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Cashless Policy in Models of Economic Growth: The Nigerian Evidence

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ABSTRACT

This paper empirically investigated the impact of cashless policy on Nigeria Economy. The policy was introduced by the Central Bank of Nigeria (CBN) in December 2011. Quarterly time series data from 2009 to 2016 was collected through the Central Bank of Nigeria (CBN) Annual Bulletin and Reports. The variables used for the study were Gross domestic product GDP as the dependent variable while Automated teller machine (ATM), mobile banking (MOBK) and point of sales (POS) were the independent variables. Group unit root tests of the variables: ATM, GDP, MOBK and POS using the Levin, Lin & Chu t, Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square, and PP - Fisher Chi-square test statistics indicate the absence of unit roots among the variables. This suggests that they are jointly integrated since the respective probabilities were less than alpha 0.05.and thus we reject the hypotheses of no stationarity in all the cases. The findings of this study show the existence of a long run significant relationship between the variables of cashless policy and economic growth in Nigeria. Also, the ATM seems to be the best and most common means of effecting cashless policy based on the magnitude of its relationship with GDP. Therefore the need to create more awareness to entice the unbanked people into the banking system becomes imperative more so when a large percentage of the Nigerian population is unbanked.

Keywords: Cashless policy, Unit Root Test, Cointegration, Granger, Causality

INTRODUCTION

Economic activities are legal activities that create and distribute utility from the points of production to places of final consumption usually with a price exchange. They involve generating revenue at a cost and making profit. Every economic activity is concerned with obtaining maximum satisfaction through efficient use of scarce resources. It is usually embarked upon by two parties who relate with themselves through transactions that involve exchange of products for money and are separately identified as suppliers or producers and buyers or demanders. In primitive economies, economic activities took place through the barter system or trade by barter, where goods were exchanged for goods and services for services. Therefore, the primitive economy is regarded as a barter economy. However, barter economies faced such problems as double coincidence of wants, no common measurement of value, indivisibility of some goods etc. With a view to solving the problems encountered in a barter economy and to aid efficiency, a number of commodities had served as money at different times and in different communities through the ages, different objects served diverse societies as money. They range from food items (e.g. salt, corn or rice), implements (e.g. hoes or cutlass), metals (e.g. copper, iron, silver or gold), paper money and book entries of commercial books. The one common factor about these items was their general acceptability as a means of payment. In the case of Nigeria, cowries at one time served as money.

The advent of money resulted into growth and development in economic activities. Subsistence production that featured in primitive economies evolved into commercial production that aided technological development and population growth. Thus, barter economies collapsed with the introduction and usage of money and became what is regarded as money economy. However, money economies are characterized mostly with cash-based transactions (withdrawals and deposits) in banks and the amount of physical cash (coins and notes) circulating in the economy is enormous. For millions of people in developing countries, their lives revolved around cash. People use cash for all their transactions and can only buy things from people close to them or at least, that was the case until the advent of mobile phone.

According to The World Bank Development Research Group, mobile money is transforming entire economies in developing countries, particularly for the two billion people who don't have bank accounts. Many of these two billion unbanked have access to mobile phones and thanks to platforms such as World Remit, which enables people to transfer money between each other across geographical boundaries; they are now able to access financial services for the first time. These accounts don't require heavy smartphones; the mobile number of a basic handset can become a bank account. In 2014, there were 103 million active mobile bank accounts, compared to 30 million in 2012. These are services that are truly transforming the economies of developing countries. Countries are becoming truly cashless. There are now more than 250 different mobile banking services around the world, and they are enabling around 480 million transactions each month. Research from the World Bank has found that these kinds of mobile banking systems are having a significant impact on the economies of emerging and developing nations and addressing crucial issues of broad economic growth and individual financial empowerment. The research found growing evidence from around the world that digital payments offer immediate benefits for both senders and receivers in developing economies. The benefits of digital payments go well beyond the convenience many people in developed economies associate with the technology according to the World Bank Development Research Group. Digital financial services lower the cost and increase the security of sending, paying and receiving money. The resulting increase in financial inclusion is also vital to women's empowerment. Already there are examples in Latin America and Africa of how mobile banking is changing the lives of those in developing economies. The Mexican government has saved around €10 billion each year since a shift to electronic distribution of many government payrolls, pensions and social benefits. Of course using these technologies in developing nations, much like using them in the West, is not without security issues – particularly for consumers and small businesses. Digital technology offers tremendous opportunities to expand access to formal financial services. But it is important to also consider and address its risks in order to ensure that it benefits the customers, especially the poor.

