CASHLESS PERCEIVED EFFECT OF THE CASHLESS POLICY OF THE CENTRAL BANK OF NIGERIA ON IMPROVEMENT OF THE PAYMENT SYSTEM IN NIGERIA

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ABSTRACT

This study investigated the effect of the Central Bank Cashless Policy on the Payment System in Nigeria. Cognizance of the fact that an improved exchange mechanism and payment system is central to the survival and growth of Nigerian economy which had suffered severe recession between 2015 and 2019, it applied survey research design to poll 204 bank workers from four banks in Nigeria to ascertain their perception on the extent to which the cashless policy has addressed the problem of exchange and payment system in Nigeria. The independent variable was cashless policy while the dependent variables were cash based transactions; modernization of payment system; and volume of cash outside the formal economy. Using Correlation Coefficient with SPSS 10 the test of hypotheses showed that there was a statistically significant relationship between the cashless policy and the development and modernisation of the payment system (i.e. $p < 0.05$ at 0.05 significance level) while it has significantly trimmed down the volume of cash in the informal sector in Nigeria by nearly 32% among others. It was concluded that the cashless policy has significantly and positively improved exchange and payment system in Nigeria, as well as reduced drastically the volume of cash in the informal sector of the economy including reducing significantly the number of cash based transactions in the economy. It was recommended inter alia, that the monetary authorities should embark on a second phase of the policy to bring more transactions under the cashless policy.

Keywords: Automated Teller Machine (ATM); Point of Sale Terminal (PoS); Web Based Transaction; Alternative Payment Channel; Financial Fraud: Inflation; Cash Payment System; Financial inclusion.
1. INTRODUCTION

In Nigeria, the major means of payment for transactions is cash. This is usually associated with myriads of challenges which make it very difficult for the monetary policy tools to be effective in controlling the economy towards targeted destinations. Financial system intermediation in an economy is a broad based responsibility of the Reserve Bank. It is a high-visibility project in which the financial authorities observe the core macro and micro variables of the system and identify the appropriate times to intervene and the appropriate intervention tools to deploy for effective and efficient working of the system (Ihekoronye, 2012). Reserve banks around the world have long grappled with the problem of designing and effecting alternative payment systems to preserve the value of money, reduce the risk of cash transactions, protect the economy from cash induced financial abuses and make large ticket transactions convenient and easy to consummate at reasonable costs (Ihekoronye, 2012).

The advent of the internet and telecommunication technology which created a web environment for digital communication has made the job much simpler for the monetary authorities. Today, there are various digital settlement channels and platforms alternative to cash or any other possible physical settlement system and monetary authorities globally have aptly latched onto this to enhance the policy environment.

In this wise, the Central Bank of Nigeria (CBN), in 2012 introduced the policy framework labeled “cashless policy”. The name does not in itself mean that the economy will become a completely digital one in which transactions in cash are forbidden, but rather mirrors a system in which significant volume of total exchanges occur by means of alternative payment channels. It is a system in which digital payment system is highly encouraged (Marco & Bandiera, 2004).

The aim is to reduce the volume of physical cash in circulation without actually reducing the volume of money ($M_1$ and $M_2$) in circulation. It is also aimed at reducing the cost of processing cash by banks, the cost of printing notes by the Minting Company and especially, the risks associated with dealing in raw cash in a country like Nigeria. Moreover, it is also intended to help draw into the formal financial system most people who presently operate significant volumes of total cash but reside outside the regulatory radar of the Central Bank, thus, enhancing financial monitoring and tax revenue. It is again expected to improve the technological culture in the country by encouraging the resort to digital technology in effecting payments for transactions. According to the Central Bank (2012), the policy is to significantly reduce cash-based transactions by stipulating a cash handling charge on daily cash withdrawals in excess of ₦500,000 for individuals and ₦3,000,000 for Corporate bodies.

Basically, the policy is to encourage enhanced resort to electronic-based transactions. Other major reasons adduced by the CBN (2012) as bases for the policy include: to drive development and modernization of the payment system in line with Nigeria’s vision 2020; to reduce the cost of banking services (including cost of credit) and drive financial inclusion by providing more efficient transaction options and greater reach; 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 along the value chain, high risk of using cash, high subsidy (CBN analysis showed that only 10 percent
of daily banking transactions are above 150,000 but this 10 percent accounts for majority of the high value transactions for which the entire banking population subsidizes the costs of their cash transactions); to trim down the volume of cash outside the formal economy thus making more effective the use of monetary policy in managing inflation and encouraging economic growth. Hence, Osazebaru & Ofolue, (2012) note that the purpose is to curb inefficiency and corruption, leakages and money laundering.

According to the CBN (2012), the application of this policy is not holistic. Exceptions abound. For instance, Government revenue generation account, Primary Mortgage Institutions, Microfinance Banks and Embassy based transactions were exempted. In terms of limits, there was to be cumulative daily limits for withdrawal (for Individuals, the daily free withdrawal limit was N500,000 which applied to accounts so far as it involves cash, irrespective of channel e.g. over the counter, ATM, 3rd party cheques cashed over the counter, etc in which cash is withdrawn. For instance, if an individual withdraws N450,000 over the counter, and N150,000 from the ATM on the same day, the total amount withdrawn by the customer is N600,000, and the service charge will apply on N100,000 (the amount above the daily free limit). The limit also applies to cash brought through CIT (cash in transit) companies, as the CIT company only serves as a means of transportation. The pilot program for this policy commenced in Lagos on 1st January 2012 but the application of charges began on March 30th with Lagos as the first city. Thereafter, it took effect on October 1st 2013 in Rivers, Abia, Anambra, Ogun, Kano and the FCT. The service charge for daily withdrawals above the limit into an account is borne by the account holder (David, 2012).

