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FINANCIAL TECHNOLOGY AND DEVELOPMENT OF DEPOSIT MONEY BANKS IN NIGERIA (2010 -2023)

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Abstract: The study sought to explore the impact of financial technology on the development of some selected deposit money banks in Nigeria from 2010 to 2023. Financial technology USSDV as the explanatory variables, while development is proxies by the ratio of CPS to GDP. The study covers the entire population in terms of digital operations in Nigerian financial institutions. It applied ARD and the choice of this study was premised on the fact that many scholars used different econometric techniques and choice of variables that led to divergent and variant regression results. Ex-post facto and analytical designs were used. Unit root test, correlation and parameter stability tests were applied to ensure that parameters to be estimated were not misleading. The result showed that; (i) Unstructured supplementary service data value (USSDV) have a negative and non-significant impact on deposit money bank in Nigeria. Based on the result, the study recommended that, government and other regulatory authorities, should take proactive steps in creating enabling environment by providing necessary online infrastructures and ensure that restrictive policies are relaxed in the ease of doing business, introduce legislation that promotes financial inclusion and implement cashless policy. These would also boost customers' confidence in adoption of financial technology.
Keywords: Financial technology, deposit, money, Nigeria, and economy.

Introduction

The early days of banking in Nigeria was characterized by paper to paper work with almost no automation. In recent times, it can be easily concluded that the Nigerian banking industry has undergone and still undergoing operational, legislative and technological changes (Oyewole& El-maude, 2013). There has been a gross change from the normal day to day withdrawal, deposits and cash payments to a more digitized payment system aside from the legislative changes in mandatory minimum capital, liquidity levels and reserves. The business of banking which has been basically defined as the acceptance of deposits and granting of money has always been done within the halls of the bank. But today, deposit acceptance and granting of money loans are consummated outside the halls of the bank with the platforms provided by financial technology (Eze & Egoro, 2016).

The term Financial Technology refers to software and other modern technologies used by businesses that provide automated and improved financial services (Adeku 2020). Such improved financial services are in the areas of payments, withdrawals, deposits and credits, remittances, funds transfers, balance enquiry, Airtime Top-Ups and even credit transactions (Ibekwe 2021). Hence, fFinancial technology has also been seen as an emerging financial services sector that is fast becoming indispensable to financial institutions, and is constantly impacting the way technologies support or enable banking and financial services.

Today, bank customers can send money to their family, friends or customers from the comfort of their bed without time restrictions. Electricity bills payments and subscriptions to television channels can now be made without paying a physical visit to the bank or taking cash to the office of the energy distribution company or television station. The streets are now clustered with people authorized by banks to carry on agent banking on their behalf. Therefore, obtaining cash for petty transactions is now at the doorsteps of the people.

The sudden spike in the financial technology enabled payments did not end with POS banking, Mobile banking, ATM banking or Internet banking. It also pervades into unstructured supplementary service data (USSD) banking and quick response (QR) banking. The USSD banking made it possible for bank customers without internet enabled devices to make and receive payments with their phones with use of codes. The QR code banking makes it easy for smart phone users to make payments by merely scanning the QR code provided by the merchant from whom he/she wants to purchase from. Today, the unavailability of bank branch in any particular location does not hinder banking services. These channels and many other upcoming digital channels have made banking seamless and without boundaries. The ever-evolving financial technology channels have won the heart of the management of most financial institutions in Nigeria (Oyewole& El-maude, 2013). This may be because of the comfort and convenience it provides for its customers.

The financial technology services are spearheading greater portion of the payment system globally and in Nigeria as well. In Nigeria today, financial technology services have diversified from basic money transfer and bill payments to credit, cross-border remittances, savings, bulk disbursements and other value-added services like pay-as-you-go utility bills, etc (Akinyomi, 2020). These recent changes in technologies have given the banking system in Nigeria a new shape. Aside from the ease of payment services, other developments within the system have appeared easier. Mergers and acquisitions have also become simple as the entire banking system run a uniform bank account number system. Tracking and transaction monitoring appears seamless with the aid of financial technology.

