



## Research Article

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# Regulatory Arbitrage Between Banks and Mobile Money Operators: A Comparative Analysis of Financial Inclusion and Stability in Emerging Economies

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**Abstract:** This article examines the phenomenon of regulatory arbitrage between traditional banks and mobile money operators in emerging economies, with a focus on its implications for financial inclusion and systemic stability. While mobile money has significantly expanded access to financial services in underserved regions, the regulatory frameworks governing these operators often differ substantially from those applied to banks, creating opportunities for regulatory arbitrage and posing challenges for integrated oversight. Employing a comparative policy analysis of regulatory frameworks in Kenya, Ghana, India, and Tanzania, this study identifies key areas of regulatory divergence and assesses how these differences influence market behavior, innovation, consumer protection, and financial stability risks. The findings reveal that lighter-touch regulation of mobile money operators has accelerated financial inclusion particularly among rural populations and women but has simultaneously introduced vulnerabilities related to consumer protection, data privacy, and systemic stability. The study concludes that harmonizing regulatory standards through a proportionate, activity-based approach while preserving the innovative capacity of mobile money is critical for building sustainable and resilient financial ecosystems. Practical policy recommendations for integrated regulatory frameworks, enhanced supervisory coordination, and consumer empowerment are discussed.

**Keywords:** Regulatory Arbitrage, Mobile Money, Financial Inclusion, Financial Regulation, Emerging Economies, Digital Finance, Banking, Fintech, Consumer Protection, Financial Stability

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## INTRODUCTION

The rapid diffusion of mobile money services across emerging economies has fundamentally reshaped financial landscapes, offering millions of previously unbanked individuals access to payment, savings, credit, and insurance services through simple mobile devices (GSMA, 2021). From M-Pesa in Kenya to bKash in Bangladesh, mobile money platforms have demonstrated remarkable success in bridging the financial inclusion gap, particularly in rural and low-income urban communities (Aker & Mbiti, 2010; Aron, 2018). However, this transformative growth has occurred within a regulatory environment that often treats mobile money operators differently from traditional banks, creating a dual regulatory regime characterized by divergent capital requirements, licensing frameworks, consumer protection standards, and supervisory intensities (Chen & Divanbeigi, 2019). This regulatory asymmetry gives rise to regulatory arbitrage the practice whereby firms strategically position themselves within lighter-touch regulatory regimes to reduce compliance costs, accelerate innovation, or avoid stringent oversight (IMF, 2019). While such arbitrage can stimulate competition, drive down costs, and expand service offerings, it also introduces significant risks: uneven consumer protection, potential for predatory lending, data privacy

vulnerabilities, and emerging threats to financial stability (FSB, 2020; Anderson *et al.*, 2017a). The COVID-19 pandemic further accelerated digital finance adoption, intensifying both the opportunities and risks associated with regulatory divergence (Gentilini *et al.*, 2021). Despite growing recognition of these dynamics, there remains a critical gap in comparative, policy-oriented research that systematically analyzes how regulatory arbitrage between banks and mobile money operators manifests across different jurisdictions, and how it shapes outcomes related to financial inclusion, consumer welfare, and systemic stability. This study addresses this gap through a focused examination of four representative emerging economies Kenya, Ghana, India, and Tanzania each with distinct regulatory approaches to mobile money and banking.

The study is guided by three core research questions:

- **RQ1:** How do regulatory differences between banks and mobile money operators manifest across key emerging economies, and what forms of regulatory arbitrage do these differences enable?
- **RQ2:** What are the effects of regulatory arbitrage on financial inclusion, consumer welfare, and market integrity?
- **RQ3:** How can regulators design harmonized yet flexible frameworks that promote innovation while

safeguarding financial stability and consumer protection?