1.1. Statement of the Problem

African economies are basically cash-based. The dominance of cash in the settlement system is evident in the cost of printing new notes in Nigeria every year and indicative of a poor culture of technology and low levels of technological infrastructure, less efficient economy and high cost structure within the economy (Ashike, 2011). Looking back in history, societies in past have adopted various means of payment to facilitate exchange. The prehistoric times had used various means of exchange suitable to their time; barter, the Goldsmith’s receipts, commodity monies like cowries and iron and the likes. In all of these, the constant problem of determination of real future value of pending transactions which relates to the function of money known as “the store of value” was recurrent and there was little convenience. Trends evolved and currency notes were introduced (Ashike, 2011). The advent of notes, which represents a government fiat making money a legal tender, proved much more convenient. It helped money to serve as a store of value because it was stable. This led to boom in economic transactions (David, 2012). However, although the use of cash has lasted much longer than any other known means of exchange in history, it has not been without problems and today, most economic systems are seeking suitable alternatives (not replacement) to cash owing to
the risk of carrying cash, the corruption it breeds, the cost of minting and printing and the cost of moving and managing cash (Olajide, 2012).

Today, there are various forms of electronic payment channels like the ATM, Internet channel, POS and others. There are also bullion money, bit coin, and some other forms of digital money. However statistical evidence available at the CBN (2012) and Osazevbaru & Yomere (2015) shows that cash related transactions accounted for 99% of customers’ activities in Nigeria banks as at December, 2011. It estimated that of the total volume of transactions that passed through the five conventional payment channels in 2011, ATM withdrawal accounted for 50.9%, over-the-counter (OTC) withdrawal, 33.72% and cheques 13.56%. Point of sales (POS) and web channels accounted respectively for 0.49% and 1.26%. Obviously, the combination of ATM and OTC withdrawals amounting to 84.96% justifies the claim of the CBN that the Nigerian economy is heavily cash-based hence the imperative for cash-less policy. The higher the velocity of cash usage, the higher the processing cost borne by those in the value chain. The CBN (2011) argued that it is this high and rising cost that triggered the attempted redenomination of the Naira. It puts the direct cost of cash processing and management to the Nigerian financial system as at 2009 at a colossal amount of N114.5 billion excluding bank cash infrastructure cost and employee costs attributable to cash logistics. Clearly, this evidence provides a platform for migration to cash-less economy. This statistics clearly shows the need for a policy intervention encouraging a massive migration to the digital payment and exchange alternative which is what the cashless policy represents (Olajide, 2012). Ever since the cashless policy was introduced to address the problems that were highlighted above, cash related corrupt practices, cash theft, cash management running costs et cetera are still rife. Most importantly, the Nigerian economy has not feared better recently. In fact it has suffered a severe recession between 2015 and 2018 despite the general belief that an improved exchange mechanism and payment system is central to the survival and growth of any economy (James, 2012; Olajide, 2012; Oyetade and Ofoelue, 2012; Obodo, 2012; Marco and Bandiera, 2004; Moody Analytics, 2010). That is, no economy thrives without a sound and properly functioning payment system. Hence, the real concern of most Nigerians regarding the cost and risks imposed by cash dominated payment system which gave impetus to the introduction of the system in the first instance.

1.2. Objectives of the Study
The main objective of this study is to determine the effect of the CBN cashless policy on the Nigerian payment system. Specifically, the study is set to achieve the following objectives: 1) ascertain the extent to which the cashless policy has reduced cash-based transactions in Nigeria; 2) determine the extent to which the cashless policy has contributed to the development and modernization of the payment system in Nigeria; and 3) ascertain the extent the cashless policy has helped to trim down the volume of cash outside the formal sector in Nigeria.

1.3. Research Questions
In order to achieve the above objectives, the following questions have been asked: 1) to what extent has the cashless policy reduced cash-based transactions in Nigeria? 2) to what extent has the cashless policy contributed in the development and modernization of the payment system in Nigeria? 3) how has the cashless policy helped to trim down the volume of cash outside the formal sector in Nigeria?
1.4. Research Hypotheses
The following hypotheses have been stated to guide the work: 1) The cashless policy has significantly reduced cash-based transactions in Nigeria; 2) The cashless policy has significantly contributed to the development and modernization of the payment system in Nigeria; 3) The cashless policy has significantly reduced the volume of cash outside the formal sector in Nigeria.

2. REVIEW OF RELATED LITERATURE
2.1. Conceptual Framework
Concepts examined in this study include development of the exchange system, the evolution of the payment system, the advent of the modern monetary economy and finally, the present cashless economy. In the early days of man, the society was not very ordered and people’s dwellings were relatively in isolated pockets. Locked onto themselves as it were, they found it very cumbersome meeting some of their needs that could not be met from supplies within their immediate environments. A need to reach out to other similar communities in other distant isolated places arose as this would be the only way to source the items of need not available within their own immediate environment. Thus, a casual system of markets began and people who needed one thing would have to go to other communities carrying with them the things they had in abundance to see if, perhaps, someone from the other community would need them and at the same time have for exchange some of the items they themselves did not have. This was how the barter economy started.

Today, economists agree that the origin and evolution of money is connected with trade as a necessary aspect of the affairs of man. For instance, Adam Smith (1776) strongly associates the origin of money as a means of exchange and measure of value with the intrinsic human nature since no one is in himself a reservoir of everything he may need in life. It follows that by cooperating with one another in the form of trade and exchange, he fulfills the need he cannot provide for himself on his own.

