

International journal of management and organizational research

Financial Inclusion and Digital Banking Transformation in Sub-Saharan Africa: A Review of Advances and Policy Implications

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Article Info

ISSN (online): 2583-6641

Volume: 01

Issue: 01

January-February 2022

Received: 16-11-2021

Accepted: 18-12-2021

Published: 20-01-2022

Page No: 267-282

Abstract

Sub-Saharan Africa has become the principal global site of digitally led financial inclusion. Account ownership in the region rose from 23 percent of adults in 2011 to 55 percent in 2021, with mobile money rather than conventional branch banking accounting for most recent gains: 33 percent of adults held a mobile money account, more than three times the global average, and all 20 economies worldwide where mobile money accounts outnumber bank accounts are in the region. This paper reviews the evidence on that transformation and its policy implications. It synthesises four literatures that are usually treated separately: cross-country measurement based on the Global Findex and industry statistics; causal evidence on the welfare effects of mobile money and digital credit; regulatory and fiscal analysis covering licensing, interoperability, consumer protection, data governance and transaction taxation; and critical political economy scholarship on the inclusion agenda itself. The review finds that first-order access has largely been achieved in leading markets while progress on usage depth, women's inclusion and consumer outcomes has been slower and in some respects negative. Effects on risk sharing and transaction costs are robust across studies; effects on savings, investment and poverty are smaller, context-dependent and methodologically contested. Access gains have introduced new risks, including over-indebtedness from algorithmic consumer credit, agent misconduct and fraud, exclusion through identity requirements, platform concentration, and revenue-driven transfer levies that measurably suppress the behaviour inclusion policy seeks to promote. Two findings deserve particular emphasis: the regional gender gap in account ownership widened from roughly 5 to 12 percentage points between 2011 and 2021 while narrowing elsewhere, an anomaly existing framework do not explain; and registered mobile money accounts exceed active accounts by roughly three to one. The paper argues that the policy frontier has shifted from enabling market entry to governing a maturing digital financial system, and sets out seven implications for regulators alongside a five-part research agenda.

DOI: <https://doi.org/10.54660/IJMOR.2022.1.1.267-282>

Keywords: financial inclusion, mobile money, digital banking, digital credit, fintech regulation, Sub-Saharan Africa, central bank digital currency, transaction taxation

1. Introduction

Financial exclusion in Sub-Saharan Africa was long understood as an infrastructure problem. Branch networks were thin and fixed delivery costs high relative to the small, irregular balances of low-income customers, so serving the poor was unprofitable rather than merely neglected (Beck *et al.*, 2006; Cull *et al.*, 2014). Incomplete collateral registries, credit bureaux and identity systems left lenders unable to price risk under severe information asymmetry (Stiglitz & Weiss, 1981). African financial

systems were correspondingly shallow, with access gaps wider than income alone predicts (Allen *et al.*, 2014; Honohan, 2008).

That accounts no longer holds. M-PESA, launched in Kenya in 2007, showed that a mobile operator using retail agents and a feature phone interface could deliver stored value and payments at a fraction of branch cost (Jack & Suri, 2011; Mas & Morawczynski, 2009; Ndung'u, 2018), building on a telephony expansion whose development effects were already documented (Aker & Mbiti, 2010). A remittance product diversified into savings, credit, insurance and merchant payments (Kendall *et al.*, 2011; Suri, 2017). Mobile money ownership rose from 21 to 33 percent of adults between 2017 and 2021, outpacing the 7-point growth in institutional accounts (Demirgüç-Kunt *et al.*, 2022).

The scale is now macroeconomically material. In 2021 the global industry processed roughly one trillion dollars across 1.35 billion registered accounts, Africa contributing about 621 million registered accounts, 184 million active accounts and 701.4 billion dollars in value, close to 70 percent of the global total (GSMA, 2022a). A second wave has followed: venture-funded firms building payment infrastructure, lending platforms, neobanks and merchant acquiring networks (Beck, 2020; Senyo & Osabutey, 2020). Incumbent banks responded with agency banking, USSD channels and digital-only subsidiaries (David-West *et al.*, 2020), and central banks entered directly through Nigeria's eNaira, launched in October 2021 as the first central bank digital currency in Africa (Central Bank of Nigeria, 2021; Ozili, 2021a).

This paper reviews that transformation and its policy implications as they stand in 2022. It is organised around four questions. First, how much financial inclusion has been achieved, and how should the gains be measured? Second, what explains the uneven diffusion of digital financial services across the region? Third, what does the causal evidence say about welfare effects, and where is that evidence contested? Fourth, given both the advances and the risks now visible, what should regulators do differently?

The central argument is that the policy problem has changed shape. The regulatory question of the 2010s was how to permit non-bank entry without compromising financial integrity, and in leading markets it has been settled. The question of the 2020s is how to govern a system already large, concentrated in a few platforms, and capable of producing consumer harm at speed (Bernards, 2019; Langley & Leyshon, 2021). Access is no longer the binding constraint in the leading markets; quality, competition, resilience and fairness are.

The paper contributes in three ways. It consolidates measurement, causal and regulatory evidence usually treated separately. It gives sustained attention to critical scholarship rather than only the findings that dominate policy communication. And it identifies the widening regional gender gap as an anomaly that existing theories of digitally led inclusion do not explain.

2. Conceptual Framework

2.1. Defining Financial Inclusion

Financial inclusion is conventionally defined as access to and use of affordable, appropriate formal financial services by individuals and firms (Alliance for Financial Inclusion, 2016;

Sarma & Pais, 2011). The concept has expanded over time from a narrow focus on credit, inherited from the microfinance tradition, to a broader concern with payments, savings, insurance and risk management (Karlan *et al.*, 2014). Ozili (2020) catalogues the competing justifications, from public good arguments to vulnerable group and systems theories, noting that the field has accumulated rationales faster than it has tested them, a pattern his later review confirms (Ozili, 2021b).

The measure dominating empirical work is account ownership at a financial institution or mobile money provider, comparable across countries and available as a consistent series through the Global Findex (Demirgüç-Kunt & Klapper, 2013; Demirgüç-Kunt *et al.*, 2018, 2022), with earlier work establishing the African baseline (Demirgüç-Kunt & Klapper, 2012). Findex-based studies consistently identify income, education, age, gender, employment and urban residence as predictors of ownership across African samples (Zins & Weill, 2016; Fungáčová & Weill, 2015; Njanike, 2019; Chinoda & Kwenda, 2019).

2.2. The Measurement Problem

Account ownership is a gateway indicator, not an outcome, revealing nothing about whether an account is active, used beyond cashing out a transfer, fairly priced or understood (Allen *et al.*, 2016). Of roughly 621 million registered accounts in Africa in 2021, about 184 million were active on a 30-day basis (GSMA, 2022a).

