



CONCEPTUALIZATION OF eNAIRA'S PROSPECTS ON NIGERIA'S MACROECONOMIC CHALLENGES

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ABSTRACT

Nigeria's macroeconomic environment is marked by persistent inflation, exchange rate volatility, and high poverty levels, prompting the need for innovative monetary tools. This study explores the potential of the Central Bank of Nigeria's digital currency, the eNaira, to address these challenges. Adopting a conceptual analysis grounded in monetary and economic theory, the paper explores the design, implementation, and future macroeconomic implications of the eNaira within Nigeria's unique fiscal and monetary system. Findings suggest that eNaira may not solely contribute to resolving existing structural issues such as inflation or poverty, but it holds promise in enhancing financial inclusion, improving cross-border payments, and strengthening monetary policy transmission if properly integrated within the system. The study concludes that eNaira's effectiveness depends on robust regulatory frameworks, strategic public adoption, and technological interoperability. It recommends a phased implementation approach, improved stakeholder engagement, and continuous evaluation mechanisms to maximize the eNaira's macroeconomic impact.

Keywords: *eNaira, monetary policy, macroeconomic challenges, Central Bank of Nigeria (CBN), CBDC.*

JEL classifications: E23, E31, E42, E58, G21

INTRODUCTION

Central Bank Digital Currency (CBDC), a digital representation of a country's official fiat currency, is issued and regulated by the central bank and issued as a unit of account, store of value, and medium of exchange (Tourpe et al., 2023). Over eleven countries in the world have launched a CBDC, and over sixteen multiple CBDCs (cross-border projects) (Atlantic Council, 2023). Karam (2023) and Panetta (2018) argued that CBDCs could significantly enhance financial inclusion and payment efficiency. This allows the central bank to exert a more direct role in monetary policy, fine-tuning interest rates, and controlling the money supply with precision, which, in turn, impacts economic stability and inflation rates (Tourpe et al., 2023). Thus, it can bolster resilience against financial crises by providing a secure, government-backed digital payment system. China stands out with its extensive CBDC pilot testing since April 2020 and currently involving 260 million people across various scenarios (FPRI, 2023), from e-commerce to government stimulus payments (Xu, 2022). According to Elston (2022), these trials provide insights into the potential risks/implications of CBDCs on domestic and international financial systems that can increase economic efficiency but ultimately enhance domestic economic autonomy.

For a developing country like Nigeria, the eNaira holds significant potential to enhance financial inclusion by providing access to financial services for remote or underserved populations, addressing the longstanding issue of unbanked citizens (Esoimeme, 2021). This potential benefit is particularly significant in rural areas where traditional banking infrastructure is limited (Owotemu et al., 2024). However, any CBDC implementation represents uncharted territory (Bonizzi et al., 2019), as central banks worldwide are navigating a relatively nascent concept. The uniqueness of each CBDC, shaped by its economic context, regulatory framework, and technological infrastructure, adds complexity to its outcomes (Bae, 2022). As central banks are essentially 'learning on the job,' there is considerable uncertainty regarding the long-term economic impact of CBDCs (Chorzempa, 2021; BIS, 2018). Although early adopters like Nigeria may gain a first-mover advantage, they also face risks associated with operational inefficiencies, potential missteps in policy design, and unforeseen market reactions (Wang et al., 2022). The speculative nature of these impacts stresses the need for continuous evaluation, stakeholder engagement, and adaptive policymaking to ensure that CBDCs achieve their intended goals without unintended consequences.

Additionally, the eNaira faces significant economic challenges, many of which stem from the underlying weaknesses of its fiat counterpart, the Naira. Nigeria grapples with inflation rates of 25.80% (CBN Stats, 2023) and poverty at 38.5% (NBSb, 2022). These macroeconomic issues are exacerbated by the Naira's volatility, the country's heavy dependence on oil exports and imports, multiple exchange rates (CBN_EXC, 2022), rampant currency speculation, and capital flight (Achua et al., 2023). Such factors introduce complexity layers into integrating the eNaira within the existing monetary framework, as these structural instabilities could undermine its efficacy (Ertz & Boily, 2019).

Few studies have attempted to advance the 1:1 concept (Mancini-Griffoli et al., 2018), emphasizing the importance of anchoring CBDCs to stable monetary systems to ensure trust and value stability. Allen et al. (2022) further argued that the success of CBDCs depends on well-designed monetary policies that govern their issuance, supply, and regulation, fostering a balance between liquidity, inflation control, and financial stability. Additionally, security and privacy considerations for the integrity of transactions and protecting user data in a digital currency environment. Key operational considerations include managing the money supply, setting appropriate interest rates on CBDC holdings, and establishing transaction limits alongside robust anti-money laundering (AML) and know-your-customer (KYC) protocols (Allen et al., 2022; Xu, 2022; Ogunrinde, 2023). Furthermore, CBDCs could offer opportunities to enhance traditional financial systems by streamlining processes and expanding access to central bank-backed digital currencies to broader discussions on their role in shaping a more inclusive and efficient financial ecosystem. These policies shape how the CBDC's value is stabilized, mitigating inflationary pressures and safeguarding the financial system from systemic risks. Hence, the CBN is expected to determine how the eNaira interacts with existing monetary tools and policies, such as open market operations (OMO), monetary policy rates (MPR), and reserve requirements (RR), to maintain macroeconomic stability while harnessing its digitalized benefits (CBN_EXC, 2022).

