



Digitalization of Money & Finance: Implications for Financial Inclusion

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Questions to address

- Why financial inclusion is difficult for traditional financial intermediaries?
- How digitalization of money and finance might facilitate financial inclusion (FI)?
- What are the key policy challenges to realize the potential?
- How should CBDCs be designed to facilitate FI?

The Story of a Thai Furniture Maker

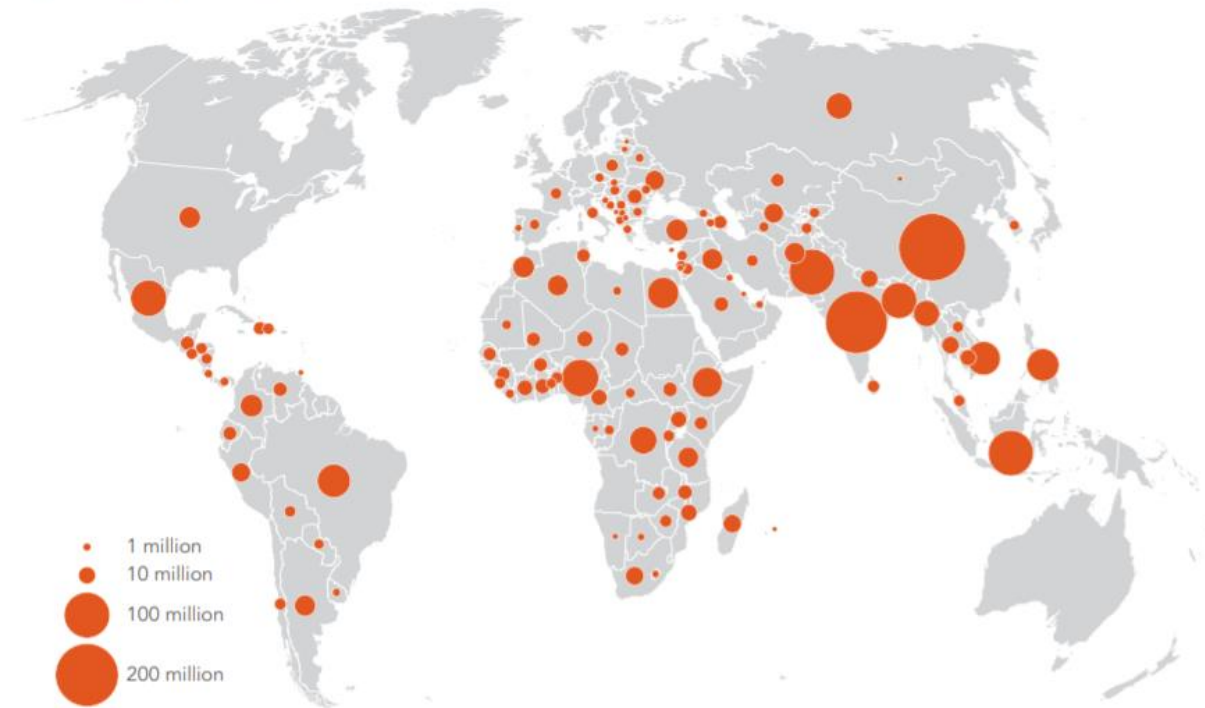
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Reminder...FI a global challenge