The Central Bank of Nigeria (CBN) introduced cashless policy in April 2011 with the objective of promoting the use of electronic payment channels instead of cash. The cashless policy started with pilot programmes in Lagos, January 1st 2012 and a rollout across the country was substituted with phased implementation in Port Harcourt, Kano, Aba and the Federal capital territory (CBN 2012). Some studies have been conducted to examine the relationship between cashless policy and the Nigerian economy since its inception but most of them were focused on prospects and challenges. Not many, to the best of the author's knowledge have empirically investigated the cashless policy - economic growth nexus. The Nigerian experience is yet to be fully documented. Recognizing this obvious research gap, the author sets out to contribute to the existing body of literature by empirically examining the relationship between the various aspects of cashless policy and the macroeconomic variable of gross domestic product using the Johansen Multivariate Cointegration Technique followed by the Granger Causality test.

For ease of analyses and presentation, the rest of this study proceeds as follows. Immediately after the introduction is section 2 literature review which includes the theoretical framework, overview of cashless policy and some stylized facts on non-cash payment in Nigeria. Sections 3 is the methodology adopted for

this study. Data analyses and interpretation of results is in section 4 while section 5 is conclusion and recommendation for policy makers.

Section 2: Literature Review

2.1: Theoretical Framework

The theoretical framework of this study is anchored on the Quantity Theory of Money (QTM). QTM is a macro- economic policy of government designed to control the level of economic activity in the country. QTM claims that the level of prices in the economy is directly related to the quantity of money in the economy. Milton Friedman and Anna Schwartz had gave the quantity theory a specific form known as monetarism, through their hypothesis that shifts in the money supply schedule have been large relative to shift in the money demand schedule. The Quantity Theory of Money (QTM) is an economic idea stating that the supply of money in an economy determines the level of prices and changes in the money supply result in proportional changes in prices. The Quantity Theory of Money in its simplest form can be outlined using the Irving Fisher's equation as:

MV = PT

The above equation is interpreted as follows

M = Money supply or stock of money in a given economy.

V = Velocity of circulation i.e. the number of times the money supply circulates around the economy in a given period of time.

P = Average price level of goods and services.

T =Transactions total number of goods and services sold or added to stock in a given period of time.

MV is the money supply multiplied by the number of times it flows around the economy buying goods and services over a particular period of time. It is the same as the total expenditure, GNE, over that period of time.

PT is the total of goods and services produced multiplied by the price at which they are sold on the average. This is the same as total production GNP, over the particular period of time.

GNE = GNP

Therefore, MV = PT

Money spent on goods is necessarily the same as the value of which the goods were sold.

