique. The finding showed that the electronic banking has positively and significantly improved the return on equity (ROE) of Nigerian Banks on the contrary the study ascertained that e-banking has not significantly improved the return on assets (ROA) of Nigeria banks. Suluvan (2000) in an empirical investigation took sample of banks that are located in tenth Federal Reserve District that

have adopted electronic banking and those that have not. He compared their financial performances and risk positions and observed that the profitability and risks of these grouped banks were similar.

Kurawish and Al-Sa'di (2011) examined cash less policy and bank profitability in Jordan. For banks that applied electronic services for less than two years, they found that there was no significant effect on the Return on Assets (ROA) and Return on Equity (ROE). The study further showed that such services made significant impact on the profit margin of the concerned banks. Alsmadi and Al-wabel (2014) study on cashless policy and bank performance showed that banks' financial performance was negatively affected by the influence of cash less banking.

Shehu, Aliyu and Musa (2013) investigated electronic banking products and performance of Nigerian listed deposit money banks. The study finding indicates that e-mobile and ATM transactions has strongly and significantly impacted on the performance of Nigerian banks while on the other hand, it revealed that e-direct and SMS alert have not significantly impacted on the performance of the banks. Given the paucity of empirical study on the nexus between cash less policy and banks financial performance in the Nigerian context, this study in its novelty seeks to empirically determine and report the impact of the cash less policy on banks' financial performance in Nigeria for the purpose of contribution to knowledge and policy perspective.

3.0 Methodology

3.1 The Method of Data Analysis (i.e Panel unit root model and Panel least square model) and Data Sources

Data for this study were generated from Central bank of Nigeria (CBN) economic report and the Nigeria Deposit Insurance Corporation (NDIC) various issues while a sample period of 2007 to 2016 was used. The study employs the panel least squares regression to undertake the data analysis. This was effectuated after the unit root tests and diagnostic tests were carried out. However, the deterministic and stochastic forms of the models employed to achieve the main objective of this study are stated below:

The deterministic form of the regression model:

Financial performance = F (cashless policy)………………..(1)

The above mathematical model is further stated in stochastic forms as:

$$ROAt = \beta_0 + \beta_1 ATMVL_t + \beta_2 POSVL_t + \beta_3 WEBVL_t + \beta_3 SIZE + \mu_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots.. (2)$$

Where

ROA = Return on assets, a proxy of banks' financial performance and is the dependent variable.

β_1 to β_4 = represents coefficient of the parameters of estimation and t is the period in question.

ATMVL = Volume of automated teller machines in the banks in the period under investigation.

POSVL = Volume of point of sales.

WBTVL = Volume of web based techniques in the banking industry.

SIZE = Bank size, proxy as number of banks.

β_0 = the intercept.

μ_t = stochastic disturbance term acting as a surrogate.

4.0 Empirical Analysis

Table A
Levin- Lin Chin Panel Unit Root Test Results

Variables	Adjusted t-statistics	Adjusted t-critical value	Remark
ROA	29.1916	0.0000	Stationary at level
ATMVL	7.00257	0.0000	Stationary at level
WBTVL	24.2944	0.0000	Stationary at level
POSVL	49.0914	0.0000	Stationary at level
BSIZE	31.1582	0.0000	Stationary at level

Source: Researcher Computation from E-views 8.0 Version (2017).

The table above presents summary results of the unit root test at 5% using Levin-Lin- Chu version of the stationary test. The Levin-Lin-Chu adjusted statistic result is compared against the t- critical values at 5%. Given this, it can be observed the result shows that at level all the variables were all stationary.

4.1 Diagnostic Tests Result

The diagnostic table in the appendix A **(see Appendix A)** shows that the variance inflation factor statistic is less than 10 (centered VIF< 10) for each of the variables. This indicates absence of multicollinearity among the explanatory variables. The ARCH (Harvey) Heteroskedasticity test shows the presence of homoscedasticity (0.0268< 0.05), thus confirming the constant variance assumption of the ordinary least square estimator. The

Breusch-Godfrey serial correlation LM test result of 0.1591> 0.05) points out the absence of higher order correlation. The Ramsey Reset Test result of (0.1113 > 0.05) substantiate validity of the regression model.