A more useful framework distinguishes four levels. Access is the availability of a usable service point within reach, uptake is registration, usage is regular multi-purpose transacting, and welfare impact is the resulting change in consumption smoothing, resilience or investment. Progress has been strongest at the first two levels, uneven at the third and contested at the fourth (Aron, 2018; Duvendack & Mader, 2020). Any strategy that sets targets at the level of uptake will incentivise providers to register dormant accounts.

2.3. Theoretical Lenses

Four theoretical traditions inform the literature. Transaction cost and information economics explains why digital rails expand access: mobile channels lower the marginal cost of small transactions and generate behavioural data that substitutes for collateral in screening (Akerlof, 1970; Stiglitz & Weiss, 1981; Björkegren & Grissen, 2020; Blumenstock *et al.*, 2015). Network and platform economics explains diffusion: mobile money exhibits strong same-side and cross-side externalities, so adoption is path-dependent and early scale self-reinforcing (Katz & Shapiro, 1985; Rochet & Tirole, 2003; Armstrong, 2006; Qasim & Abu-Shanab, 2016; Economides & Jeziorski, 2017), a framework that also predicts the competition problems examined in section 8.

Technology adoption theory informs work on why individuals use or avoid these services, drawing on the technology acceptance model and its successors (Davis, 1989; Venkatesh *et al.*, 2003, 2012) and on diffusion theory (Rogers, 2003), though African applications often neglect structural constraints such as documentation and handset access. A fourth strand frames inclusion within innovation and inclusive growth scholarship (George *et al.*, 2012; Tchamyou, 2019). Political economy and critical development studies treat inclusion as a governance project

rather than a technical fix, examining how the agenda channels policy toward market-based solutions and how digital infrastructures reconfigure state and corporate power (Gabor & Brooks, 2017; Mader, 2018; Bernards, 2019; Langley & Leyshon, 2021; Aitken, 2017).

The finance and growth literature supplies the background warrant for the entire agenda, linking financial development to growth and to the incomes of the poor (Levine, 2005; Beck *et al.*, 2007), with branch expansion evidence from India and Mexico providing the closest historical analogues to the current African episode (Burgess & Pande, 2005; Bruhn & Love, 2014).

2.4. An Integrated Conceptual Model

Figure 1 consolidates these traditions into one framework organising the synthesis that follows. It treats inclusion as a four-stage cascade rather than a binary state, each stage conditional on the one before it and none guaranteed by its predecessor: access is a usable service point within reach, uptake is registration, usage is regular multi-purpose transacting, and welfare impact is the resulting change in resilience, investment or consumption smoothing. Conversion between stages, not the level of any one stage, is the object of analysis.

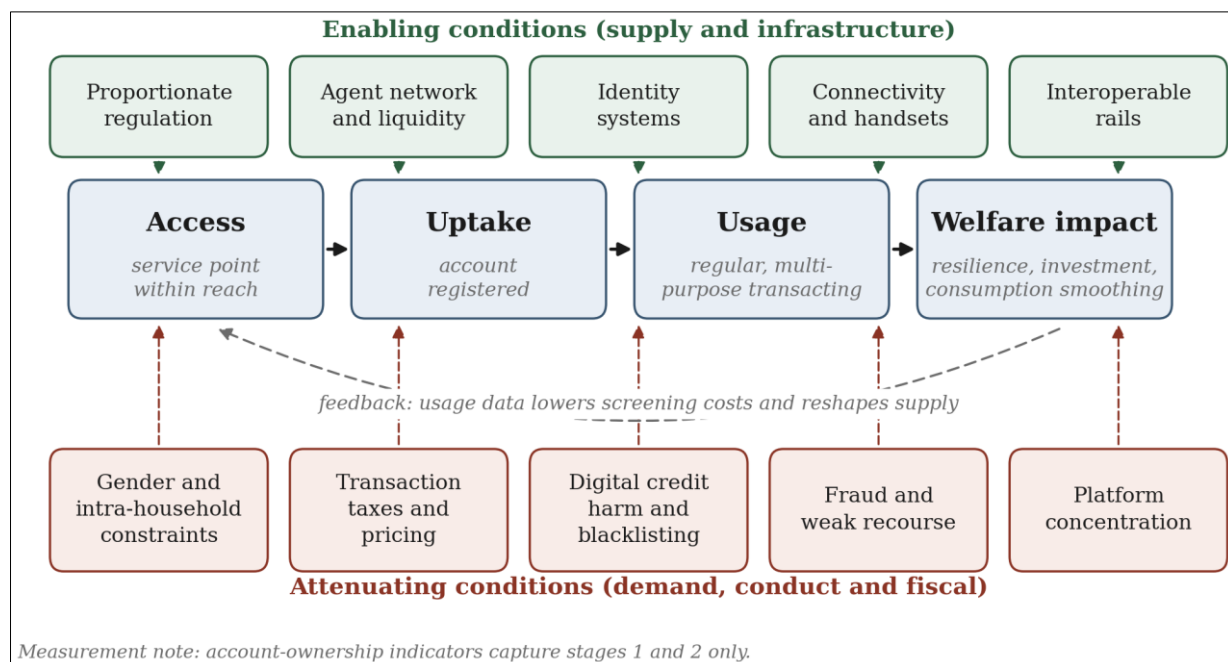


Fig 1: A staged conceptual model of digitally led financial inclusion, showing enabling conditions, attenuating conditions and the data feedback loop. Source: author, synthesising Aron (2018), Allen *et al.* (2016), Duvendack and Mader (2020) and the sources reviewed in sections 4 to 8.

Two sets of conditions act on the cascade. Enabling conditions are supply-side: proportionate regulation, liquid agent networks, functioning identity systems, connectivity and affordable handsets, and interoperable rails, which comparative work identifies as the variables separating markets that scaled from those that did not (Evans & Pirchio, 2014; Lashitew *et al.*, 2019). Attenuating conditions are demand-side, conduct-related or fiscal: gender and intra-household constraints, transaction taxes, digital credit harm, fraud and weak recourse, and platform concentration. The asymmetry matters: enabling conditions govern the access-to-uptake transition, where the region has performed well, attenuating conditions the later transitions, where it has not. The model also incorporates a feedback path: usage generates behavioural data that lowers screening costs and reshapes what providers offer, the mechanism underlying algorithmic underwriting (Björkegren & Grissen, 2020). The loop is not automatically benign, since the same data that extends credit also enables the blacklisting documented in section 8.1, so feedback can strengthen or degrade the cascade depending on governance.

Three propositions follow. First, aggregate account ownership measures stages one and two only, so gains there are compatible with stagnation further along. Second, interventions targeting enabling conditions should show

effects at early transitions, while consumer protection, competition and fiscal measures should show them at later ones. Third, any factor raising the marginal cost of transacting, whether a levy, a cash-out fee or an unresolved fraud loss, acts on the uptake-to-usage transition, which is why the taxation evidence in section 8.6 takes the form it does.