Given the challenges of the barter system, alternative forms of exchange came to be. The complexity of exact coincidence of wants rubbished the barter system and brought out the centrality of money in a market economy. As humans evolve, the economic systems became more complex and volatile. Risk components of transactions grow with the size and dimensions of transactions making the use of cash as the primary medium of exchange and store of value as well as standard for deferred payment difficult to come by at reasonable cost and risk premium. Little wonder there has to evolve the present digitalization of medium of exchange.

2.2. Theoretical Framework
Historically, aside the barter system which was a co-exchange of items on a condition of mutual coincidence of wants for transactions settlements, many items have served as money irrespective of what the constituents of the money may be. Money performs three basic functions in any economy: as a medium of exchange, a unit of account and a store of value (Mankiwa, 1999). The relative ease and convenience of any item in performing these functions determines the relative longevity of the substance in the service of the society as money for transactions settlements.

2.2.1. Keynes’s Theory on Motives for Holding Cash Balances
In his revolutionary book, General Theory of Employment, Interest and Money, John Maynard Keynes(1936) popularly called Lord Keynes proposed three major motives for holding money balances. He categorized these motives into three: transactionary motive,
precautionary motive and speculative motive. While the transactionary motive reflects the cash-holding intentions for meeting routine cash requirements for financing incidental transactions, the precautionary motive, is the need to meet unforeseen and unpredictable contingencies. According to Keynes, a third reason is for meeting speculative motives. This motive perhaps points to those who invest in stocks and bond and who gamble. Recently, a forth motive has been canvassed. The Compensation Motive is traced to an anonymous scholar who argued that for businesses and individuals with outstanding bank loans, the need to be sufficiently liquid to be able to services the interest, commission and other fees from these loans. Nowadays, banks require their customers to maintain certain minimum balances to enable them service their maturing service charges. Such balances are termed as compensating balances.

2.3. Empirical Review

Ikpefan, Akpan, Godswill, Grace & Chisom (2018) carried out a study that determined the impact of electronic banking tools on cashless policy in Nigeria for a ten year period which spans from 2006 to 2015. The ordinary least square method was used to analyze the data which was collected from the Central Bank of Nigeria (CBN) Annual Report and the Nigerian Interbank Settlement System (NIBSS) website. The study revealed that there was no significant impact of electronic banking tools on the currency in circulation and recommended inter alia that transaction charges should be further reviewed to a little (single digit) or no charge, to encourage more patronage of e-payment platforms.

Ezuwore, Eyisi, Emengini & Alio (2014) did a structured questionnaire based study on banks in Enugu Metropolis and found out that the cashless system has become necessary to promote the use of electronic means of transaction towards making Nigeria a cashless economy in the nearest future, where clumsy and expensive-to-handle coins and notes are replaced by efficient electronic payments system. According to Bayero (2014), awareness, consumer/user value proposition, and infrastructure have strong significant relationship with financial inclusion while business model of financial service providers do not have any significant relationship with financial inclusion.

Matthew & Mike (2016) appraised the performance of Nigerian banking industry with a view to investigate the possible challenges and benefits which it poses to the Nigerian economy. Data utilized were sourced from the published annual reports of sampled banks. The study employed the t-test analytical technique to test whether there was a significant difference in the performance of bank in Nigeria before and after the adoption of the cashless policy. The study revealed that though the cashless policy is not a policy designed to enhance bank profitability but it has a lot of benefits associated with it which include; increased convenience; reduced risk of cash related crimes; reduced cash handling cost, reduced revenue leakages among others. It also revealed that its challenges include infrastructural deficits, erratic power supply, prevalence of e-fraud, high illiteracy level among others. It was also recommended that the Federal Government of Nigeria and the Central Bank of Nigeria should synchronize their efforts in ensuring cyber-safety.

Taiwo, Ayo, Afierho & Agwu (2012) appraised the implementation of the cashless policy since its introduction into the Nigerian financial system in 2012 and also examined the persistent challenges facing its implementation. Using primary data sourced through a survey, they found that despite the need to operate cashless transactions, the cashless policy will have the desired impact only if much effort is put into its implementation. Omotunde, Sunday & John-Dewole (2013) examined the impact of the cashless economy on Nigeria’s economy. And found that cashless policy will increase employment; reduce cash related robbery thereby reducing risk of carrying cash; reduce cash related corruption and attract more foreign
investors to the country. According to Alao & Sorinola (2015) cashless policy contributed significantly to customers’ satisfaction in Ogun State in Nigeria being customer friendly and progressive. Chison & Mike (2018) examined the effect of cashless policy on bank profitability using the Ordinary Least Square multiple regression analysis and found a significant positive correlation between the adoption of cashless policy and commercial bank profitability in Nigeria. Omotunde, Sunday & John-Dewole (2013) did a similar study that revealed that cashless policy will lead to the modernization of Nigeria payment system among others.

Okey (2012) and Osazevbaru & Yomere (2015) differently examined the benefits and challenges of Nigeria’s cash-less policy and concluded that the cash-less policy offers immense benefits to the banking sector but that the CBN needs to put adequate security mechanisms in place to forestall fraudulent practices. Again, according to Ernest & Fadiya (2012) and Acha, Kanu & Agu (2017) many factors still militate against this policy’s success in Nigeria. Hence closely aligning with Ewa & Inah (2016) to the effect that vigorous investments on cyber security, strengthening of internet protocol and controls in the banks and enactment of relevant legislative laws to curb cybercrimes are necessary for the success of cashless policy in Nigeria. Other notable researchers in this field include: Gresvik & Owre (2002) Gresvik & Ovre (2002) in Norway; Olajide (2012), Morufu & Taibat (2012), Akhalumeh & Ohiohka (2012), Tajudeen (2013) and Aderiyike et al (2015) in Nigeria; Elizabeth (2014) in South Africa; Azeez (2014) in Egypt; Thomas (2014) in Uganda; Tambo (2015) in Angola; Mabinda (2016) in Kenya; Essien (2016) in Ghana; and Mirdala (2009) in selected EMU Countries; Bernanke, Gertler & Gilchrist, (1999) in USA; all pointing to huge advantages of cashless policy to the modernization of payment systems and reduction in payment related corruption practices.

