

Fintech and Financial Services: Initial Considerations

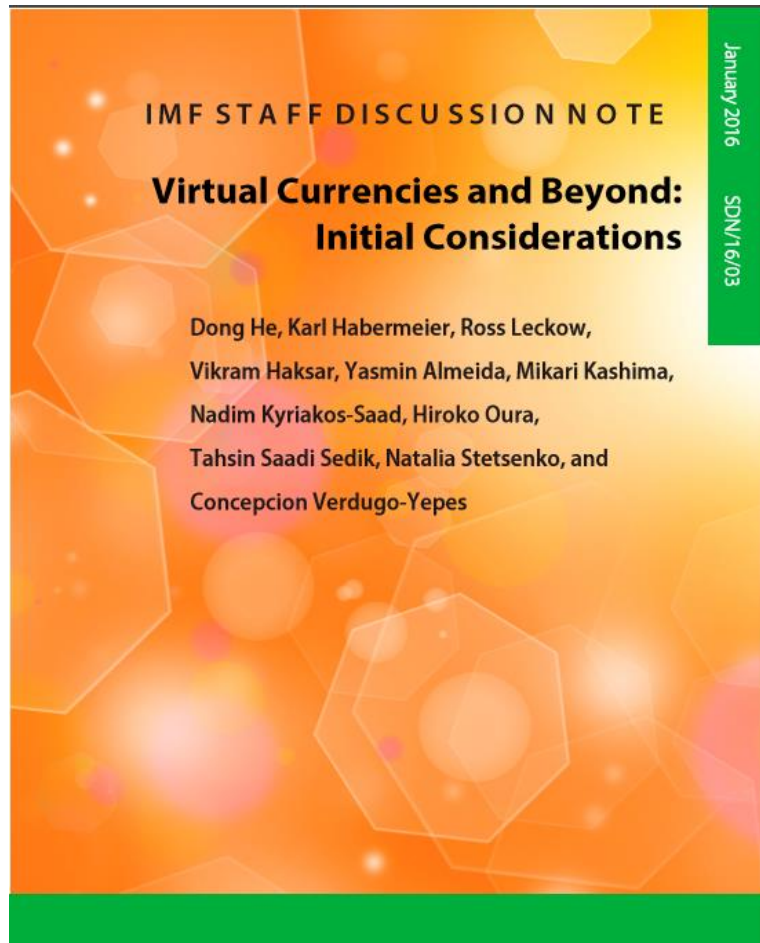


PFTAC Steering Committee Meeting, March 2018

Naomi Griffin, MCM TA Deputy Division Chief

IMF's Work on Fintech

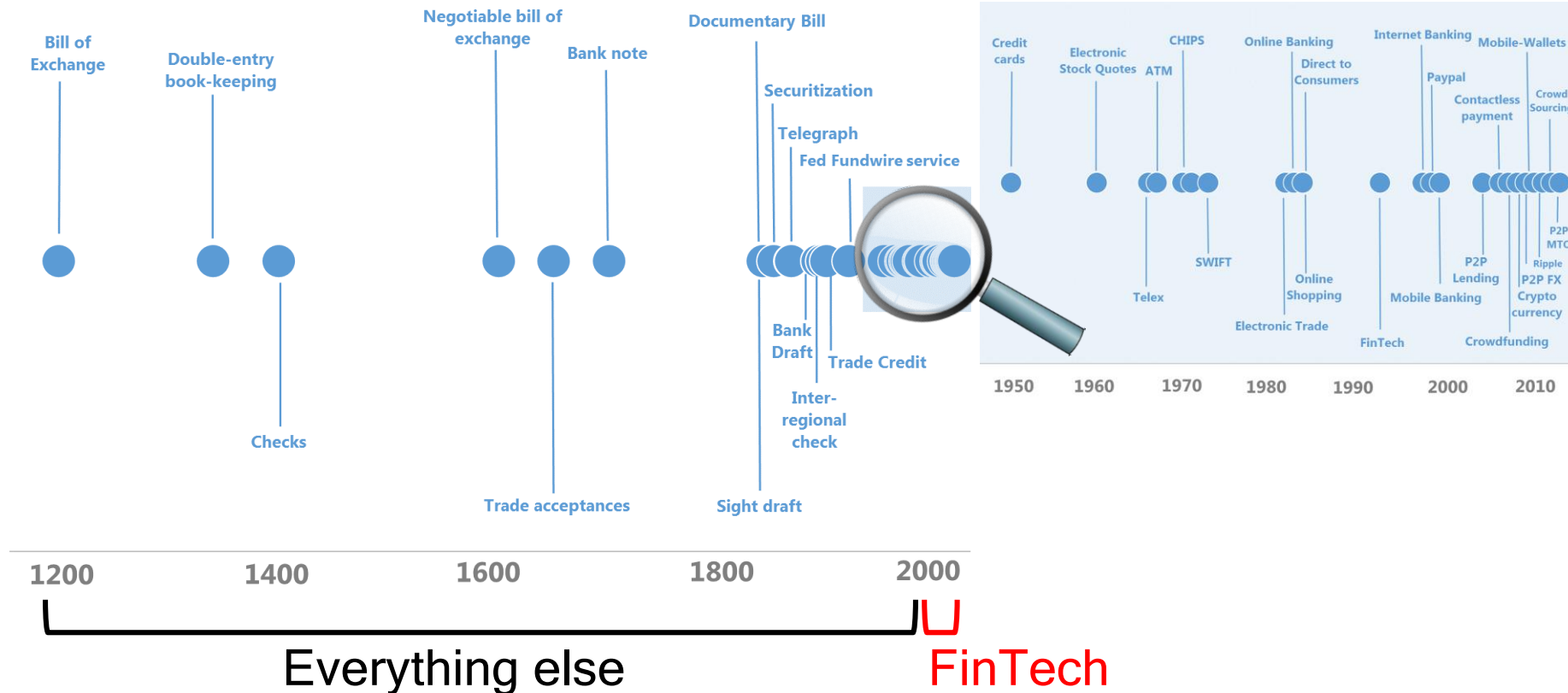
IMF's interest in Fintech stems from its mandate to “*promote the stability of the international monetary system*”.



Agenda

- 1 • Fintech innovations
- 2 • Cryptocurrency/Crypto-assets
- 3 • Implications for cross-border payments
- 4 • Regulation and financial stability
- 5 • MCM's current work on fintech

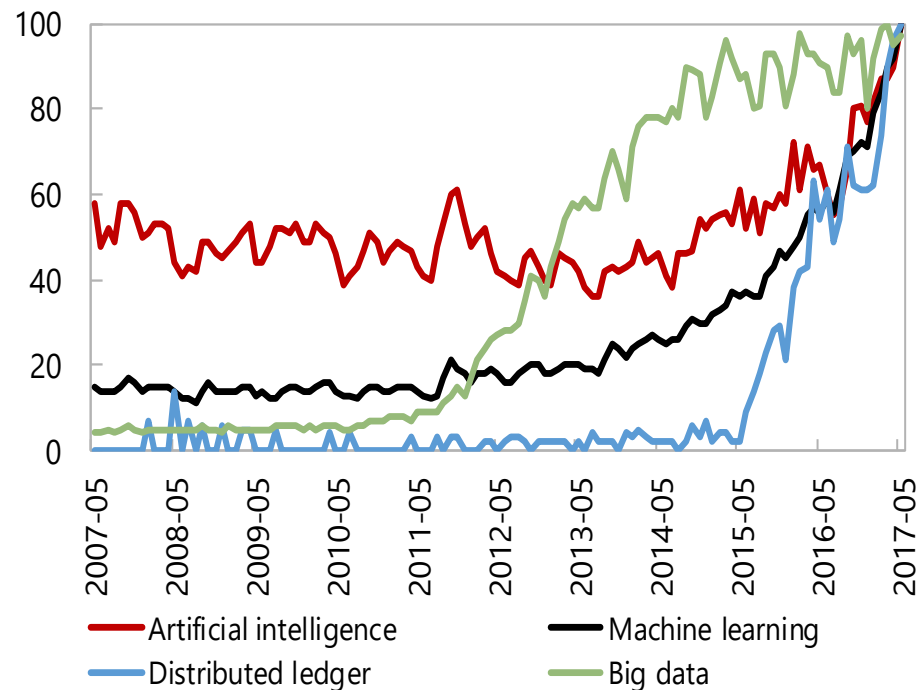
Exponential pace of financial innovation