3. Methodology

3.1. Review Approach

The choice of a narrative rather than a systematic design reflects the structure of the evidence. A systematic review requires a defined population, intervention and outcome set that can be screened consistently. The literature here spans randomised trials of agent rollout, panel econometrics on cross-country diffusion, qualitative interview studies of borrowers, ethnographies of household money management, and regulatory instruments that are not research outputs at all. Pooling effect sizes across these would be misleading, and excluding all but the quantitative subset would discard the evidence that speaks most directly to the usage and welfare transitions in Figure 1.

3.2. Source Base and Selection

Three source types are used. The first is cross-country

measurement: the Global Findex Database 2021 (Demirgüç-Kunt *et al.*, 2022), the GSMA series (GSMA, 2021, 2022a, 2022c), and national demand-side surveys such as Kenyan FinAccess (Central Bank of Kenya *et al.*, 2021). The second is empirical work on digital finance and welfare published between 2011 and 2022, with the replication and review literature around it (Aron, 2018; Ahmad *et al.*, 2020; Duvendack & Mader, 2020). The third is regulatory and policy analysis from central banks, CGAP, the Committee on Payments and Market Infrastructures, the International Monetary Fund and the World Bank (Committee on Payments and Market Infrastructures & World Bank, 2020; Global Partnership for Financial Inclusion, 2016; Pazarbasioglu *et al.*, 2020; Sy *et al.*, 2019), plus primary regulatory instruments.

Sources were identified through database searching on RePEc, publisher indexes and institutional repositories, combining the terms mobile money, financial inclusion, digital credit, digital financial services, fintech and sub-Saharan Africa, supplemented by citation tracing from the field's principal reviews (Aron, 2018; Suri, 2017; Ahmad *et al.*, 2020; Duvendack & Mader, 2020). Inclusion required substantive engagement with a Sub-Saharan African setting or a theoretical question bearing directly on one. Peer-reviewed work was prioritised, with working papers and

institutional reports admitted where they supply evidence not otherwise available, chiefly on regulation, taxation and industry statistics.

3.3. Synthesis Procedure

Sources were coded against the stages and conditions of Figure 1, each assigned to the transition it speaks to and the condition it examines. Where studies addressing the same transition diverge, both are reported and the source of divergence identified rather than resolved by vote counting. This applies with particular force to the poverty evidence in section 7.2 and the digital credit evidence in section 8.1, where the disagreement is methodological rather than a matter of differing samples.

4. The Empirical Record of Inclusion

4.1. Account Ownership and Its Distribution

Account ownership in Sub-Saharan Africa reached 55 percent of adults in 2021, up from 23 percent in 2011 (Demirgüç-Kunt *et al.*, 2022). The regional growth rate exceeded the global average, though from a much lower base, and the region remains among the bottom three globally in absolute ownership and usage. The developing-economy average stood at 71 percent, leaving a gap of roughly 16 percentage points.

Table 1: Headline financial inclusion indicators, Sub-Saharan Africa and comparators. Source: Demirgüç-Kunt *et al.* (2022).

Indicator (adults, %)	SSA 2011	SSA 2021	Developing 2021	World 2021
Account ownership (any)	23	55	71	76
Mobile money account	n/a	33	n/a	10
Gender gap in account ownership (pp)	5	12	6	n/a

Country variation is wide and regional averages conceal it. Kenya, Ghana, South Africa, Namibia, Mauritius and Uganda sit well above the mean, while Nigeria reached roughly 45 percent despite being the largest economy, and remains among the few countries hosting more than half the world's unbanked adults. Much of Central Africa and the Sahel remains below 30 percent. Panel work attributes these differences chiefly to income, mobile penetration, regulatory quality and institutional development (Lashitew *et al.*, 2019; Evans & Pirchio, 2014; Chatterjee, 2020; Della Peruta, 2018; Kouladoun *et al.*, 2022; Nchofoung *et al.*, 2022; Asongu *et al.*, 2021). Coulbaly (2021) traces the slower penetration of the West African Economic and Monetary Union to regulatory sequencing and agent density, one of few studies addressing the Francophone gap directly.

4.2. Mobile Money as The Primary Driver

Account growth has been driven by non-bank providers. By 2021, 20 economies had higher mobile money than institutional account ownership, all of them in Sub-Saharan Africa (Demirgüç-Kunt *et al.*, 2022). Tanzania illustrates the pattern: 52 percent of adults held an account of any kind, with bank ownership at 23 percent against mobile money at 45 percent. Uganda shows a comparable trajectory, mobile money having reshaped rural household financial behaviour over a decade (Munyegera & Matsumoto, 2016, 2018; Ky *et al.*, 2018).

Usage has broadened beyond the original person-to-person use case. About three in four account owners reported a non-person-to-person payment in 2021, and merchant payments nearly doubled year on year (GSMA, 2022a). This matters because merchant acceptance is the mechanism by which

electronic value stops substituting for cash-in-transit and starts substituting for cash itself, a threshold ethnographic work identified early (Maurer, 2012; Morawczynski, 2009).

4.3. The COVID-19 Acceleration

The pandemic functioned as a natural experiment in policy-induced adoption. In March and April 2020, central banks in Kenya, Ghana, Rwanda and Uganda waived fees on low-value transfers, raised transaction limits and eased account opening to reduce cash handling. Governments used mobile money rails for emergency transfers, extending a use case documented experimentally in Niger (Aker *et al.*, 2016) and in the wider literature on digitising government-to-person payments (Klapper & Singer, 2017).

Volumes and values rose sharply and did not fully revert when waivers expired, suggesting habit change rather than a temporary price response (Demirgüç-Kunt *et al.*, 2022; GSMA, 2022a). Findex data indicate that roughly eight million otherwise unbanked adults still receive government payments in cash, a tractable opportunity for further inclusion.

4.4. Institutional and Infrastructural Developments

Developments in 2021 and 2022 changed market structure. Nigeria's payment service bank framework finally produced operating entities: after the 2018 guidelines (Central Bank of Nigeria, 2018) and a long approval process, final licences went in 2022 to telco-affiliated banks including MTN's MoMo PSB and Airtel's SmartCash PSB. Given the unbanked population and mobile subscription base, this was arguably the region's most consequential regulatory decision of the period (International Monetary Fund, 2022).

Interoperability also spread, with Ghana's platform the reference case for any-to-any interoperability across mobile money and bank accounts, though pricing and settlement arrangements determine whether consumers capture the benefit (Bourreau & Valletti, 2015; Committee on Payments and Market Infrastructures & World Bank, 2020).