On the other hand, banks just like other financial institutions are predominantly profit-making organizations. In their bid to make profits, they are always faced with measures to maximize profits and minimize losses. This is usually accompanied with the challenge of keeping up with the competition in the industry. Hence, they adopt all measures within the regulatory purview to keep up with their day-to-day operations, remain competitive in the industry and at the end, make profits for the shareholders. In an attempt to make these profits, several processes and procedure are removed, reorganized or changed. These changes in modes of operation brought about the foundation of financial technology in Nigeria (Ukoh, 2019).

The financial technology in Nigeria however has been accompanied by enormous challenges ranging from regulatory challenges to financial crimes (Taiwo&Agwu, 2017). Financial technology appears to have created room for identity theft, unauthorized access to someone's funds, forgeries and difficulty in apprehending the criminal. Based on this background, the researcher wants to examine the impact of financial technology on development of deposit money banks in Nigeria.

Statement of the Problem:

According to the study by Radcliffe and Voorhees (2012), financial technology created an expansion of digital payment platforms that have offered the opportunity to link poor people with providers of savings, credit, and insurance products. In the same vein, Nyamongo and Ndirangu (2013), posited that financial technology has facilitated access for lower-salary individuals with deficient financial related services choices. All these benefits however are not without challenges.

Banks also incur huge costs in provision of USSD and mobile banking technology services. The USSD, just like the mobile banking services enables bank customers to make transactions such as bills payments, transfers, airtime purchases etc. On several occasions, customers make transfers to their relatives or friends only to notice that the recipient did not get value. There are also situations where customers purchase airtime with the use of USSD banking; their accounts debited while the airtime value is not credited to their phone number. While in some cases, it takes weeks or months to resolve this type of issue and in some, they are not resolved at all. This situation has led to nonchalant attitude towards use of USSD on the side of some customers thereby resulting in income losses to the banks.

Apart from issues of failures of transactions on the web, there are also issues of hacking of customers' accounts over the web. It is against this backdrop that this study is motivated to unravel the impact of financial technology on deposit money banks in Nigeria.

Conceptual Review

a. Concept of financial technology (Fintech)

Financial technology refers to the application of technology in modifying, enhancing, or automating financial services for businesses or consumers (Monyoncho, 2015). From this definition, "fintech company" therefore describes any business makes use of technology to modify, enhance, or automate financial services for businesses or consumers. Some examples include mobile banking, peer-to-peer payment services (e.g., Paga, Opay, CashApp), or trading platforms such as FXTN. It can also apply to the development and trading of cryptocurrencies (e.g., Bitcoin, Dogecoin, Ether) (Akani and Obiosa 2020).

In Nigeria, there exist several types of financial technologies driving the operations of the payment system. While some are individually owned organizations providing payment services through various technologies, others are institutions jointly owned by commercial banks which exist to facilitate payments, reconciliation and settlement issues among the banks using various technological approaches. Some of these institutions are discussed below:

Institutions driving Financial Technology in the Nigerian Banking System (NIBSS)

The Nigeria Inter-Bank Settlement System Plc (NIBSS) was set up by the decision of the Bankers Committee in 1992, as a Banking Industry Shared-Service, to help streamline inter-bank payments and settlement mechanisms, and to promote electronic payments in Nigeria. Incorporated in April 1993 it commenced operations on 13th June 1994.

NIBSS is owned by all licensed banks in Nigeria, and the Central Bank of Nigeria. The Board consists of representatives of banks, two Executive Directors and the Managing Director of NIBSS with Deputy Governor

(Operations), Central Bank of Nigeria, as the Chairman. The shareholding of NIBSS is periodically realigned based on the volume of payments from participant organisations.

