

PAYMENT SYSTEMS AND MOBILE MONEY AS DRIVERS OF FINANCIAL INCLUSION: BALANCING INNOVATION WITH FINANCIAL INTEGRITY IN SIERRA LEONE

Joseph Momoh Conteh

Peking University China Beijing

Musa Abdullah Kargbo

Fourah Bay College University of Sierra Leone

Dr. Dante Allie Bendu

Fourah Bay College University of Sierra Leone

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ABSTRACT

Sierra Leone has built a modern retail payment architecture in under a decade, culminating in the Salone Payment Switch and a central bank directive requiring all banks and mobile money operators to route domestic transactions through it from 1 April 2025. Account ownership nonetheless stands at roughly 39% of adults, against a sub-Saharan African average of 58 per cent, and the country's digital finance market is characterised by mass registration alongside minimal use. This article examines whether payment system modernisation and mobile money growth are in fact driving financial inclusion in Sierra Leone, and how the resulting integrity risks are being governed. The study synthesises administrative and survey evidence from the Bank of Sierra Leone and the United Nations Capital Development Fund Annual Provider Survey, Global Findex 2021 and 2025, GSMA industry data, GIABA mutual evaluation and follow-up findings, and International Monetary Fund Article IV documentation, and interprets that evidence through an institutional and payments-economics framework. Three findings emerge. First, Sierra Leone's inclusion deficit is a usage deficit rather than an access deficit: approximately 2.9 million wallets carry a zero balance and around 57 per cent of registered mobile money accounts are dormant, so infrastructure investment addresses a constraint that is no longer binding. Second, the tiered know-your-customer regime immobilises roughly 70% users in the lowest tier, capping transaction limits precisely for the population that interoperability is intended to serve. Third, integrity supervision is not competing with inclusion but underwriting it: the Financial Intelligence Unit investigated 14 online financial fraud cases across 2020 and 2021, against survey evidence that 41% of consumers had been targeted by phishing. The article argues that detection capacity, not payment rails, is the binding constraint, and proposes a sequenced framework in which integrity investment is treated as the enabling condition for usage rather than as a compliance cost imposed upon it.

Keywords: financial inclusion; mobile money; payment systems; financial integrity; anti-money laundering; interoperability; digital financial services; Sierra Leone

1. INTRODUCTION

The global stock of mobile money accounts passed 2.1 billion in 2024, and Africa held 1.1 billion of them, representing 53 per cent of the world total and 74 per cent of global transaction volume (GSMA, as reported in Bank of Sierra Leone & UNCDF, 2025). Those proportions describe a structural fact rather than a passing enthusiasm. In much of the continent the mobile wallet is the

retail payment system, and the bank account is the exception. Account ownership across sub-Saharan Africa rose from 34 per cent of adults in 2014 to 58 per cent in 2024, and 20 per cent of adults in the region now hold a mobile money account and nothing else (World Bank, 2025).

Sierra Leone sits at the wrong end of that distribution. Roughly 39 per cent of adults hold an account of any kind, derived from World Bank estimates that 3.19 million of a 5.20 million adult population remain unbanked (World Bank, 2025). Kenya records 90 per cent, Ghana 81 per cent. The gap is not explained by the absence of infrastructure. Sierra Leone licensed mobile money in 2015, published agency guidelines in 2020, enacted a National Payment Systems Act in 2022, commissioned a national switch in 2023, and launched instant interoperable payments in February 2025. On the standard checklist of payment system reform, the country has done most of what the literature recommends, and it has done it quickly.

This produces the puzzle the article addresses. If the enabling infrastructure is largely in place and adoption remains shallow, then the diagnosis that has driven a decade of donor-supported reform, that inclusion is constrained by the absence of interoperable rails, is either wrong or incomplete for Sierra Leone. The article argues that it is incomplete in a specific and consequential way. Sierra Leone's problem is not that people cannot open accounts. It is that around 57 per cent of registered mobile money accounts are inactive, approximately 2.9 million wallets carry a zero balance, and the dominant transaction pair remains cash-in followed by cash-out (Bank of Sierra Leone & UNCDF, 2025). Value passes through the digital system; it does not rest there. A payment switch improves the efficiency of value that is already circulating digitally. It does little for a household that treats the wallet as a transit corridor between two piles of banknotes.

The second element of the argument concerns integrity. Conventional policy framing treats anti-money laundering and counter-terrorist financing requirements as a constraint on inclusion, a tax that must be minimised through proportionality and simplified due diligence (FATF, 2013; Isern & de Koker, 2009). That framing has produced real gains and it remains correct in jurisdictions where compliance burdens are the operative barrier. It is misleading for Sierra Leone. Here the integrity regime is not suppressing usage through excessive rigour; it is failing to generate the trust on which usage depends. Survey work commissioned in support of the country's consumer protection policy found that 41 per cent of consumers had been targeted by phishing calls or messages, 37 per cent had shared their personal identification number, and 10 per cent reported that agents charged unauthorised fees on every transaction (UNCDF, 2020). Against that, the Financial Intelligence Unit reported investigating eight cases of online financial fraud in 2020 and six in 2021 (Mano Reporters, 2022). The distance between the incidence of harm and the volume of enforcement is the finding, and it has direct implications for how the next phase of reform should be sequenced.

Three research questions organise the analysis. First, what has payment system modernisation actually delivered against measurable inclusion outcomes in Sierra Leone, as distinct from infrastructure milestones? Second, which constraints now bind on the usage margin, and how do identity, tiering, agent economics and connectivity interact to produce the observed pattern of registration without activity? Third, is the country's integrity architecture capable of supervising a digital retail payment system operating at the scale the switch is designed to enable, and if not, what is the practical consequence for the pace at which the system should be expanded?

The contribution is threefold. Empirically, the article assembles the first consolidated account of Sierra Leone's digital finance market drawing together the sixth Annual Provider Survey, Global Findex 2025, GIABA follow-up assessments and IMF programme documentation, and it treats the discrepancies among these sources as analytically informative rather than as noise to be smoothed. Conceptually, it proposes a framework in which financial integrity is positioned as a condition on

the inclusion-development chain rather than as a downstream consequence of it. For policy, it offers a sequenced programme that assigns priority to detection and redress capacity ahead of further rail construction, and it argues that this ordering is more likely to raise usage than the reverse.

2. LITERATURE REVIEW

2.1 Financial inclusion: from access to usage and quality

Early inclusion scholarship measured access. Sarma (2008) constructed a multidimensional index combining penetration, availability and usage, and the World Bank's Findex programme from 2011 onward standardised account ownership as the headline indicator. The theoretical warrant came from the finance-and-growth literature: financial development relaxes credit constraints, improves the allocation of capital, and disproportionately benefits the poor (Levine, 2005; Beck et al., 2007). Allen et al. (2016) established that account ownership responds to cost, proximity and documentation requirements, which gave policymakers three tractable levers.

The field has since moved decisively towards usage and quality. Account ownership turned out to be a weak proxy for welfare because dormant accounts are common and because the binding constraint frequently lies in the product rather than the aperture. Karlan et al. (2014) documented that savings uptake among poor households responds less to access than to trust, transaction costs and self-control problems. Dupas and Robinson (2013) showed that even free accounts generate substantial returns only for subgroups with a clear use case. This distinction is the analytical foundation of the present article: a jurisdiction can register the entire adult population and still be financially excluded in every sense that matters for welfare.

2.2 Financial intermediation and the payments channel

Classical intermediation theory explains financial institutions as solutions to information and monitoring problems (Gurley & Shaw, 1960; Diamond, 1984). Payments occupy an awkward position in that theory because a payment system performs no delegated monitoring. Its function is to reduce the transaction cost of exchange and to provide settlement finality, which the Committee on Payments and Market Infrastructures and the World Bank (2016) formalised in the payment aspects of financial inclusion framework: transaction accounts are the entry point to the financial system, and the payment system is the infrastructure that makes them worth holding.

That framework carries an implication generally under-examined in the African literature. If transaction accounts are valuable primarily as gateways to savings, credit and insurance, then a payment system that only moves money is delivering a fraction of its potential contribution. The GSMA data confirm the point at continental scale: in 2024, 44 per cent of African mobile money providers offered credit, up from 24 per cent in 2023, and savings offerings grew from 23 to 34 per cent (Bank of Sierra Leone & UNCDF, 2025). Sierra Leone lags this transition badly, with only 27 per cent of banks offering digital loans and no institution offering agency advance facilities.

2.3 Adoption theory and its limits in low-income settings

Diffusion of innovations (Rogers, 2003) and the technology acceptance model (Davis, 1989; Venkatesh et al., 2003) remain the standard lenses for mobile money adoption, and a substantial applied literature has confirmed that perceived usefulness, perceived ease of use, social influence and facilitating conditions predict intention to adopt. Senyo and Osabutey (2020) applied this apparatus to Ghanaian fintech and found trust and perceived risk to be the strongest antecedents.

The limitation is that these models explain individual adoption decisions conditional on a functioning supply side, and in Sierra Leone the supply side is itself the variable. Lashitew et al.

(2019) demonstrated that cross-country variation in mobile money diffusion is driven far more by regulatory accommodation and provider strategy than by consumer characteristics. Mothobi and Grzybowski (2017) showed that infrastructure deficiencies, particularly electricity access, condition adoption independently of any perceptual variable. In a country where 39.2 per cent of the population has electricity access (World Bank, 2025), a model that treats facilitating conditions as a perception rather than a physical fact will systematically misattribute causation.

2.4 Institutional theory and the regulation of digital finance

Institutional theory supplies the missing element. North (1990) distinguished institutions as the rules of the game from organisations as the players, and the distinction matters here because Sierra Leone has been notably more successful at producing rules than at building the organisations that enforce them. DiMaggio and Powell's (1983) account of coercive, mimetic and normative isomorphism describes with some precision how a small West African central bank comes to adopt an instant payment system architecture closely modelled on Ghanaian and Nigerian precedents, under donor encouragement, within a compressed timetable.