2.2: Overview of Cashless Policy

According to Ajayi and Ojo (2006), one major prerequisite for the development of national economy is the encouragement of a payment system that is secure, convenient and affordable. It is in this regard that developed countries the world over, to a large extent have moved away from payment instruments to electronic ones, especially payment cards (Humphrey, 2004). In recent times, mobile phones have increasingly been used to purchase digital contents (ringtones, music or games, tickets, parking fees, airfares and transport fees) just by subscription on mobile phones or using Point of Sales. The situation in Nigeria as it is in many developing countries, the main mode of payment is dominated by cash and a large percentage of the population is unbanked (Ajayi and Ojo, 2006) thereby making the economy to be heavily cash-based. The cost of cash to the Nigerian financial system is high, increasing and worrisome; it was very close to fifty million naira in 2008 (CBN, 2012). Cashless economy is a financial environment that minimizes the use of physical cash by providing alternative channels for making payments. The amount of cash-based transactions is kept to the barest minimum. It is an economic system in which transactions are not done predominantly in exchange for actual cash (Daniel, D. G., Swartz, R. W. and Fermar, A. L. (2004). A cashless society possesses the following characteristics; all the money used is issued by private financial institutions (banks, and possibly other firms). It is conceivable that the Central Bank continues to operate like other banks, issuing its own deposits that could be used as money in the same way as other bank deposits. However, in that case the Central Bank has no monopoly in the issue of Money. In a cashless society the unit of account (e.g. Dollar, euro, naira) remains a national affair and is provided by the state. The followings among others enhance the functioning of cashless economy; e-

finance, e-banking, e-money, e-brokering, e-exchanges etc. In the modern economy, the use of noncash payment methods such as cards (credit and debit) dominates the use of cash payments. The card based payment system has several players. First, are the providers of the card based payment systems like MasterCard and Visa, they provide their payment network for the system to function. Second, are banks and other financial intermediaries that act as acquire the cards for merchants, issuers to other cardholders and deliver payment services to the ultimate users. For these two parties, the card payment system is an income generating initiative and they are motivated to run the system efficiently so that they will be able to generate adequate profits from their operations. On the other side of the system are the users- both merchants and cardholders. The benefits these two players derive from the system are so many. For example, convenience of electronic transactions, ease of credit availability, increased sales and increased purchasing power. As end users of the card payment system they usually bear most of the cost of the system. Then, there are the regulators of the system, usually the Central Bank of the country. The card based payment system cannot function in absence of any of its players. The global volume of non-cash transactions totaled 260 billion in 2009 (World payments report 2011), after sustained average annual gains of 6.8% since 2001. The outright volume of these payments only remains heavily concentrated in developed markets. Developing countries are just improving their payments infrastructures, enabling wider adoption and greater usage of non-cash means and channels .They also tend to be open to innovations that can broaden their still-nascent base of users (World payments report 2011).

However, the global use of cash payment is still endemic, especially for low-value retail transactions. But while cash may be convenient, it makes taxation less transparent, and it is costly to distribute, manage, handle and process. It therefore follows that; cash as a mode of payment is an expensive proposition for any government. As a result, many governments are seeking to reduce these costs and encourage the use of non-cash payment means. The Nigerian economy is heavily cash oriented in its transaction of goods and services and this is not in line with global trend, considering Nigeria's ambition to be amongst the top 20 economies of the world by the year 2020. For instance an overview of central bank of Nigeria policies on cash management in Nigeria‘s financial system is high and increasing; direct cost of cash is estimated to reach one hundred and ninety two billion naira in 2012 (CBN 2011).

The new cash policy was introduced for a number of key reasons, including:

1. To drive development and modernization of our payment system in line with Nigeria‘s vision 2020 goal of being amongst the top 20 economies by the year 2020. An efficient and modern payment system is positively correlated with economic development, and is a key enabler for economic growth.
2. To reduce the cost of banking services (including cost of credit) and drive financial inclusion by providing more efficient transaction options and greater reach.
3. To improve the effectiveness of monetary policy in managing inflation and driving economic growth.

In addition, the cash policy aims to curb some of the negative consequences associated with the high usage of physical cash in the economy, including:

- **High cost of cash:** There is a high cost of cash along the value chain - from the CBN & the banks, to corporations and traders; everyone bears the high costs associated with volume cash handling.
- **High risk of using cash:** Cash encourages robberies and other cash-related crimes. It also can lead to financial loss in the case of fire and flooding incidents.
- **High subsidy:** CBN analysis showed that only 10percent of daily banking transactions are above 150k, but the 10percent account for majority of the high value transactions. This suggests that the entire banking population subsidizes the costs that the minority 10percent incurs in terms of high cash usage.