The scope of operations of NIBSS in the Nigerian financial sector is such that fulfils its mandate as enshrined in the company's Memorandum and Articles of Association:

To carry on business as a service-oriented institution that provides the mechanism for same day clearing and settlement of inter-bank transfers and payments;

·To provide infrastructure for the automated processing and settlement of transactions between banks acting on their own account as regards deposit placements, Treasury Bills transactions, Naira settlement on interbank foreign exchange transactions;

·To initiate and develop an integrated nationwide network for the electronic or paperless payments, funds transfer and settlement of transactions.

·To provide framework for elevating the level of efficiency in funds transfer services generally NIBSS is responsible for the management and operation of much of the retail payments infrastructure, as well as offering some value-add services to payment systems participants.

b. Concept of Bank Development

The online dictionary explained development as an event constituting a new stage in a changing situation. The Nigerian banking industry has remained evolving with changes in policies and technologies. The changes in policies have been accompanied with adjustments of the minimum capital base, changes in permissible and non-permissible business activities and changes in prescribed mandatory reserves and liquidity ratios. Each of these changes are usually targeted at achieving a known objective while impacting on the banking system and by extension, the development of the banking system.

On the other hand, the changes in technologies include the introduction of the USSD, as channel for delivery of banking services. The online banking application has to do with the conduct of conventional banking activities on the Internet. With this technology anyone can key into banking from any part of the world.

Theoretical Review

The study adopts the financial intermediation theory because it attempts to explain why banks established alternative banking practices. The creation of alternative banking techniques, such as digital banking, is thought to be a means of achieving sustainability, long-term growth, and liquidity maintenance. This theory was developed starting with the 60’s in the XX century by Gurley and Shaw (1960).

a. Technology Acceptance Theory (TAT)

The notion of technology acceptance was initially put forth by Davis, Bagozzi, and Warshaw in 1989.The deponents looked at the user's intention and the extent to which new technologies or information systems have been implemented and adopted. Based on their findings, they put out the Technology Acceptance Theory (TAT) and declared that a new technology is adopted according to its perceived utility and usability.

Technology's perceived utility indicates an individual's belief in the superiority of a particular new technology or information system in terms of output. How simple it is for someone to pick up the skills necessary to operate a new information system or technology is implied by the perceived ease of use of that technology (Scott & Davis, 2015). The TAT model has emphasized how a new technology's perceived ease of use directly affects how beneficial it is thought to be. Perceived utility and ease of use are influenced by external circumstances,

such as an individual's surroundings. Thus, perceived utility and perceived ease of use—two critical perceptual factors—form the foundation of Technology Acceptance Theory. The Technology Acceptance Theory is often utilized in IT-related research. Based on TAT theory, Liu and Arnett (2000) examined the crucial factors to create a successful website.

b. Agency Theory

Jensen and Meckling were the main proponents of agency theory (1976). Agency theory studies the relationships between a corporation and its agents. The central question of agency theory is whether there are adequate market mechanisms for agents to act in ways that maximise the value of a corporation in which ownership and control are segregated. Agency theory holds that a principle (P) gives permission to an agent (A) to carry out transactions and make decisions on the principal's behalf in order to maximise P's utility preferences.

P and A may have distinct objectives, differing abilities to assess A's performance, differing sets of knowledge pertinent to the managerial choices A must make on behalf of P, or varying levels of risk aversion. These factors may give rise to agency issues.

Principals' potential inability to completely or affordably supervise agents' behavior and the information behind it is the fundamental source of agency difficulties. Individual and institutional ownership in the commercial banking sector is diversifying at an increasing rate, and individual stockholders' dominance in the sector seems to be waning overall. If "agency problems" in the banking sector are real, these tendencies could make them worse. Retail businesses that have been hired by banks and granted permission by central banks to provide services to banks are known as agent banks. According to this hypothesis, issues could arise if there is poor management of the coordination between banks and digital platforms.