Isomorphism is not a criticism in itself. Borrowing proven design reduces risk. The analytical question is whether the borrowed institution is accompanied by the supervisory organisation that made it work in the source jurisdiction. Scott (2014) frames this as the gap between regulative structures and the normative and cultural-cognitive pillars that sustain compliance. Sierra Leone's mutual evaluation findings, discussed in section 7, indicate that the gap is wide.

2.5 Financial integrity and the inclusion-integrity relationship

The dominant framing of the relationship between integrity and inclusion is one of tension to be managed. de Koker (2011) argued that rigid customer due diligence requirements exclude undocumented populations and push activity into channels that are harder to monitor, so that excessive stringency is self-defeating. The Financial Action Task Force (2013, 2017) accepted this logic, endorsing a risk-based approach and simplified due diligence for low-risk products. Chatain et al. (2011) provided the specific application to mobile money, identifying anonymity, elusiveness, rapidity and poor oversight as the four risk vectors.

There is, though, a second relationship in the literature that receives far less attention and that the Sierra Leonean evidence makes central. Integrity failure suppresses inclusion directly, through the destruction of trust. If a substantial share of users has experienced or witnessed fraud and has no realistic prospect of redress, rational behaviour is to minimise stored value and to convert to cash at the earliest opportunity. That is precisely the behaviour the Sierra Leonean data record. The inclusion-integrity relationship in this setting is complementary rather than competitive, and the policy implication reverses: strengthening detection and redress is an inclusion intervention, not a brake on one.

2.6 Interoperability: contested evidence

Interoperability is the most confidently asserted and least well-evidenced element of contemporary payments policy. The theoretical case rests on network externalities: a closed-loop system's value to a user rises with the number of counterparties reachable, so mandated interconnection should raise adoption and reduce prices. Ghana is the exemplar, where the Bank of Ghana's 2015 e-money guidelines and the 2018 mobile money interoperability framework operated by GhIPSS preceded a rise in instant payment volumes from 0.1 million in 2018 to 37.7 million in 2021 (GSMA, 2024).

The counter-evidence is substantial. The GSMA's five-market assessment covering Ghana, Kenya, Malawi, Rwanda and Tanzania concluded that in four of the five, mobile money adoption was already high before interoperability was implemented, and that financial inclusion therefore preceded interoperability rather than resulting from it (GSMA, 2024). Providers opt into interconnection once they have achieved scale and their incentives shift from customer acquisition to transaction revenue. AfricaNenda (2026) reaches an apparently opposing conclusion, reporting that African economies launching cross-domain instant payment systems saw account access grow by an average of 37 per cent over the following two years against 14 per cent in economies without one. The two findings are reconcilable, and the reconciliation matters for Sierra Leone: selection into instant payment system adoption is not random, and the economies that build switches are those where market development, regulatory capability and political commitment already exist. The switch may be a marker of those conditions rather than a substitute for them.

2.7 Research gaps

Three gaps follow. First, the empirical literature on Sierra Leone's digital financial sector is thin and predominantly descriptive, consisting largely of provider surveys and consultancy assessments rather than analytical treatments; the peer-reviewed work that exists tends to address fraud perception at the level of the individual user rather than system-level governance. Second, the interoperability literature has concentrated on markets that reached scale before interconnection, leaving the case of a switch installed at low penetration substantially untheorised. Third, and most consequentially, the integrity literature and the inclusion literature remain largely separate bodies of work, with the former treating inclusion as a constraint on effective supervision and the latter treating supervision as a cost. This article addresses all three.

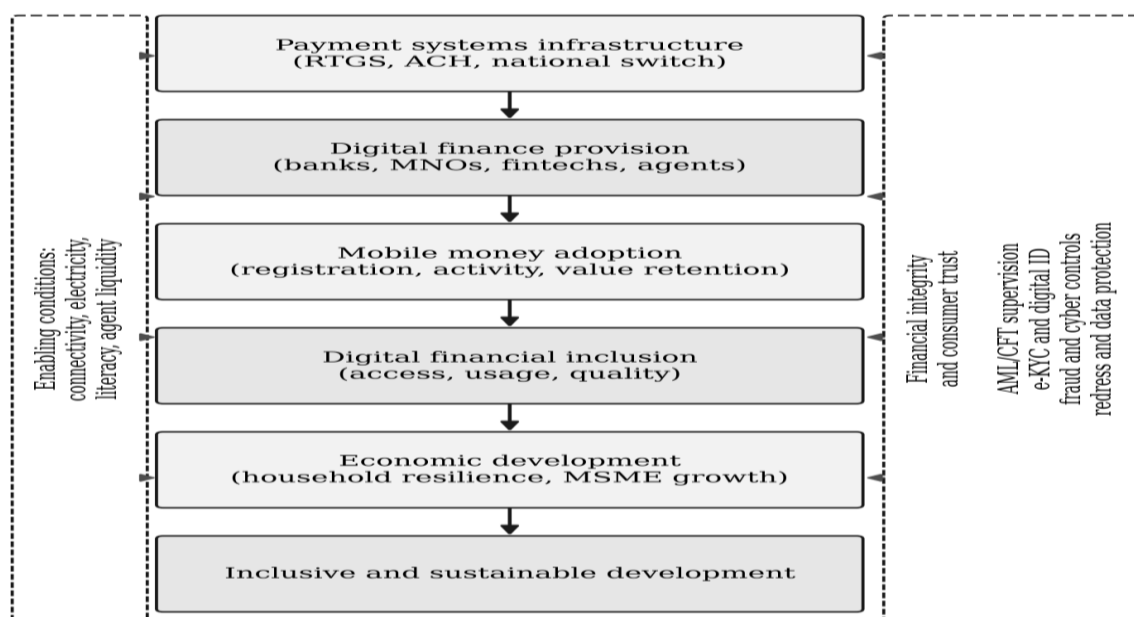


Figure 1. Conceptual framework: payment systems, inclusion and the integrity condition

Note. The chain from infrastructure to inclusive development is conditioned throughout by enabling conditions on the input side and by financial integrity and consumer trust on the governance side, rather than integrity entering as a downstream stage. Author's construction.

3. THE PAYMENT SYSTEM IN SIERRA LEONE: STRUCTURE AND TRAJECTORY

3.1 From cheque clearing to instant payments

Sierra Leone's retail payment system was, until the middle of the last decade, a cheque-and-cash system with a thin card overlay confined to Freetown. Wholesale modernisation preceded retail modernisation, as it did across the region: the Bank of Sierra Leone established real-time gross settlement and automated clearing house capability to serve interbank settlement and government payments, but neither infrastructure touched the household economy.

The retail transformation began with the Guidelines for Mobile Money Services in 2015, which established the trust account requirement, defined agent responsibilities, imposed know-your-customer obligations and gave customers recourse to the central bank where provider complaint handling failed (Bank of Sierra Leone, 2015). The sequence that followed is set out in Table 1.

Table 1 Evolution of the payment system in Sierra Leone, 2015 to 2025

Year	Development	Institutional significance
2015	Guidelines for Mobile Money Services issued	Established e-money as a regulated category; trust account and KYC obligations imposed
2017	National Strategy for Financial Inclusion 2017–2020 (NSFI-1); BSL regulatory sandbox established in June	First sandbox in the sub-region; inclusion elevated to formal policy objective
2018	Second Annual Provider Survey conducted with UNCDF	Supervisory data collection institutionalised
2020	Agency banking guidelines published in January	Legal basis for third-party agent networks beyond MNO channels
2022	National Payment Systems Act (Act No. 8 of 2022), assented 23 June; NSFI-2 launched 14 April	Licensing, capital adequacy, e-money redemption at par, National Payment System Committee
2023	National Payment Switch announced 19 April; launched May; National Switch Directives issued	Phase 1 card and point-of-sale interoperability across six commercial banks
2024	BSL directive of 17 December mandating full integration by 1 April 2025	Compliance shifted from voluntary to mandatory with financial sanctions
2025	Salone Payment Switch Instant Payment Service launched 13 February	Real-time bank-to-bank and wallet-to-bank transfers; seven banks and two MNOs connected at launch

Note. Compiled from Bank of Sierra Leone (2015, 2022, 2024), World Bank (2023), UNCDF (2022) and contemporaneous reporting of the February 2025 launch.

Two features of this chronology deserve comment. The first is compression. Ghana's equivalent journey ran from the creation of GhIPSS in 2007 to mobile money interoperability in 2018, eleven

years during which the market reached scale and the Bank of Ghana accumulated supervisory experience. Sierra Leone traversed comparable ground in under a decade, and from a much lower base of both market development and institutional capacity.

The second is the character of the 2024 directive. Requiring all banks, mobile money operators and payment service providers to route domestic transactions through the Salone Payment Switch by 1 April 2025, on pain of financial sanction, is a strong instrument. It solves the coordination problem that has stalled interoperability elsewhere, where incumbent providers with dominant market positions have little incentive to interconnect. It also creates a specific risk: compliance can be satisfied by technical connection without any corresponding change in transaction routing or consumer behaviour. Connection counts are a poor proxy for usage, and the announcement that seven banks and two mobile network operators were connected at launch tells us about integration status, not about whether anyone is transacting.

3.2 Market structure

Three mobile network operators provide mobile money: Orange, trading as Orange Money; Africell, trading as AfriMoney; and QCell, trading as QMoney (Bank of Sierra Leone & UNCDF, 2025). The bank-led side of the market comprises commercial banks offering mobile applications, web channels, cards and, in a minority of cases, agency banking. Fintech participation is emerging but modest, channelled largely through the regulatory sandbox that the Bank of Sierra Leone has operated with UNCDF support since June 2017.