Investment and spike in Fintech interest

Accelerating interest in various building blocks of Fintech

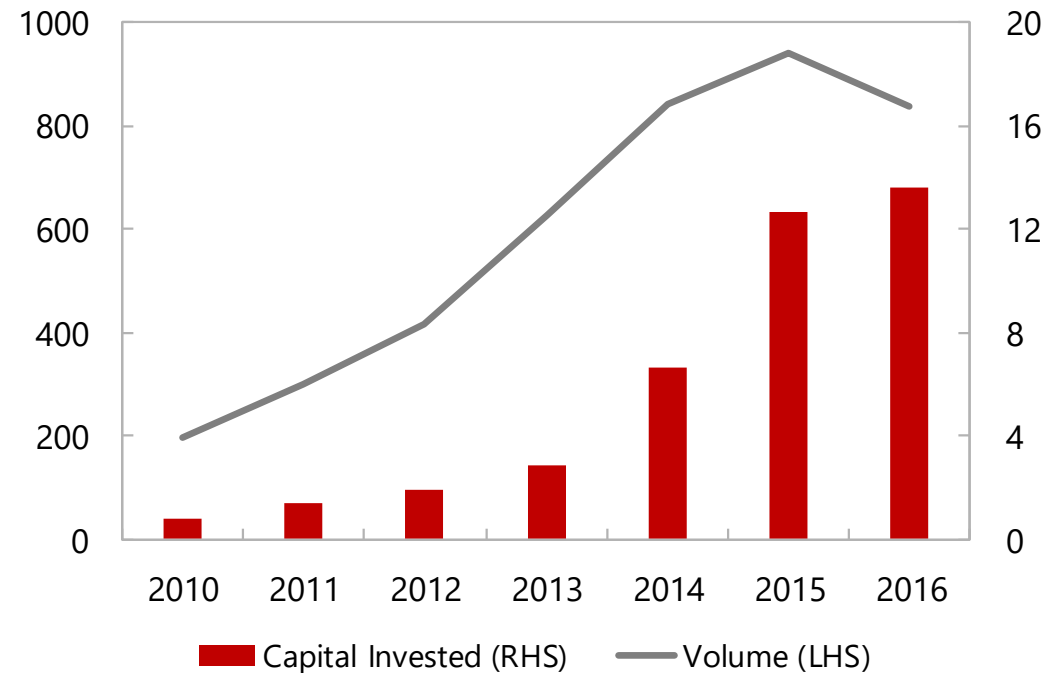
(Google Interest Index, 100 reflects peak popularity)



Source: Google

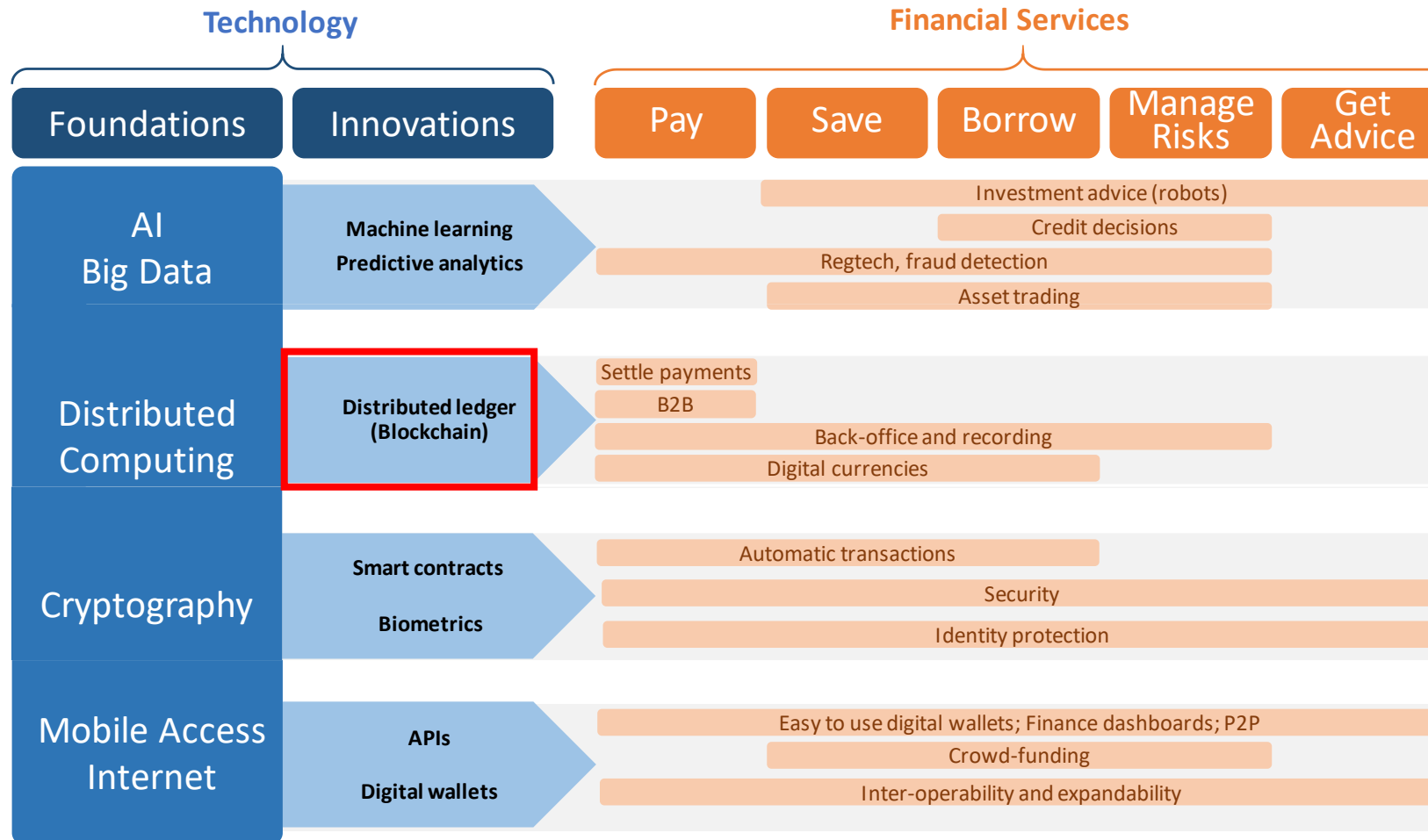
Investors double down on fintech businesses

(number of deals and capital invested in USD bn, respectively)