Table B
Pearson Correlation Statistic

	ROA	ATMVL	POSVL	WBTVL	SIZE
ROA	1	0.057	0.329	-0.286	-0.336
ATML	0.057	1	0.275	0.293	-0.280
POSVL	0.329	0.275	1	0.068	-0.875
WBTVL	-0.286	0.293	0.068	1	-0.001
SIZE	-0.336	-0.280	-0.875	-0.001	1

Source: E-View 8.0

The table above depicts the Pearson Products Moment Correlation coefficient for all the variables used. The correlation results shows that all the explanatory variables have both positive and negative associations with the return on assets in the period evaluated. For example ATMVL is positively associated with ROA. POSVL and ATMVL are positively related (r=0.068 and r=0.293). WBTVL is negatively correlated with SIZE (r= -0.286, r= -0.336). In a nutshell, it can be said that all the variables re-enforce in a mutual perspective.

Table C
Descriptive statistics

	ROA	ATMVL	POSVL	WBTVL	SIZE
Mean	16.06500	203.7000	5.780000	3.110000	23.30000
Median	19.89000	211.1000	2.350000	3.100000	24.00000
Maximum	24.11000	375.5000	14.90000	7.200000	25.00000
Minimum	-9.280000	15.70000	0.400000	0.900000	21.00000
Std. Dev.	10.05705	117.5502	5.867765	1.670296	1.702939
Skewness	-1.761155	-0.116053	0.529923	1.349922	-0.492342
Kurtosis	5.109058	2.019968	1.498059	4.907590	1.610913
Jarque-Bera	7.022829	0.422640	1.407959	4.553358	1.207985
Probability	0.029855	0.809515	0.494613	0.102624	0.546625
Sum	160.6500	2037.000	57.80000	31.10000	233.0000
Sum Sq. Dev.	910.2976	124362.5	309.8760	25.10900	26.10000
Observations	10	10	10	10	10

Source: E-View 8.0

The result above indicates that the financial performance of banks in the Nigeria banking sector occasioned by the cash less policy in the period considered is 24% approximately on the maximum average while Jarque- Bera result shows the data is statistically significant and was normally distributed. The volume of ATM on the maximum average was about 375.5000units.

The Jarque- Bera statistic value showed it is significant and normally distributed in the period. The maximum average volume of POS was 14.90000units and based on the J-B value it was statistically significant and normally distributed. WBT has a maximum volume of 7.200000units and was normally

distributed judging by the result of the Jarque- Bera statistic. Maximum bank size in terms of number on the average was 25 and the data was significant and normally distributed in the period. All these statistical descriptions have ways of engendering banks' financial performance in Nigeria.

Table D
Ordinary Least Square Regression Result
Dependent Variable: ROA

Variables	Coefficient	Prob. value
C	0.719*****	
	(0.656)	
	[1.096]	0.275
ATMVL	0.001*****	
	(0.021)	
	[-1.389]	0.010
POSVL	0.049*****	
	(0.027)	
	[1.788]	0.150
WBTVL	0.007*****	
	(0.006)	
	[1.244]	0.021
SIZE	-0.085*****	
	(0.095)	
	[-0.863]	0.389
R-square =0.870		
Adjusted R-square = 0.780		
F-statistic = 9.051		

Prob.(F-statistic) = 0.000		
Durbin-Watson stat = 2.406		

******Coefficient values

( ) *standard error in bracket

[ ] * T- statistic value in parenthesis

E-views 8.0 Output

The table above the model determined about 78% systematic variation in the dependent variable, financial performance of banks in the Nigeria banking sector using the adjusted coefficient of determination, leaving about 22% unaccounted for due to stochastic error term. It indicates the goodness of fit of the model and that the components of the cash less policy have significantly increased banks financial performance in Nigeria generally. It suggests that the cash less policy has enhanced the financial performance of banks in the period considered; and this finding is intriguing. It is a pointer that the policy has benefitted the banks largely. The F – Statistic value of 9.051 with p-value of 0.000 reveals that all the explanatory variables put together are statistically significant at 99% level.

It is not out of place to assert here that the policy by the apex bank appears lope sided in the sense that it is much more skewed in favour of the banks and less to bank customers and other stakeholders. The individual coefficients indicated that a unit change in ATMVL and POSVL increase banks financial performance by 0.001units and 0.049 units respectively in the long -run and however not statistically significant at 95% level

except ATMVL. A unit change in WBTVL is observed to cause an increase in banks' financial performance by 0.007 units and was statistically significant at 95% level while a unit change in SIZE results to a decrease by 0.0389 units and was not statistically significant at 5% level. The Durbin – Watson statistic value of 2.406 shows a presence of grey area of serial Autocorrelation in the time series data; and of course this level of autocorrelation is expected in this kind of study because the shortness of the period covered could cause it so and in econometric analysis this is not uncommon if the time series are considerably not lengthy enough.