The asymmetry between the two channels is the defining structural fact. Telecom-led services operate through approximately 39,400 agents nationally. Bank-led digital financial services operate through 716 agents. Banks report a monthly average of about 7,800 agent transactions worth some SLE 25 million, against roughly 903,000 monthly digital self-service transactions worth about SLE 2.5 billion and 246,000 card transactions worth about SLE 3.3 billion (Bank of Sierra Leone & UNCDF, 2025). Bank digital channels serve an existing, urban, higher-value customer base efficiently. They do not reach the excluded population, and the data give no indication that they are being configured to do so: agency banking is offered by 55% of banks, digital lending by 27%, and agency advance facilities by none.

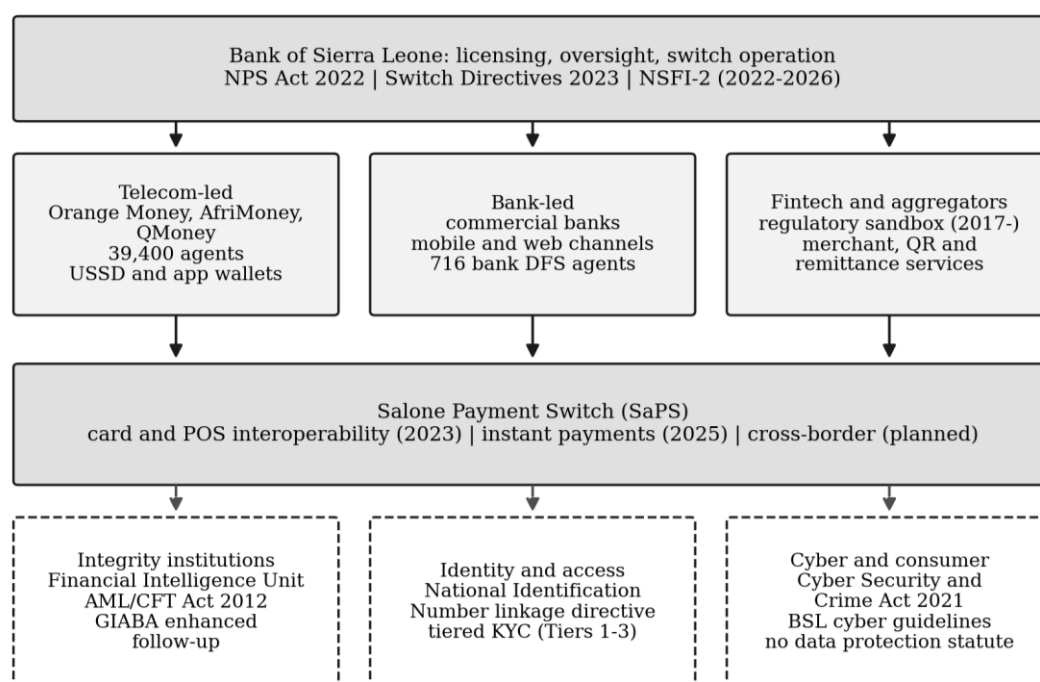


Figure 2. The digital financial ecosystem and integrity governance architecture in Sierra Leone

Note. Solid boxes denote market and infrastructure institutions; broken boxes denote integrity, identity and consumer governance functions. Constructed from Bank of Sierra Leone and UNCDF (2025), Parliament of Sierra Leone (2021, 2022) and Bank of Sierra Leone (2015, 2024).

3.3 Channels, instruments and gaps

Mobile applications are universal among banks, with web, automated teller machine and card channels each at 91 per cent, and chat banking at 18 per cent. Bill payments and airtime top-up are the most widely available services at 91 per cent, with merchant payments, inward and outward remittances at 75 per cent (Bank of Sierra Leone & UNCDF, 2025). Merchant acceptance infrastructure remains the weakest link in the chain. Quick response code acceptance is not yet at a scale that permits systematic measurement, and the transaction data confirm the consequence: bill payments in the Western Area, the country's commercial centre, amount to approximately SLE 4.1 million against deposits of approximately SLE 1.02 billion in the same region and period.

That ratio is the single most diagnostic figure in the dataset. Where merchants do not accept digital payment, a wallet holder who receives funds digitally must convert to cash to spend. Cash-out is then not a failure of financial literacy but a rational response to an acceptance network that does not exist. Every subsequent policy question about dormancy, zero balances and low value retention resolves back to this point.

4. THE GROWTH OF MOBILE MONEY

4.1 The trajectory

The measured expansion of digital financial services in Sierra Leone has been rapid in registration terms and considerably less so in activity terms. Table 2 assembles the series from the Annual Provider Survey.

Table 2. Digital financial services and mobile money indicators, Sierra Leone, 2016 to 2024

Indicator	2016	2017	2019	2020	2024
Adults actively using DFS (%)	6	n.a.	n.a.	n.a.	n.a.
Active customer accounts (90-day)	n.a.	385,000	1.4 million	2.2 million	n.a.
Registered DFS accounts	n.a.	n.a.	6.2 million	n.a.	n.a.
Monthly transactions (December)	n.a.	6.1 million	n.a.	n.a.	n.a.
Transaction value (December)	n.a.	SLL 310 billion (US\$39m)	n.a.	n.a.	n.a.
Active mobile money agents	n.a.	n.a.	n.a.	11,307	c. 39,400
Reporting providers	10	10	10	10	12 (2021 survey)
Mobile money operators	2	2	2	2	3

Note. n.a. denotes not available in the published source. Compiled from UNCDF (2018, 2020, 2021, 2022) and Bank of Sierra Leone and UNCDF (2025). The 2024 agent figure is the sum of regional totals reported in the sixth Annual Provider Survey and includes dormant agents. Transaction values are reported in old Leones (SLL) for 2017 and new Leones (SLE) thereafter following the 2022 redenomination at 1,000:1.

The series is incomplete because the underlying surveys changed instrumentation between rounds, and the sixth survey reports distributions and regional breakdowns rather than the headline national aggregates published in earlier editions. This is itself a supervisory finding. A central bank that has mandated system-wide interoperability requires a consistent national time series on registered accounts, active accounts, transaction volumes and values. Its absence limits both academic analysis and the Bank's own capacity to evaluate the switch against its objectives.

What the series does establish is a sharp discontinuity in 2020. Active accounts rose from 1.4 million in December 2019 to 2.2 million in December 2020, an increase of 57 per cent, following growth of 123 per cent in the preceding year (UNCDF, 2021). The COVID-19 pandemic and the associated fee waivers and distancing measures were the proximate cause. The agent network expanded from 11,307 in 2020 to approximately 39,400 by 2024, a more than threefold increase.

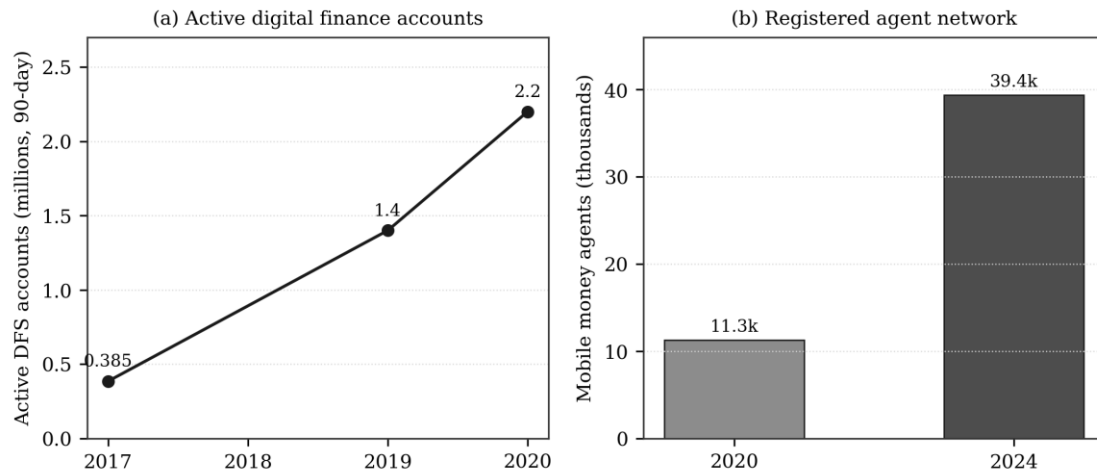


Figure 3. Active digital finance accounts and the mobile money agent network, Sierra Leone, 2017 to 2024

Note. Panel (a) plots active 90-day accounts for the years in which the figure was published; 2018 is omitted because the published source reports growth rates rather than a level. Panel (b) compares active agents in 2020 with the sum of regional agent totals in 2024, which includes dormant agents and is therefore not strictly comparable. From UNCDF (2018, 2021) and Bank of Sierra Leone and UNCDF (2025).

4.2 The activity problem

Registration growth has not converted into use. Approximately 56.5 per cent of female and 56.6 per cent of male mobile money accounts were inactive in 2024, and around 2.9 million wallets carried a zero balance, of which 65.5 per cent belonged to men (Bank of Sierra Leone & UNCDF, 2025). Applying the reported zero-balance proportions to the total implies a registered wallet base of approximately 5.3 million, of which fewer than half are meaningfully in use.

The transaction mix explains why. Across all regions, deposits totalled approximately 4.9 million transactions and cash-outs approximately 3.2 million, together accounting for the overwhelming majority of transaction volume. Bill payments and rebalancing transactions were the smallest categories. Airtime top-up leads on volume and contributes little to value; peer-to-peer transfers lead on value. This is a cash-in, cash-out system with a person-to-person transfer layer on top of it, and it has not evolved into a store of value or a platform for financial services.

