



Awareness and Understanding of eNaira in Nigeria

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Abstract: A central bank digital currency (CBDC), also known as a digital currency produced by the central bank, has recently attracted the attention of numerous major banks. A central bank digital currency (CBDC) is a liability of the central bank issuing it and is the digital representation of real money. The aim of the study is to evaluate the awareness, understanding, and receptiveness of the eNaira in Nigeria. The specific objectives are to examine the evolution and understanding of the eNaira and its impact on the Nigerian Emerging economy and to find out how the eNaira awareness will improve financial inclusion in Nigeria's emerging economy. A survey research design was adopted, and primary data was used for the study. The population of the study were 33 banks that joined the eNaira platform of the CBN, and ten banks that were actively involved in eNaira operations were used as the sample. One hundred twenty copies of the questionnaire were administered to respondents from the selected banks, and descriptive statistics were used to analyze the retrieved questionnaires. Regression analysis was used to test the hypothesis, and the result showed that the level of awareness, understanding, and receptiveness is low in Nigeria. It was concluded that the initiative has not yet progressed past the initial wave of early adopters regarding market receptivity, and the number of retail clients on board is less than 1% of active bank accounts. It was recommended that CBDC could be a catalyst in an economy like Nigeria, which is lagging behind in mobile money penetration. It would be crucial for banks to create their CBDC technology models to allow compatibility with other CBDC systems to enhance strong coordination and information sharing among central banks, which will be extremely helpful as they work together to maximize this new technical innovation.

Keywords: Awareness; understanding; receptiveness; enaira

JEL Classification: A10; A13; A23

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1. Introduction

Nigeria was among the nations that experienced a recession as a result of the recent COVID-19 outbreak. Private digital currencies saw a rise in popularity as a result of the pandemic, and many people used them as safe haven assets. This pattern prompted central banks all around the world to keep an eye on private digital currency developments and analyze their potential economic effects. A central bank digital currency (CBDC), also known as a digital currency produced by the central bank, has recently attracted the attention of numerous central banks. A central bank digital currency (CBDC) is the digital equivalent of actual money and is a liability of the central bank issuing it. 80% of central banks globally are apparently working on a CBDC, according to a BIS survey (Barontini and Holden, 2019). Only a few countries, such as Nigeria and the Bahamas, have issued CBDCs; other countries are now researching CBDCs to determine their economic benefits, potential risks, and appropriate applications. Governments distribute fiat money (such as paper notes) as legal tender through their national banks (apex banks), but electronic money (e-money) or digital currency is the same as fiat money in digital form (Ozili, 2021; Arias & Sánchez, 2016). Digital money behaves similarly to fiat money when purchasing goods and services online. Over time, the acceptance and appeal of digital or electronic currencies like Bitcoin, Ethereum, Ripple Price, Dogecoin, and many more have increased (Abiodun, 2021). Satoshi Nakamoto founded Bitcoin in 2008 and commenced operations in 2009 (Didenko & Buckley, 2018; Bissessar, 2016).

Since then, a lot more have emerged, and acceptance has increased both nationally and internationally. The rise and widespread use of cryptocurrencies can be attributed to the success stories of those who profited significantly from their investments both immediately and over the long run. Global governments and central banks (apex banks) are closely monitoring the development and issues with digital currencies (Said, 2019). Despite the fact that CBDCs can be used to accomplish a variety of goals, central banks must first identify an urgent economic need or issue that a CBDC can help to resolve, as well as the domestic macroeconomic and financial ramifications of doing so. Therefore, a crucial consideration for central banks is whether a CBDC can aid in resolving a nation's most pressing economic problems. With the launch of the eNaira by the Central Bank of Nigeria (CBN), Nigeria is at a critical juncture in the fast changing landscape of digital currencies and the use of financial technology (fintech). There is a substantial comprehension gap among Nigerians regarding the acceptance, awareness, and ramifications of the eNaira, despite the fact that it represents a promising step toward financial inclusion, efficiency, and innovation. Nigerians remain mostly unaware of the existence, features, and advantages of the eNaira despite the CBN's efforts to raise awareness of it. This lack of knowledge could prevent its wider adoption. There is a lack of knowledge of the eNaira's essential operations, benefits, and potential drawbacks

even among those who are aware of it. This knowledge gap could lead to skepticism or aversion to using the eNaira.

