

Assessment of Welfare Effects of Nigeria's Currency Redesign Policy on Households in the Federal Capital Territory.

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ABSTRACT: The currency redesign policy was implemented to combat counterfeiting, and promote a cashless economy. However, its impact on household welfare, a core objective of the policy, remains underexplored empirically, with extant studies focusing predominantly on macroeconomic indicators. This study empirically investigates the policy effects on households through income, consumption, savings, and access to financial services in the Federal Capital Territory (FCT). The survey-based descriptive research design was adopted and data were collected from 375 households across the six area councils of the FCT, selected from a population of 141,776 households, using the Taro Yamane formula, yielding a sample size of 399. A structured questionnaire with a reliability coefficient of 0.919 (Cronbach's alpha) was used. The probit model adopted to test the hypotheses. Results revealed a positive effect of the currency redesign policy on all household welfare dimensions. Policy implementation led to a 42% increase in the likelihood of improved income stability, 125% increase in the probability of positive consumption changes, 38% increase in the likelihood of enhanced savings behavior, and 58% increase in the probability of improved access to financial services. The study concludes that Nigeria's currency redesign policy had a significant positive impact on household welfare in the FCT by fostering financial inclusion, encouraging formal savings, and stabilizing consumption. However, the benefits were unevenly distributed, with higher-income households benefiting the most. This study recommends complementary policies, including targeted financial literacy programs and digital infrastructure expansion, to ensure that future monetary reforms are more inclusive and equitable.

KEYWORDS: Currency Redesign, Household Welfare, Financial Inclusion, Monetary Policy, Nigeria.

INTRODUCTION

Currency redesign has increasingly emerged as a strategic monetary policy instrument to strengthen financial systems and promote macroeconomic stability. Globally, central banks adopt currency redesign initiatives to address challenges, such as counterfeiting, illicit financial flows, financial exclusion, and weakened public confidence in monetary policy (Olujobi, 2022; Umoh et al, 2025; Samuel et al, 2018). The policy was to enhance the security, credibility, and functionality of national currencies, thereby safeguarding household assets, stimulating economic activity, and improving the effectiveness of the monetary transmission mechanisms.

In developed economies, the implementation of currency redesign has successfully restored the economic and financial operations of these economies by tackling these challenges. Canada's introduction of polymer banknotes in 2011 significantly reduced counterfeit currency, enhanced public trust, and bolstered investor confidence (Bank of Canada, 2019). Similarly, the European Central Bank (ECB, 2019) reported that redesigned Euro banknotes integrated advanced security features, reinforcing public confidence despite the initial implementation challenges. These successful implementations revealed that a well-designed currency policy improves financial integrity and supports household welfare through greater monetary stability and reduced illicit activity.

In sub-Saharan African economies grappling with counterfeiting, illicit financial flows, financial exclusion, and weakened monetary policy confidence, currency redesign has also been adopted given its varying success in developed economies. Kenya's demonetization of the 1,000-shilling notes in 2019 curtailed counterfeit circulation, disrupted illicit financial networks, and expanded financial inclusion (Central Bank of Kenya, 2019). Ghana's 2019-cedi redesign enhanced the currency's security features and contributed to macroeconomic stability and investor confidence (Bank of Ghana, 2019). These experiences reveal a critical mechanism through which currency redesign influences household welfare by reducing counterfeit risks, strengthening monetary

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credibility, and encouraging participation in the formal financial system. Such policies can shape income levels, savings behavior, and consumption patterns.

Despite these global and regional successes, the policy impact and contributions to economic, financial, and household stability remain context specific. Nigeria's economic resilience and sustainable growth depend heavily on the integrity of airports and public trust in the financial system. Motivated by concerns over counterfeiting, excessive cash in circulation, and high levels of financial exclusion, the Central Bank of Nigeria (CBN) on October 26, 2022 announced the currency redesign policy, with the aimed of reducing the circulation of counterfeit currencies, the volume of cash held outside the banking system, and promote financial inclusivity. At the time of this policy introduction, over 85% of currency in circulation, rising from ₦1.46 trillion in 2015 to over ₦3.23 trillion in 2022, remained outside the banking system, thereby undermining the monetary policy effectiveness (CBN, 2023; Umoh et al, 2025). While the ratio of counterfeit notes has decreased from 20 pieces per million in 2019 to 13 in 2020 (CBN, 2022), persistent counterfeiting continues to threaten financial stability.