From another perspective, an attractive feature of the non-interest-bearing eNaira is the 'cross-border feature' in its retail Central Bank Digital Currency (rCBDC) *indirect architectural design*. An indirect retail CBDC design provides some advantages, such as leveraging the existing financial infrastructure and allowing the central bank to maintain control over monetary policy (Tourpe et al., 2023). However, it may also raise concerns about intermediaries' stability, privacy, and potential exclusion of those without access to traditional

banking services. This design is one of the key considerations when a central bank decides to issue a retail CBDC. Themistocleous et al. (2023) and Nández et al. (2020) argued that developing economies are significantly ahead of developed economies due to the economic sovereignty a CBDC offers. However, BIS.Q.R (2021) argued that a successful implementation of this CBDC presents interoperability challenges, regulatory harmonization, privacy, data security, settlement times and currency exchange, market competition, and international cooperation. Examples of ongoing cross-border projects include a collaboration of the Bank of Canada (BoC) and the Monetary Authority of Singapore (MAS), Project Inthanon-LionRock (Hong Kong and Thailand), Project Cedar/Ubin (MAS, New York Fed), mBridge (MAS, UAE, Thailand, Hong Kong), etc. (Atlantic Council, 2023).

Truly, CBDCs offer opportunities to enhance monetary policy and financial inclusion (Bechara et al., 2022; Allen et al., 2022; Garratt et al., 2022). However, as macroeconomic indices rise and the relationship between the eNaira, its design, adoption, and regulatory framework unfold, scholarly discussions have emerged since the CBDC is an evolving phenomenon. Therefore, the study explores arguments and perspectives theories vis-a-vis the 1:1 concept and the eNaira's prospects on inflation, dollarization, and poverty.

LITERATURE REVIEW

Central Bank Digital Currencies

Marcie and Panetta (2022) defined CBDCs as digital forms of fiat money issued and regulated by a country's central bank, intended to complement physical cash and improve the efficiency, security, and inclusiveness of payment systems. However, the concept remains fluid, shaped by varying national motivations, technological capabilities, and monetary policy frameworks. CBDCs may take the form of retail, wholesale, or synthetic models (a blend of aspects of both private sector and central bank involvement), each distinguished by design architecture, access mechanisms, and policy intent—carrying implications for systemic stability and cross-border financial integration (Le et al., 2023; Borensztein et al., 2021). CBDCs arguably represent a convergence of technological innovation and central banking functions, with the potential to reinforce monetary sovereignty in the digital era. Some scholars perceive CBDCs as a modernization tool aimed at enhancing payment infrastructure and financial inclusion (Du et al., 2023; Karam, 2023).

Table 1: Summary of Key CBDC Concepts (Authors' compilation)

Conceptual Dimension	Variants/Details	Implications
CBDC types	<ul style="list-style-type: none"> - Retail (general public use) - Wholesale (interbank use) - Synthetic (privately issued but backed by central bank reserves) 	Retail targets inclusion and digital payments; wholesale focuses on settlement efficiency. Synthetic blurs lines between public issuance and private innovation, complicating regulatory oversight.
Access models	<ul style="list-style-type: none"> - Account-based (identity required) - Token-based (cash-like, may allow anonymity) 	Token-based models offer pseudonymity but complicate AML/CFT compliance; account-based models facilitate KYC integration and programmable monetary tools but raise surveillance concerns.

Ledger architecture	- Centralized - Distributed Ledger (DLT)	Impacts scalability, control, resilience, and transparency but single-point failure risks;
Operational models	- Direct (central bank issues, distributes, and manages) - Indirect (intermediaries involved) - Hybrid (central bank issues; intermediaries manage)	Direct models increase central bank burden and cybersecurity exposure; indirect models preserve existing banking structures but may reduce monetary control; hybrid models offer balance but demand real-time infrastructure synchronization.
Policy motivations	- Financial inclusion - Decline in cash use - Counter private digital currencies - Improve payment systems - Sovereignty preservation	Motivations shape design and implementation strategy. Architecture tradeoffs favor offline and low-tech solutions but may lead to capital flow controls or domestic settlement mandates.
Macroeconomic impacts	- Monetary policy transmission - Risk of disintermediation - Seigniorage effect - Fiscal transparency	May enhance policy tools but introduce systemic financial risks
Cross-border functionality	- Interoperability across jurisdictions - Exchange rate stabilization - Faster remittances	May be relevant due to their ongoing exploration for potential improvements in settlement efficiency and interoperability.