2. Literature Review

2.1. Conceptual Review

Digital currency refers to a compensation method, also a form of currency that occurs solely in electronic form. Central bank digital currencies (CBDCs), allotted and governed by a country's central Bank, have governmental backing. They are different from existing central bank-issued electronic money, which is limited to use by banks and select financial institutions. Bordo and Levin (2017) illustrate how CBDCs can reshape the financial system, enhance monetary policy transparency, and be a cost-effective source of exchange, a safe accumulation of value, and a reliable account unit.

A central bank digital currency (CBDC) allows all households and businesses to access electronic central bank money, serving as a straight responsibility of the Central Bank. Through the use of blockchain technology, CBDCs can be operated or exchanged. Blockchain, a decentralized system of computers, can securely record and verify transactions (Ahannaya et al., 2021). Nigeria's digital currency, scheduled to be launched on October 1, 2021, will be in the form of the Naira and similar to physical money. It is important to note that a government-issued digital currency is distinct from cryptocurrencies. Cryptocurrencies like Bitcoin are not widely accepted as legal tender in most countries and are not commonly used for everyday transactions. While they are often referred to as cryptocurrencies, they are more accurately labeled as digital assets or crypto-assets. Digital currencies lack physical characteristics and only exist in digital form. Digital currency transactions are carried out through computers or electronic wallets connected to the internet or particular networks. Physical currencies have tangible characteristics, such as banknotes and coins. Transactions with physical currencies are only possible when the currency is physically held by the individual (John, 2019). As a potential remedy for a number of policy problems, central banks are looking into the use of new technologies through the issuance of CBDC. The CBDC has already been fully implemented in some cases, such as with the Bahamas Sand Dollar, or it is either being studied, tested, or both. The Central Bank of Nigeria (CBN) began its journey toward the CBDC in 2017 by conducting in-depth research, consulting with stakeholders, identifying use cases, and concept testing in a sandbox environment. The CBN is now ready to officially launch Nigeria's CBDC after the necessary preparation work was completed. While the majority of central banks are on their CBDC journey, different jurisdictions have different goals, and a number of design choices can fit specific country preferences and have implications for interoperability and cross-

border payments. For instance, the US wants to determine whether CBDC can improve the payment system. The European Central Bank (ECB) has stressed how a digital euro may strengthen the digital economy while preserving European stability and sovereignty. The ECB, Bank of Japan, Bank of Canada, and Sveriges Riksbank emphasize the possibility of falling cash use and the necessity for effective, affordable, and low-risk CBDC designs that behave like money. Along with universal access, quick payment capabilities, and interoperability, Japan places a strong emphasis on the dependability and efficiency of payment and settlement systems as CBDC criteria.

Given our unique circumstance in this setting, the CBN must carefully consider how Nigeria's CBDC, the eNaira, would be founded and operated to fulfill the specific demands of Nigeria and Nigerians.

The COVID-19 pandemic put the world's payment systems to the test and exposed flaws, particularly in the way welfare incentives are distributed. Due to a lack of visibility and the inability of the current payment infrastructure to adapt to new and developing channels of value transfer, cash was sometimes transferred.

The eNaira gives the government an easy way to distribute direct payments to residents who qualify for particular welfare programs more quickly than through other channels. This makes sure that everyone is held accountable and that the correct people receive the funding. The Central Bank can act as a government representative and carry out eNaira transfers to impacted people and businesses when necessary, like during economic crises. Governments will be able to directly pay persons who need assistance for it thanks to the eNaira. This would ensure that the proper people receive support while lowering the expense of providing welfare benefits to citizens in need of such support. Remittances are a crucial source of foreign currency for sub-Saharan African nations, a source of funding for economically marginalized groups, and a potential catalyst for economic growth. Nigeria is a vital source of foreign currency, with US\$23.8 billion flying into the nation in 2019. Remittances into Nigeria, which is the top recipient of remittance flows, emphasize Nigeria's vital position in sub-Saharan Africa. Additionally, the nation was responsible for a 12.5% decrease in sub-Saharan flow in 2020 as a result of a 28% dip in 2020, which was brought on by the COVID-19 pandemic.

