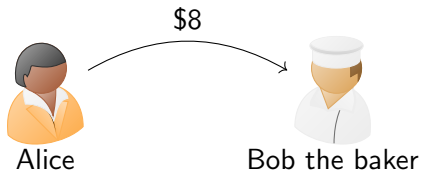


The economics of digital currency policy

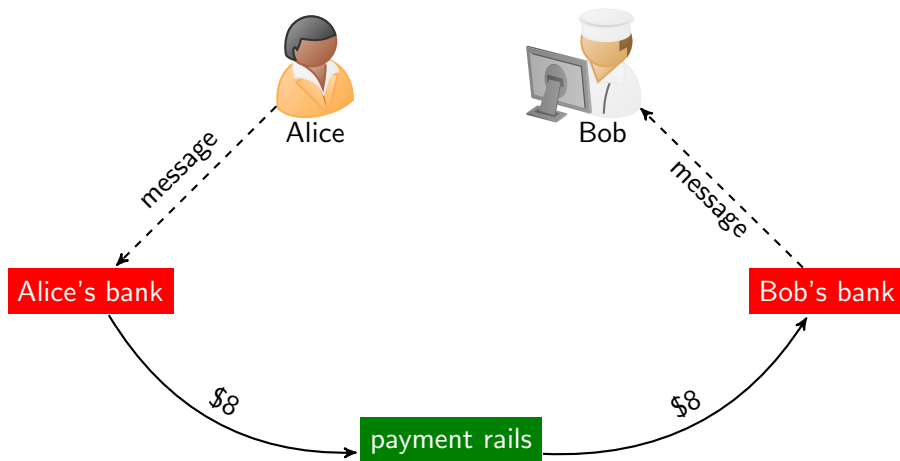
Darrell Duffie
Stanford Graduate School of Business

Swedish House of Finance
June, 2022

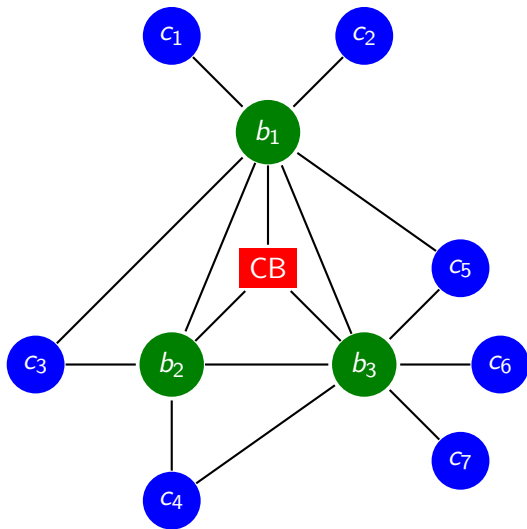
A payment



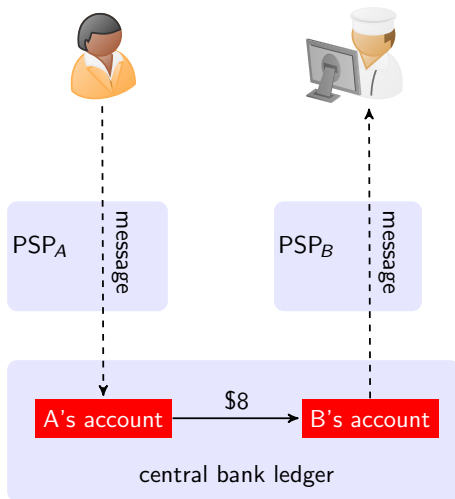
A bank-railed payment



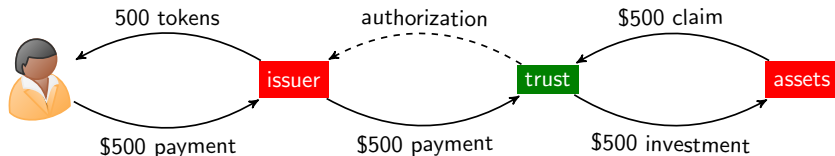
Bank payment rails



A CBDC payment



Private stablecoins



President's Working Group Report on Stablecoins, November, 2021:

"... legislation should limit stablecoin issuance, and related activities of redemption and maintenance of reserve assets, to entities that are insured depository institutions. The legislation would prohibit other entities from issuing payment stablecoins. Legislation should also ensure that supervisors have authority to implement standards to promote interoperability among stablecoins."