2.4. Summary of Literature and Gap
The literature review showed that there appears to be agreement from most of the contributors that embracing cashless payment system has relative advantages over the cash dominated systems in terms of transaction cost reduction, time saving and blocking corrupt activating in the system (Morufu & Taibat, 2012; Akhalumeh & Ohiohka, 2012; Olajide, 2012; Alabadan, 2014 and Okonji 2015 among others). These contributors particularly highlighted that significant progress has been made in the implementation of the cashless policy project showing major assessment statistics which indicate that considerable milestones have been achieved in the project implementation phase since 2012. But some other authors differ (Humphrey et al 1996 and Egwali, 2008). However, none of the studies investigated how the subject affects interest rate movements. The cost of cash management in Nigeria has also remained very high and interest rate appears to have an inverse relationship with the cashless policy in Nigeria as it has increased from average of 23.79% in 2012 to about 26% today. These and some other cognate factors leave much room for inquiry and this study was conceived to make the effort at bridging this gap.

3. METHODOLOGY
The study adopted a survey design (Oyetade & Ofoelue, 2012). Primary source of data were sourced through the use of questionnaire. Variables considered were cashless policy (Independent variable); and cash based transactions; modernization of payment system; and volume of cash outside the formal economy (Dependent variables).

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3.1. Population of the Study
The study selected the three most active branches of four most active banks in Enugu metropolis; First Bank, UBA, Access Bank and Fidelity Bank. The population of the respondents from these branches is 642.

3.2. Sample Size Determination
From the available population, the sample size was determined using the Taro Yamani finite population formula thus:

\[ n = \frac{N}{1 + N (e)^2} \]

where \( n \) = Sample Size; \( N \) = Population (642); and \( e \) = limit of tolerable error (5%); 

\[ n = \frac{642}{1 + 642 (0.05)^2} = \frac{642}{1 + 642 (0.05)^2} = 642 / 2.507 \]

\[ n = 246 \]

Therefore, the sample size is 246

Using the bank’s population as a basis for determining each bank and each branch sample size, we have a distribution table below.

| S/N | Bank     | Branch                  | Population |
|-----|----------|-------------------------|------------|
| 1   | FBN      | Enugu Main Branch       | 46         |
| 2   | Zik’s Avenue Branch |                        | 24         |
| 3   | New Haven Branch       |                        | 18         |
| 1   | Access Bank    | Garden Avenue Branch    | 22         |
| 2   | Ogui Road Branch |                        | 15         |
| 3   | Agbani Road Branch |                      | 13         |
| 1   | FB        | Ranger’s Avenue Branch  | 24         |
| 3   | Okpara Avenue Branch |                     | 11         |
| 3   | Trans Ekulu  |                        | 11         |
| 1   | UBA      | Station Road Branch     | 26         |
| 2   | Okpara Avenue Branch |                     | 19         |
| 3   | Trans Ekulu  |                        | 17         |
|     | Total    |                         | 246        |

Source: Field Survey, 2019

3.3. Instrument of data collection and Validation
The instrument of data collection was a simple structured questionnaire which was organized around the key issues in the study objectives. The method of questioning used is the semantic differentials such as "Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D) and Strongly Disagree (SD)". The questionnaire was validated at two stages using a pilot group two experts (Professors in the field). The study adopted the Cronbach Alpha approach to test the reliability of the study instrument. This approach yielded an index of 0.82 which implies that the instrument was reliable to the tune of 82%.

3.4. Method of Data Analysis
This study employed an econometric model involving the Pearson Product Moment Correlation Coefficient specified as:

\[ CBT = f(CP) \] .............................................................. (i)

\[ MPS = f(CP) \] .............................................................. (ii)

\[ VOC = f(CP) \] .............................................................. (iii)
Cashless Perceived Effect of the Cashless Policy of the Central Bank of Nigeria on Improvement of the Payment System in Nigeria

Where: \( CP \) = Cashless policy (independent variable)  
\( CBT \) = Cash-based Transactions (dependent variable for hypothesis one)  
\( MPS \) = Modernization of Payment System (dependent variable for hypothesis two)  
\( VOC \) = Volume of Cash (dependent variable for hypothesis three)

4. Presentation of Result s and Analysis

4.1. Presentation of Results

Out of a total number of 246 copies of the questionnaire distributed only 204 representing 82.9% were correctly filled and returned.