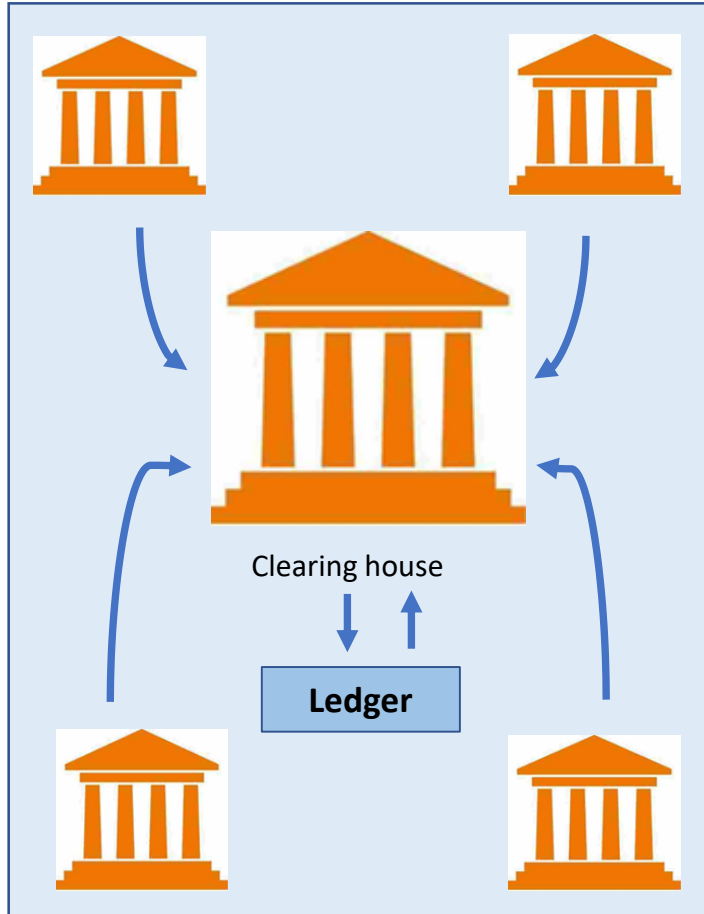
Source: KPMG

Fintech innovations are far reaching

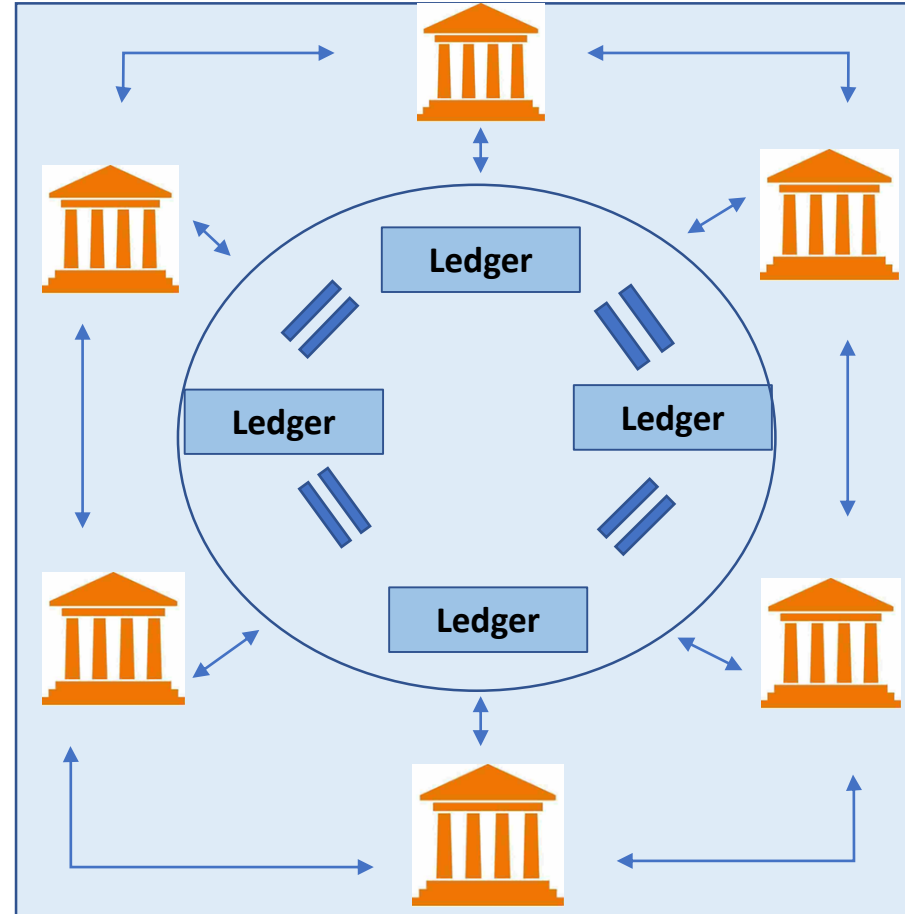


Distributed Ledger Technology (DLT): a network recording ownership through a shared registry

Centralized ledger



Distributed ledger



DLT uses cryptography to allow participants on the network to record new transactions on the ledger in a secure way, without the need for a central certifying authority.

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What is money?

Central bank money: The value is backed by creditworthiness of the central bank and the government. Supply should increase in line with non-inflationary demand.

Private money: The value of privately issued currencies has historically been supported by the private issuer's credibility and assets, such as commodity reserves.

Cryptocurrency (e.g. Bitcoin): The value of cryptocurrencies does not have any backing from any source. They derive value solely from the expectation that others would also value and use them. Supply is not linked to a real asset or demand.

Are cryptocurrencies money?

They do not yet completely fulfill the economic roles of money

Store of value

- High price volatility
 - No intrinsic value
 - No national or private backing
 - Inflexible supply
 - Unpredictable demand associated with speculative hoarding
- No lender of last resort

Medium of exchange

- Small size
 - Total market value: US\$ 7 billion
 - US currency in circulation: US\$ 1.5 trillion
- Limited acceptance (not legal tender)