- **Informal Economy:** High cash usage results in a lot of money outside the formal economy, thus limiting the effectiveness of monetary policy in managing inflation and encouraging economic growth.
- **Inefficiency & Corruption:** High cash usage enables corruption, leakages and money laundering, amongst other cash-related fraudulent activities.

2.3: STYLIZED FACTS

Nigeria is largely a cash-based economy with large percentage of funds residing outside the banking sector (66%) as against the developed world where the money in circulation is 4 percent in US and 9 percent in U.K. The cash-based economy is characterized by the psychology to physically hold and touch cash; (a culture informed by ignorance, illiteracy, and lack of security consciousness and appreciation of the merit of digital payment). The currency in circulation in Nigeria (CIC) at end of December 2011 stood at N1, 565.76 billion, representing an increase of 13.6 per cent over the level in 2010.The growth in CIC reflected the high dominance of cash in the economy as well as an increase in economic activities.

Table 1: Payment Channels in Nigeria as at 2011

Payment Channel	Transaction Volume
ATM Withdrawals	**109,592,646**
OTC cash withdrawals	**72,499,812**
Cheques	**29,159,960**
POS	**1,059,069**
WEB	**2,703,516**

Source: Central Bank of Nigeria Annual Report 2011

The Nigerian financial system is witnessing a redirection, with the Central Bank of Nigeria's (CBN) Cashless policy initiative. The Nigeria electronic payment (e-payment)landscape is on a new threshold with banks, switching and transaction companies, vendors of Automated Teller Machine (ATMs), Point of sale (POS) and third party companies all jostling to expand the scope of market. According to CBN reports; the volume and value of electronic card (e-card) transactions has increased significantly from 195,525,568 and N1, 072.9 billion in 2010 to 355,252,401 and N1, 671.4 billion, in 2011 reflecting an increase of 81.5 and 55.8 per cent respectively. The increase was attributed to enhanced public confidence in electronic card payments. In addition, data on various e-payment channels indicated that ATMs remained the most patronized, accounting for 97.8 per cent, followed by web payments, 1.0 per cent, Point-of-Sale (POS) terminals, and mobile payments, 0.6 per cent each. Similarly, in value terms, ATMs accounted for 93.4 per cent, web 3.5 per cent, POS 1.9 per cent and mobile payments, 1.2 per cent. The number of ATMs stood at 9,640, while the volume and value of transactions amounted to 347,569,999 and N1, 561.75 billion as at December 2011, respectively. These figures reflected increases of 86.7 and 63.7 per cent respectively when compared to the volume and value of 186,153,142 and N954.04 billion as at December 2010. The volume and value of mobile payments increased by 215.6 and 185.8 per cent from 1,156,553 and N6.7 billion to 3,649,374 and N19.0 billion, respectively as at December 2011.

2.4: Empirical Review

Empirical literature on cashless policy in Nigeria is rather scarce, understandably due to the length of time the policy was implemented. However, the topic has gained more attention both by commercial banks and the general populace. In any case, the authors wish to review some existing studies in this section. Kriwoluzky and Stoltenberg (2010) attempted to estimate the cashless and monetary economy in US by employing Bayesian estimation techniques. The data set, which was split into two parts, ranged from first quarter 1964 to third quarter 2009, as done in Lubik and Schorheide (2004). Whilst treating GDP deflator, output per capita and real wages as observable, its findings suggest that interest rate policy was passive in the monetary but active in the cashless economy.