Table 2: Response Rate in Each of the Sampled Segments

| Segments  | No of copies of the questionnaire | No Successfully filled | No Incomplete | Response/Success rate |
|-----------|----------------------------------|------------------------|---------------|----------------------|
| FBN       | 88                               | 74                     | 14            | 84.1                 |
| Access bank | 50                           | 42                     | 8             | 84.0                 |
| First bank | 46                               | 40                     | 6             | 87.0                 |
| UBA       | 62                               | 48                     | 14            | 77.4                 |
| TOTAL     | 246                              | 204                    | 42            | 82.9                 |

Source: Field Survey, 2019

4.1.1. The Extent to Which the Cashless Policy Has Reduced Cash-Based Transactions in Nigeria

Table 3: Perception of the Staff on the Extent to Which the Cashless Policy Has Reduced Cash-Based Transactions in Nigeria

| VARIABLES                                                                 | SA | A  | UD | D  | SD | Mean | S.D. |
|---------------------------------------------------------------------------|----|----|----|----|----|------|------|
| 1. There has really been a significant rise in the number of bank transactions routed through electronic payment channels. | 42 | 50 | -  | 48 | 64 | 2.8  | 0.5  |
| 2. The rise in the use of electronic channels of settlement would have equally happened even if the CBN did not introduce the cashless policy measure. | 62 | 38 | -  | 70 | 34 | 3.1  | 1.0  |
| 3. The major factors behind the changing pattern of transactions settlement is to be found in the global internet technology revolutions instead. | 58 | 56 | 8  | 56 | 26 | 3.3  | 1.0  |
| 4. Would you credit the rise in the use of alternative (electronic) transactions channels to the CBN cashless policy intervention? | 55 | 40 | 5  | 60 | 44 | 3.0  | 0.9  |
| 5. The trends in settlement channels reflect guided movements from cash based to electronic based systems indicating effectiveness of intervention policies of the CBN. | 60 | 44 | -  | 70 | 30 | 3.2  | 1.2  |
| 6. The tendency that transactions channels were moving towards the digital side was already very strong prior to the introduction of the cashless policy in 2012 | 44 | 42 | -  | 68 | 50 | 2.8  | 0.4  |
| 7. There is no significant difference between the strength of IT based transactions before and during the implementation of cashless policy in 2012 | 50 | 52 | -  | 54 | 48 | 3.0  | 1.0  |
| 8. Even though transactions settlements were already drifting towards the digital side, CBN’s cashless policy intervention created the needed momentum in that direction. | 61 | 43 | 6  | 54 | 48 | 3.2  | 0.1  |
| 9. The cashless policy helped allay the fears of people about the safety of digital channels thus helping increase transaction footprint in that direction thus reducing cash based transactions. | 74 | 42 | -  | 66 | 22 | 3.4  | 0.6  |
| 10. It is incontrovertible that the formal introduction of the cashless policy reduced volume of cash-based transactions as it created significant leap in digital transactions volume after its introduction in 2012. | 44 | 60 | -  | 68 | 32 | 3.1  | 1.1  |

Source: Researcher’s Analysis, 2019.

Decision rule: (i) Mean score > 2.5 means that the item should be accepted  
(ii) Mean score < 2.5 means that the item should not be accepted

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The results from Table 3 show that the respondents perceive the Cashless Policy as having reduced cash-based transactions in Nigeria as they recorded above the mean score of 2.5 in each of the questions raised thereto.

4.1.2. The Extent to Which the Cashless Policy Has Contributed To the Development and Modernization of the Payment System in Nigeria.

Table 4: Perception of the Staff on the Extent to Which the Cashless Policy Has Contributed To the Development and Modernization of the Payment System in Nigeria.

| VARIABLES                                                                 | SA  | A  | UD | D  | SD  | Mean | S.D. |
|----------------------------------------------------------------------------|-----|----|----|----|-----|------|------|
| 11. One area the cashless policy has helped in no small measure is in the modernization of the payment system in line with global standards. | 55  | 60 | -  | 44 | 45  | 3.2  | 1.0  |
| 12. International business channels for Nigeria has flung open since payment for transactions has become modernized. | 68  | 54 | 8  | 22 | 52  | 3.3  | 1.0  |
| 13. It has aligned domestic transactions with global standards of competition; reduced cost of cash management for firms and enhanced their margins thus making them more competitive. | 45  | 68 | -  | 51 | 40  | 3.1  | 0.7  |
| 14. The risk component of business transactions has generally reduced due to the introduction of the cashless policy which has encouraged digital payments. | 45  | 50 | 8  | 40 | 61  | 2.9  | 1.1  |
| 15. It helped reduce fraud in the financial system since it ensures that transactions are digitally recorded and traceable. | 48  | 64 | 4  | 50 | 38  | 3.2  | 0.8  |
| 16. One crippling problem with the cash payment system was the encouragement of a parallel economy in the informal sector which diluted monetary regulatory policies thus weakening the Naira. | 40  | 52 | -  | 64 | 48  | 2.9  | 1.0  |
| 17. The increasing ease of reach of the domestic economy to distant and far-flung markets is a testament to the modernizing effects of the cashless policy. | 44  | 50 | 10 | 40 | 60  | 2.9  | 1.0  |
| 18. The cost of printing new notes due to high frequency in the use of cash has reduced since large ticket transactions now do not involve cash thus preserving the notes for longer time. | 68  | 44 | -  | 42 | 50  | 3.2  | 0.7  |
| 19. More expatriate companies have opened in the country since implementing this policy because of ease of transacting on a global scale for Nigeria’s market. | 38  | 62 | 6  | 58 | 40  | 3.0  | 0.5  |
| 20. Nigerian international trade has spiralled since 2012 owing to the reduction of transaction costs due to the implementation of cashless policy by the CBN. | 50  | 55 | 6  | 45 | 48  | 3.1  | 1.4  |

Source: Researcher’s Analysis, 2018.

Decision rule: (i) Mean score > 2.5 means that the item should be accepted
(ii) Mean score < 2.5 means that the item should not be accepted

The table 4 above shows that the respondents agree that the Cashless Policy has contributed to the development and modernization of the Payment System in Nigeria since all the ten (10) items received a mean score of more than 2.5

4.1.3. The Extent to Which the Cashless Policy has helped to Trim down the Volume of Cash Outside the Formal Sector in Nigeria.