4.3 Distributional patterns

The gender gap is severe and is widening in the dimensions that matter. Men constitute 66.8 per cent of the mobile money user base and women 33.2 per cent. Women hold 251,000 Tier 3 accounts against 545,000 held by men, and 146,000 Tier 2 accounts against 264,000. Women's share of transaction value falls below their share of transaction volume in nearly every category, and their participation in bulk disbursements, loans and outward remittances is close to absent. Female agents constitute approximately 4 per cent of the agent base (Bank of Sierra Leone & UNCDF, 2025). Bank-led channels show a materially narrower gap at 57 per cent male and 43 per cent female users, which is consistent with bank digital services serving a formally employed and urban population where gender differentials in access are smaller.

The age distribution is unexpected and warrants scrutiny. The survey reports that the 36 to 45 age group constitutes 52.6 per cent of the user base, with the 26 to 35 group at 27.8 per cent. In a

country with a median age under 20, a user base concentrated in the fourth decade of life is difficult to reconcile with the youth-led adoption pattern documented elsewhere in West Africa. Two explanations are plausible: registration under the identity documents of older household members, or classification artefacts in provider records. Either would matter for policy, and the question deserves direct investigation.

Regional concentration is extreme. Table 3 sets out the distribution.

Table 3. Regional distribution of mobile money agents, agent density and transaction volumes, 2024

Region	Total agents	Agents per 100,000 people	Deposit transactions	Cash-out transactions	Bank DFS agents
Western	15,400	1,213	2,459,900	1,708,400	340
Southern	8,400	459	756,700	480,700	220
Eastern	6,500	337	1,084,400	460,300	61
Northern	6,000	456	381,200	336,200	71
North West	3,100	259	218,100	209,000	24
West					
National	c. 39,400	n.a.	4,900,300	3,200,600	716

Note. Figures are approximations as reported in the sixth Annual Provider Survey. From Bank of Sierra Leone and UNCDF (2025). Regional totals for agents include dormant agents, which range from approximately 34 per cent of the Western network to approximately 57 per cent of the Southern network.

The Western Area holds 1,213 agents per 100,000 people; North West holds 259. A resident of the North West faces roughly one fifth the service density of a resident of Freetown. The Eastern region presents an instructive anomaly: it has fewer agents than the Southern region but processes considerably more deposit transactions, which suggests either higher per-agent productivity or a more genuine dependence on the mobile channel in the absence of banking alternatives.

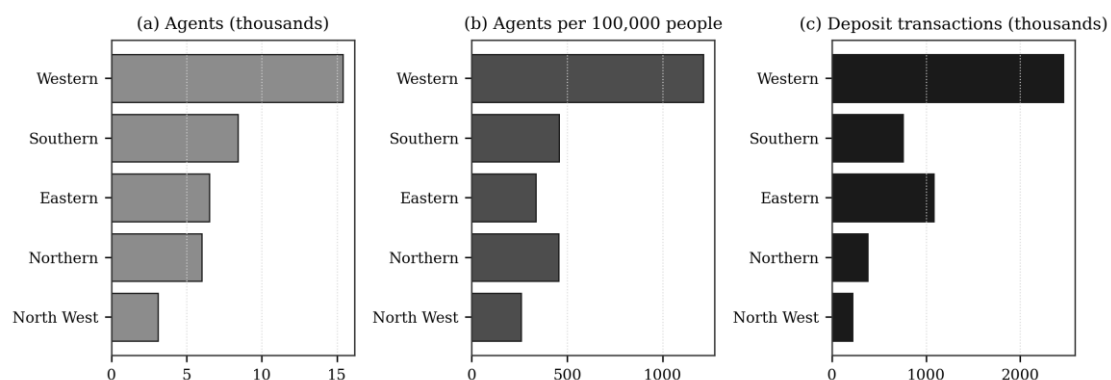


Figure 4. Regional agent numbers, agent density and deposit transaction volumes, 2024

Note. From Bank of Sierra Leone and UNCDF (2025). Agent density is agents per 100,000 population.

4.4 Drivers and constraints

The drivers of what growth has occurred are straightforward: mobile connections stood at 8.28 million in early 2024, equivalent to 93.2 per cent of the population; agent networks tripled between 2020 and 2024; the pandemic supplied a demand shock; and the state has pursued digital payment adoption as declared policy since 2017 (DataReportal, 2024; Bank of Sierra Leone, 2022).

The constraints are more revealing. Internet penetration stood at 30.4 per cent at the start of 2024, so roughly seven in ten Sierra Leoneans transact, if at all, over unstructured supplementary service data on a feature phone (DataReportal, 2024). Electricity access covers 39.2 per cent of the population (World Bank, 2025), which constrains both device charging and agent operations. The GSMA Mobile Connectivity Index score of 45 places the country well below the threshold at which app-based financial services become viable at scale. Agent dormancy of between one third and well over half of the network by region indicates that agent economics are marginal outside the commercial centre. These are not perceptual barriers amenable to awareness campaigns. They are physical and commercial constraints, and they will not be resolved by a payment switch.

5. CONTRIBUTION TO FINANCIAL INCLUSION

5.1 What the aggregate indicators show

Table 4 assembles the inclusion picture.

Table 4. Financial inclusion and digital connectivity indicators, Sierra Leone and comparators

Indicator	Sierra Leone	Sub-Saharan Africa	Source year
Account ownership (% adults 15+)	c. 39	58	2024
Adults without an account (millions)	3.19 of 5.20	n.a.	2024
Made or received a digital payment (% adults)	16 (2017); 27 (2021)	n.a.	2017, 2021
Mobile money account ownership (% adults)	14 male; 9 female	40 (2024)	2017; 2024
Internet penetration (% population)	30.4	n.a.	Jan 2024
Mobile connections (% population)	93.2	n.a.	Jan 2024
Electricity access (% population)	39.2	n.a.	2024
GSMA Mobile Connectivity Index (1–100)	45	n.a.	2024
Personal remittances received (% GDP)	7.85 (2022); 6.1 (2023); 4.6 (2024)	n.a.	2022–2024
Firms using mobile money (% of surveyed firms)	32 (48 of 150)	n.a.	2017

Note. Compiled from World Bank (2025), *Making Finance Work for Africa* (n.d.), *DataReportal* (2024), and *World Bank Enterprise Surveys* (2017). Comparator figures for sub-Saharan Africa are from *Global Findex* 2025.

Sierra Leone's account ownership of roughly 39% against a regional average of 58%, and against Kenya's 90% and Ghana's 81%, places the country in the lower quintile of African performance. Figure 3 sets this in comparative perspective. Digital payment usage rose from 16% of adults in 2017 to 27% in 2021, a meaningful gain, though from a base so low that the absolute increase remains modest.

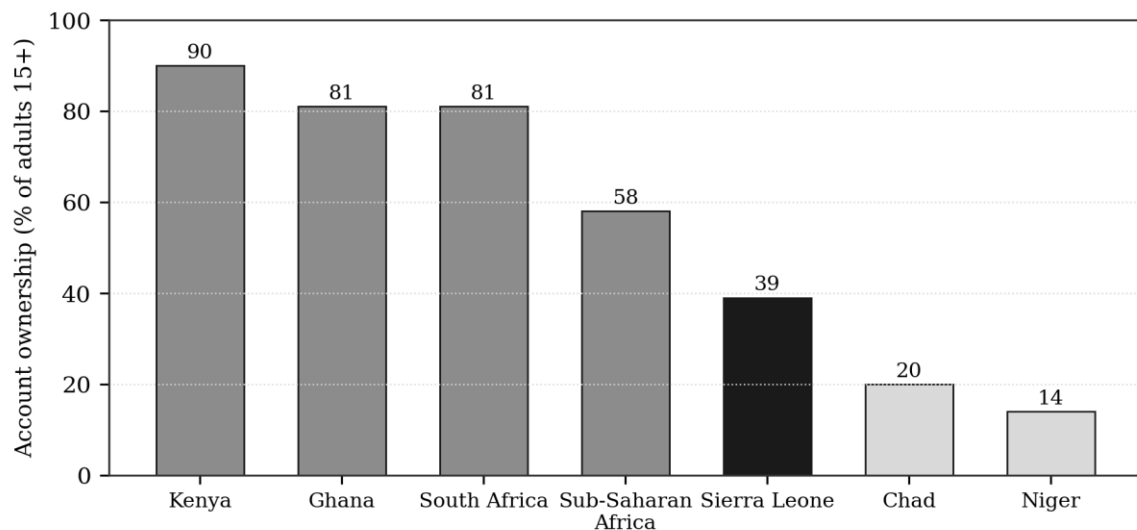


Figure 5. Account ownership in comparative perspective, 2024

Note. Percentage of adults aged 15 and above holding an account at a financial institution or with a mobile money provider. The Sierra Leone figure is derived from World Bank estimates of 3.19 million unbanked adults in an adult population of 5.20 million. From World Bank (2025).

5.2 Households, women and youth

The evidence that mobile money improves household risk-sharing is among the strongest in development economics. Jack and Suri (2014) demonstrated that Kenyan households with M-PESA access smoothed consumption in the face of negative income shocks while non-users did not, and Suri and Jack (2016) subsequently estimated that access lifted approximately 194,000 Kenyan households out of poverty, with disproportionate effects for female-headed households. Riley (2018) confirmed the risk-sharing channel in Tanzania.

Whether these results transfer to Sierra Leone is doubtful on the current configuration. The risk-sharing mechanism operates through the ability to receive remittances from a dispersed network at low cost and at short notice. That requires a counterparty network large enough to include the people who would send. At roughly 39 per cent account ownership and with 57 per cent of accounts dormant, the effective network is a fraction of the adult population, and the sending side is concentrated in the Western Area. The mechanism is present in principle and attenuated in practice. Remittance inflows, which fell from 7.85 per cent of GDP in 2022 to 4.6 per cent in 2024, are substantial enough to matter but the share flowing through formal digital channels remains undocumented.