Others caution that they may alter the traditional roles of commercial banks (Yang & Zhou, 2022) and raise privacy, security, and operational risks (Auer & Böhme, 2020). These tensions are reflected in the dichotomy between rCBDCs—intended for use by the public—and wholesale (wCBDCs)—restricted to financial institutions for interbank settlements. These are primarily aimed at increasing efficiency in clearing, improving liquidity, and reducing counterparty risk (Zhan et al., 2022).

Another key concept lies in the design architecture of CBDCs, which includes design choices between centralized and distributed ledger technologies (DLT), account-based versus token-based systems, and varying operational models (direct, indirect, or hybrid) (Agur et al., 2022; Garratt et al., 2022). Account-based systems require identity verification and support traceability, aligning with regulatory goals but potentially limiting privacy. Token-based designs mimic the anonymity of physical cash, though they raise concerns about illicit financial flows and enforcement of anti-money laundering (AML) policies. The choice of architecture affects the scalability, security, and operational control of a CBDC system (Denecker et al., 2023).

Wenker (2022) argued that the motivational drivers for CBDC implementation differ by country, but recurring themes include declining cash usage, the rise of digital payments, the need for more inclusive financial systems, and concerns over private digital currencies such as stablecoins. In Nigeria, eNaira was introduced with the intent to advance financial inclusion, improve remittance flows, and support monetary policy (eNaira, 2021). From a policy perspective, CBDCs are intertwined with macroeconomic theories and monetary policy frameworks. They are argued to enhance monetary policy transmission by enabling real-time implementation of interest rate changes and supporting fiscal transparency through programmable features. However, they also introduce potential risks, such as the

disintermediation of commercial banks during periods of financial uncertainty, which could amplify the risk of systemic bank runs.

Lastly, CBDCs are increasingly viewed through the lens of cross-border functionality and interoperability (Le et al., 2023). Through direct settlements between different currencies, CBDCs may reduce transaction costs, accelerate settlement times, and decrease dependence on dominant international currencies. Beyond these operational benefits, Nechitailo and Penikas (2021) argued that the theoretical underpinnings of CBDCs are grounded in classical monetary theory, even though they challenge long-standing notions of money, trust, and financial intermediation. Perhaps their emergence represents not only a technological innovation but also a strategic response by central banks to the proliferation of cryptocurrencies and privately issued digital currencies.

Therefore, the concept of CBDCs cannot be reduced to a single, fixed definition. Instead, it evolves through ongoing policy experimentation, regulatory debates, and empirical observation—particularly in emerging markets like Nigeria, where the eNaira reflects a localized adaptation of global CBDC trends. Table 1 summarizes the CBDC's concepts and their evolving dimensions.

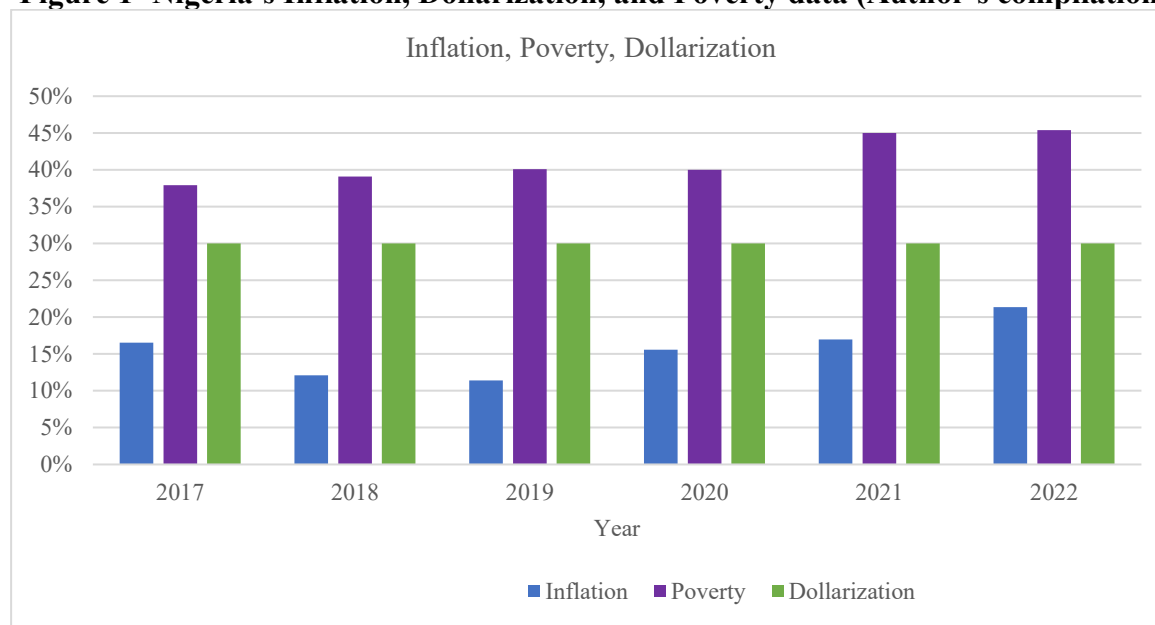
Complex Relationship between CBDC and Macroeconomic Indices

