

Electronic Payment System and Inflation Rate: Empirical Evidence from Nigeria

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DOI: 10.56201/ijefm.v8.no3.2023.pg140.152

ABSTRACT

This study examined the effect of electronic payment instruments and inflation rate in Nigeria. The objective was to study the effect of different electronic payment instruments on Nigeria inflation rate. Time series data were sourced from Central Bank of Nigeria Statistical Bulletin from 2012 to 2021. Nigeria inflation rate was model as the function of automated teller machine, point of sales, web payment, mobile payment, Nigeria interbank payment and cheque payment. Ordinary least square was used as data analysis methods. The study found that 77.4 and 62 percent variation in inflation rate in Nigeria was explained by variation in electronic payment instruments. From the findings, the study concludes that automated teller machine has positive and significant effect on inflation rate in Nigeria, point of sales has positive and significant effect on inflation rate in Nigeria, web payment has positive but no significant effect on inflation rate in Nigeria, mobile payment has positive but no significant effect on inflation rate in Nigeria, Nigeria inter-bank payment has positive and significant effect on inflation rate in Nigeria while cheque payment has positive but no significant effect on Nigeria inflation rate. the study therefore recommend that, the regulatory authorities should ensure that the application of electronic payment instruments such as Automated Teller machine and point of sales regulated to achieve price stability and low inflation and that the application of electronic payment statistics should be harmonized with the monetary policy objectives of achieving low inflation and policies should be guided to reduce the amount of electronic payment transactions.

Keywords: *Electronic Payment, Inflation Rate, Automated Teller Machine, Point Of Sales, Web Payment, Mobile Payment*

INTRODUCTION

The opinion that inflation is a monetary phenomenon could be traced to the classical theory of inflation. In the monetary theory of inflation, inflation is said to be driven by the excess of money supply over its demand, where at equilibrium real money supply equals real money demand. The Monetarists affirm that money plays an active role by leading to changes in income and prices. The argument is that changes in income and prices in an economy are mainly driven by the changes in money stocks. And because money supply exerts an upward pressure on prices inflation is seen as always and everywhere a monetary phenomenon (Mbutor, 2013). A sustained

increase in the rate of money supply growth leads to inflation. Monetarists argued that decreasing money supply increases nominal interest rates which in turn slow aggregate demand and rein in inflation. Monetary authorities, central banks for most countries, face a more difficult challenge with respect to fighting inflation. They generally assume that excess growth in money supply is on the roots of wayward price developments so that that all potent tools halt the growth in money supply is capable of fixing inflation.

The emergence of e-commerce created new financial needs that cannot be effectively fulfilled by the traditional payment systems. Broadly electronic payment systems can be classified into four categories: Online Credit Card Payment System, Online Electronic Cash System, Electronic Cheque System and Smart Cards based Electronic Payment System. Each payment system has its advantages and disadvantages for the customers and merchants. Electronic payment system is a way of making transactions or paying for goods and services through an electronic medium without the use of check or cash. It's also called an electronic payment system or online payment system. The electronic payment system has grown increasingly over the last decades due to the widely spread use of internet-based banking and shopping. As the world advance more on technology development, a lot of electronic payment systems and payment processing devices have been developed to increase, improve and provide secure e-payment transactions while decreasing the percentage of check and cash transaction.

E-payment economy does not mean an outright elimination of cash transactions in the economic setting but one in which the amount of cash-based transactions is kept to the barest minimum (Afaha, 2019). The introduction of e-payment systems has provided a medium through which money circulates conveniently. Onyeagba (2015) stated that cashless system of payments and instruments contribute significantly to the broader effectiveness and stability of the financial system. For example, in South Africa and Kenya small electronic payment systems have been introduced and adopted by millions of Kenyans and hundreds of thousands of South Africans. The introduction of these platforms has provided a cheaper alternative for low-income families to carry out transactions. This has eliminated the cost of travel and bank charges for these users and low-income families (Akintaro, 2012). E-payment is therefore seen as an integral aspect of a cashless economy.

