

# Mobile Money and the Governance of Emerging Technologies in Africa

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## I. Introduction

- *“The parade of new technologies and scientific breakthroughs is relentless and is unfolding on many fronts. Almost any advance is billed as a breakthrough, and the list of ‘next big things’ grows ever longer. Yet some technologies do in fact have the potential to disrupt the status quo, alter the way people live and work, rearrange value pools, and lead to entirely new products and services.”*
- Source: McKinsey Global Institute, *Disruptive Technologies* (2013), p. 1

# Introduction, cont.

- Over two decades of scholarly & policy debate about **“emerging technologies”** focused on disruptive effects of biotechnology, nanotechnology, bioengineering, personalized medicine, neuroscience, synthetic biology, artificial intelligence, surveillance technology, social media and robotics, etc.



## I. Introduction, cont.

- Extant focus of emerging technology studies is broad, but also “narrow” in that the revolutions are ***largely convenience-induced***; and manifests contemporary class & power interests in world politics
- Missed or under-appreciated **“mobile money”** technology, the most fascinating ***need-induced*** revolution of the 21<sup>st</sup> C. developed to change lives at the **“bottom of the pyramid”**

## Introduction, cont.

- Mobile Money—an Emerging Technology revolution co-constructed by African states, business & peoples
- Targeting over 20% of Africa's 1 billion + population without access to formal banking services
- Elite origins, but morphed into **a tool to fight poverty**



# What Is Mobile Money?

- No standard definition of mobile money
- Generally refers to the use of cell phones to send/receive money as a text message, irrespective of location



Alamy

## What Is Mobile Money?, cont.

- In general, mobile money is a monetary value that is:
  - *Available to a user to conduct transactions through a mobile phone;*
  - *Accepted as a means of payment by parties other than the issuer;*
  - *Issued on receipt of funds in an amount equal to the available monetary value;*
  - *Electronically recorded;*
  - *Mirrored by the value stored in an account(s) usually open in one (or more) bank(s); and*
  - *Redeemable for cash*
- May be a form of “e-money” in jurisdictions where “electronic money” has been defined in regulation or legislation

# Mobile Money—offshoot of revolutions in information & computer technology (ICT)





# Origins of Mobile Money Revolution

- Mobile money revolution first occurred in Kenya in **March 2007** when Kenya telecoms operator, Safaricom, launched ***M-Pesa*** (“M” for mobile; “pesa” kiSwahili for money)
- ***M-Pesa*** now operational in 8 African countries