Nigeria's inflation has increased because of growing energy costs globally, increased oil production, interruptions in the supply chain, and pandemic recovery (Adamu, 2018; Chukwuere, 2021). Since the crude oil price collapse in 2014 (Akindipe et al., 2023), the Nigerian economy and its currency, the Naira, have faced significant challenges. From 2012 to 2022, the Naira's value has depreciated by approximately 160% in comparison to the U.S. dollar, a sharp decline that has contributed to heightened inflation rates (World Bank, 2021; NBS, 2023). Furthermore, headline inflation, as reported by the Nigerian Bureau of Statistics (NBS), had already surpassed 16% in 2021, reaching its highest point in 16 years by July 2022, at 19.64% (NBSa, 2022; NBSb, 2022) (Figure 1).

With rising global inflation (Beckmann et al., 2024), Du et al. (2023) and Ertz and Boily (2019) have debated the impact of money supply on inflation, considering both short and long-term perspectives. In the short run, a direct and positive relationship exists between money supply and inflation, as per the Quantity Theory of Money (QTM) (Zhan et al., 2022). Demand-pull inflation occurs when the money supply increases while the velocity of money (the rate at which money circulates) and real output remain relatively constant. This relationship suggests that increased money availability empowers consumers and businesses, leading to heightened demand for goods and services and exerting upward pressure on prices (BIS, 2018). Zhan et al. (2022) argued that this principle applies to CBDC's money supply, suggesting that a 'well-implemented' CBDC should produce the opposite outcome.

However, in the short run, Ertz and Boily (2019) contended that various factors—such as supply shocks, shifts in consumer confidence, business sentiment fluctuations, and government fiscal policies—can exert more immediate and pronounced effects on inflation than changes in the money supply. These elements can lead to cost-push inflation or demand-side pressures that overshadow the traditional QTM framework. Consequently, Ree (2023) observed that this phenomenon is particularly evident in the valuation of eNaira, which is intrinsically linked to the physical Naira's purchasing power. This illustrates how external variables can influence inflationary trends beyond monetary expansion.

Figure 1- Nigeria's Inflation, Dollarization, and Poverty data (Author's compilation)



Source: CBN Stats (2023); NBS (2022); Trending Economics (2021); World Bank (2021)

Furthermore, in the long run, the relationship between money supply and inflation becomes more complex (Yang & Zhou, 2022; Du et al., 2023). QTM still applies but incorporates potential output growth and economic behavior. Consistently growing the money supply faster than the economy's capacity to produce goods and services can result in sustained inflation. Nevertheless, Yang and Zhou (2022) argued that this long-term relationship depends on factors such as central bank monetary policy decisions, CBDC adoption rates, and overall economic health. Therefore, traditional money supply-inflation relationships apply to CBDCs. However, CBDCs introduce variables such as payment behavior, velocity, and trust, which can affect inflation and, subsequently, price stability (Du et al., 2023; Zhan et al., 2022; Ertz & Boily, 2019).

Dollarization refers to the widespread use of a foreign currency, typically the U.S. dollar, alongside or instead of the domestic currency (BIS Committee, 2021). The relationship between CBDCs and dollarization may be influenced by both economic theories and practical considerations (Starr, 2021; Bocola & Lorenzoni, 2020; Ishrakieh et al., 2020). Themistocleous et al. (2023) contended that CBDCs mitigate dollarization by providing a viable alternative to foreign currencies. They can enhance trust and convenience in domestic transactions, potentially reducing reliance on foreign denominations. However, Mayer (2024) argued that CBDCs might not necessarily reduce dollarization. If people perceive the domestic CBDC as less stable, secure, or easily accessible than the U.S. dollar, they may continue to prefer foreign currency for transactions and savings. Trust in the currency and the stability of the domestic economy are fundamental factors in dollarization. Additionally, if CBDC adoption is slow or limited, it may have a minimal impact on reducing dollarization (Elston, 2022, p. 10). Furthermore, Singh's (2022) perspectives differ from the economic behavior factors presented by Mayer (2024). Singh (2022) opined that currency system management, where a CBDC coexists with the U.S. dollar in a dollarized economy entails addressing pricing and accounting intricacies, ensuring exchange rate stability, and harmonizing monetary policies while circumnavigating the entrenched trust and widespread use of the dollar (Wang et al., 2022).

According to Tumala et al. (2022), poverty is not artificial but a complex socioeconomic issue emanating from a lack of access to essential resources and a standard of living below societal norms. Integrating CBDC into a developing economy has significant implications for poverty, as it interacts closely with currency regulations, including contractionary and precautionary monetary policies (Hamir et al., 2021). Contractionary policies, used to reduce the money supply by increasing interest rates and curb lending, stabilize the currency and control inflation. However, if applied ineffectively within a CBDC framework, these policies can hinder economic growth, job creation, and disproportionately affect vulnerable populations by raising borrowing costs and restricting credit access (Marcie & Panetta, 2022; Panetta, 2018).

