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Central bank digital currencies and their implications for financial stability

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Abstract
The advent of Central Bank Digital Currencies (CBDCs) promises transformative shifts in monetary systems. While they hold potential for enhanced payment efficiency, greater financial inclusion, and improved monetary transmission, CBDCs also pose tangible risks to financial stability particularly in emerging markets with fragile infrastructures. This paper explores these dynamics, combining theoretical insight with empirical analysis of Nigeria's eNaira. Using data on wallet downloads, transaction volumes, and currency circulation, this study examines how the eNaira influences bank disintermediation, liquidity risk, and system resilience. Findings indicate that despite rapid initial uptake, adoption remains shallow approximately 0.38% of total currency in circulation as of late 2023 revealing both the promise and limitations of CBDCs in practice. Policy recommendations include preserving two-tier distribution, strengthening digital infrastructure, and cautioning against premature scale-up. The study recommended that Central banks, particularly in developing economies, should avoid hasty nationwide rollouts of CBDCs. Instead, a phased introduction starting with pilot programs, followed by limited-scale deployment can help identify operational challenges, manage risks, and refine design features before full adoption.

Keywords: Central Bank Digital Currencies, Financial Stability, eNaira

1. Introduction
In recent years, the global financial landscape has been experiencing profound changes driven by rapid technological advancement and digital innovation. Among the most significant of these innovations is the emergence of Central Bank Digital Currencies (CBDCs), which represent a digital form of central bank-issued money designed to coexist with or complement physical cash and commercial bank money. Unlike cryptocurrencies such as Bitcoin or Ethereum, which are decentralized and often volatile, CBDCs are state-backed, legally recognized, and intended to serve as a secure and stable medium of exchange, unit of account, and store of value (Bank for International Settlements [BIS], 2021) [11]. The rise of CBDCs reflects both the opportunities and challenges posed by financial digitization in the twenty-first century.

The motivation behind the exploration and adoption of CBDCs varies across jurisdictions. For advanced economies, the push often relates to improving the efficiency of payment systems, ensuring monetary sovereignty in the face of growing private digital currencies, and enhancing cross-border transaction systems. For developing economies, particularly in Africa, CBDCs are seen as a tool to deepen financial inclusion, reduce transaction costs, and modernize weak payment infrastructures (International Monetary Fund [IMF], 2022) [7]. Nigeria's introduction of the eNaira in October 2021 marked a significant milestone as the first African country to fully launch a CBDC, positioning itself as a case study for understanding the implications of CBDCs on both domestic and international financial stability (Central Bank of Nigeria [CBN], 2021).

Despite the potential benefits, CBDCs raise critical questions about their impact on financial stability. Financial stability refers to the condition in which financial institutions, markets, and infrastructures function smoothly, enabling the efficient allocation of resources, effective risk management, and sustained economic growth (Adrian & Mancini-Griffoli, 2019).

The introduction of CBDCs could disrupt traditional financial intermediation by encouraging depositors to move their funds from commercial banks to CBDC accounts, thereby reducing bank deposits and potentially affecting credit creation. Moreover, CBDCs could amplify risks during financial crises, as households and firms may quickly shift funds into CBDCs viewed as safer, thereby accelerating bank runs (Brunnermeier & Niepelt, 2019) [4]. On the other hand, CBDCs could enhance financial stability by promoting transparency, reducing shadow banking activities, improving payment resilience, and supporting more effective monetary policy transmission.

The debate on CBDCs is therefore complex and multifaceted. For policymakers, the central concern lies in balancing the potential benefits such as financial inclusion, efficient payment systems, and monetary policy effectiveness against the risks, including bank disintermediation, cyber security threats, and macro-financial instability (BIS, 2022) [9]. For researchers, this evolving discourse presents an opportunity to critically examine how CBDCs affect financial systems differently across advanced and developing economies. Nigeria's eNaira provides a unique empirical lens to investigate these issues, given the country's large unbanked population, heavy reliance on cash transactions, and fragile banking sector.

Given the novelty of CBDCs and their far-reaching implications, this study aims to provide an in-depth analysis of how CBDCs influence financial stability, with particular emphasis on the Nigerian experience. By exploring both the theoretical perspectives and empirical evidence, this research contributes to the growing body of knowledge on digital finance and central banking. More importantly, it provides actionable insights for policymakers in Nigeria and other countries currently exploring or piloting CBDCs.

Central Bank Digital Currencies (CBDCs) have moved from concept to reality, with over 130 countries exploring or piloting them (BIS, 2023) [10]. CBDCs offer advantages such as reduced transaction costs, improved policy transmission, and expanded inclusion but also raise concerns about financial disintermediation, systemic vulnerability, and cybersecurity (Carstens, 2021; Agur *et al*., 2022) [11, 8]. Nigeria's eNaira, launched October 2021, serves as a critical empirical case: it's the first retail CBDC in Africa. This study investigates its financial stability implications in an emerging economy setting.

