

THE IMPACT OF CASH LESS POLICY TOOLS ON MONEY CIRCULATING OUTSIDE NIGERIAN BANKS

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ABSTRACT

Fiscal policies aimed at improving an economy's performance are worth any trial. The Nigerian government's embarkment on the Cash Less Policy (CLP) in 2012 was a step in this direction. Our study is aimed at assessing the pre-post implementation period of Nigeria's CLP with eyes on the relationships between tools of CLP and currency circulating in the economy. Focusing on the entire economy, data for the period 2009-2012 was regressed to test for the impact of these tools on the currency circulation in the Nigerian economy. The results showed a direct but insignificant relationship between ATM, Point of Sales & Mobile Banking and Cash in Circulation; and an inverse but also insignificant relationship between Web-Based transactions & Cheques and Cash in Circulation. This was mainly due to the fact that the majority of the period observed covers the pre-implementation period (2009-2011). Therefore, the impact of these tools will have less significant on currency circulation. It is however, recommended that an equal period of pre and post implementation (2009-2014) be covered if an acceptable consensus is to be arrived at.

Key words: Cash Less Policy, Automated Teller Machine (ATM), Web-Based Transactions (WEB), Mobile Banking Transaction (MBT), Point of Sale (POS), Cheques (CHQ) and Cash in Circulation outside Banks (COB).

Introduction

Since the art of interdependency became prominent, various transaction methods have been adopted in daily businesses starting with the trade by barter. The barter system laid the foundation for the introduction of an acceptable medium of exchange (money). The use of money and coins solved the problem of double coincidence of wants and divisibility which were its major disadvantage. Though the use of money has solved most of the challenges posed by trade by barter, yet as an exchange medium it has its own challenges.

An outcome of the study carried out by the Nigerian Bankers Committee to identify the cost drivers and preferred solutions to cash policies and cash-based transactions was introduced which stipulated 'cash handling charge' on daily cash withdrawals on cash deposits that exceed N500,000 for individuals and N3,000,000 for corporate bodies. This banking policy aimed at reducing (not eliminating) the amount of physical cash (coins and notes) circulating in the economy and encouraged more electronic-based transactions (payments for goods, services, transfers, etc.).

After introduction, the policy was expected to encourage the use of less physical cash by making use of electronic and cheque payments for goods and services as the alternative to cash payments (Umeano, 2012). Electronic based transactions are a major tool used to discourage high circulation of cash in an economy while Agbonifo, Adeola and Oluwadare (2012) posits that Nigeria adopted electronic banking system in the early 2000s, the pilot phase of the Cashless Policy (CLP) could be traced to its operation in Lagos on April 1st 2012 and was scheduled to be extended to 5 States and the Federal Capital Territory (FCT) on January 1st 2013 which was later rescheduled for July 1st 2013. The affected States were Ogun, Rivers, Kano, Abia and Anambra (Olanipekun, Briamah&Akanni, 2013). Other States follow suit on 1st July, 2014. Therefore the need to assess the journey being made so far.

The target of this research is to make an evaluation of the pre and post-implementation periods of Nigeria's CLP since 2012 (2009-2012). Specifically the study is aimed at:

- i. Determining the relationship between the tools of CLP which are Automated Teller Machine (ATM), Point-of-Sales transactions (POS), Mobile Banking Transactions (MBT), Web transactions (WEB) and the use of Cheques (CHQ).
- ii. Assessing the impact of CLP implemented on the Cash in Circulation outside Banks (COB).

To enhance an effective analysis the following developed hypothesis was tested in this research to guide in achieving the objective of the work:

1. H₀₁: There is no significant relationship between the tools of CLP.

2. H₀₂: There is no significant impact of the tools of CLP on the value of cash in circulation outside banks in the years under observation.

Our methodology involves the study of the entire banking system in the economy over the period 2009-2012. Using regression the variables were correlated to test for level of significance to justify the acceptance or otherwise of the hypothesis formulated. The entire work is divided into five sections starting from the introduction that gives the background, objective and principal target of the study. The second section is the review of relevant literature and empirical studies conducted so far on the subject matter. The methodology of the study formed the third part. In this part the tools of data collection and analysis were fully discussed. In the fourth section results obtained was analyzed to show our findings. Finally a summary of findings and recommendations were discussed in the fifth section which forms the conclusion.