Table 5: Perception of the Staff on the Extent to Which the Cashless Policy Has Helped To Trim down The Volume Of Cash Outside The Formal Sector In Nigeria.

| VARIABLES                                                                 | SA  | A  | UD | D  | SD  | Mean | S.D. |
|----------------------------------------------------------------------------|-----|----|----|----|-----|------|------|
| 21. The policy significantly helped to reduce the volume of cash outside the formal system. | 44  | 52 | -  | 48 | 60  | 2.9  | 0.6  |
| 22. Traders and business men who used to carry bags of cash around transact through the alternative payment channels hence reducing the amount of cash in circulation. | 52  | 46 | 10 | 58 | 38  | 3.1  | 1.1  |

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The policy opened people eyes to the risks associated with cash payment in large volumes triggering a response which encourages reduced use of cash.

There has been steady rise in on-line trading and sales activities which has also helped in reducing the volume of cash in the informal sector.

This policy has nothing to do with the volume of cash in circulation generally.

Cash in circulation in the informal sector has not responded to the policy.

The volume of cash in the informal sector has continued to significantly dilute the monetary policy stance of the CBN by creating parallel exchange rate indicating that the policy has yet to make significant impact.

There is need to make complementary monetary policies to check possible cheating and beating of the system to ensure we reap the benefits of the policy.

There are still huge amounts of cash stacked away in people’s homes and heavy clandestine cash transactions are still flourishing across the country.

The policy has caused heavy outflow of liquid capital as Nigerians now stash their money away in foreign countries.

Source: Researcher’s Analysis, 2019.

Decision rule: (i) Mean score > 2.5 means that the item should be accepted
(ii) Mean score < 2.5 means that the item should not be accepted

The results from the table 5 show that the respondents perceive the Cashless Policy as having helped to trim down the volume of cash outside the formal sector of the Nigerian economy. This is evidenced by the mean score greater than 2.5 in nine (9) out of the ten (10) variables stated. However, it also revealed the respondents perception that the policy has nothing to do with the volume of cash in circulation (the value of the mean of each of the variables was lesser than 2.5).

4.2. Analysis of Findings and Test of Research Hypotheses

Pearson Product Moment Correlation Coefficient (r) was used to test the hypotheses.

4.2.1. Test of Hypotheses 1

H₀: The cashless policy has not significantly reduced cash-based transactions in Nigeria.
H₁: The cashless policy has significantly reduced cash-based transactions in Nigeria.

Data generated from responses to question 1 - 10 in the questionnaire were used. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedascity. The goal was to determine if the cashless policy has significantly reduced cash-based transactions in Nigeria using Pearson product moment correlation coefficient.

| CASHLESS POLICY | CASHLESS POLICY | CASH BASED TRANSACTION |
|-----------------|-----------------|------------------------|
| Pearson Correlation | 1 | .676 ** |
| Sig. (2-tailed) | .05 | 1 |
| N | 204 | 204 |
| CASH BASED TRANSACTION | Pearson Correlation | .676 ** |
| Sig. (2-tailed) | .05 |
| N | 204 | 204 |

** Correlation is significant at the 0.05 level (1-tailed).

Source: SPSS Analysis, 2018.
**Result:** The result shows that there was a statistically significant positive relationship between the cashless policy and the reduction of cash based transactions in Nigeria (i.e. p < 0.05 @ 0.05 significant level). Again, the strength or magnitude of relationship between the cashless policy and the reduction of cash-based transactions is strong (R = .676), while the coefficient of determination (R²) is 45.7%. This explains the variance therein. Furthermore, the scatter plot shown in the Appendix (Figure 1) corroborates this result. On the basis of the decision rule which states: reject null hypothesis if p-value is less than 0.05, we reject the null hypothesis and accept the alternative form. Therefore we decide that there exists a statistically positive relationship between the Cashless Policy of the CBN and the reduction of cash based transactions in Nigeria.

### 4.2.2. Test of Hypotheses 2

**H₀:** The cashless policy has not significantly contributed to the development and modernization of the payment system in Nigeria.  
**H₁:** The cashless policy has significantly contributed to the development and modernization of the payment system in Nigeria.

The responses to question 11 - 20 in the questionnaire were used. The same preliminary analyses done for hypothesis 1 were repeated.

| Table 7: Correlation Test for Hypothesis 2 |
|------------------------------------------|
| **CASHLESS POLICY** | **PAYMENT SYSTEM** |
| Pearson Correlation | 1 | .614 ** |
| Sig. (2-tailed) | .046 | .046 |
| N | 204 | 204 |
| **PAYMENT SYSTEM** | Pearson Correlation | 1 |
| Sig. (2-tailed) | .614** | .046 |
| N | 204 | 204 |

**Correlation is significant at the 0.05 level (1-tailed).**

Source: SPSS Analysis, 2019.

**Result:** The result of the Pearson Product Moment Correlation shows that there was a statistically significant relationship between the cashless policy and the development and modernization of the payment system (i.e. p < 0.05 @ 0.05 significant level). The correlation coefficient is 0.6. An increase in the implementation of the cashless policy will result in an increase in the development and modernization of the payment system in Nigeria. The coefficient of determination (R²) which explained the variance between the cashless policy and the development and modernization of the payment system indicates 37.7% shared variance. This implies that the cashless policy has significantly contributed to the development and modernization of the payment system in Nigeria by nearly 38%. Furthermore, the scatter plot Figure 2 Appendix 2 corroborates this finding. With a p-value of less than 0.05, we reject the null hypothesis and accept the alternate. We therefore conclude that the Cashless policy has significantly contributed to the development and modernization of the payment system in Nigeria.