4.2 Discussion of Findings

The empirical investigation of the cash less policy and banks financial performance at this period the Nigerian nation is going through economic turbulence is quite timely and of essence. The policy was implemented by the Nigeria apex bank with the intention to shift from cash based to cash less based one; although it does not imply absence of physical cash in circulation. Since the inception of the policy, a lot of persons have benefitted from it, including corporate bodies.

The policy seems to be driving the success of business climate in Nigeria despite pockets of challenges associated with it. The result from the above analysis revealed that the volume of Automated Teller Machine (ATMVL), WBTVL and Point of Sales (POSVL) were positive and increased banks financial performance though not statistically significant except volume of automated teller machine. The non- significance of the volume

of point of sales may be adduced to the nature of the time series used. For instance the period examined was quite short. Similarly it could be that a large number of persons are yet to embrace the use of POS and even the ATMs in Nigeria perhaps due to some challenges associated with its usage such as frauds, cybercrime and other related issues. We may also add here that the cost implication of having to maintain these Automated Teller Machines and POS could another factor why more volumes of them are not circulated by banks to encourage the cash less policy in Nigeria.

The empirical finding is quite in tandem with Osazevbaru and Yomere (2015), Osazevbaru et al (2014), Itah and Ene (2014), Ogbulu and Ndugbu (2013). Bank size as a control variable was found to cause a decrease in banks financial performance; meaning correlation does not even exist between the cash less policy and bank size at positively influencing the financial performance of banks in the Nigerian banking sector. Bank size has over the years observed not to enhance banks performance hence the need for further consolidation in Nigeria (e.g see Igbinosa and Ogbeide, 2016).

5.0 Conclusion and Recommendations

The study has examined the cash less policy and how it engenders the financial performance of banks in Nigeria. The intriguing findings are the cash less policy significantly enhances the financial performance of the banks. Particularly volume of Automated Teller Machines (ATMVL), volume of web based

technique (WBTVL) and point of sale (POSVL) have increased part of the income generation of banks and by implication the financial performance of the banks in Nigeria in the period considered. Only bank size did not contribute to the financial performance of banks. The study therefore suggests that the Nigeria apex bank should review the recent policy mandating banks to charge 1.5% on every cash deposits and withdrawals of five hundred thousand naira (N500, 000) across the counter.

It is absolutely a sort of policy summersault. This is so because such harsh policy has the tendency to adversely affect perception and enthusiasm of stakeholders in the Nigerian banking industry and much more the financial inclusion policy pursuit in Nigeria as earlier advanced by the CBN.

Premised on the empirical findings above, this study recommends that more ATM centers be opened in order to enhance the success of the cash less policy. This is suggested in that ATM contributes positively to the success of the cash less policy and income generation, consequently the financial performance of the banks in the Nigerian banking sector.

Caution should be exercised by the apex bank in Nigeria at influencing the cash less policy in favour of banks as this could make the policy one way sided. The interest of myriad stakeholders with regards to the policy should be carefully considered before further decision on it is undertaken by the Federal Government through the regulatory authority.

Point of sales (P.O.S) should be encouraged by organizations and other businesses at effectuating business transactions as this would enhance its contribution to the cash less policy in Nigeria. Furthermore, future researchers need to examine the impact of the cash less policy on banks performance on pre and post basis. This would assist them to know and report on the empirical front how the policy has done fairly well in the periods.

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Appendix A
Diagnostic tests

Variance inflation factors (VIFs)		
variance	centered VIF	Coefficient of
C	14941.67	NA
ATMVL	0.001384	1.197828
POSVL	2.026975	4.370518
WBTVL	6.412756	1.120394
SIZE	24.33257	4.419010
Breusch – Godfrey – serial correlation LM test		
F-statistic = 3.608083	Prob. F(2, 3)	0.1591
Obs * R-squared = 7.063477	Pro. Chi-square (2)	0.5721
Heteroskedasticity test Harvey		
F-statistic 7.138446	Prob. F(4, 5)	0.0268
Obs * R-squared 8.509855	Prob. Chi-square 0.0746	
Ramsey Reset Test		
t-statistic = 2.037180	Df = 4	0.1113
F-statistic = 4.150103	Prob. F(1, 4)	0.1113

Source: Researchers' Computation from E-view 8.0 (2017)


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