Cross-border infrastructure advanced with the Pan-African Payment and Settlement System, launched in January 2022 to settle intra-African payments in local currencies rather than through correspondent banking, a persistent cost driver in the world's highest-cost remittance region (World Bank, 2022). A parallel applied literature models the architecture such systems require, spanning ledger interoperability, remittance liquidity and regulatory adaptation (Akomolafe *et al.*, 2022), and the trade integration these rails serve (Jones & Ominyi, 2022). Central bank digital currency moved from research to deployment, Nigeria launching the eNaira in October 2021 and Ghana piloting the eCedi in 2022 against a wide field still in research (Auer *et al.*, 2020; Boar & Wehrli, 2021). Early eNaira adoption was weak, most wallets inactive (International Monetary Fund, 2022; Ozili, 2021a), an outcome discussed in section 6.4.

5. Drivers and Enablers of Diffusion

5.1. Regulatory Enablement

Comparative work consistently identifies regulation as the principal discriminator between markets where mobile money scaled and those where it did not (Evans & Pirchio, 2014; Lashitew *et al.*, 2019). The enabling package has five components: permission for non-banks to issue electronic money; tiered due diligence allowing low-value accounts to open with minimal documentation; permission for third-party agents to handle cash-in and cash-out; safeguarding rules requiring customer funds to sit in segregated trust accounts at regulated banks; and a proportionate, risk-based supervisory posture (Alliance for Financial Inclusion, 2016; Global Partnership for Financial Inclusion, 2016).

Kenya's decision to let Safaricom operate under a letter of no objection rather than a banking licence is the canonical case of forbearance producing scale (Ndung'u, 2018). The counterfactual is equally instructive: markets requiring bank-led models or full know-your-customer checks on low-value wallets diffused more slowly, Nigeria's decade-long licensing delay being the clearest example.

5.2. Agent Networks and Liquidity

The agent network is the physical substrate of digital finance, and its economics are underestimated in policy discussion. Agents bear the working capital cost of holding both cash and electronic float, and commission structures determine whether rural locations are viable (Mas & Radcliffe, 2011). Experimental evidence from northern Uganda shows agent rollout raising peer-to-peer transfers, lowering remittance costs, doubling non-farm self-employment and reducing severe food insecurity far from bank branches (Wieser *et al.*, 2019).

Social structure conditions these effects. Bongomin *et al.* (2018) find that social networks moderate the mobile money and inclusion relationship in Sub-Saharan Africa, and cultural norms mediate adoption among micro, small and medium enterprises in Uganda (Bongomin & Munene, 2021). Inequality in access to information is a further conditioning factor (Tchamyu *et al.*, 2019). These findings caution

against treating agent expansion as a purely logistical exercise.

5.3. Identity, Handsets and Connectivity

Barriers reported by unbanked adults are concrete, not attitudinal. Roughly 60 percent cite insufficient funds, about 35 percent of those without a mobile money account cite not owning a phone, and more than 100 million unbanked adults lack any identification document, with close to a third citing this as a reason for having no mobile money account (Demirgüç-Kunt *et al.*, 2022). Identity policy is therefore inclusion policy, and identity system design carries exclusion risks alongside its enabling function (Financial Action Task Force, 2020).

Connectivity compounds these constraints. Coverage substantially exceeds actual mobile internet use, so the binding constraint is the usage gap rather than the coverage gap (GSMA, 2022c; Mthobi & Grzybowski, 2017): handset cost, data cost, literacy and perceived relevance keep people within range of a signal they do not use. Unstructured supplementary service data channels, which work on basic handsets without data, therefore remain critical, and their session pricing is an inclusion question rather than a telecommunications one. Operator-side analytics on subscriber retention and partnership-based inclusion models address the same margin from the supply side (Oziri *et al.*, 2020).

5.4. Competition and Market Structure as Enablers

Market structure shapes diffusion in both directions: concentration accelerates initial scaling by internalising network externalities but subsequently entrenches pricing power (Economides & Jeziorski, 2017; Rochet & Tirole, 2003). Bourreau and Valletti (2015) argue that interoperability mandates and competition policy are complements, since interoperability without competitive pricing merely redistributes rents. Evidence on whether fintech entry reaches genuinely excluded populations is mixed (Kanga *et al.*, 2022; Philippon, 2019), and governance quality conditions whether mobile diffusion translates into inclusive outcomes (Asongu & Nwachukwu, 2016; Abor *et al.*, 2018).

5.5. Financial Literacy and Capability

Capability constraints operate alongside structural ones. A substantial share of mobile money owners require assistance to use their accounts, with implications for fraud exposure and uptake alike (Demirgüç-Kunt *et al.*, 2022). Wamalwa *et al.* (2019) find that financial literacy reduces reliance on digital credit in Kenya, implying that literacy acts less as a general enabler than as a filter directing users toward less costly products. The gap is gendered, since reported digital skills are lower among women (GSMA, 2022b), and Kass-Hanna *et al.* (2022) show financial and digital literacy jointly predict household resilience across South Asian and African samples.

The adoption literature accounts for part of the behavioural mechanism, emphasising perceived usefulness, ease of use, trust and facilitating conditions (Davis, 1989; Venkatesh *et al.*, 2003, 2012; Rogers, 2003; Narteh *et al.*, 2017; Wyche & Steinfield, 2016). Its limitation here is that it treats the technology as a discretionary choice, whereas for many users the constraint is whether a handset, an identity document or a

liquid agent exists at all. Capability interventions therefore complement rather than substitute for infrastructural ones (Karlan *et al.*, 2014).

6. Models of Digital Banking Transformation

6.1. Four Coexisting Models

Digital banking transformation refers to a change in how financial services are produced and delivered, not merely the digitisation of existing bank products. Four models coexist in the region and are frequently conflated.

The telco-led model places a mobile operator at the centre, issuing electronic money against a safeguarded trust account and distributing through an agent network built on its airtime dealer base, its advantage being distribution reach and low acquisition cost (Donovan, 2012; Jack & Suri, 2011; Mas & Morawczynski, 2009). The bank-led model uses agency banking, applications and USSD to extend a licensed bank's reach, with the advantage of balance sheet capacity and the ability to intermediate deposits into credit, which electronic money issuers generally cannot do.

The fintech and platform model covers payment gateways, digital lenders, neobanks and merchant acquirers competing on user experience and pricing rather than distribution (Senyo & Osabutey, 2020; Senyo *et al.*, 2021, 2022; David-West *et al.*, 2020; Lyons *et al.*, 2022). A mobile microinsurance layer has developed alongside them, extending risk-pooling to low-income households at transaction costs conventional insurers could not reach (Chummun, 2017; Arun & Steiner, 2008; Giesbert & Steiner, 2012). The public infrastructure model covers instant payment systems, national switches, identity platforms and central bank digital currencies, and is increasingly decisive because it determines whether the other three compete on service quality or on closed-loop network effects.