## LITERATURE REVIEW AND THEORETICAL FRAMEWORK

### Financial Inclusion and the Mobile Money Revolution

Mobile money has emerged as arguably the most significant financial innovation in emerging economies over the past two decades. Unlike traditional banking, which relies on physical infrastructure and extensive documentation, mobile money leverages existing mobile networks to provide accessible, low-cost financial services (Aker & Mbiti, 2010). Empirical evidence demonstrates that mobile money adoption increases household savings rates (Aker & Wilson, 2013), facilitates efficient remittance flows (Apios & Suzuki, 2018), enhances women's economic participation (Demirgüç-Kunt *et al.*, 2022), and strengthens household resilience to economic shocks (Batista & Vicente, 2020). During the COVID-19 pandemic, mobile money platforms proved instrumental in delivering social protection payments and enabling

contactless transactions, underscoring their systemic importance (Gentilini *et al.*, 2021). However, the rapid expansion of mobile money has not been uniformly positive. Studies highlight emerging risks, including over-indebtedness from digital credit (Isazguirre *et al.*, 2018), data privacy concerns (Fritz & Hilbig, 2019), and consumer protection gaps (Ceeney *et al.*, 2019). These risks are often amplified in regulatory environments that prioritize innovation over stability.

### Regulatory Approaches: Banks vs. Mobile Money Operators

Traditional banks operate under comprehensive prudential regulation designed to ensure safety and soundness. This includes stringent capital adequacy requirements (Basel standards), liquidity norms, rigorous licensing processes, deposit insurance schemes, and extensive reporting obligations (IMF, 2019). In contrast, mobile money operators are frequently regulated as payment service providers rather than deposit-taking institutions, subjecting them to lighter capital requirements, simpler licensing, and less intensive supervision (Bank of Ghana, 2019; Central Bank of Kenya, 2015).

**Table 1: Key Regulatory Differences Between Banks and Mobile Money Operators**

| Regulatory Dimension              | Traditional Banks  | Mobile Money Operators  | Implications for Arbitrage   |
|-----------------------------------|--|---|--|
| <b>Licensing Requirements</b>     | Stringent; requires significant capital, governance structures, and fit-and-proper tests | Often lighter; may require partnerships with banks or specific payment service licenses | Lower barriers to entry for mobile money, but restrictions on offering full banking services |
| <b>Capital Requirements</b>       | High (Basel III frameworks)  | Significantly lower; often based on transaction volumes or float management             | Cost advantage for mobile money operators; potential undercapitalization risks               |
| <b>Deposit Insurance</b>          | Typically covered (explicit or implicit)   | Rarely covered; customer funds may be safeguarded but not insured                       | Consumer protection gap for mobile money users   |
| <b>Consumer Protection</b>        | Comprehensive frameworks (disclosure, grievance redress, cooling-off periods)            | Often limited or evolving; focused on transaction transparency                          | Higher risk of exploitation in mobile money ecosystems                                       |
| <b>Supervisory Intensity</b>      | High-frequency, on-site and off-site examinations  | Lower frequency; often reliance on reporting and transaction monitoring                 | Regulatory gaps may enable risky behavior to go undetected                                   |
| <b>Interoperability Mandates</b>  | Often required through national payment systems  | Varies by country; sometimes voluntary or market-driven                                 | Fragmentation risk; limits network effects and financial inclusion                           |
| <b>Credit Provision Authority</b> | Full authority (subject to lending norms)  | Restricted; often requires partnership with licensed bank or separate lending license   | Incentive for regulatory arbitrage through partnership structures                            |

*Sources: Adapted from Amstad (2019), FSB (2020), Anderson et al. (2017b)*

This regulatory divergence creates fertile ground for arbitrage. Mobile money operators can offer bank-like services payments, savings, credit without bearing equivalent regulatory burdens.

Meanwhile, banks may establish mobile money subsidiaries or partnerships to access lighter regimes for certain activities (Gibson, 2016).

### **Theoretical Framework: The Regulatory Trilemma**

The Regulatory Trilemma Framework provides a conceptual lens through which to analyze the inherent trade-offs in digital finance regulation. This framework posits that policymakers face fundamental tensions among three core objectives: financial innovation, financial inclusion, and financial stability. In practice, aggressively pursuing any two of these objectives inevitably compromises the third, creating a persistent governance dilemma. For instance, a regulatory approach that prioritizes innovation and inclusion through light-touch oversight may foster rapid market expansion and accessibility, but at the cost of accumulating systemic risks, such as undercapitalization, weak consumer safeguards, or operational fragilities. Conversely, a regime that emphasizes innovation and stability through stringent prudential rules may ensure system resilience and controlled experimentation, yet inadvertently exclude underserved populations by raising compliance costs and entry barriers. Similarly, a focus on inclusion and stability via conservative, traditional regulation may protect consumers and maintain systemic integrity, but stifle technological advancement and competitive dynamism. Regulatory arbitrage emerges as a market-driven response to this trilemma, wherein firms strategically position themselves within or migrate across regulatory jurisdictions that favor their operational priorities, whether that be innovation-friendly sandboxes, inclusion-oriented tiered frameworks, or stability-focused prudential regimes. The central challenge for regulators, therefore, is not to eliminate these trade-offs but to design integrated, proportionate, and adaptive regulatory architectures that dynamically balance all three objectives, leveraging tools such as activity-based regulation, supervisory technology, and graduated licensing to mitigate arbitrage risks while fostering a resilient, inclusive, and innovative financial ecosystem.