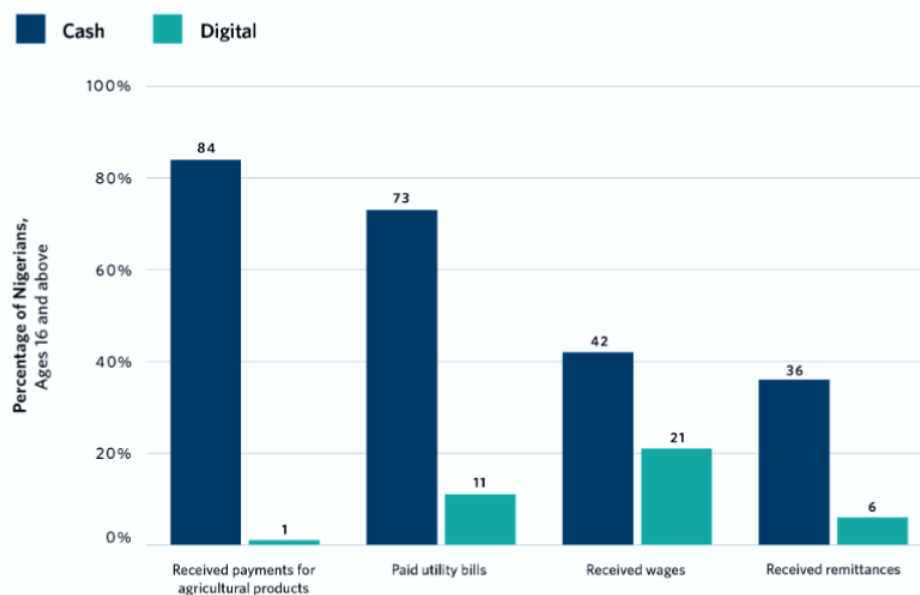
Precautionary monetary policies implemented to safeguard financial stability can also impact poverty in a developing economy by constraining credit availability and potentially reducing economic activity (Ng, 2022). Hamir et al. (2021) argued that CBDC's opportunities to enhance providing digital financial services to underserved populations require subjective coordination and policy designs. This is because CBDCs interact positively with monetary policies and mitigate adverse poverty-related effects associated with traditional currency regulations (BIS, 2018; Ogunrinde, 2023).

Alleviating poverty and promoting sustainable economic growth in Nigeria through eNaira requires a multifaceted approach, considering the distinctive characteristics of Nigeria's economy (Bakre et al., 2022). As of 2020, the World Bank reported that only 36.8% of adults in Nigeria had access to formal financial services, highlighting the need for financial inclusion (World Bank Data, 2022). However, eNaira adoption may need to prioritize reaching these underserved populations through the informal sector who have no formal ties to taxes or government reach. Although the CBN reports the first three implementation phases have only reached the 22% target since its launch in 2021 (eNaira_ng, 2023). It can be pointed out that ordinary Nigerians, about 130 million (Wakili-Effin, 2022) (72.5% of adults aged 18-55 and 28.5% aged 60 and above) (NBSc, 2023) cannot afford basic living needs. Thus, the economic behavior toward the use of the eNaira pegged to the physical Naira without incentives may be unattractive to this population.

Infrastructure development also remains a bottleneck for digital financial inclusion in Nigeria, with an alarming 45% of the population lacking access to electricity (NEMSA, 2022). Without reliable electricity and internet access, the functionality of digital financial services, including eNaira, is severely compromised. This infrastructural deficit undermines the usability of digital platforms and public confidence in their reliability (Owotemu et al., 2024). Chukwuere (2021) argued that the absence of dependable infrastructure has created a culture of mistrust among Nigerians, perpetuating reliance on cash (Figure 2) as the most secure and practical option for transactions.

Furthermore, regulatory frameworks like anti-money laundering (AML) and know-your-customer (KYC) measures are designed to combat illicit financial activities, but their effectiveness hinges on the same deficient infrastructure. This circular dependency worsens the mistrust, as citizens question the government's ability to provide security and convenience through digital systems (Achua et al., 2023). Ree (2023) posited that digital literacy and education could unlock the potential of financial inclusion to alleviate poverty, but this perspective overlooks the systemic distrust and hesitancy rooted in a history of failed financial initiatives. Hence, without addressing these inadequacies, the ambitious financial inclusion and poverty alleviation goals may remain aspirational rather than achievable.

Figure 2-Nigeria's 2022 Digital Services versus Cash-based services (usage)



Source: The World Bank (2022)

The eNaira's Prospects and Money Theory

The most relative theory is the modern money theory (MMT). MMT remains debatable and discussion among economists and policymakers, and its principles are not universally accepted (Palley, 2015; Epstein, 2019; Bonizzi et al., 2019). However, it has gained attention from its alternative perspective on the role of currency and fiscal policy in modern economies. Beyond the economic theory that examines the role of government spending and taxation in an economy, the MMT can be used to illuminate the prospects of the eNaira from the CBN's responsibility in the rCBDC design. The CBDC is not a 'solution to all,' thus, it must fit into subjectively designed country needs (Bechara et al., 2022).