The CBN's "Naira 4 Dollar" initiative, which gave incentives to Nigerians by paying them NGN 5 for every US Dollar received through the remittance channel, highlighted the significance of the CBN's objective of boosting remittance flow. Even while it has increased remittance flows, the cost problem continues to be crucial. Sub-Saharan Africa continues to be the continent where sending money is most expensive. Sending \$200 costs between 8.2% and 19.6%, on average.

Remittance flows would increase and a secure, economical mechanism would be offered by the eNaira. As remittance costs will be incredibly low, it would also

decrease the amount of money moving through unofficial routes. Remittances will eventually become faster, more affordable, and more accessible thanks to the eNaira. All economies, including Nigeria's, depend on cross-border trade. The available foreign payment solutions might, however, be quicker and more affordable. The eNaira, which enables real-time cross-border foreign exchange payment-versus-payment transactions for traded products and services, can aid in streamlining this procedure and considerably shorten the amount of time required for transactions to be confirmed. Additionally, because Nigeria may now deal independently, there is less need for SWIFT international financial messaging and payment networks for clearing and settling trade.

Any sustainable payment system must demonstrate resilience, financial integrity, and ongoing innovation, and these characteristics describe the basic goals that monetary authorities are working to accomplish. With the eNaira, the CBN hopes to give consumers and companies the ability to send payments quickly, efficiently, and reliably while also gaining access to a robust, innovative, open, and competitive payment system.

In addition to achieving this primary goal, the eNaira will help the CBN achieve the important economic goals listed below, which will have a positive effect on national economic growth and provide substantial social and economic benefits for all Nigerians.

2.2. Theoretical Framework

The Mises Regression Theorem, which Ludwig Von Mises first put forth in his book "Theory of Money and Credit" in 1912, serves as the theoretical cornerstone of this work (Jeffrey, 2014). According to this theorem, money's worth can be drawn back to its commodity worth through regression. It posits that all money derives its buying power from an ancient connection to a commodity with value in barter exchanges. The theory suggests that the objective exchange worth of money can only be understood by tracing its value back to a commodity and no longer ascribed solely to its function as money (Jeffrey, 2014).

Mises's regression theorem addresses the circularity issue by explaining that individuals form expectations about the future purchasing power of money based on present and past observations of its purchasing power (Ahannaya et al., 2021). For the regression theorem to hold, a means of exchange must possess the characteristics required to be accepted and traded in the market, including having a price (Jeffrey, 2014).

The regression theorem serves as the theoretical foundation for this study, providing a framework to understand the origins and value of money, particularly its historical

connection to commodities and its character as a means of exchange (Ahannaya et al., 2021).

2.3. Empirical Review

Bordo and Levin (2017) provide evidence on how a central bank digital currency (CBDC) can transform the financial system significantly and progress monetary policy transparency. According to their findings, CBDCs can serve as a nearly costless means of exchange, a safe store of value, and a dependable unit of account, leading to various advantages. However, the authors emphasize that CBDCs must be designed as account-based and interest-bearing systems to enhance price stability effectively.

Ozili (2023) Therefore, the introduction of a central bank digital currency (CBDC) by a central bank will promote financial stability or, at the very least, the CBDC won't significantly endanger the stability of the financial system. A CBDC will only be issued by central banks if doing so interferes with their capacity to achieve their principal goals, such as preserving monetary stability, ensuring financial stability, and fostering price stability.

Ugwueze and Nwezeaku (2016). A study looked into the connection between Nigerian commercial banks' performance and electronic banking. Client deposits were used to gauge the effectiveness of commercial banking, while point-of-sale (POS) transactions served as a stand-in for electronic banking. The Engle-Granger co-integration model was used for the data analysis, which concentrated on the time period from January 2009 to December 2013. According to the study's findings, demand deposits and point-of-sale transactions are integrated together, indicating a strong correlation between electronic banking operations and the volume of demand deposits held by commercial banks. The lack of a co-integration between POS transactions and savings or time deposits, however, suggests that the relationship between electronic banking and these deposits is either weak or nonexistent.

Arogundade, Ahannaya, Oshinowo, Sanni, and Ogunwale (2021). The use of cryptocurrencies like Bitcoin and Ethereum for online transactions has seen a large rise and wide acceptance, according to a study on the economic impact of cryptocurrencies in Nigeria that used a regression model. The study's findings show that a sizeable portion of people have a strong belief in the legitimacy, security, and worth of Bitcoin as a form of money.

