

What will central banks do about digital currencies?

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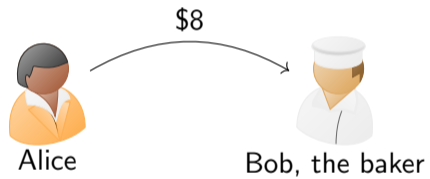
Graduate School of Business, Stanford University

Blockchain Research Seminar Series

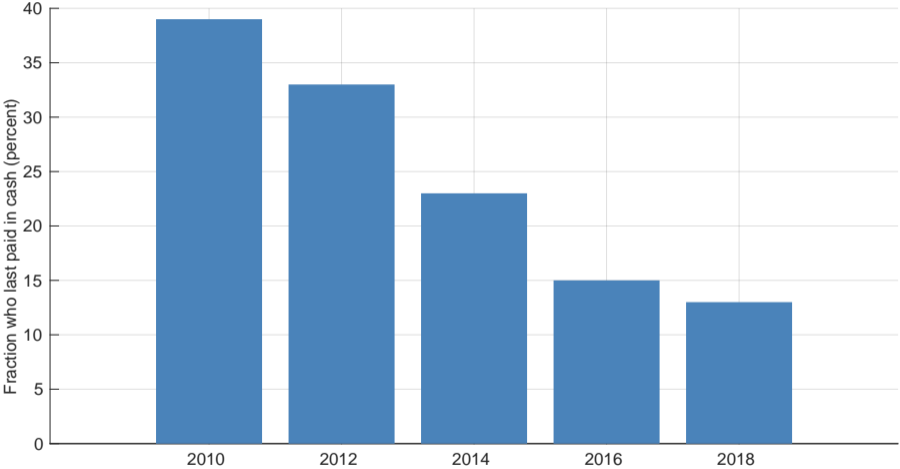
Fields Institute

October, 2020

A payment

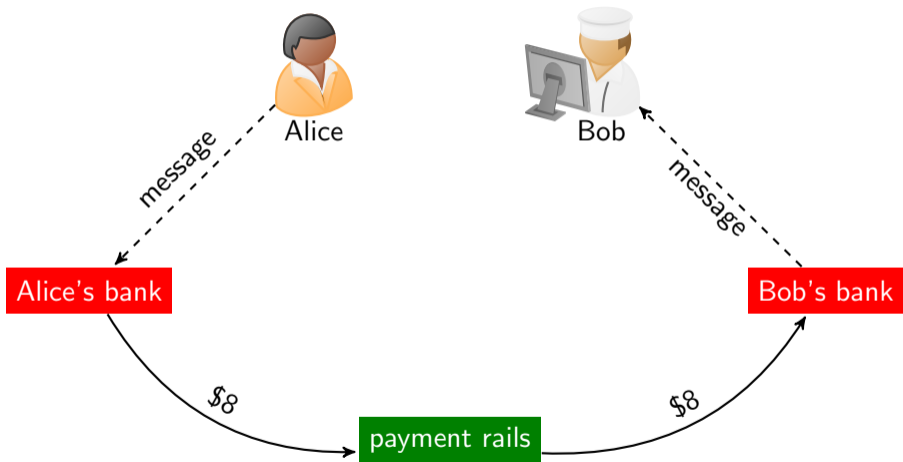


Swedes now rarely use cash

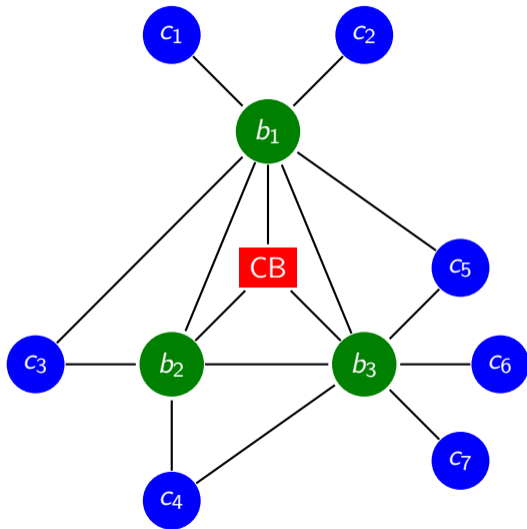


Source: Riksbank eKrona Report (2018).