For women, the Sierra Leonean data suggest that mobile money is currently reproducing rather than reducing exclusion. A one-third share of the user base, a two-to-one disadvantage in higher-tier account holding, near-absence from credit and bulk payment flows, and a 4 per cent share of agency roles together describe a channel that women use for receiving small amounts and topping up airtime. The comparison with bank-led services, where the gender split is 57 to 43, indicates that the gap is not a general characteristic of digital finance in Sierra Leone but a specific characteristic of the mobile money channel, which points towards agent-level and identity-related causes rather than technology aversion.

5.3 MSMEs, agriculture and the credit gap

Enterprise use is where the inclusion argument is weakest. World Bank Enterprise Survey data recorded 48 of 150 surveyed firms, or 32 per cent, using mobile money, and predominantly to receive payments from customers rather than to manage working capital (AERC, 2023). Digital credit, the mechanism through which transaction histories become collateral, is offered by 27 per cent of banks and remains marginal on the mobile money side. The wider African market has moved decisively in this direction, with the number of users accessing mobile-money-enabled loans rising by 50 per cent in under a year and 44 per cent of providers offering credit by 2024 (Bank of Sierra Leone & UNCDF, 2025). Sierra Leone has not participated in that shift.

The reason is not purely technological. Credit to the private sector grew at 25.0, 21.0 and 20.4 per cent in recent years in nominal terms, which in an environment of high inflation represents limited real expansion, and the banking system remains highly concentrated, with the fifty largest borrowers accounting for around 60 per cent of total exposure in 2022 (IMF, 2024; Making Finance Work for Africa, n.d.). Banks holding capital adequacy of 35 per cent against a 15 per cent statutory minimum and liquid assets equal to 78.3 per cent of total assets are not capital-constrained. They are choosing not to lend to the segment that digital credit would serve, and no payment infrastructure changes that calculation.

5.4 Government payments

Government-to-person and person-to-government payments are the most reliable lever available for converting registration into use, because they generate recurrent, predictable digital inflows and give the state a direct interest in acceptance. Sierra Leone has committed to this route through membership of the Better Than Cash Alliance and through the expectation, stated at the switch's inception, that the National Revenue Authority would benefit from automated revenue collection (World Bank, 2023). Published evidence of the volumes actually migrated is not available, which is a gap that both the Ministry of Finance and the Bank of Sierra Leone are positioned to close and should.

5.5 Savings, insurance, human capital payments and resilience

The welfare case for digital finance rests substantially on what sits above the payment layer. Formal savings raise investment in microenterprises and in human capital; insurance transfers covariate risk; and digital payment of school fees and health charges reduces the leakage and travel cost that deter households from using services at all. Sierra Leone has almost none of this.

Savings products offered through the mobile money channel are minimal, and the zero-balance data indicate that even informal wallet-based saving is not occurring at scale. This is a design outcome as much as a behavioural one. A Tier 1 account with a low balance cap is not a savings instrument, and a system in which the dominant transaction sequence is deposit followed by immediate withdrawal offers the user no reason to leave value in place. Insurance offerings reached 28 per

cent of African mobile money providers by 2024 (Bank of Sierra Leone & UNCDF, 2025); the Sierra Leonean market shows no comparable movement, and the country's exposure to climate shocks and to health emergencies makes the absence consequential rather than merely disappointing.

Education and health payments represent the most tractable near-term opportunity, and one that policy has not pursued. School fee payment through wallets creates a recurrent, predictable digital outflow that gives households a reason to hold value; it also generates a payment record that can support credit assessment. The same applies to health facility charges. Both require institutional acceptance rather than consumer behaviour change, which places them within reach of government direction in a way that merchant acceptance in the informal retail sector is not.

Economic resilience is where the cost of these gaps is ultimately paid. The Findex resilience indicators measure how long a household could cover expenses after losing its main income source, and the mechanism through which digital finance improves that duration runs through stored savings and through the ability to call on a dispersed network at short notice. Sierra Leone's configuration supports the second weakly and the first not at all. A country facing recurrent climate and price shocks has built a payment system optimised for moving small sums quickly and has not built the savings and insurance layer that would convert that capability into protection.

6. FINANCIAL INTEGRITY RISKS

6.1 The risk profile of a low-value, high-volume, cash-intensive system

The standard mobile money risk vectors, anonymity, elusiveness, rapidity and weak oversight, apply in Sierra Leone with a particular emphasis (Chatain et al., 2011). Individual transaction values are low, which reduces the money laundering attractiveness of any single transfer and increases the attractiveness of structuring across many. The predominance of cash-in and cash-out means that the digital record captures a fragment of the transaction chain: cash enters at an agent, moves once, and leaves at another agent. Neither end is documented beyond the agent's own record-keeping. A system in which approximately 4.9 million deposits and 3.2 million cash-outs occur against comparatively negligible merchant and bill payment activity is, from a supervisory standpoint, a cash system with a digital transmission segment in the middle.

The predicate crime environment compounds this. Sierra Leone's mutual evaluation identified proceeds-generating crimes of a transnational character, including offences connected to extractive sectors, alongside a domestic corruption problem, and found international cooperation hampered by the absence of specific guidelines and of any structured case management system for handling requests (GIABA, 2021).

6.2 The detection gap

The central integrity finding of this article is quantitative. Consumer research conducted in support of Sierra Leone's consumer protection policy found that 41 per cent of surveyed consumers had been targeted by phishing calls or messages, 37 per cent had shared their personal identification number, and 10 per cent of mobile money users reported that agents charged them unauthorised fees on every transaction (UNCDF, 2020). The Financial Intelligence Unit reported that it investigated eight cases of online financial fraud in 2020 and six in 2021 (Mano Reporters, 2022).

Fourteen investigations across two years, in a market with several million registered wallets and where two in five consumers report being targeted, is not a measure of the incidence of fraud. It is a measure of the capacity to detect it. The mutual evaluation reinforces the point from the

supervisory side: suspicious transaction reporting is concentrated almost entirely in the banking sector, with negligible reporting from bureaux de change and designated non-financial businesses and professions, and supervisors are significantly under-resourced relative to the breadth of their responsibilities (GIABA, 2021).

This has a direct behavioural consequence that the inclusion literature has largely missed. Where fraud is common and redress is unavailable, minimising stored value is rational. The 2.9 million zero-balance wallets and the cash-out-dominated transaction mix are, in part, a rational risk management response by users to a system in which they bear the entire loss from fraud. Dormancy is not simply a marketing failure. It is a trust equilibrium.

6.3 The identity and tiering constraint

Identity sits at the centre of both the integrity problem and the inclusion problem. Approximately 6.4 million people hold a National Identification Number, but fewer than 500,000 physical identity cards had been issued as at 2024 owing to cost constraints in the first year of issuance (Borgen Project, 2026). The Bank of Sierra Leone has issued a directive requiring the linkage of National Identification Numbers to bank accounts and mobile wallets, which is the correct instrument.

The consequence of the present position is visible in the tiering data. Roughly 70 per cent of both female and male users hold only Tier 1 accounts, with 8.1 per cent of women and 7.4 per cent of men at Tier 2, and 14 per cent and 15.3 per cent respectively at Tier 3 (Bank of Sierra Leone & UNCDF, 2025). Tier 1 exists to admit users who cannot satisfy full due diligence, and it does so by capping balances and transaction values. Seven in ten users are therefore held at limits designed for provisional, low-risk access, and they remain there indefinitely. The tier that was intended as an on-ramp has become a terminus.

This produces a compounding failure. Users capped at Tier 1 cannot hold meaningful balances, which suppresses value retention and reinforces the cash-out pattern. They cannot access credit, savings or insurance products that require higher limits. And from the supervisory perspective, a population transacting under simplified due diligence is precisely the population about which the least is known, so the integrity benefit of the arrangement is also limited. Table 5 sets out the risk architecture in full.

Table 5. Financial integrity risks, transmission channels and mitigation measures

	Transmission channel			
Risk	in Sierra Leone		Current mitigation	Assessed adequacy
Money laundering through structuring	Multiple low-value cash-in and cash-out transactions below reporting thresholds across agents		Tiered KYC; AML/CFT Act 2012; provider transaction monitoring	Weak: no evidence of cross-provider aggregation; switch not yet used for monitoring
Terrorist financing	Regional exposure through porous land borders with Guinea and		FIU analysis; GIABA regional cooperation	Weak: no structured case management for international requests (GIABA, 2021)

	Transmission channel		
Risk	in Sierra Leone	Current mitigation	Assessed adequacy
	Liberia; informal value transfer		
Agent fraud and unauthorised fees	Agent charges or executes unauthorised transactions on customer wallets	Agency guidelines 2020; provider codes	Weak: 10 per cent of users report systematic overcharging (UNCDF, 2020)
Social engineering, phishing and smishing	SMS and voice impersonation of providers and prize scams; PIN disclosure	Provider awareness campaigns	Weak: 41 per cent targeted; 37 per cent have shared PIN (UNCDF, 2020)
SIM swap and account takeover	Compromise of subscriber identity module to seize wallet control	MNO internal controls; NIN linkage directive	Untested: no published incident data
Identity fraud and synthetic identity	Registration on incomplete or borrowed identity documentation; low card issuance	NIN linkage directive; tiered KYC	Partial: 6.4m NINs but under 500,000 cards issued
Cybercrime against institutions	Intrusion into provider and bank systems; data exfiltration	Cyber Security and Crime Act 2021; BSL cybersecurity and IT risk guidelines for banks	Partial: no published sectoral incident reporting regime
Data misuse and privacy breach	Provider and agent handling of customer data without statutory constraint	NPS Act 2022 consumer provisions	Weak: no dedicated data protection statute in force
Consumer detriment without redress	Loss borne by consumer; complaint escalation to BSL rarely exercised	Mobile Money Guidelines 2015 complaint route	Weak: FIU investigated 14 online fraud cases across 2020–2021

Risk	Transmission channel		Current mitigation	Assessed adequacy
	in Sierra Leone			
Regulatory arbitrage	Differential treatment of bank-led and telecom-led providers; fintechs outside sandbox	NPS Act 2022	licensing regime	Partial: licensing framework in place, supervisory capacity constrained
Cryptocurrency and stablecoin spillover	Unregulated peer-to-peer trading; remittance substitution	None specific		Absent: no published regulatory position

Note. Assessment of adequacy is the author's, based on the evidence cited in each row.