2. Review of Literature

2.1 Introduction

Cash Less banking may be defined as that banking system which aims at reducing (not eliminating) the amount of physical cash (notes and coins) circulating in the economy, whilst encouraging non-cash and more electronic based transactions (payment for goods, services, transfers etc. through non-physical cash means). In other words, it is a combination of the two: e-banking and cheque-based systems. The term should not however, be mistaken for a situation in which the use of cash is totally eliminated from the economy. The term Cash Less should be differentiated from the term cashless or cash-less. The latter terms denotes situation of complete eradication of the use of physical cash. The aim of CLP is to encourage as best as possible the use of “less cash” or limited amount of cash for business transactions.

A Cash Less economy is at its prime when almost all modes of payments are carried out without the use of physical cash. Payments will range from a list of options such as cheques, wireless transfers, debit and credit cards, online transactions, and mobile banking. The advantages of a Cash Less society are enormous, from regulating and controlling, it extends to securing the entire financial system of an economy.

2.2 Tools of Cash Less Economy

The major tools of CLP as used in the Nigerian situation are mainly five though one of them (the use of cheques) is fast becoming outdated.

2.2.1 ATM: is an electronic telecommunication device that enables the customers of financial institution to perform financial transaction without the need of human cashier, clerk or bank teller. An ATM card (also known as a bank card, client card, key card, or cash card) is a payment card provided by financial institution to its customers which enables the customer to use an Automated Teller Machine(ATM) for transactions such as: deposits, cash withdrawals, obtaining account information, and other types of banking transactions, often through interbank networks.

ATM is known to have replaces the option of human to human servicing with human to machine servicing which enables individuals to perform banking transaction without entering a banking hall. As a tool for CLP its limits the amount of physical cash assessable owing to the fact the there is a limit to cash withdrawal per day.

2.2.3 Mobile (Internet) Banking Transactions: The Federal Reserve Board of Chicago’s Office of the Controller of the Currency (OCC) Internet Banking Handbook (2001) as cited in Agbonifo, Adeola and Oluwadare, (2012) describes Internet Banking as “the provision of traditional (banking) services over the Internet”.

It is a product that is Module and in-built on the new Banking Application BANKSimplementedby Banks to serve the Internet Banking needs of the Bank’s customers.

In reducing the cash in circulation as a CLP tools internet banking prevents individual to initiate transaction over the internet without having to physically carry cash to make transaction.

2.2.4 Mobile Banking: This is a product that offers Customers of Banks access to services as they go. Customer can make their transactions anywhere. Services such as account balance, transaction enquiries, Stop Cheques, Balance Inquiry, Account Verification, Bill Payment, Electronic Fund Transfer, Account Balances, Updates & History, and other Customer service are all deliverables via mobile phones.**2.2.5 Point-of-Sale (POS) Machine:** A Point-of-Sale machine is the payment device that allows credit/debit cardholders make payments at sales/purchase outlets. It allowed customers to perform the following services: Retail Payments, Cashless Payments, Cash Back Balance Inquiry, Airtime Vending, Printing mini statement etc.

2.2.6 Cheque: A cheque is a document that orders a payment of money from a bank account. The person writing the cheque is the drawer who holds a current account with the bank. In other words, a cheque is a type of bill of exchange developed to make payment without the need to carry physical cash.

2.2.7 Cash in Circulation: This is the total value of a country’s currency in circulation; this comprises the currency outside Banks and the one in the vault of Banks.

2.3 Review of Empirical Works

The work of Omotunde, Sunday and John (2013) using accidental sampling method on some 500 traders, students and civil servants through administered questionnaires; showed that CLP increases employment and reduce cash related robbery thereby reducing risk of carrying cash around. They also reported that CLP also reduce cash related corruption and attract more foreign investors to the country. It is therefore, 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 (Ejiofor&Rasaki, 2012; Omotunde, Sunday and John 2013).