The eNaira represents a 'monetary policy tool' or 'subsequent fiscal policy tool' where the CBN can use the eNaira for targeted social programs or policies that can reduce the impact of Nigeria's existing structural, economic, and social challenges. From a theoretical perspective, CBN has a monopoly on eNaira creation and functional finance objectives. MMT emphasizes "functional finance," where fiscal policy is used to achieve full employment and price stability. A well-designed CBDC can facilitate the implementation of this principle. Governments can utilize digital currency to fund initiatives aimed at achieving specific economic goals, such as infrastructure projects, job creation programs, or support for key industries (Esoimeme, 2021). Since financial inclusion stands at the core of the CBN's rationale for eNaira, targeted programs and economic policies using the eNaira may be used by the government to distribute direct financial assistance to vulnerable populations (like Dcash used as an aid for the island's recovery from the volcanic eruption (Hall, 2021)). For instance, during economic crises or to fund research and development efforts in strategic sectors to address specific economic challenges or promote desired outcomes.

Although MMT acknowledges the importance of managing inflation (Epstein, 2019), it suggests that governments should primarily use taxation and other measures to control inflation when it becomes a concern. With an eNaira, there may be opportunities for the CBN and designated government agencies to employ real-time data analytics and adaptive taxation strategies to respond to inflationary pressures promptly, providing a more effective tool for

economic stabilization for the formal sector and indirectly the informal sector (Ogunrinde, 2023). Hence, eNaira aligns with the principles of MMT by offering governments a direct and efficient means of implementing targeted economic policies and fiscal programs. It could be a practical tool for addressing and managing inflation while maintaining control over currency issuance. This convergence and MMT principles emphasize the evolving role of currency in modern economic policy.

With modern dynamics, however, it is challenging to make definitive predictions about eNaira's prospects, especially given the looming economic challenges that Chukwuere (2021) and Owotemu et al. (2024) have attributed more to infrastructural mismanagement in Nigeria. Several factors contribute to this uncertainty, including economic volatility such as rising inflation, exchange rate fluctuations, and trade deficits can affect the public's trust in the eNaira and its ability to serve as a stable store of value. Access barriers such as the lack of digital access and financial literacy (Ogunrinde, 2023). This digital divide can hinder eNaira's widespread adoption, particularly among those who are financially marginalized (Achua et al., 2023). Regulatory frameworks, especially Nigeria's monetary and financial regulatory framework, are evolving, rising uncertainties regarding how the government and central bank will regulate and oversee the use of the eNaira (Esoimeme, 2021). The global economic context, such as international monetary policy shocks, commodity price fluctuations, and changes in international trade dynamics (Ademosu & Ayodele, 2023). Given these complexities and the evolving nature of global CBDC and eNaira adoption, it is too early to make definitive predictions about the long-term prospects of eNaira. While it holds the potential to address certain economic challenges (Figure 4), its success will depend on effectively steering and mitigating the challenges posed by Nigeria's economy.

eNaira's Prospects and Economic Theory

The Endogenous Money Model (EMT) explains that the money supply is determined by interactions between demand and credit, rather than external control (Deleidi & Fontana, 2019). EMT can be applied to analyze eNaira's prospects by exploring its impact on future bank loans, deposits, and the broader monetary and financial system. The monetary transmission mechanism underpinning the implementation of rCBDCs like eNaira can be analyzed through the lens of the two-tier banking structure depicted in Figure 3. This framework highlights the relationship between monetary reserves (R), bank loans (L), and deposits (D), which collectively shape the economy's financial equilibrium. The equilibrium interest rate (i_1) emerges from the interaction between the demand (LD) and supply (LS) of loans, influenced by the central bank's reserve rate (R^*) and a mark-up (θ) imposed by financial intermediaries (Deleidi & Fontana, 2019). Furthermore, the balance between deposits and loans is represented along line 45° , accentuating how banking dynamics are tied to monetary reserves and policy interventions. eNaira's introduction disrupts this traditional equilibrium by injecting a digital monetary layer that introduces programmability, shifts reserve dynamics, and alters the flow of deposits and loans (BIS, 2018). These changes have significant implications for key economic outcomes, including inflation control, reducing dollarization, and promoting financial inclusion, as the eNaira transforms the traditional banking and monetary system.

Le et al. (2023) argued that CBDCs' centralized production and distribution system can affect bank stability and the economic dynamics of developing economies. With ongoing debates about rCBDC disintermediation (Wenker, 2022; Bae, 2022; Beckmann et al., 2024), Bibi and Canelli's (2024) EMT interpretation can be expanded to include the ripple effects on three main areas: monetary stability, financial inclusion, and fiscal efficiency. This means incorporating an exogenous model, the broader economic impacts of eNaira can be expressed in terms of key

(Ahnert et al., 2022), eNaira ensures that funds disbursed through social welfare schemes, subsidies, and other fiscal programs reach intended beneficiaries without leakages or misappropriation (Ogunrinde, 2023). This is particularly relevant in Nigeria's context, where fiscal inefficiencies have often aggravated wealth inequality. The fiscal multiplier effect theory lends credence to eNaira's potential to amplify government spending impacts by ensuring that funds circulate directly within the economy. Furthermore, eNaira's transparency could pad revenue collection mechanisms, as digital payment trails simplify tax enforcement and reduce opportunities for tax evasion (Peterson, 2023). The combination of these fiscal innovations could significantly improve Nigeria's fiscal health.