Globally, 1.7 bn people lacked an account...nearly half live in 7 countries

Globally, 1.7 billion adults lack an account
Adults without an account, 2017



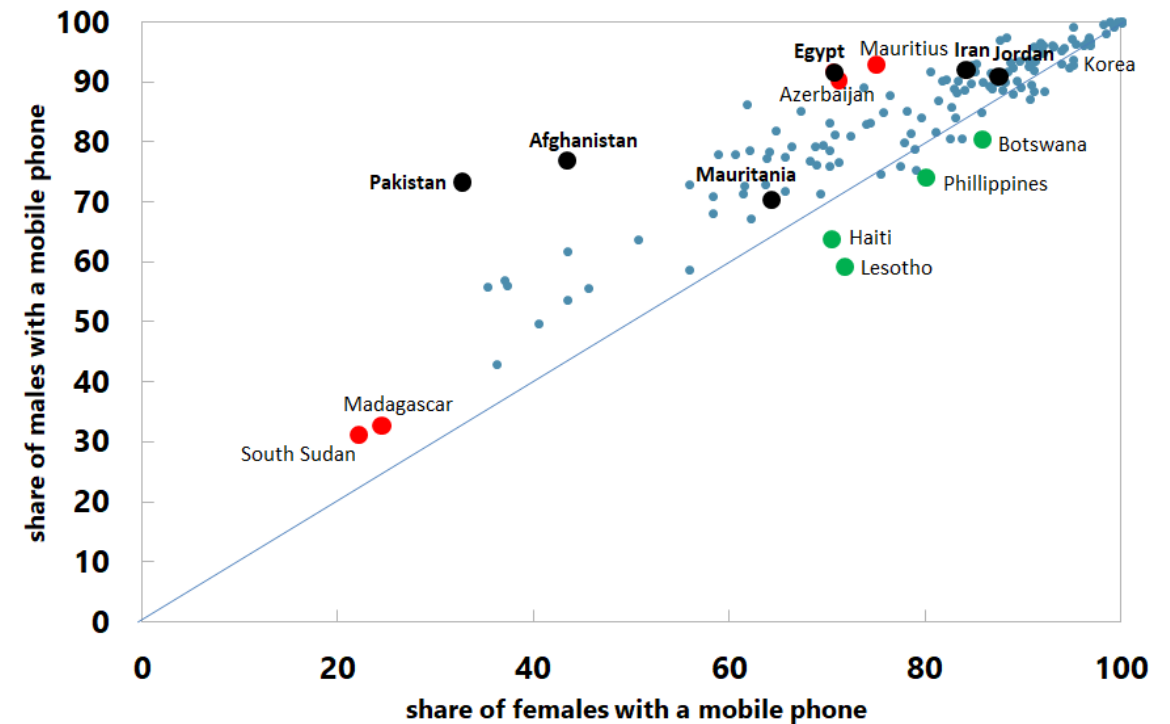
Source: Global Findex database.

Note: Data are not displayed for economies where the share of adults without an account is 5 percent or less.

...but mobile phone ownership is widespread amongst men & women

% of Adults with Access to a Mobile Phone

(In percent, 2017)



Source: World Bank, G20 Financial Inclusion Indicators. Note: Green (purple) indicate examples of countries with higher female (male) ownership of mobile phones than male (female).

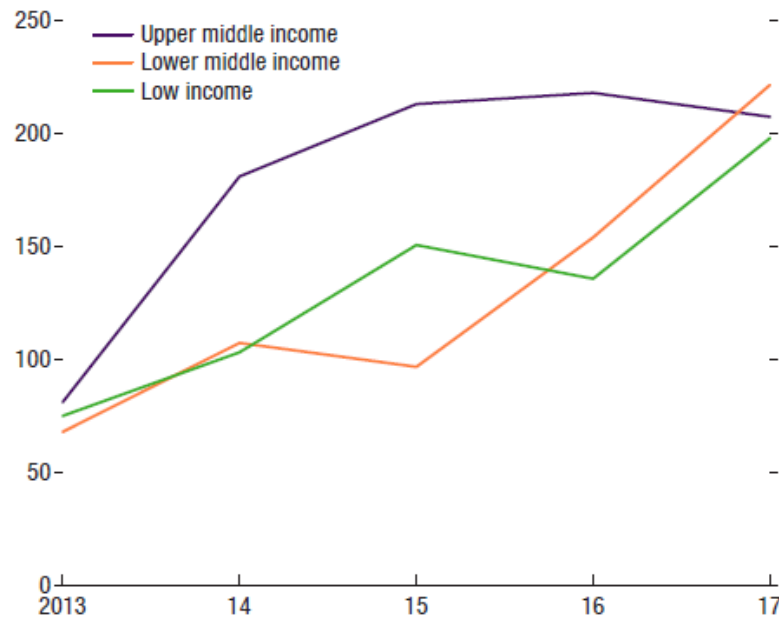
Why is financial inclusion difficult?

