



FinTech and Financial Inclusion

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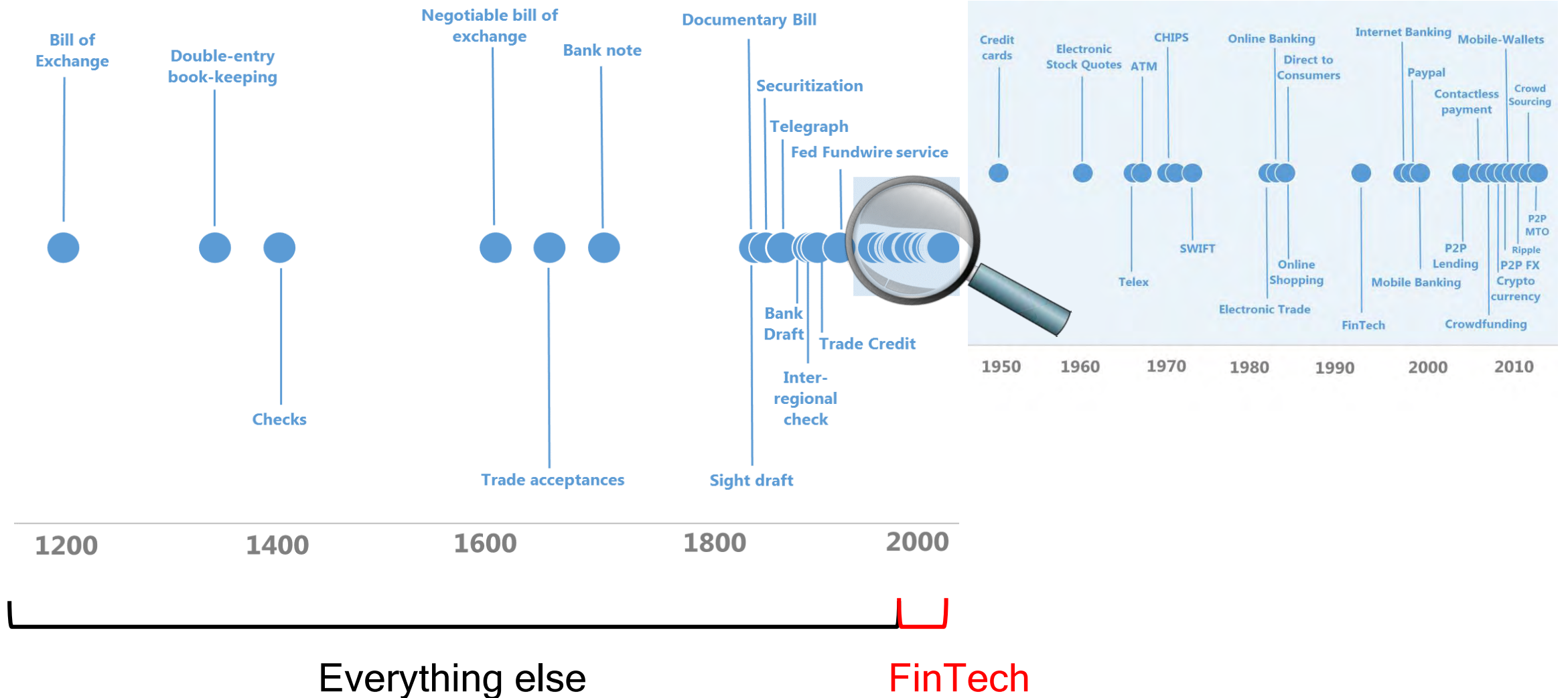
Comments by and inputs from IMF colleagues gratefully acknowledged.

The views expressed here are those of the speaker, and do not necessarily represent the views of the IMF, its Executive Board, or IMF Management.

Overview of issues

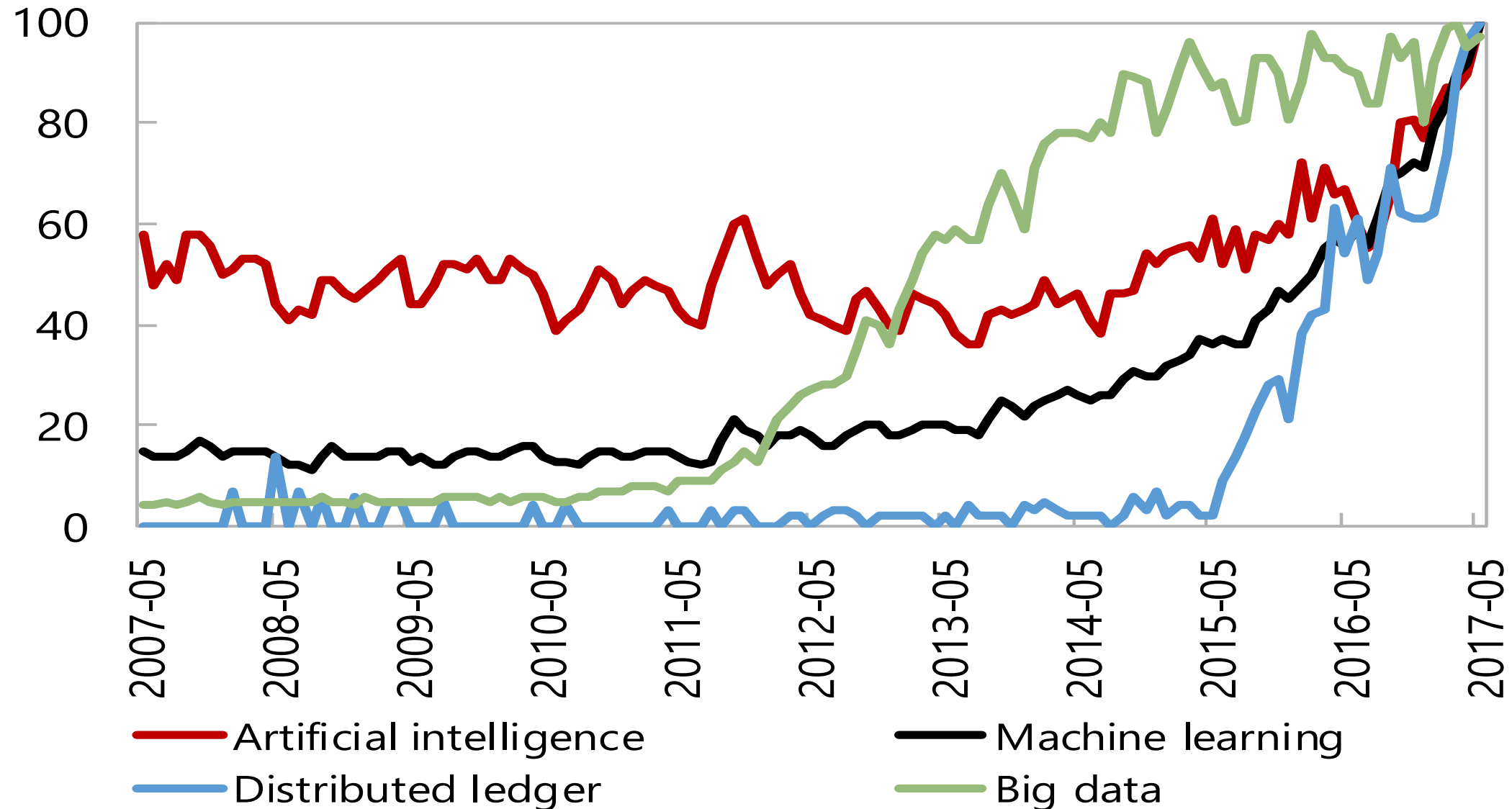
- *FinTech & FInclusion: new data, new evidence*
 - *Inclusion vs. stability: role of regulation & supervision*
 - *RegTech & SupTech*
 - *Cross-border issues*
 - *Financial sector policy strategies*
- 