Financial inclusion, at the core of the CBN's rationale (eNaira, 2021), remains one of the eNaira's strongest value propositions. Nigeria's unbanked population could benefit from the low transaction costs and accessibility that the eNaira offers. Traditional banking infrastructure has historically excluded these demographics due to high operational costs and limited physical reach (World Bank, 2021). By eliminating intermediaries and providing a digital alternative, eNaira bridges this gap, validating the theory of financial deepening (Misati et al., 2024), which posits that increased access to financial services drives economic growth. Hence, reducing Nigeria's exposure to currency substitution and dollarization, as its digital infrastructure promotes the use of the Naira in cross-border trade and remittances, preserving Nigeria's monetary sovereignty.

This also expands the importance of network externalities in driving the adoption and success of the eNaira. As more individuals and businesses integrate eNaira into their transactions, the value of the network grows, further incentivizing participation. This aligns with Metcalfe's Law (Alabi, 2020), which states that the utility of a network increases exponentially with the number of its participants. If successfully scaled, the eNaira could establish itself as a foundational infrastructure for Nigeria's transition toward a digital economy. The eNaira embodies several economic theories—ranging from monetary control and fiscal efficiency to financial deepening and network effects.

eNaira's Monetary Policy Implications- The Well-Implemented CBDC Concept

It is not a gain saying that the eNaira can provide the benefits depicted in Figure 4, however, monetary implications unique to the eNaira need to be explored. The impact of a launched CBDC is heavily dependent on a well-implemented CBDC concept. From existing studies (Marcie & Panetta, 2022; Borensztein et al., 2021; Garratt et al., 2022), a well-implemented CBDC is a digital liability of a central bank that operates on a secure and scalable technological infrastructure, ensuring compliance with monetary and regulatory frameworks while maintaining integrity, privacy, and interoperability within the financial system. This ties the uniqueness of CBDC to the 1:1 (pegged) concept for it to effectuate the benefits depicted in Figure 4. According to Monalisa and Campbell (2021) and Bofinger and Haas (2020), exchanging cash for CBDCs does not impact monetary policy through the central bank's balance sheet. Instead, it affects monetary policy by either causing a structural increase in the money supply, volatility of the money supply, or changing the revenues from seigniorage (Bofinger & Haas, 2020). Therefore, this has implications for interest rate management and the effectiveness of monetary transmission mechanisms for the eNaira.

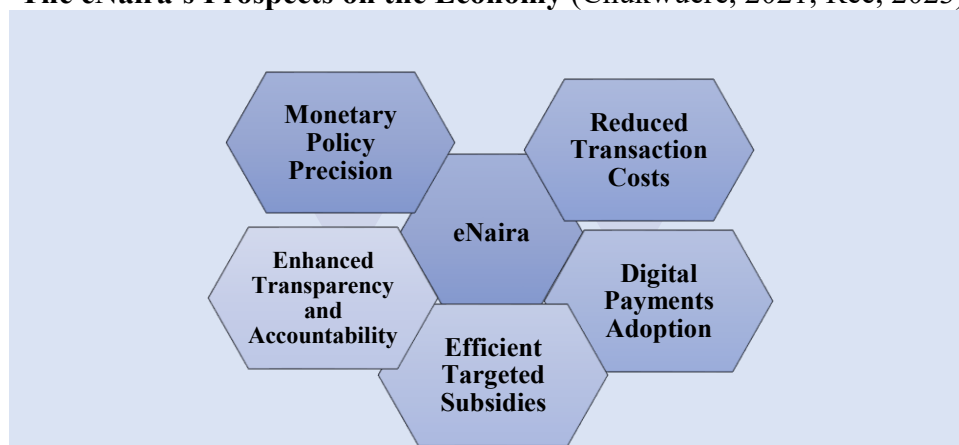
Akindipe et al. (2023) argued that eNaira provides more direct control over interest rates, potentially enabling them to implement unconventional policies. However, Ademosu and Ayodele (2023) opined this could also raise concerns about privacy and government monitoring of financial transactions. Additionally, the shift from cash to eNaira can influence the role of

commercial banks in financial intermediate action, affecting lending and credit dynamics (Allen et al., 2022). Monetary transmission mechanism implications (BIS.Q.R, 2021) are also worth considering. Since eNaira's transactions are trackable in real-time, providing granular data on money velocity and economic activity can enhance CBN's ability to fine-tune monetary policy and respond promptly to economic changes. However, Chorzempa (2021) argued that real-time tracking raises privacy concerns and resistance to government monitoring of financial transactions even though it provides transparency and accountability feedback from CBN.