## What is Mobile Money?, cont.

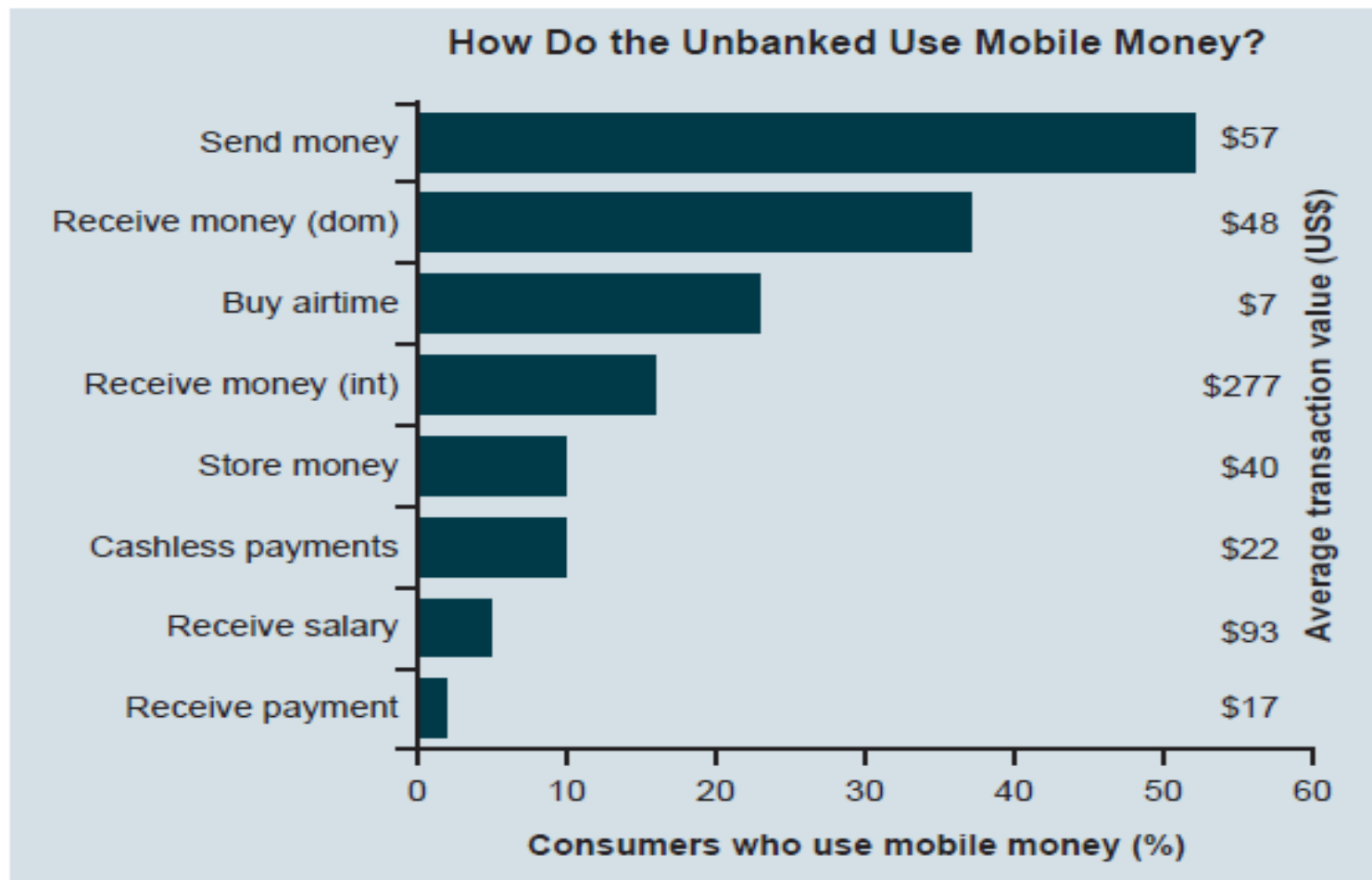
- Over 6bn individual cell phone subscribers globally
- 450m cell phones in Africa today—almost one for every two persons; 52% phone penetration rate!  
— *fastest-growing market for cell phones*
- Over 12% of Africans without formal bank account use mobile phones to conduct financial transactions
- Mobile money used to pay for utilities, goods in some supermarkets, airline tickets, health services, workers' salaries, pensions; cash transfers; as well **religious financial obligations**