Empirical Review

Adebayo (2021) looked at ways of achieving double bottom line impact through innovation and entrepreneurship in fintech evolution in Nigeria. The main objective of his study was to examine how Fintech has driven innovations in Nigeria. Descriptive survey analysis was adopted as tool for the study. It was concluded from the research that Fintech's performance in Nigeria impacts on the ecosystem economically and socially in three broad dimensions: through stimulating economic activity, by creating a multiplier effect, and by driving progress towards development goals.

Ibekwe (2021) evaluated financial innovation and performance of deposit money banks in Nigeria. The main objective of her study was to investigate effect of financial innovation on performance of banks in Nigeria. The ordinary least square regression was used as tool for data analysis. The study showed that ATM, POS and mobile banking have both positive and significant effect on banks' return on assets. She concluded that financial innovation has positive effect on profitability of commercial banks.

Madugba, Egbide, Wozuru, Agburuga and Onwubiko (2021) made an examination of the effect of electronic banking on financial performance of deposit money banks in Nigeria. Their main objective was to find out how the use of ATM and POS has contributed to return on assets and the earnings per share of banks. Ordinary least square regression was used in analyzing the data obtained. Their study showed that ATM has a positive and significant effect on earnings per share and return on assets; Point of sale and NEFT have a significant effect on return on assets only, while web banking has an insignificant impact on both return on assets and earnings per

share. They finally concluded that electronic banking has significant effects on financial performance of deposit money banks in Nigeria.

Nigerian communications commission (NCC) (2021) made an analysis of emerging role of data and fintech in the development of digital economy. The aim of their study was to dissect emerging role of data and FinTech in the development of digital economy. Their research purpose was to use exploratory methodology to explore the emerging role of data and FinTech in the development of digital economy in Nigeria. From the result of their study, they observed that there is a huge information gap in the ecosystem. They added that the Chief Information Security Officers (CISOs) need to share information on emerging and existing threats so as to brainstorm and develop potent responses to these threats.

Abubakar (2020) made a critical examination of the effects of automated teller machine (ATM) on user satisfaction in Nigeria. His study focused on a branch of United Bank for Africa situated in Sokoto metropolis. The study adopted a cross-sectional survey design. An open-ended questionnaire was adopted as instrument for the study. The population of study constituted of customers of United Bank for Africa and other customers of other banks that came to use the banks' ATM. 100 respondents who are users of the ATM services were selected as sample for the study. The data was collected and was analyzed using multiple logistic regression analysis. The result showed that the ATM services has positive effect in terms of their perceived ease of use, transaction cost and service security. However, the study also showed that the impact of ATM services in terms of availability of money is positive but insignificant.

Adebisi and Uket (2020) appraised deposit money bank services and economic growth in Nigeria. Their study sought to examine the impact of banks' credit, deposit and interest rate on Nigeria's economic growth. The augmented dickey-fuller (ADF) unit root test and correlation were used as instruments for data analysis. From the result of the study, it was showed that the aggregate bank credit has insignificant short and long run effect on the economy. The study also showed insignificant effects of aggregate banks deposits on the Nigerian economic growth.

Adeku (2020) examined the prospects and challenges of technology innovation in the Nigerian banking system. The major objective of the study was to evaluate the pros and cons of technology innovations in the Nigerian banking system. Relevant data were obtained from bank customers and were analyzed using in-depth questionnaire analyses. The result of the study showed that banking is gradually moving away from the traditional "across the counter" system to a more digital system. It also showed that service quality, innovation, adoption, cybercrime have significant relationship with competitiveness of banks.

Knowledge gap

Most empirical works so far reviewed in this context failed to include USSD banking in their study as one the banking platforms needed to facilitate electronic transfers.The gap gave rise to an inconclusive evidence based results from the reviewed empirical works of other scholars on the impact of financial technology on the development of deposit money banks, therefore, the study included the USSD . The study therefore, used ARDL model as found to be different in this empirical contexts from 2010 to 2023.