### 4.2.3. Test of Hypotheses 3

**H₀:** The cashless policy has not significantly helped to trim down the volume of cash outside the formal sector in Nigeria.  
**H₁:** The cashless policy has not significantly helped to trim down the volume of cash outside the formal sector in Nigeria.
The responses to question 21 - 30 in the questionnaire were used. Preliminary analyses were equally performed and they yielded the same results as in the two previous hypotheses.

Table 8: Correlation Test for Hypothesis 3

|                      | CASHLESS POLICY | VOLUME OF CASH |
|----------------------|-----------------|----------------|
| **CASHLESS POLICY**  | Pearson Correlation | 1              | .565 ** |
|                      | Sig. (2-tailed)  | .204           | .008   |
| **VOLUME OF CASH**   | Pearson Correlation | .565**         | 1      |
|                      | Sig. (2-tailed)  | .008           |        |
|                      | N                | 204            | 204    |

** Correlation is significant at the 0.05 level (1-tailed).

Source: SPSS Analysis, 2019.

Result: The result of the Pearson Product Moment Correlation shows that there was a statistically significant relationship between the cashless policy and volume of cash outside the formal sector (i.e. p < 0.05 @ 0.05 significant level). It also indicates that the relationship between the cashless policy and the volume of cash outside the formal sector is positive (i.e. the cashless policy helps to trim down the volume of cash outside the formal sector in Nigeria). In conclusion, the result of the analysis indicates that the strength or magnitude of relationship between the cashless policy and trimming down of the volume of cash outside the formal sector is strong (R = .565).

In addition, the coefficient of determination (R²) is 31.9% percent. This implies that the cashless policy has significantly contributed to the trimming down of the volume of cash outside the formal sector in Nigeria by nearly 32%. Furthermore, the scatter plot shown in Fig.3 of the Appendix corroborates this result by indicating that the relationship between the cashless policy and trimming down of the volume of cash outside the formal sector as being positive and roughly linear. With p-value of 0.05 the null hypothesis is rejected while the alternate is accepted. We conclude that the cashless policy has significantly helped to trim down the volume of cash outside the formal sector in Nigeria.

4.7. Discussion of Results

1. The result of the test of hypothesis 1 indicated that there was a statistically significant relationship between the cashless policy and the reduction of cash based transactions in Nigeria. Thus the cashless policy has significantly reduced cash based transactions in Nigeria by nearly 46%. This finding is consistent with that of Ezuwore, Eyisi, Emengini & Alio (2014) and Matthew & Mike (2016) which revealed that the cashless system has become necessary to promote the use of electronic means of transaction towards making Nigeria a cashless economy in the nearest future, where clumsy and expensive-to-handle coins and notes are replaced by efficient electronic payments system; and although the cashless policy is not a policy designed to enhance bank profitability, it has a lot of benefits associated with it which include; increased convenience; reduced risk of cash related crimes; reduced cash handling cost, reduced revenue leakages, etc. respectively. But at the same time, it contradicts Ikpefan, Akpan, Godswill, Grace & Chisom (2018) who stated that there was no significant impact of electronic banking tools on the currency in circulation. In any case our position is that since only 46% reduction noticed, the cashless policy will have the desired impact only if concerted efforts are made by the CBN to ensure improved implementation as also suggested by Taiwo, Ayo, Afieroho & Agwu (2012).

2. There was a statistically significant relationship between the cashless policy and the development and modernization of the payment system in Nigeria as found through analysis...
of the second hypothesis. This finding is consistent with that of Omotunde, Sunday & John-Dewole (2013) who revealed that the introduction of the cashless economy in Nigeria is a step in the right direction as its impact will be felt in the modernization of Nigeria payment system, reduction in the cost of banking services, reduction in high security and safety risks and also curb banking related corruptions. The findings of Morefu & Taibet (2012) also finds resonance with this. It also agrees with the study of Elizabeth (2014) who revealed that South Africa is now at the verge of achieving a digital freedom in payments as about 52% of all payment in the country now pass through the alternative payment channels.

3. From hypothesis three, the result of the test of hypothesis indicated that there was a statistically significant relationship between the cashless policy and the trimming down of the volume of cash outside the formal sector in Nigeria (R = .565, alpha-significance is .008 at p < 0.05). In addition, it revealed that the cashless policy has significantly contributed to the trimming down of the volume of cash outside the formal sector in Nigeria by nearly 32%. This finding can be supported with that Mabinda (2012), Tambo (2015) and Azeez (2014) who revealed that there was a significant effect of cash management policies on volume of cash-based transactions. In addition, it agrees with the study of Ernest & Fadiya (2012) who posited that the shift towards a cashless Nigeria seems to be beneficial though it comes with high level of concerns bordering on security and management of cost savings. It also agrees with the finding of Azeez (2014) who stated that there was a significant positive effect between the cashless policy and cash management policies on the payment system of Egypt.

4. The implications of the findings from this objective can be explained with the findings of Acha, Kanu & Agu (2017) who revealed that despite several identified benefits of the cashless policy, many factors still militate against the policy’s success such as lack of enabling environment especially power infrastructure.

5. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Summary of Findings

- The study revealed that there was a statistically significant relationship between the cashless policy and the reduction of cash based transactions in Nigeria (R = .676, alpha-significance is .05 at p < 0.05). In addition, it revealed that the cashless policy has significantly reduced cash based transactions in Nigeria by nearly 46%.