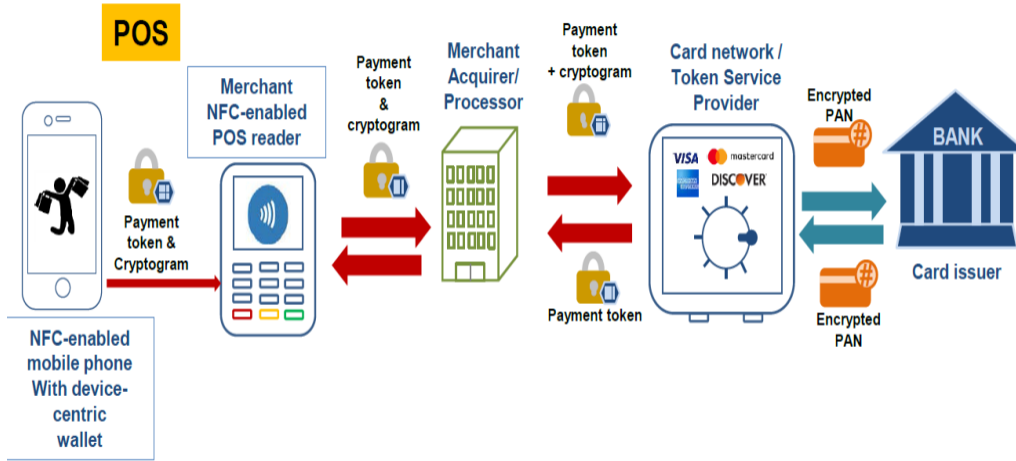
Bank-account-based payment



Banks form the backbone of the payment rails



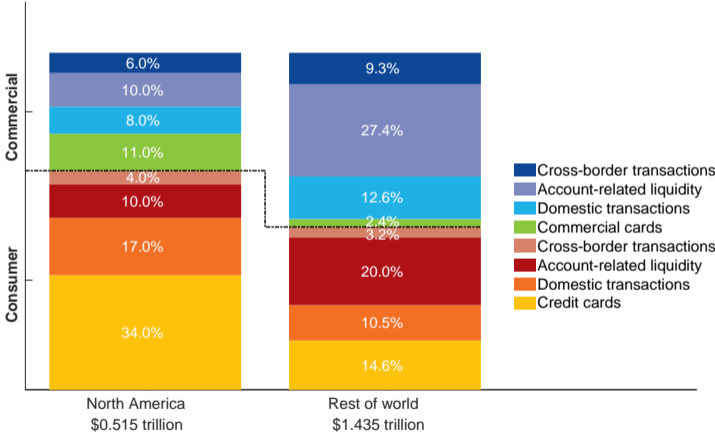
Illustrative cryptographic payment authorization flow



Source: Federal Reserve Bank of Boston, U.S. Payments Forum.

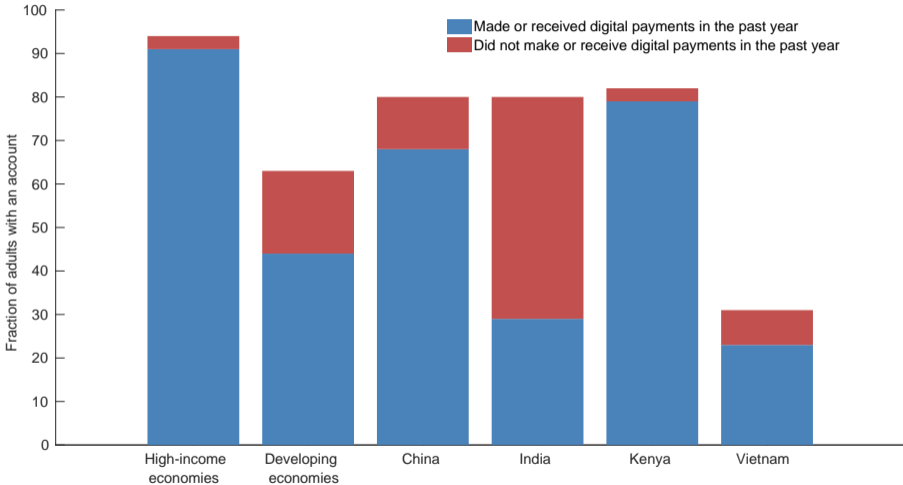
Disruptable bank-based payment system revenues