# Zenith Bank (Nigeria) *GlobalPay* App for Redeemed Christian Church of God Members



# How Do the Unbanked Use Mobile Money?

Source: Mark Pickens, *CPAG Briefs*, 2013, p. 2



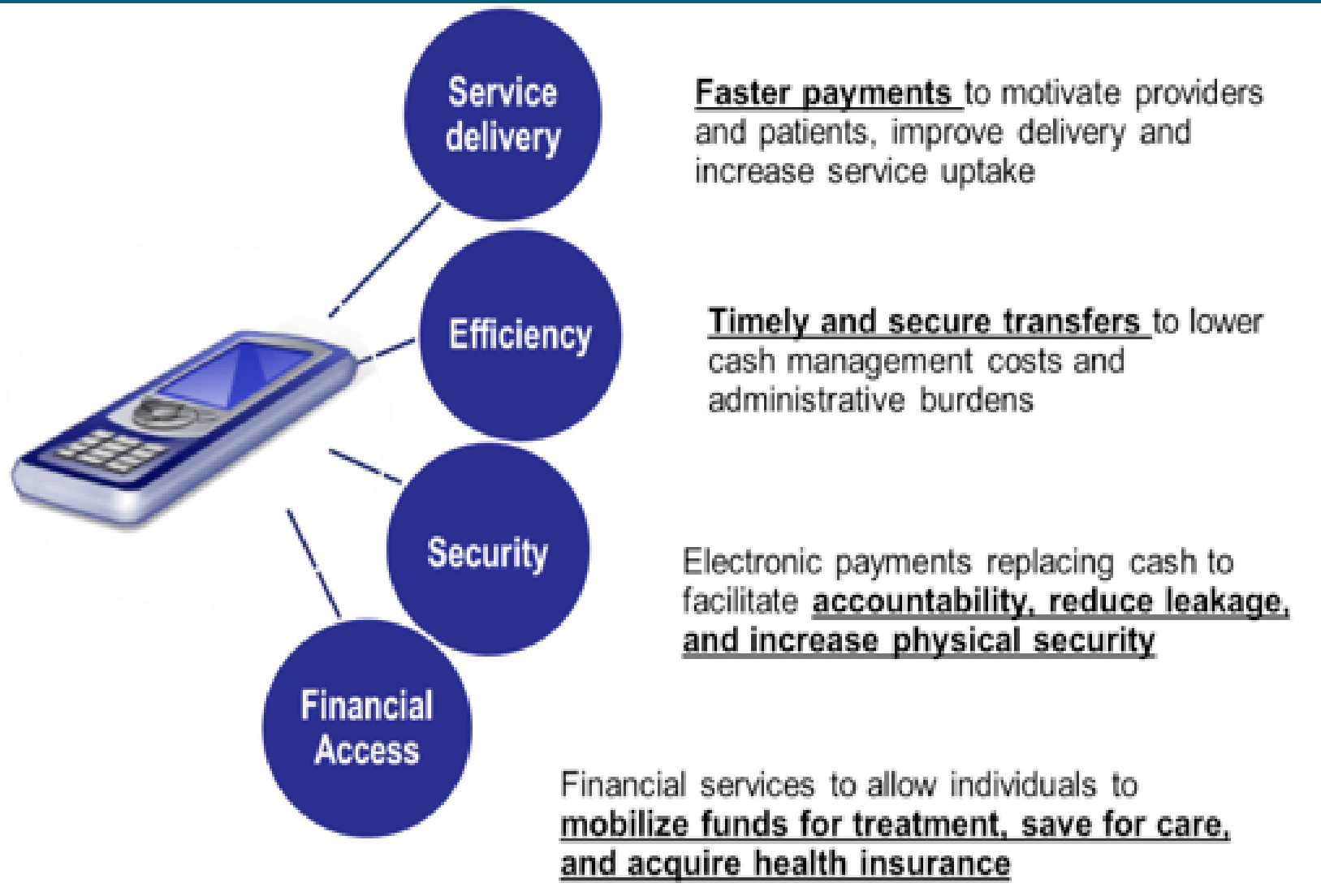
## What is Mobile Money?, cont.

- Mobile money a challenge to formal banks' lingering colonial mindset serving govt., corporate & high worth individuals, but snubbing or neglecting low-cost banking services to the bottom of the wealth pyramid
  - *Nigeria: 24 banks; 6,000 mostly urban-based branches for 174m vs. UK's 10,000 bank outlets for 60m people;*
  - *In 2011, Uganda had 2.4 bank branches for every 100,000 adults, compared to 5.2, 5.5, and 1.9 in neighboring Kenya, Rwanda, and Tanzania, respectively.*

# What is Mobile Money?, cont.

- There are more ***mobile money agents outlets*** than formal bank branches in 33 countries globally
- Largest mobile network operators (MNOs) in a developing country has 100-500 times more airtime reseller outlets than banks have branches
- 2012: Over 167 mobile money deployments in 77 countries; 83m Mobile Money customers; 70% in Africa; \$10bn transactions
- 56.9m registered Mobile Money accounts & 30m active users = **twice no. of Facebook users!!!**
- Many African banks scrambling to respond to mobile money challenge (new products **or** work with regulators to resist revolution)