Accelerating pace of technological progress in finance

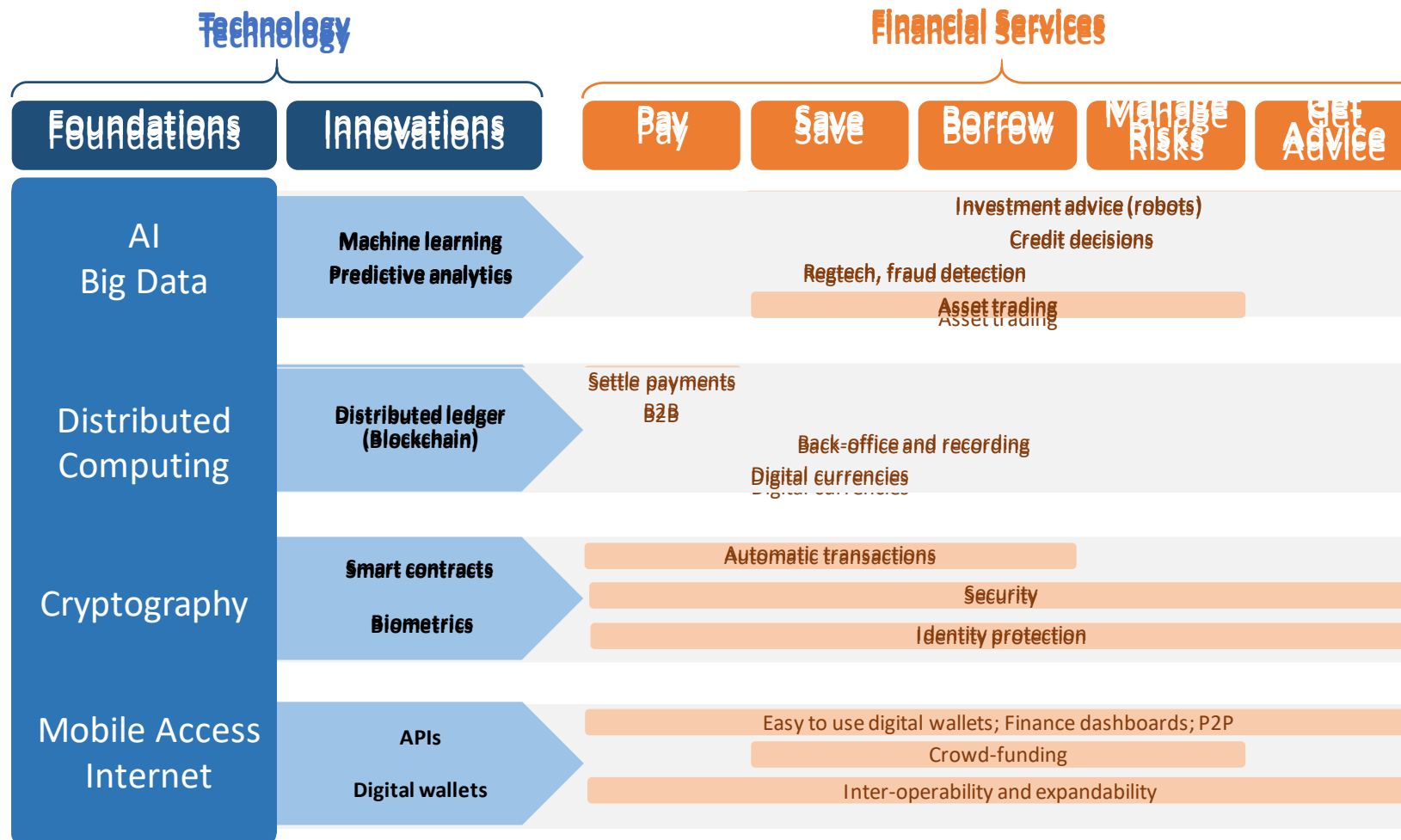


Accelerating interest in various building blocks of Fintech

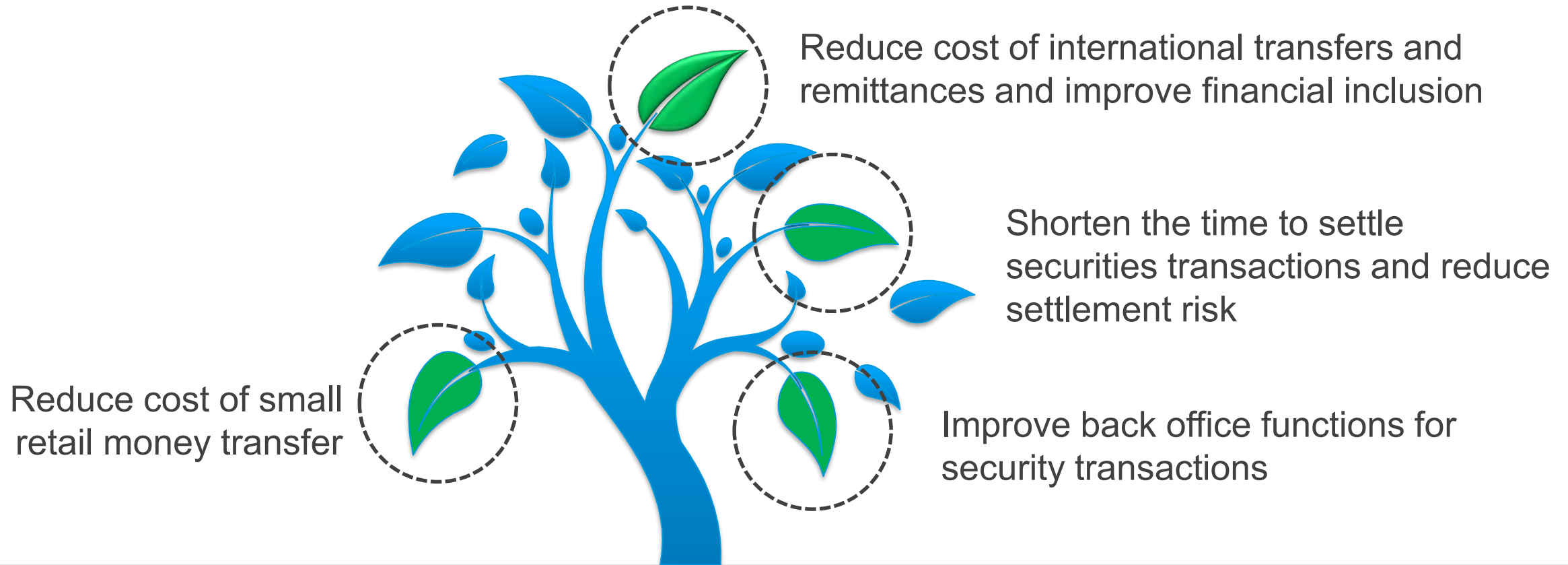
(Google Interest Index, 100 reflects peak popularity)