Ratio of payment revenues to GDP: U.S. 2.37% versus EMEA: 1.25%



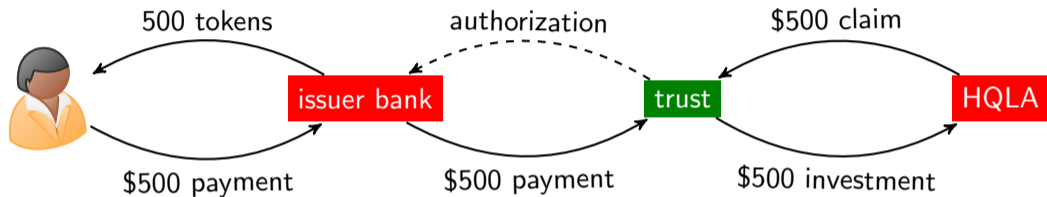
Data source for figure: McKinsey Global Payments Report, September, 2019.

Emerging-market financial inclusion and digital payments

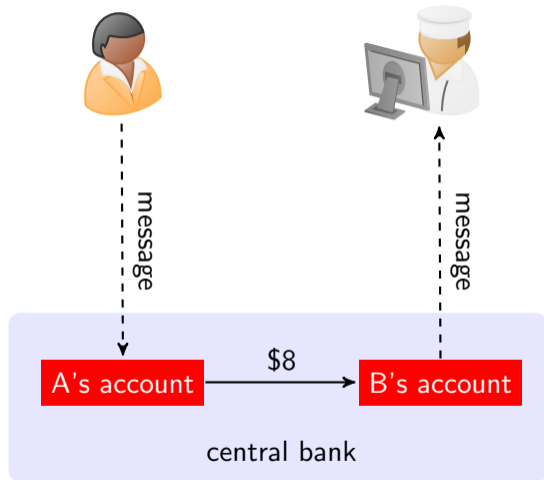


Data source: World Bank Global Findex Database.