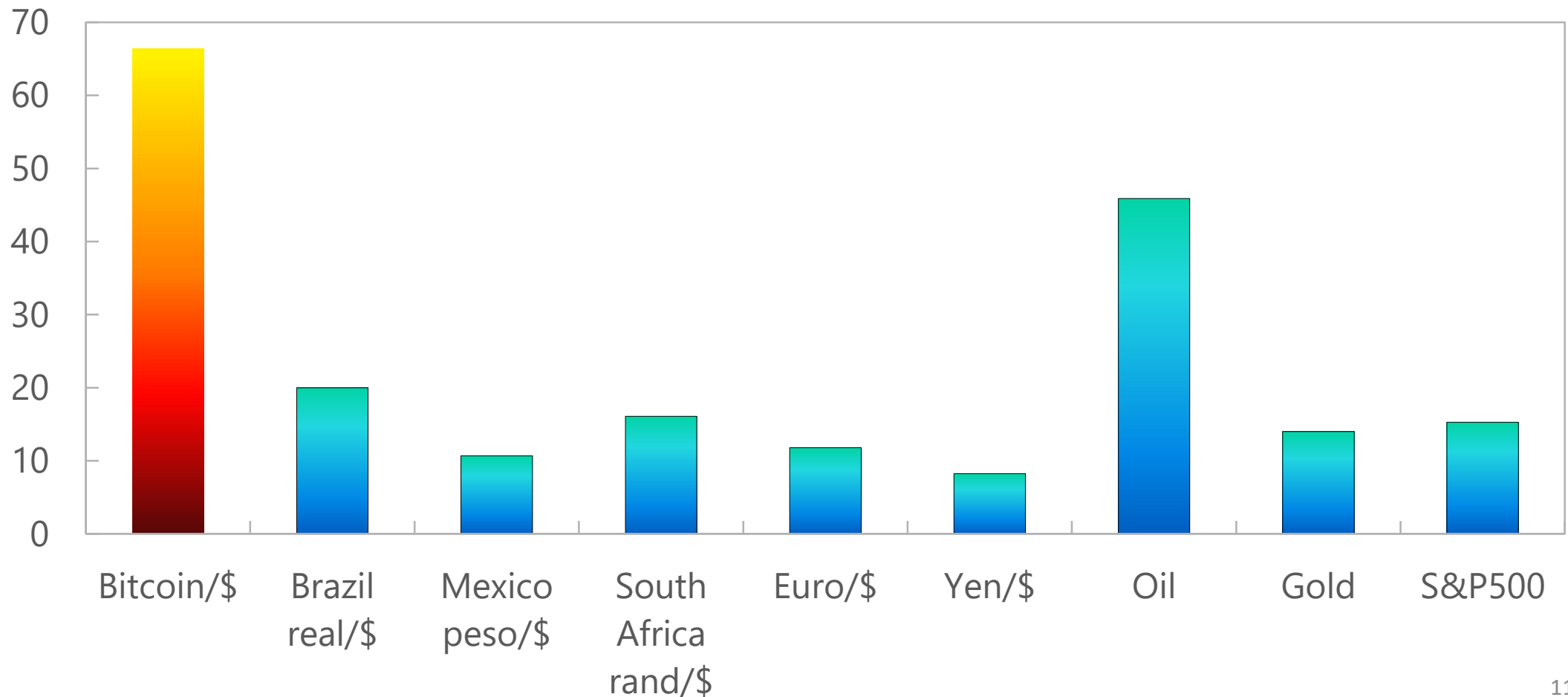
Unit of account

- Still limited use; the value is captured by the exchange rate vis-à-vis fiat currency.

High price volatility of Bitcoin

Volatility of Bitcoin and Selected Currencies and Assets, 2015

(Standard deviation of daily price changes, annualized in percent)

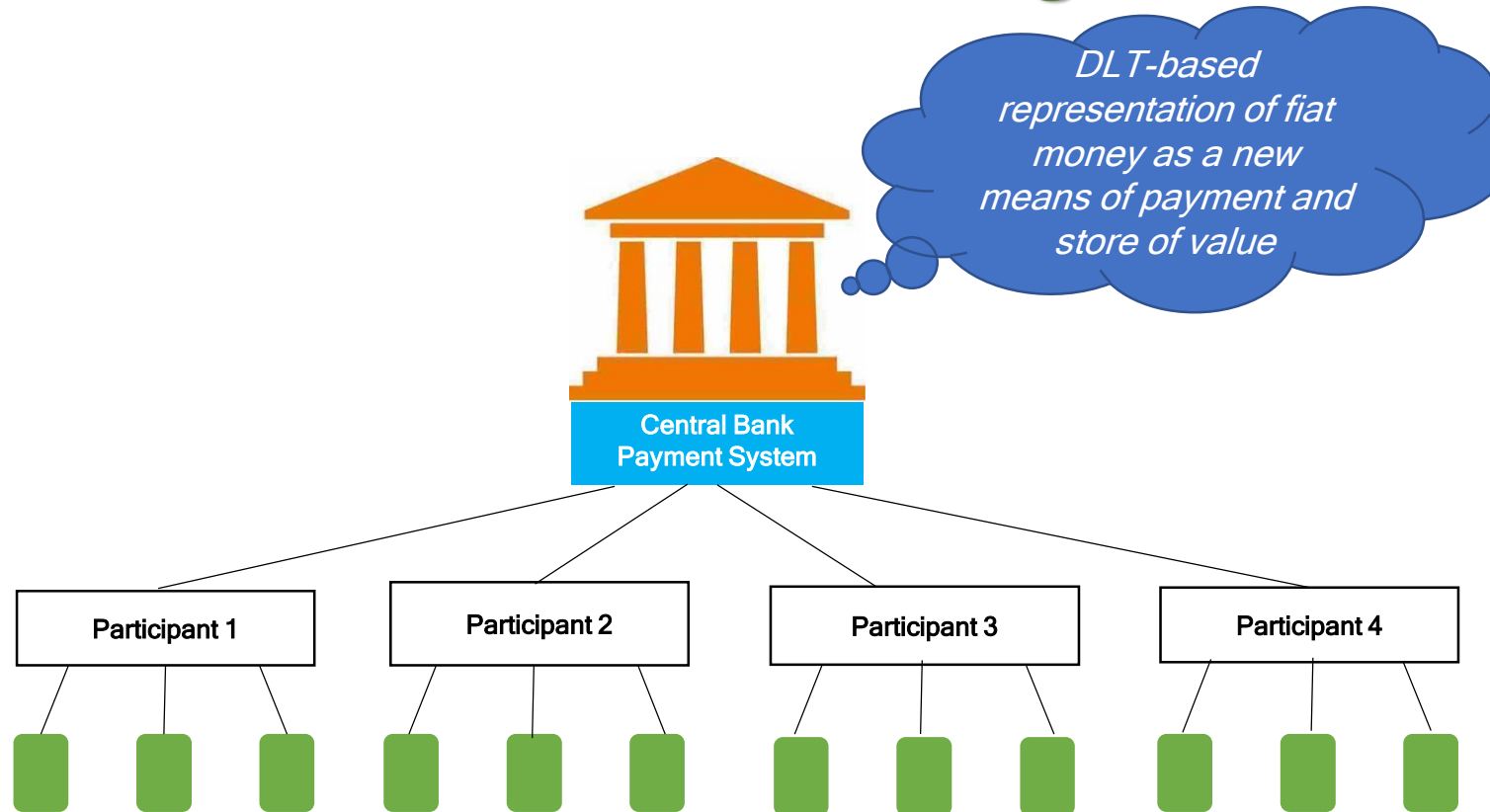


Could privately issued cryptocurrencies substitute for national currencies?

- There is a welfare-improving role of central bank money—active monetary policy can smooth fluctuations over business cycles
- The private provision of money is not optimal when an economy face system-wide liquidity shortages (i.e., cryptocurrency scheme lacks the LOLR function).

Absent regulatory measures, cryptocurrencies will likely be more widely adopted in country with less credible monetary policies and/or with weak payment systems.