Fintech innovations are far reaching



Examples of benefits: distributed ledger technology



Distributed ledgers offer a fast, reliable digital record keeping system with wide application to finance and beyond

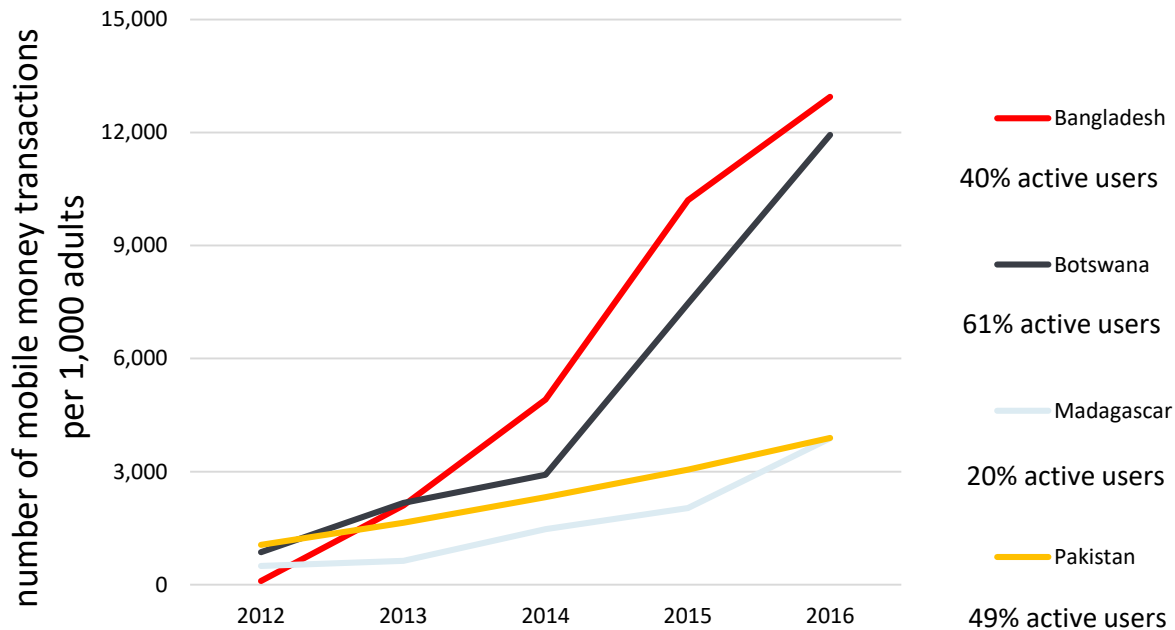
Principles of digital financial inclusion

G20 High Level Principles
for Digital Financial Inclusion

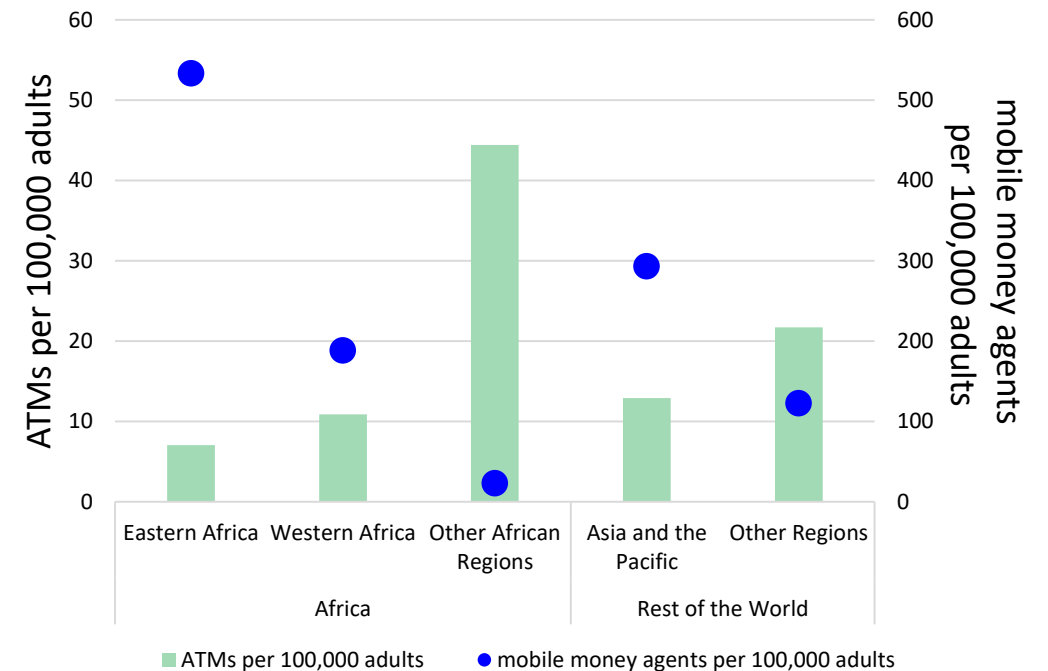
1. Promote a digital approach to financial inclusion
2. Balance innovation and risk to achieve digital financial inclusion
3. Provide an enabling and proportionate legal and regulatory framework for digital financial inclusion
4. Expand the digital financial services infrastructure ecosystem
5. Establish responsible digital financial practices to protect consumers
6. Strengthen digital and financial literacy and awareness
7. Facilitate customer identification for digital financial services
8. Track digital financial inclusion progress

New data: leapfrogging via mobile money

Use of mobile money services



Presence of ATMs and mobile money agents



Source: IMF's Financial Access Survey, staff calculations.

Left chart: information on active users, derived from regulatory data on the number of registered and active mobile money accounts.

Right chart: data for 2016 or most recent year, 50 economies for which data on both types of access points are available.

