CARNEGIE
ENDOWMENT FOR
INTERNATIONAL PEACE

JANUARY 2024

# Why Nigeria's Controversial Naira Redesign Policy Hasn't Met Its Objectives

Ebelechukwu Monye

## Introduction

Is it possible for Nigeria to successfully implement a redesign policy for its currency, the naira, when the informal sector accounts for 65 percent of the country's GDP and 93 percent of employment, and when 90 percent of transactions in the informal economy are in cash?[1]

The Central Bank of Nigeria (CBN) introduced new banknotes on October 26, 2022, for the naira denominations of 200, 500, and 1,000. The CBN's governor at the time, Godwin Emefiele, announced the redesign policy, which aims to improve Nigeria's monetary policy, promote digital alternatives like the eNaira, and enhance the currency's integrity. Notably, it also aims to reduce cash circulation for illicit activities like kidnapping-for-ransom and vote-buying. The new naira notes have been in circulation since December 15, 2022.

So far, however, the redesign policy has not achieved the outcomes needed to meet most of its objectives. The policy resulted in a cash shortage and a black market for selling naira notes, causing economic difficulties for Nigerian businesses and individuals who rely heavily on cash. Beyond the direct adverse effects of the policy on Nigerians, macroeconomic changes and leadership shifts have also affected the country's economic realities. Specifically, the new government has removed fuel subsidies, increased electricity tariffs, and unified the country's exchange rate, which has led to higher inflation rates, lower disposable income for consumers, and decreased business productivity.[2]

Several underlying factors have led to implementation problems, including the lack of a critical mass of easily accessible alternative financial products, the inadequacy of preexisting infrastructure to support the policy's speedy rollout, low public trust, and limited public sensitization coupled with tight deadlines. Yet improved implementation is possible. Nigeria could draw insights and lessons from other countries that have successfully carried out similar policies in recent years (for example, India and Sweden). Such cases offer valuable recommendations for Nigeria's policymakers and partners to consider.

## What Factors Led to the Outcomes of the Naira Redesign Policy?

Since the October 2022 rollout of the naira redesign policy, it has not met most of its intended objectives. Between the CBN's announcement and March 2023, several governmental and regulatory actions prompted the bank to extend the validity of the old notes to December 31, 2023 (see figure 1). At least four factors explain the implementation failures: the

### Figure 1. Key Actions Regarding Nigeria's Naira Redesign Policy

**This timeline highlights key actions taken between October 2022, when the policy was launched, and November 2023, when the CBN confirmed that old naira notes will remain legal tender indefinitely, alongside the new notes.**

1 **October 26, 2022**
**The CBN announces its naira redesign policy.** Sets January 31, 2023, as the swap deadline for the public.

2 **November 17, 2022**
The **CBN** instructs commercial banks to **extend working hours to Saturdays.**

3 **November 23, 2022**
**New notes unveiled** by **president Muhammadu Buhari.**

4 **December 15, 2022**
Commercial banks **start dispensing new notes.**

5 **January 7, 2023**
The CBN **suspends over-the-counter (OTC) withdrawal of new notes** to aid fairness in distribution.

6 **January 29, 2023**
**Swap deadline extended to February 10, 2023,** and the CBN says 1.9 trillion naira has been recovered.

7 **February 2, 2023**
The CBN orders **commercial banks to resume payment of new notes OTC.**

8 **February 8, 2023**
The **Supreme Court** restrains the CBN from enforcing February 10 deadline.

9 **February 15, 2023**
The **CBN launches the old naira collection portal.**

10 **February 16, 2023**
**Buhari extends the validity of the old 200 naira** to April 10.

11 **March 3, 2023**
The Supreme Court rules **that the old naira denominations of 200, 500, and 1,000 shall remain the legal tender until December 31, 2023.**

12 **March 7, 2023**
Commercial banks **resume dispensing old notes.**

13 **March 13, 2023**
The **CBN confirms** the Supreme Court ruling **that old notes shall remain legal tender until December 31, 2023.**

14 **November 14, 2023**
The Supreme Court rules that **the old 200, 500, and 1,000 naira notes will remain legal tender and coexist with the new notes until further notice.**

lack of adequate digital financial alternatives to cash, inefficiencies in existing financial infrastructure, low public trust, and public sensitization and tight deadlines.