6.2. Fintech Investment and The Platform Question

African startups raised roughly 5 billion dollars in 2021, about 62 percent of it in fintech. This capital has produced genuine infrastructure, but it raises the question posed in the platform political economy literature: whether digital finance reintermediates rather than disintermediates, concentrating rents at a new layer while presenting itself as disruption (Langley & Leyshon, 2021; Gabor & Brooks, 2017). Global evidence on big tech entry suggests that data advantages and cross-subsidisation create durable competitive asymmetries that prudential regulation does not address (Bank for International Settlements, 2019; Frost *et al.*, 2019). A practitioner literature documents the operational build-out: transaction banking and digital lending, collections infrastructure, ecosystem design, analytics-led decision systems and post-pandemic resilience (Okafor *et al.*, 2021; Osuji *et al.*, 2021; Dada *et al.*, 2021).

6.3. Algorithmic Underwriting

The most distinctive feature of the new model is underwriting from behavioural data. Phone usage predicts credit repayment with meaningful accuracy (Björkegren & Grissen, 2020), handset metadata predicts household wealth well enough to target poverty programmes (Blumenstock *et al.*, 2015), and airtime transfers reveal risk-sharing after shocks (Blumenstock *et al.*, 2016). Critics argue that treating all data as credit data constitutes the excluded as a data resource rather than as customers with rights (Aitken, 2017; Bernards, 2019).

6.4. Central Bank Digital Currency

Retail central bank digital currency has been promoted largely on inclusion grounds, the case resting on a public option free at the point of use, universally accepted and independent of provider pricing (Adrian & Mancini-Griffoli, 2021; Auer *et al.*, 2020). Nigeria complicates that case, and Ozili (2021a) had set out the relevant risks in advance, and Ozili (2021a) had identified the relevant risks in advance: despite high official projections, first-year uptake was limited and most downloaded wallets appeared inactive (International Monetary Fund, 2022). The risks were foreseeable: digital illiteracy, cyber exposure and the uncertain position of banks in a full central bank digital currency economy.

A retail CBDC competing against an established private ecosystem must therefore offer something the incumbent does not. Where mobile money is already high-penetration and interoperable, the marginal inclusion benefit may be small. Where it is weak, the constraint is distribution and identity rather than the absence of a public instrument, which a CBDC does not by itself supply.

7. Evidence on Welfare Outcomes

7.1. Risk Sharing and Resilience

The best-established finding concerns risk sharing. Jack and Suri (2014) show that by lowering the cost of sending small remittances over distance, mobile money strengthens informal insurance: Kenyan households with access absorbed income shocks without cutting consumption, while comparable households without access saw consumption fall by roughly 7 percent. Riley (2018) replicates this in Tanzania, finding that mobile money enables risk sharing beyond the village and so helps with covariate shocks that within-village insurance cannot address. The mechanism extends an older remittance literature on informal insurance across distance (Lucas & Stark, 1985; Gubert, 2002; Morduch, 1995; Adams & Page, 2005) that digital channels operate more cheaply (Siegel & Fransen, 2013; Aga & Martinez Peria, 2014; Mohapatra & Ratha, 2011), though Aker *et al.* (2020) find agent density binding even where households will pay.

Complementary evidence comes from shock-response studies using transaction data (Blumenstock *et al.*, 2016), experiments on mobile cash transfer delivery (Aker *et al.*, 2016) and Malawian and Cameroonian evidence on shock exposure (Aggarwal *et al.*, 2020; Mfossa, 2022). Sakyi-Nyarko *et al.* (2022) find multidimensional well-being gains concentrated in usage rather than access. Wieser *et al.* (2019) provide the cleanest experimental estimate of agent access, reporting reductions in severe food insecurity from 62.9 to 47.2 percent in areas far from bank branches and a doubling of non-farm self-employment, but no detectable effect on savings, agricultural outcomes or poverty. That combination of strong effects on some margins and nulls on others recurs throughout the literature.

7.2. Poverty and Consumption

The most influential and most contested finding is that of Suri and Jack (2016), who use the geographic rollout of M-PESA agents to estimate that access lifted approximately 194,000 households, around 2 percent of Kenyan households, out of extreme poverty over roughly eight years, with effects concentrated among female-headed households and associated with occupational shifts out of subsistence agriculture into business and retail. Mbiti and Weil (2015)

provide the broader descriptive account of M-PESA's effects on transaction behaviour, savings and the informal remittance market.

Munyegera and Matsumoto (2016) find positive effects of mobile money on household consumption in rural Uganda operating through the remittance channel, with subsequent work documenting changes in the composition of household financial behaviour (Munyegera & Matsumoto, 2018). Cross-country panel studies report associations between mobile money diffusion and reduced inequality, though with the identification limitations characteristic of that design (Tchamyou *et al.*, 2019; Chinoda & Mashamba, 2021).

7.3. Savings

Evidence on savings is weaker than the policy narrative implies. Ouma *et al.* (2017) associate mobile financial services with higher saving across four African countries, and Batista and Vicente (2020) show experimentally that mobile savings access raises savings and shifts investment among Mozambican smallholders (see also Batista & Vicente, 2013, 2018). Against this, the savings literature cautions that account provision alone rarely changes behaviour, since the binding constraints are behavioural and social rather than transactional (Dupas & Robinson, 2013; Dupas *et al.*, 2018; Karlan *et al.*, 2014; Bharadwaj & Suri, 2020), a caution the Wieser *et al.* (2019) null supports. Ky *et al.* (2018) find mobile money shifts saving toward health and emergency motives, and Ky *et al.* (2021) show it complements rather than displaces informal arrangements.

7.4. Firms, Agriculture and Labour

Firm-level evidence is more encouraging than household savings evidence. Islam *et al.* (2018) find mobile money use associated with higher firm investment across enterprise surveys in Kenya, Uganda and Tanzania, and Islam and Muzi (2022) show the effect is larger for women-owned firms, which face tighter credit constraints. Beck *et al.* (2018) model how payment instruments affect firm financing through their interaction with trade credit and theft risk. Sekabira and Qaim (2017) and Kikulwe *et al.* (2014) document effects on agricultural marketing and smallholder welfare, while Bongomin and Munene (2021), Gosavi (2018) and Njinyah *et al.* (2022) examine adoption and financing constraints among smaller enterprises, the channel applied work treats as the principal route from digital payments to enterprise growth (Okafor *et al.*, 2021).

Labour market effects appear to work through occupational switching rather than wage employment, consistent with Suri and Jack (2016) on movement into business and retail and Wieser *et al.* (2019) on non-farm self-employment. Whether this represents upgrading or displacement into low-margin informal activity is precisely the point at issue in the critical literature.

7.5. Macroeconomic and Systemic Effects

Aggregate effects have received less attention than household effects. Ozili (2018) argues that digital finance improves inclusion and can support stability through deposit diversification, while also introducing new channels of instability through non-bank leverage and operational concentration. Sy *et al.* (2019) survey the macro-financial implications for African economies, noting the implications for money demand, monetary transmission and the measurement of monetary aggregates when a large share of

transaction balances sits in electronic money issued outside the banking system. Beck *et al.* (2015) and Beck and Cull (2014) frame the broader question of whether financial innovation in Africa is deepening intermediation or merely re-routing payments, a question the growth-focused reviews leave open (Demirgüç-Kunt *et al.*, 2017).