# Popularity of Mobile Money Transactions



# The Kenyan Experience of Mobile Money

- Relatively poor; problematic governance environment
- 41.6m total popn; only 7m have bank accounts
- **18m (70% of adults; 86% of households) use M-Pesa** through Safaricom's 48,000 agents
- M-Pesa processes \$1.6bn per month; **\$10bn for all of 2011**
- Mobile money → **25% of Kenya's GDP** (of \$33.6bn)

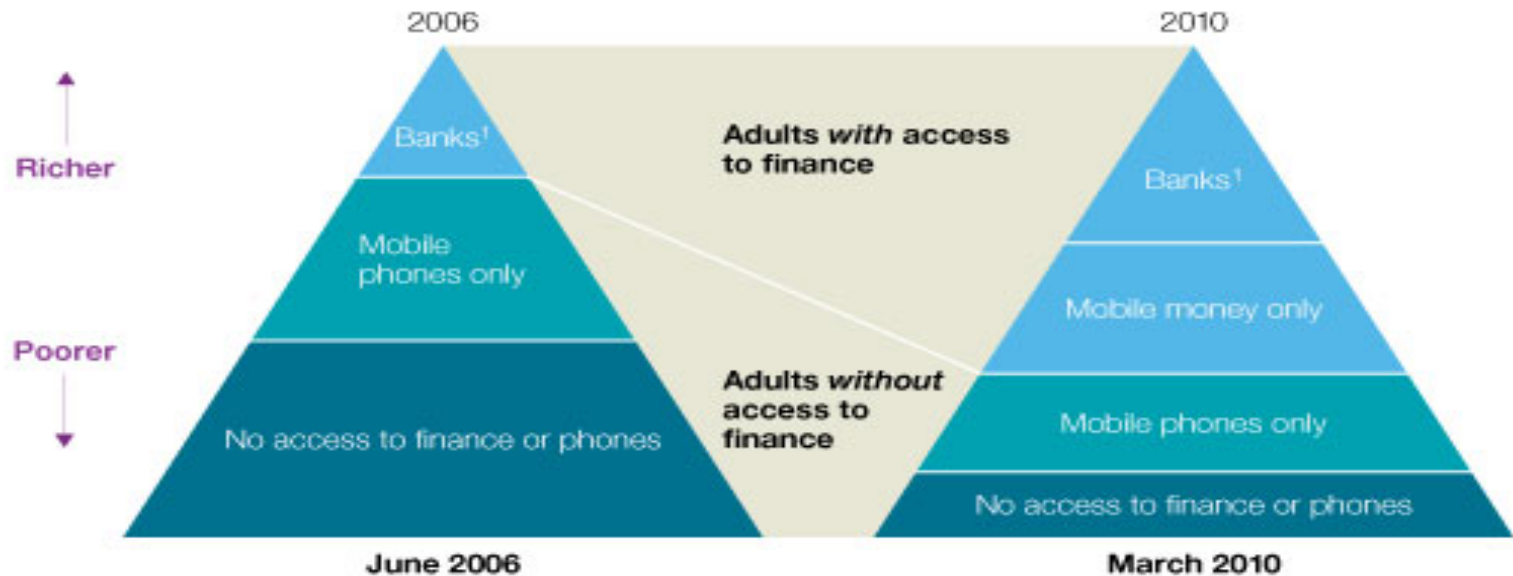




# The Kenyan Experience of Mobile Money, cont.

## Mobile money increased access to financial services for Kenya's middle class and the poor.

For adult population (aged 15 years and over)



<sup>1</sup>Includes other financial institutions.