E-payment is expected to have a significant negative relationship with cash in circulation; as the use of e-payment products increase, cash-in-circulation reduces. The logic being that the more the transactions are carried out electronically, the less physical cash in circulation will be involved (Eze & Nwankwo, 2012). However, the easy access to money has the capacity of increasing the challenges facing the monetary authorities in managing excess money in circulation. The effect of electronic payment system is has well been studied, Oyewole et al (2013) examined e-payment systems and economic growth in Nigeria, Afaha (2019) studied the relationship between electronic payment systems and economic growth using monthly data covering the period of 2012 to 2017, Mamudu and Gayovwi (2019) studied cashless policy and its impact on the Nigerian economy using quaterly time-series data while Ravikumar et al. (2019) studied the impact of digital payments on economic growth in India. This study examined the effect of electronic payment system on Nigeria inflation rate.

REVIEW OF RELATED LITERATURE

Electronic Payment System

E-Payment systems refer to the automated processes of exchanging monetary value among parties in business transactions and transmitting this value over the ICT networks (Nnaka, 2009 as cited in (Ayo and Ukpere, 2012). In the Nigeria, e-payment is effecting payment from one end to another end through the medium of the computer without manual intervention beyond inputting payment data; it is the ability to pay the suppliers, vendors and staff salaries electronically at the touch of a computer button (Asaolu et al, 2011). Electronic payment systems come in different forms, some of the e-payment systems related to this study are:

- i. Internet/Web is type of e-payment system involves transactions carried out over the Internet. It is a simple way of paying for online purchases directly from the customer's bank. It also offers the possibility of enjoying banking services from their homes or offices.
- ii. Mobile Banking is one of the latest ways of making payments through mobile phones. This involves sending a payment request through a text message (USSD) or banks mobile application. Mobile banking reduces the time and stress of using the credit card or cash as account details are already linked with the banks software.
- iii. Automated Teller Machines (ATM) is an electronic banking outlet which allows members to complete transactions without the assistance of a member service representative or teller. Anyone with a credit card or debit card can access an ATM as long as they are all on the same network. An ATM communicates through the ATM network so members can access their account information.
- iv. Point of Sales (POS) Terminals is a terminal that enables buyers make payments using payment cards such as (Visa, MasterCard, verve) issued to them by any bank in or outside Nigeria directly into other accounts.

Automatic Teller Machine

ATMs are the most commonly used bank innovation in recent times. Almost all the universal banks in Ghana have this facility available for their customers. On most contemporary ATM, the clients is identified after inserting a plastic ATM card with a magnetic stripe or a plastic smart card with a chip, that contains a unique card number and some security data, such as cessation date and personal identification number (PIN), join computer terminals accounting records and the cash vault in one unit, allowing clients to go into the bank's record keeping system with a plastic card containing a personal identification number (PIN) or by punching a special code number into the computer terminal linked to the bank's computerized records 24 hours a day. Once entrance is attained, it grants a lot of retail banking services to clients.

ATMs are generally situated outside of the banks halls, and could also be located at filling stations, airports mall, supermarkets and places far from the branches of a bank. They were established initially to work as cash generating or dispensing devices. However, because of advancement in technology ATMs are capable of offering a variety of banking services, for

example withdrawing cash, cash transfers from one account to another and bill payments, checking account balances, making deposit and printing account statement. Banks use the ATM as well as other innovative products to achieve competitive advantage, because it has the effect of cost reduction and depicts an image of a strong bank.

Electronic Fund Transfer at Point Of Sale

An EFTPOS is an on-line arrangement that enables clients to transfer funds directly from their bank accounts to a merchant's accounts after making purchases (at purchase points). An EFTPOS employ a debit card to start an electronic fund transfer process, (Chorafas, 1988), improved banking efficiency resulting from the use of EFTPOS to service clients shopping payment conditions as an alternative to the bookkeeping duties in handling cheques and cash withdrawals for purchases. Also, the system remained operational even after regular banking hours; therefore, the bank continues to achieve efficiency even after normal banking hours. It also saves clients time and energy in travelling to branches or ATMs for cash withdrawals which can be exploited into other productive services.