3. Methodology

A research design, in accordance with Grove and Gray (2013), is a procedure for conducting research that ensures the lowest possible level of bias in the results. The research design also includes a plan for ensuring that all of the study's components integrate logically and smoothly, as well as plans for acquiring, measuring, and analyzing data. For this study, a descriptive research approach was used since it enables the researcher to assess Nigerians' awareness and understanding of the e-naira. A cross-sectional field survey was used in the study to more efficiently collect information on the independent and dependent variables. The population of the study consist of the 33 banks that joined the CBN platform and 40% was the sampling frames which are 16 banks that had adopted and used CBDC. 12 respondents were selected from the 10 banks through convenience sampling method which makes the total sample size to be 120 people to find out the awareness and understanding of the e-naira in Nigeria. Online survey was used to collect the data from the respondents and descriptive statistics as well as inferential statistics were also used to analyze the data that was collected.

4. Data Presentation and Analysis

98 copies of the questionnaires collected out of the 120 that were distributed via an online survey was presented and analyzed with the percentage being 81.7%. The submitted data was analyzed using statistical package for social sciences (SPSS).

Table 4.1. Demographics of the Respondents

VARIABLES		FREQUENCY	PERCENTAGE (%)
GENDER	Male	39	39.8
	Female	59	60.2
	Total	98	100
AGE (YEARS)	18 but less than 30	36	36.7
	30 but less than 40	28	28.6
	40 but less than 50	15	15.3
	50 but less than 60	10	10.2
	60 and above	9	9.2
	Total	98	100
EDUCATIONAL QUALIFICATION	Bachelor's degree/HND	31	31.6
	Master's degree	11	11.2
	Doctorate degree	7	7.1
	Professional certificate	36	36.7
	OTHERS(ND,SSCE,etc)	13	13.4
	Total	98	100

INCOME BRACKET ANNUALLY (NAIRA)	Less than 50,000	15	15.3
	50,000 but less than 100,000	6	6.1
	100,000 but less than 300,000	21	21.4
	300,000 but less than 500,000	19	19.4
	500,000 but less than 1,000,000	23	23.5
	1,000,000 and above	14	14.3
	Total	98	100
YEARS OF EXPERIENCE IN BUSINESS	Less than 5 years	21	21.4
	5 years but less than 10	39	39.8
	10 years and above	38	38.8
	Total	98	100

Source: Field survey 2023

Table 4.1's data make it clear that male respondents made up 39.8% of the sample while female respondents made up 60.2%. According to the distribution of respondents by age groups, 36.7% were between the ages of 18 and under 30, 28.6% were between the ages of 30 and under 40, 15.3% were between the ages of 40 and under 50, 10.2% were between the ages of 50 and under 60, and 9.2% were over 60.

31.6% of the respondents had a bachelor's degree or HND, 11.2% had a master's degree, 7.1% had a doctorate degree, 36.7% held a professional certificate, and 13.4% had additional credentials such the SSCE, ND, or GCE.

Regarding the income bracket, 15.3% of respondents made income of less than 50,000, 6.1% made income of 50,000 but less than 100,000, 21.4% of the respondents made income of 100,000 but less than 300,000, 19.4% made income of 300,000 but less than 500,000, 23.5% made 500,000 but less than 1,000,000 and 14.3% made 1,000,000 and above.

21.4% of respondents reported having fewer than five years of work experience, 39.8% reported having between five and ten years, and 38.8% reported having 10 years or more.

Table 4.4. Awareness and Understanding of eNaira

Awareness	Measuring scales					TOTAL (%)
	SA(%) 5	A(%) 4	U(%) 3	D(%) 2	SD(%) 1	
Enaira exist	13 (13.3)	9 (9.2)	21 (21.4)	40 (40.8)	15 (15.3)	98 (100)
Enaira is a mode of exchange or an alternate currency	5 (5.1)	10 (10.2)	21 (21.4)	25 (25.5)	37 (37.8)	98 (100)