## **METHODOLOGY**

This study employs a qualitative comparative policy analysis to examine regulatory frameworks and arbitrage practices across four emerging economies: Kenya, Ghana, India, and Tanzania. The selection of these jurisdictions is based on their representation of distinct regulatory approaches to mobile money within significant and active digital financial markets. Each country exhibits high or rapidly growing mobile money penetration, yet has developed unique regulatory responses to the interplay between traditional banking and digital finance operators. The availability of comprehensive regulatory documentation, academic studies, and market reports for these countries enables a robust cross-jurisdictional analysis of how regulatory divergence creates opportunities for arbitrage and shapes

financial inclusion and stability outcomes. This methodological approach allows for the identification of common patterns and distinctive national strategies in managing the regulatory challenges posed by mobile money ecosystems.

### **Data Collection**

Data for this analysis were collected from three primary sources to ensure triangulation and comprehensiveness. First, primary regulatory documents were examined, including national Banking Acts, Payment System Laws, Central Bank guidelines, licensing frameworks for both banks and payment service providers, and consumer protection regulations. These documents provide the formal legal and regulatory architecture within which banks and mobile money operators function. Second, secondary literature was extensively reviewed, encompassing academic studies on mobile money adoption and socioeconomic impacts, annual industry reports from the GSMA, policy papers from international financial institutions such as the IMF and World Bank on fintech regulation, and national financial inclusion surveys like the Global Findex and Kenya's FinAccess surveys. Third, specific case examples and market data were analyzed to ground the regulatory analysis in practical implementation. This included tracing the regulatory evolution of Kenya's M-Pesa, examining the partnership models underpinning MTN Mobile Money in Ghana, analyzing the licensing structure of India's Airtel Payments Bank, and reviewing the development of digital credit products such as M-Pawa and Tala in Tanzania. This multi-source approach ensures that the study captures not only the formal rules but also their practical application and market consequences.

### **Analytical Framework**

The analysis follows a structured three-stage comparative approach designed to move from descriptive mapping to explanatory assessment. The first stage involves Regulatory Mapping, where key differences between the regulatory treatment of banks and mobile money operators are systematically identified across predefined dimensions such as licensing, capital requirements, consumer protection, and supervisory intensity. This mapping, summarized in Table 1, establishes the foundational asymmetries that enable arbitrage. The second stage focuses on Arbitrage Identification, which entails documenting the specific strategies and practices through which firms both banks and mobile money operators exploit these regulatory differences. This involves analyzing legal structures, partnership agreements, product designs, and market positioning to uncover how regulatory gaps are leveraged for competitive advantage. The third and final stage is the Impact Assessment, which evaluates the effects of these arbitrage practices on three core outcomes: financial inclusion (breadth and depth of access), consumer welfare (protection and fairness), and financial stability (systemic resilience and risk). This stage

synthesizes empirical evidence from the collected data to weigh the benefits of regulatory flexibility against its potential costs.

**Case Selection Rationale**

The four selected countries provide a spectrum of regulatory models and market maturity, offering a rich basis for comparative analysis.