## Inadequate Financial Alternatives, Leading to Cash Scarcity

Between December 2022 and March 2023, the money supply in circulation decreased faster than its demand, in line with CBN directives. However, the eNaira, the CBN's premier alternative to cash, could only serve as a partial substitute to the banknotes that were previously in circulation.[3] For context, by March 2023, consumers had returned only a little over 1.3 trillion naira worth of old notes to financial institutions, which was about 40.6 percent of the 3.2 trillion naira in circulation.[4] Meanwhile, the CBN had minted only 3-billion-naira worth of eNaira, accounting for only 0.09 percent of the total cash supply, which was grossly insufficient to replace the old banknotes deposited by customers. Additionally, the usage of eNaira was yet to be widespread, with only 0.5 percent of Nigerians using the digital currency as of late 2022.[5]

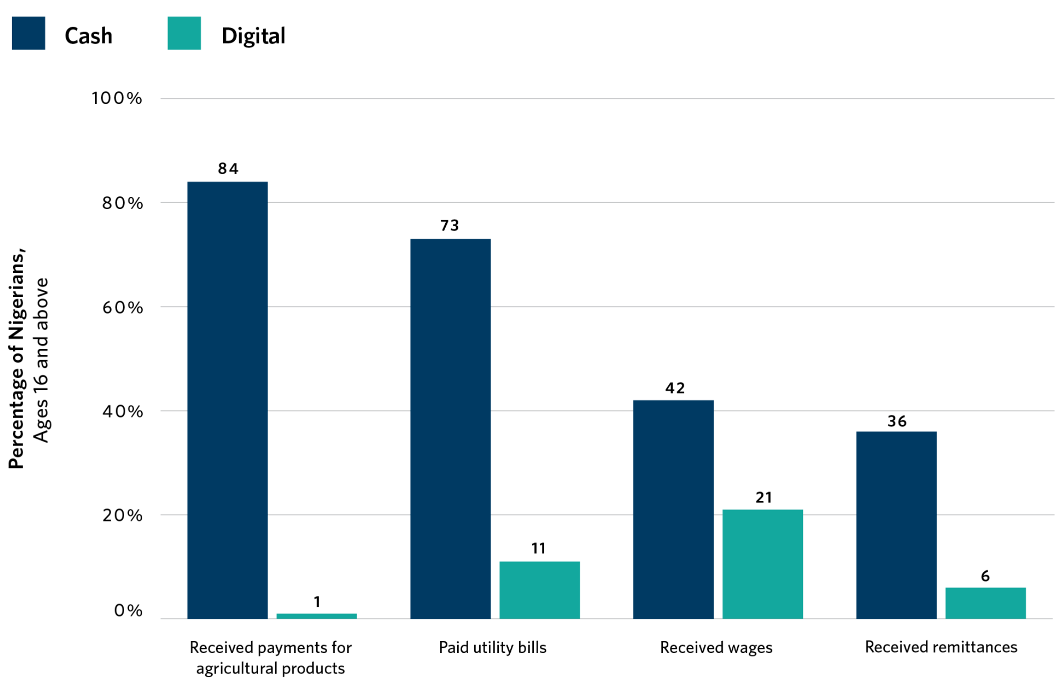
## Inefficient Infrastructure, Resulting in Trillions of Naira Lost

Relatedly, the digital financial infrastructure was insufficient to handle the increased digital transaction volume caused by the cash shortage. At the height of the cash crunch, many individuals resorted to making transfers via mobile apps and Unstructured Supplementary Service Data messages. However, the existing digital payment system could not handle the surge. As a result, many transactions failed or were reversed due to network failures, leading to a loss of an estimated 20 trillion naira (about $40 billion) in the Nigerian economy, according to a statement by the director general of the Centre for the Promotion of Private Enterprise, a Nigerian research institute.[6]

## Low Levels of Public Trust in Digital Alternatives, Straining Cash Utilization

The naira redesign policy also fell short of its goals due to a lack of public confidence in digital financial products, which is mainly due to perceptions of high levels of fraud associated with them. For example,

**Figure 2. Use of Digital Services vs. Cash-Based Services in Nigeria, 2021**




Source: Global Findex Database 2021, World Bank, https://www.worldbank.org/en/publication/globalfindex/Data.

according to a survey by the organization Enhancing Financial Inclusion and Access, known as EFInA, 51 percent of the Nigerian respondents experienced attempted digital scams or fraud during the first year of the COVID-19 pandemic.[7] It is not surprising then that many financial consumers seem more willing to use cash than digital products (see figure 2).

### Low Levels of Public Awareness and Tight Deadlines, Undermining the Policy's Effectiveness

The redesign policy also failed to adequately sensitize financial consumers, particularly on the CBN's directives and deadlines. On January 19, 2023, the National Orientation Agency (NOA) launched a campaign to raise awareness about the policy across all 774 local governments in Nigeria. However, the campaign faced two primary issues: timing and clarity. According to reports from NOA agents working in various communities, people felt the awareness campaign should have started earlier and that the validity period for old notes should have been longer. Additionally, there was a communication mismatch between what the CBN conveyed and what consumers understood. For instance, commercial actors, such as petty traders and point-of-sale agents,[8] reportedly stopped accepting old notes because they feared they could not exchange them for new notes by the initial deadline.[9]

## What Has Changed in Nigeria Since the Redesign Policy's Rollout?

Since the policy's launch, there have been significant changes in Nigeria. These have included continued reliance on cash, business losses, macroeconomic changes, and leadership changes.