6.4 Cross-border and emerging exposures

Phase 3 of the Salone Payment Switch is intended to connect to international payment gateways. Cross-border interoperability multiplies both the inclusion benefit and the integrity exposure, and it does so asymmetrically: the benefit accrues gradually as corridors are established, whereas the exposure is immediate on the day the corridor opens. Sierra Leone's correspondent banking relationships are already sensitive to its enhanced follow-up status under GIABA, and the risk of de-risking by international correspondents is real. Sequencing therefore matters. Opening international connectivity before domestic transaction monitoring is functioning would expose the country's institutions to precisely the scrutiny that the 2024 technical compliance upgrades were intended to relieve.

Cryptocurrency and stablecoin activity represents an unmeasured exposure. The Bank of Sierra Leone has not published a regulatory position, and the absence of one is not neutrality but a gap. Where remittance costs are high and formal channels are slow, peer-to-peer stablecoin transfer is an obvious substitute, and it is invisible to the entire supervisory apparatus described in this article.

6.5 Identity theft, synthetic identity and agent-level exposure

Identity-related fraud in Sierra Leone takes a form distinct from that in higher-documentation jurisdictions. Synthetic identity fraud, the construction of a fictitious person from a combination of real and fabricated attributes, requires a documentation system rich enough to be gamed. Sierra Leone's exposure runs the other way: with 6.4 million National Identification Numbers issued against fewer than 500,000 physical cards, the verification burden falls on agents who frequently cannot verify anything. Registration under a relative's documentation, or under documentation that the presenting person does not in fact hold, is the more likely failure mode, and it is consistent with the anomalous concentration of the reported user base in the 36 to 45 age bracket noted in section 4.3.

The agent is the point at which every integrity control in the system either holds or fails. Agents perform customer registration, execute transactions, and in practice mediate the customer's understanding of the product. They are also the population that survey evidence identifies as a source of unauthorised charging, and the point at which personal identification numbers are disclosed. An agent network of approximately 39,400, of which between a third and well over half is dormant by region, cannot be supervised by direct examination. It can only be supervised through the transaction record, which returns the analysis to the monitoring capability discussed in section 7.3.

Subscriber identity module swap fraud deserves particular attention as the identity linkage programme proceeds. Binding wallets to a national identifier raises the value of compromising the associated telephone number, and no published incident data exist against which to assess whether operator controls are adequate. Establishing a baseline before the linkage is complete would be prudent; establishing one afterwards will be considerably harder.

7. REGULATORY AND GOVERNANCE FRAMEWORK

7.1 The legal architecture

Sierra Leone's payments and integrity law is more complete on paper than the country's institutional performance would suggest. Table 6 sets out the framework.

Table 6 Regulatory framework governing payment systems and digital financial services

Instrument	Year	Scope	Principal gap
Guidelines for Mobile Money Services	2015	E-money issuance, trust accounts, agent conduct, KYC, customer complaints	Predates the NPS Act; not fully harmonised with tiered KYC practice
Anti-Money Laundering and Combating of Financing of Terrorism Act	2012	Predicate offences, reporting obligations, FIU mandate	Effectiveness rather than technical compliance is the constraint
Agency banking guidelines	2020	Third-party agent networks for banks and MFIs	Slow bank uptake; 716 bank agents nationally
Cyber Security and Crime Act	2021	Cyber offences, electronic evidence, critical information infrastructure	No mandatory sectoral incident reporting; enforcement capacity limited
National Payment Systems Act (No. 8)	2022	Licensing, capital adequacy, e-money redemption at par, float management, NPS Committee, BSL examination powers	Secondary regulations and supervisory staffing lag the statute
National Strategy for Financial Inclusion 2022–2026 (NSFI-2)	2022	DFS expansion, client-centric products, financial education and consumer protection	Measurement framework inherited the gender-disaggregation weakness of NSFI-1

Instrument	Year	Scope	Principal gap
National Directives	Switch 2023	Participation obligations for payment system participants	Compliance defined by connection rather than by routed volume
BSL directive on full switch integration	2024	Mandatory routing of domestic transactions from 1 April 2025	No published usage reporting against the mandate
Directive on linking NIN to accounts and wallets	2024–2025	Identity linkage for bank accounts and mobile wallets	Physical card issuance under 500,000 against 6.4m NINs
Data protection legislation	Pending	Personal data processing	No statute in force; drafting under the Ministry of Information and Civic Education

Note. Compiled from Bank of Sierra Leone (2015, 2022, 2024), Parliament of Sierra Leone (2021, 2022), UNCDF (2022) and Council of Europe (n.d.).

The National Payment Systems Act 2022 is a competent piece of drafting. It requires that electronic money be issued in exchange for Leones or highly liquid assets acceptable to the central bank, that issuers redeem e-money at par on request, that float management and redemption obligations be clearly defined, and that issuers submit periodic statistics on loaded and redeemed value so that the Bank can monitor the quantity and velocity of electronic money in circulation (Parliament of Sierra Leone, 2022). It confers examination powers exercisable without prior notice and establishes a National Payment System Committee. The statutory foundations for prudential oversight of e-money are, in short, sound.

7.2 The compliance and effectiveness distinction

The mutual evaluation record makes the operative distinction clear. Following the on-site visit of 15 to 26 July 2019 and adoption of the mutual evaluation report in December 2020, Sierra Leone entered enhanced follow-up. By November 2024 it had secured re-rating of eight Recommendations, numbers 10, 14, 15, 17, 18, 22, 32 and 38, from partially compliant to largely compliant, bringing the total rated compliant or largely compliant to 27, and it submitted a fifth enhanced follow-up report in 2025 (FATF, 2024; GIABA, 2025). This is genuine progress and it reflects sustained work.

Technical compliance re-ratings, though, measure the quality of laws and regulations. They do not measure whether the system detects, investigates and prosecutes. The mutual evaluation's effectiveness findings identified under-resourced supervisors, suspicious transaction reporting concentrated in banking with negligible contribution from higher-risk sectors including foreign exchange bureaux, real estate agents and dealers in precious metals and stones, and international cooperation constrained by the absence of guidelines and case management systems (GIABA, 2021). The IMF's 2024 Article IV assessment reached the same conclusion in programme language, noting that further progress is needed on AML/CFT reforms and that effective implementation should prioritise convicting launderers and confiscating proceeds (IMF, 2024).

Sierra Leone is therefore a jurisdiction with an improving rulebook and an underpowered enforcement apparatus. That combination has a particular pathology in the payments context: rules that are formally binding but rarely enforced impose compliance costs on the institutions that follow them while conferring advantage on those that do not, which selects against exactly the well-governed providers the system needs.

7.3 Supervision of a switched system

The Salone Payment Switch changes what supervision can be. A central switch through which all domestic transactions pass is, in principle, the single most valuable supervisory technology a low-capacity jurisdiction can acquire. It creates one point at which cross-provider transaction patterns become visible, which is the only place where structuring across multiple mobile money operators can be detected. No individual provider can see a customer's aggregate activity across the market; the switch can.

Sierra Leone has built this capability and there is no published evidence that it is being used for supervisory purposes. Bank of Sierra Leone ownership and management of the switch makes the arrangement available without any further legal instrument. Deploying analytics at the switch, with appropriate legal safeguards and a data protection statute in place, would convert an infrastructure investment into a supervisory one, and it would do so at a small fraction of the cost of recruiting and training the number of examiners that conventional risk-based supervision of dozens of institutions would require. This is the single highest-return regulatory technology intervention available to the country, and it is the central recommendation of this article.

7.4 Consumer protection, redress and data governance

The Mobile Money Guidelines 2015 give customers the right to escalate complaints to the Bank of Sierra Leone where a provider has handled them unsatisfactorily. The evidence that this route functions at scale is absent, and the pattern of consumer detriment documented in section 6.2 suggests it does not. A redress mechanism that requires an individual who has lost the equivalent of a few days' income to escalate to the central bank is not a redress mechanism in any operational sense.

The absence of a data protection statute is the sharper gap. The National Payment Systems Act contains consumer provisions covering data protection and privacy in payment transactions, but sectoral provisions in a payments statute are not a substitute for a general data protection regime with an independent supervisory authority. This matters increasingly as the National Identification Number becomes the linking key across banks, wallets and government services. Concentrating identity in a single national identifier without a statutory framework governing its processing creates a surveillance and misuse exposure that grows with every additional linkage. The correct sequence is to enact the data protection statute before completing the identity linkage, and Sierra Leone is proceeding in the opposite order.

7.5 RegTech, SupTech and interagency coordination

The argument for supervisory technology in Sierra Leone does not rest on its being fashionable. It rests on arithmetic. Conventional risk-based supervision of commercial banks, three mobile money operators, microfinance institutions, foreign exchange bureaux and an emerging fintech sector requires a number of trained examiners that the Bank of Sierra Leone does not have and that the current fiscal envelope will not fund. Automated analysis applied to data the system already generates is the only route to coverage.

Two conditions must be met for this to work, and neither is technical. The first is legal authority to analyse switch-level data for supervisory purposes, with defined purpose limitation and retention rules, which is why the data protection statute is a precondition rather than a parallel workstream. The second is interagency coordination. The Bank of Sierra Leone supervises payment institutions, the Financial Intelligence Unit receives and analyses suspicious transaction reports, the National Communications Authority regulates the mobile network operators whose subsidiaries issue most of the country's electronic money, the National Civil Registration Authority controls the identity layer, and the Sierra Leone Police hold the cybercrime investigative function. No one of these can act on a cross-provider structuring pattern alone.

