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Original Article

Digital Financial Innovative Products and Financial Inclusion in Rwanda

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Abstract - *The principal aim of the study was to explore the digital financial innovative products and financial inclusion in Rwanda from 2010 to 2020. The theories related to financial innovation and inclusion have been explained, such as the Technological Acceptance Model (TAM), Diffusion Innovation Theory (DIT) and Financial Innovation Model. The quantitative methods were used in this study as it involves the time series data. The study used ARDL as an econometrics technique due to the mixed results of the unit root test. The ARDL Cointegration test revealed the existence of the long-run relationship among the variables. The value of R-squared in ARDL ECM was .73, implying that independent variables could explain 73.0% of the financial inclusion in Rwanda. Some diagnostic tests were conducted, such as multicollinearity and normality tests, to ensure the model's correctness. The results indicated that all the independent variables (Mobile banking transactions, Personal remittances received, Automated teller machines (ATMs) (per 100,000 adults), and Internet banking transactions) have a significant positive effect on financial inclusion). So, the study concluded that innovative digital financial products positively impact financial inclusion in Rwanda. Due to this reason, some recommendations were provided to the government of Rwanda for improvement in financial inclusion in Rwanda. Some recommendations included allocating more resources for digital financial innovations and improvement of already existing channels of e-banking and platforms and infrastructures, initiating some rules and regulations which should promote financial innovation adoption as it boosts financial inclusion, to multiply campaigns for the acceptability of e-banking within the population and adopt some reforms, policies and programs that could accelerate the use of the internet, POS, ATMs especially in rural areas and for illiterate people.*

Keywords - *Financial institutions, Innovative products and financial inclusion.*

I. Introduction

Computerized innovation has been ingrained in people's daily lives worldwide, particularly in the delivery of service banks to members of numerous financial institutions. Digital financial services help address barriers and significantly contribute to economic growth and financial inclusion (ADB, 2016). Globally, digital banking has been recognized as a sufficient resource for promoting financial inclusion by reducing the price of services provision (ADB, 2016). The widespread use of mobile devices and the internet has influenced the development of new financial services and Banks, leading to the establishment of digital banking. The technological usage to perform banks' activities conveniently and smoothly is referred to as digital banking (Varda & Shubham, 2020).

Internet banking and electronic banking are used to describe digital banking. Furthermore, the introduction of electronic banking has converted the services of banks into competitive and efficient ones, giving them a rival edge (Alex, 2019). The technological evolution, products, operations, markets, and rival banks in Rwanda put pressure on financial institutions to use all available resources to stay competitive and gain an advantage (Uzikwambara et al., 2022). According to reports, the most common issues with using financial services in Rwanda are long queues, transaction mistakes, security issues, and network outages. It significantly lowers the customers' view of the service level, reducing the banks' trustworthiness. Many clients in financial institutions in Rwanda have wrong briefs and like to continue using traditional ways instead of adopting innovative digitalized techniques (Word Bank, 2019).

Furthermore, numerous commercial banks in Rwanda lack innovation, failing to consider internal and external factors that could lead to innovative products. As a result, they have lost sight of some customers and are consequently underperforming customer deposits. (Uzikwambara et al, 2022).

Then the link between emerging technologies through innovative financial products and financial inclusion in Rwanda needs to be explored. There is a need to determine whether innovative products contribute to financial inclusion in commercial banks in Rwanda. This research filled the gap by examining the impact of bank innovative financial inclusion products in Rwanda.

2. Review of Related Literature

The foreigners who send personal remittances persuade the beneficiaries to join the financial institutions that transfer the funds. This connection might develop demand for goods

such as deposits, loans, mortgages, and protection if this entity is a bank selling additional financial services (as opposed to a payment processing agency or unofficial channel that exclusively offers wire transfer services). In this way, the migrant's enhanced financial awareness can catalyze higher literacy on the receiving end. Around 10% of remittance payments are kept, invested and used for entrepreneurship development, according to estimates (Federwa and Orozco, 2005). Provided that a certain amount of money is invested, it shows that transfer receivers need additional monetary transactions.