Challenges: addressing risks while allowing innovation

Immediate risks

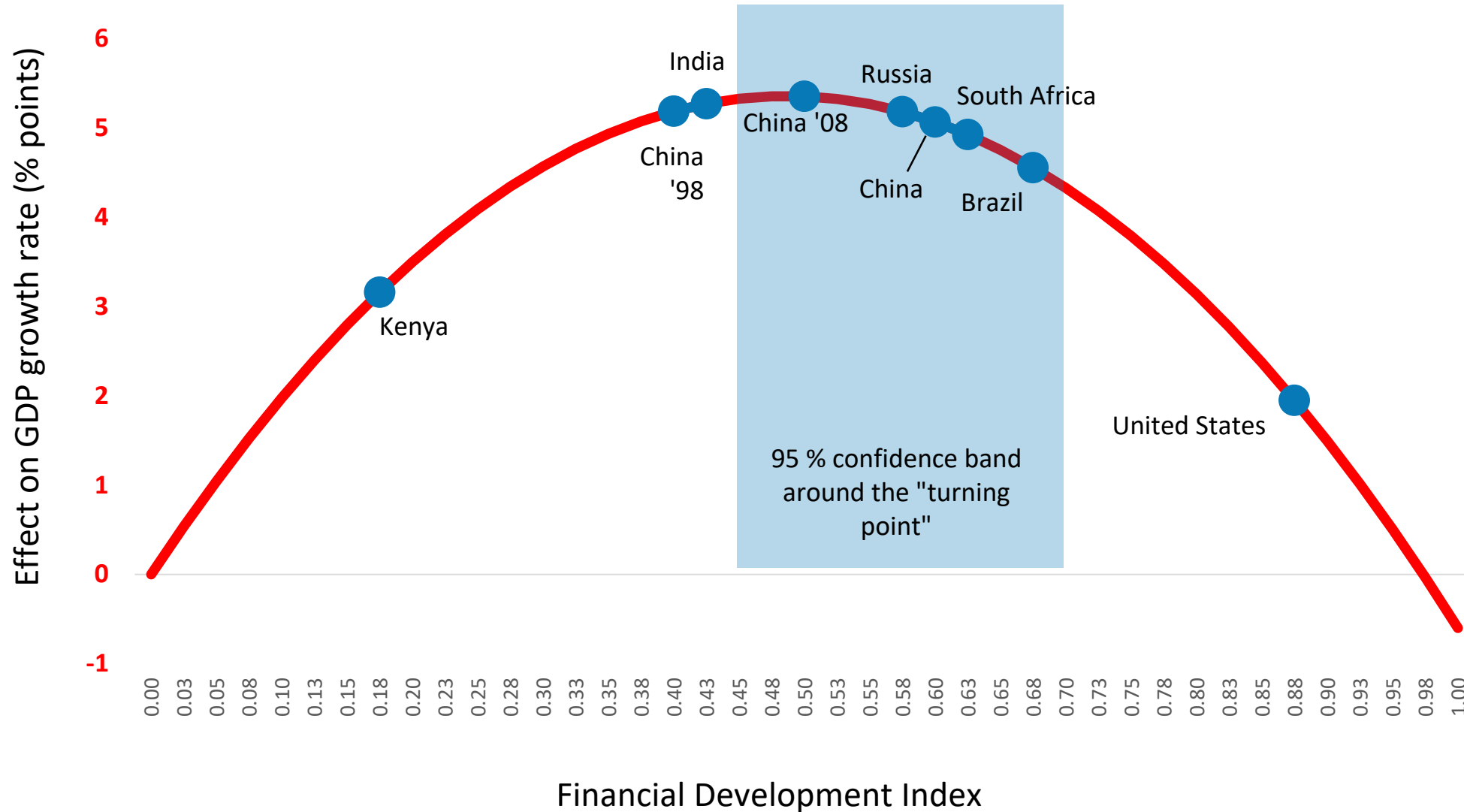
- financial integrity
- consumer protection
- tax evasion
- exchange and capital controls