### Change in Money Supply and a Continued Reliance on Cash

The policy initially attempted to reduce the overreliance on cash and encourage consumers to adopt digital alternatives. Thus, the money supply fell to 982 billion naira in February 2023, from about 3.3 trillion naira at the end of October 2022 when the policy was first announced.[10] However, a subsequent announcement from the administration of Muhammadu Buhari to extend the validity of old naira notes—and a similar statement from the current administration of Bola Tinubu—resulted in a significant increase of the money supply in circulation, reaching 2.4 trillion naira by April 2023.[11]

### Business Losses in Profits and Capital

Many businesses across multiple sectors in Nigeria suffered losses in profits and capital because of cash scarcity. Some of these businesses included the United Africa Company, which operates in the food and beverage, real estate, paint, and logistics industries; ABC Transport; and Dangote Cement. In particular, the experience of Nigerian Breweries, the Nigerian unit of Heineken N. V., illustrates the significant impact of cash scarcity on businesses, as the company recorded its worst February sales in fifteen years in 2023. Cash accounted for about 80 percent of its retail sales, so the scarcity of cash had a direct impact on the company.[12] Its profits decreased by 10.5 percent between the first quarter of 2022 and the first quarter of 2023 and revenue decreased by 29.7 percent within the same period.[13]

### Macroeconomic Changes

On June 14, 2023, the Tinubu administration introduced a uniform exchange rate system. This system allows anyone who qualifies to access foreign exchange through the investors and exporters window at a price determined by market demand and supply. It increases transparency and predictability—thereby reducing exchange rate risks and transaction costs—which theoretically should have long-term positive impacts on the country's economy. However, this system has so far increased the official selling price of the naira per dollar. In June 2023, the official rate was 632 naira to the dollar. It rose to 774 naira as of October 19, 2023. Black-market rates have risen to an average of 1,035 naira to the dollar within the same time frame. Additionally, the country's GDP growth rate decreased from 3.5 percent in the fourth quarter of 2022 to 2.3 percent in the first quarter of 2023.[14] While telecommunications and financial institutions are growing, other industries in crucial sectors (for example, rail transportation, petroleum, natural gas, oil refining, electricity, and crop production) continue to contract. The labor-intensive agricultural sector, for instance, faced massive hits, with members of the Poultry Farmers Association of Nigeria recording losses of more than 30-billion-naira worth of eggs at the height of the cash crunch in early 2023.[15] Furthermore, the situation remains challenging, with an inflation rate of 22 percent in March 2023 and a gasoline price hike in July 2023.[16]

These macroeconomic effects are crucial to underscore, as they have worsened the country's economic situation and further shrunk the disposable incomes of Nigerians, who are still recovering from the impacts of the naira redesign policy. The rising exchange rate is particularly harmful to import-dependent economies such as Nigeria, as it results in higher food and commodity prices, affecting both businesses and consumers.

### Leadership Changes

Since the policy's inception in October 2022, Nigeria has experienced changes in its presidential and central bank leadership. During his presidential inauguration speech in May 2023, Tinubu announced that both old and new banknotes would remain legal tender while a policy review takes place.[17] And after his inauguration, among other changes at the central bank, the new president suspended the former CBN governor, Emefiele, who now faces a twenty-count charge of financial misappropriation. Following a four-month interim tenure by Folashodun Shonubi, Emefiele's former deputy, the presidency appointed Olayemi (Yemi) Cardoso as the new CBN governor.

## Do the Cases of India and Sweden Offer Lessons on Boosting the Uptake of Digital Payment Systems?

The experiences of India and Sweden offer valuable insights and ideas for how to ensure a seamless shift to new naira notes and increase the uptake of digital alternatives. While India shares similarities with Nigeria regarding policy objectives and implementation strategies, Sweden's experience in successfully going cashless provides insights on the steps taken. Nigeria may not yet have the technological advancements of Sweden or the fintech infrastructure of India, but its policymakers could learn from these countries' successes and create multidecade systemic changes that would lead to a cashless society. These changes, in turn, could make policies like the naira redesign more effective.

### Sweden

Sweden is a global leader in the transition toward a cashless society, with cash now making up only 1 percent of its GDP since 2018.[18] The objectives of its cashless movement include enhancing personal privacy, competition, cross-border payments, and crisis preparedness.[19] Sweden's success can be attributed to several factors, including the availability of reliable digital payment methods, a tech-savvy population, and existing financial infrastructure, which research suggests boosts the adoption of digital alternatives.[20]

Financial consumers in Sweden have many reliable digital alternatives to choose from. Examples include mobile payment systems like Swish, which caters to 8.6 million private users (about 80 percent of

Sweden's population of 10 million) and allows consumers to receive and send money using their cellphones.[21] Furthermore, Sweden's population is tech-savvy, ranking fourth for use of information and communication technology and tenth for technical and vocational education on the United Nations Development Programme's Global Knowledge Index.

Another key factor in Sweden's successful transition to a cashless society is its infrastructure. A crucial example is the BankID, an electronic identification system available to anyone with a Swedish personal identity number.[22] People use the system to, for instance, make mobile payments and access e-government websites or medical records. Government-centric measures—such as tax deductions and tax credits for businesses and consumers who make electronic payments—make cashless transactions even more attractive.