- The average amount of deposit of or credit for individuals and micro- and small enterprises (MSEs) is small
 - As traditional brick-and-mortar intermediaries have significant fixed cost, the *unit of cost* of serving those customers is *high*.
- MSEs typically operate under the radar screen, often with little or incomplete financial data
 - Asymmetric information and credit rationing
- MSEs often do not have good collateral

Digitalization can be a game changer (I)

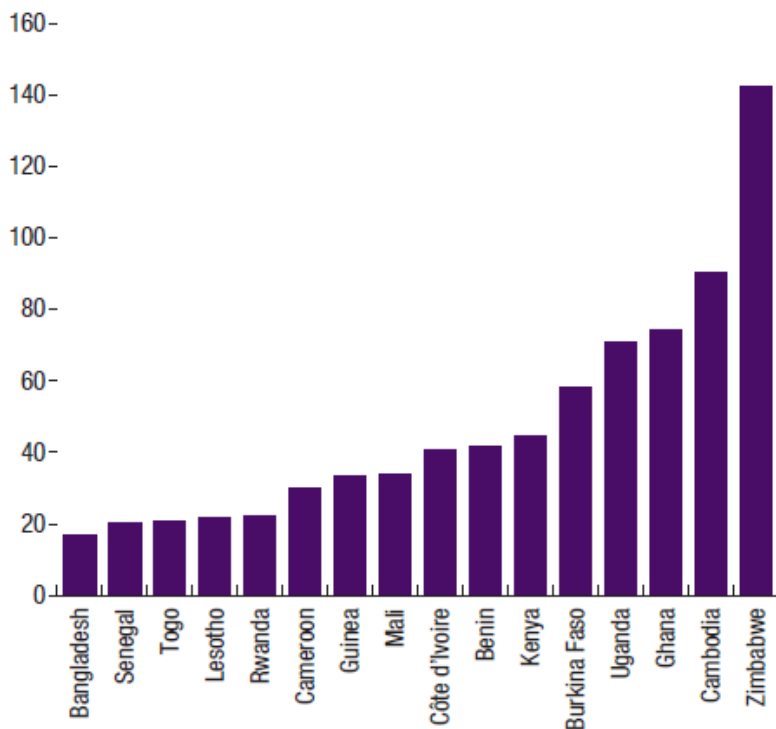
(i) mobile devices... together with (ii) communication technology (such as Wi-Fi & GPS), (iii) big data, (iii) processing power, (iv) cloud computing and (v) advanced analytics has been shifting the game...

Mobile Money Accounts, 2013–17
(Active, per 1,000 adults)



Sources: IMF Financial Access Survey; and IMF staff calculations.

Value of Mobile Money Transactions, 2018
(Percent of GDP)