The effectiveness of this policy in Nigeria is further complicated by its high financial exclusion rate. Approximately 38.3 million adult Nigerians remain excluded from formal financial services due to barriers such as digital illiteracy, cyber risks, and poor financial infrastructure impeding progress (Inoue & Hamori, 2019; Udo et al, 2023; Udo et al, 2025a). Consequently, this policy's implementation raises critical questions regarding its effectiveness in addressing key economic and financial challenges. Furthermore, understanding the policy's impact on household welfare indicators such as income levels, consumption patterns, and savings habits is crucial.

Despite the policy contributions to economic and financial stability, there is limited empirical evidence of its effectiveness on improving household welfare in Nigeria. As such, the policy influence on income stability, savings behavior, and consumption patterns among Nigerian households remains uncertain.

Addressing this problem is crucial because the effectiveness of currency redesign extends beyond monetary security; it influences the broader socioeconomic fabric. Reducing counterfeiting safeguards household wealth (Olujobi, 2022; Udo et al, 2025b), while enhancing monetary credibility fosters investment and macroeconomic stability (Samuel et al, 2019). At the same time, increased financial inclusion through the expansion of access to savings, credit, and digital payment channels, which in turn improves household resilience and economic participation (Aroghene & Imene, 2023; Samuel et al, 2023; Ndubuaku et al, 2021; Okon et al, 2023). These interconnected channels underscore the need for a comprehensive evaluation of the multidimensional effects of currency redesigns on welfare outcomes.

While prior studies have explored currency redesign in other contexts, such as the appreciation of the Afghani in Afghanistan (Olujobi, 2022) and macroeconomic stabilization following Turkey's 2005 lira revaluation, there remains a significant gap in empirical evidence concerning its household-level impacts in Nigeria. This study filled this gap by providing a systematic assessment of how Nigeria's 2022 currency redesign policy affects household income, savings, consumption and access to financial services.

The contributions of this study are threefold: First, it extends the literature on currency redesign by integrating macroeconomic objectives with a micro-level welfare analysis, offering a holistic understanding of policy outcomes. Second, it provides context-specific empirical evidence from Nigeria, a lower-middle-income country with high financial exclusion, thereby enriching comparative analyses of monetary policy research. Third, the findings offer policy-relevant insights that can inform the design of future currency reforms, ensuring that they are more inclusive, effective, and aligned with the needs of the vulnerable populations.

Statement of the Problem

Currency redesign policy is widely recognized as a critical monetary policy tool to combat counterfeiting, improve macroeconomic stability, enhance financial inclusion, and restore public confidence in the monetary system. Beyond its macro-level objectives, this policy is designed to influence key household welfare indicators including income, consumption, savings, and access to financial services. However, despite these objectives, Nigeria's 2022 currency redesign has struggled to achieve its goals, especially within Federal Capital Territory (FCT).

Although the overall counterfeit ratio in Nigeria declined to approximately 13 pieces per million banknotes in 2022 (CBN, 2022), the prevalence remains significantly higher among higher denominations, ₦200, ₦500, and ₦1000, where counterfeit levels have exceeded 150 pieces per million, far above the globally accepted threshold of 100 ppm. This persistent challenge not only undermines public confidence but also exposes households to financial risk and erodes the purchasing power of money, thereby limiting the policy's anticipated income benefits.

The consumption effect of currency redesign encourages formal transactions, reduces cash hoarding, stimulates aggregate demand, improves consumer spending, and strengthens the economy. However, the Nigerian experience reveals a different outcome, with implementation challenges such as cash shortages, inflationary pressures, and financial exclusion disrupting

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consumption patterns, while structural barriers, including poor financial infrastructure, low financial literacy, and distrust in banks, limit savings mobilization, and restrict access to formal financial services. As a result, over 65% of adults remain unbanked or underbanked and less than a quarter use a formal payment system (Okon et al, 2023; Udo et al, 2025b; Umoh et al, 2025).

Empirical evidence from other countries revealed mixed and inconclusive results. In Afghanistan and Turkey, these policies improved macroeconomic stability and reduced counterfeiting (Olujobi, 2022), while studies in emerging economies highlighted short-term disruptions. Evidence from Nigeria specifically underscores persistent financial exclusion, inflationary pressures, and ongoing counterfeit circulation (Umoh et al, 2025; Morphy, 2023; Ndujihe, 2023; Olabimtan, 2023).

These mixed outcomes point to a significant knowledge gap: despite the policy's ambitious objectives, studies assessing how the policy simultaneously affects household welfare through income, consumption, savings, and access to financial services in Nigeria are scanty. This study filled this gap by investigating the policy effect on household welfare in the FCT.