Enaira is a more attractive type of currency as compared to gold or silver	6 (6.1)	4 (4.1)	18 (18.4)	29 (29.6)	41 (41.8)	98 (100)
High level of participation in educational/training programs regarding the overall features of Enaira	9 (9.2)	11 (11.2)	38 (38.8)	29 (29.6)	11 (11.2)	98 (100)
Perceived ease of use						
Enaira is easy to understand	7 (7.1)	15 (15.4)	22 (22.4)	32 (32.7)	22 (22.4)	98 (100)
Interaction with Enaira is user friendly and effortless	7 (7.1)	9 (9.2)	32 (32.7)	21 (21.4)	29 (29.6)	98 (100)
Enaira functions are easy to remember	5 (5.1)	10 (10.2)	39 (39.8)	25 (25.5)	19 (19.4)	98 (100)
Enaira is easy to use	9 (9.2)	6 (6.1)	36 (36.7)	29 (29.6)	18 (18.4)	98 (100)
Attitude towards Enaira						
Using Enaira is a good idea	10 (10.2)	15 (15.3)	29 (29.6)	21 (21.4)	23 (23.5)	98 (100)
Using Enaira is beneficial to me	4 (4.1)	6 (6.1)	10 (10.2)	33 (33.7)	45 (45.9)	98 (100)
There is a positive perception about using Enaira	8 (8.2)	12 (12.2)	19 (19.4)	29 (29.6)	30 (30.6)	98 (100)

Source: Field survey 2023

The responses to the questions about the awareness and understanding of eNaira are shown in the table above.

Regarding Awareness:

13.3% of respondents strongly agree that eNaira exist; 9.2% agree; 21.4% undecided; 15.3% strongly disagree; 10.2% agree; and 21.4% are undecided that eNaira is a mode of exchange or an alternative currency; 37.8% strongly disagree with this statement. 6.1% strongly agree, 29.6% disagree that eNaira is a more attractive type of currency as compared to gold or silver and 11.2% agree, 38.8% are undecided, 29.6% disagree that high level of participation in educational training programs regarding the overall features of eNaira, 11.2% strongly disagree with this statement. In terms of perceived ease of use, 7.1% strongly agree and 22.4% strongly disagree that eNaira is easy to understand, 7.1% strongly agree and 21.4% disagree that interaction with eNaira is user friendly and effortless, while 10.2% agree, 39.8%

are undecided that eNaira functions are easy to remember and 9.2% strongly agree, 18.4% strongly disagree that eNaira is easy to use.

Regarding attitude towards eNaira, 10.2% strongly agree and 15.3% agree that using eNaira is a good idea; however, 21.4% disagree. Also 6.1% agree, 10.2% are undecided and 45.9% strongly disagree that using eNaira is beneficial to them. In addition, 8.2% strongly agree and 12.2% agree that there is a positive perception about using eNaira.. Usage behaviour include: 5.1% strongly agreeing and 41.8% strongly disagreeing that there is regular user of eNaira; 8.2% strongly agreeing and 41.8% strongly disagreeing that there is preference to use eNaira when available; 10.2% agree, 9.2% are undecided and 28.6% strongly disagree that most transactions are done using eNaira. 3.1% strongly agreeing and 35.7% strongly agreeing that there is tendency of using eNaira whenever possible by people and businesses.

Restatement of research question: *How does the evolution and understanding of eNaira impact on Nigeria emerging economy?*

Nigeria's parallel market spread has been in the double digits ever since the COVID-19 issue initially came to light in 2020. It had since increased to 60% as of the end of 2022. In such a situation, it is very challenging to keep remittances coming through the official channel given the abundance of much more appealing alternatives. Carrying foreign cash into Nigeria physically and selling it to the Bureau de Charge (BDC) there at prices set by the black market is the simplest method. An agreement between a dependable counterparty in Lagos and a Nigerian diaspora resident, let's say, in New York, could see the former sending money to the latter's beneficiary in Nigeria in naira and the latter sending money to the former's beneficiary in dollars (for instance, to pay for school fees). Typically, the prices in Lagos' parallel markets serve as the basis for the exchange rates used in these informal transactions. As a result, the CBN has mandated that all remittances be remitted in the form of the currency of origin beginning in December 2020. This allows the recipients of remittances to select whether they want to receive their funds as domiciliary bank balances or cash in foreign currencies. The new policy successfully does away with the need for currency conversion during the official remittance process. In order to employ the eNaira in the remittance process, it would be necessary to reinstate the currency conversion phase. The recently established official remittance channel is likely to have the same result as it has in the past, namely rejection, unless the currency conversion is carried out close to the parallel market rate. This is due to the fact that any user cost reductions brought about by the eNaira's efficiency advantages would be overshadowed by the opportunity cost that consumers would incur as a result of forgoing the parallel market spread if they continued down the official path. The first step in a multi-phase process to unify exchange rates, as suggested by the IMF, is increased flexibility in the I&E rate.