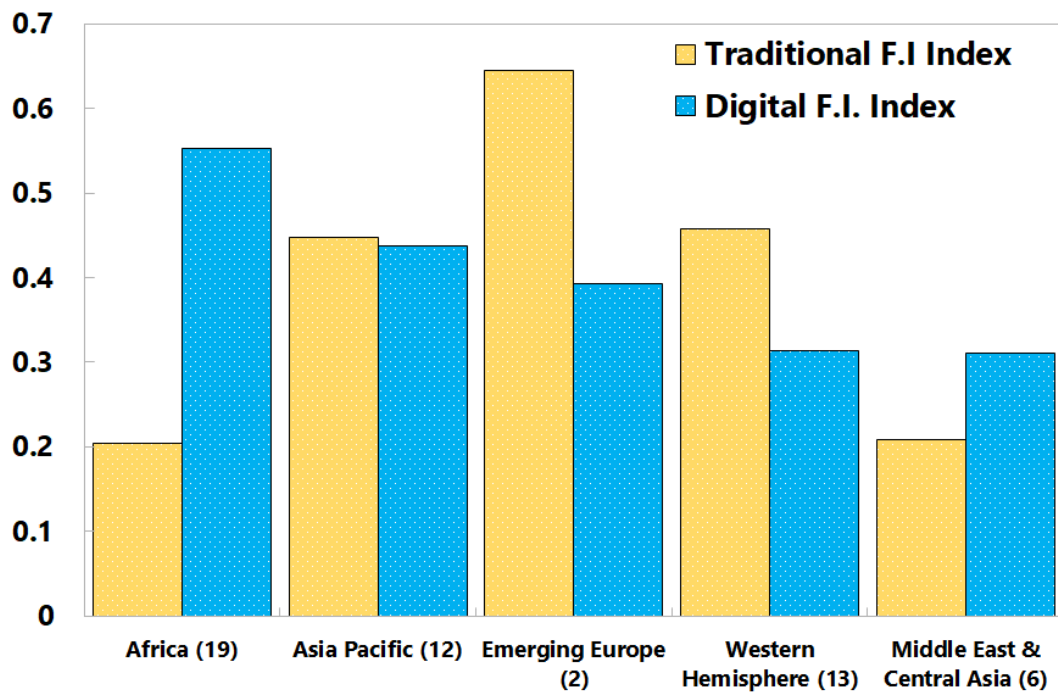
Source: IMF Financial Access Survey.

Digitalization can be a game changer (II)

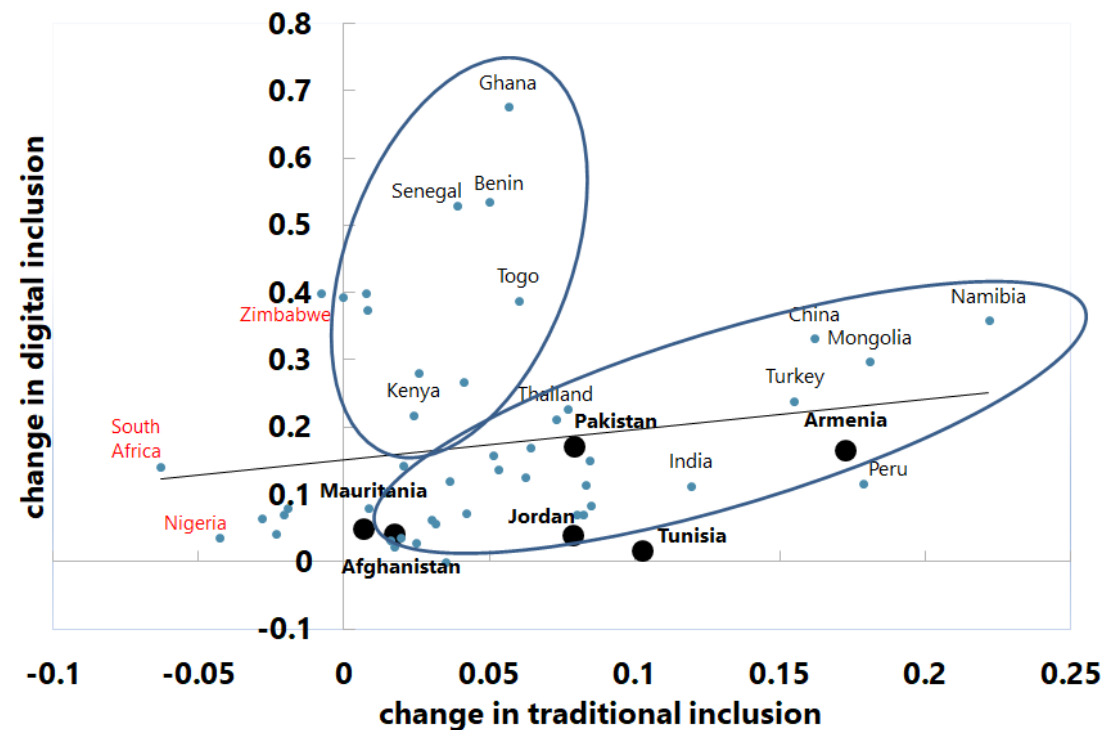
Africa and Asia-Pacific leading in adoption of digital payments...