Introduction of central bank digital currencies

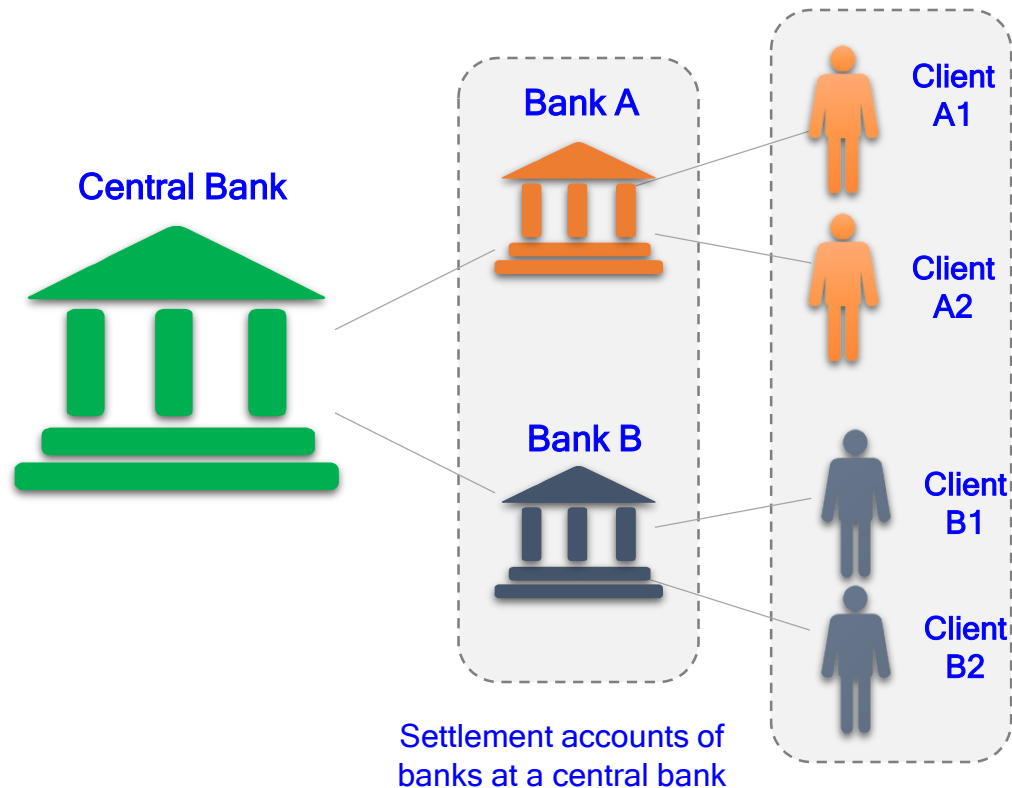


- Balance of benefits and costs is still being analyzed
- Resolving coordination problems between private networks
- Reducing the risk of single point of failures
- Retaining control of monetary policy

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Payment systems are based on accounts held with central parties



Role of Central bank

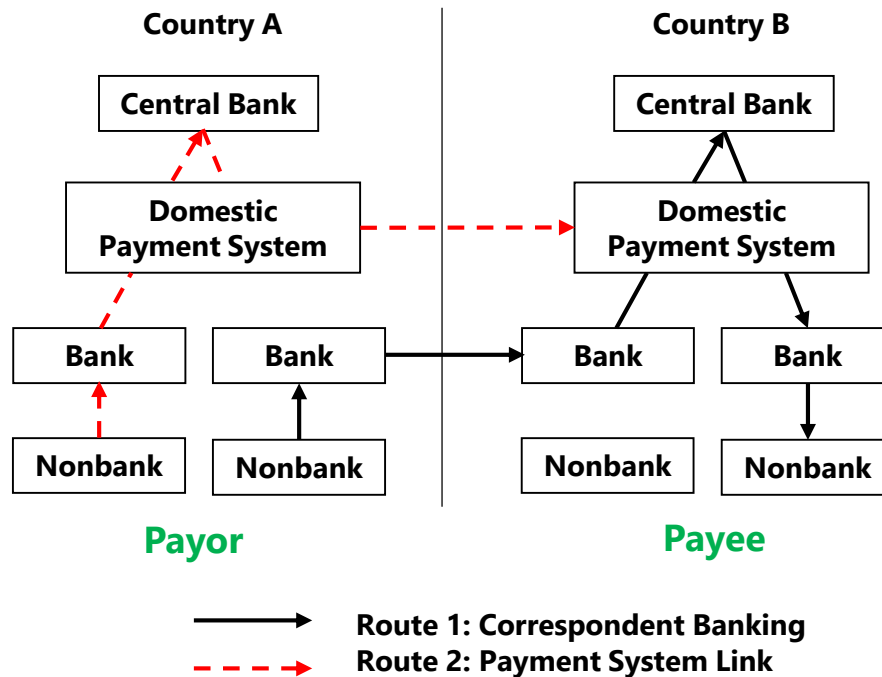
- Interbank payment from A to B
- Central record (ledger) of interbank transactions

TRUST is key

Evolving landscape for cross-border payments

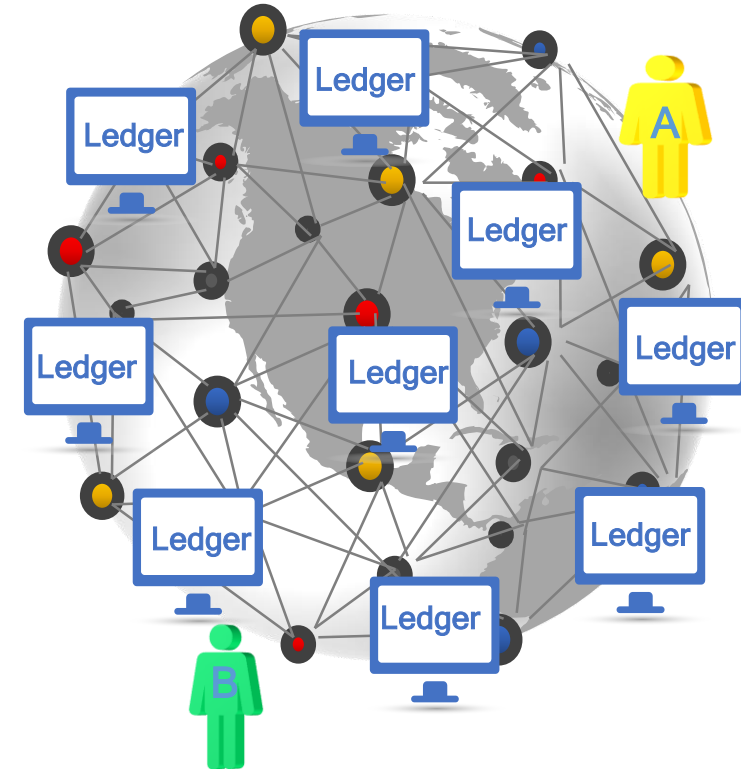
Current

Account-based



Future?

New networks and means of payments

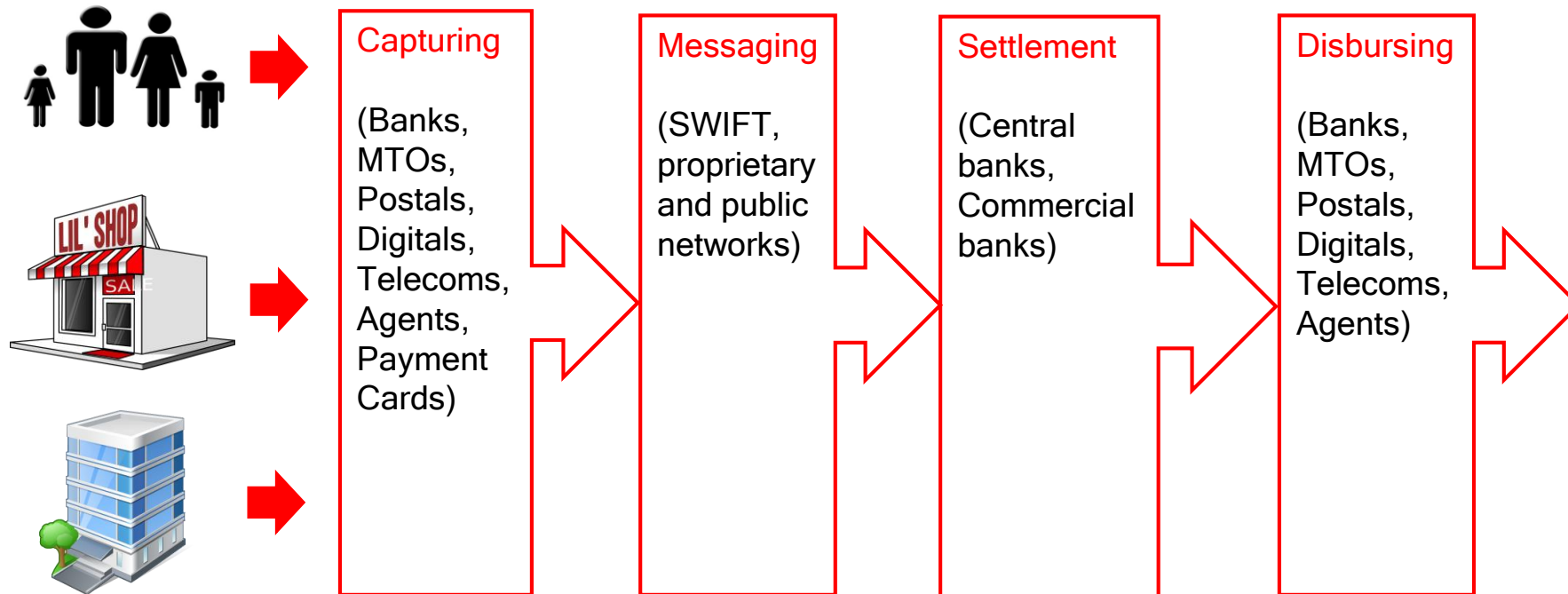


- ✓ *Choice of account-based and token-based systems*
- ✓ *Less reliance on correspondent banks*