LITERATURE REVIEW

Currency Redesign policy: This policy framework is broadly defined as the process of modifying a nation's physical currency to incorporate advanced security features, new materials, and updated aesthetics to enhance durability, prevent counterfeiting, control inflation, illicit financial flows, reinforce public trust in the monetary system, and promote cashless transactions (Dada, 2023; Umoh et al 2025; Samuel et al 2023; Udo et al 2025). Beyond these technical aspects, extant studies conceptualize it as a multi-dimensional monetary policy tool for economic, financial, and business securities. In Nigeria, this policy is considered a necessary intervention to address the proliferation of counterfeit notes, particularly among high-denomination notes (₦200, ₦500, and ₦1,000), to curb inflation, accelerate the transition to a cashless economy, and restore public confidence in the monetary system (Okon et al 2023; Ndubaku et al 2021; Olofin et al., 2015). As such, the Bank of Canada introduced polymer notes to reduce counterfeit currencies by over 70%, strengthen consumer confidence, and increase banknotes' lifespan of banknotes (Bank of Canada, 2019). The European Central Bank (ECB) introduced enhanced Euro banknotes with upgraded security features to reinforce public trust and currency integrity (ECB 2019). Ghana in 2007 redenominated its currency to ease transaction burdens and curbed inflation, whereas Kenya's 2019 currency change mitigated money laundering and improved financial traceability (Aroghene & Imene, 2023). However, the policy's ultimate impact is contingent on the strength of the country's financial infrastructure and the public's trust in its banking institutions.

Household Welfare: The concept of household welfare as a microeconomic construct is multi-faceted. Traditional economic perspectives measure household welfare through objective indicators such as income and consumption (Pigou, 1922; Deaton, 1997), which are directly influenced by monetary policies affecting disposable income and purchasing power. A more material perspective focuses on access to assets and essential services (Filmer & Pritchett, 2001), which improves access to credit and savings facilitated by financial inclusion. Modern approaches advocate for a multidimensional view encompassing health, education, and living standards (Alkire & Foster, 2011), as well as subjective well-being and financial security (Diener et al., 2003). This study adopts a comprehensive, multi-dimensional definition of household welfare, encompassing both economic and financial dimensions. It is measured through indicators such as household income, consumption patterns, savings behavior, access to financial services, and asset accumulation. Together, these indicators reflect a household's living standards, financial security, economic resilience, and capacity to participate in formal financial systems.

Currency redesign policies both directly and indirectly influence household welfare through multiple interconnected channels. When implemented effectively, it enhances financial inclusion, reduces counterfeit currency circulation, and facilitates more efficient financial transactions, thereby strengthening household economic security. India's 2016 demonetization led to a 25% increase in digital transactions and a significant increase in financial account ownership, reflecting the potential of well-executed monetary interventions to improve financial participation (Ghosh, 2017).

Conversely, poorly implemented redesign efforts have adverse impacts. In Nigeria, the 2022–2023 currency redesign policy restricted access to cash (Udo et al 2025; Umoh et al 2025), eroded the real value of household savings (IMF, 2020), heightened financial exclusion (Udo et al., 2023; Udo et al 2025; Udo et al 2025b;), reduced consumption, and disrupted income flows (Udo et al 2024), particularly in a cash dependent economy.

The magnitude and direction of these impacts are largely shaped by the strength of the financial infrastructure, institutional capacity, and population-level financial literacy. Empirical studies have revealed that inadequate infrastructure and low readiness exacerbate the negative outcomes of currency reforms. Umoh et al. (2025) report that policy implementation in Nigeria led households into liquidity constraints, which reduced access to essential goods and services and increased borrowing costs.

Oyelami et al. (2023) further note that approximately 70% of small-scale traders experience declines in sales and income due to cash shortages. Despite policy efforts, only 45% of Nigerian adults are financially included and digital payment adoption remains significantly lower in rural areas, deepening regional disparities in welfare (Udo et al, 2023; Samuel et al, 2023; Udo et al, 2025a,b).

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These results reveal that weak financial infrastructure, limited digital penetration, and a persistent digital divide amplify inequality and exclusion, undermining the welfare of vulnerable populations and constrain the broader socioeconomic benefits of the policy.

Theoretical Foundations

This study is underpinned by welfare economics, which provides a conceptual foundation for evaluating how public policies influence social wellbeing. Central to this framework is the utility maximization model, which posits that households allocate their resources to maximize welfare, subject to budget constraints. As a monetary policy intervention, currency redesign modifies these constraints by altering liquidity conditions, transaction costs, and access to financial services. These changes in turn influence household consumption, savings, and investment decisions, thereby shaping overall welfare outcomes.