According to Aker et al. (2016), online payment has created another aspect of cash payment. The increased cash transmission has resulted in a greater variety of diets and per day meals while saving time. With proper investment for the industry's growth in developing nations, automatic payment can play a critical role in addressing the logistical issues in cash transfers. The usage of mobile phones is required to speed up digital banking so that lower-income earners can profit from new technological innovations and obtain more formal financial services. This increase in financial services and reduced costs promote financial inclusion (Evans, 2018). Mobile phone usage is rapidly increasing, which is fueling the growth of mobile money services around the world (Lashitew, Tulder & Liasse, 2019)

In addition, the bank provides capitalization and return offers to mobile payment account holders. Aside from that, the customer of mobile banking services can connect the bank account to their mobile phone payments (Mas & Radcliffe, 2011). Mobile payment can be used for various tasks, including payment of fees, transfer of money and payment of utility bills, and purchasing goods and services (Demirguc-Kunt & Klapper, 2012). Financial products may be developed in rural areas with low operating costs, according to Rangarajan (2008), by utilizing appropriate technical assistance, like mobile banking. Mobile money refers to a cellphone service that allows unbalanced people unbanked people to get accessibility to a variety of financial products at lower costs.

It is a great choice, according to Mishra and Bisht (2013), for accelerating financial inclusion by integrating rural unbanked populations. The goal of this system is to make it easier for people who are unable to access formal financial services to participate (Della Peruta, 2018). Furthermore, the rising use and mobile money adoption in developing nations broadened the reach of financial inclusion (Ntayi & Bongomin, 2019). A fundamental purpose of mobile banking is to provide financial inclusivity to people who don't have access to the traditional banking system (Maurer, 2012).

Through all the advancements of digital telephone lines, mobile money usually has a greater influence on low-income countries (Roller & Waverman, 2001). This mobile payment financial system would regulate people's savings habits (Mbiti & Weil, 2013). Mobile phones, for example, have been utilized to promote financial services, and they have increased domestic savings (Were, Odongo & Ouma, 2017). As per Kwenda and Chinoda (2019), mobile payment improves access to financial services in 49 countries.

Aklhler and Khalily (2017) investigated the utility of mobile payments in Bangladesh and discovered they are advantageous. Restricted groups, such as low-income or micro-entrepreneurs, are heavily influenced by alleviating poverty and growth in a mobile financial sector. Mobile banking helps people to gain access to financial services—many developmental benefits of inclusivity in finance, like payments with mobile phones.

It has the potential to reduce transaction fees. It can aid in accumulating money while increasing spending (Jake, 2018). Evans (2018) demonstrates that online and smartphone phones substantially affect inclusivity in finance, and the rise in usage of mobile phones and advancement in internet usage likewise improve inclusivity in finance. Inclusivity in finance has a favorable effect on monetary stability as well. Likewise, 50% of the world's most prominent individuals don't have accessibility to financial institutions (Razvi & Tanveer, 2017). With a range of services, online payment can help people become more financially included.

Ene (2019) conducted a study pointing out internet banking and inclusion in finance in Nigeria. The study focused on POS and ATMs. The study indicated that ATMs don't have a statistical significance of financial inclusiveness in Nigeria. The study by Wanjiku (2020) focusing on commercial banks revealed that technology in banks enhances financial inclusion in Kenya. The covered variables were electronic, mobile banking, agency, and financial inclusion as the dependent variable.

Mashali (2020) analyzed the role of e-banking in market share development in emerging nations. The covered variables were mobile, POS and ATMs. The study revealed that ATMs positively impact the market share improvement in banks. In Palestine, Shihadeh (2021) explored the role of financial inclusion on banks' performance. The study revealed that ATMs adoption enhances the bank's performance.

In Nigeria, Ezekiel (2021) examined the role of ATMs on financial inclusion. The results indicated that ATMs significantly impact financial inclusion in commercial banks in the country. In Kenya, Isabwa (2021) examined the role of mobile banking on financial inclusions. The results indicated that mobile banking significantly impacts financial inclusion in Kenya's commercial banks.

Abdikarin et al. (2022), in Somalia, examined the impact of ATMs on Financial inclusion within commercial banks. Through a correlational analysis, the results indicated a strong positive correlation between ATMs and Financial inclusion.

3. Data, Methodology and Model Specification

The present research responded to the correlational research design since documents and reports provided data. Thus, it was based on quantitative methods. The nature of the study was analytical research. It seeks to explain the link between digital financial innovation and inclusivity in finance in Rwanda. This study concerned the whole country of Rwanda.