A related question concerns substitution between formal and informal finance. Zins and Weill (2016) show that the determinants of informal finance in Africa differ systematically from those of formal finance, and Johnson and Arnold (2012) find continued reliance on savings groups, family transfers and informal lenders in Kenya alongside rapid formal account growth. If digital accounts are being layered onto informal arrangements rather than replacing them, headline statistics overstate the degree of transformation, and the welfare gains should be sought in the reduced cost of operating existing networks rather than in new financial behaviour.

7.6. The Critical Response

This evidence base is contested, and presenting only the positive findings would misrepresent the field. Bateman *et al.* (2019) object to the Suri and Jack poverty result on identification grounds, on the implausibility of attributing poverty reduction of that magnitude to a payments instrument, and on reading occupational shift as improvement rather than displacement. The exchange did not resolve the disagreement. The defensible position is that effects on resilience and transaction costs are robust while the magnitude of poverty effects remains disputed.

Aron (2018) reaches a measured conclusion: effects on risk sharing and remittance costs are well supported, while effects on savings, investment and income are smaller and more context-dependent, a reading Ahmad *et al.* (2020) later echo. Duvendack and Mader (2020), reviewing systematic reviews of financial inclusion interventions, find small and inconsistent average effects on core welfare outcomes, recalling the earlier reassessment of microcredit (Banerjee *et al.*, 2015).

A structural critique runs alongside the methodological one. Mader (2018) argues that financial inclusion has been positioned as a substitute for interventions in employment, public services and social protection, and Gabor and Brooks (2017) trace how the fintech-era agenda reorganises development policy around data and market infrastructure. Johnson and Arnold (2012) and Johnson (2016) show Kenyan inclusion accompanied by contested visions of what inclusion is for, while Burns (2018) reads the same record as vindicating a market-led approach, indicating that the evidence underdetermines the political reading placed on it. External validity is a further concern, since Kenya's dominant operator, permissive regulation and high migration make it unrepresentative.

8. Risks and Persistent Gaps

8.1. Digital Credit and Over-Indebtedness

Digital credit is where benefits and harms are most visibly entangled. Products using mobile transaction histories and handset data to underwrite instant, automated, remote, small-value loans have grown rapidly across Kenya, Tanzania, Nigeria and Ghana (Chen & Mazer, 2016; Björkegren & Grissen, 2018). Suri *et al.* (2021) find that access to digital loans improves household resilience to shocks in Kenya, the strongest positive result in this subfield (see also Bharadwaj

et al., 2019).

The harms are equally documented. Johnen *et al.* (2021) find that while digital credit does extend borrowing to people excluded from conventional markets, it accounts for 90 percent of Kenyan credit bureau blacklistings, driven both by higher default rates and by a higher probability that a digital default results in listing. Kaffenberger *et al.* (2018) and Totolo (2018) document late repayment, multiple borrowing, poor understanding of fees and default at scale across Kenya and Tanzania. Wamalwa *et al.* (2019) find that digital credit users are more likely to sell household assets to repay, hold more simultaneous loans and have lower incomes than conventional borrowers.

Brailovskaya *et al.* (2021) provide experimental evidence from Malawi framed directly around whether digital credit fills a hole or digs one, and Robinson *et al.* (2022) synthesise the emerging evidence, concluding that welfare effects are heterogeneous and that average effects conceal a distribution containing substantial harm. Izaguirre *et al.* (2018) argued from a supervisory perspective that growth in the East African market should be slowed. Kenya's licensing regime was introduced only in March 2022, too recently for its effect on borrower experience to be assessed, and whether conduct rules bind on unlicensed lenders operating across borders remains open.

The Central Bank of Kenya's Digital Credit Providers Regulations of 2022 brought previously unregulated lenders under licensing, covering pricing disclosure, data use, collection conduct and reporting (Central Bank of Kenya, 2022). This is the clearest regional instance of the policy cycle at the heart of this paper: permissive entry, rapid scaling, documented harm, then retrofitted conduct regulation.

8.2. The Widening Gender Gap

The most uncomfortable finding in the 2021 Findex data is that while the gender gap in account ownership across developing economies narrowed to around 6 percentage points, in Sub-Saharan Africa it rose from about 5 percentage points in 2011 to 12 in 2021 (Demirgüç-Kunt *et al.*, 2022), reaching roughly 27 in Côte d'Ivoire and 20 in Nigeria. Ferrer *et al.* (2022) frame this as an unexpected consequence of digitalisation requiring a rethink of development policy.

The pattern within mobile money is more nuanced. Ownership grew faster among women than men between 2017 and 2021, yet women's usage remained shallower, with markedly lower shares paying utilities, paying merchants or saving. The constraint is therefore not registration alone but the compound of handset ownership, identity documentation, control over household resources, time poverty and digital literacy (GSMA, 2022b). Asongu and Odhiambo (2018) and Asongu and Nwachukwu (2018) identify connectivity thresholds below which the digital channel amplifies rather than closes gaps, consistent with evidence that female economic participation responds to information and communication technology advancement only above certain levels (Efobi *et al.*, 2018).

Kim (2022) finds Nairobi women value mobile money chiefly for safe storage and instant transfer, benefits concentrated among younger and lower-income users, while the structural drivers of gendered inequality remain untouched (Hendriks, 2019). Ethnographic work supplies a mechanism survey data cannot capture. Kusimba (2018) shows that digital finance alters the social scripts governing

how women request and receive money within kin networks, with consequences neither straightforwardly empowering nor extractive, and F. Annan (2020) documents gender-differentiated agent misconduct, indicating that the point of service is itself a site of unequal treatment.

8.3. Fraud, Agent Conduct and Consumer Protection

As volumes grow, so do social engineering fraud, SIM swap attacks, unauthorised deductions, agent overcharging and failures of dispute resolution. Frameworks built for branch banking translate poorly to networks of hundreds of thousands of small agents whose incentives are set by commission rather than supervision (Mas & Radcliffe, 2011; F. Annan, 2020), and authentication design remains weak (Ali *et al.*, 2020). An applied literature addresses detection through machine learning models for fraud and laundering surveillance (Atakpa, 2021; Atakpa & Abetoh, 2022; Mbonu *et al.*, 2021), but detection does not resolve the evidentiary problem: when a transaction runs on a shared handset or with agent assistance, the record may not establish who authorised it. Recourse remains the weakest link, and its weakness falls hardest on the least literate and most recently included users.

