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Cancellation of ATM Withdrawal Charges and the Cash Policy in Nigeria

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I. Introduction

Most of the financial transactions in Nigeria are carried out in cash, and the consequence is that the cash demand by the populace is huge. The cost of satisfying this demand, borne by the monetary authority in the country, has been stupendously high. As a means to solving this high cost of cash management, and other attendant problems of cash dominated transactions, the Central Bank of Nigeria formulated a cash policy limiting the amount of cash withdrawal from commercial banks by individuals and corporate bodies to a specified maximum. The policy which was test run in some states of the country in 2012 is now fully in place in the country.

One of the strategies to discourage the public from using more of cash in their transactions was cancellation of charges on ATM removal, also in 2012. Prior to the cancellation, each withdrawal of cash attracted a charge of N100. The cost of this charge on withdrawal is inversely related to the amount of withdrawn. For instance, cost of withdrawal is 10% if N1, 000.00 is withdrawn from the ATM; and it is 0.5% when the maximum amount of N20, 000.00 per unit of withdrawal is taken from the ATM. The decline in this charge with rise in amount withdrawn may encourage people to withdraw huge amount per unit of withdrawal to minimize cost, even if they do not need as much as the huge amount withdrawn at that point in time.

The policy that removed the charge on withdrawal thus aimed to eliminate this incentive, and consequently endear the public to keep more of their money in deposit rather than cash. Once the cost of cash-deposit interchange is nil, the economic agent is indifferent as to what form does she keep her money.

The policy was however reversed in 2014 and a charged of N65 was imposed on interbank ATM withdrawal once a customer does more than three interbank withdrawals in a month. While the supply side (the cost of rendering the ATM services) consideration motivated the policy reversal, little attention was paid to the demand side in term of the effectiveness of the charge-removal policy in reducing cash demand. This study thus fills this gap, and documents in the literature the effects of the cancellation of N100 ATM withdrawal charge on cash policy in Nigeria between the period 2012 and 2014. It sets to evaluate the impact of removal of ATM charges on customers demand for cash and, in extension, examine the effect of the policy on realization of CBN's cash policy objectives.

The paper is organized in five sections. With introduction presented section 1 above, section 2 follows with discussion of the relevant literature, ranging from the theoretical perspectives to the empirical evidences. Section 3 presents the methodology, highlighting the theoretical framework adopted and the analytical techniques adopted. Discussion of the results is presented in section 4 while section 5 concludes.

II. Literature Review

Economic agents demand for cash mainly to finance their transactions. This demand for cash balances has been studied in various theoretical models. A most fascinating among the models is the Tobin-Baumol cash inventory model (developed by Baumol (1952) and Tobin (1956)). This model is very relevant to cash demand when there involves some cost in interchanging money balances between cash and deposit. The theory predicts that money demand or the inventory of cash held is inversely related interest rates or return in keeping money at the bank (as deposit) and

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directly related to transaction volume *c*, price level *P* and cost of withdrawal δ as presented below:

$$M = \sqrt{\frac{c\delta}{R}} \cdot P$$

The model above shows that the higher the cost of withdrawal, the higher the amount of cash withdrawn and held as a means to minimizing unit cost of currency/cash withdrawal.

Other theoretical models of money (not necessarily cash) demand such as the Keynesian money demand model and the Monetarist model of money demand also relate the demand to transaction volumes, income and interest rates but are silent on the transaction cost of interchanging wealth forms.

Given that the cost of withdrawal is directly proportional to cash inventory held, reducing the cost would invariably lead to cash inventory and would be a useful strategy in cash policy that aim to reduce volume of cash in the economy for several policy objectives ranging from reducing cost of cash management, cash-related crimes etc.

The cost of cash production and management in Nigeria has been huge. According to Mohammed (2011), the average cost of producing a Naira note is about N4. Invariably, it cost N4billion to mint N1billion notes! In addition, there exists the incidental cost of maintaining the notes such that they could remain intact, despite the abuse it id of the subjected to.

With cashless policy, this cost could be averted as exchange could take place via other alternatives to cash-based payments such as e-banking and point of sale (POS) terminals. This has great benefits to banks and merchants include larger customer coverage, reduction in cost of operations, international products and services promotion and branding, increase in customer satisfaction and personalized relationship with customers, and easier documentation and transaction tracking.

a) Benefits of ATM and EPS in a Cashless Economy

Electronic Payments as argued by (Cobb, 2005) have a significant number of economic benefits apart from their convenience and safety. These benefits when maximized can go a long way in contributing immensely to economic development of a nation. Automated electronic payments help deepen bank deposits thereby increasing funds available for commercial loans a driver of all of overall economic activity. According to Cobb (2005), efficient, safe and convenient electronic payments carry with them a significant range of macro-economic benefits. An efficient electronic payments system enhances better control of consumer and business credit and this stimulate higher economic velocity.