**Table 2: Case Country Profiles and Selection Rationale**

| Country  | Mobile Money Penetration | Regulatory Approach                       | Key Characteristics for Analysis   |
|----------|--------------------------|---|--|
| Kenya    | High (~80% of adults)    | Progressive Integration                   | Pioneer market offering a longitudinal view of regulatory evolution from light-touch oversight to more integrated frameworks.          |
| Ghana    | Moderate-High            | Bank-Led Partnership Model                | Mandates collaboration between telecom operators and banks, creating a natural laboratory for studying partnership-based arbitrage.    |
| India    | Growing Rapidly          | Differentiated Licensing (Payments Banks) | Explicitly created a new hybrid entity category, illustrating a formalized, tiered approach to regulating digital finance.             |
| Tanzania | High                     | Hybrid Approach                           | Maintains separate licensing but shows increasing regulatory coordination, highlighting tensions between siloed and unified oversight. |

Sources: GSMA (2021); Demirgüç-Kunt *et al.* (2022)

Kenya serves as a seminal case due to its pioneering role and the iterative development of its regulatory stance. Ghana exemplifies a deliberate model of forced partnership, revealing the complexities of shared regulatory responsibility. India represents a structured, ex-ante regulatory innovation through its Payments Bank license, designed to fill the gap between full banking and basic payment services. Tanzania offers insights into a market with high penetration but a regulatory approach that has historically been less integrated, now moving toward greater harmonization. Together, these cases allow for a nuanced exploration of how different starting points and policy choices shape the arbitrage landscape and its consequences.

**ANALYSIS AND FINDINGS**

**Forms and Manifestations of Regulatory Arbitrage**

The comparative analysis uncovers that regulatory arbitrage is not a monolithic practice but manifests in several nuanced forms across the four countries, each exploiting specific regulatory asymmetries. A primary form is Licensing and Entity-Based Arbitrage, where firms strategically select legal identities to fall under a preferred regulatory regime. In India, this is institutionalized through the creation of Payments Banks, a category explicitly designed to occupy a middle ground. These entities are authorized to accept small deposits and facilitate payments but are prohibited from lending, placing them in a regulatory category that is more stringent than non-bank payment providers but less burdensome than full-service commercial banks. This creates a formal channel for arbitrage where functions are disaggregated according to regulatory intensity. In Ghana, arbitrage is channeled through a mandatory bank-led partnership model. Regulation requires mobile network operators (MNOs) to partner with licensed banks to offer mobile money services. This creates layered corporate structures where

the bank holds the license and manages the float, while the MNO leverages its brand, customer base, and agent network. This partnership can blur lines of accountability, as each entity operates under different primary regulators—the bank under banking law and the MNO under telecommunications and payments law—creating opportunities for each to leverage the other’s regulatory perimeter.

A second prevalent form is Activity Reclassification, where services that are functionally equivalent to traditional banking are structured or labeled in ways that place them outside the scope of banking regulation. A widespread example is the treatment of e-money as quasi-deposits. Customer funds stored in mobile wallets, while economically identical to demand deposits, are often legally classified as stored value or trustee funds. This classification allows operators to avoid stringent banking reserve requirements, liquidity coverage ratios, and deposit insurance obligations, significantly lowering their operational costs and capital burdens. Another telling example is the structuring of digital credit as airtime advances. In markets like Kenya, some digital lenders disburse loans by crediting a user’s airtime balance or framing the transaction as an advance on future airtime purchases. Doing so, they attempt to evade regulations governing licensed lending, including interest rate caps, responsible lending guidelines, and formal debt collection rules. This reclassification exploits the regulatory gap between telecommunications services and financial services, often leaving consumers without the protections afforded to borrowers in the formal credit market.

A third significant form is Partnership Arbitrage, which involves symbiotic relationships between banks and mobile money operators designed to mutually access advantageous regulatory provisions. A common model sees banks providing the regulated

infrastructure for safekeeping of funds and extending credit, activities that are heavily regulated under banking law. Concurrently, mobile money operators handle customer-facing activities such as onboarding, transactions, and agent network management. This partnership allows banks to circumvent traditional branching restrictions and expensive physical infrastructure requirements by using the telecom’s vast agent network as a low-cost distribution channel.

Conversely, the mobile operator gains access to a banking license and the ability to offer a wider range of financial services without undergoing the full, costly process of becoming a bank itself. While efficient, this model can diffuse accountability and complicate supervision, as risks are shared across entities with different risk cultures, operational standards, and primary regulators.