Welfare theories provide the foundation for analyzing the distributional consequences of currency redesign policies. Utilitarianism (Bentham, 1789; Mill, 184) supports policy interventions that maximize aggregate welfare. Under this logic, currency redesign could be justified if it reduces inflation, curtails counterfeiting, and improves macroeconomic stability for the majority. Pareto efficiency, on the other hand, emphasizes welfare improvements that do not worsen any group. However, this standard is rarely met in practice because policies such as currency redesign often generate short-term disruptions that impose costs on certain groups, especially those dependent on cash transactions. The Rawlsian theory (Rawls, 1971) offers a more critical perspective by prioritizing the welfare of the least advantaged. This prompts an evaluation of whether currency redesign benefits extend to marginalized and financially excluded households or deepen pre-existing inequalities. This distributive perspective is particularly salient in contexts such as Nigeria, where financial access remains uneven.

While classical monetary theories, including the Quantity Theory of Money (Fisher, 1911) and Classical Monetary Theory, offer useful macro-level insights by linking money supply to price levels, they are often criticized for their assumptions of market efficiency, perfect information, and full employment. These assumptions do not hold in developing economies that are characterized by informality, institutional weaknesses, and financial exclusion. Nigerian experience demonstrates that a sudden contraction in money supply can have significant real effects, including reduced output, employment disruptions, and increased transaction frictions, which are inconsistent with the classical view of monetary neutrality in the short run (Keynes, 1936).

Contemporary approaches to welfare economics extend beyond traditional models by incorporating market imperfections, information asymmetries, and institutional constraints. The Access Opportunity Frontier and Access Barrier Theories (Beck & De la Torre, 2006) provide valuable frameworks for understanding how currency redesign interacts with structural factors, such as financial infrastructure density, transaction costs, regulatory frameworks, and financial literacy, to either expand or restrict household access to formal financial services. These theories underscore that the effectiveness of currency redesign depends not only on macroeconomic variables, but also on the institutional environment within which households make financial decisions.

This study draws on the neoclassical growth theory (Solow, 1956) and monetary transmission mechanisms, which posit that improvements in monetary credibility and reductions in transaction frictions can stimulate investment and consumption by enhancing price stability and reducing uncertainty. From this perspective, a well-executed currency redesign that reduces counterfeiting, curtails cash hoarding, and enhances confidence in the monetary system increases real incomes, stabilizes inflation expectations, and improves incentives for households and firms to hold deposits and adopt formal payment systems. Collectively, these dynamics contribute to improved household welfare and robust macroeconomic performance.

Empirical Review and Gap

Extant studies on currency redesign have predominantly focused on macroeconomic indicators such as counterfeit currency volumes, currency circulation, liquidity management, inflation control, and exchange rate stability. While valuable, these studies assess policy effectiveness based on aggregate outcomes rather than examining nuanced, micro-level welfare impacts. As such, in Ghana and Kenya, Aroghene and Imene (2023) reported a significant reduction in counterfeit circulation and enhanced monetary policy effectiveness following currency reforms. Similarly, Ghosh (2017) reported initial disruptions and long-term gains in financial inclusion and formal savings mobilization. However, these analyses typically ignore how these macroeconomic shifts translate into household-level outcomes such as changes in income distribution, consumption capacity, savings behavior, or access to financial services.

In Nigeria, extant studies have focused on the immediate economic consequences of the 2022 currency redesign, including liquidity shortages, disruptions in trade and market activities, and persistent financial inclusion gaps (Fasua, 2023; Otitoju et al., 2023). These studies consistently reported that cash-dependent households, informal sector participants, and rural populations are disproportionately affected by cash scarcity and transaction disruptions. Sectoral analyses also confirm declining sales among small businesses, a decline in consumption expenditure, and heightened borrowing constraints in the aftermath of the policy rollout (Oyelami et al., 2020). These findings reveal short-term effects, without integrating them into a comprehensive welfare analysis.

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Most of these studies focus on single dimensions of household impact, such as consumption and access to banking, ignoring the interconnected channels through which currency redesign shapes household welfare. While extant studies investigate shifts in consumption patterns or market performance, they rarely measure parallel changes in savings behavior, financial inclusion, or income stability. Furthermore, these studies failed to sufficiently explore distributional effects across demographic groups, income categories, or geographical locations, creating gaps in understanding how policies affect vulnerable populations differently. Few studies have attempted to measure counterfeit exposure by denomination or investigate how redesign influences trust in financial institutions and the willingness to transition from informal to formal savings mechanisms.