Fast payment systems

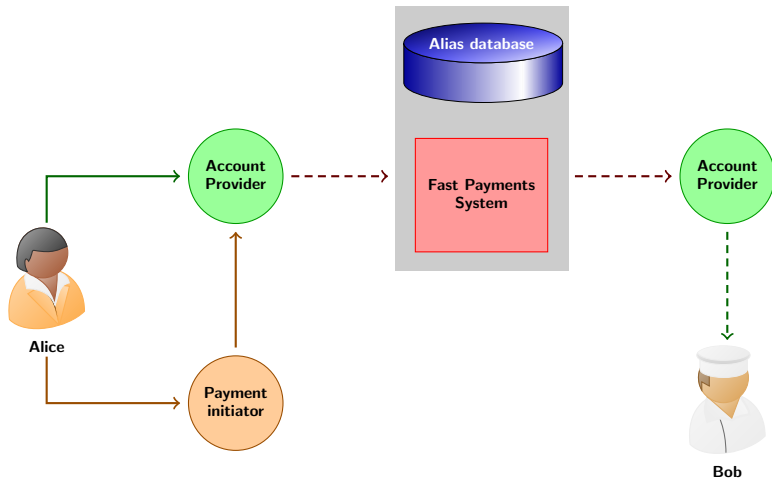
- ▶ Key defining properties:

1. $24 \times 7 \times 365$ availability.
2. Real time gross settlement (RTGS).

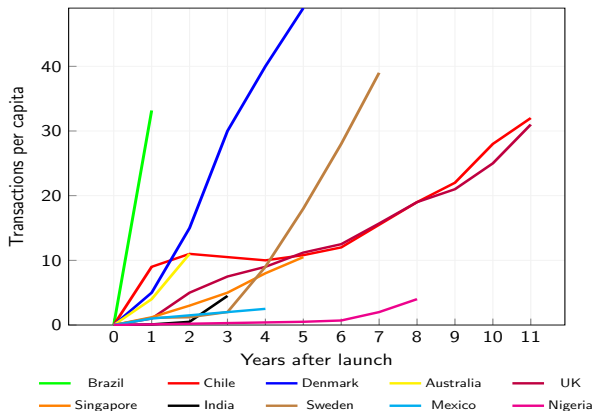
- ▶ Examples:

- ▶ 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 and Fed RTGS fast payment system, FedNow.
- ▶ Brazil's Pix.

Structure of a Pix payment

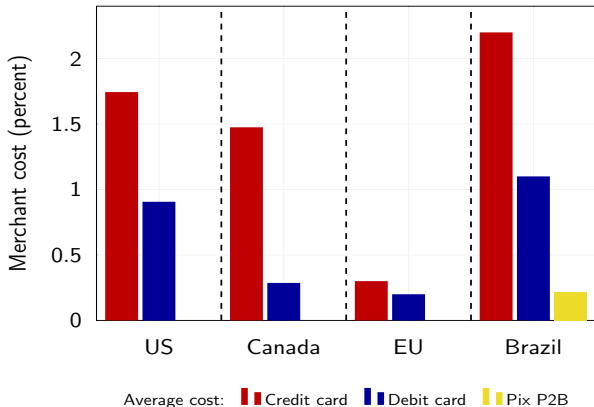


Pix adoption has been rapid



Source: Duarte, Jon Frost, Gambacorta, Koo Wilkens and Shin, Bank for International Settlements, March, 2022.

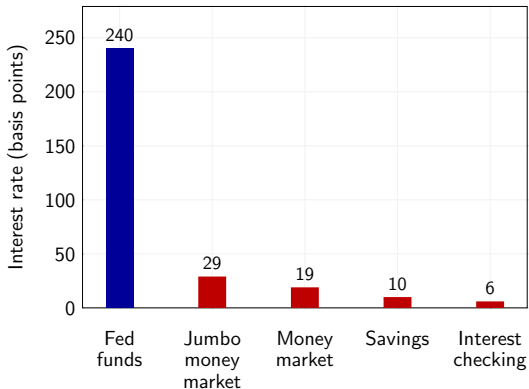
Merchant costs for cards and Pix



Source: Duarte, Jon Frost, Gambacorta, Koo Wilkens and Shin, Bank for International Settlements, March, 2022.

Weak competition for deposits reduces bank funding costs

When wholesale rates last peaked in April 2019



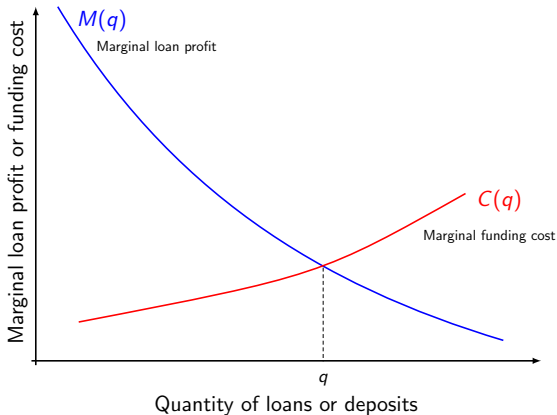
Data sources: FRED and FDIC.