- The study revealed that there was a statistically significant relationship between the cashless policy and the development and modernization of the payment system in Nigeria (R = .614, alpha-significance is .046 at p < 0.05). In addition, it revealed that the cashless policy has significantly contributed to the development and modernization of the payment system in Nigeria by nearly 38%.

- The study revealed that there was a statistically significant relationship between the cashless policy and the trimming down of the volume of cash outside the formal sector in Nigeria (R = .565, alpha-significance is .008 at p < 0.05). In addition, it revealed that the cashless policy has significantly contributed to the trimming down of the volume of cash outside the formal sector in Nigeria by nearly 32%.

5.2. Conclusion

The cashless policy of the CBN has significantly and positively improved exchange and payment system in Nigeria as well as reduced drastically the volume of cash in the informal sector of the economy including reducing significantly the number of cash based transactions in the economy. There was a statistically significant relationship between the cashless policy and the reduction of cash based transactions in Nigeria. It also revealed that there was a
The perceived effect of the cashless policy of the Central Bank of Nigeria on improvement of the payment system in Nigeria is statistically significant. Furthermore, it revealed that there was a statistically significant relationship between the cashless policy and the trimming down of the volume of cash outside the formal sector in Nigeria. Thus, there is sufficient evidence to argue that the policy has achieved relevance in the system given that transaction settlements have now moved significantly towards the digital channels and the volume of cash in the informal system has reduced thus enabling better monitoring and control. However, caution should be exercised as there are still significant cash volumes in the informal sector as revealed by the study.

5.3. Recommendations

The following recommendations are made from this study:

- There is need for a comprehensive review of the policy content as well as its implementation strategy. This has become necessary in view of the fact that the informal sector has continued to exert very potent force in the system which weakens the strength of monetary policy which blurs its thrust.

- The monetary authorities should perhaps, embark on a second phase of the policy which should now focus among other things, on capturing all inward remittances from Nigerians in diaspora to ensure all such remittances pass through the appropriate formal sector channels as this will help regulate and control the Naira-dollar exchange rate and degrade the strength of the informal sector in this regard.

- The Central Bank should but a periodic minimum benchmark investment allocation in internet banking technology on the banks. Regular technology updates will help to continually block avenues for data hacking and account pilfering which has hit an all-time high in this cashless policy era.

- There is need to mount more awareness campaign to sensitize people more on the need to go cashless. Adopting informal communication media is suggested especially in the rural areas and the suburbs. There is also need to further improve the digital clearing system in the country. Presently, inter switch is the major service provider in this area and it is obvious it has been improving since the early 2000s. However, relative to global standards, we are still backwards. The number of failed interbank transactions that take over 7 days to clear and correct is too high. For instance, failures-to-pay other banks ATM card withdrawals by any bank ATM still takes 14 days to correct indicating room for improvement.

There is need to expand the internet connectivity of Nigeria as a country since the domestic connectivity largely depends on the bandwidth the country maintains at the global highway.

It is suggested that an expanded study should be done to include all the states in Nigeria.

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APPENDIX

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Descriptive Statistics

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| CASHLESS POLICY | 40.8000 | 22.65392 | 204 |
| CASH BASED TRANSACTIONS | 37.2000 | 25.40079 | 204 |

Correlations

| CASHLESS POLICY | Pearson Correlation | Sig. (2-tailed) | N |
|-----------------|---------------------|-----------------|---|
| CASHLESS POLICY | 1                   | .676            | 204 |
| N               | 204                 | 204             |

| CASH BASED TRANSACTIONS | Pearson Correlation | Sig. (2-tailed) | N |
|-------------------------|---------------------|-----------------|---|
| CASH BASED TRANSACTIONS | .052                | 1               | 204 |
| N                       | 204                 | 204             |
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**Correlations**

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**Table: Descriptive Statistics**

|                      | Mean  | Std. Deviation | N  |
|----------------------|-------|----------------|----|
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| MODERNIZATION OF PAYMENT SYSTEM | 40.8000 | 25.00400      | 204|

**Table: Correlations**

|                      | CASHLESS POLICY | MODERNIZATION OF PAYMENT SYSTEM |
|----------------------|-----------------|--------------------------------|
| Pearson Correlation  | 1                | .614                           |
| Sig. (2-tailed)      |                 | .046                           |
| N                    | 204             | 204                            |
| Pearson Correlation  | .614            | 1                              |
| Sig. (2-tailed)      | .046            |                                |
| N                    | 204             | 204                            |

*. Correlation is significant at the 0.05 level (2-tailed).
Cashless Perceived Effect of the Cashless Policy of the Central Bank of Nigeria on Improvement of the Payment System in Nigeria

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Graph

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Correlations

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Descriptive Statistics

|                | Mean  | Std. Deviation | N   |
|----------------|-------|----------------|-----|
| CASHLESS POLICY| 40.8000 | 23.56268 | 204 |
| VOLUME OF CASH | 40.8000 | 25.34167 | 204 |

Correlations

|                       | CASHLESS POLICY | VOLUME OF CASH |
|-----------------------|-----------------|----------------|
| Pearson Correlation   | 1               | .565**         |
| CASHLESS POLICY Sig. (2-tailed) | .008            |                |
| N                     | 204             | 204            |
| Pearson Correlation   | .565**          | 1              |
| VOLUME OF CASH Sig. (2-tailed) | .008            |                |
| N                     | 204             | 204            |

**. Correlation is significant at the 0.01 level (2-tailed).
Cashless Perceived Effect of the Cashless Policy of the Central Bank of Nigeria on Improvement of the Payment System in Nigeria

**GRAPH**

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**Graph**

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**Syntax**

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Electronic copy available at: https://ssrn.com/abstract=3523743