...but it is growing everywhere, even when traditional is not

Traditional and Digital Financial Inclusion, 2017



Progress in Financial Inclusion (2014-2017)



Source: Global Findex, FAS, GSMA, ITU, IMF Staff Calculations. Indices ranges from 0 to 1 where 1 indicates higher financial inclusion. Traditional and digital financial inclusion indices are not directly comparable. Based on a sample of 52 emerging and developing countries for which data is available. The numbers in parenthesis in the LHS chart shows the number of countries included in each region.

How digitalization might help?

- Better access and lower unit cost of service
 - Mobile services remove the need for access to bank branches and accounts
 - Machine learning dramatically increase efficiency of credit application and approval (e.g. the 3-1-0 lending model of MyBank in China)
- Real time customer tracking and intelligence gathering
 - Data as collateral
- Complementary services or bundling
 - Apps as one-stop shop for multiple financial services (payments, deposits, lending, insurance, investments and wealth management, etc.)

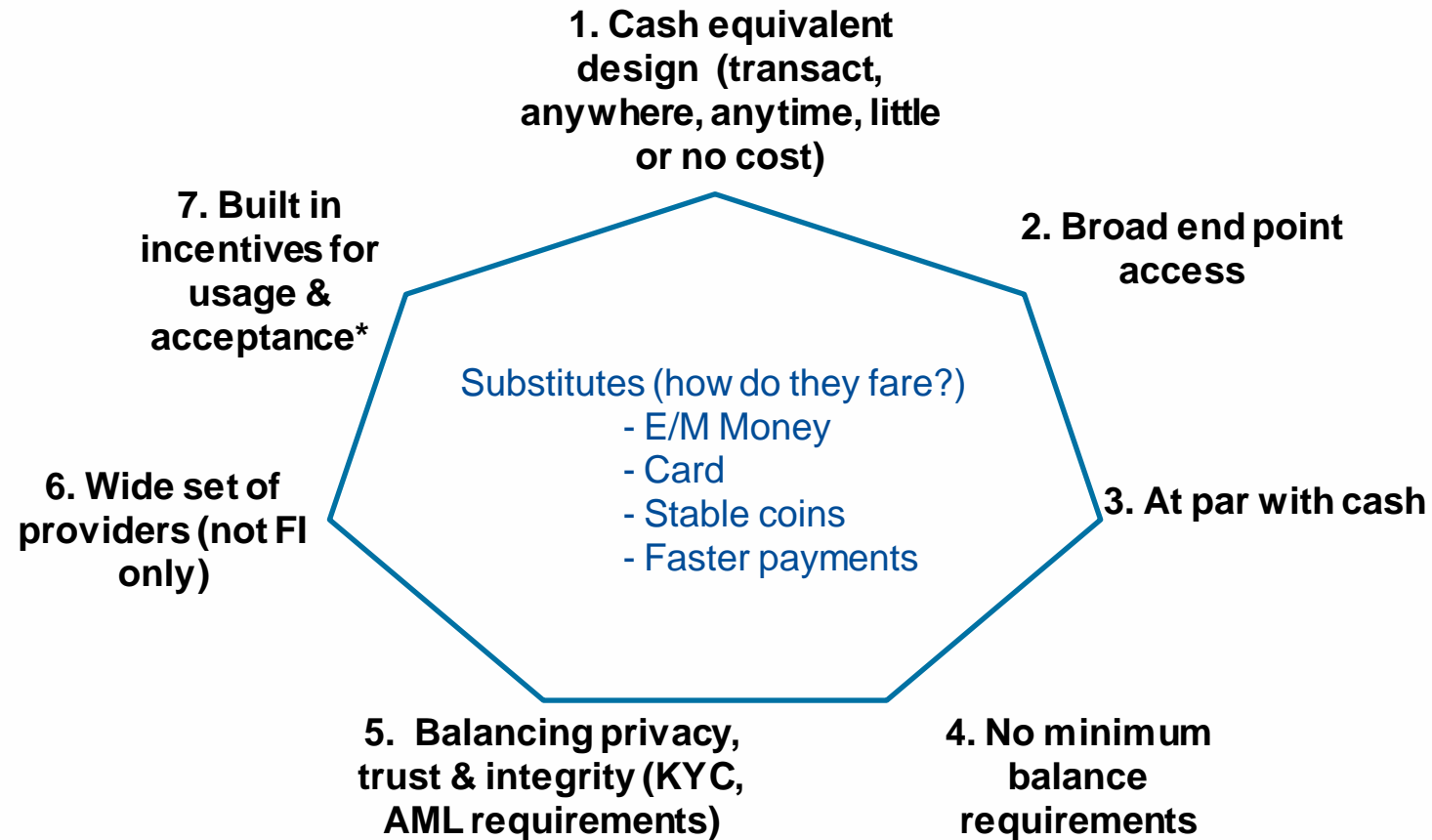
Policy challenges...