EFTS is an application of advanced computer and communication technology in effecting payment. It is a communication network which allows the faster movement of information from one location to another without any personal contact. Bank deposit balances can be transferred to any area by electronic impulses. This system reduces the use of cheque payments. With this system, the need for currency reduces and minimizes the production and destruction costs in the use of coin, notes and cheque payments. With this system, the problem of dud cheque risk on the part of both the bank and the customer is eliminated since the adequacy of a customer's checking account balances are made known to the payee prior to the transaction. It also benefits both the bank and customer by reducing float, quicker availability of credits to accounts.

Fierce, competition for consumer credits impersonalized banking service for individuals, greater velocity, and smaller necessary volume of demand deposits and centralization of account data. The use of EFTS has come about as a result of different kinds of problem associated with the payment mechanism. The transfer of money in particular has become increasingly expensive to operate especially as the tendency has been for transaction service to be pared at minimum. The cheque is very costly to handle because of its legality and the banks have therefore developed more economic methods of payment in keeping with modern requirement by using this system.

Mobile Payment

Essentially, Mobile Payment System introduced at the dawn of January 1, 2012 allows users to make payments with their GSM phones. It is a saving device and transfer system that turns GSM phone into a saving account platform, allowing owners to save money in it and also make transfers. The Point of Sale (POS) terminals are installed by businesses and connected to the Nigeria Inter Bank Settlement System for purposes of making payments during business transactions (Wikipedia2013). The study presented significant recommendation: availability of sufficient and well-functioning infrastructural facilities (notably Roads and Electricity), harmonization of fiscal and monetary policy, regular assessment of the performance of cashless banking channels (individually and collectively), consideration of the present state and structure of the economy, redesign of monetary policy framework and greater efforts towards economic

growth whilst managing inflation. In conclusion, the shift towards a cashless Ogun State seems to be beneficial though it comes with high level of concerns over security and management of cost savings resulting from its implementation.

Cheque

A cheque is a paper based payment instrument whose usages are still gaining ascendancy. The Automation focus on this instrument is to reduce the number of clearing days and improve on security arrangement in the course of settlement and collection. For example, in Nigeria the Central Bank of Nigeria CBN has just embarked upon online clearing and Nigeria has signified interest and signed path to this project (Johnson, 2005). There is an expected surge in the use of cheque. However, encashment of third party cheque across the counter is prohibited and all cheque drawn in favour of any beneficiary other than the account owner presented through CBN clearing house.

The Card System

The card system is a unique electronic payment type. The smart cards are plastic devices with embedded integrated circuit being used for settlement of financial obligations. The power of cards lies in their sophistication and acceptability to store and manipulate data, and handles multiple applications on one card securely (Amedu, 2005). Depending on the sophistication, it can be used as a Credit Card, Debit Card and ATMs (Automatic Teller Machine). While the electronic card is gaining popularity in USA and Nigeria, the Spanish financial Institution demonstrated the highest implementation and update of smart cards across Europe (Amedu, 2005). The Smart Card was introduced into the Nigerian market to reduce or eliminate problems of carrying cash about (Amedu, 2005). It is electronically loaded with cash value and carried about like credit card and stores information on a microchip. The microchip contains a “purse” in which value is hold electronically. In addition, it also contains security programs; these protect transactions between one card user and the other. It can also be transferred directly to a retailer, merchant or other outlet to pay for goods and services, and like cash, transaction between individual without the needs for banks of the other third parties. Also, the system does not require central clearing. It is valued immediately. Also the system allows transfer of one value to the other hence it operates like cash.

Point of Sale Terminals

Point of Sale terminals are deployed to merchant locations where users slot their electronic cards through POS in order to make payments for purchases or services instead of using raw cash. As the POS terminals are online real-time, the customer’s bank account is debited immediately for value of purchases made or services enjoyed. There are indeed alternatives to handling or transacting cash for transfers and for payments of goods and services purchased. These include: ATMs, mobile banking/ payments which can be done through the use of mobile phones for balance enquiry, fund transfer, bills payment, internet banking which can be used for instant balance enquiries, fund transfer, bills payment and other transactions. Most banks require you to have a token device for internet banking services in order to give some security for customers banking application. Yet, other alternative includes Point of Sale(POS) terminals which allow merchants access to card payments for sale of products and services e.g recharge cards, bill

payments, lottery tickets etc and finally there is electronic fund transfer through which one can transfer money electronically from his account to other account. Some banks also offer an instant electronic fund transfer service. However, most of these e-payment channels require you to have an ATM/ Debit card (Oyetade & Ofoelue, 2012).