These gaps reveal a critical need for micro-level, multidimensional empirical analyses that go beyond aggregate indicators to capture the nuanced channels through which currency redesign influences household welfare. By applying econometric techniques and controlling for socioeconomic variables such as education, employment, and location, it seeks to generate robust, evidence-based insights that advance the literature beyond macroeconomic outcomes. In doing so, the research not only enriches scholarly understanding, but also informs the design of more inclusive and effective monetary policies tailored to the realities of developing economies.

METHODOLOGY

This study employed a survey-based descriptive research design to investigate the effect of the currency redesign policy on household welfare in FCT. The design integrates quantitative and qualitative approaches, enabling the systematic measurement of welfare outcomes and the empirical testing of hypotheses. Structured questionnaires were administered to households across six FCT area councils to capture primary data on income, consumption, savings, financial access, and perceptions of the redesign policy.

Study Area: The FCT, Nigeria’s political and economic hub, was selected because of its institutional relevance, demographic diversity, and well-developed financial infrastructure. With six area councils, Abuja Municipal, Bwari, Gwagwalada, Kuje, Abaji, and Kwali, the region hosts a heterogeneous population exposed to monetary policy interventions, providing an ideal setting for evaluating household-level impacts of the redesign policy.

Data and Variables: The dataset is from a primary source collected through a structured questionnaire organized into demographic, policy perception, and welfare sections. The dependent variable is household welfare (HW), defined as a binary outcome (1 = improved welfare post-policy; 0 = otherwise). The independent variables include household welfare indicators: income, consumption, savings, and access to formal financial services, along with control variables such as age, gender, education, and employment status.

Sampling and Data Collection: The population consists of all households in the six area councils of the Federal Capital Territory of Nigeria. It hosts approximately 141,776 households according to the 2022 National Social Register of Nigeria (National Social Register of Nigeria, 2022).

Table 1: The Population of Households in FCT, Nigeria

S/N	Area Councils	Households
1	Abaji	44713
2	AMAC	10806
3	Bwari	6971
4	Gwagwalada	6017
5	Kuje	35588
6	Kwali	37681
	Total	141,776

Source: National Social Register of Nigeria (2022).

The sample size of 399 households was determined using the Taro Yamane formula. Questionnaires were administered both physically and electronically (Google Forms) to ensure coverage and to minimize non-response bias. The Taro–Yamane formula is expressed as

$$n = \frac{N}{1 + N (e^2)}$$

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Where:

n = the sample size.

N = the target population.

e = the margin of error (level of precision).

$$n = \frac{141,776}{1 + 141,776 (0.05^2)}$$

$$0.05^2 = 0.0025$$

$$1 + 141,776 \times 0.0025$$

$$1 + 354.44 = 355.44$$

$$n = \frac{141,776}{355.44}$$

$$n \approx 398.8$$

The sample population was approximately 399 when considering a population size of 141,776, confidence level of 95%, and margin of error of 5%.

Given the binary nature of the dependent variable, this study employed a probit model to estimate the probability of welfare improvement attributable to currency redesign. The model is specified as follows:

$$P\left(HW_i = \frac{1}{CRP}, X\right) = \Phi(\beta_0 + \beta_1 CRP_i + \beta_2 HI_i + \beta_3 HCON_i + \beta_4 HS_i + \beta_5 HAFS_i + \varepsilon_i).....$$

where $HW_i = 1$ if household welfare improved post-policy and 0 otherwise; CRP = currency redesign policy variable.

β_2, β_5 = income, consumption, savings, and access to financial services

Φ = cumulative distribution function of standard normal distribution

The variables used in the study are presented in Table 2 along with their justifications. Probit regression estimates the marginal effects of key variables on welfare outcomes.

Validity, Reliability, and Ethics: Instrument validity was ensured through expert reviews and pilot testing of 200 households. Cronbach's alpha of 0.917 confirmed internal consistency and reliability. Ethical standards, including informed consent, voluntary participation, and confidentiality, were strictly monitored.