3.1. Data

This study used quarterly time series secondary data on the study variables for the period 2010 to 2020 in Rwanda. The data were collected from the National Bank of Rwanda. The researcher entered data into the statistical package E-views 12.0 to derive statistics for the data.

3.2. Methodology

The study used ARDL as an econometrics technique due to the mixed results of the unit root test. It is because some series were stationary at levels, but others were stationary after the first difference. The ARDL Cointegration test revealed the existence of the long-run relationship among the variables. ARDL ECM was also conducted to examine the short-run relationship and confirm the long-run relationship.

3.3. Model Specification

The econometrics methods were utilized in estimating the coefficients of the explanatory variables to determine the explanatory variables' influence on the explained variable. As the dependent variable (Financial inclusion) has many determinants, selecting some variables related to the topic has been necessary. The model specification has been in the general form as:

$$FI = f(R, M, I, AT \ldots\ldots\ldots\ldots) \quad (i)$$

This function has been converted into the econometric model; it was derived as:

$$FI = \beta_0+\beta_1 R+\beta_2 M+\beta_3 I+ \beta_4 AT+\mu_t \quad (ii)$$

Where:

FI = Financial inclusion expressed in terms of Bank deposits from the private sector

R = Personal Remittances received

M = Mobile banking transactions

I = Internet banking transactions

AT = Automated Teller Machines

μ = Error term and β= coefficients.

β_0 refers to the constant that indicates the level of Financial Inclusion, while the independent variables are zero.

$$\text{Log } FI = \beta_0+\beta_1 \log R+\beta_2 \log M+\beta_3 \log I+ \beta_4 \log AT+\mu_t \quad (iii)$$

The Log was introduced on all variables to make residuals normally distributed. It is an assumption of linearity. So, taking logs minimizes skewness and makes interpretation very meaningful.

4. Empirical Analysis

4.1. Unit Root Test

4.1.1. Stationarity Test at Level

The findings indicated that some series (Rand M) have been stationary at levels as their probabilities are less than 0.05. The critical values were greater than the test statistics for PP and ADF at the intercept, Intercept, and Trend. Testing the Stationarity at first difference was necessary as some variables were not stationary at levels (FI, AT and I). For this reason, conducting a unit root test at the first difference is essential.

Table 1. Test of Stationarity at Level

Variables	ADF			PP			Conclusion
	Test statistic	Prob	Critical Value	Test statistic	Prob	Critical Value	
Intercept							
FI	-2.500318	0.1430	-3.212696	-2.500318	0.1430	-3.212696	Not I(0)
AT	-2.649115	0.1198	-3.259808	-3.796647	0.0209	-3.212696	Not I(0)
R	-3.212696	0.0074	-1.081323	-3.212696	0.0074	-1.081323	I(0)
M	-3.212696	0.0022	-1.479004	-3.212696	0.0075	-1.360103	I(0)
I	0.478703	0.9750	-3.212696	2.059193	0.9992	-3.212696	Not I(0)
Intercept and Trend							
FI	-3.055556	0.1682	-4.008157	-3.124725	0.1545	-4.008157	Not I(0)
AT	-4.107833	0.0073	-5.842532	-5.201559	0.0112	-4.008157	Not I(0)
R	-4.107833	0.0050	-1.862297	-4.008157	0.0075	-2.053041	I(0)

M	-4.107833	0.0093	-1.690442	-4.008157	0.0058	-1.720644	I(0)
I	-4.107833	0.0279	-4.107833	-0.713735	0.9368	-4.008157	Not I(0)

Source: Author's calculations using E-views 12.0, 2022

4.1.2. Stationarity at First Difference

Table 2. Test of Stationarity at First Difference

Variables	**ADF**			**PP**			**Conclusion**
	Test statistic	**Prob**	**Critical Value**	**Test statistic**	**Prob**	**Critical Value**	
Intercept							
FI	-3.564075	0.0326	-3.259808	-3.888161	0.0207	-3.259808	I(1)
AT	-3.727016	0.0294	-3.320969	-4.747751	0.0065	-3.259808	I(1)
I	-6.133497	0.0018	-3.320969	-3.259808	0.0215	-2.208774	I(1)
Intercept and Trend							
FI	-2.959703	0.0012	-2.921125	-6.395886	0.0498	-2.943427	I(1)
AT	-7.780294	0.0000	-2.943427	-7.798530	0.0000	-2.943427	I(1)
I	-7.785537	0.0000	-3.536601	-7.801950	0.0000	- 3.536601	I(1)