Theoretical Framework

Theory of Money (QTM), have propounded that the quantity of money is the main determinant of the price level, or the value of money, such that any change in the quantity of money produces an exactly direct and proportionate change in the price level. The QTM is traceable to Irving Fishers famous equation of exchange: $MV=PQ$, where M stands for the stock of money; V for velocity of circulation of money; Q is the volume of transactions which take place within the given period; while P stands for the general price level in the economy. Transforming the equation by substituting Y (total amount of goods and services exchanged for money) for Q, the equation of exchange becomes: $MV=PY$. The introduction of Y provides the linkage between the monetary and the real side of the economy. In this framework, however, P, V, and Y are endogenously determined within the system. The variable M is the policy variable, which is exogenously determined by the monetary authorities. The monetarists emphasize that any change in the quantity of money affects only the price level or the monetary side of the economy, with the real sector of the economy totally insulated. This indicates that changes in the supply of money do not affect the real output of goods and services, but their values or the prices at which they are exchanged only. An essential feature of the monetarists' model is its focus on the long-run supply-side properties of the economy as opposed to short-run dynamics (Dornbush, et al, 1996).

The Keynesian opposed the monetarists' view of direct and proportional relationship between the quantity of money and prices. According to this school, the relationship between changes in the quantity of money and prices is non-proportional and indirect, through the rate of interest. The strength of the Keynesian theory is its integration of monetary theory on the one hand and the theory of output and employment through the rate of interest on the other hand. Thus, when the quantity of money increase, the rate of interest falls, leading to an increase in the volume of investment and aggregate demand, thereby raising output and employment (Dornbush, et al, 1996). In other words, the Keynesians see a link between the real and the monetary sectors of the economy an economic phenomenon that describes equilibrium in the goods and money market (IS-LM). Equally important about the Keynesian theory is that they examined the relationship between the quantity of money and prices both under unemployment and full employment situations. Accordingly, so long as there is unemployment, output and employment will change in the same proportion as the quantity of money, but there will be no change in prices. At full employment, however, changes in the quantity of money will induce a proportional change in price. The neo-Keynesian theoretical exposition combines both aggregate demand and aggregate supply. It assumes a Keynesian view on the short-run and a classical view in the long-run.

The simplistic approach is to consider changes in public expenditure or the nominal money supply and assume that expected inflation is zero. As a result, aggregate demand increases with real money balances and, therefore, decreases with the price level. The neo-Keynesian theory focuses on productivity, because, declining productivity signals diminishing returns to scale and, consequently, induces inflationary pressures, resulting mainly from over-heating of the economy

and widening output gap. But by and large, the theories outlined above by various schools of thought in economics provide a better understanding of the position of inflation as a macroeconomic variable in the mainstream economic thought and its effect on the overall performance of the economy. Among all the theories, the monetarist theory is adopted because its proposition fairly satisfied the realities of the projected causes of inflationary pressure in Nigeria.

Empirical Review

Oyewole et al (2013) examined e-payment systems and economic growth in Nigeria over the period 2005 to 2012. They used the Ordinary Least Square (OLS) technique and Two-stage Least Squares (2SLS) regression analysis technique. The result showed a significant positive relationship between e-payment system and economic growth in terms of real GDP per capita. Afaha (2019) studied the relationship between electronic payment systems and economic growth using monthly data covering the period of 2012 to 2017. The Autoregressive Distributed Lagged Regression (ADLR) method was used in the analysis. The results indicate a significant positive relationship between electronic payment system and economic growth in terms of real gross domestic product (GDP) growth. The study suggests efforts be made to design or improve on the internet security framework to check online fraud, adequate legislation on all aspects of the operations of e-banking and cashless operations as well as an increase in public enlightenment and awareness programmes to entice the unbanked people in the banking systems and thereby double the real GDP growth.