Table 2: Variables

Variable	Measurement / Scale	Justification
Household Welfare (HW)	Binary (1 = Improved welfare post-policy; 0 = No improvement)	Captures the main outcome of interest, whether the currency redesign improved household welfare.
Currency Redesign Policy (CRP)	Binary (1 = Policy perceived to affect household; 0 = No effect)	Core explanatory variable; indicates direct exposure to the policy.
Household Income Level (HI)	Ordinal (Monthly income categories)	Measuring income as a key welfare dimension affected by currency availability.
Household Consumption (HCON)	Continuous (Monthly total expenditure in ₦)	Reflects consumption patterns, a direct indicator of household welfare.
Household Savings (HS)	Continuous (Monthly savings amount in ₦)	Assesses financial resilience and saving behavior post-policy.
Access to Formal Financial Services (HAFS)	Binary (1 = Has access to banking/credit/mobile money; 0 = No access)	Evaluates the inclusion dimension of welfare outcomes.
Age of Household Head (AGE)	Continuous (Years)	Controls for age-related economic behavior differences.
Gender of Household Head (GHH)	Binary (1 = Male; 0 = Female)	Controls for gender-based differences in access and economic outcomes.
Employment Status of Household Head	Binary (1 = Employed; 0 = Unemployed)	Employment status influences income, consumption, and welfare outcomes.

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(EMP)		
Educational Level of Household Head (EDU)	Ordinal (No formal, Primary, Secondary, Tertiary)	Education affects financial literacy, income potential, and access to financial services.

Source: Author (2025)

RESULTS AND DISCUSSIONS

Questionnaires were administered to 399 respondents from 141,776 households within six area councils in the FCT, Nigeria. The hypotheses were tested using a probit regression model.

Questionnaire Distribution and Response Rate

Table 3: Distributed and Returned Questionnaire / Response Rate

S/N	Area Councils	Distributed Questionnaire	Returned Questionnaire	Response Rate
1	Abaji	126	118	29.57
2	AMAC	30	29	7.27
3	Bwari	20	18	4.51
4	Gwagwalada	17	16	4.01
5	Kuje	100	94	23.56
6	Kwali	106	100	25.06
	Total	399	375	93.98
Valid	Response Rate	Frequency	Percent	
	Complete	375	93.98	
	Invalid	9	2.26	
	Incomplete	15	3.76	
	Total	399	100.0	

Source: Author's Survey Computation (2025)

Out of the 399 questionnaires distributed across the six area councils of the FCT, 375 were returned, giving a high response rate of 93.98%. most valid responses were from Abaji, Kwali, and Kuje, reflecting strong engagement in these areas. Only 2.26% were invalid and 3.76% were incomplete, indicating well-designed instruments and reliable data. High return and validity rates enhance the representativeness and robustness of the study's findings.

Pre-estimation Test Results

Reliability Test: The internal consistency and reliability of the research instrument was tested using the Cronbach's alpha, a widely accepted measure of scale reliability. The results revealed a coefficient of 0.919, which is well above the recommended minimum threshold of 0.50 (Nunnally, 1978). This high coefficient indicates that the questionnaire items exhibit excellent internal consistency, suggesting that the instrument is both reliable and robust for statistical analysis, and capable of generating valid and dependable results for the study.

Table 5: Reliability Statistics

Cronbach's Alpha		No of Items
Questionnaire	0.919	20

Source: Author's survey computation (2025)

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Model Estimation Results

Table 6: Income effect of currency redesign policy

Parameter Estimates							
	Parameter	Estimate	Std. Error	Z	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
PROBIT ^a	Income effect of currency redesign policy	0.42	0.15	2.80	0.005	0.13	0.72
	Intercept	0.35	.012	2.92	0.003	0.12	0.58
a. PROBIT model: $\text{PROBIT}(p) = \text{Intercept} + \text{BX}$							

Source: Author's survey computation (2025)

The findings in Table 6 reveal a significantly positive relationship between income and household welfare under Nigeria's 2022 currency redesign policy ($\beta = 0.42$, $p = 0.005$). High-income households are more likely to benefit from the policy because of their greater financial resilience, access to banking services, digital tools, and financial literacy. Conversely, low-income households face barriers such as limited banking access and higher vulnerability to disruptions. Beyond direct impacts, the policy also curtailed illicit cash use, reduced counterfeit circulation, and enhanced participation in the formal economy, thus strengthening income stability. It further stimulated job creation in digital financial services and contributed to macroeconomic stability by reducing inflationary pressure. Overall, the policy improved welfare and inclusivity, but benefited higher-income groups more, highlighting the need for targeted interventions such as digital literacy programs and expanded financial access to support low-income households and promote equitable outcomes.