According to Gali and Gambetti (2009), volatilities in output and inflation declined due to observed loss in the predictive power of money in a monetary economy. A similar conclusion was also reached by Stock and Watson (2002), for most developed economies. Cross country studies such as Humphrey et al. (1996) analyzed patterns in the use of cash and other e-payment instruments in 14 developed countries, including the US. Whilst treating payment instruments as if they were traditional goods, the authors construct measures of the cost (analogous to prices) of various payment methods in order to study whether differences in cashless instrument usage across countries can be explained by differences in the relative prices of such instruments. The result showed that such price differences failed to determine the usage of e-banking instruments. In other words, the ―convenience of using a particular instrument—a factor that is not measured --- may outweigh the price differences that users face. The introduction and increased use of electronic transfer systems has led to the predictions of a cashless society (Humphrey et al., 1996; Humphrey and Berger, 1990). The demise of cash and the emergence of a cashless society pose benefits as well as problems for a society.

Akhalumeh and Ohioka (2011) observed some challenges with the introduction of cashless policy. Their findings show that 34.0% of the respondents cited problem of internet fraud, 15.5% cited problem of limited POS/ATM, 19.6% cited problem of illiteracy and 30.9% stayed neutral - the respondent not been sure of problem been expected or experienced. While in some quarters there was fear of unemployment, some believe it will create more jobs especially when companies manufacturing POS machine are cited in Nigeria. More so, data sourced from Central Bank of Nigeria portal shows that Lagos state, with a population of 17 million people, only has sixty one Point Of Sales, twenty bank branches and twenty four ATMs per 100,000 people which are far less to satisfy the needs of the population. These data verify the claim of Echekoba and Ezu (2012) on the problem of cash based economy and cashless policy in Nigeria. For effective cashless implementation in Nigeria availability of sufficient and well-functioning infrastructure (notably electricity), harmonization of fiscal and monetary policy, regular assessment of the performance of cashless banking channels, consideration of the present state and structure of the economy, redesign of monetary policy framework and greater efforts towards economic growth whilst managing inflation should be considered (Odior and Banuso, 2012).

Echekoba and Ezu (2012), in a research carried out in Nigeria, observed that 68.2% of the respondent complained about long queues in the bank, 28.9% complained of bad attitude of teller officers (cashiers) while 2.89% complained of long distance of bank locations to their home or work places. Likewise, in her 24th NCS national conference in December 2011, CBN data shows that 51% of withdrawal done in Nigeria was through automated teller machine (ATM), while 33.6% was through over the counter (OTC) cash withdrawals and 13.6% through Cheques. Payment was also done through point of sales machine (POS) 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 Nigeria economy system.

Section 3: Methodology.

This study is based on applied research where theoretical concept is tested for actual problem solution. Population consists of all economic agents involved in economic activities. Based on the nature of the study, data is secondary sourced from Statistical Bulletins of the Central Bank of Nigeria (CBN) and annual reports of Nigeria Deposit Insurance Corporation (NDIC). The time series data are quarterly of Gross Domestic Product, Automated Teller Machine (ATM), Point of Sale (POS) and mobile banking covering for the period between 2009 and 2016.

3.1 Model Specification

This part of the study portrays the specified model being used in this work. In order to achieve the objectives of this study and to help improve the efficiency of the economic estimates, econometric models are adopted. The econometric models will be used to establish the impact of the independent variables

(ATM, POS, mobile banking) on the dependent variable (Gross Domestic Product). The model is specified as follows:

The functional form on which our model is based is given as:

$Y = f(X_1, X_2, X_3)$ (1)

The specific functional form of the model is expressed as:

GDP $= f$ (ATM, POS, MOBK) (2)

Statistically, equation 2 above is not sufficiently specified due to the absence of the constant parameter and error term. Therefore, specifically we introduce the constant parameter and error terms as follows:

$GDP = \beta_0 + \beta_1 ATM_t + \beta_2 POS_t + \beta_3 MOBK_t + \mu_t$ (3)

A priori expectation

$\beta_1, \beta_2, \beta_3, > 0$

Where:

f	=	functional form
RGDP	=	Real Gross Domestic Product
ATM	=	Automated Teller Machine
POS	=	Point of Sale
MOBK	=	Mobile banking
β_0	=	Constant
β_1	=	Coefficient of Automated Teller Machine
β_2	=	Coefficient of Point of Sale
β_3	=	Coefficient of Mobile banking
μ_t	=	Error or stochastic term
t	=	Time series data

Section 4: Analyses and Interpretation

Unit Root Test

The results of the group unit root tests of the variables: ATM, GDP, MOBK and POS using the Levin, Lin & Chu t, Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square, and PP - Fisher Chi-square test statistics indicate the absence of unit roots among the variables. These suggest that they are jointly integrated since the respective probabilities are less than alpha 0.05.and thus we reject the hypotheses of no stationarity in all the cases.