Source: World Bank staff estimates

# Ancillary Technology Products in Kenya

- **Emergence of an “Ecosystem”** of start-up & software development technology companies in merchandizing, bill & salary payments, etc.
- **Basic Services Start-ups** (energy, education, water) to the previously excluded
- **Other business Innovations:** “pay-as-you-go”; mobile layaway; lease-to-own, etc. now easier to execute
- **NGOs/civil society Econ. Empowerment Movts. for the Poor**
  - *Kuza Mobile*—to dev. buyers & sellers market for the poor
  - *Ummeli*—tackles unemployment for people in poverty
  - *Unique Ubuntu*—teaches & deepens communalism
- **Praekelt Foundation**—hotbed of mobile technology innovation:
  - *Young Africa Live—HIV/AIDS* & anti-counterfeit drugs campaign;
  - support for farmers in The Gambia, etc.)

# Key to Kenya's Mobile Money Successes

- Pre-existing large mobile money access gap
- Safaricom/M-Pesa's first-mover advantage
- High levels of internal/regional migration
- Long-term Strategic & institutional commitment by Safaricom; not “add-on”
- “Open” Regulatory Oversight & Public-Private Partnership (govt. an M-Pesa shareholder)
- Dismantling of banks “cartels”; protection of Telcos monopoly; & “democratization” of cell phone market
- Reverse-engineering of cell phones by consumers & partnership with Safaricom for online financial services

# Benefits of Mobile Money Revolution: Particularly empowering for poor rural women





## Benefits of Mobile Money, cont.

- “Mobile money has achieved what decade-long experiments with microsavings have failed to achieve: rapid financial inclusion for large parts of the population in poor countries. The difference is a low-cost transaction platform” (Fengler 2013).



- *“mobile money...is a **disruptive technology** with power to transform traditional economic development activities around the world” (2013).*

# Africa Rising With Mobile Money, Also?

- Mobile money is the rare case in which a poor African country is the world market leader and an **exporter of innovation!**
- Toby Shapshak: “**With the dramatic rise in smartphone use ... grubby notes may soon be a thing of the past**”
- **CEO of FNB (S. Africa): “This is just the beginning. The future of banking is undoubtedly mobile and over time, cards and cash will reduce, if not disappear.”**



# Governing Emerging “Disruptive” Technologies?

- “At the same time, technology often disrupts, supplanting older ways of doing things and rendering old skills and organizational approaches irrelevant”
- McKinsey, *Disruptive Technologies* (2013), p. 1.
- **Still no agreement regarding governance regime for emerging technologies**
- Guston (2010); Asente, Owen & Williamson (2014); Bessant & Hentz (2013); Druillard (2013); Scholl et al. (2012); Roco (2008); Roco & Bainbridge (2013); Bannister & Wilson (2011); Owen, Bessant & Heintz (2013), etc.