Source: *Authors' calculations using E-views 12.0, 2022*

The findings indicated that some series (FI, AT and I) have been stationary after the first difference as their probabilities are less than 0.05, and the critical values were greater than test statistics for both PP and ADF at intercept and Intercept and Trend. As a matter of fact, the results of the unit root test are mixed. For this reason, the Autoregressive Distributed Lag Test of Cointegration was vital while examining the long-run association among the variables. In This way, the researcher adopted Auto-Regressive Distributed Lag (ARDL) techniques as the method of the co-integration test as it was the best appropriate due to the mixed unit root results. In this way, the researcher ignored Engle and Granger's (1987) methods and Johansen and Julius (1990) forms of co-integration.

4.2. Bound test

Table 3. Autoregressive Distributed Lag (ARDL) Bound test

F-Bounds Test	Null Hypothesis: No levels relationship			
Test Statistic	Value	Signif	I(0)	I(1)
		Asymptotic: n=1000		
F-statistic	64.39133	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Source: Author's calculations using E-views 12.0, 2022

The results illustrated that the F-statistic value (64.39133) is larger than the critical value of both lower and upper bound at 10%, 5%, 2,5,% and 1% levels of significance by using unrestricted intercept and no trend. This confirms the presence of a long-run relationship among FI, AT, R, I and M.

In the ARDL bound test, F statistics is 64.39133, which was greater than the critical values of both the lower and upper bound. The H0 was rejected at a 5% significance level; thus, co-integration exists for this equation. The researcher found a long-run co-integrated relationship between the dependent variable (FI) and independent variables (AT, R, I and M). In the long run, this implied that all independent and dependent variables didn't drift away from each other.

4.2.1. ARDL Long-run Model

The results from the ARDL long-run model indicated that there is a positive relationship between all independent variables and the dependent variable. This is due to the fact that all the coefficients are positive. The value of R-Squared (0.988) indicated that all the independent variables together cause variation in the dependent variable, 98.8%. The value of the F-statistic (0.000) indicated that the model is statistically significant. All the independent variable's coefficients are significant since their P-values are less than 5%. The following table provides more details about the ARDL long-run model

The long-run equation is the following:

$$FI = 7.180930 + 2.794558*AT + 6.51*M + 3.94*R + 2.4*I$$

Table 4. ARDL Long-run Model

Variable	Coefficient	Std.Error		t-Statistic	Prob.
C	7.180930	0.340860		21.06709	0.0000
LOG(AT)	2.794558	0.060586		13.11447	0.0000
LOG(M)	6.51E-07	4.62E-08		16.26924	0.0000
LOG(R)	3.94E-08	2.17E-09		13.55871	0.0000
LOG(I)	2.41E-07	2.32E-07		3.627346	0.0008
R-squared	0.988679		Mean dependent var		19.34330
Adjusted R- squared	0.987518		S.D. dependent var		3.486352
S.E. of regression	0.389512		Akaike info criterion		1.058799
Sum squared resid	5.917056		Schwarz criterion		1.261548
Log-likelihood	-18.29358		Hannan-Quinn criter.		1.133988
F-statistic	851.4613		Durbin-Watson stat		0.217968
Prob(F-statistic)	0.000000				

Source: Author's calculations using E-views 12.0, 2022

The long-run equation indicates that 1% increase in Automated Teller Machines (AT) leads to 2.7% increase in Financial Inclusion (FI). It is also clear that a 1% increase in Mobile Banking (M) leads to a 6.7% increase in Financial Inclusion. The equation indicates that 1% increase in Remittances (R) leads to 2.4% increase in Financial inclusion (FI) in Rwanda. It was clearly stated that a 1% increase in Internet Banking leads to a 0.2% increase in financial inclusion (FI) in Rwanda.