### India

In November 2016, the Reserve Bank of India (RBI) implemented a demonetization policy, which recalled the higher denomination notes of 500 rupees and 1,000 rupees. Before demonetization, these banknotes constituted 86.4 percent of the total money in circulation.[23] India's policy aimed to increase digitization, expand the tax base, eliminate counterfeit currency, accelerate the formalization of the economy, and seize undeclared income.

Like Sweden, India has leveraged existing infrastructure and financial alternatives to drive financial digitalization. India Stack, for instance, is a digital identification and payment system that relies on an open application programming interface. This system integrates user information from the country's national identity program, Aadhaar, which already has 1.25 billion registered users.[24] Additionally, the RBI launched the Unified Payments Interface for mobile phones to enhance digitization and extend access to the approximately 400 million individuals residing in rural areas by allowing transfers between multiple bank accounts using a single mobile application.[25]

Financial consumers have also had numerous digital alternatives to explore, such as RuPay, Paytm, and Razorpay. India has recorded a 50 percent average annual increase in digital payment volumes over the past five years, making it one of the fastest-growing digital payment volumes in the world.[26]

## Recommendations

The naira redesign policy aims to improve Nigeria's monetary policy, promote cashless transactions, and enhance the naira's credibility. Unfortunately, however, the policy has so far had mostly adverse outcomes, including cash shortages, the black-market sale of new naira notes, and massive losses for businesses and consumers. Despite these setbacks, there remains potential for a smooth transition to new banknotes and digital alternatives. The CBN can explore a number of solutions as it works toward phasing out old notes and promoting the shift to its digital currency.

### Lessons From Sweden and India

The experiences of both countries show that three conditions are vital for a successful transition to digital currency: the uptake of innovative and competitive digitally enabled financial products, the availability of digital infrastructure to support fintech adoption, and the prioritization of STEM-focused education.

#### *Support the Use of Digital Alternatives*

The new CBN governor must ensure enough naira supply to meet the demand through cash or digital alternatives. The CBN can gradually introduce the eNaira in a controlled environment to reduce cash reliance by promoting digitally enabled person-to-person, business-to-person, business-to-government, or government-to-person transactions.[27] Tax incentives, such as those used in Sweden, could be helpful for uptake. For instance, small businesses could receive tax incentives for paying their taxes in eNaira, or government workers could earn higher interest rates on salaries and savings held in eNaira.

### *Support the Building of Infrastructure Backbones*

The Nigerian government should work with multisector stakeholders to build an infrastructure such as India Stack that links to, and takes advantage of, existing financial technology. Figure 3 shows what system components could be included. For instance, some variation of a Nigeria Stack could link financial transaction data from the Nigeria Inter-Bank Settlement System to know-your-customer data from the National Identity Management Commission, giving fintech providers more leverage to provide tailored digital products to Nigerian financial consumers across different income brackets. Nigeria is already on this journey with the introduction of its bank verification number, a core know-your-customer component.

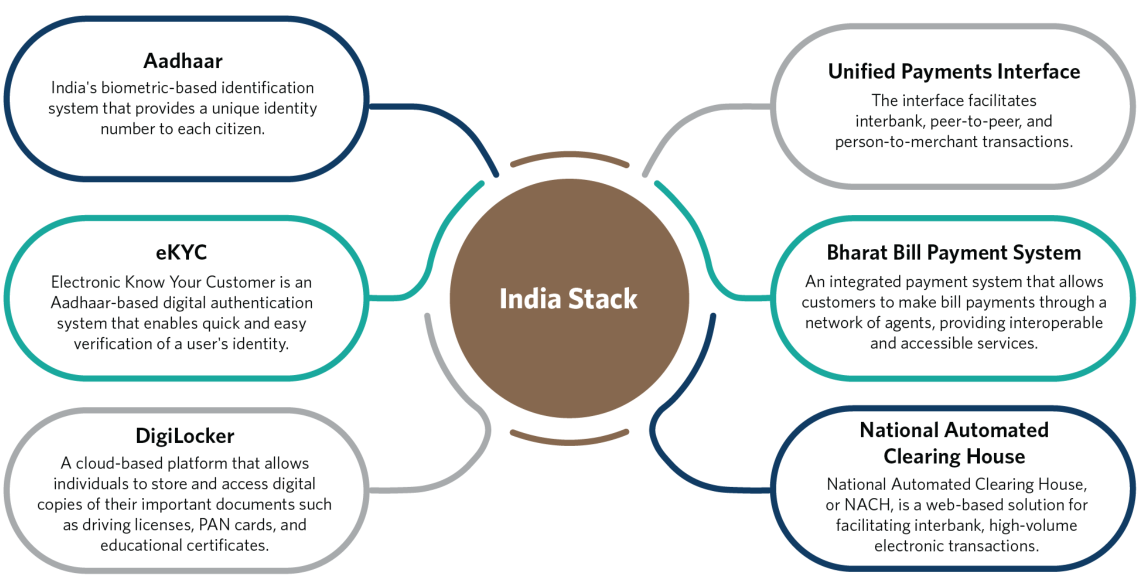
### *Support the Education of a Tech-Savvy Population*