Research Methodology and Model

a. Research Design

The research design adopted in this study is based on *ex post -facto* and analytical research design, as it fundamentally focused on examining the causal relationship and the effect of financial technology in area of USSD, mobile banking and internet banking services on development of deposit money banks in Nigeria. It is an existing data, as a result the examination starts after the fact has taken place (Neil, 2000). The failure of the researcher to influence these variables forms basic feature of ex-post facto research design hence, it flawlessly suits this research. Also, as described by Kerlinger (1973), the *ex-post facto* research design also called causal comparative research is used when the researcher intends to determine cause-effect relationship between the explanatory and explained variables with a view to establishing a causal link between them.

b. Nature and Source of Data

The data were retrieved from secondary sources. Secondary data being already processed and pooled, are easily found in statistical economic report of the sampled financial institutions in Nigeria. Thus, the data gathering is based on documentation technique and the required information on all the money deposit banks in Nigeria.

c. Population, Sample Size and Sample Techniques

The population of this study consists of all the deposit money banks in Nigeria which is about twenty-two. The total population of twenty-two deposit money banks are used as the sampled size, though these banks applied the use of USSD and others at different periods within the year under study (2010 –2023).

d. Specification of Model variables

We adopted and modified the model used on the works of Mallik, Tran &Twagirumukiza (2020) as they carried out a study on USSD digital wallet. The purpose of their study was on utilizing unstructured supplementary service data to develop a payment solution that bridges the gap between technologies and banking so as to provide financial inclusion to people without access to internet. They used their model to developed a web enabler in the form of application interface, a software that allows for banking to the um-banked.

The study applied ordinary least square regression model to access the impact of USSD on Nigerian economic growth. The model is written as:

CPS/GDP = f (USSD, INFL)

CPS/GDP: Ratio of private sector credit to gross domestic product (CPS/GDP) used as explained variable.

e. Description of Model Variables

The research takes into contemplation the universal variables that perhaps were used in measuring financial technology (FINTECH) although Choice and selection of variables is influenced by diverse researchers on financial technology, economic growth and financial development. Our model relationship in writing becomes the following alphabets, used to denote these respective variables:

Ratio of credit to private sector to GDP = CPS_GDP

Unstructured supplementary service data = USSD

Inflation = INFL

Explained Variables;

CPS/GDP: Credit to private sector ratio to GDP

CPS: Credit to private sector

Gross Domestic Product: The total value of goods and services produced per year in Nigeria, applied over the years under study expressed in naira value (₦)

Explanatory Variables:

The aim of our study is to critically examine the impact of financial technology on development of deposit money banks in Nigeria. Some relevant variables were selected based on the previous works of some scholars especially in this area of study.

Unstructured Supplementary Service Data (USSD)

A web enabler in the form of application interface, a software that allows for banking to the unbanked. This software did not serve the unbanked alone but also served the banked by connecting the people with their choices of payment services. The use of mobile phones and technological advancement across the world has also shaped the way banks offer their services as they sought to extend their services to their customers with internet and without internet access.

Control Variables;

It can be essentially not possible to account for all variables that may affect the result of your experiment. Therefore, it may be needful to make a control group. Control group is most likely to take into account some other variables that were omitted in the research specific objectives but may have influence on real sectors growth indicator: Inflation rate (INFLA): is measured as the percentage change in the consumer price index (Dima&Buthiena, 2016).

f. Techniques of Analysis

The aim of the study is to critically examine the impact of financial technology on development of deposit money banks in Nigeria. . In view of this, the study will carry out some preliminary tests like panel unit root test to ensure that the stochastic process is stationary if need be, since the study is of long term nature (14 years),Test of co-integration will be used to statistically express the equilibrium relationship with co-integrated variables sharing a common stochastic trend if stationary is not achieved at 1(0) or at 1(1) as the case may be, Johansen (1988) co-integration or Eagle ganja co-integration using bounds test could be applied. Vector Error correction model (VECM) or VAR as the case may be will be applied to test for long and short run causal effect. Correlation test will be carried out. Test for normality of error terms so as to determine the moments of residuals. Parameter stability and homoscedastic tests are essential for the study.