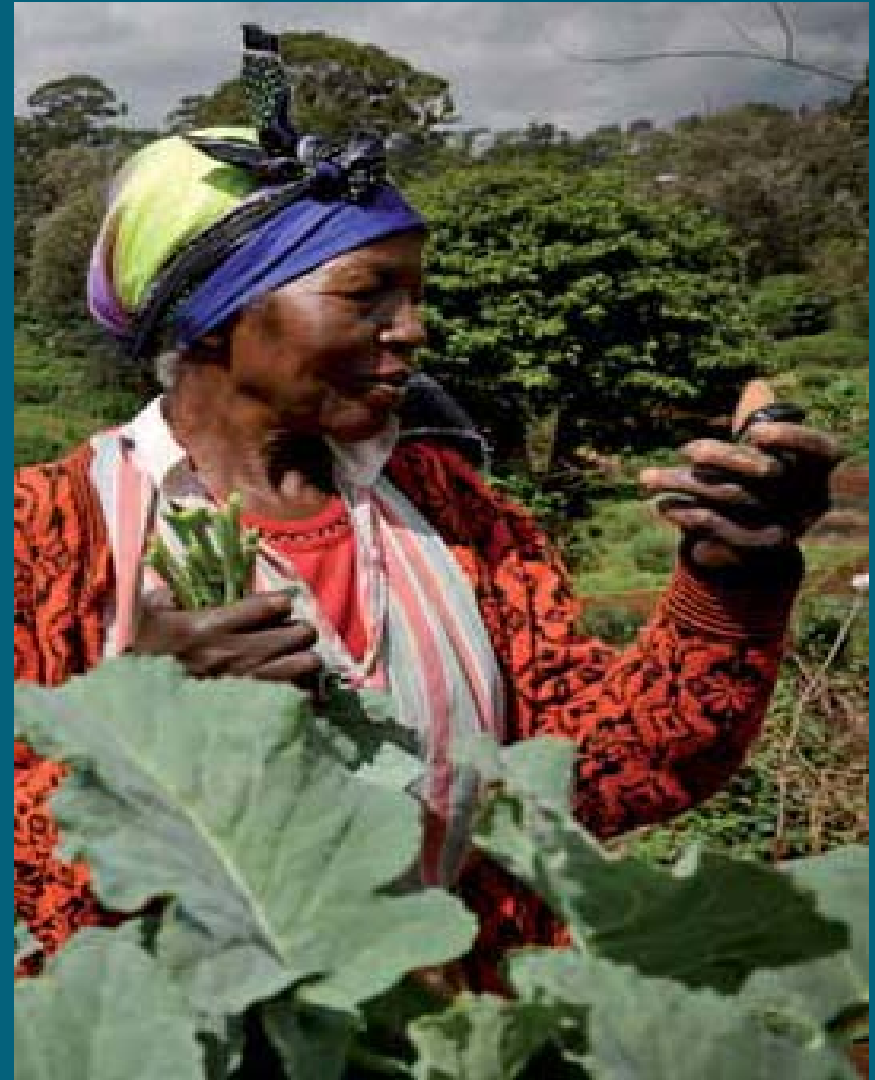
# Governance Challenges of Mobile Money Revolution

- R&D (international competitiveness; local ownership)
- Harmonization of regulatory regimes
- Intellectual property rights disputes (MNOs vs. Telcos)
- Safety of funds at cash points and at the hands of beneficiaries, etc.
- Social and ethical concerns (privacy and data protection from abuse by state and non-state actors)
- Public perceptions & trust in the new technology
- National/Regional Regulatory oversight vs. innovation
- “Complex Ambiguity” due to rapid technological change vs. *scant scientific and policy analysis of its overall impact on society*



# Ethical & Legal Governance Concerns

- Empowered, but does she understand the **risks to personal data**?
- Absence of legislation vs. **recourse/remedies** —in case of sale of data by MNO, misuse by state, or cybercriminals?
- **Affordability** of new deployments & **availability of service** when needed?



# Mitigating Mobile Money Governance Challenges

- Crossborder Regional Policy (a robust legal framework with a regional outlook—*harmonization of mobile money regulations; institutions; regulation with innovation*)
  - Cf. *EAC Task Force on Cyberlaws* (2010)
- **“Inter-Governance” & Multi-stakeholder Regulatory Regime** (to provide assurances of security, privacy of personal information & availability of services)
- From e-Government to **M-Government** (to address inefficiencies in the system)



## Mitigating Mobile Money Governance Challenges, cont.

- Integration of mobile money technology with and/or **partnership with micro-financing sector** (to further deepen financial inclusion)
- **Private sector-led regional financial integration** vs. statism/ failures of currency nationalism



## Mitigating Mobile Money Governance Challenges, cont.

- **Crossborder Civil Society Formation**
  - *Porosity & artificiality of boundaries; migration*
  - *Regional market requires region-wide identity-formation & mobilizations (especially of business CSOs);*
  - *Counter-hegemonic mobilization, etc.*
- **Private Regulation** (to free govt. from regulatory capture by distributional coalitions)



## Concluding Remarks

- Double-edged nature of emerging technologies; heightened “**complexity of ambiguity**” with every new technology
- Mobile money technological revolution & its focus on **poverty alleviation** enriches scholarship & policy analysis of governance challenges and potentials of emerging technologies
- African origins of mobile money revolution amplifies the need for us as a discipline or an epistemic community to often re-examine the blinders we wear that could mask the **existence and analytical utility of other experiences for understanding of our common humanity.**