In the long run, Nigeria's transition to a cashless society will only be successful if driven by a tech-savvy population that fully understands and, equally important, accepts digital alternatives. Nigerian stakeholders must invest in human capital, with the goal of improving access to and acceptance of digitally led solutions—not only for financial products, but for all products and services offered in the digital economy. The government must prioritize a STEM-focused curriculum as part of a multiyear approach toward creating a tech-savvy population like Sweden's. It seems that Nigeria is taking a step in the right direction with the launch of 3 Million Technical Talent. This initiative aims to create a pool of skilled technical talent that is competitive both locally and globally. The program is in line with the vision of the Tinubu administration to generate 2 million digital jobs by 2025.[28]

## Lessons From the Nigerian Context

First, the CBN should provide adequate and timely information about next steps of the naira redesign policy effort. Despite good intentions, some of its past strategies unintentionally excluded those who are unbanked. For instance, the online portal for exchanging old notes for new ones inadvertently excluded rural residents with limited internet access, technological skills, mobile banking, or valid forms of identification.[29]

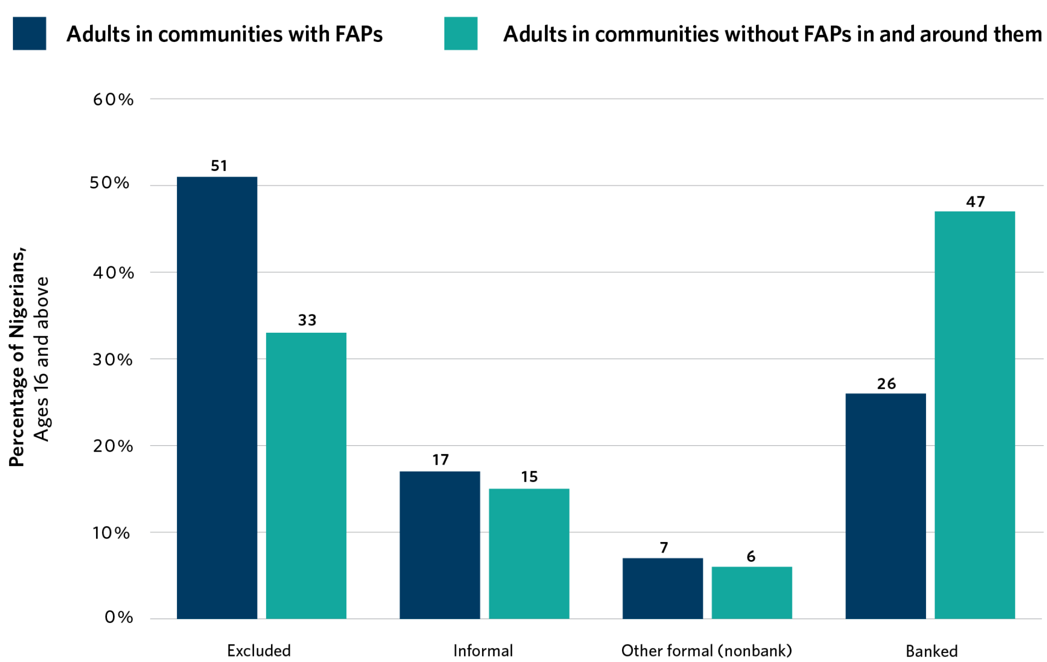
**Figure 3: Components of India Stack**



Second, the CBN should set up physical financial access points (FAPs) near consumers to help address the distance, time, and cost issues associated with visiting brick-and-mortar banks, especially in rural areas where proper address systems are lacking and obtaining identification may be difficult. In Nigeria, rural and urban inclusion rates are 34 percent and 66 percent, respectively. Unfortunately, only 38 percent of rural dwellers have access to FAPs or financial service providers, with 84 percent relying on financial service agents.[30] The government must hasten its plans to extend its agent network to rural areas to ensure a financially inclusive currency swap and promote a cashless transition. Studies show that adults in rural communities with FAPs are 21 percentage points more likely to be banked than those without FAPs (see figure 4).[31] These agents should serve consumers' needs within an accessible mile radius and promote public confidence in the financial system by providing various services such as bill and airtime payments.