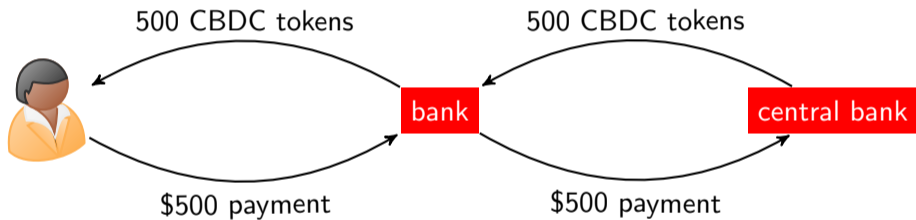
Private stablecoin issuance



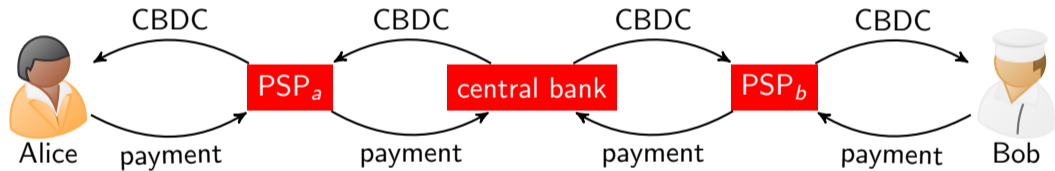
Direct CBDC payments



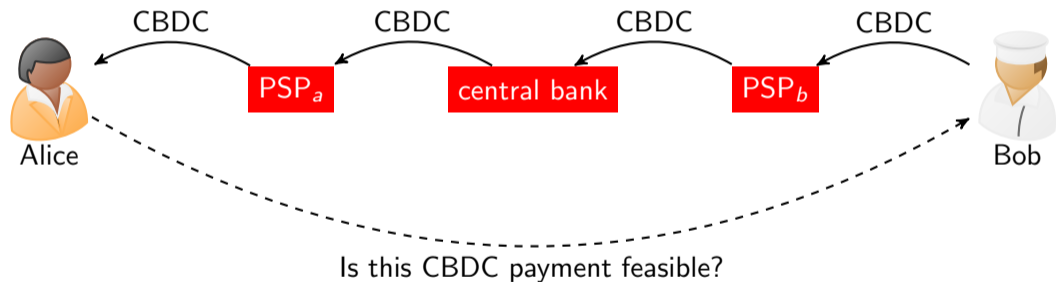
Hybrid CBDC



Hybrid CBDC with multiple payment service providers



Interoperability for hybrid CBDC is crucial



Fast bank-based payment systems

- ▶ Key defining properties:

1. $24 \times 7 \times 365$ availability.
2. Near real-time access to the funds by the recipient.

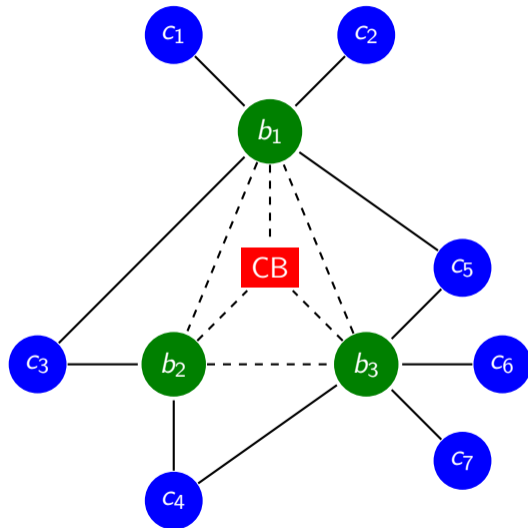
- ▶ Operational approaches:

1. Deferred net settlement of interbank obligations (DNS).
2. Real time gross settlement (RTGS).

Examples of fast bank-based payment systems

- ▶ Korean Electronic Banking System, established 2001.
- ▶ Bank of Mexico's Sistema de Pagos Electrónicos Interbancarios.
- ▶ Swish, a private mobile payment system available in Sweden.
- ▶ The United Kingdom's non-profit utility, Faster Payments.
- ▶ Singapore: Fast and Secure Transfers (FAST).
- ▶ The European Central Bank TARGET Instant Payment Settlement (TIPS), based on the SEPA Instant Credit Transfer platform.
- ▶ The US: Real-Time Payments System (private sector) and a proposed Fed RTGS fast payment system, FedNow.

Two-ledger payment system



Impacts of CBDC and payment system innovation

1. Payment efficiency (cost, lags, access, interoperability).
2. Monetary policy transmission, domestic and cross-border.
3. Disruption of banking franchises (payment fees; deposit funding; cross-selling).
4. Compliance: KYC-AML-CFT-tax.
5. Privacy and data security.
6. Financial inclusion.
7. Financial stability (bank runs; elasticity of money supply; netting liquidity; operational resilience).
8. Mixing commerce and banking.
9. Central bank footprint and independence.

Main policy options

1. Use regulations and fast-payment infrastructure to promote a more open, efficient, and competitive bank-railed payment system.
2. Allow or encourage compliant private stablecoins.
3. Allow or encourage fintechs and banks to distribute central-bank backed digital currencies, subject to strong compliance and interoperability standards.
4. Introduce a direct general-purpose central bank digital currency.

Recommended reading: Adrian and Mancini-Grifoli (2019), Bindseil (2019), Group of Thirty (2020), Auer and Böhme (2020).