The auto regressive distributed lag model (ARDL) estimation of a dynamic panel data set will be adopted. The study choose ARDL simply because it controls for: (i) endogenuity of the lagged dependent variable in a dynamic panel model (where the explanatory variables are correlated with the error term).

Data Presentation, Analysis, and Findings

CPS/GDP = f (, USSDV, INFL)

a. Unit root test

Statement of Hypothesis

H_0: Series has a unit root

H_1:$H_{0\ is}$ not true

Decision: Reject the null hypothesis if the augmented Dickey-fuller statistic (ADF) is more negative than the critical value at 5% level of significance, otherwise accept the null.

Table 1: Unit root Table

Variables	ADF Start	Critical Value 5%	Order of Diff	P-Values	Decision
CPS/GDP	-6.708204	-1.948140	1(1)	0.0000	Reject null
INFL	-6.708204	-1.948140	1(1)	0.0000	Reject null
USSDV	-6.996621	-1.948140	1(1)	0.0000	Reject null

Source: Researchers computation

CPS/GDP = Ratio of credit to private sector to gross domestic product, INFL=inflation rate, , USSDV= unstructured supplementary service data value.

Table 1 displayed the outcome of the stationary series as tested. Our observations indicated that all the variables are stationary at difference order one 1(1), since the ADF values in absolute terms are more negative than the critical values at 5% level of significance. The probability value is less than 5% level of significance (0.0000), therefore all the series are said to be stationary at difference order one. Based on this outcome, Johansson co-integration is necessary so as to know if long run relationship exist among the variables.

b. Test for Co-integration

Statement of Hypothesis

H_0 : Series is not co-integrated

H_1 : H_0 is not true

Decision Criteria: Reject the null hypothesis if the Trace Stat is greater than 5% critical value, otherwise accept the null hypothesis or probability value is less than 5% level of significance.

Table 2:Johansson Co-integration Table

Date: 24/03/25 Time: 04:16				
Sample (adjusted): 3 46				
Included observations: 44 after adjustments				
Trend assumption: Linear deterministic trend				
Series: CPS_GDP ATMVV INFL MOBV OBAV POSV USSDV				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.971552	242.6137	125.6154	0.0000
At most 1	0.538654	85.98737	95.75366	0.1942
At most 2	0.416560	51.94868	69.81889	0.5517
At most 3	0.282141	28.24090	47.85613	0.8032

Table 2 comprise of 7 hypothesized variables .The “None” as indicated in the table above means that there is no co-integration but since it is marked (*) ,it simply means that there is evidence of co-integration. The 5% critical value is less than Trace stat for None(*) but At most 1,2,and 3 are not co-integrated (

125.6154,95.75366,69.81889,47.85613,) with corresponding Trace Statistic (242.6137, 85.98737, 51.94868, 28.24090,.The 5% critical values are (125.6154,95.75366,69.81889,47.85613,) are not greater than the trace statistic in absolute terms therefore there is evidence of one co-integration equation . These numerical values indicate evidence of one co-integrating equations, since the corresponding probability values are less than 5% critical values respectively. The study therefore conclude that long run relationship exist among the variables. The study therefore failed to accept the null hypothesis and state that any deviation experienced in the short run, can be corrected in the long run.

c. Error Correction Model

Table 3:ECM Table

ARDL Error Correction Regression				
Dependent Variable: D(CPS_GDP)				
Selected Model: ARDL(2, 2, 2, 2, 2, 2, 2)				
Case 2: Restricted Constant and No Trend				
Date: 24/03/25 Time: 04:44				
Sample: 1 48				
Included observations: 44				
ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(USSDV)	0.637688	0.394620	1.615955	0.1197
D(USSDV(-1))	0.409560	0.357435	1.145832	0.2636
CointEq(-1)*	-0.383764	0.066073	-5.808223	0.0000

Sources: Researchers computation

Table 3 explain the speed at which the variables can run to equilibrium in the long run, if there is evidence of deviation in the short run, since co-integration has been established in table 3.The coefficient value of (-0.383764) and probability value of T-stat (0.0000) show that any deviation that occurs in the short run take 38 % speed of adjustment to normal in the long run. This is significant at (0.0000) as indicated in the Table 3 since the probability value is less than 5% level of significance.