James (2013) in an investigation of the determinants of the adoption of mobile banking in Nigeria using Rogers' Diffusion of Innovation theory, and a questionnaire as the main form of data collection and multiple regression to analyze the data; that age and educational background are the key to the adoption of mobile banking. He recommended that relevant stakeholders should pay adequate attention to the relative advantage, complexity, compatibility, trialability and observability of the use of mobile banking so as to increase its usage. Oluwasogo,(2013) presented a remedy to stabilize and achieve the purpose of the new CLP in Nigeria's economy by the proposition of Bayes' theorem to centrally monitor, control and checkmate the customers' multiple opening of bank account at account opening desk. The result which is the probability of 'x' $[P(x)]$ calculated was less than 0.5 (that is if $P(x) < 0.5$). This would allow the continuation of the account opening process, otherwise (if $P(x) \geq 0.5$) it will alert that the account is already existing and would prevent further opening of such an account. Some studies have seek to point out the prospects and challenges of CLP in a developing country like Nigeria (Yaqub, Bello, Adenuga, &Ogundeji, 2013). Their study emphasized on moves towards a Cash Less Nigeria with its numerous benefits. More awareness should be created in order to entice the numerous unbanked Nigerians into the banking system.

Applying a survey method the study of Ebipanipre andUyoyou, (2013) studied the merits of the CashLess economy to the Nigerian populace, and the pains of a cash-based economy. Accidental sampling method was used in the selection of a sample, and data were analyzed using the descriptive statistics with the Chi-square and Analysis of variance (ANOVA) tests.Princewell and Anuforo (2013) showed that majority of the stakeholders support the CLP reasons of its being potential in reducing cash-related robberies, corruption, and other fraudulent practices among others. They however, noted that stakeholders who are against the policy-shift hinged their reasons on payment fraud associated with the Cash Less economy; high rate of illiteracy and infrastructural decay in Nigeria. They had a similar recommendation to that of Yaqub, Bello, Adenuga, and Ogundeji (2013). In the same vain Maitanmi, Awodele, Ogbonna and Osundina (2013) examined the Cash Less economic system in order to assess its feasibility in Nigeria with regards to timeliness, preparedness and adequacy against the backdrop of low level of development both technologically and educationally. Likewise Okey (2012) and Okoye and Raymond (2013) studied the significant benefits and essential elements of CLP, and to check the extent to which the policy can enhance the growth of financial stability in the country. They came out with similar result as Yakub, Bello, Adenuga and Ogundeji (2013) and Princewell and Anuforo (2013). Agbonifo, Adeola and Oluwadare, (2012) assessed the role of ICT in readiness for the implementation of cashless transactions in Nigeria and identify the challenges associated with the implementation of the proposed cashless transactions as affecting the bank customers. Questionnaires was used in collecting data on sample respondents. Also, data on the volume of transaction of the alternative payment systems in use in Nigeria was collected from the Central Bank of Nigeria. Employing simple descriptive statistics the study of Nwanko and Eze, (2013) examined the extent to which electronic payment affect the Cash Less economy of Nigeria. The study indicates that the electronic system of payment has a great implication on the economy by leading to a significant decrease in deposit mobilization and credit extension by Nigerian money banks. They put forward a critical appraisal of the pros and cons of the Cash Less economy policy within the context of socio-economic realities of Nigeria, with a view to determining its workability as intended by the Central Bank of Nigeria (CBN).

In a study considering the role of the CBN acting as a monopolist (Tobias & Stephen, 2012), it was discovered that the CBN acts as an operator of an individual payment system for optimal solution.