Central banks are worried about credit provision

“A widely available CBDC [...] could reduce the aggregate amount of deposits in the banking system, which could in turn increase bank funding expenses, and reduce credit availability or raise credit costs for households and businesses.” *Money and Payments: The U.S. Dollar in the Age of Digital Transformation*, Federal Reserve, 2022.

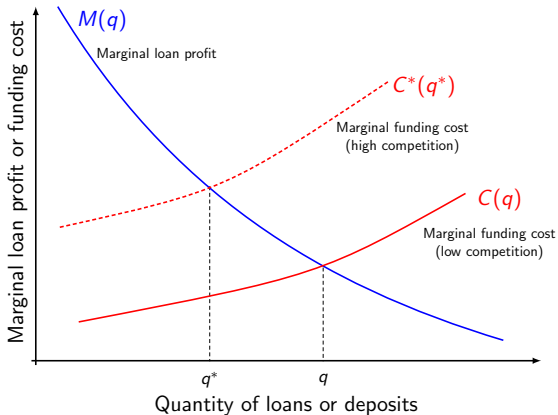
The BIS and G7 central banks, including the Fed, suggest that “if banks begin to lose deposits to CBDC over time they may come to rely more on wholesale funding, and possibly restrict credit supply in the economy with potential impacts on economic growth.” *Central Bank Digital Currencies: Foundational Principles and Core Features*, BIS, 2020.

A monopolistic bank that funds all loans with deposits

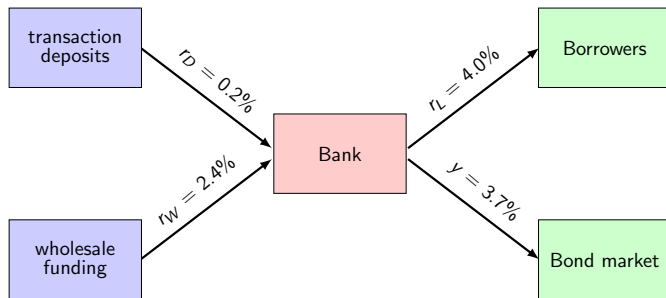


For small monopolistic banks:

Loan provision declines as deposit-market competition rises



CBDC-induced deposit-market competition is unlikely to lower credit provision much for large banks

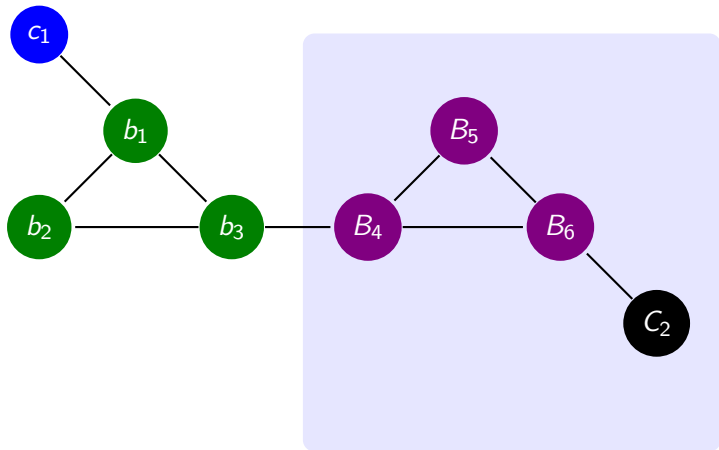


References: Andalfatto (2020); Chiu, Davoodalhosseini, Jiang and Zhu (2021); Keister and Sanchez (2021); Whited, Wu, and Xiao (2022).

Domestic competition policies

1. Use regulations and fast-payment infrastructure to promote a more open, efficient, and competitive bank-railed payment system.
2. Allow entry by private stablecoins and fintech banks, subject to compliance and interoperability standards.
3. Continue developing CBDC technology and deploy a digital dollar when the technology and policy gaps are closed.

What about cross-border payments?



The U.S. government is concerned

In addition, technological innovations such as digital currencies, alternative payment platforms, and new ways of hiding cross-border transactions all potentially reduce the efficacy of American sanctions. These technologies offer malign actors opportunities to hold and transfer funds outside the traditional dollar-based financial system. They also empower our adversaries seeking to build new financial and payments systems intended to diminish the dollar's global role. We are mindful of the risk that, if left unchecked, these digital assets and payments systems could harm the efficacy of our sanctions.

–The Treasury Sanctions Review, U.S Department of the Treasury, October, 2021.

International policies

1. Support wholesale CBDCs for settlement systems and cross-border payments.
2. Analyze dollar-dominance risks and benefits carefully.
3. Arrange international standards agreements.