Potential risks

- financial stability
- monetary policy

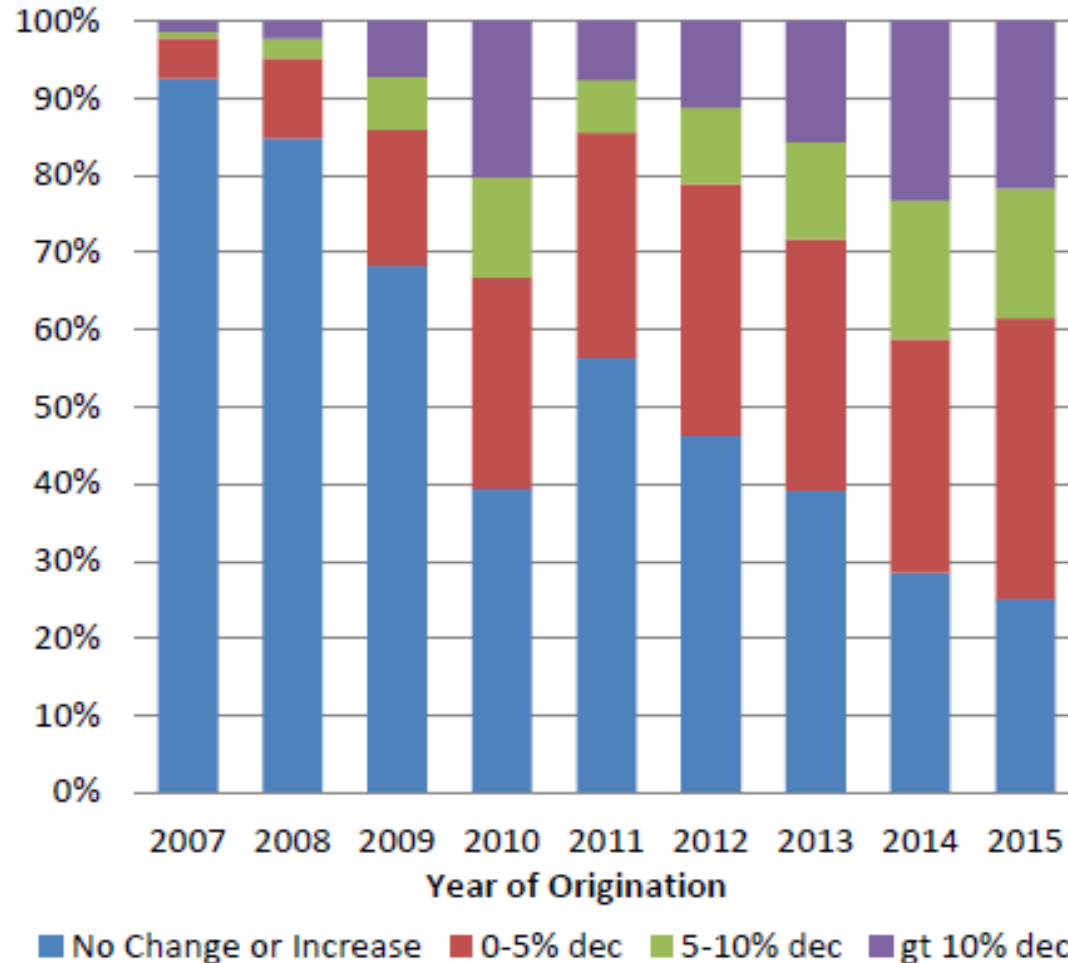


Economic growth: financial development helps up to a point



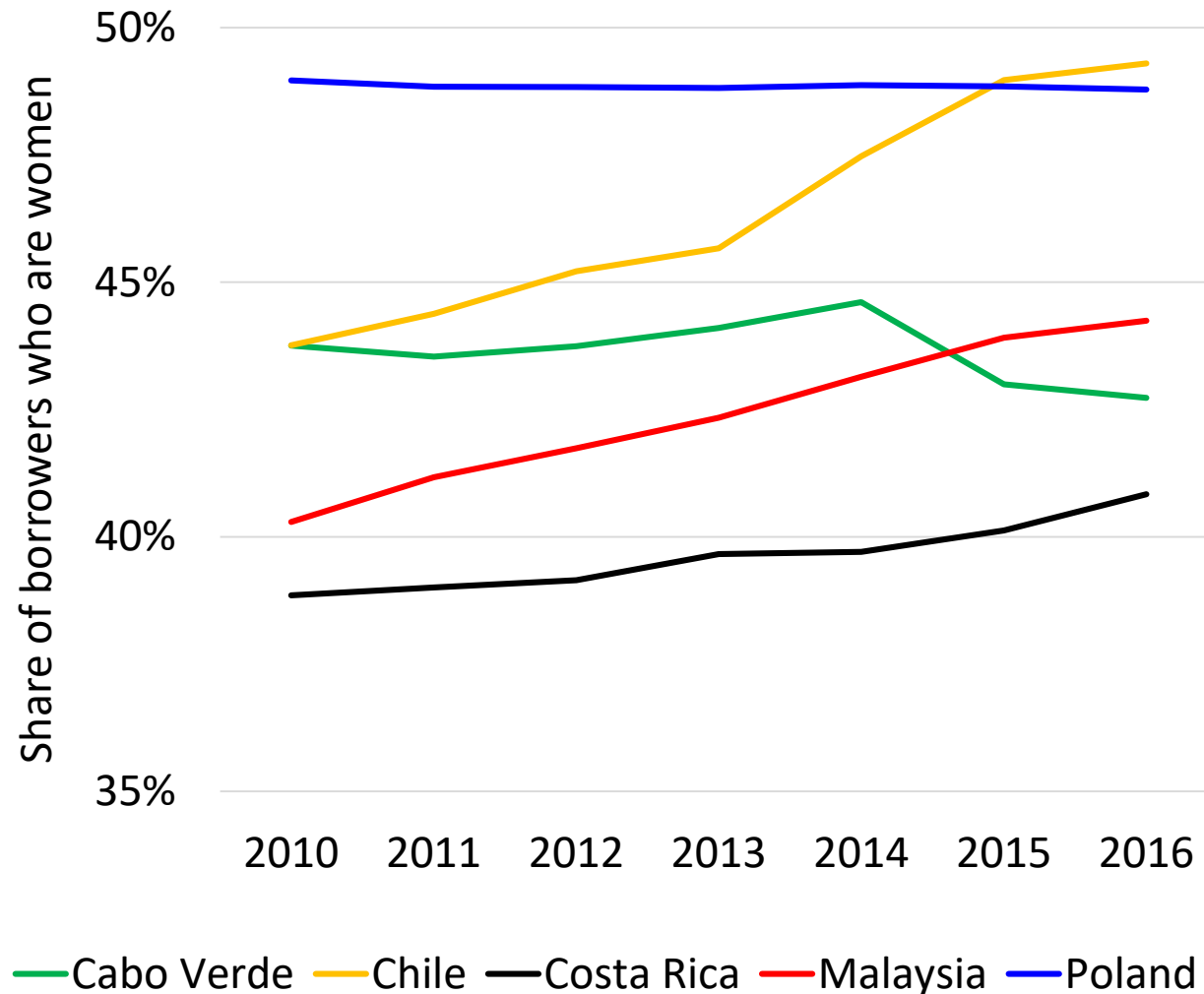
Evidence that fintech can reduce exclusion

'Lending Club' loans (USD) in 3-digit Zip codes with declining bank branches

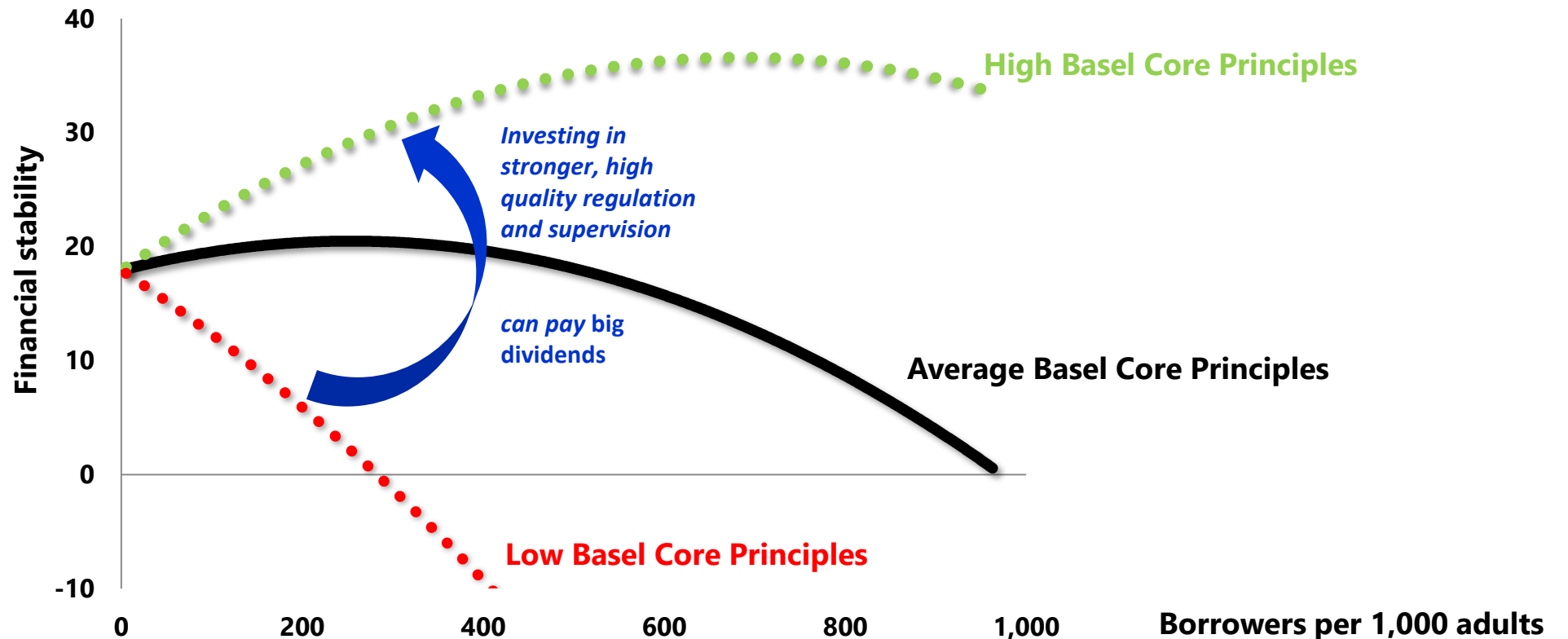


- Micro evidence that fintech penetrates areas that could benefit from \uparrow credit supply, e.g. areas w \downarrow bank branches
- Also evidence of \uparrow penetration in areas with concentrated banking markets (and \downarrow loan spreads for same default risk)

Can fintech help close gender gaps in financial services?