But things haven't turned out the way we expected. The eNaira and mobile money could both benefit from integration because it could improve user transactions. Nigeria has for a long time seen social cash programs as a crucial fiscal use case for the eNaira due to the country's high rates of poverty, the urgent need for social programs to reduce poverty, and the importance of financial inclusion in economic empowerment. As soon as the foundation for connecting the two systems has been established, combining the eNaira with mobile money might be a wise choice. For instance, when delivering social currency to villagers, the last mile fiscal agent—who may also be a reputable mobile money agent in that community—is given the authority to immediately onboard the beneficiary to both mobile money (from one of the service providers he represents) and the eNaira after performing a few quick KYC checks. Only eNaira access will be added to the client's mobile money app if the beneficiary already has a mobile money account. This enables those who receive social cash to keep it as the risk-free eNaira and utilize it for subsequent electronic purchases or transfers either directly or after first converting it to mobile money, albeit this has not yet happened. Additionally, people can always use mobile money CICO networks to convert it into real money and send it elsewhere. A social cash transfer scheme will thereby become much more successful. The cash distribution component of the scheme effectively becomes free once the beneficiaries are linked to the eNaira system since the CBN may electronically and directly transfer payments from the government to the recipients' wallets. All of these, however, are not happening as expected, proving that enaira has not had the desired effect on Nigeria's developing economy. Then, without fear of theft or security breaches, the beneficiaries can receive and keep their money online. Additionally, since they now have access to a combined mobile money and CBDC system, it instantly broadens financial inclusion to include social cash beneficiaries.

4.1. Analysis of Research Hypothesis

Hypothesis One

H_{01} : eNaira does not have significant impact on economic activities in Nigeria's emerging economy.

Table 4.4.3. Regression Analysis of eNaira vs. Economic Activities

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.325 ^a	.106	.524	.43942		
a. Predictors: (Constant), eNaira						
ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	67.751	1	67.751	350.868	.060 ^b
	Residual	61.211	317	.193		
	Total	128.962	318			
a. Dependent Variable: economic activities						
b. Predictors: (Constant), eNaira						
Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.347	.169		4.410	.060
	eNaira	.357	.040	.325	18.731	.060
a. Dependent Variable: economic activities						

The correlation coefficient of 0.325 suggests that there is little link between the value of the eNaira and economic activity. According to the R-Squared statistic, the fitted model accounts for 10.6% of the variation in economic activity. This only suggests that changes in the eNaira account for around 10.6% of the entire variation in the measure of economic activity. According to the preceding equation's regression coefficient ($=0.325$), a change in the value of the eNaira will have a favorable impact on economic activity. Additionally, the eNaira has no discernible impact on economic activity, as shown by the p-value of (0.060), which is higher than the level of significance at the 0.05 level (2-tailed) and indicates that the result is not statistically significant. As a result, the null hypothesis is not rejected.

4.2. Discussion of Findings

The correlation coefficient of 0.325 suggests that there is little link between the value of the eNaira and economic activity. According to the R-Squared statistic, the fitted model accounts for 10.6% of the variation in economic activity. This only suggests that changes in the eNaira account for around 10.6% of the entire variation in the measure of economic activity. Our results concur with those of (Deng et.al 2019). According to the preceding equation's regression coefficient ($=0.325$), a change in

the value of the eNaira will have a favorable impact on economic activity. Additionally, the eNaira has no discernible impact on economic activity, as shown by the p-value of (0.060), which is higher than the level of significance at the 0.05 level (2-tailed) and indicates that the result is not statistically significant. As a result, the null hypothesis is not rejected.