After proving the existence of the long-run relationship among the variables, it is necessary to conduct the Error Correction Model (ECM). This Error Correction Model (ECM) must strengthen the existence of the long-run association among the variables of the study. The following table indicates the results of the ARDL Error Correction Model (ECM).

4.2.2. ARDL Short-run Model

As shown in table 5, the value of the coefficient of the error correction term is significant, and it has a negative sign (-0.2075). This confirms that there is a co-integration relationship between the variables. About 20.75% with a statistical significance of one percent disequilibria from the previous year's shock converge back to the current year's long-run equilibrium. This implies that all independent variables (AT, M, R and I) significantly impact Rwandan Financial Inclusion in the short run. With an R-Squared of 0.73, it is evident that all independent variables together cause a variation of 73% to the dependent variable (CPI) in Short-run.

By substituting the Coefficients using the above findings, the ARDL Short run Equation is the following:

D(FI) = 0.090982+ 1.072254*AT + 4.02*M+3.23*R + 2.94*I - 0.207530μt

Table 5. ARDL Short-run Model

Error Correction	D(FI)	D(AT)	D(M)	D(R)	D(I)
ECT	-0.207530	-0.065802	386061.9	19134088	-133936.5
	(0.26122)	(0.13020)	(405880)	(4941871)	(42541.8)
	[-0.79446]	[-0.50540]	[0.95117]	[3.87183]	[-3.14835]
C	0.090982	0.008478	-216873.7	-10612476	103517.2
	(0.19534)	(0.09736)	(303517)	(3695536)	(31812.8)
	[0.46576]	[0.08707]	[-0.71453]	[-2.87170]	[3.25395]
R-squared	0.737004	0.771419	0.643578	0.734034	0.738079
Adj R- squared	0.637247	0.684716	0.508384	0.633150	0.638730
Sum sq. resids	1.847283	0.458910	4.46E+12	6.61E+14	4.90E+10
S.E. equation	0.252387	0.125795	392154.0	4774748.	41103.11
F-statistic	7.387999	8.897238	4.760386	7.276045	7.429126
Log-likelihood	5.370576	33.91922	-579.1336	-681.6107	-486.6552
Akaike AIC	0.323387	-1.069230	28.83579	33.83467	24.32464
Schwarz SC	0.824920	-0.567697	29.33732	34.33620	24.82618
Mean dependent	0.354353	0.055882	188536.5	4170751.	33478.65
S.D. dependent	0.419047	0.224034	559298.3	7883270.	68384.63

Source: Author's Calculations using E-views 12.0, 2022

The produced Short-run ARDL equation indicated that there is a positive short-run causality among the variables of the study. The following paragraphs provide more explanation of each and every variable.

The findings from Table 5 indicated that Automated Teller Machines positively influenced financial inclusion in Rwanda from 2010 to 2020. This was confirmed by the positive coefficient of Automated Teller Machines (AT). It means that due to the effectiveness of using ATMs, people are motivated to save their money in commercial banks as they withdraw their money anytime, in a simple way, and anywhere. As a matter of fact, it is very accurate to confirm that ATMs usage has a positive effect on financial inclusion in financial institutions in Rwanda.

The findings from Table 5 indicated that remittances positively influenced financial inclusion in Rwanda from 2010 to 2020. This was confirmed by the positive coefficient of remittances (R). The short-run model indicated that a 1% increase in Remittances leads to a 3.2% increase in financial inclusion in Rwanda. It means that due to international money transfers, people get money to save in financial institutions. This is because people cannot consume direct all the remittances received. They prefer to keep some portions in financial institutions.

The findings from Table 5 indicated that Mobile banking use positively influenced financial inclusion in Rwanda from 2010 to 2020. The positive coefficient of Mobile banking use confirmed this. The short-run model showed that a 1% increase in Mobile banking use leads to a 4.02% increase in financial inclusion in Rwanda. This implies that the more people use mobile banking, the more bank deposits increase in financial institutions in Rwanda.

The findings from Table 5 indicated that Internet banking positively influenced financial inclusion in Rwanda from 2010 to 2020. This was confirmed by the positive coefficient of Internet banking (I). The short-run model indicated that a 1% increase in Internet banking leads to a 2.9% increase in financial inclusion in Rwanda. This implies that people use the internet to save money in the financial institutions in Rwanda as time goes by. People share cash through the internet, and these transfers raise bank deposits during the study period.