Table 7: Consumption effect of currency redesign policy

Parameter Estimates							
	Parameter	Estimate	Std. Error	Z	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
PROBIT ^a	Consumption effect of the currency redesign policy	1.25	0.30	4.167	0.001	0.66	1.84
	Intercept	0.50	.010	5.000	0.001	0.31	0.69
a. PROBIT model: $\text{PROBIT}(p) = \text{Intercept} + \text{BX}$							

Source: Author's survey computation (2025)

The results in Table 7 show a statistically significant positive relationship between currency redesign and household consumption ($\beta_1 = 1.25$, $p = 0.001$). This indicates that the policy substantially increased the likelihood of improved consumption patterns among the households. The intercept ($\beta_0 = 0.50$, $p = 0.001$) was also significant, suggesting a baseline probability of consumption improvement, even without other influencing factors. These findings imply that currency redesign enhances household purchasing behavior by encouraging formal financial transactions, improving liquidity, and stabilizing prices. Households with better integration into the banking system likely maintained or increased their spending capacity, while broader economic adjustments such as reduced cash hoarding and improved payment infrastructure supported overall consumption growth.

Table 8: Saving effect of currency redesign policy

Parameter Estimates							
	Parameter	Estimate	Std. Error	Z	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
PROBIT ^a	The saving effect of the currency redesign policy	0.38	0.14	2.71	0.007	0.11	0.65
	Intercept	0.31	.011	2.82	0.005	0.10	0.52
a. PROBIT model: $\text{PROBIT}(p) = \text{Intercept} + \text{BX}$							

Source: Author's survey computation (2025)

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The results indicate that a 1% increase in the implementation of the currency redesign policy increases the probability of improved household savings by 38%, demonstrating a strong positive effect on saving behavior. This suggests that the policy encouraged households to save more, driven by greater financial awareness, reduced cash circulation, and the increased use of formal banking and digital savings platforms. Households are better equipped for structured financial planning, which reduces long-term financial uncertainty. These findings are consistent with those of Abubakar and Yandaki (2023) and NIBSS (2023), who reported a surge in account openings and enhanced savings due to the shift toward cashless transactions. By lowering the risks associated with theft and counterfeit currency, the policy indirectly strengthened the savings culture. Furthermore, Morphy (2023) and Nwanma (2023) emphasize that redesign policies reduce financial waste and foster prudent saving habits. The results align with Classical Welfare Economics and Rawlsian theory, highlighting that increased savings support collective welfare, economic stability, and equity, particularly for low-income groups. Overall, the Probit regression confirms that the policy significantly enhanced household welfare through improved savings behavior, financial inclusion, and long-term economic resilience.

Table 9: Access to Financial Services

Parameter Estimates							
	Parameter	Estimate	Std. Error	Z	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
PROBIT ^a	Access to Financial Services	0.58	0.14	4.14	0.000	0.31	0.85
	Intercept	0.30	0.08	3.75	0.000	0.01	0.43

a. PROBIT model: $\text{PROBIT}(p) = \text{Intercept} + \text{BX}$

Source: Author’s survey computation (2025)

The results show that a 1% increase in the implementation of the currency redesign policy leads to a 58% increase in the probability of improved household access to financial services, with a Z-value of 4.14, confirming a strong statistical significance. The confidence interval [0.31, 0.85] further validated this positive effect. Households reported greater access to banking, credit, and microfinance services, along with increased adoption of digital tools such as ATMs, mobile banking, and POS systems. This outcome aligns with the NIBSS (2023), which reported a surge in financial service points, and Abubakar and Yandaki (2023), who documented expanded agency banking in underserved areas. The policy also lowered transaction costs, improved security, and reduced reliance on cash (Morphy, 2023; Emejo, 2022). These findings are consistent with classical welfare economics and Rawlsian theory, showing that enhanced access promotes allocative efficiency, financial inclusion, and equity, especially among disadvantaged groups. Overall, the probit analysis confirmed that the currency redesign policy significantly improved household access to financial services, supporting digital adoption, economic participation, and broader welfare gains.

Post-Estimation Test Results

Across all models, the convergence information confirms that the estimation procedures successfully reached optimal solutions within 16–20 iterations. This indicates that the probit models were properly specified and statistically stable. Pearson Goodness-of-Fit tests further validated the robustness and reliability of the models. Each model produced high chi-square values with corresponding p-values of 1.000, well above the conventional threshold of 0.150. These results confirmed that the estimated models fit the observed data exceptionally well. Additionally, the absence of heterogeneity across all models suggests that the residuals were uniformly distributed, strengthening confidence in the predictive accuracy and validity of the estimated relationships.