Ebipanipre&Uyoyou, (2013) studied the merits of the Cash Less economy to Nigerian populace and the pains of a cash-based economy. Using accidental sampling method and descriptive statistics and regression, their result reveal a positive and significant relationship between Cash Less economy and transparency, accountability and reduction of cash-related fraud. It showed that a Cash Less economy has a positive impact on economic development. The research recommended adherence to minimum security standards and deployment of more ATMs for smooth implementation of the CLP in Nigeria. Tajudeen, (2013) assessed the perceptions of stakeholders on the types of corruption that can be reduced by the CLP and examined the effectiveness of the policy in curbing corruption; and identified critical success factors for effective implementation of the policy. Primary and secondary data were sourced for the study. The results found out that no single strategy can address all types of corruption and that the CLP can only reduce petty corruption which is the lowest level of corruption as against all forms of corruption. It concluded that the inevitability of addressing the root-cause of corruption and devising compatible, systemic, and multi-pronged solutions is the most appropriable approach to addressing the menace which require enacting or modifying legislation, having effective punishment for corrupt individuals, and systemic changes occasioned by re-engineering processes that interface with the common man through the use of innovative technology solutions such as electronic governance; which will play the role of empowering the citizens by making governance more transparent and citizen-friendly.The success of CLP hinges on strong legal framework, state of infrastructure, availability of real data, investments in technology, adequate security and an effective Judicial Process (Ikpefan&Ehimare, 2012) in a study that addresses the benefits and challenges of a Cash Less economy in Nigeria. Oginni, El-Mande, Mohammed and Michael, (2013) explored the relationship between e-payment system and economic growth as a means of reviewing current transition to cashless economy in Nigeria. Data was analyzed using OLS method covering a period of 7 years (2005-2012).The result indicates a significant positive relationship between e-payment system and economic growth in terms of real GDP per capita and trade per capita.In terms of other variables, only ATM was found to positively contribute to economic growth while other e-payment channels contribute negatively. Hence, current CLP should be tailored towards effective e-payment system and other factors which bear much relevance on successful transition to Cash Less economy should be prioritized.

The philosophy of the Triple-A (Arrange, Acquire and Appraise) must be adopted (Ochel, 2012) for flexibility if proper monitoring and controlling of overspending among citizens in Cash Less society is to be anchored. The strategies are presented

in such a way that it can be applied by single persons as well as small to medium size businesses. If properly implemented it will help citizens to monitor and control their spending habits.

Fidelis, Francis, Samuel, Frank and Calister, (2012) surveyed the security challenges facing the full implementation of the Cash Less e-payment policy of Nigeria and at the end recommends the introduction of an enhanced modified security framework for Nigeria's Cash Less economy that may be easier and cheaper to implement by the majority of the stakeholders after studying the loopholes in the current Nigeria e-payment system models.

Sequel to the above review of empirical cases, it is evident that most researches have concentrated on issues other than relating CLP tools to the amount of money in circulation outside banks. In Nigeria the policy is new, coming into effect around 2012, thus making it a virgin area of exploration. This study therefore, intends to investigate the gap on the relationship between tools of CLP and the amount of currency circulating outside banks in the Nigerian economy.

3. Research design

The entire monetary system in the Nigerian economy doubles as the targeted population and sample of the study. Secondary data mostly collected from the annual reports of the CBN was used as the major source of data. Two major variables were used: Cash circulating outside banks (dependent variable) and tools of CLP (independent variable). Under the tools of CLP 5 observations which include: ATM, WEB, POS, MBT and CHQ were tested; selected mainly because they are instruments used by most banks in Nigeria to limit physical cash carriage. The study used cash in circulation outside bank as its dependent variable because we aim to see the effect of the tools of CLP on cash circulating outside banks. There is no doubt that the major purpose of CLP is reduction of the amount of physical cash carried around for transaction purposes. Thus, the total cash in circulation ultimately becomes the bone of contention. For the purpose of this research we defined the total cash in circulation as made up of the cash in the vault of banks plus the cash outside banks, since the policy is targeted toward cash carriage.

To analyze the data and determine the relationship between the variables, regression was used. Descriptive and inferential statistical information in the form of mean, standard deviation, Bi-variant correlation were the key guide in determining the relationship between the variables. The result of the ANOVA on the level of significance was used to decide on whether or not to accept the hypothesis formulated for this study.

4. Discussion of Results

The study looks at the relationship between COB and tools of CLP and between the tools of CLP. The COB is given as a summation of cash in the bank plus cash in circulation (CIC). Cash in the bank is the total of ATM + WEB + POS + MBT + CHQ. This resulted in a COB of 1,572.34, 2,155.22, 2,916.44 and 3,396.92 for 2009, 2010, 2011 and 2012.