8.4. Data Governance and Algorithmic Accountability

Behavioural data is the input to credit scoring, marketing and product design, and its governance has not kept pace: regional regimes have advanced but enforcement lags legislation. Open questions include using contact lists and call records for credit decisions, the portability of transaction history, and the terms on which bureaux and analytics firms may share behavioural data (Aitken, 2017; Mhlanga, 2020). A compliance literature examines the instruments available: algorithmic accountability, harmonisation across GDPR, NDPR and United States regimes, monitoring of high-volume transactions, and auditing of AI-enabled financial systems (Ominyi & Anichukwueze, 2022; A. O. Annan, 2022). Bernards (2019) argues that such infrastructures generate the appearance of creditworthiness assessment while leaving the income volatility that drives default unaddressed, consistent with observed default rates (Johnen *et al.*, 2021).

8.5. Competition, Concentration and Systemic Risk

Several national markets are highly concentrated, one provider holding a dominant share of accounts, agents and transaction value. Three concerns follow: pricing power, especially on cash-out and off-network transfers; scope to disadvantage rivals through control of distribution or data; and operational risk, since one platform's failure would now be systemically disruptive (Economides & Jeziorski, 2017; Bank for International Settlements, 2019). The available instruments are familiar from telecommunications policy: mandated interoperability with regulated interchange, structural separation, price transparency and open agent access (Bourreau & Valletti, 2015). Consolidation raises parallel questions about regulatory clearance and post-merger compliance in African financial markets (Ominyi, 2020; Ominyi & Anichukwueze, 2020), and about the compliance burden that supervisory expansion itself imposes (Akomolafe & Agu, 2019a).

8.6. Taxation of Digital Transactions

Fiscal pressure has led a growing number of governments to tax digital financial transactions directly. Uganda introduced

a mobile money levy in 2018, Tanzania a transfer levy in 2021, Cameroon a 0.2 percent transfer tax from January 2022, Zimbabwe an intermediated transaction tax, and Ghana enacted the Electronic Transfer Levy at 1.5 percent of transfer value from May 2022, after the originally proposed 1.75 percent was reduced following sustained public opposition (Republic of Ghana, 2022).

The evidence available is consistent and unfavourable. Clifford (2020) documents a sharp contraction in mobile money transaction values following Uganda's 2018 levy, concentrated in low-value transfers and in agent turnover, with usage recovering only partially after the rate was cut. Ndung'u (2019) reaches compatible conclusions for Kenyan mobile transaction taxes, and Matheson and Petit (2021) show that transaction and telecommunications levies in developing economies fall disproportionately on price-elastic, low-value use and raise less than projected. Mpofu and Mhlanga (2022) review the African experience and reach the same conclusion. The Ghanaian and Cameroonian levies took effect in 2022 and are too recent for their incidence to have been measured, though the Ugandan precedent gives little reason to expect a different pattern.

The appeal to finance ministries is not difficult to understand. Mobile money offers a visible, electronically recorded base that is cheap to assess and hard to evade, in economies where income and consumption taxes reach only a narrow formal sector. Matheson and Petit (2021) note that this administrative convenience is precisely what makes telecommunications and transaction levies attractive despite their incidence, and Ndung'u (2019) argues that the short-run revenue is purchased at the cost of the formalisation that would widen the base over time.

The underlying problem is that transaction taxes fall on price-elastic behaviour with a close and untaxed substitute, namely cash. Governments collect less than projected while pushing marginal users out of the formal system. Taxing the payment instrument is inferior to taxing the income and consumption that digital records make visible, which presupposes the budget and statutory reporting capacity that remains uneven across the region (Dogbatsey & Ebhojie, 2018; Akinola *et al.*, 2020).

8.7. Financial Integrity and The Exclusion Cost of Compliance

Anti-money-laundering requirements sit in tension with inclusion when applied without proportionality, since full verification on low-value wallets excludes the target population. Tiered due diligence therefore became foundational to the frameworks of section 5.1 (Financial Action Task Force, 2020; Alliance for Financial Inclusion, 2016), though supervisory conservatism under assessment pressure still pushes requirements above that level. Blockchain-based KYC, correspondent banking monitoring and AI-enabled screening are the principal technical responses proposed (Fadayomi *et al.*, 2021; Ominyi & Anichukwueze, 2021). Correspondent banking withdrawal driven by compliance cost rather than observed illicit activity compounds this (World Bank, 2022; Sy *et al.*, 2019), so regional settlement infrastructure is an integrity intervention as much as an efficiency one, since displaced flows migrate to less visible channels (Committee on Payments and Market Infrastructures & World Bank, 2020).

9. Discussion

Read against the conceptual model, the evidence supports a specific characterisation. The access-to-uptake transition has been managed well: ownership more than doubled in a decade, mobile money reached a third of adults, and in twenty economies non-bank accounts outnumber bank accounts (Demirgüç-Kunt *et al.*, 2022). Where enabling conditions came early, diffusion followed. Nigeria is the natural counterfactual, achieving diffusion only once the constraint on telco-affiliated issuance was relaxed.

The uptake-to-usage transition has fared worse. A registered-to-active ratio near three to one is the clearest indicator (GSMA, 2022a), reinforced by the shallowness of women's usage relative to registration (GSMA, 2022b; Ferrer *et al.*, 2022). The model predicts this transition is governed by attenuating conditions, and the evidence fits: transfer levies raise the marginal cost of the behaviour policy promotes and contract usage among low-income and rural users (Clifford, 2020; Matheson & Petit, 2021; Mpofu & Mhlanga, 2022), while fraud and weak recourse act on the same margin.

At the usage-to-welfare transition the evidence divides cleanly. Effects working through reduced transaction costs replicate across Kenyan, Tanzanian and Ugandan samples using different identification strategies (Jack & Suri, 2014; Riley, 2018; Wieser *et al.*, 2019). Effects requiring behavioural change are weaker, the Wieser *et al.* (2019) savings null alongside positive food-security results being characteristic. The division is coherent: digital rails change the price of moving money, not the constraints that make saving difficult (Dupas & Robinson, 2013; Karlan *et al.*, 2014).

Three findings are anomalous. The first is the gender reversal. A gap widening from 5 to 12 percentage points during rapid aggregate inclusion cannot be explained by a model in which digital channels lower costs uniformly, nor by the argument that women started lower, since other regions with comparable baselines narrowed theirs. The mechanisms in section 8.2 all act on transitions the aggregate indicator does not measure, suggesting a usage-stage phenomenon surfacing in ownership data only once those constraints bind on registration too.

The second is the digital credit divergence: Suri *et al.* (2021) find digital loans improve resilience while Johnen *et al.* (2021) find they drive 90 percent of blacklistings in the same country. These need not conflict, since an instrument can raise average resilience while imposing severe costs on a minority. Average treatment effects are therefore the wrong statistic here, and regulation should target the tail. The third is weak CBDC uptake where the state faced no distribution constraint and controlled identity infrastructure, suggesting the binding constraint is an accepting network rather than a public instrument (International Monetary Fund, 2022; Adrian & Mancini-Griffoli, 2021).