Banking intermediation disruption may not be a core monetary policy risk, however, the eNaira potentially reduces the role of commercial banks in financial intermediation, leading to more direct control over monetary policy and financial stability. Denecker et al. (2023) contended a reduced role for banks can impact the lending and credit ecosystem, potentially leading to unintended consequences for the broader financial system. The eNaira can enhance financial stability by mitigating the risk of bank runs as a non-interest-bearing instrument and providing a secure digital alternative to private cryptocurrencies (eNaira, 2021). However, eNaira may intensify 'bank runs' if individuals rapidly convert bank deposits into eNaira during financial stress (Ahnert et al., 2022). Interoperability challenges between CBDC and traditional banking can also pose risks (Hamir et al., 2021).

Exchange rate dynamics and liquidity traps can be an underlying implication (Bae, 2022). The eNaira can influence exchange rates by competing with foreign digital currencies, potentially strengthening a country's monetary sovereignty. Agur et al. (2022) argued that even well-implemented CBDCs may have exchange rate implications that can lead to currency wars or unintended consequences, such as destabilizing capital flows. For instance, the eNaira could amplify exchange rate volatility if its digital functionality facilitates unregulated cross-border transactions or arbitrage, placing additional pressure on Nigeria's forex reserves. Other aspects such as liquidity traps, during deflationary periods, individuals might hoard eNaira rather than spend or invest. This may put the CBN in occasional situations where it must choose when to grapple with stimulating economic activity. This can further undermine efforts to stimulate economic growth, especially if people lose confidence in the currency's purchasing power.

Figure 4- The eNaira's Prospects on the Economy (Chukwuere, 2021; Ree, 2023)



Privacy versus transparency implication is still debatable (IMFa, 2021). Finding the right balance between transparency and individual privacy is necessary to maintain trust in the CBDC system. However, striking this balance is challenging, as too much transparency can infringe on privacy rights (Borensztein et al., 2021), while too much privacy can hinder the CBN's ability to combat illicit activities (Ahnert et al., 2022). The international adoption of eNaira may enhance cross-border transactions and reduce the aftermath of international monetary shocks from international trade. However, Borensztein et al. (2021) posited the current lack of

interoperability and regulatory alignment between CBDCs of different countries can lead to fragmentation and potential conflicts in the international monetary system. Hence, the monetary policy implications of the eNaira come with a complex mix of advantages and disadvantages.

FUTURE DIRECTIONS AND RECOMMENDATIONS

The eNaira presents a mix of opportunities and challenges for addressing inflation, dollarization, and poverty. With its potential to revolutionize monetary policy through precise interest rate control, enhanced monetary transmission, and improved financial stability, the eNaira could serve as a secure, government-backed digital alternative to private cryptocurrencies. However, its success depends on addressing privacy concerns, managing impacts on exchange rates and financial stability, and aligning with Nigeria's economic goals and regulatory frameworks. Despite its promise, the eNaira's implementation faces obstacles tied to Nigeria's economic realities, such as infrastructural deficits and reliance on fossil fuels beyond CBN's control. Although the 1:1 peg ensures parity with the physical naira, it limits the eNaira's ability to attract adoption by offering no additional value or incentive over cash. Unlike inflation-indexed financial instruments or stablecoins that offer enhanced security against economic volatility, the eNaira does not provide additional value compared to the physical Naira. Hence, the eNaira's potential to uplift ordinary Nigerians below the poverty line remains uncertain, given the intricacies of Nigeria's economy. As scholars and policymakers continue to explore its potential, it is essential to consider the balance between its benefits and challenges, aligning it with Nigeria's economic goals and regulatory frameworks to address these multifaceted issues effectively. If well-implemented and widely adopted, eNaira could augment Nigeria's monetary sovereignty and positively influence exchange rates by reducing reliance on foreign currencies. To address this, policymakers could explore integrating inflation-indexing mechanisms into eNaira or offering incentives, such as discounts on digital transactions or savings bonuses for eNaira holders.

This paper is limited by its nature of inquiry due to the evolving nature of the eNaira and the CBDC research. The paper recommends that policymakers prioritize stability, adoption, and accessibility. First, adjusting inflation requires aligning eNaira issuance with monetary policy objectives, ensuring its integration does not disrupt traditional money supply dynamics. Second, the central bank should incentivize eNaira usage through competitive interest rates on digital wallets to combat dollarization. This can also be expanded by negotiating bilateral agreements with regional trade partners to encourage eNaira acceptance for cross-border transactions, leveraging its programmability to reduce exchange rate volatility. Finally, addressing poverty necessitates expanding digital infrastructure in underserved areas, contributing targeted financial literacy programs, and using eNaira for direct government-to-person payments to ensure efficient social transfer mechanisms. These measures collectively strengthen the eNaira's capacity to stabilize the economy, reduce reliance on foreign currencies, and improve financial inclusion for marginalized populations targeted at alleviating poverty.

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