**Table 3: Regulatory Arbitrage Strategies, Mechanisms, and Associated Risks**

| Arbitrage Strategy                 | Mechanism  | Country Examples  | Potential Risks   |
|------------------------------------|--|---|---|
| <b>Entity Selection</b>            | Choosing a legal entity type subject to a lighter regulatory category.   | India: Payments Banks vs. Commercial Banks; Tanzania: Dedicated Mobile Money License    | Consumer confusion over protections; regulatory gaps in crisis management and resolution.             |
| <b>Activity Reclassification</b>   | Structuring regulated financial activities to resemble unregulated ones. | Kenya: Digital credit framed as "airtime advance" or "merchant credit".                 | Evasion of consumer protection laws (e.g., disclosure, cooling-off); enables predatory lending.       |
| <b>Partnership Models</b>          | Allocating activities across entities to optimize regulatory treatment.  | Ghana: MTN Mobile Money’s partnerships with multiple banks (e.g., Bank of Ghana).       | Diffusion of accountability; challenges in supervisory coordination and consolidated risk assessment. |
| <b>Jurisdictional Arbitrage</b>    | Operating services across borders to benefit from favorable regulations. | Cross-border mobile money transfers within the East African Community.                  | Regulatory fragmentation; increased money laundering and terrorism financing risks.                   |
| <b>Regulatory Lag Exploitation</b> | Launching innovative products before specific regulations are enacted.   | Tanzania: Rapid rollout of digital credit products prior to 2019 regulatory guidelines. | Consumer harm (over-indebtedness, fraud) occurs before protective frameworks are established.         |

*Source: Author’s analysis based on country regulations, market reports, and secondary literature.*

**Impact Assessment**

**Financial Inclusion Effects**

The empirical evidence strongly indicates that the regulatory flexibility afforded to mobile money operators, often a product of or catalyst for arbitrage, has been a powerful driver of financial inclusion. The most dramatic example is Kenya, where the proportion of adults with access to formal financial services skyrocketed from 27% in 2006 to 83% in 2021, a transformation largely attributed to the widespread adoption of M-Pesa (Demirgüç-Kunt *et al.*, 2022). This expansion has been particularly impactful for traditionally excluded groups. Studies show that women in households using mobile money experience greater financial resilience and have enhanced opportunities for saving and managing household finances (Aker & Wilson, 2023). Furthermore, mobile money agent networks have achieved remarkable rural penetration, reaching remote and low-income areas where the establishment of traditional bank branches would be economically unviable, thus bridging a critical geographic inclusion gap.

However, these inclusion gains are not without qualification and reveal significant quality disparities. A persistent usage gap exists, where a substantial number

of registered mobile money accounts remain inactive or are used only for a narrow range of basic transactions like receiving remittances or paying bills, rather than for broader financial activities like saving, credit, or insurance. Moreover, the quality of inclusion varies widely. Some users face high and opaque transaction fees, particularly for cross-border transfers or small-value transactions. Others encounter poor service quality at agent points or fall victim to exploitative terms in digital credit markets, where high interest rates and aggressive collection practices are prevalent (Ceney *et al.*, 2019). This suggests that while regulatory arbitrage has expanded the *quantity* of inclusion, it has sometimes done so at the expense of the *quality* and *safety* of that inclusion.

**Consumer Protection and Welfare**

Regulatory arbitrage has, in many instances, led to significant consumer protection gaps, as mobile money services frequently operate outside the comprehensive safeguards applied to traditional banking. A major concern is Data Privacy and Security. Mobile money operators amass vast amounts of sensitive transactional and personal data. However, they are often regulated primarily as payment or telecommunications service providers, subject to data protection regimes that

may be weaker, less specific, or less rigorously enforced than the banking secrecy and data security laws governing banks (Fritz & Hilbig, 2019). This creates risks of data misuse, unauthorized sharing with third parties, and inadequate protection against breaches. Another critical gap is in Dispute Resolution. While banks are typically bound by regulated timelines and formal procedures for handling customer complaints and transaction errors, grievance redress mechanisms for mobile money are often less robust. Resolution may depend on the internal policies of the telecom operator, can be informal, slow, and lack independent oversight, leaving consumers with delayed or denied recourse for unauthorized transactions or service failures. Transparency remains a persistent issue, especially regarding fee structures. The cost of mobile money services can be complex, with fees varying by transaction

type, amount, channel (USSD vs. app), and whether the transaction is between users of the same operator or across networks. This complexity, often not communicated clearly, can lead to consumers paying more than anticipated. The problem is magnified in cross-border transfers, where exchange rate margins and multiple layers of fees are common. Furthermore, the expansion of digital credit via mobile money platforms has introduced serious risks of over-indebtedness. The ease and speed of obtaining these loans, coupled with sometimes opaque terms and very high annualized interest rates, have led to debt distress for vulnerable borrowers in several markets. Studies indicate that aggressive, automated repayment collections that deduct directly from mobile wallets or airtime credit can push borrowers into cycles of debt (Isazguirre *et al.*, 2018).