4.7. Diagnostic Test

4.7.1. Normality Test

A normality test is utilized if a data set fits a normal distribution. Normality tests are used in statistics to examine whether a data set is well-modeled by a normal distribution and to calculate the likelihood that a variable underlying the data set is normally distributed since the test's normal distribution has a bell-shaped curve with a mean of 0, a standard deviation of 1, and a normal distribution.

H_0: The residuals are normally distributed

H_1: The residuals are not normally distributed

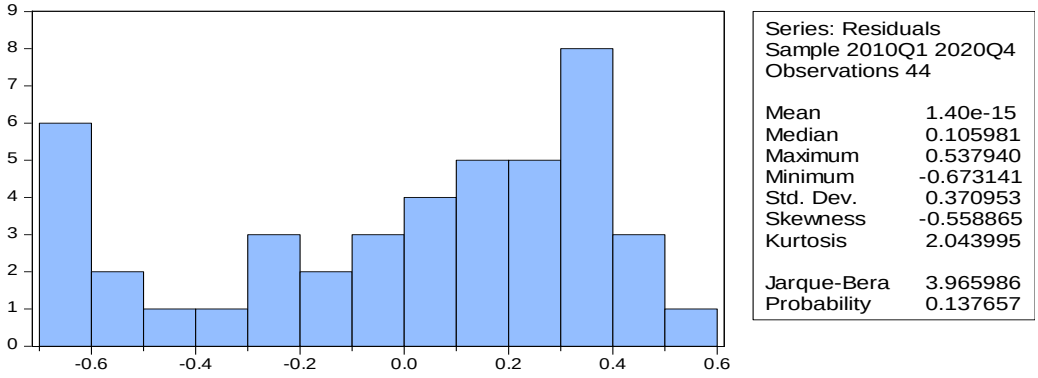

Fig. 1 Normality Test

Source: Author's illustration using E-views, 2022

The above results showed that Jacque-Bera Probability 0.137657, about 14% is greater than the 10% level of significance means that H_0 is not rejected means that the residuals are normally distributed, and H_1 is rejected. The researcher concluded that the model is good to be used.

4.7.2. Stability Test

The stability test provides evidence of how the dependent variable can change in time under the condition of change of the independent variable. The stability is said to occur if the cheap of the model does not cross the presented boarders.

H0: Existence of stability

H1: Absence of stability

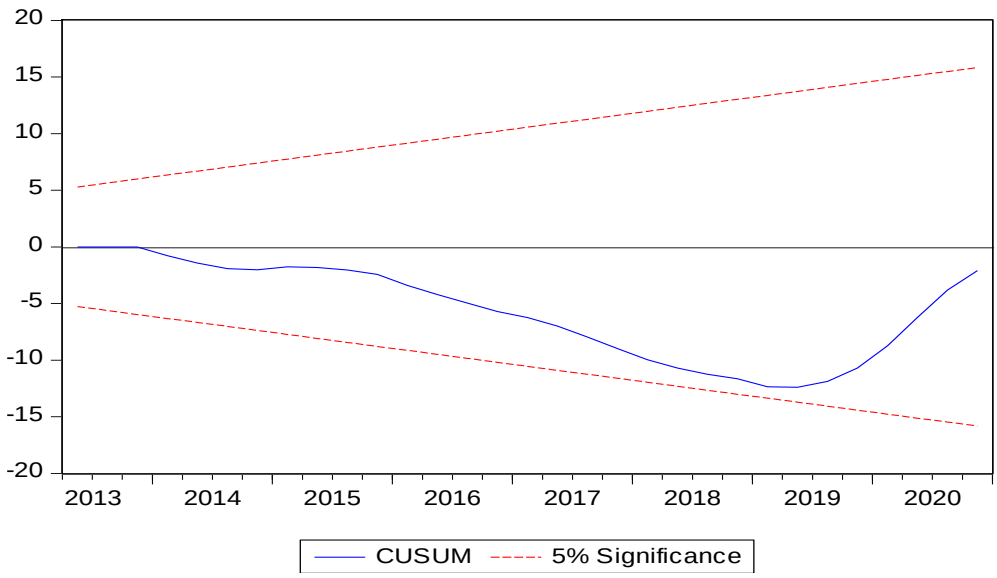

Fig. 2 Cusum Test

Source: Author's illustration using E-views, 2022

The above results show that the blue line representing CUSUM results does not cross the red lines that present the borders. This means that the null hypothesis is accepted, and the alternative hypothesis is rejected. Then, the researcher concluded that the model's parameters were stable at a 5% significance level.