The mutual evaluation identified the absence of a structured case management system for handling cooperation requests as a specific deficiency (GIABA, 2021). The same deficiency applies domestically. A memorandum of understanding among these five institutions covering data sharing, referral thresholds and case tracking would cost nothing beyond drafting and negotiation time, and it is the sort of low-cost institutional measure that tends to be neglected precisely because it produces no visible infrastructure. Regulatory technology on the compliance side, principally automated reporting by providers under a standardised schema, would reduce the reporting burden that currently produces the partial and inconsistent submissions the Annual Provider Survey compilers acknowledge.

8. COMPARATIVE LESSONS

8.1 What the comparators actually demonstrate

The instinct in Sierra Leonean policy discussion is to reason from Kenya. This is the wrong comparator and reasoning from it produces systematic error. Kenya's M-PESA achieved dominant scale under a permissive regulatory posture, with a single operator holding a commanding market share and with interoperability arriving in 2018, a full eleven years after launch and long after inclusion had been achieved. Kenyan account ownership of 90 per cent is the outcome of a market-led process that Sierra Leone cannot replicate, in part because no Sierra Leonean operator holds anything approaching Safaricom's position and in part because the Kenyan sequence ran in the reverse order to the one Sierra Leone has adopted.

Ghana is the closer analogue and the more instructive one. GhIPSS was created in 2007 as a wholly owned subsidiary of the Bank of Ghana, and the 2015 Guidelines on Electronic Money Issuers permitted non-bank licensing and mandated interoperability, after which investment and growth followed. The mobile money interoperability framework of May 2018 connected dedicated electronic money issuers to each other and to bank accounts, and instant payment volumes rose from 0.1 million in 2018 to 37.7 million in 2021 (GSMA, 2024; Findev Gateway, 2025). Ghana also supplies the clearest cautionary evidence available: the electronic transaction levy introduced in May 2022 reduced both mobile money transaction values and provider revenue (GSMA, 2024). Any Sierra Leonean proposal to tax digital transactions as a revenue measure should be assessed against that result.

Rwanda and Tanzania offer the interoperability model closest to Sierra Leone's, with regulator-mandated interconnection through a national switch, eKash and the Tanzania Instant Payment System respectively. The GSMA's assessment of both is candid: the impact of national switch-led interoperability on financial inclusion remains unclear, and more time is needed to establish whether adoption and usage responded (GSMA, 2024). Nigeria's NIBSS-based instant payment infrastructure demonstrates what is achievable at scale, though against a market and regulatory

capacity incomparable to Sierra Leone's. Uganda's experience with bilateral interconnection preceding central switching illustrates the alternative path.

Table 7 summarises the comparative evidence.

Table 7 Comparative evidence on interoperability models and financial inclusion outcomes

Country	Interoperability model	Timing relative to scale	Account to ownership (2024)	Lesson for Sierra Leone
Kenya	Market-led, 2018	Long after scale achieved	90%	Inclusion preceded interoperability; sequence not replicable
Ghana	Central switch (GhIPSS), MMI 2018	After substantial scale	81%	Non-bank licensing and e-money guidelines drove growth; e-levy reversed gains
Rwanda	Regulator-mandated (eKash)	Concurrent with growth	n.a.	Effect on inclusion not yet established
Tanzania	Bilateral then national (TIPS)	After scale	n.a.	Provider-led bilateral links preceded the switch
Nigeria	Central (NIBSS)	Concurrent	n.a.	Scale of market and supervisory capacity not comparable
Sierra Leone	Regulator-mandated (SaPS), 2023–2025	Well before scale	c. 39%	Switch installed at low penetration; no comparator precedent

Note. Account ownership from World Bank (2025) where reported. Interoperability characterisations from GSMA (2024) and Findev Gateway (2025). n.a. indicates the figure was not available in the sources consulted.

8.2 Adjudicating the contested evidence

Two credible bodies of evidence point in opposite directions on whether instant payment systems drive inclusion. AfricaNenda (2026), using Global Findex 2025, reports that African economies with a cross-domain instant payment system saw account access grow by an average of 37 per cent in the two years after launch against 14 per cent in economies without one. The GSMA (2024) reports that in four of five markets studied, adoption was already high before interoperability and inclusion therefore preceded it.

These findings are compatible and the reconciliation is important. Countries do not launch instant payment systems at random. They do so when the central bank has the technical capability to procure and operate one, when providers have reached sufficient scale for interconnection to be

commercially rational, and when political commitment is durable enough to survive a multi-year implementation. Those same conditions independently predict inclusion growth. The AfricaNenda correlation is therefore substantially confounded by selection, and the GSMA's market-level histories describe the mechanism through which the selection operates.

The implication for Sierra Leone is uncomfortable but should be stated plainly. The country has installed a switch at approximately 39 per cent account ownership, well below the penetration at which every comparator interconnected. It has done so because a donor-financed programme and a determined central bank made it possible, not because market conditions generated the demand. That is not an argument against having built it. It is an argument that the switch will not produce inclusion on its own, and that expecting it to will lead to the wrong follow-on investments.

9. DISCUSSION

9.1 Reconciling theory and evidence

The conceptual framework presented in Figure 1 places financial integrity as a condition running alongside the entire payments-to-development chain rather than as a stage within it. The Sierra Leonean evidence supports that specification over the linear alternative. Each link in the chain is present: infrastructure exists, provision exists, registration has occurred, and yet inclusion measured by usage has not followed. The chain does not break at a stage; it is attenuated throughout by two conditions, the enabling conditions on the input side and the integrity and trust condition on the governance side.

Institutional theory explains the pattern better than adoption theory does. Sierra Leone has acquired the regulative pillar of a modern payment system with considerable speed, largely through coercive and mimetic pressures operating through donor programmes and regional peer comparison (DiMaggio & Powell, 1983). What it has not acquired at the same pace is the organisational capacity that converts rules into enforced practice, which is the distinction North (1990) drew between institutions and organisations. The gap between 27 Recommendations rated compliant or largely compliant and 14 fraud investigations across two years is the empirical expression of that distinction.

9.2 The central trade-off is not the one usually stated

Policy discourse frames the trade-off as innovation against integrity: every additional control cost suppresses inclusion, so proportionality is the answer. In Sierra Leone the operative trade-off is different. It is between speed of infrastructure deployment and depth of supervisory capability, and the two have diverged.

The tiered know-your-customer regime illustrates this precisely. Tier 1 was designed as a proportionality measure, admitting the undocumented at capped limits. It has instead trapped roughly 70 per cent of users at limits that prevent meaningful value retention, credit access or product diversification, while delivering limited integrity benefit because the population under simplified due diligence is the population about which the least is known. A measure intended to reconcile inclusion and integrity is currently serving neither well. The resolution is not to relax Tier 1 further, which would worsen the integrity position, nor to tighten it, which would exclude. It is to complete the identity infrastructure so that tier migration becomes possible at scale, which is an identity policy question rather than a financial regulation question.

9.3 Financial stability implications

Mobile money in Sierra Leone does not presently pose systemic risk. Float balances are held in trust accounts at licensed banks under the 2015 guidelines and the 2022 Act, e-money is redeemable at par, and the aggregate value stored is small relative to bank deposits. The banking system itself carries capital adequacy of about 35 per cent against a 15 per cent minimum and high liquidity ratios (Making Finance Work for Africa, n.d.).

Two forward-looking risks warrant monitoring. The first is operational concentration: routing all domestic retail transactions through a single switch creates a single point of failure whose availability now determines whether the retail economy functions. Business continuity, disaster recovery and cyber resilience arrangements for the switch are of macro-critical importance and there is no published assessment of them. The second is the interaction between digital credit and a banking system already exhibiting extreme borrower concentration. If digital lending expands rapidly on the mobile money rails, as it has elsewhere in Africa, it will do so in a jurisdiction whose credit reference bureau holds limited borrower data and where consumer redress is weak. The Kenyan and Ghanaian experience with digital lending over-indebtedness should inform the regulatory posture before the products launch, not after.

9.4 Political economy

Three sets of incentives shape what is feasible. Mobile network operators derive revenue from cash-out fees and float, and interoperability that increases wallet-to-wallet and wallet-to-bank transfer reduces cash-out volume. Their compliance with the April 2025 mandate is legally required; their enthusiasm for driving volume through it is not, and this is the most likely source of quiet under-performance against the directive. Commercial banks face a comparable calculation on agency banking, where the low bank agent count of 716 nationally reflects an assessment that the segment is not worth serving rather than any regulatory obstacle. The state has a strong revenue interest in digitising tax and fee collection through the switch, which is the one place where public and private incentives align and where progress is therefore most likely.

The fiscal context constrains everything. Sierra Leone's debt is assessed as sustainable but at high risk of distress, with total debt service to revenue above 100 per cent until 2028, under a 38-month Extended Credit Facility arrangement of SDR 186.663 million approved in October 2024 (IMF, 2024). Recommendations requiring substantial recurrent expenditure will not be implemented. This is why the switch-based supervisory analytics proposal in section 7.3 is the right recommendation: it substitutes a technology investment for a permanent increase in examiner headcount that the fiscal position cannot support.

9.5 Limitations

Three limitations qualify the analysis. The Annual Provider Survey data are self-reported by providers and were not independently verified, with partial submissions and limited gender and rural-urban disaggregation acknowledged by the compilers (Bank of Sierra Leone & UNCDF, 2025). Reporting periods for several transaction aggregates are not specified in the source, so the transaction values reported here should be treated as indicative of relative magnitude rather than as precise annual or monthly totals. Second, the change in survey instrumentation between rounds prevents construction of a consistent time series, which rules out formal trend estimation. Third, no primary data were collected for this study; the analysis is a synthesis of secondary sources, and the causal claims made here are inferences from pattern and comparison rather than identified estimates.