Financial stability: risks with broadening credit access rise as supervisory quality falls



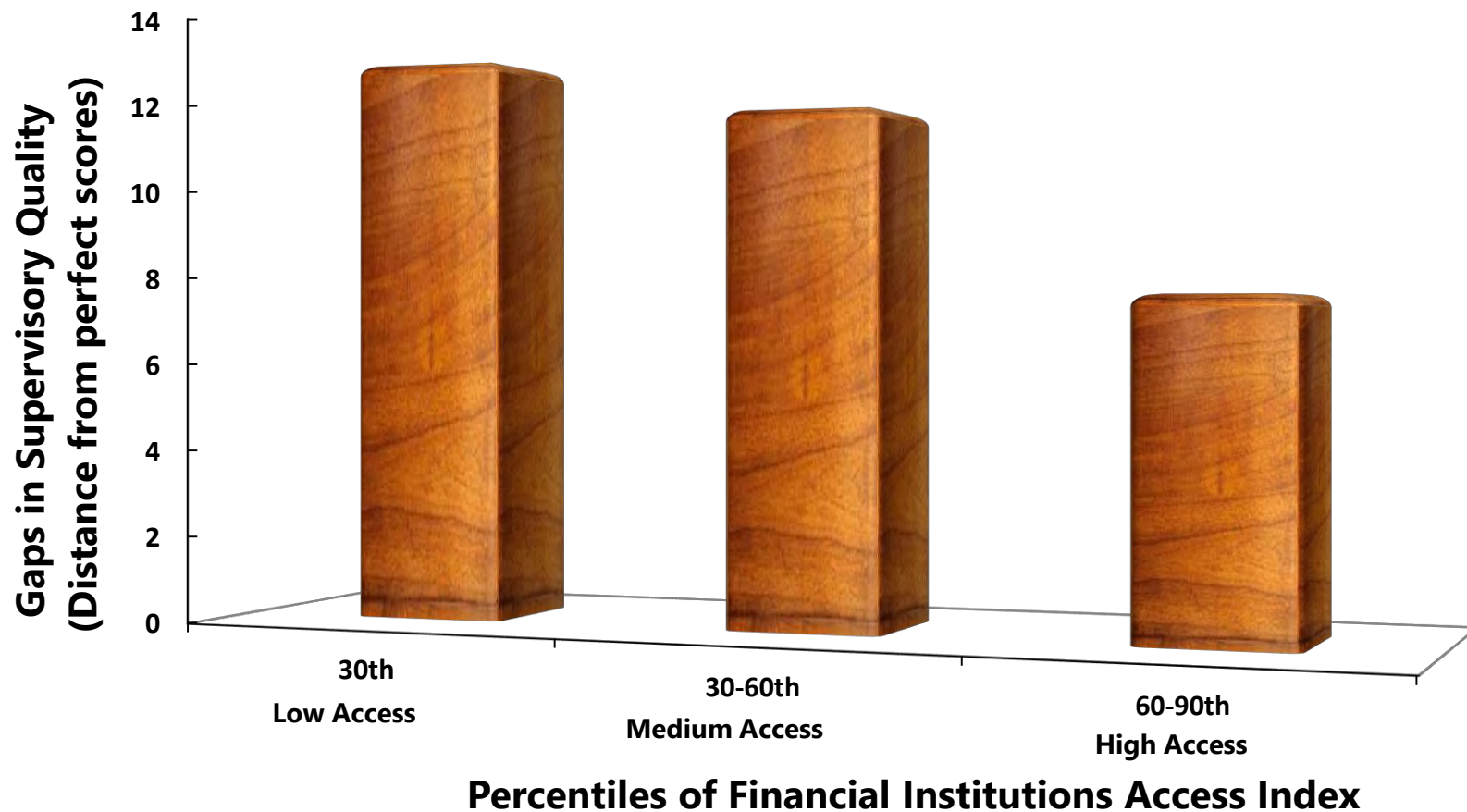
... in contrast, increases in financial services other than credit do not seem to hurt stability

Source: IMF Staff Discussion Note 15/17 (“Financial Inclusion: Can It Meet Multiple Macroeconomic Goals?”)

Note: Financial stability approximated by z-score, which captures banks’ distance-to-distress (buffers against shocks to earnings).

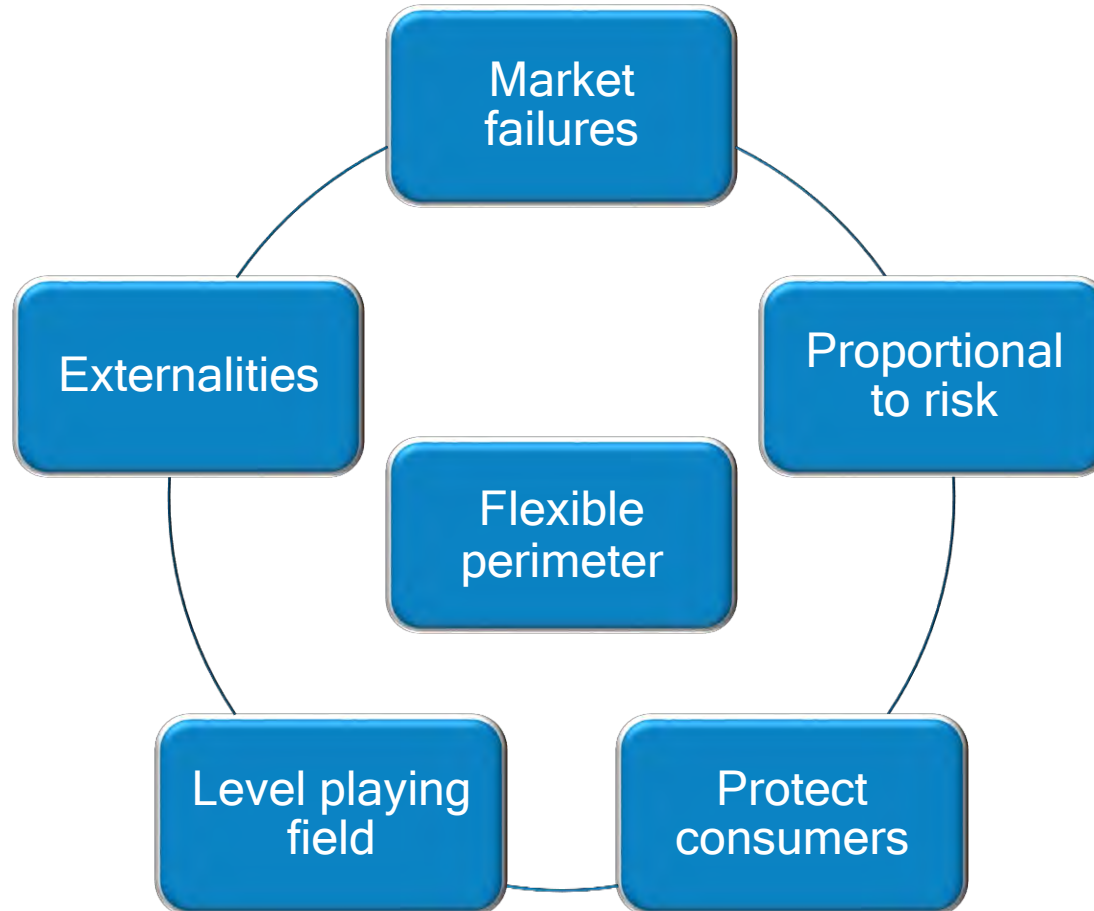
Challenge/opportunity: supervisory quality is the lowest where access is the lowest