Ripe opportunities to improve payment chain

Demand

Supply

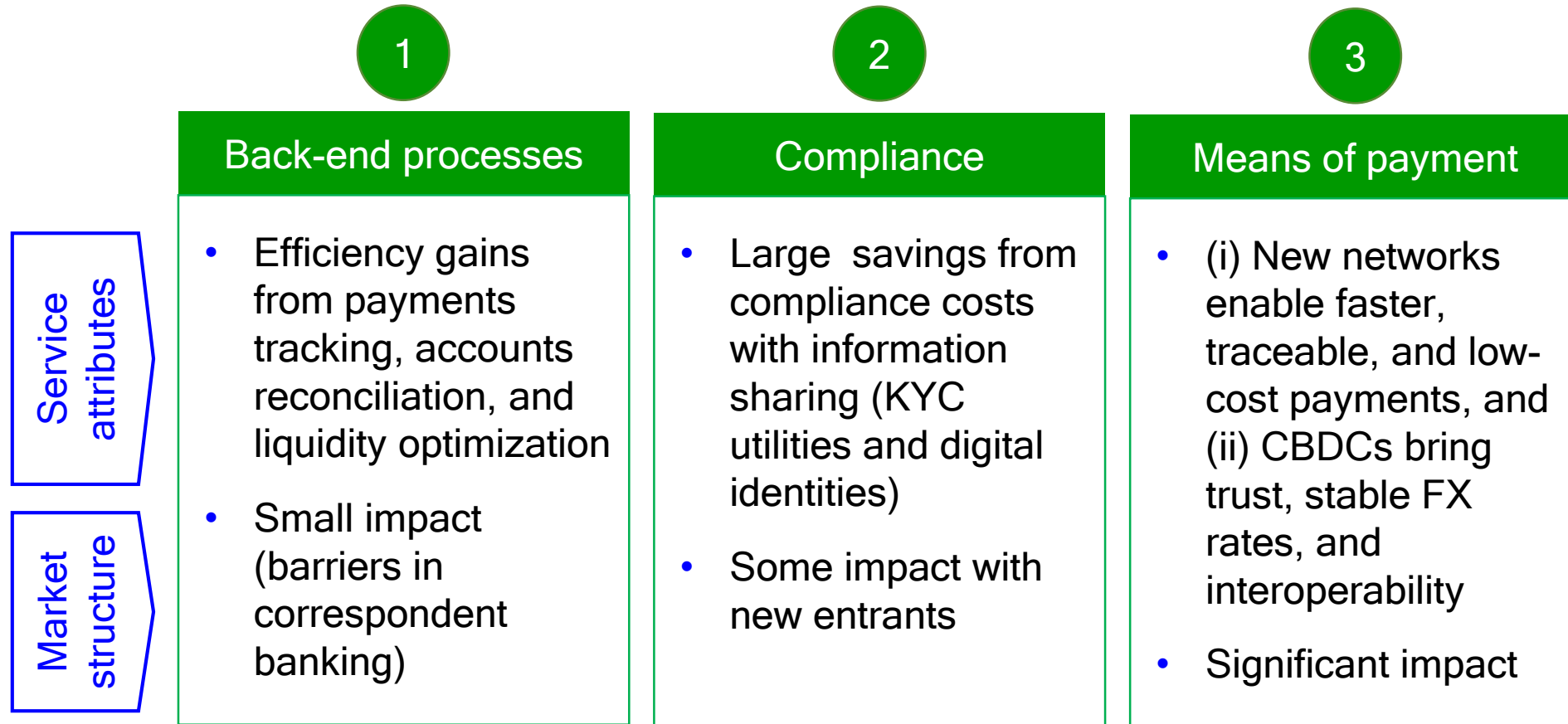


The whole process could take between 3 to 5 days.

Shortcomings: costly, cumbersome, slow, and opaque

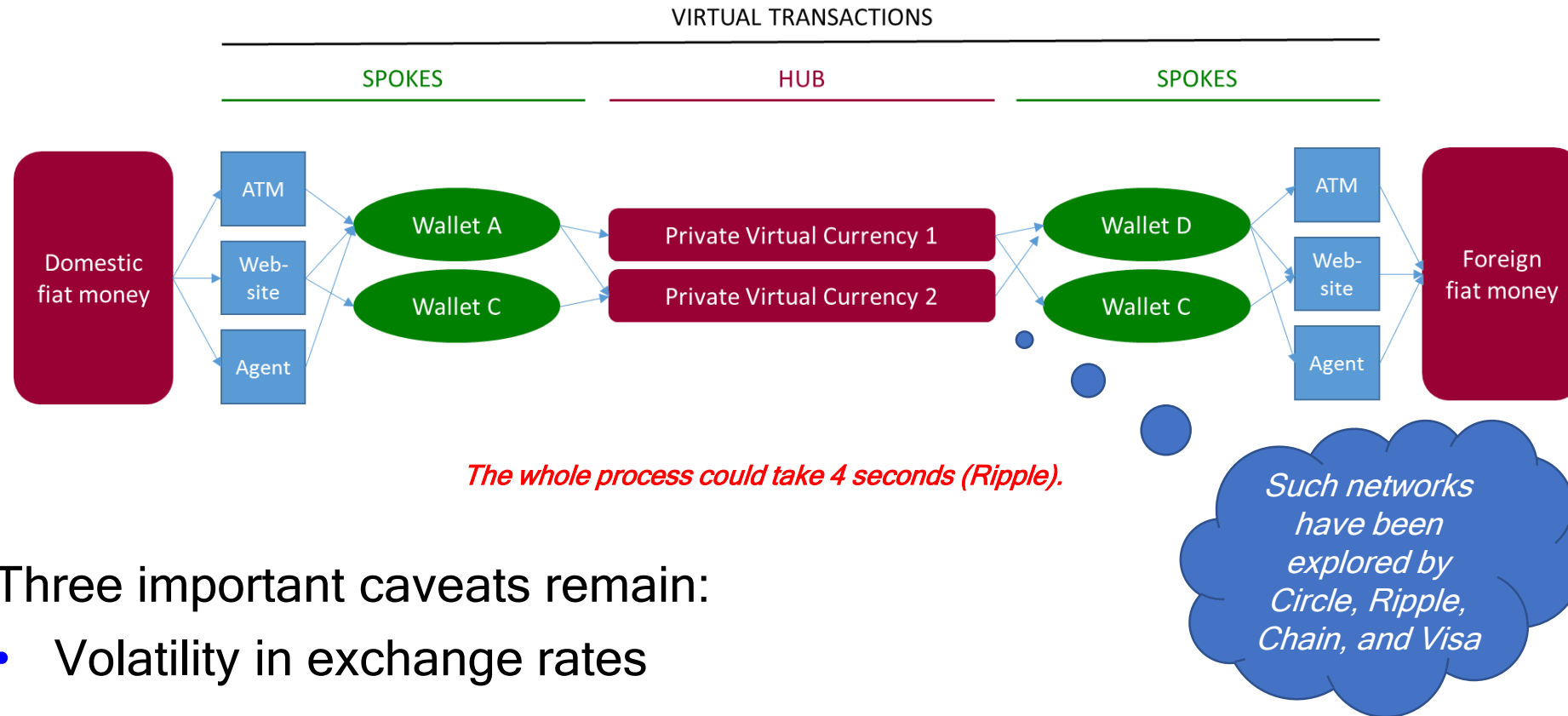
How could Fintech reshape the landscape?