Together these support the central claim. The region has largely solved the problem its frameworks were designed for, and what remains sits at transitions those frameworks barely address. This is not a criticism of the original design, built for a market that did not yet exist and succeeding in bringing it into being. It is an argument that optimising further for entry and registration yields diminishing returns while the binding constraints go unaddressed.

10. Implications for Policy and Practice

The evidence reviewed points to seven priorities: Shift the regulatory objective from access to quality of usage. Ownership targets should give way to usage and outcome indicators: active account rates, transaction diversity, ability to raise emergency funds, and redress statistics. What is measured determines what is optimised, and ownership targets have been met without commensurate gains in financial health (Allen *et al.*, 2016; Duvendack & Mader, 2020).

Treat interoperability and instant payment infrastructure as public infrastructure: Regulators should mandate participation, regulate interchange and settlement transparently, and ensure non-bank providers reach national switches on fair terms rather than through sponsor banks that are also competitors (Bourreau & Valletti, 2015; Committee on Payments and Market Infrastructures & World Bank, 2020).

Regulate by activity and risk, not by institutional label: A digital lender, a bank and a telco subsidiary offering the same product should face the same conduct, disclosure and data obligations, as Nigeria's payment service bank licence and Kenya's digital credit provider licence both imply (Central Bank of Kenya, 2022; Central Bank of Nigeria, 2018). The corollary is proportionate prudential treatment: electronic money issuers backed by safeguarded trust accounts should not face capital requirements calibrated for balance sheet intermediation, but safeguarding must be enforced rigorously.

Build consumer protection for the digital channel specifically: This means standardised disclosure of total credit cost before commitment, conduct rules on collection, proportionality in bureau listing for very small balances, tiered redress with defined timelines, and agent supervision with published enforcement (Izaguirre *et al.*, 2018).

Address identity, handsets and connectivity as inclusion infrastructure: Tiered due diligence should be universal, and identity systems should make explicit provision for those without birth registration or fixed address (Financial Action Task Force, 2020). With more than 100 million unbanked adults lacking documents, identity and connectivity policy belong inside inclusion strategy rather than beside it (GSMA, 2022c).

Stop taxing digital transactions and tax income instead: Given the contraction following transfer levies, governments should exempt low-value transactions, avoid taxing person-to-person transfers, and use the visibility digital payments create to improve compliance with existing income, profit and consumption taxes (Clifford, 2020; Mpofu & Mhlana, 2022; Ndung'u, 2019).

Approach central bank digital currency as a design problem rather than a status objective: Weak eNaira uptake suggests a retail CBDC competing with an established private ecosystem must offer offline capability, zero cost or superior government payment integration. Where mobile money is already high-penetration and interoperable, the marginal inclusion benefit may be small and wholesale or cross-border applications may return more (Adrian & Mancini-Griffoli, 2021; International Monetary Fund, 2022).

11. Limitations and Future Research

Four limitations qualify these conclusions. The first concerns the evidence base rather than the review. Coverage skews heavily toward Kenya, which supplies a disproportionate

share of causal evidence while holding a small fraction of regional population, and its dominant operator, permissive regulation and high migration give no basis for assuming estimates transfer. Conclusions resting on Kenyan evidence, particularly in sections 7.2 and 8.1, are conditional on that setting.

The second concerns measurement. Industry figures are not independently audited and use varying provider definitions, indicating direction rather than precise levels. Account ownership, carrying most of the weight in section 4, measures only the first two stages of Figure 1 and cannot speak to the transitions argued to be binding. Publication incentives are a further concern in a field with strong donor interest (Bateman *et al.*, 2019).

The third concerns the review design. A narrative synthesis applies no pre-registered protocol, screens no corpus exhaustively and cannot quantify publication bias. Source selection reflects the author's judgement, and work inconsistent with Figure 1 may be under-weighted. Readers seeking pooled estimates should consult the systematic reviews cited here (Duvendack & Mader, 2020; Ahmad *et al.*, 2020).

The fourth concerns the model itself. Figure 1 imposes a linear cascade on processes that are simultaneous and recursive, since households occupy the early states partially and intermittently rather than in sequence. It also treats the two sets of conditions as separable when several run both ways: agent networks enable access while agent misconduct attenuates usage. The framework is an organising device, not a structural model, and its propositions are analytic rather than tested here.

These limitations point to five gaps that future work should address. Geographic coverage is skewed. Kenya generates a disproportionate share of causal evidence, while Francophone West and Central Africa, the Sahel and fragile states are under-studied relative to their populations and the severity of their exclusion.

Long-run and general equilibrium effects are unmeasured: Most studies estimate partial equilibrium effects on treated households over short horizons, leaving effects on savings groups, moneylenders, local labour markets and intra-household bargaining open (Johnson, 2016; Kusimba, 2018).

Digital credit needs welfare evaluation rather than usage measurement: Descriptive data on borrowing and default is good; causal evidence on whether high-cost instant credit improves or worsens welfare over time is thin. The divergence between Suri *et al.* (2021) and Johnen *et al.* (2021) is the most policy-relevant open question.

The gender anomaly requires explanation: No framework adequately accounts for a widening gap during rapid aggregate inclusion. Candidate mechanisms include handset access, documentation, agent conduct and intra-household control, but their relative weight is unquantified (Ferrer *et al.*, 2022; F. Annan, 2020).

Regulatory and fiscal changes offer under-exploited natural experiments: The staggered introduction and modification of transfer levies across Uganda, Tanzania, Ghana, Cameroon and Zimbabwe, and the phased licensing of payment service banks and digital credit providers, create identification opportunities that the literature has barely begun to use, and the 2022 levies in particular will support before-and-after designs once sufficient post-implementation data accumulates (Clifford, 2020).

12. Conclusion

Sub-Saharan Africa's digital financial transformation is real and, by the standard of the previous half century, remarkable. Account ownership more than doubled in a decade to 55 percent of adults, a third hold a mobile money account, and the region processes most of global mobile money transaction value, on a layer of infrastructure built largely outside the banking system and with private capital.

The achievement should not be overstated. Nearly half the region's adults remain outside the formal system, the gender gap has widened even as the aggregate improved, registered accounts outnumber active ones by roughly three to one, the fastest-growing product category has produced documented harm alongside genuine access, and several governments are taxing the behaviour their own strategies promote.

The region has completed one phase and entered another. The first was about permission: letting non-banks issue electronic money, agents handle cash, and accounts open without extensive documentation. It largely succeeded, and the countries that permitted early now lead. The second is about governance: competition, conduct, data, resilience, redress and fiscal treatment. Its instruments are supervisory rather than legislative, its results measured in redress rates and active usage rather than headline accounts, and it needs capacity most regulators are still building. Whether the access gains become durable improvements in financial health depends on that second phase.

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