Gaps in Performance on Basel Core Principles of Banking Supervision



Source: IMF Staff Discussion Note 15/17. Basel Core Principles data from Financial Sector Assessment Program; Financial Institution Access Index from IMF Staff Discussion Note 15/8. The bars represent distance from perfect scores (perfect score=0).

Objectives and principles of financial regulation



Selected issues:

- Entity vs. activity-based
- Privacy vs. transparency
- Regulatory cooperation
- Regtech
- Regulatory sandboxes

Sandboxes in selected jurisdictions

General Information		Type of Applicant		Benefits for Businesses			Safeguards			
Country	Regulator	Authorized / Licensed / Incumbents	Unauthorized / Unlicensed / Startups	Regulations relaxed or waived	Licensing requirements relaxed or waived	Clarifications on regulatory expectations	Limits on customers, value or duration	Additional reporting obligations / closer monitoring	Additional consumer protections / risk mitigation	Specified regulations that cannot be waived
Australia	ASIC	×	✓	×	✓	×	✓	✓	✓	✓
Canada	CSA	✓	✓	✓	×	✓	×	×	✓	×
Hong Kong SAR	HKMA	✓	×	✓	×	×	✓	✓	✓	×
Malaysia	BNM	✓	✓	✓	×	×	✓	✓	✓	×
Singapore	MAS	✓	✓	✓	×	×	✓	✓	✓	✓
Switzerland	FDF	✓	✓	×	✓	×	✓	×	✓	✓
United Arab Emirates	ADGM	✓	✓	✓	×	×	✓	✓	✓	×
United Kingdom	FCA	✓	✓	✓	✓	✓	✓	✓	✓	✓

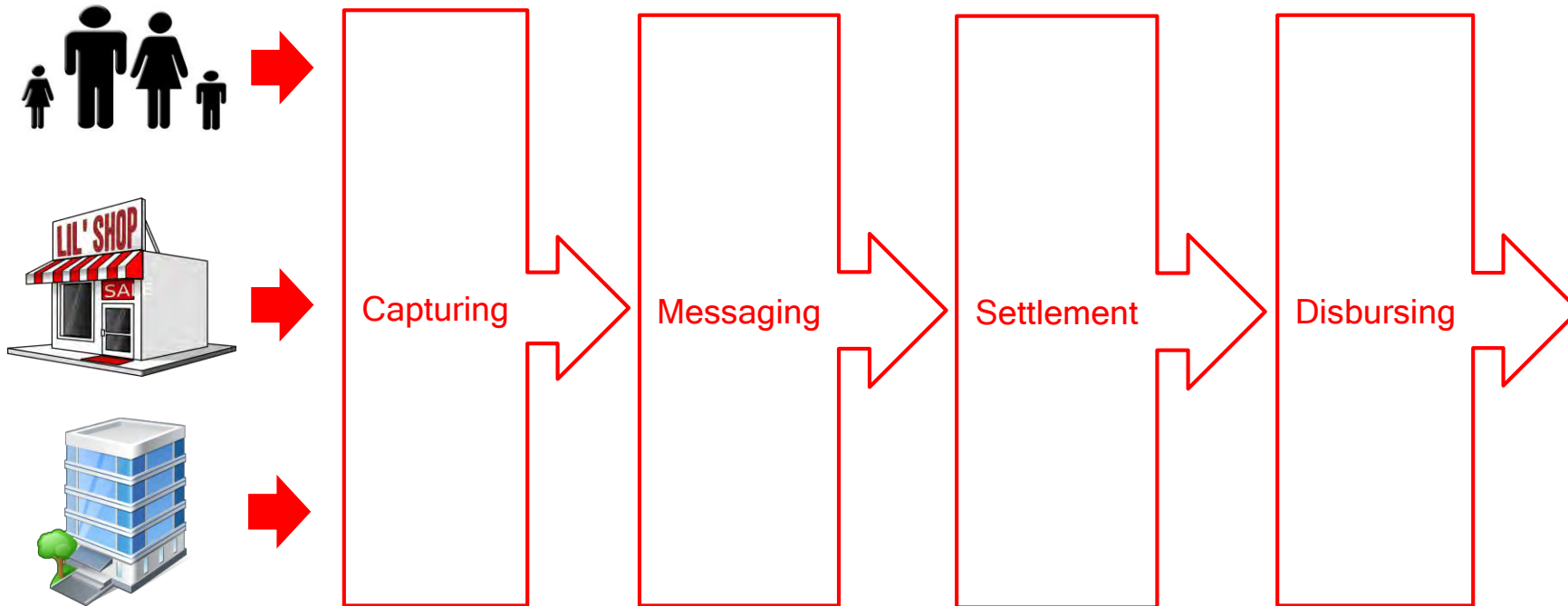
✓ Explicitly mentioned in the regulatory authority's disclosure, staff analysis.

× Not required or not mentioned in the regulatory authority's disclosure.