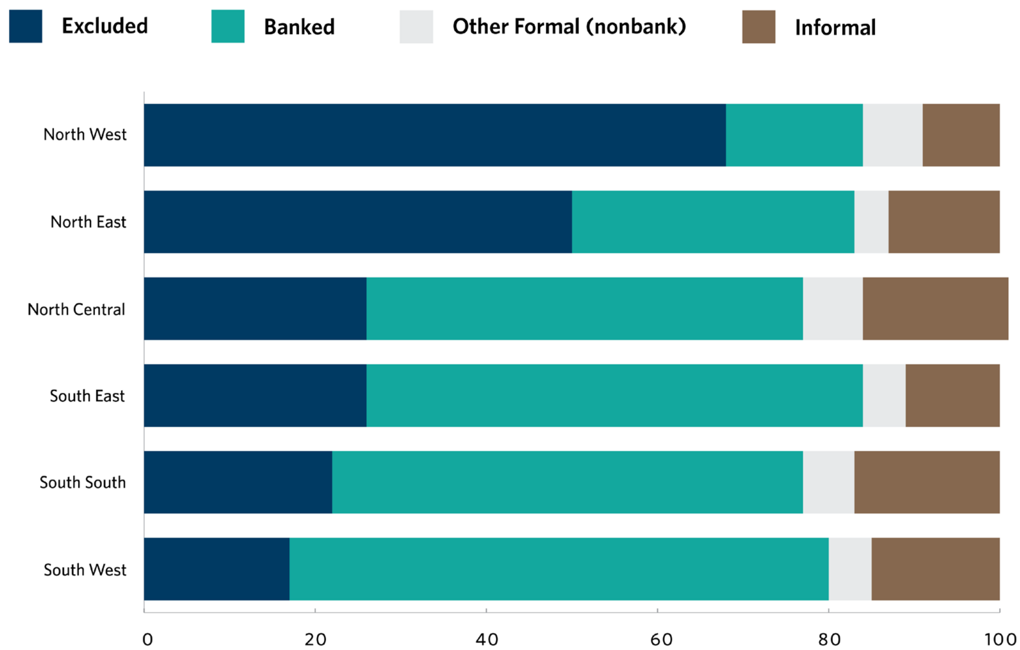
Finally, the government and the CBN should adopt strategies that target the most vulnerable to reach financially underserved groups. Studies show that transitioning to a cashless society can exacerbate financial exclusion, particularly for women and individuals with lower education levels.[32] This disparity is especially pronounced in northern Nigeria, as illustrated in figure 5.

**Figure 4: Access to FAPs Positively Affect Financial Inclusion Rates**




Source: "EFInA Access to Financial Services in Nigeria: 2020 Survey," Enhancing Financial Inclusion in Nigeria, June 3, 2021, 55, https://efina.org.ng/wp-content/uploads/2021/10/A2F-2020-Final-Report.pdf.

**Figure 5: Disparities in Financial Inclusion Across Regions in Nigeria**




Source: "EFInA Access to Financial Services in Nigeria: 2020 Survey," Enhancing Financial Inclusion in Nigeria, June 3, 2021, 56, https://efina.org.ng/wp-content/uploads/2021/10/A2F-2020-Final-Report.pdf.

## Conclusion

So, did Nigeria's controversial naira redesign policy meet its objectives? The following summary of the outcomes so far presents a relatively bleak picture.

- **On switching to the new currency notes:** Given the current prominence and use of old naira notes in the Nigerian economy, the scarcity of new notes, and the CBN's directive of November 14, 2023, stating that the old notes will remain legal tender "ad infinitum," it is credible to say that the naira redesign policy has not yet met one of its most important objectives: achieving a shift to new notes.[33]

- **On curbing illicit activities like vote-buying during the presidential election:** Reportedly, millions of naira earmarked for vote-buying were intercepted by the Economic and Financial Crimes Commission, indicating that the CBN only marginally (if at all) achieved this objective.[34]

- **On macroeconomic stability and positive economic outcomes for Nigerians and their businesses:** The aforementioned financial losses indicate that the policy's implementation has so far brought about more hardship than stability to Nigeria's individuals and businesses.

Despite the challenges faced, there is still hope for a more robust and efficient naira redesign policy. The CBN can learn from the shortcomings of the policy's implementation to date and thoroughly consider what is needed to improve the conditions for a successful transition. Insights and ideas from the Nigerian context and other countries that have implemented currency redesign policies—particularly those countries seeking to become cashless societies—illustrate the possibilities and the practical paths forward.

## About the Author

**Ebelechukwu Monye** is a research analyst in Carnegie's Africa Program focusing on Africa's digital economy and financial inclusion.

## Notes

1 Emele Onu, "Digital Currency Usage Soars in Nigeria on Cash Shortages," Bloomberg, March 21, 2023, https://www.bloomberg.com/news/articles/2023-03-21/nigeria-digital-currency-transactions-jump-63-on-cash-shortages?embedded-checkout=true; and Leandro Medina et al., "The Informal Economy in Sub-Saharan Africa: Size and Determinants," International Monetary Fund, July 10, 2017, https://www.imf.org/en/Publications/WP/Issues/2017/07/10/The-Informal-Economy-in-Sub-Saharan-Africa-Size-and-Determinants-45017; and "ILO Terms of Reference: A Rapid Diagnostics Assessing the Impact of COVID-19 on Enterprises and Workers in the Informal Economy in Nigeria," International Labour Organization, July 2020, https://www.ilo.org/wcmsp5/groups/public/---africa/---ro-abidjan/---ilo-abuja/documents/genericdocument/wcms_749091.pdf.