The EPS saves the economy a huge cost of cash maintenance ranging from minting to replacement. Once the infrastructure for electronic payment has been built, the costs per-transaction is very low (Cobb, 2005). When cardholders use their cards at the point of sale they are helping to keep money in the banking system. EPS can help displace shadow economies, bring hidden transactions into the banking system and increase transparency, confidence and participation in the financial system. According to Al Shaikh (2005), there is a correlation between increase in point of sales volumes and rise in demand deposits. Automated electronic payments act as a gateway into the banking sector and as a powerful engine for growth. Such payments draw cash out of circulation and into the bank accounts, providing low cost funds that can be used to support bank lending for investment a driver of overall economic activity. The process creates greater transparency and accountability, leading to greater efficiency and better economic performance (Al Shaikh, 2005). Similarly, Hord (2005) posits that electronic payment is very convenient for the consumer. Moreover, the more payments that is processed electronically, the less money is spent on paper and postage. Offering electronic payment can also help businesses improve customer retention. A customer is more likely to return to the same e-commerce site where his or her information has already been entered and stored (Hord, 2005).

One of the features of the EPS is the interconnectivity of the ATM across different banks, offering a bank customer the opportunity of withdrawing her funds from another bank's ATM. Matutes and Padilla (1994) in a seminal paper discuss factors that encourage a bank to share ATMs with other banks. In the study's model a three-bank market, in which the banks are located around a circle, was considered. Within the model, there are both advantages to a bank sharing ATMs with another bank. The advantage is that a bank's customers will tend to accept a lower return on their deposits, as sharing lowers the customer's expected transportation costs. Matutes and Padilla (1994) make a significant extension of their basic model to consider the imposition of an interchange fee. The interchange fee reduces the effect of increased substitutability among banks. The interchange fee reduces competition as banks' are less willing to bid to attract depositors, because withdrawal increases cost a bank pays for interchange fees.

Santomero and Seater (1996) and many others present models that identify conditions under which alternative electronic payments substitute for currency. Most of these models indicate that there is at least the possibility for electronic substitutes for currency to emerge and flourish on a large scale, depending on the characteristic of the various technologies as well as the characteristics of the potential users.

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In examining the cost implications of cashless banking instruments, Gresvik and Owre (2002) studied how much it costs Norwegian banks to process various payment instruments. It finds that payment cards used for cash withdrawals at ATMs cost considerably more since the transactions involve cash replenishment, maintenance and security costs. However, the cost of using cheques for cash withdrawals was found to be three times more expensive than cash withdrawals at ATMs. 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. Carrow and Staten (2000) posit that the convenience of using a particular instrument, a factor that is not often measured, may outweigh the price differences that users face.

On the other hand, Brits and Winder (2005) argue that this increased usage of electronic payments is strongly related to customers' awareness of the cost involved in using these different means of payment where electronic payments have low costs.

b) EPS and Monetary Policy

Berentsen (1998) considers the impact that the substitution of smart cards for currency has on monetary policy, arguing that although electronic substitutes for currency would become widespread, monetary policy will continue to work as before because this currency substitution would leave the demand for central Bank reserves largely intact. Goodhart (2000) discusses how monetary control would work in an economy in which Central Bank currency has been partially or completely replaced by electronic substitutes.

Distinguishing between monetary control and monetary autonomy, Cohen (2001) argues that the introduction of electronic currency substitutes would not reduce monetary control, but may reduce monetary autonomy. On the in other hand, Kobrin (1997) argues that electronic currency substitutes are part of a general process of technological advance and globalization that are rendering national monetary authorities impotent and obsolete.

Lee and Longe-Akindemowo (1999) argued that both the financial markets systemic risk and consumer protection necessitate regulation of electronic currency substitutes. Several other authors including Freedman (2000) have argued that the state can always use its power to regulate electronic money providers if they prove to be detrimental to monetary policy or financial stability. Helleiner (1998) makes the case that such coercive power would still be effective in a world of electronic banking. Tanaka (1996) on the other hand, proposes the establishment of a monetary authority in cyberspace that will control electronic currency substitutes. Friedman (1999) point out that electronic banking presents the possibility of an entire alternative payment system not under the control of the Central Banks.

Examining whether EPS undermine Central Banks' control over monetary policy effectiveness, Claudia and De Grauwe (2001) suggested that central banks gradually lose their monopoly position in the provision of liquidity. On the contrary, Marco and Bandiera (2004) argue that increased usage of cashless banking instruments strengthens monetary policy effectiveness and that the current level of e-money usage does not pose a threat to the stability of the financial system. However, they conclude that central banks can lose control over monetary policy if the government does not run a responsible fiscal policy.

c) Summary

The foregoing has presented both the theoretical and empirical arguments for EPS, and for bringing its cost of use to minimum possible. Little attention has however been paid to effects of cancelling ATM withdrawal charges on cash policy in Nigeria. This study thus examineS the effects of this cancellation on money (cash) demand and effectiveness of cash policy in Nigeria.

III. Methodology

This study employed questionnaires to elicit ATM users' view of the impact of the policy that cancelled ATM withdrawal charges cash policy in Nigeria, with special focus on how it affect their demand for cash balances and frequency of withdrawal.