Cross border payments offer ripe opportunities

Demand

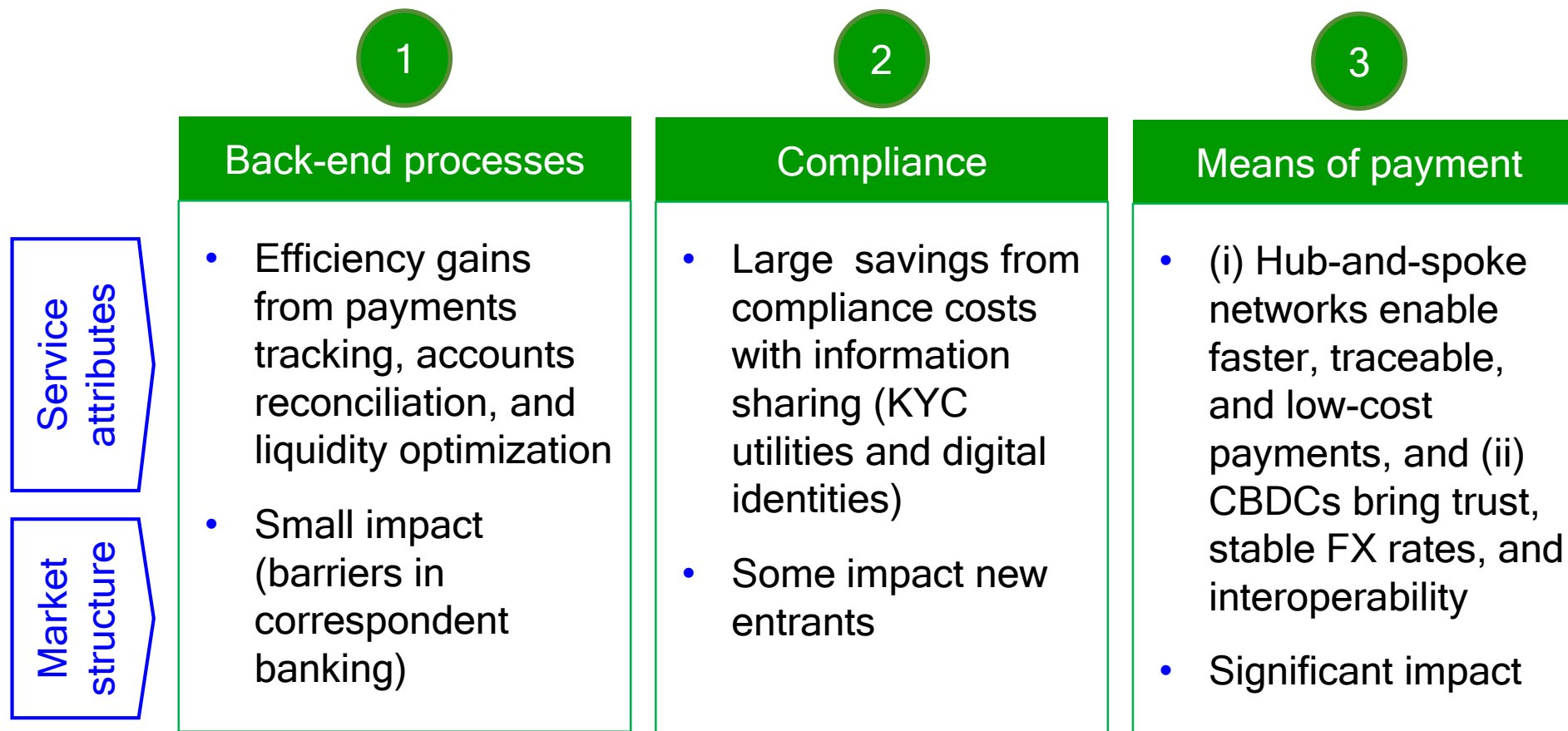
Supply



Shortcomings: costly, cumbersome, slow, and opaque

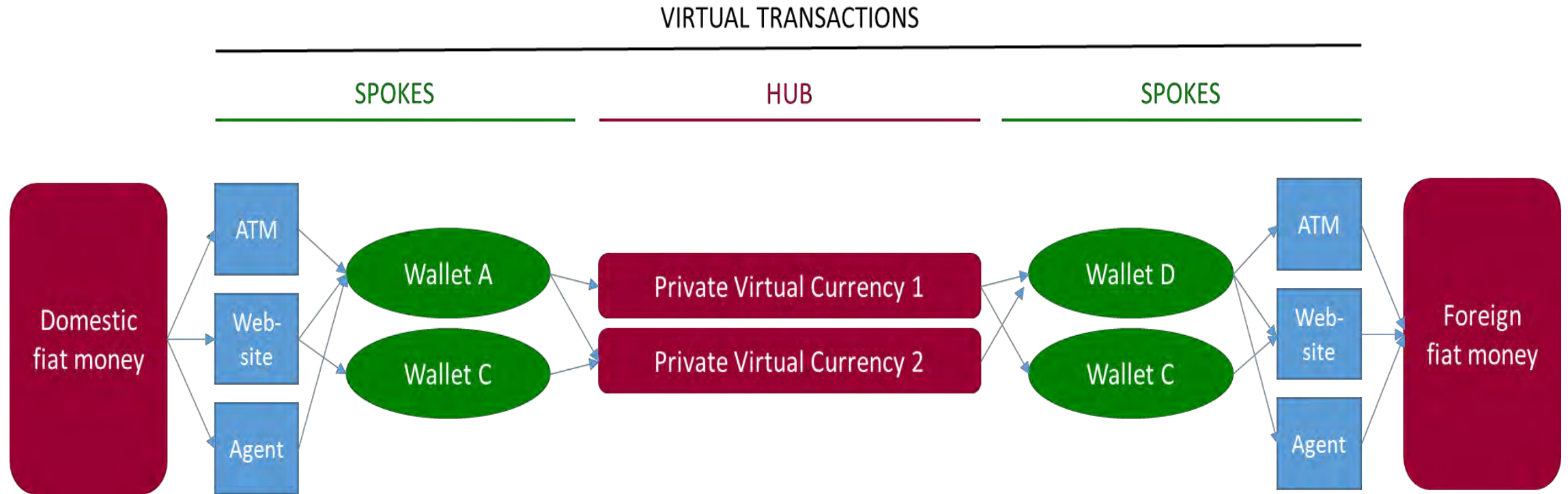
How can fintech reshape the landscape?

Three scenarios for distributed ledger technology



Potential disruption

Hub-and-spoke networks



Three important caveats:

- Volatility in exchange rates
- Lack of trust
- Network interoperability



Central bank digital currencies

■ Features

- Distributed ledger based representation of fiat money as a new means of payment and store of value (not parallel currency or new unit of account)
- Exchanged at par with central bank's other liabilities, not interest bearing

■ Issues

- Could it resolve coordination issues with new virtual currencies?
- Could it allow central banks to retain control of monetary policy vs widespread use of privately-issued virtual currencies?
- Cost/benefits balance still unclear

Beware the silo mentality



Financial inclusion



Financial stability

$$E[stable\&inclusive] = E[stable] + E[inclusive] + Cov[inclusive, stable]$$

- Inclusion vs. stability: influenced by financial openness, tax rates, education, and depth of credit info systems
- Much to gain from coordinated policies that take into account the inclusion-stability synergies and tradeoffs
- Multiple government agencies → tradeoffs and synergies must be addressed at a high policy-making level

Summary

- Major changes on the way
- Central banks and regulators are preparing
- Examples of IMF contributions (focused on macro-financial stability)
 - Multilateral
 - Data compilation (Financial Access Survey ...)
 - Policy analysis (research, international forums)
 - Bilateral
 - Article IV surveillance
 - Financial Sector Assessment Program (with World Bank)
 - Technical assistance (strengthening supervision, oversight framework for payments and financial market infrastructures)