2 Gbemisola Alonge, "Assessing Tinubu's Exchange Rate Reforms," Stears, June 16, 2023, https://www.stears.co/premium/article/assessing-nigerias-exchange-rate-reforms/; Keem Abdul, "New Electricity Tariffs: Tinubu's Socio-Economic Game-Changer," Vanguard, July 5, 2023, https://www.vanguardngr.com/2023/07/new-electricity-tariffs-tinubus-socio-economic-game-changer/; and Felix Onuah, "Nigeria's Tinubu Says Scrapping Fuel Subsidy Has Saved \$1.32 Billion," Reuters, July 31, 2023, https://www.reuters.com/world/africa/nigeria-saved-132-bln-two-months-after-fuel-subsidy-removal-tinubu-2023-07-31/.

3 The eNaira is a digital, less costly, more secure means of payment and store of value of the naira. It was launched on October 25, 2021.

4 "Nigeria's CBN Naira Deadline: Hunting Out Savings From Under Mattresses," BBC, January 11, 2023, https://www.bbc.com/news/world-africa-64225946; and "CBN Governor Emefiele Forecloses Extension of January 31 Deadline for Return of Old Naira Notes," Arise News, January 25, 2023, https://www.arise.tv/cbn-governor-emefiele-forecloses-extension-of-january-31-deadline-for-return-of-old-naira-notes.

5 Onu, "Digital Currency Usage Soars in Nigeria"; and Nicholas Anthony, "Nigeria Restricts Cash to Push Central Bank Digital Currency," CATO, December 19, 2022, https://www.cato.org/blog/central-bank-digital-currency-war-cash.

6 Mudu Yusuf, "The Trauma of Currency Redesign Policy: Urgent Intervention Imperative by President Buhari," Centre for the Promotion of Private Enterprise, March 13, 2023, https://cppe.org.ng/the-trauma-of-currency-redesign-policy-urgent-intervention-imperative-by-president-buhari.

7 "Consumer Protection in Digital Finance Users Survey in Nigeria," Innovation for Poverty Action, May–June 2020, https://poverty-action.org/consumer-protection-digital-finance-users-survey-nigeria.

8 Point-of-sale agents are entities authorized to offer a range of financial services, such as deposits, withdrawals, bill payments, and fund transfers, on behalf of banks and other financial institutions.

9 Victor Eyeni, Abiodun Nejo, and Daniels Igoni, "Accept Old Naira or Face Sanctions, Govs Tell Traders," *Punch*, March 12, 2023, https://punchng.com/accept-old-naira-or-face-sanctions-govs-tell-traders.

10 Geoff Iyatse et al., "NLC Reconsiders Strike as CBN Opens Vault to Banks," *The Guardian*, March 27, 2023, https://guardian.ng/news/nlc-reconsiders-strike-as-cbn-opens-vault-to-banks.; and Sami Tunji, "Currency in Circulation Falls First Time in Five Months," *Punch*, August 18, 2023, https://punchng.com/currency-in-circulation-falls-first-time-in-five-months.

11 Dumebi Oluwole, "Ripple Effects: The Impact of the Naira Redesign on Nigeria's GDP," Stears, June 6, 2023, https://www.stears.co/article/ripple-effects-the-impact-of-the-naira-redesign-on-nigerias-gdp/.

12 Emele Onu and Anthony Osae-Brown, "Cash Chaos Makes February Worst in 15 Years for Heineken Nigeria," Bloomberg, March 6, 2023, https://www.bloomberg.com/news/articles/2023-03-07/cash-chaos-makes-february-worst-in-15-years-for-heineken-nigeria?leadSource=uverify%20wall.

13 Iheanyi Nwachukwu, "Nigerian Breweries: Still on the Third Consecutive Quarter of Losses," Business Day, June 6, 2023, https://businessday.ng/companies/article/nigerian-breweries-still-on-the-third-consecutive-quarter-of-losses/.

14 "Overview of GDP in Quarter One 2023," Central Bank of Nigeria, May, 2023, https://nigerianstat.gov.ng/download/1241325#:~:text=This%20growth%20rate%20declined%20from,crunch%20experienced%20during%20the%20quarter; and Gbemisola Alonge, "Assessing Tinubu's Exchange Rate Reforms.

15 "Poultry Farmers Lost N30bn Eggs to Naira Scarcity—Association," *Punch*, March 17, 2023, https://punchng.com/poultry-farmers-lost-n30bn-eggs-to-naira-scarcity-association.

16 Ruth Olurounbi, "Nigeria's March Inflation Surges to 22% on Rising Food Costs," Bloomberg, April 13, 2023, https://www.bloomberg.com/news/articles/2023-04-15/nigeria-s-march-inflation-surges-to-22-on-rising-food-costs?sref=QmOxnLFz; and Ruth Olurounbi "Nigeria Raises Gasoline Prices 15%, Adding More Pain at the Pump," Bloomberg, July 18, 2023, https://www.bloomberg.com/news/articles/2023-07-18/nigeria-raises-gasoline-prices-15-adding-more-pain-at-the-pump?embedded-checkout=true&sref=QmOxnLFz.