Three DLT-based scenarios



Potential disruption

New global networks using virtual currencies



Three important caveats remain:

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

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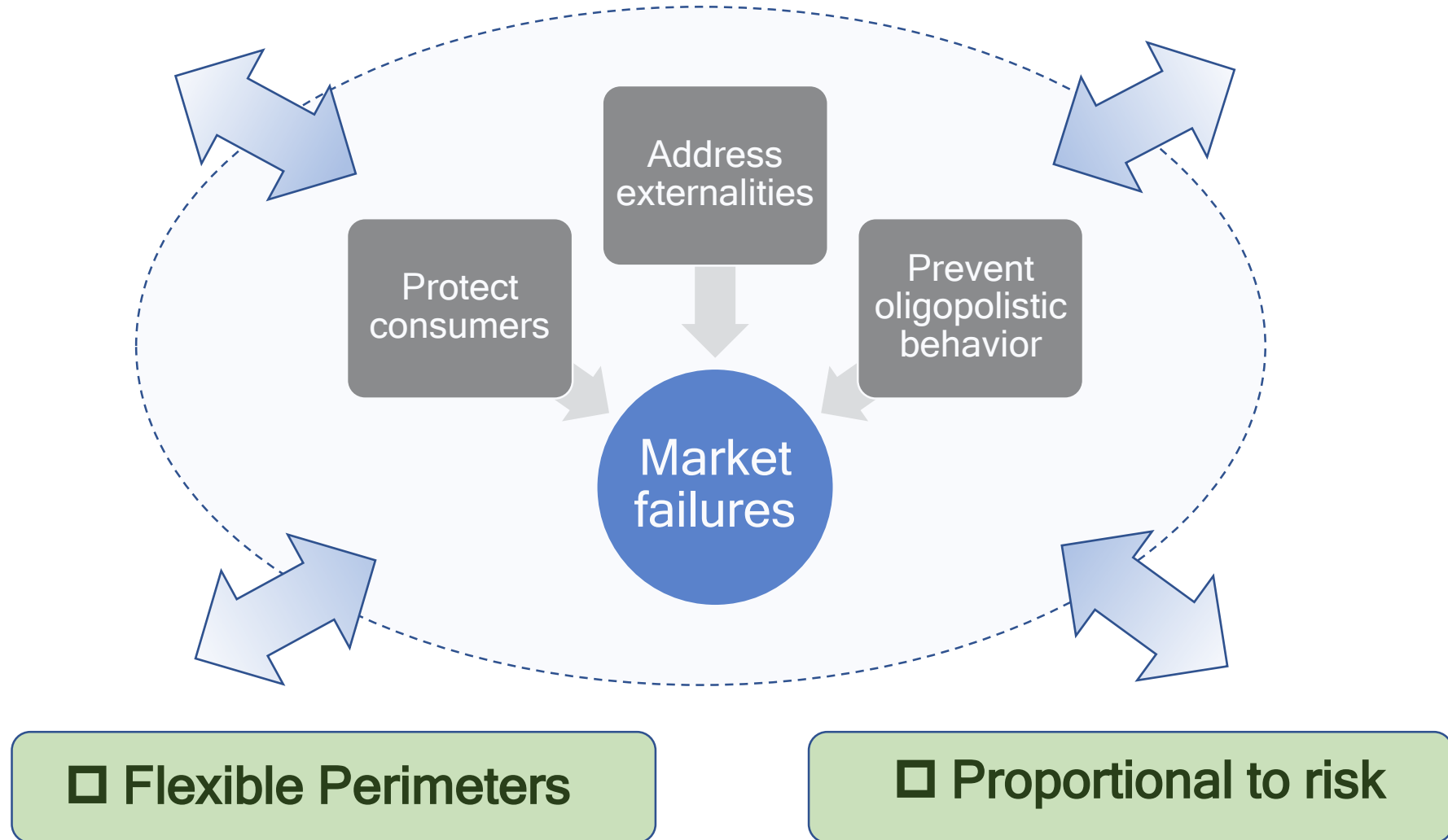
Technology and Financial Regulation

How should regulation respond to new challenges?



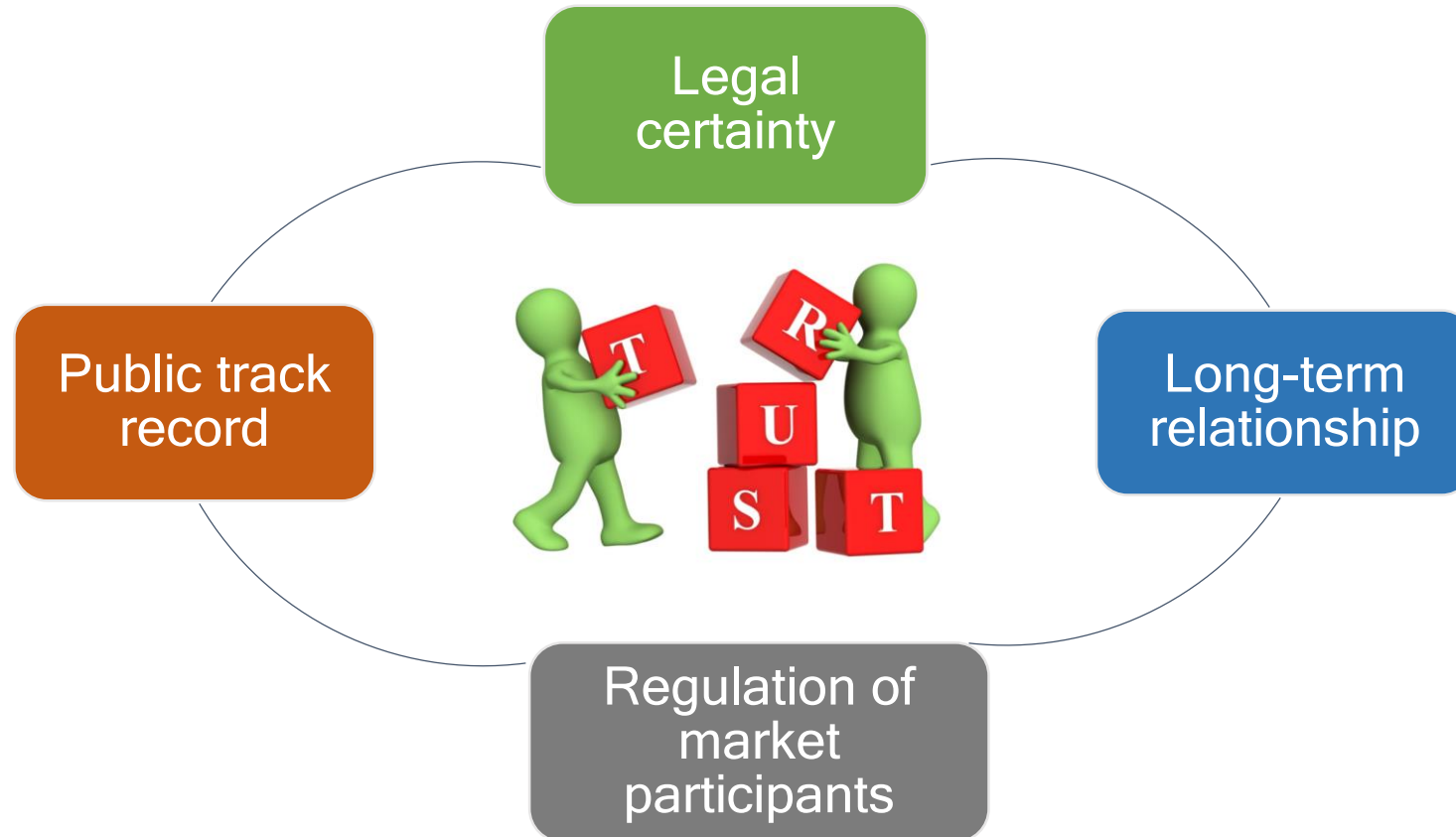
How will regulation impact development and adoption?