5. Summary, Conclusion and Recommendations

5.1. Awareness of eNaira

Unlike central banks who were proposing an integrated multi-currency platform administered by a number of them, the CBN introduced the eNaira as a single currency national CBDC system. The usage of the eNaira for remittance was therefore considered for the next two options. First, it was important to give international money transfer operators (IMTOs) outside of Nigeria direct or indirect access to the eNaira. With direct access, international IMTOs could own eNaira merchant wallets and use them to speed up remittances by, for example, trading eNaira for foreign currency from remittance senders, who could then transfer funds from wallet to wallet to domestic receivers. As an alternative, IMTOs also offered wallet services to the senders by exchanging the foreign currency that senders paid to them with eNaira transfers to the chosen domestic receivers. For indirect access, IMTOs used the eNaira wallet services offered by their domestic partners in Nigeria. Although CBN is currently considering its choices, it seems that it favors the first modality—granting direct access. The second choice is to use domestic remittance service providers who already have access to the eNaira. International Settlements Bank (2022). These businesses essentially establish an online connection with remittance senders, collect payments made by them in foreign currencies (for instance, through payment service apps like paypal), and then transfer the necessary sum of eNaira to the recipient. However, such a scenario presumes the creation of a new remittance franchise online, which may be challenging given the dominance of existing IMTOs and their ability to provide services both online and offline.

Using the eNaira for remittance decreased the cost of remittances because the remittance process was made simpler. (2) A foreign exchange transaction in which a correspondent bank in the country where remittances are being sent and its counterparty exchange currencies, with the former crediting the latter's correspondent (or nostro) account. (1) Multiple wire transfers between two various domestic payment systems (such as the payment and settlement systems of the United States and Nigeria); (2) Domestic correspondent banking relationships. The beneficiary of the remittance receives the credited amount in cash or as a deposit balance (directly or through an IMTO). Neither the eNaira nor the current chain of domestic transfers inside the remittance sender's border will eliminate the need for

a foreign exchange for the money to cross the border. However, as soon as the money enters a Nigerian bank's correspondent account, let's say one in the US, the bank can instantaneously transmit eNaira to either the sender or the beneficiary of the remittance via wallet-to-wallet transfer. There is no reason to assume that just because a Nigerian bank is using the eNaira to undertake foreign exchange functions in this value chain, it will do so with a reduced exchange spread than it does under the current system. However, as long as the recipient has an eNaira wallet, there is no need for intermediary transfers inside of Nigeria once the money has crossed the border. The overall transaction cost will be reduced as a result of this simplification. The savings might amount to a quarter of the whole cost given that exchange spread typically makes up approximately half of Nigeria's remittance costs. Manon Ravi, (2022).

5.2. Understanding of eNaira

The CBN formally introduced the eNaira, Africa's first CBDC, on October 25, 2021. The CBN began the protracted planning process in 2017 with internal research and external consultation, followed by a proof of concept in a sandbox setting. Like real money, the eNaira is a liability of the CBN. It is kept in online wallets and uses blockchain technology to process payments. By using electronic wallets, both wholesale (banks) and retail (companies and individuals) clients may possess and use the eNaira as a claim on the CBN, just like real money.

While all transactions involving the eNaira are handled in real time and recorded by a CBN system (even though it makes use of a distributed ledger (DLT)), all transactions involving retail CBDC clients (like exchanging CBDC for cash or deposit holdings of retail clients) are handled by financial institutions, primarily banks, with the CBN only engaging in direct transactions with them. This makes the eNaira system's retail component potentially comparable to an intermediated or two-tiered system. According to the BIS taxonomy of Auer and Boehme (2020), other model options include the following. A single-tier retail CBDC is one in which central banks accept retail clients directly and manage all retail payments. An indirect CBDC is one in which banks are the only recipients of CBDC, and these banks then issue indirect CBDC to their clients (ICBDC), with the latter (ICBDC) being fully backed by the former (CBDC). Alternative model options include the following, Auer and Boehme (2020)'s taxonomy for BIS reads as follows: (3) an intermediated or two-tiered CBDC. (1) A single-tier retail CBDC, in which central banks directly onboard retail clients and manage all retail payments. (2) An indirect CBDC, in which banks are the only recipients of CBDC and these banks then issue indirect CBDC (ICBDC) to their customers. While some specific kinds of wallets used by financial institutions can ask the central bank for fresh issuance transactions, other kinds of them can carry out deposits or cash-to-CBDC exchange transactions