A total of 250 questionnaires were administered to banks customers cutting across many walks of life. The questionnaire as the research instrument used is considered appropriate because it covers the scope implied by the subject and thus has content validity. The study however was able to register 200 respondents.

a) Theoretical Framework

The analysis of the effects of the policy that cancelled ATM withdrawal charges on cash policy was situated in the Tobin-Baumol model which established that demand (inventory) for cash as an item needed for transactions is influenced by direct cost of transferring a financial asset from one form (deposit) to another (cash). The details of this model are presented in section 2 above.

b) Analytical Techniques

The data collected was then analyzed using the Statistical Packages for Social Sciences (SPSS). The

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method implemented for the presentation of data includes the use of tables, percentages and means. The hypotheses formulated were tested using chi-square inferential (χ^2) statistics.

IV. Results

Prior to presenting the results of the analysis on the core issue, demographic characteristics of the respondents who serve as the data generating units are first discussed. This is important as the information supplied is influenced by the characteristics of the respondents.

a) Demographic Profile of the Respondents

The demographic profile of the respondent reveals that many of the users of EPS, especially the ATM are young, literate and employed (see table 1A-3A of the appendix). 66% of the respondents were below age 30 while 92% were below age 50. This shows that active segment of the population whose demand for cash must be driven by transactions needed to support themselves uses the ATM. 64.5%, 25.5% and 10% of the respondents are civil servant, traders and students respectively. The employment status of the majority of the respondents shows that they may be sensitive to time costs entailed in using the ATM. Moreover, 92% of the respondent has at least BSc or HND, giving confidence that the respondents are knowledgeable enough to supply precise information on the subject investigated.

b) ATM Charges Cancellation and Customer's demand for cash

The results of the analysed data showed that 72% of the banks customers under study agreed that the removal of ATM charges on withdrawal encouraged frequent withdrawal (table 1).

Table 1: Cancelation of ATM withdrawal charges and frequency of withdrawal

Question: Did cancellation of N100 charges on withdrawal from ATM encourage frequent withdrawal?

Response	Frequency	Percentages
No	56	28
Yes	144	72
Total	200	100%
χ^2 statistic	38.72	
Prob(χ^2)	0.000	

Sources: Author's calculation, using data from the questionnaire

This result can be generalised on the basis of the inferential statistics (χ^2). The null hypothesis that the cancellation of withdrawal charges did not encouraged frequent withdrawal was rejected as the actual χ^2 of 38.7 is greater than the critical value of 3.8.

Analysis of idle cash balances held by the bank customers showed that the cancellation of ATM withdrawal charges reduced the cash balances held. 60% of the customer agreed that the cash balances held reduced with the cancellation of the ATM withdrawal charges.

Table 2 : Cancelation of ATM withdrawal charges and Cash Balances

Question: Did cancellation of ATM withdrawal charges reduce idle cash balance held?

Response	Frequency	Percentages
No	80	40
Yes	120	60
Total	200	100%
χ^2 statistic	8.000	
Prob(χ^2)	0.000	

Sources: Author's calculation, using data from the questionnaire

The null hypothesis that the cancellation of the charges did not reduce idle cash balances held was rejected since the actual χ^2 of 8.0 is greater than the critical value of 3.8. On this basis, it can be generalised that the cancellation of the ATM withdrawal charges reduced idle cash balances held by bank customers.

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V. Conclusion

This study examined the effects of the cancellation of the ATM withdrawal charges in 2012 on the effectiveness of cash policy in Nigeria, using responses of bank customers in Osogbo (the capital of Osun State), which serves as the case for study. The policy that cancelled the charges on ATM withdrawal enhanced the cash policy which meant to reduce the cash demand in Nigeria, and hence reduced the transactional pressure on the currency and the cost of managing the cash demand.

The mechanisms through which the ATM charges cancellation policy affect the cash policy was the reduction in idle cash balances held by the banking public as they are able, and encouraged, to withdraw money from the ATM, even on inter-bank transactions, as many times as desired without any penalty or charges. With less cash balances, many of their transactions that can be supported by EPS (e.g. payment for communication airtime recharge and settlements of bills like PHCN, DSTV) are routed through this payment means, and this reduced pressure on cash and the cost of its management.

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Table 1A : Distribution of Respondents' Age

AGE	FREQUENCY	PERCENTAGE
below 30	132	66
31-50	53	26.5
51-above	15	7.5
Total	200	100

Sources: Author's calculation, using data from the questionnaire

Table 2A : Distribution of respondent's occupation

OCCUPATION	FREQUENCY	PERCENTAGE
Student	20	10
Civil servant	129	64.5
Trader and other	51	25.5
Total	200	100

Sources: Author's calculation, using data from the questionnaire

Table 3A : Respondent's highest educational qualification

QUALIFICATIONS	FREQUENCY	PERCENTAGE
Master degree	65	32.5
BSc \HND	118	59
Professional qualification	17	8.5
Total	200	100

Sources: Author's calculation, using data from the questionnaire

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