**Table 4: Comparative Analysis of Consumer Protection Standards**

| Protection Area                | Banking Sector Standards  | Mobile Money Typical Practice   | Resulting Protection Gap   |
|--------------------------------|---|---|--|
| <b>Disclosure Requirements</b> | Comprehensive mandates for disclosing APR, all fees, terms, and conditions.                 | Often limited to notification of basic transaction fees; key terms (esp. for credit) may be buried. | Consumers may enter agreements without fully understanding the total cost, repayment obligations, or penalties.  |
| <b>Error Resolution</b>        | Formal, regulated procedures with defined timelines for acknowledging and resolving errors. | Process varies by operator; often relies on customer care calls with no guaranteed timeline.        | Consumers face greater uncertainty, delay, and potential financial loss from transaction errors or fraud.        |
| <b>Liability Limits</b>        | Consumer liability for unauthorized transactions is typically capped by law or regulation.  | Liability provisions are often unclear in terms of service; consumers may bear full loss.           | Heightened risk of bearing significant losses from SIM swap fraud, agent misconduct, or system failures.         |
| <b>Privacy Standards</b>       | Governed by stringent banking secrecy laws and financial data protection regulations.       | May fall under general data protection or telecom regulations, which can be less stringent.         | Increased risk of personal financial data being exploited for commercial purposes or being inadequately secured. |
| <b>Cooling-off Periods</b>     | Often required by regulation for certain products like insurance or long-term contracts.    | Virtually non-existent for most mobile money products, including digital credit.                    | Consumers have little recourse against impulsive borrowing or purchasing decisions driven by digital marketing.  |

*Sources: Ceeney et al. (2019); Anderson et al. (2017c); Author's analysis of terms of service.*

### **Financial Stability Implications**

While mobile money systems have demonstrated notable operational resilience, their growth and unique structure present emerging financial stability considerations that regulators must monitor. A primary concern is Liquidity Management. Mobile money operators hold large pools of customer funds known as the "float" in pooled trust accounts at commercial banks. The sheer volume of these funds means that the management of liquidity between these trust accounts and the operational needs of the agent network is critical. Mismanagement could, in a stress scenario, lead to a liquidity shortfall preventing customers from accessing their funds, potentially triggering a loss of confidence. Concentration Risk is another factor. Many mobile money markets are dominated by one or two major providers, often linked to the largest mobile network

operators. For example, M-Pesa holds a dominant market share in Kenya. This concentration creates a single point of failure; a severe operational disruption or loss of confidence in the leading provider could have widespread systemic effects, disrupting a large share of retail payments and financial access.

The Operational Risk profile is also distinct. Mobile money ecosystems are highly dependent on continuous telecommunications network availability and the integrity of a vast, often lightly supervised agent network. Widespread network outages, cyber-attacks on switching systems, or systemic fraud within the agent network could undermine trust and stability. Interconnectedness with the formal banking system is deepening. Banks are significant holders of mobile money float accounts, provide liquidity to agents, and are

increasingly intertwined through partnerships and integrated products. This creates contagion channels where stress in the mobile money ecosystem could transmit to partnered banks, and vice-versa. The Financial Stability Board (2020) has noted that while most mobile money systems are not yet systemically important on a standalone basis, their rapid growth, increasing scale, and deepening links with the traditional financial sector warrant proactive monitoring and the development of appropriate macroprudential tools.