for both commercial and retail customers. The DCMS Numa queues and submits transactions to Hyperledger Fabric, the underlying transaction network, for real-time settlement as they are carried out via the DCMS's apps or APIs. The Hyperledger Fabric nodes now verify the transactions and append them to the ledger in accordance with the process outlined in Appendix I. The Hyperledger Fabric blockchain provides the foundation for the eNaira. As a distributed ledger, it allows all participating nodes¹⁷ to maintain all records of CBDC transactions throughout their history (as a blockchain), alternately lead the assembly of a block (i.e., a list of all transactions that took place during a specific time period), independently verify the block broadcast by the node in charge at a given point in time, and take part in the collective validation of the block via a super-majority voting. The fundamental advantage of distributed ledger technology is that it is more secure than traditional host-client computer architectures, which are more vulnerable to hacking risks. Distributed ledgers can further lessen the potential of a single point of failure by having several "operators" or "hosts" at geographically distinct locations. Ree, Joo K, (2020) A payment cannot be deemed complete without all of the required blocks being processed and sealed, yet distributed ledger technology also has speed limitations. There hasn't been a latency problem with the eNaira system as of now. However, it might be required to carefully adjust the system architecture of the eNaira in the future given the size of Nigeria's population and the number of transactions that could potentially join the system. Transactions can, if necessary, be traced back to certain people or businesses with the help of the account-based blockchain technology used by eNaira. Retail eNaira wallets are subject to transaction and balance caps. By doing this, the risks related to AML/CFT and deposit disintermediation for CBDC are both diminished. CBN should keep a close eye on them because the AML/CFT regulatory apparatus that is already in existence might not be adequate to properly address any new risks brought on by CBDC. Despite some initial concerns, there are no significant risk considerations. Before it began to fall, the initial increase in retail wallet downloads lasted a few weeks. More specifically, downloading 500,000 wallets took merely 25 days, but downloading 600,000 and 700,000 wallets took 63, 143, and 143 days, respectively. By the end of November 2021, there were about 860,000 retail eNaira wallets available. This just represents 0.8% of the current bank accounts in Nigeria. An estimated 100,000 merchant wallets—roughly one-eleventh of all merchants using Point-of-Sale (POS) terminals that accept credit or debit card payments—were downloaded by the end of June 2021. The bulk of wallets appear to be idle, with the exception of a few weeks' worth of spikes in activity. Since its introduction, there have been an average of 14,000 eNaira transactions per week, which accounts for only 1.5% of all active wallets. This shows that 98.5 percent of wallets have not even been opened once in any given week. During this time, the average weekly value of eNaira transactions was 923 million naira, or 0.0018 percent of the typical M3 volume. The average cost of each transaction has been 60,000 naira. It is painfully clear from the number of

wallet downloads and transactions that the eNaira has not yet gained widespread public acceptance. Due to the eNaira's limited acceptance (i.e., low level of adoption by merchants and other retail customers) and the availability (for these customers) of alternative payment methods (i.e., debit card, mobile banking apps), which are more widely accepted, the majority of wallet owners had not experienced any real benefits until recently. The fact that there are fewer eNaira wallets (approximately 802,000) than there are eNaira transactions since the currency's launch suggests that the majority of users have only used their wallets once. The eNaira cannot be imposed on the public despite being legal tender. Because the eNaira is a network externality product, its value rises as the network expands. Washington, DC, in 2022 Similar to other network goods with analogous qualities (such as credit cards), getting through the first low adoption equilibrium requires a combination of cunning tactics and good fortune. eNaira would also have to compete with the far more established incumbent networks, which essentially provide the same service at the retail level (like mobile money). Another significant obstacle that needs to be overcome is the public's low level of confidence in Nigeria's monetary system and the technological stability of the eNaira. With the project's second phase now underway, two new groups are now able to use the eNaira thanks to the CBN: those without bank accounts but with mobile phones and KYC, and those without internet connection (using USSD technology³⁰). Those without bank accounts can open an eNaira wallet by entering their national ID number (NIN) and loading their balance using the agency banking network's cash-in services, moving mobile money, or receiving eNaira from a third party. The CBN has intensified its efforts to promote the usage of eNaira by actively recruiting big supermarkets and hotels to its merchant network, compensating CBN employees with eNaira, and conducting developer Hackathons for eNaira use case promotion. Although it is doubtful that the eNaira would be used for more remittances in the near future, its procedures are being taken into consideration.

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