Cointegration between GDP ATM, MOBK and POS

Table 4.1

Date: 11/23/18 Time: 13:44
Sample (adjusted): 3 32
Included observations: 30 after adjustments
Trend assumption: Linear deterministic trend
Series: GDP ATM MOBK POS
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.785466	95.82912	47.85613	0.0000
At most 1 *	0.602865	49.65046	29.79707	0.0001
At most 2 *	0.471369	21.94609	15.49471	0.0046
At most 3	0.089782	2.822142	3.841466	0.0930

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.785466	46.17866	27.58434	0.0001
At most 1 *	0.602865	27.70437	21.13162	0.0052
At most 2 *	0.471369	19.12395	14.26460	0.0079
At most 3	0.089782	2.822142	3.841466	0.0930

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: EVIEWS 9 Printout

Being integrated as a group, the analysis was pushed further to ascertain whether the variables are co-integrated or not. Thus, the study employed the Johansen Unrestricted Cointegration Rank Tests (Trace and Maximum Eigenvalue) after the order of linear deterministic trend; the results of which are depicted on Table 4.1 above.

From Table 4.1, it can be seen that the Trace Statistic is computed to be 95.82912, 49.65048 and 21.94609 while the critical value at alpha 0.05 is 47.85613, 29.79707 and 15.49471 respectively at none, one and two which indicates a rejection of the null of no co-integrating equation. Thus the alternate hypothesis of three cointegrating equations is not rejected. Equally, the Max-eigenvalue test indicates 3 cointegrating eqn (s) at the 0.05 level (statistic = 46.17866, 27.70437, 19.12395; critical value = 27.58434, 21.13162, 14.26460). These results indicate that there exists a sustainable long run equilibrium relationship between the GDP and ATM, MOBK, POS variables.

Relative Long Run Relationships between GDP, ATM, MOBK and POS

Table 4.2 below depicts the long run cointegration equation showing the nature and magnitude of the observed relationships. The equation is normalized for GDP – the dependent variable.

Table 4.2:

1 Cointegrating Equation(s): Log likelihood -615.5198

Normalized cointegrating coefficients (standard error in parentheses)

GDP	ATM	MOBK	POS
1.000000	-66.87698	-2323.959	3540.804
	(17.0669)	(271.589)	(408.147)

Source: EVIEWS 9 Printout

The normalized beta coefficient representing the long run relative statistical relationship between GDP and ATM is shown to be -66.87698 and Standard error of (17.0669), suggesting a t-statistic of -3.9185. This is significant at 5% level. By implication, there exist a statistically significant relationship between the GDP and the ATM variables. The sign implication suggests a negative relationship which disagrees with the priori expectation. On the other hand the normalized beta coefficient representing the long run relative statistical relationship between the GDP and MOBK is calculated to be -2323.959 with a standard error of (271.589) (t-statistic = - 8.5568). The computed t-statistic is significant at 5% level. Thus the relationship between GDP and MOBK is negative against a priori expectation and statistically significant at the conventional 5% level. The normalized beta coefficient representing the long run relative statistical relationship between GDP and POS is calculated to be 3540.804 with a standard error of (408.147) (t-

statistic = 8.68). The computed t-statistic is significant at 5% level and positive which is in agreement with a priori expectation.