4.7.3. Results for Other Diagnostic Tests

Table 6. Results for Other Diagnostic Tests

Tests	Methods used	Value obtained	Conclusion
Normality test	Jacque-Bera Probability	0.137657, about 14%	Residuals are normally distributed
Heteroskedasticity Test	Breusch-Pagan-Godfrey	0.6124	Presence of Homoskedasticity
Serial correlation test	BREUSCH- GODFREY SERIAL CORRELATION LM	0.1442	There is no serial correlation.
Multicollinearity test	VARIANCE INFLATION FACTORS (VIF)	For all the variables, the VIF is less than 10	Absence of multicollinearity among the independent variables of the study
Misspecification test	RAMSEY RESET TEST	Log likelihood ratio 0.1369 or about 14%	The model is specified.

Source: Author's illustration, 2022

5. Conclusion and Policy Recommendations

5.1. Summary of the Main Findings

Regarding the effect of Automatic Teller Machines on deposits in commercial banks, the results showed that automated teller machines have a beneficial impact on financial inclusion in Rwanda. During the study period, Rwanda's number of ATMs increased, which increased financial inclusion. The Automated Teller Machine (ATM) has a favorable impact on financial inclusion in Rwanda; the positive coefficient of automated teller machines served as evidence to support this Automated Teller Machines (AT).

Regarding the effects of mobile banking transactions on commercial bank deposits, the results showed that mobile banking transactions favourably impact Rwanda's financial inclusion. Financial inclusion in Rwanda has increased during the course of the study period as a result of the rise in mobile banking activities. Mobile banking transactions have a favorable impact on financial inclusion in Rwanda. The positive coefficient of Mobile banking use served as evidence for this.

Regarding the effects of personal remittances received on deposits in commercial banks, the results showed that receiving personal remittances benefited Rwanda's financial inclusion. Financial inclusion has increased in Rwanda over the research period as a result of the rise in personal remittances received there. The remittance inflow received has a favorable impact on financial inclusion in Rwanda. The positive remittances coefficient served as evidence for this

(R). This is because people save some of their earned remittances in financial institutions rather than using them immediately.

Regarding the effects of Internet banking on financial inclusion, the results showed that Internet Banking transactions favourably impact Rwanda's financial inclusion. Financial inclusion in Rwanda has increased during the study period as a result of the rise in internet banking transactions. Internet banking transactions have a favorable impact on financial inclusion in Rwanda, The favorable coefficient of Internet banking provided evidence for this (I).

5.2. Conclusion

The study sought to examine the effects of financial innovation products on financial inclusion in Rwanda. Quarterly Secondary data were used to estimate the effects of Automated Teller Machines, Mobile banking transactions, personal remittances received and internet banking transactions on financial deposits of the private sector in financial institutions. The analysis covered the period from 2010 to 2020. The outcome showed that these variables had a statistically significant effect on financial inclusion. This is in contrast with some studies done before. The policy lesson learnt from the findings is that continued sensible use of mobile banking transactions, Automated Teller Machines and personal remittance receipts via financial institutions as a policy tool can speed up financial inclusion in the country.

5.3. Recommendations

The senior managers of commercial banks in Rwanda are recommended to invest more in financial innovations products and improvement in terms of e-banking infrastructures and channels.

The makers of policies in Rwandan commercial banks should come up with some strategies and policies promoting the effective usage of channels of e-banking and platforms. The makers of policies in the Central Bank of Rwanda should develop some rules and regulations promoting financial innovations adoptions that boost financial inclusiveness. The Rwandan Central Bank should enlarge the campaign for e-banking acceptance among people in the country as it was identified as the crucial driver of financial inclusiveness.

The central Bank of Rwanda should promote the use of POS as the study pointed out that it has a significant role in promoting financial inclusion. The government of Rwanda should initiate policies, practices and programs that enhance the use of ATM, POS and internet banking in an effective way. It should be practiced mainly in rural areas and for illiterate

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