17 Dennis Erezi, "Tinubu to Review Buhari's Naira Redesign Policy, Says Implementation Was Too Harsh," *The Guardian*, May 29, 2023, https://guardian.ng/news/tinubu-to-review-buharis-naira-redesign-policy-says-implementation-was-too-harsh.

18 Morgan Meaker, "Sweden's Cashless Society Dream Isn't All It's Cracked Up to Be," Wired, June 4, 2020, https://www.wired.co.uk/article/sweden-cashless-society; and Liz Alderman, "Sweden's Push to Get Rid of Cash Has Some Saying 'Not So Fast,'" *New York Times*, November 21, 2017, https://www.nytimes.com/2018/11/21/business/sweden-cashless-society.html.
19 Hanna Armelius, Gabriela Guibourg, Stig Johansson, and Johan Schmalholz, "E-krona Design Models: Pros, Cons and Trade-Offs," Sveriges Riksbank Economic Review, April 27, 2020, https://www.riksbank.se/globalassets/media/rapporter/pov/artiklar/engelska/2020/200618/2020_2-e-krona-design-models-pros-cons-and-trade-offs.pdf.
20 Alfonso Siano, Lukman Raimi, Maria Palazzo, and Mirela Clementina Panait, "Mobile Banking: An Innovative Solution for Increasing Financial Inclusion in Sub-Saharan African Countries: Evidence From Nigeria," *Sustainability* 12, no. 23 (2020): 10130, https://doi.org/10.3390/su122310130; and Regean Mugume and Enock W.N. Bulime, "Post-COVID-19 Recovery for African Economies: Lessons for Digital Financial Inclusion From Kenya and Uganda," *African Development Review* 34, no. S1 (2022): S161–S176, https://doi.org/10.1111/1467-8268.12652.
21 "The Number of Swish Customers in Sweden as of May 2023, by Account Type," Statista https://www.statista.com/statistics/866139/number-of-swish-customers-in-sweden-by-account-type.
22 "Swedish BankID," Signicat and BankID, accessed April 23, 2023, https://www.signicat.com/identity-methods/swedish-bankid#:~:text=Swedish%20BankID%20is%20a%20personal,Swedish%20BankID%20through%20their%20bank.
23 Justin Rowlatt, "Why India Wiped Out 86% of Its Cash Overnight," BBC, November 14, 2016, https://www.bbc.com/news/world-asia-india-37974423.
24 Nicolas Belorgey and Christophe Jaffrelot, "Identifying 1.3 Billion Indians Biometrically Corporate World, State and Civil Society," Heidelberg Papers in South Asian and Comparative Politics, no. 80 (October 20, 2021): 1–51, https://sciencespo.hal.science/hal-03389153/document
25 Jeff Kearns and Ashlin Mathew, "How India's Central Bank Helped Spur a Digital Payments Boom," International Monetary Fund, October 27, 2022, https://www.imf.org/en/News/Articles/2022/10/26/cf-how-indias-central-bank-helped-spur-a-digital-payments-boom.
26 Kearns and Mathew, "How India's Central Bank Helped Spur.".
27 Person-to-person payments (for example, transactions between siblings); business-to-person (for example, salaries); business-to-government payments (for example, e-taxes); government-to-business payments (for example, business grants); and government-to-person payments (for example, cash transfers).
28 "Home Page," 3 Million Technical Talent Program, accessed January 8, 2024, https://3mtt.nitda.gov.ng/.
29 "Home Page," Naira Swap Portal, accessed March 30, 2023, https://crs.cbn.gov.ng/ (now defunct).
30 "EFInA Access to Financial Services in Nigeria: 2020 Survey," Enhancing Financial Inclusion in Nigeria, June 3, 2021, 53–54, https://efina.org.ng/wp-content/uploads/2021/10/A2F-2020-Final-Report.pdf.
31 "EFInA Access to Financial Services in Nigeria," 55.
32 Abraham Augustine, "The Limits of Accelerating Digital-Only Financial Inclusion," July 13, 2023, Carnegie Endowment, https://carnegieendowment.org/2023/07/13/limits-of-accelerating-digital-only-financial-inclusion-pub-90175; and Allan Odhiambo "Mobile Money Loans Have Left Us Broke, Embarrassed and In Ruins," Nation, December 9, 2022, https://nation.africa/kenya/business/mobile-money-loans-have-left-us-broke-embarrassed-and-in-ruins-4046776.
33 "CBN to Allow Old Design Naira Banknotes as Legal Tender, Ad Infinitum," Central Bank of Nigeria, November 14, 2023, https://www.cbn.gov.ng/Out/2023/CCD/CBN%20Press%20Release%20141123(Legal%20Tender%20Ad%20Infinitum).pdf.
34 Kunle Sanni, "EFCC Intercepts N32.4m Allegedly Meant for Vote Buying," *Premium Times*, February 24, 2023, https://www.premiumtimesng.com/news/more-news/583980-efcc-intercepts-n32-4m-allegedly-meant-for-vote-buying.html.

CARNEGIE
ENDOWMENT FOR
INTERNATIONAL PEACE