Tee and Ong (2016) examined the impact of cashless payment on economic growth in five European Union (EU) countries namely Austria, Belgium, France, Germany and Portugal for the period of 2000 to 2012. They used the Pedroni residual cointegration and Panel vector error correction model (VECM). The results showed that in the long run there is significant effect of adopting cashless payment on the economy of the five European countries. It was concluded that the impact of adopting cashless payment on economic growth can only be significantly observed in the long run. Therefore, inferring that policy that promotes cashless payment will not have an immediate effect on the economy.

Mamudu and Gayovwi (2019) studied cashless policy and its impact on the Nigerian economy using quarterly time-series data over the period 2011(Q1-Q4) to 2017(Q1-Q4). The variables used are Automated Teller Machine Payment Value (ATMV), Web/Internet Transfers Payment Value, Mobile Payment value (MPV), National Electronic Funds Transfer Value (NEFTV), Point of Sale Value (POSV) and Cheques Cleared Value (CHEV). They used the Ordinary Least Square (OLS) regression technique, Johansen Co-integration test and Error correction model. The results show the use of cashless policy instruments has a positive and significant impact on Gross Domestic Product in Nigeria. The Johansen cointegration test shows that a long run relationship exists between the variables while in the short run regression results also show the use of these non-cash instruments have a significant and positive effect on Gross Domestic Product in Nigeria.

Yusuf (2016) examined cash-less policy and economic growth in Nigeria over the period 2008 to 2015. Making use of the Ordinary Least Square (OLS) technique, the result shows that POS,

web and mobile payments have a positive and significant impact on economic growth in Nigeria. The study concludes the adoption of non-cash payment by customers will contribute to reduced inflation rate, increase in foreign direct investment, increase in government revenue and a fall in unemployment levels, all which contribute to the growth in Nigeria.

Ravikumar et al. (2019) studied the impact of digital payments on economic growth in India from the period of 2011 to 2019. The study used Ordinary Least Square (OLS) regression, Auto-Regressive Distributed Lag (ARDL) co-integration approach. The result indicates that digital payments impact economic growth significantly in the short run but have no effect on economic growth in the long run. Hasan et al. (2012) examined the relationship between retail payments and economic growth using data from across 27 different European markets over the period 1995 to 2009. The results reveal that migration from paper to electronic retail payments stimulates overall economic growth and has a positive effect on the real economy. They support the adoption of policies geared towards a swift migration to efficient and harmonized electronic payment instruments. Zandi (2016) examined the impact of electronic payment on economic growth using macroeconomic data for 70 countries between 2011 and 2015. The findings reveal that electronic payment have a positive impact on economic growth, through an increase in per capita consumption from the use of card for payments.

Muyiwa et al. (2013) evaluated the impact of cashless economy in Nigeria. The study was carried out using accidental sampling method. A total of 500 students, traders and 19 civil servants were sample. Questionnaires were used as the data collection instrument using descriptive statistical technique. The findings reveal that 33.3% believed that cashless policy will attract more foreign investors into the country and reduce cash related corruption, while 11.1% believe that it will increase employment and 22%, reduce cash related robbery, which all have an effect on consumption and consequently economic growth. The study concluded that the transition towards a cashless economy was a step in the right direction with the expectation that its impact will be felt in modernization of Nigerian payment systems, reduction in the cost of banking services as well as reduction in high security and safety risk.

METHODOLOGY

This study adopted descriptive research design and this involves the collection of data from the publications of Central Bank of Nigeria.

Model Specification

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6) \quad (1)$$

This are represented as

$$IFR = F(ATM, POS, WP, MP, NIP, CH)$$

The linear function will then be converted into an econometric function as thus;

$$IFR = \beta_0 + \beta_1 ATM + \beta_2 POS + \beta_3 WP + \beta_4 MP + \beta_5 NIP + \beta_6 CH + \mu \quad (2)$$

Where:

IFR = Inflation rate

ATM = Value of ATM Transaction to broad money supply

POS = Value of POS Transaction to broad money supply

WP = Value of WP Transaction to broad money supply

MP = Value of MP Transaction to broad money supply

NIP = Value of NIP Transaction to broad money supply

CH = Value of CH Transaction to broad money supply

β_0 = the intercept, the value of y when the independent variables assume zero as value.