...how to strike a good balance between benefits and risks



- ❖ *Provide a supportive environment for private sector innovation*
- ❖ *Ensure essential public services: digital infrastructure for all, digital ID, financial and digital literacy*
- ❖ *Keep up regulations and supervision: consumer and data protection, financial integrity, cybersecurity, and interoperability across service providers*
- ❖ *Ensure sufficient competition: network effects could lead to dominance of big techs and data silos*
- ❖ *Promote international cooperation: enhance cross-border payments, effectively regulate global stablecoins, and make design choices of CBDCs*

And...new emerging solutions (e.g. CBDC)...must have nuanced design features...else FI may be difficult to achieve...



Source: Maniff, J, L. 2020. "Inclusion by Design: Crafting a Central Bank Digital Currency". Federal Reserve Bank of Kansas City, Payment system research briefing.

* 7th element added to the framework

Comparative view of the potential difficulties...

Designing for FI...		E Money May enjoy strong economies of scale, but when large, difficult to regulate (competition, stability & resolution related issues)	Card Mature products, strong network effects but may struggle with "last mile issues", may be perceived as costly	Faster Payment Immediate easy-to-make payments, targeted at existing users, may not address "last mile" issues	Stable Coins New, emerging, desire to address FI, but may lack ease of use, may be perceived as costly. When large, may be difficult to regulate	CBDC Strong desire to reduce cost of cash & address FI, but new. Likely competes with existing instruments, needs to develop sustainable business model
1.	Broad acceptance, anywhere, at end points useful for lower LSMs	Usually, depends on scheme	End point access main issue			Desired, TBD
2.	Designed & potentially perceived as low cost by user	Likely	Perceived as costly		Desired, TBD	Desired, TBD
3.	Available 24x7,fast/immediate payment (real time/near real time settlement"	May have sync & reconciliation processes				Desired, TBD
4.	Usually, no account or minimum balance needed				Likely not	Desired, TBD
5.	"Safe", trusted central bank money (like cash)					
6.	No deposit insurance needed to protect funds					
7.	Easy registration & onboarding				Desired, TBD	Desired, TBD
8.	Well established, scheme, brand, marketing & operations	Depends on scheme		Depends on scheme		
9.	Supports multiple use cases/needs (e.g. "superapp" features)				TBD	Desired, TBD
10.	Supports proxy payments or offline transactions				Likely not	Desired TBD