## **DISCUSSION: TOWARD PROPORTIONAL AND INTEGRATED REGULATION**

The comparative analysis reveals a fundamental and persistent tension in digital finance regulation: how to harness the profound financial inclusion benefits enabled by mobile money while simultaneously mitigating the consumer protection gaps and stability risks that regulatory arbitrage can exacerbate. Traditional banking regulation, designed for an era of physical branches, tangible assets, and clearly delineated institutional boundaries, is often ill-suited to govern the dynamic, platform-based, and rapidly evolving mobile money ecosystem. Its application can stifle innovation and limit access. Conversely, an exclusively light-touch approach that treats mobile money purely as a payments or telecom adjunct may enable harmful forms of arbitrage, leaving consumers exposed and allowing systemic risks to accumulate unnoticed. The challenge, therefore, is not to eliminate regulatory differences entirely but to evolve from a paradigm of entity-based siloes to one of proportionate, risk-sensitive, and integrated oversight that recognizes the converged nature of modern finance. This requires regulatory frameworks that are agile enough to foster innovation, robust enough to ensure stability, and equitable enough to guarantee meaningful consumer protection, thereby navigating the core trilemma of digital finance policy.

### **Principles for Proportionate Regulation**

Building upon international guidance from the IMF (2018) and the Financial Stability Board (2019), we propose four foundational principles for constructing proportionate digital finance regulation that can curb harmful arbitrage while supporting healthy market development. First, Activity-Based Regulation should form the cornerstone. This principle dictates that the regulatory requirements applied to a financial service should be based on the economic function and inherent risks of the activity itself, rather than the legal identity of the entity performing it. Whether a savings-like product is offered by a bank, a mobile network operator, or a fintech startup, if it presents similar risks (e.g., liquidity risk, credit risk to the provider), it should be subject to a similar core set of prudential and conduct rules. This levels the playing field and closes loopholes that allow risky activities to migrate to the least-regulated entity type. Tiered Licensing provides the necessary flexibility within an activity-based framework. A one-size-fits-all license is as impractical as entity-based silos. Regulatory

obligations should be graduated, scaling up with an institution's size, complexity, interconnectedness, and risk profile. A small, rural-focused payment service provider might operate under a simplified registration with basic consumer protection and anti-money laundering rules. In contrast, a large, systemically important mobile money platform offering credit and holding significant customer float would be subject to higher capital buffers, liquidity requirements, comprehensive governance standards, and recovery and resolution planning. This ensures that regulatory costs are commensurate with risk, preventing them from crushing small innovators while ensuring large players are adequately controlled.

Third, Regulatory Sandboxes offer a structured mechanism to manage the innovation-stability trade-off in real-time. These are controlled environments where regulators allow firms to test novel products, services, or business models with real customers for a limited time under a relaxed regulatory regime, but with enhanced supervision and monitoring. Sandboxes allow regulators to observe emerging risks firsthand, engage in iterative dialogue with innovators, and design appropriate permanent regulations based on evidence rather than speculation. They provide a safe space for experimentation without granting permanent regulatory exemptions that could be exploited for arbitrage. Fourth, Enhanced Supervisory Coordination is an operational imperative. The mobile money value chain cuts across the traditional mandates of banking, payments, telecom, competition, and data protection authorities. Effective oversight requires breaking down these institutional siloes. Mechanisms must be established for mandatory information sharing, joint risk assessments, coordinated on-site examinations, and the development of common supervisory tools. In some jurisdictions, this may necessitate the creation of formal inter-agency committees or even the consolidation of financial sector oversight under a single conduct regulator, with a separate prudential authority for stability.

### **The Role of Technology-Enabled Supervision (SupTech)**

Technology itself presents a powerful solution to the regulatory challenges it creates. Supervisory Technology (SupTech) the use of technology by regulatory authorities to enhance their oversight capabilities can help close regulatory gaps without imposing prohibitive compliance costs on the industry. SupTech applications can transform supervision from periodic, sample-based, and backward-looking to continuous, comprehensive, and forward-looking. Key applications include real-time transaction monitoring dashboards that use analytics to detect patterns indicative of fraud, money laundering, or operational stress across the entire mobile money network. Automated regulatory reporting portals can collect standardized, machine-readable data directly from regulated entities' systems,

reducing reporting burdens while improving data accuracy and timeliness for risk analysis. Network analytics tools can map the interconnectedness between mobile money operators, their agent networks, and partner banks, identifying concentrations and potential contagion channels. Furthermore, natural language processing applied to consumer complaint databases and

social media can provide early warning signals of emerging consumer harm or systemic service issues. By investing in SupTech, regulators can move toward a data-driven, risk-based supervisory model that is more effective at identifying and mitigating the novel risks born from digital finance and regulatory arbitrage.