β_1 – β_6 = coefficient of the independent variables or parameters

μ = stochastic variable/error term

The A-priori Expectation

The expectation of the result is proposed as the variables have positive impact on inflation rate.

This is represented as $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6 > 0$

Techniques of Data Analysis

The technique used for the study is regression analysis to test if electronic payment system has any impact on inflation rate in Nigeria. The descriptive and inferential statistics was employed in this study. The descriptive statistics was to take care of the tables and figures while the inferential statistics was analyzed using Econometrics View 12.0. The following statistical techniques used in testing significance of the variables and models are;

- i. Student T-test: the t-test will test the individual contribution of each explanatory variables and their significance for each formulated hypotheses.
- ii. F-test: the F-test at 1% or 5% level significance will used to test each models.
- iii. R: the coefficient of multiple regressions, explaining the level of relationship between the variables.
- iv. R^2 : the coefficient of determination, which shows the extent the variations in the independent variables have been able to explain the total variable in the each dependent variable.
- v. AdjR2: the adjusted coefficient of multiple determinations to test the model as a whole.
- vi. Durbin Watson: the DW will test the level of autocorrelation among the variables in each of the models.

RESULTS AND DISCUSSION

Table 1: Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(IFR(-1))	0.385750	0.089985	1.952941	0.0423
D(ATM(-1))	0.911262	0.029696	2.379225	0.0051
D(POS(-1))	0.906447	0.025302	2.954806	0.0093
D(WP(-1))	0.011635	0.042730	0.272303	0.7858
D(MP(-1))	0.033804	0.065343	0.517322	0.6058
D(NIP(-1))	0.924672	0.027585	2.894411	0.0027
D(CH(-1))	0.016080	0.026264	0.612232	0.5414
C	0.189661	0.084788	2.236888	0.0269

ECM(-1)	0.268502	0.073305	3.662810	0.0004
R-squared	0.774460	Mean dependent var		0.174626
Adjusted R-squared	0.620228	S.D. dependent var		1.068497
S.E. of regression	1.002210	Akaike info criterion		2.907895
Sum squared resid	137.6062	Schwarz criterion		3.111325
Log likelihood	-203.7302	Hannan-Quinn criter.		2.990551
F-statistic	7.216889	Durbin-Watson stat		1.883667
Prob(F-statistic)	0.000041			

Source: E-view 12.0

The Utility Effect

The utility effect tested each variable separate from the other to ascertain the relationship and significance level of each independent variable to the dependent variable. Below is the discussion of results of each independent variable using the coefficients and p-value of the t-stat.

AMT: The coefficient of ATM is 0.906447, which shows 0.91 percent positive impacted on inflation rate in Nigeria. It revealed a significant relationship to inflation rate as the prob-value of the t-stat for is $0.0051 < 0.05$ critical level.

POS: The coefficient of POS is 0.911262, which shows 0.9 percent positive impacted on inflation rate in Nigeria. It revealed a significant relationship to inflation rate as the prob-value of the t-stat for is $0.0093 < 0.05$ critical level.

WP: The coefficient of WP is 0.011635, which shows 0.01 percent impacted on inflation rate in Nigeria. It revealed no significant relationship to inflation rate as the prob-value of the t-stat for is $0.7858 > 0.05$ critical level.

MP: The coefficient of MP is 0.033804, which shows 0.03 percent positive impacted on inflation rate in Nigeria. It revealed no significant relationship to inflation rate as the prob-value of the t-stat for is $0.7858 > 0.05$ critical level.

NIP: The coefficient of NIP is 0.924672, which shows 0.92 percent positive impacted on inflation rate in Nigeria. It revealed a significant relationship to inflation rate as the prob-value of the t-stat for is $0.0027 < 0.05$ critical level.