Causality between GDP, ATM, MOBK and POS

That there exist relationships between variables, or otherwise, does not necessarily imply causality. To test the existence of causality, the study employs the Granger Causality procedure to test the direction of flow among the nominated variables of GDP, ATM, MOBK and POS. The results of the Pairwise Granger Causality test are summarized on Table 4.3 below.

Table 4.3

Pairwise Granger Causality Tests
Date: 11/30/18 Time: 12:16
Sample: 1 32
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
ATM does not Granger Cause GDP	30	5.47071	0.0107
GDP does not Granger Cause ATM		0.42517	0.6583
MOBK does not Granger Cause GDP	30	1.64825	0.2126
GDP does not Granger Cause MOBK		1.04310	0.3672
POS does not Granger Cause GDP	30	10.7755	0.0004
GDP does not Granger Cause POS		3.36128	0.0510
MOBK does not Granger Cause ATM	30	0.02703	0.9734
ATM does not Granger Cause MOBK		0.38018	0.6876
POS does not Granger Cause ATM	30	2.04568	0.1504
ATM does not Granger Cause POS		2.31047	0.1200
POS does not Granger Cause MOBK	30	6.95575	0.0040
MOBK does not Granger Cause POS		1.35340	0.2766

Source: EVIEWS 9 Printout

It can be seen from the Table that ATM granger-caused GDP (F= 5.47071; prob. = 0.0107), GDP does not granger-cause ATM (F=0.42517; prob. = 0.6583). This implies that causality flow from ATM to GDP. Thus, we reject the null hypothesis of no causal relationship between ATM and GDP. On the other hand, POS granger-caused GDP (F-stat. = 10.7755; Prob. = 0.0004) where GDP does not granger-cause POS (F-Stat. = 3.36126; Prob. = 0.0510). Furthermore, it is easy to see from Table 4.3 that POS granger-caused MOBK (F-Stat. = 6.95575; Prob. = 0.0040). On the other hand, MOBK does not granger-cause POS (F=1.35340; Prob. = 0.2766). This implies that causality flows only from POS to MOBK and not vice versa. Thus we reject the null hypothesis of no causal relationship between POS and MOBK. There exist uni-directional causality between POS and MOBK.

Section 5: CONCLUSION AND RECOMMENDATIONS

With the introduction of cashless policy within the past few years, payment systems in the financial services sector have undergone significant progress, even though some transactions are still cash-based. Nigeria undoubtedly has the basic infrastructure to implement the policy. The findings of this study

indicate that there exists a long run significant relationship between the variables of cashless policy and economic growth in Nigeria. Therefore the need to create more awareness to entice the unbanked people into the banking system becomes imperative more so when a large percentage of the Nigerian population is unbanked. Cashless policy will automatically get more people into the banking system. However, our report review indicates that in spite of the numerous benefits that cashless policy brings to Nigerians, it still faces some challenges such as; security, infrastructure, legal, regulatory as well as socio-cultural issues. Most Nigerians are not aware of the benefits of electronic payments and are therefore slow to adopt it. The banks must also be educated to promote e-payments; training programs for management and staff. It is also further recommended that strategic segments of the economy be the subject of focus especially the unbanked segment. In that way the vision of reducing the unbanked will be done gradually and systematically. The cashless policy, if well implemented, will help achieve the CBN's objective of expanding, deepening and modernizing the payment systems and also help in achieving the goal of Nigeria ranking among the top 20 economies of the world in line with the nation's vision 2020 aspirations. The cashless policy will also to break the traditional barriers (Financial Dualism) hindering financial inclusion for millions of Nigerians and bring low-cost, secure and convenient financial services to urban and rural areas across the country especially through the mobile payment services. The ATM seems to have been the best and the most common means of effecting cashless policy in Nigeria by learned and unlearned, poor and rich, so the government should adopt these suggestions in order to achieve desired results like other developed countries**.** Government should provide uninterrupted power supply and adequate communication link while shortfall should be covered by banks through back-up arrangement to power standby generator in case of power outage.

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