**Table 5: Proposed Transition to a Proportional Regulatory Framework for Digital Finance**

| Regulatory Objective        | Traditional (Entity-Based) Approach                                     | Proposed Proportional (Activity & Risk-Based) Approach  | Implementation Mechanisms   |
|-----------------------------|---|---|---|
| <b>Market Entry</b>         | Rigid, entity-based licensing (either a bank or a payment service).     | Activity-based, tiered licensing. Entry requirements vary by the risk profile of activities undertaken (payments, deposit-taking, lending).                                 | Simplified "registration" for low-risk payment services; "restricted license" for deposit-taking; full banking license for credit creation and complex activities.              |
| <b>Consumer Protection</b>  | Sector-specific rules that differ for banks, insurers, and payments.    | Principle-based standards (fairness, transparency, accountability) applied consistently across all providers of similar financial services, regardless of entity type.      | Universal disclosure templates for costs and terms; mandated independent dispute resolution for all authorized providers; clear liability limits for unauthorized transactions. |
| <b>Prudential Oversight</b> | Based on institutional type (applies primarily to banks).               | Risk-sensitive requirements tied to the scale and risk of activities. Focus on safeguarding customer funds and ensuring operational resilience.                             | Float management rules and liquidity buffers for large payment floats; capital requirements for credit risk; mandatory operational resilience and cybersecurity standards.      |
| <b>Data Governance</b>      | Fragmented across financial, telecom, and general data protection laws. | A comprehensive, technology-neutral financial data protection framework covering all entities that process financial transaction data.                                      | Strong customer consent rules; data portability rights; mandatory cybersecurity protocols and breach notification; clear rules on data sharing and use for AI/credit scoring.   |
| <b>Interoperability</b>     | Left to market forces or bilateral negotiations.                        | Graduated mandates based on market position (e.g., dominant players must provide open APIs) and public interest to prevent fragmentation and promote inclusive competition. | Regulatory standards for APIs; regulated pricing for access to essential payment infrastructure (e.g., switching systems); oversight of interoperability agreements.            |
| <b>Crisis Management</b>    | Resolution frameworks designed almost exclusively for banks.            | Expanded recovery and resolution planning requirements for all systemically important financial infrastructures, including large mobile money payment systems.              | Requirement for large mobile money operators to develop "living wills"; clarity on the hierarchy of claims on customer funds in insolvency; tools for orderly wind-down.        |

*Source: Author's proposal, synthesized from analysis and international best practice (IMF, 2018; FSB, 2019; Amstad, 2019).*

### International Coordination Challenges

The inherently borderless nature of digital technology amplifies regulatory arbitrage opportunities, making purely national responses insufficient. Mobile money services increasingly cross borders, particularly within integrated regional blocs like the East African Community. This creates cross-border arbitrage, where operators can base services in jurisdictions with the most favorable regulations while serving customers in another, or where regulatory disparities complicate secure and affordable cross-border remittances. Initiatives like the East African Payment System project represent crucial steps toward harmonization, aiming to create a regional platform for instant retail payments. However,

progress is often slow, hampered by differing national priorities, legal frameworks, and levels of technological development.

Effective international coordination must therefore operate on multiple levels. At the regional level, harmonization of key principles such as tiered licensing categories, core consumer protection standards, and anti-money laundering frameworks—can reduce arbitrage incentives and foster larger, more efficient digital finance markets. At the global level, standard-setting bodies like the Financial Stability Board (FSB), the Bank for International Settlements (BIS), and the International Organization of Securities

Commissions (IOSCO) play a vital role in developing consistent approaches to regulating digital finance and big tech in finance. The Bali Fintech Agenda (IMF, 2018) provides a valuable blueprint for this cooperation, emphasizing 12 policy elements including promoting international discussion, developing frameworks for regulatory sandboxes, and enhancing cybersecurity. Ultimately, building supervisory colleges for major regional mobile money providers and establishing mutual recognition agreements for certain licensing categories will be essential to manage the cross-border dimensions of regulatory arbitrage and ensure that the digital finance revolution fosters global financial integration rather than fragmentation.

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