Objectives and Principles of Financial Regulation



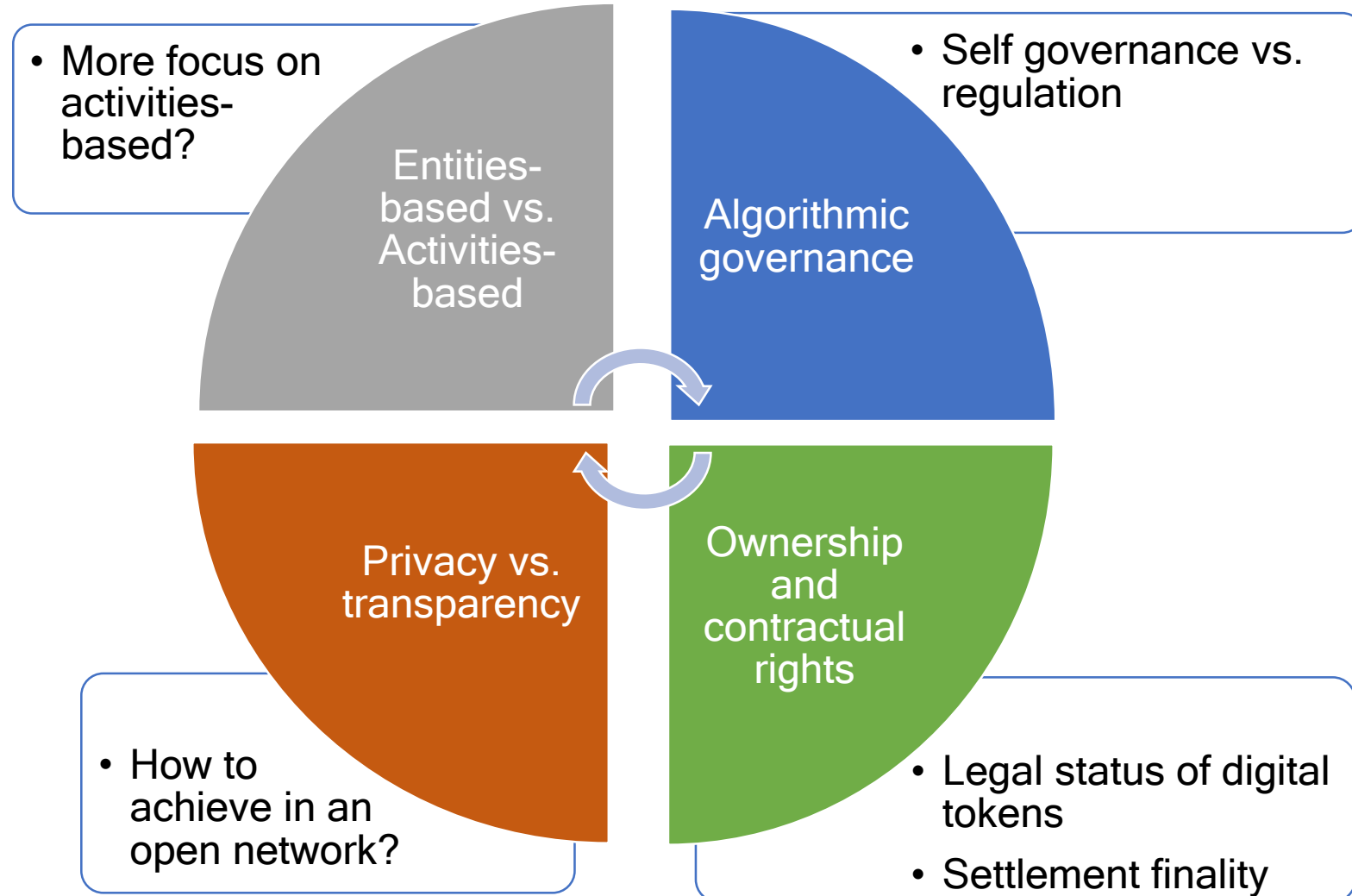
The Role of Regulation in Supporting Trust

How can trust be established and maintained in the financial system?



- ✓ Ensures financial soundness and appropriate risk management

Regulatory challenges



International cooperation

- ❑ Need for greater harmonization between regulatory frameworks
 - ✓ Level playing field
 - ✓ Facilitate global adoption of technologies
- ❑ Efforts are underway
 - ✓ Bilateral cooperative arrangements
 - ✓ Efforts of international standard setting bodies
 - ✓ The IMF is well placed to play a role

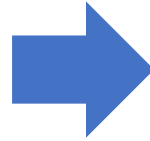


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Fintech: Impact on our work

TA



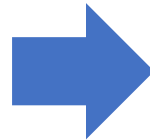
Helping members adapt and apply regulatory frameworks and supervisory approaches

FSAP



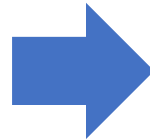
Assessing the impact on risk vulnerability

Policy



Engaging with global standard-setting bodies and policymakers

Surveillance



Identifying policy issues related to the emergence of fintech for the member countries

MCM's current work: Fintech and Central Banking



Machine Learning and Big Data

- Cross-selling, predictive power in insurance/loan issuance
- Better KYC (financial institutions)
- Risk and economic data analysis (central banks and supervisors)



Virtual Currencies

- Government-issued ("central bank digital currencies") and non-government issued (e.g. Bitcoin, Ether, XRP)
- Effect on payment systems and monetary policy



Cloud Computing

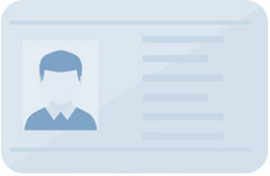
- Outsourcing and legal risks



Cyber Risk

- Different technologies could represent different manifestation of risks

MCM's current work: Regulation and Supervision



Regulatory Framework

- Allocated more resources – Established internal team
- Future work (e.g. supervisory data gathering, regulatory sandboxes, wallets, framework)



Impact on Business Models

- Profitability of incumbents (mostly banking sector, though this might change)
- Unbundling of services



Operational Risk

- Outsourcing risk
- Cyber risk



Capacity Building

- Developing training on regulatory and supervisory frameworks for fintech
- Studying current trends in fintech and practical implementation issues to develop analytical approaches

Thank You