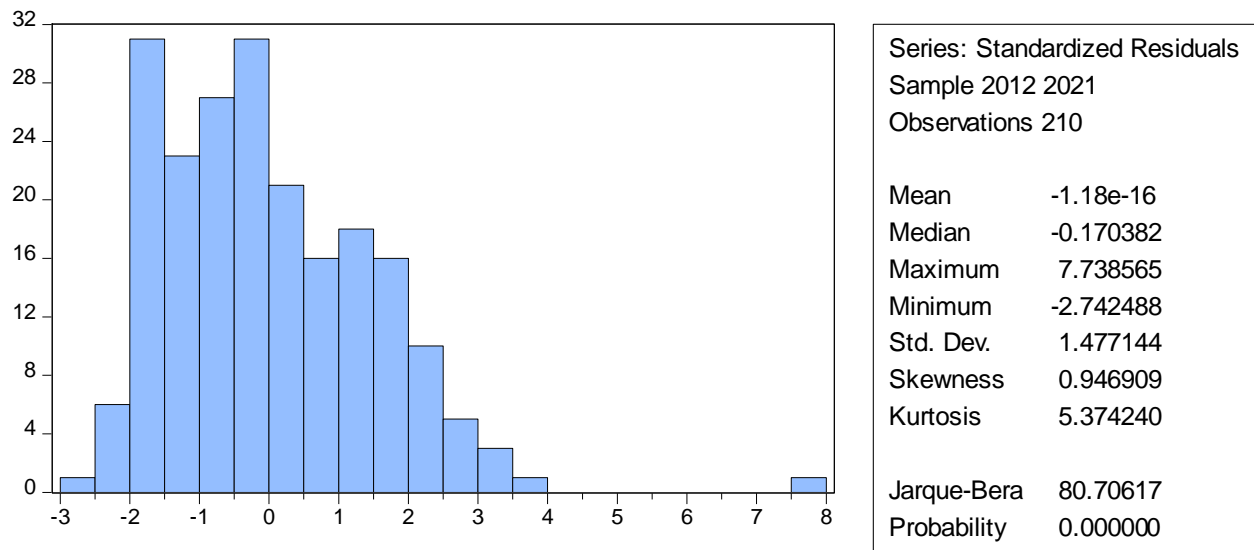
CH: The coefficient of CH is 0.016080, which shows 0.016 percent positive impacted on inflation rate in Nigeria. It revealed a significant relationship to inflation rate as the prob-value of the t-stat for is $0.0027 < 0.05$ critical level. The positive effect of the independent variables (electronic payment instruments) on inflation rate confirms our a-priori expectations and in line with the monetarist that inflation is a monetary problem.

The Global Effect

Global statistics tested the overall independent variables using the R^2 , Adj R^2 , Durbin Watson (DW) and F-statistics.

The parameter revealed that the coefficients of R^2 is 0.774 which is very high and revealed that the whole independent variables have 77.4 positive impact to inflation rate in Nigeria. More so the coefficients of Adjusted R^2 (Adjst R^2) is 0.620 which suggest that 62 percent of the independent variables could be explained by the changes in the dependent variable and the remaining 38 percent could not be explained due to some error in the system.

Durbin Watson test is 1.883667 this revealed that there is no serial autocorrelation in the series. The p-value of the F-stat is $0.000041 < 0.05$ which falls to the rule of thumb. We accept H_A and conclude that the whole independent variables are significant to inflation rate in Nigeria.



Source: E-view 12.0

The series distribution is normal as the p-value associated with JB- Jarque Bera statistics is 0.0 which is less than the critical value of 0.05. This has not violated the assumption of OLS, which states that the variables are independently and randomly distributed.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study looked at the effect of electronic payment instrument on inflation rate in Nigeria. The study adopted the ordinary least square methods from 2009-2021. The study found that 77.4 and 62 percent variation in inflation rate in Nigeria was explained by variation in electronic payment instruments. From the findings, the study concludes that automated teller machine has positive and significant effect on inflation rate in Nigeria, point of sales has positive and significant effect on inflation rate in Nigeria, web payment has positive but no significant effect on inflation rate in Nigeria, mobile payment has positive but no significant effect on inflation rate in Nigeria, Nigeria inter-bank payment has positive and significant effect on inflation rate in Nigeria while cheque payment has positive but no significant effect on Nigeria inflation rate.

Recommendations

1. The regulatory authorities should ensure that the application of electronic payment instruments such as Automated Teller machine and point of sales regulated to achieve price stability and low inflation.
2. The application of electronic payment statistics should be harmonized with the monetary policy objectives of achieving low inflation and policies should be guided to reduce the amount of electronic payment transactions.

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