10. POLICY RECOMMENDATIONS

The recommendations below are sequenced by the constraint they address and constrained by what the fiscal position permits. Table 8 sets them out.

Table 8. Policy recommendations matrix

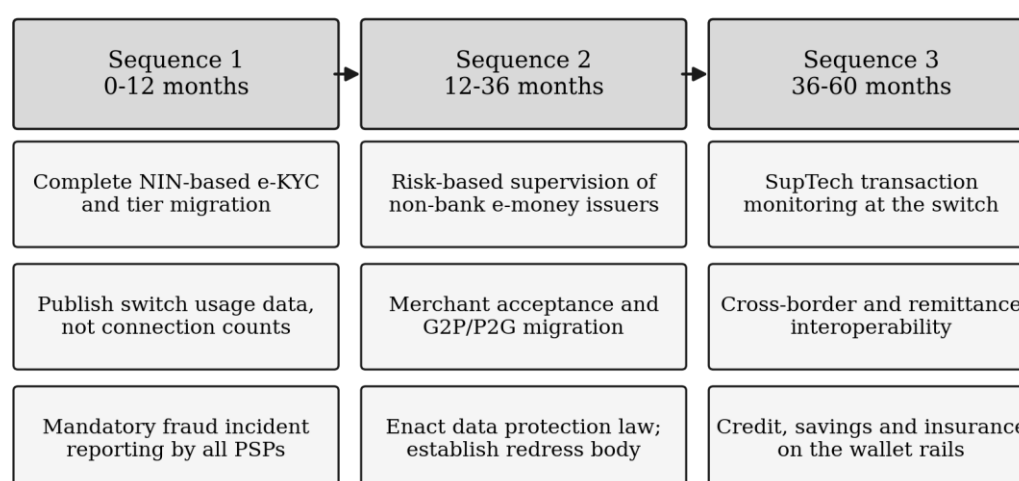
Actor	Recommendation	Sequence	Feasibility constraint
Bank of Sierra Leone	Deploy transaction monitoring analytics at the Salone Payment Switch to detect cross-provider structuring	0–12 months	Requires data protection statute and legal authority; technology cost modest
Bank of Sierra Leone	Publish quarterly switch statistics on routed volume and value by participant, not connection status	0–12 months	None material; data already held
Bank of Sierra Leone	Restore and standardise the national DFS time series: registered accounts, active accounts, volumes, values	0–12 months	Requires reporting template revision under NPS Act powers
Bank of Sierra Leone	Mandate incident reporting for fraud and cyber events by all payment service providers	0–12 months	Supervisory analysis capacity must be built alongside
Government and NCRA	Complete physical identity card issuance and NIN-based electronic KYC to enable tier migration	0–24 months	Cost of card production was the binding constraint in year one
Parliament and Ministry of Information	Enact data protection legislation with an independent supervisory authority before completing identity linkage	0–24 months	Drafting advanced; parliamentary time is the constraint
Ministry of Finance and NRA	Migrate government-to-person and person-to-government payments to the switch with published volume targets	12–36 months	Requires beneficiary identity coverage; strong revenue incentive aligns
Bank of Sierra Leone	Apply risk-based supervision to non-bank e-money issuers with staffing proportionate to market share	12–36 months	Recurrent staffing cost; partially substitutable by SupTech

Actor	Recommendation	Sequence	Feasibility constraint
Financial Intelligence Unit	Establish a case management system for domestic and international cooperation requests	12–36 months	Identified as a deficiency in the mutual evaluation
Bank of Sierra Leone and providers	Establish an independent financial services ombudsman with binding determinations below a value threshold	12–36 months	Funding model should be provider-levied, not budget-financed
Mobile network operators	Publish agent commission structures and enforce against unauthorised fee charging	12–36 months	Runs against short-run agent recruitment incentives
Commercial banks	Expand agency banking beyond 716 agents, prioritising North West and Eastern regions	12–36 months	Commercial case is weak without merchant acceptance growth
Fintech firms and providers	Build merchant acceptance and QR infrastructure as the precondition for value retention	12–36 months	Requires interchange economics that make acceptance viable for micro-merchants
Bank of Sierra Leone	Issue a regulatory position on cryptocurrency and stablecoin activity	12–36 months	Requires technical capacity currently absent
Development partners	Fund supervisory technology and identity completion rather than further rail construction	Continuous	Requires reorientation of programme design away from infrastructure milestones
Bank of Sierra Leone	Sequence Phase 3 cross-border connectivity after domestic monitoring is operational	36–60 months	Political pressure for early regional integration
Providers and BSL	Extend credit, savings and insurance onto wallet rails with consumer protection rules issued in advance	36–60 months	Credit bureau data coverage is the binding constraint

Actor	Recommendation	Sequence	Feasibility constraint
Academia and Statistics Sierra Leone	Conduct a demand-side financial capability and fraud incidence survey on a recurring basis	12–36 months	Modest cost; no institutional home currently assigned

Note. Sequence indicates the period within which implementation should commence. NCRA denotes the National Civil Registration Authority; NRA denotes the National Revenue Authority.

Four of these deserve emphasis because they carry the argument. Supervisory analytics at the switch is the highest-return intervention available, because it converts infrastructure already paid for into detection capability the country cannot otherwise afford. Publishing routed volume rather than connection status is the only way to know whether the April 2025 mandate achieved anything. Enacting data protection before completing identity linkage is a sequencing correction, and reversing the current order costs nothing but political attention. And funding merchant acceptance rather than further rails addresses the constraint that actually binds on value retention, which every dataset in this article points towards.



Binding constraint at each stage: supervisory and detection capacity, not payment rails

Figure 6. Integrated policy framework: sequencing against the binding constraint

Note. Author's construction, drawing on the recommendations set out in Table 8.

11. CONCLUSION

Sierra Leone has built a payment system that works and a market that does not yet use it. Account ownership of roughly 39 per cent, approximately 57 per cent account dormancy, some 2.9 million zero-balance wallets, and a transaction mix dominated by cash-in and cash-out describe a country that has solved the access problem it set out to solve and has arrived at a usage problem it did not anticipate.

The article has argued three things. Infrastructure is no longer the binding constraint, and continued investment in rails will yield diminishing returns while merchant acceptance, identity completion

and agent economics remain unaddressed. The tiered know-your-customer regime, designed as a proportionality measure, has become a ceiling that holds seven in ten users at limits incompatible with meaningful financial participation, and resolving this is an identity policy task rather than a financial regulation one. And the relationship between financial integrity and financial inclusion in Sierra Leone is complementary, not competitive: fourteen fraud investigations across two years against 41 per cent of consumers reporting phishing attempts describes a detection deficit that suppresses trust, and suppressed trust is a direct cause of the dormancy and cash-out behaviour that defines the market.

The contribution is to reposition financial integrity as an enabling condition for inclusion rather than a cost imposed upon it, and to identify a specific, affordable instrument through which a fiscally constrained state can act on that repositioning. The Salone Payment Switch is the only point in the system where cross-provider transaction patterns are visible. Using it for supervision would give the Bank of Sierra Leone a detection capability that no plausible increase in examiner headcount could match, at a cost the Extended Credit Facility programme envelope can absorb.

Three research priorities follow. Sierra Leone requires a demand-side survey establishing fraud incidence, redress experience and the reasons users give for not retaining value in wallets, because every explanation offered in this article for the dormancy pattern is an inference. The age distribution anomaly in the provider data, with 52.6 per cent of users reported in the 36 to 45 bracket in a country with a median age under 20, requires direct investigation because registration under borrowed identity would have significant integrity implications. And the effect of the April 2025 interoperability mandate on routed transaction volume should be evaluated once eighteen months of data exist, which would make Sierra Leone the first documented case of a national switch installed well below the penetration threshold at which every comparator interconnected. That case is of interest well beyond this country.

Conflict of Interest Statement

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About the Authors

Joseph Momoh Conteh is a PhD candidate in Theoretical Economics at the Institute of South-South Cooperation and Development (ISSCAD), Peking University, Beijing, China (<https://www.isscad.pku.edu.cn/>). He is the ICT/Administrative Director at the Justice Sector Coordination Office (<https://jsco.gov.sl>), where he has served for 16 years. His research addresses national development, spanning aid and development, international cooperation, trade, information and communication technology for development, administration, policy development, and finance. His doctoral work is directed at advancing economic theory while generating practical insights capable of informing sustainable development policy throughout the Global South. His academic profiles: <https://ufl.academia.edu/JosephConteh>, <https://orcid.org/0009-0004-1690-508X> and https://www.researchgate.net/profile/Joseph-Conteh-6?ev=hdr_xprf.

Musa Abdullah Kargbo, BSc, MFA, FCCA, FCA(SL), is a Chartered Accountant with more than fifteen years in banking and government service. As Head of Finance at the Ministry of Information and Civic Education, he oversees budgets, financial reporting, treasury and compliance. A Fellow of ACCA and of the Institute of Chartered Accountants of Sierra Leone, he is reading for an MPhil

in Accounting on foreign direct investment in Sierra Leone and writes on public finance, governance and development.

Dr. Dante Allie Bendu holds a singular place in Sierra Leone's professional history. Often described as the father of accounting in the country, he was the first chartered and certified accountant there to earn a doctorate. His credentials include a BSc Honours in Accounting and Finance, membership of ACCA and CIMA, the FeICM fellowship, an MSc, an MA in Marketing and Management, and a PhD in Accounting and Strategic Management. Lecturing since 1986, he is now a senior lecturer at Fourah Bay College, University of Sierra Leone, teaching from first degree to doctoral level and supervising many theses. A secondment to KPMG from 1988 to 1990 gave him first-hand experience of practice at its most demanding. He directs national corporate governance work under the African Peer Review Mechanism, has written textbooks and journal articles, and leads the Sarante Experts Group Consultancy.

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