The distribution of the variables in the model gives some interesting results. On average, N2,510.23 billion, N1,262.28 billion, N68.30 billion, N25.68 billion N15.00 billion and N0.03 billion amount were recorded as currency outside the bank (COB), ATMs, WEB, POS, MBT and used as Cheques (CHQ) during the period under observation (2009-2012) respectively. Cash outside banks (COB) has a minimum of N1,572.34 billion and a maximum of N3,396.92 billion. On average the cash inside bank vaults (tools of CLP) forms about 52.45% of the currency outside the banks.

The degree of correlation between COB and the observations of the tools of CLP is acceptable as it gives values of 0.999, -0.866, 0.955, 0.987 and -0.380 (Appendix) for ATM, WEB, POS, MBT and CHQ respectively. Results for ATM, POS and MBT are almost perfect correlation. However, while a positive correlation exists between COB and ATM, POS & MBT; an inverse relationship is what is shown between COB and WEB & CHQ. The implication is that increase or decrease in the use of ATM, POS & MBT will lead to a corresponding increase or decrease in currency outside banks. But increase or decrease in WEB and CHQ will lead to a fall in money being circulated outside banks.

Of greater importance however, is the level of significance of the correlation results. While two of the results are insignificant (WEB and CHQ), the other variables of ATM, POS and MBT showed results of 0.001, 0.045 and 0.013 respectively; all at 5% level of significance. This implies that only ATM, POS and MBT have influence over the currency outside banks.

There is also a very high degree of collinearity among the independent variables with only CHQ showing an acceptable collinearity value of -0.376, 0.108, -0.310 and -0.347 for ATM, WEB, POS and MBT respectively. All other independent variable showed high collinearity values of between 0.65 and 0.99 (Appendix). Because of the high level of collinearity between ATM, WEB, POS and MBT, and perfect fitness; the influence cannot be computed. Therefore, the decision to drop some of the independent variables. However, attempt to combine WEB and CHQ, POS and CHQ, MBT and CHQ showed insignificant results. Thus the decision to run the relationship between COB and ATM & CHQ (with acceptable level of correlation) to yield a significant result. A score of 99.9% and 99.8% was obtained for R and R² at 5% level of significance (0.045). The Kurtosis and Skewness values showed acceptable figures of -0.60 and +0.60 (Appendix Charts).

The coefficient of the study showed that for every N1,265 increase in the use of ATM and N397,115 fall in the use of cheques, currency outside banks will increase by N1.

From our analysis it can be seen that a significant relationship exists between COB on the one hand and ATM and CHQ, while an insignificant relationship exists between COB and WEB, POS and MBT. Thus giving a mixed result for the first hypothesis. For the independent variables, a significant there is a significant association between ATM, POS and MBT. That of ATM, WEB and CHQ is however insignificant. In short, our outcome partly support and partly reject both hypothesis.

5. Conclusion

5.1 Summary and Findings

Nigeria's acceptance of CLP is a new development. Introduced in 2012, the policy have been hurried on the masses. This has had some negative impact on transaction and the populace at large. With the high rate of illiteracy and rural population the general acceptance of CLP will take time.

Only five of the tools are employed. While cheques are fast becoming outdated the ATM remain the only popular instrument among customers. The outcome of the study shows that of the instruments of CLP applied in Nigeria only two have significant influence (ATM and CHQ) over currency outside banks. The other three have no significance on currency outside banks.

In summary the analysis showed:

- a. Increase in ATM, POS and MBT gives a corresponding increase in COB.
- b. Decrease in ATM, POS and MBT leads to a corresponding decrease in COB.
- c. Increase in WEB and CHQ, decreases COB.
- d. Decrease in WEB and CHQ, increases COB.

5.2 Recommendations

Because the CLP is at its early stage, care must be taken to make any recommendation now. Our study considers only 1 of the 3 to 4 years that the policy has been implemented in the country. It will therefore, be erroneous to draw any concrete conclusions at this stage. It is therefore, highly recommended that more time be given (at least a five-year period) be given before adequate conclusions will be drawn. Honestly speaking a ten-year period will be most acceptable.

5.3 Limitations

Records for 2013 and 2014 were not available, for this research. Only one year of post-implementation CLP was used. Future researches may consider data for these two periods to see if significant results will be yield.

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