Test for Parameter Stability

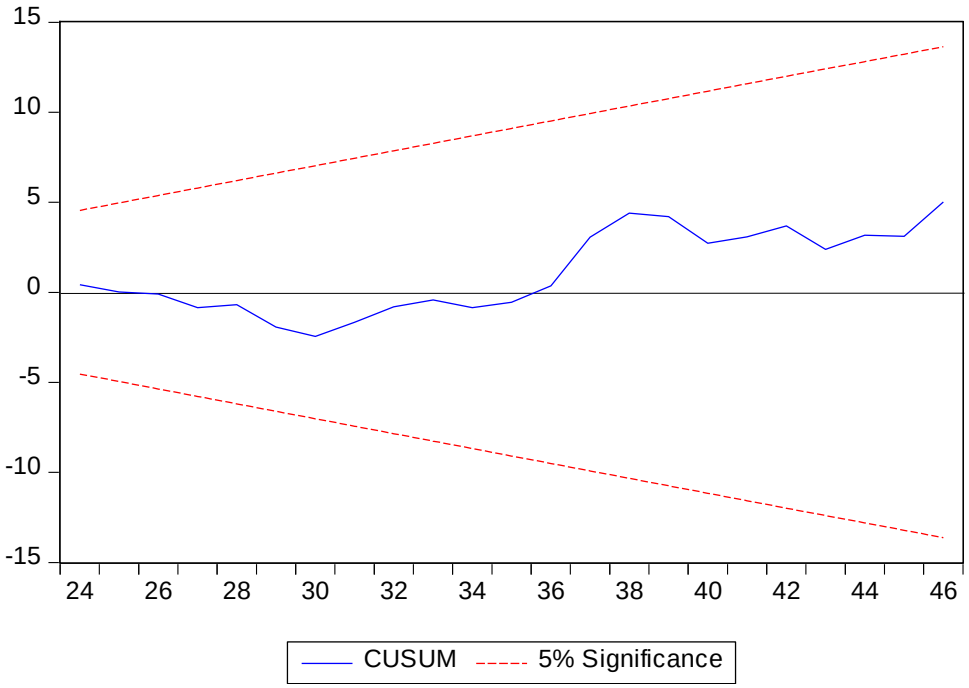

Figure 1: Parameter stability graph

Figure 1 displayed the graphical movement of all the parameters jointly tested using ARDL model. The blue line which represents CUSUM failed to cross the two red lines (5% significance) which means that estimated parameters are stable over the long period as there is no evidence of deviation over the period under study. This implied that from the point of origin or the base year of our study, to the end, we noticed that move in-between the 5% red lines.

Test of Hypothesis One

Statement of null hypothesis.

$H_{0:}$ (USSD) does not have Positive and significant impact on deposit money bank in Nigeria.

Decision Criteria: Accept the null hypothesis if the coefficient of the explanatory variables are not positively signed and the probability value of t-statistic is not less than 5% level of significance, otherwise reject the null hypothesis.

Auto Regressive Distributed Lag Model (ARDL)

$CPS/GDP_{T-1}= \beta_0+\beta_2 USSDV_{t-1}+INF_{t-1}+\mu_{t-1}$

Table 5: ARDL Table

Variables	Coefficients	t-statistics	P-Values	R-squared	DW-Start.	Pro(F-stat)
CPS/GDP						
USSD(1)	-0.204963	-0.956663	0.3389	0.53	1.84	0.0000
INFL	0.319617	3.395109	0.0007			

Source: Researchers computation

CPS/GDP = Ratio of credit to private sector to gross domestic product, INFL=inflation rate, sale USSDV= unstructured supplementary service data value

Table 5 showed the outcome of the (ARDL) where the coefficients of the explanatory variables are (0-0.204963) as obtained on USSD. Two coefficient values are not positively signed. This implied that there is evidence of

negative impact of the variable (USSD) mentioned. The corresponding probability values of all the explanatory variables are not less than 5% level of significance in absolute terms; however, our major interest is centered on USSD.