2. Literature Review

2.1 Conceptual Foundation

The concept of Central Bank Digital Currencies (CBDCs) is rooted in the broader evolution of money, from commodity money to fiat currency, and now to digital currency systems. At its core, a CBDC is a digital liability of a central bank that can serve as a medium of exchange, unit of account, and store of value, similar to traditional fiat currency but issued and regulated in digital form (BIS, 2021) [11]. Unlike decentralized cryptocurrencies, CBDCs are centralized and legally recognized, designed to retain the credibility and stability of central bank-issued money while leveraging technological innovations to enhance payment systems.

CBDCs can be broadly categorized into two types: retail CBDCs and wholesale CBDCs. Retail CBDCs are intended for use by the general public, functioning as a digital equivalent of cash to facilitate daily transactions. Wholesale CBDCs, on the other hand, are restricted to financial institutions and used primarily for interbank settlements, cross-border payments, and enhancing efficiency within the wholesale payment system (Auer, Cornelli, & Frost, 2020) [2]. This classification is important because the implications for financial stability differ significantly depending on whether CBDCs are used by households and firms or limited to financial intermediaries.

The conceptualization of financial stability in relation to CBDCs centers on how digital money could affect the structure and functioning of financial systems. Financial stability refers to a state in which financial institutions, markets, and infrastructures operate effectively, absorbing shocks and preventing disruptions that could adversely affect the wider economy (IMF, 2022) [7].

CBDCs are fully digital fiat currencies issued and regulated by central banks, operating in parallel with traditional physical money (BIS, 2022) [9]. They contrast with decentralized cryptocurrencies due to their centralized control and legal tender status.

2.2 Expected Benefits

Academic and policy analyses emphasize the potential for CBDCs to enhance payment efficiency, reduce costs, and extend financial inclusion.

2.3 Potential Risks

Concerns include disruption of banking liquidity via deposit substitution, increased risks of digital bank runs, cybersecurity threats, and potential downsides in cross-border leakage or destabilization (Agur *et al*., 2022) [8].

2.4 Empirical Gap

Most high-income economies remain in pilot phases. There is a shortage of empirical evidence from developing countries, making Nigeria's eNaira an invaluable early data source.

3. Theoretical Framework

We draw on the Financial Intermediation Theory (Diamond & Dybvig, 1983) [12] to understand how CBDCs might supplant bank deposits and thereby threaten banks' role in converting deposits into loans. The Financial Stability Framework (IMF, 2023) [13] helps assess systemic risk dimensions such as liquidity, institutional resilience, and integrity of payment systems all of which could be affected by CBDC adoption.

4. Methodology

This study uses a mixed-methods approach:

- **Data sources:** CBN bulletins, BIS, IMF reports, and credible media (e.g., Punch, Vanguard, Naira metrics).
- **Quantitative analysis:** wallet downloads, transaction values, and eNaira's share of total currency in circulation.
- **Interpretation:** Linking these metrics to theoretical models around disintermediation, liquidity risk, and system resilience.

5. Data Presentation and Analysis

5.1 Adoption Metrics: Downloads & Wallets

- **Launch period (Oct-Nov 2021):** Over 488,000 consumer wallets and 78,000 merchant wallets from 160 countries within 18 days; roughly 17,000

transactions valued at ₦62 million.
- **Within the first month:** Approximately 589,000 total downloads, 114,900 activated wallets, and 37,810 transactions valuing ₦208.9 million.
- **95 days post-launch:** 694,000 downloads (558k Android; 136k iOS).
- **By August 2022:** ~840,000 total downloads, 270,000 active wallets (252k consumer, 17k merchant), over 200,000 transactions, totaling ₦4 billion.

5.2 Currency in Circulation Share
- **By September 2023:** Value of eNaira in circulation reached ₦10.26 billion, up 302% from ₦2.55 billion in 9M'22.
- **As of December 2023:** eNaira constituted ₦13.98 billion of a total ₦3.65 trillion currency-in-circulation ~0.38%.
- **As of March 2024:** eNaira's share was ₦13.98 billion of ₦3.87 trillion in circulation ~0.36%, though this represented a 1,896% increase over its value at launch (₦700.75 million in Oct 2021).

Table 1: eNaira adoption and circulation metrics

Metric	Value
Total Downloads (by Aug 2022)	~840,000
Active Wallets (by Aug 2022)	~270,000
Transactions (by Aug 2022)	~200,000; Value ₦4 billion
eNaira in Circulation (Dec 2023)	₦13.98 billion (~0.38%)
eNaira Growth (Oct 2021-Mar 2024)	From ₦0.7 b to ₦14 b (~1,900%)

5.3 Qualitative Observations
Despite initial enthusiasm, adoption remains low relative to Nigeria's population (approx. 220 million). Fewer than 0.5% of Nigerians are actively using eNaira a year post-launch. Factors include digital infrastructure gaps, low internet penetration (only 12% meaningful connectivity), skepticism toward CBDCs, and preference for cash or crypto alternatives.

6. Discussion
6.1 Limited Disintermediation Risk (So Far)
With eNaira comprising under 0.4% of currency in circulation, the threat to commercial bank deposits remains minimal. Adoption is insufficient to meaningfully erode deposit bases.