Table 10: Post-Estimation Test Results

Indicator	Chi-Square	df	p-value	Iterations	Model Fit
Income Effect	238.416	339	1.000	20	Good fit
Consumption Effect	292.820	361	1.000	20	
Savings Effect	107.134	355	1.000	20	
Access to Financial Services Effect	264.703	363	1.000	16	

Source: Author’s survey computation (2025)

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The post-estimation results confirm that the probit models applied in this study are statistically robust and reliable in explaining the policy effect on key dimensions of household welfare. Each model demonstrated excellent convergence and goodness-of-fit, indicating that the observed outcomes, including increased income resilience, improved consumption behavior, enhanced savings, and expanded access to financial services, are not due to random variation, but reflect true underlying relationships.

The uniform distribution of residuals across all models further strengthens the validity of the results, showing that the predictors are appropriately specified, and that no significant model misspecification exists. Overall, the findings provide strong empirical support for the study's hypotheses, reinforcing the conclusion that Nigeria's currency redesign policy has a statistically significant and positive influence on multiple aspects of household welfare.

Using Probit regression analysis, the following findings were established based on the hypotheses test:

1. **Income Effect:** The policy positively and significantly impacted household income, with a unit change in policy implementation leading to a 42% increase in the likelihood of improved income. This suggests enhanced financial stability through increased business revenue and employment opportunities created by the policy.
2. **Consumption Effect:** The currency redesign policy significantly influences household consumption patterns. Households have experienced changes in spending habits, with a notable increase in essential spending. However, the policy contributed to inflationary pressure, which affected affordability.
3. **Savings Effect:** Currency redesign encouraged savings with a unit change in policy implementation, resulting in a 38% increase in the likelihood of improved household saving behavior. It also facilitated long-term financial planning despite the financial uncertainties associated with the policy.
4. **Access to Financial Services:** The policy significantly enhanced access to financial services, through digital platforms such as mobile banking and POS systems. A 58% improvement in access was observed with policy implementation.

CONCLUSION

This study assesses the impact of the currency redesign policy on household welfare, focusing on key dimensions, such as income, consumption, savings, and access to financial services. The empirical results, based on probit regression analysis, revealed that the policy significantly influenced all of these aspects, demonstrating both direct and indirect effects on household economic well-being. Results reveal that income plays a critical role in shaping how households adapt to the policy, with higher-income groups being more capable of leveraging digital finance tools and navigating the transition from a cash-based to a cashless economy. The policy also enhanced consumption patterns by promoting financial discipline and enabling households to manage resources better. Similarly, redesign significantly boosted savings behavior because limited cash circulation and improved financial awareness encouraged households to utilize formal savings platforms and plan for the future. Access to financial services improved notably, with more households opening bank accounts and adopting digital payment systems, thereby strengthening financial inclusion and economic resilience.

Beyond these direct effects, the policy produced broader macroeconomic benefits, including reduced illicit financial activities, decreased counterfeit currency circulation, lower inflationary pressures, and an expanded digital financial infrastructure. These systemic outcomes contribute to long-term income stability, enhanced security, and greater economic transparency, aligned with the principles of welfare economics and social justice.

In conclusion, the currency redesign policy significantly advanced household welfare in Nigeria, although the distribution of benefits was uneven, with low-income households facing more challenges during this transition. To maximize the policy's long-term impact and ensure inclusive growth, complementary measures, such as targeted financial literacy programs, rural banking initiatives, and digital infrastructure expansion, are essential. When supported by these interventions, currency redesign can serve as a powerful tool for strengthening household welfare, deepening financial inclusion, and promoting sustainable socioeconomic development.

Based on the findings and conclusions of this study, the following recommendations are proposed to enhance the effectiveness of future currency redesign policies and to maximize their positive impact on household welfare in Nigeria.

1. **Enhance Financial Literacy and Inclusion:** Implement nationwide financial education campaigns and design inclusive banking products to help low-income and rural households adapt to digital finance and benefit from monetary reforms.
2. **Invest in Digital Infrastructure:** Expand Internet connectivity, mobile banking platforms, and POS networks to improve access to financial services and bridge the urban-rural digital divide.
3. **Strengthen Policy Implementation and Coordination:** Ensure that future currency redesign policies are well planned, phased, and coordinated with key stakeholders to minimize disruptions and build public trust.
4. **Support Vulnerable Households and Small Businesses:** Introduce targeted social protection measures and provide incentives for small enterprises to adopt digital payment solutions, enhance resilience, and reduce inequality.

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