There is evidence of 53% level of explanation on the impact of the explanatory variable on the explained variable, leaving a balance of 47 % unexplained as a result of variables not accounted for or not included in the model. The Durbin Watson statistics (1.84) indicated an absence of serial correlation since it remained 0.16 to be 2. The probability value of F-statistic (0.0000) indicate that the overall regression is statistically significant since the value is less than 5% level of significance.

Decision: Evidence of a negative coefficient values of the explanatory variable (USSD) and its corresponding probability values (0.3389) not less than 5% level of significance. The study therefore failed to reject the null hypothesis. The study therefore state that unstructured supplementary service data value (USSDV) have a non-Positive and non-significant impact on deposit money bank in Nigeria.

Discussion and Interpretation of Results

Objective: Ascertain the effect of unstructured supplementary service data value (USSDV) on development of deposit money bank in Nigeria. Mallik, Tran &Twagirumukiza (2020) carried out a study on USSD digital wallet. The purpose of their study was on utilizing unstructured supplementary service data to develop a payment solution that bridges the gap between technologies and banking so as to provide financial inclusion to people without access to internet. They developed a web enabler in the form of application interface, a software that allows for banking to the um-banked. Their study observed that the software did not serve the um-banked alone but also served the banked by connecting the people with their choices of payment services.

We carried out unit root test where our variables are stationary at 1(1).This test gave rise to co-integration using Johansson test that gave long run relationship .This long run effect is in line with payment solution that bridges the gap as studied by Mallik, Tran &Twagirumukiza (2020) since it can take 50% speed to adjust itself if there is deviation in the long run.

Akinje & Abdulgalee (2021) made an examination of fraudulent detection model using machine learning techniques for unstructured supplementary service data. Their study was by the increase in the use of mobile phones and technological advancement across the world which has also shaped the way banks offer their services as banks sought to extend their services to their customers with internet and without internet access. Data for fraud committed by USSD was obtained and analyzed using Machine learning technique. Based on the result obtained, it was observed that two of the selected machine learning random forest and decision tree were seen as best fit for fraud detection in the model. Therefore, the machine learning algorithm was proposed as a medium for USSD fraud detection owing to its accuracy. We conducted an OLS test using USSDV as an independent variable and noticed that its coefficient is negatively signed and not significant too. In Nigeria where fraud and insecurity has been a challenge, some customers are not confident enough to use USSD because of its features until convincing security on its application is assured.

a. Finding

(i)Unstructured supplementary service data value (USSDV) have a negative and non-significant impact on deposit money bank in Nigeria.

b. **Conclusion**

This research work sought to determine the impact of financial technology (fintech) on development of deposit money bank in Nigeria for the period covering 2010 to 2023. Fintech has impacted the Nigerian banking industry significantly by using technology to innovatively redefine how customers transact banking business: however as a result of unsecured nature of USSD applied by users for transaction purposes, many are scared of engaging on huge transactions of high risk of payment confirmation.

c. **Recommendation**

There is need for appropriate risk control measures and regulatory support for adoption and implementation of cashless policy to support development in the banking industry in Nigeria.

Contribution to knowledge

The empirical works reviewed so far, there were limited research works on the impact of financial technology on development of deposit money banks in Nigeria. The techniques adopted by different scholar and the variables used especially the unstructured supplementary service data (USSD) used by different scholars are limited. However, this study has created awareness on the impact of fintech on deposit money banks development in Nigeria.

The findings of this work have added to the ongoing research on the impact of financial technology on development of deposit money banks in Nigeria by documenting that unstructured supplementary service data value (USSD) have a negative and non-significant impact on deposit money bank in Nigeria.

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