6.2 Liquidity Risk and Financial Stability
Because active use is low, liquidity threat from mass shifts into CBDC wallets is limited. However, should adoption increase rapidly without infrastructure readiness, banks could face sudden outflows.

6.3 System Resilience and Cybersecurity
Rapid installation and low trust, combined with infrastructure fragility, raise vulnerability to cyber-attacks and operational disruption. The low base of usage makes such threats manageable now but could escalate if scale-up is forced prematurely.

6.4 Behavioral and Structural Barriers
Low adoption reflects structural issues: Digital divide, weak financial literacy, distrust of government-led digital currencies, and fragmentation with existing payment systems. Reddit commentary underscores public skepticism and preference for crypto over CBDC.

6.5 Analytical Synthesis
Nigeria's eNaira case shows duality: It's not yet destabilizing, but also not transformative limited scale, constrained user engagement, and structural barriers diminish both risks and benefits. The current low adoption provides policymakers with breathing space to build supportive infrastructure and regulatory mechanisms before major scale-up.

7. Policy Implications
To harness benefits and mitigate risks:
- Adopt a two-tier distribution model, distributing via commercial banks to preserve intermediation and customer relationships.
- Invest in digital infrastructure, including USSD channels, fintech partnerships, and rural connectivity.
- Promote public awareness and financial literacy to build trust in CBDCs over alternatives like crypto.
- Enhance cybersecurity protocols, audits, and resilience frameworks preemptively.
- Phase roll-outs progressively, monitoring adoption trends and stability indicators before expanding aggressively.

8. Conclusion
The eNaira exemplifies the promise and pitfalls of CBDCs in emerging markets. Data shows strong initial curiosity but shallow, slow adoption and minimal financial-system impact so far. While financial stability has not been threatened by the eNaira, neither has it delivered transformative inclusion or efficiency gains. For CBDCs to become a stable pillar of future payment systems, emerging economies must pair cautious deployment with infrastructure development, regulatory foresight, and public confidence-building.

9. Recommendations
Based on the review of conceptual and empirical insights on Central Bank Digital Currencies (CBDCs) and their implications for financial stability, the study recommended that Central banks, particularly in developing economies, should avoid hasty nationwide rollouts of CBDCs. Instead, a phased introduction starting with pilot programs, followed by limited-scale deployment can help identify operational challenges, manage risks, and refine design features before full adoption.

References
1. Adrian T, Griffoli MT. The rise of digital money [Internet]. Washington (DC): International Monetary Fund; 2019 [cited 2025 Jan 5]. Available from: https://www.imf.org/en/Publications/fintech-notes/Issues/2019/07/12/The-Rise-of-Digital-Money-47097
2. Auer R, Cornelli G, Frost J. Rise of the central bank digital currencies: Drivers, approaches and technologies. BIS Working Papers No. 880 [Internet]. Basel: Bank for International Settlements; 2020 [cited 2025 Jan 5]. Available from: https://www.bis.org/publ/work880.pdf
3. Bank for International Settlements (BIS). Central bank

digital currencies: Financial stability implications. BIS Annual Economic Report [Internet]. Basel: BIS; 2021 [cited 2025 Jan 5]. Available from: https://www.bis.org/publ/arpdf/ar2021e3.pdf
4. Brunnermeier MK, Niepelt D. On the equivalence of private and public money. J Monet Econ. 2019;106:27-41. https://doi.org/10.1016/j.jmoneco.2019.07.004
5. Central Bank of Nigeria (CBN). Design paper for the eNaira [Internet]. Abuja: Central Bank of Nigeria; 2021 [cited 2025 Jan 5]. Available from: https://www.cbn.gov.ng
6. Emefiele GI. Central Bank Digital Currency and Nigeria's financial stability: Reflections on the eNaira. CBN J Appl Stat. 2022;13(2):1-15.
7. International Monetary Fund (IMF). Global financial stability report: Navigating the high inflation environment [Internet]. Washington (DC): IMF; 2022 [Cited 2025 Jan 5]. Available from: https://www.imf.org/en/Publications/GFSR
8. Agur I, Ari A, Dell'Ariccia G. Designing Central Bank Digital Currencies. J Monet Econ. 2022;125:62-79.
9. Auer R, Cornelli G, Frost J. Rise of the central bank digital currencies. BIS Working Papers No. 880. Basel: Bank for International Settlements; 2022.
10. Bank for International Settlements (BIS). CBDC reports. Basel: BIS; 2022-2023.
11. Carstens A. Central bank digital currencies. BIS Q Rev. 2021;Mar:1-12.
12. Diamond DW, Dybvig PH. Bank runs, deposit insurance, and liquidity. J Polit Econ. 1983;91(3):401-419.
13. International Monetary Fund (IMF). Global financial stability report [Internet]. Washington (DC): IMF; 2023 [Cited 2025 Jan 5]. Available from: https://www.imf.org/en/Publications/GFSR