

# Digital and Crypto Currencies

D. Andolfatto  
FRB St. Louis

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# Outline

- Cryptocurrencies.
  - Fixed vs. flexible exchange rate regimes.
  - Regulatory challenges.
- Central Bank Digital Currencies.
  - Essential? Desirable?
  - Wholesale vs. Retail.

# Cryptocurrencies

- Vision: Digital asset transfer system w/o delegated record-keeper.
- Problem: How to prevent counterfeiting (fabricating history/double-spending).
- Solution: [1] Publicly-visible ledger; [2] Communal consensus protocol to determine “truth.” Idea: Difficult to fabricate history when community can see and agree on what is being written and stored on a shared ledger.
- Note: Resembles the way small groups record communal history. Technological advances in data storage, computing power, communications, cryptography and game theory have allowed “primitive blockchain technology” to scale. A “revolution” taking place.

## Fixed vs. Flexible Exchange Rate Regimes

- Crypto assets like BTC are like foreign currencies operating in flexible exchange rate regime. Except, there's no negotiating with a DAO. Nor is it possible to regulate DAOs directly.
- Of course, possible to regulate businesses that deal in crypto assets.
- Stablecoins are like unilateral fixed exchange rate regimes or currency boards. Some are more like money market funds or fractional reserve banks (e.g., Tether).
  - These structures *may* be a source of systemic risk if they intermediate off-chain securities (e.g. commercial paper).

## Regulatory Challenges

- Must assess whether new digital asset transfer mechanisms offer lower-cost services through technological advantages or regulatory arbitrage.
- If former, then let competition work its magic.
- If latter, then ask whether existing regulatory framework outdated.
- If yes, then update. If not, then apply regulation consistently across all entities (though, not possible if these are DAOs).

## Central Bank Digital Currencies

- If one had to design a payment system from scratch, how would one do it? (Assuming we can count on government enterprises to deliver superior customer service and keep up with advancing technology.) Answer: CBDC.
- But we're not starting from scratch. Moreover, tenuous assumption?
- While current U.S. system not perfect, innovation happening rapidly now.
- Less progress in terms of card fees for merchants. Not clear how CBDC can solve this given how Americans love their cash back and rewards programs.

## Central Bank Digital Currencies

- Am more comfortable letting private sector handle retail.
- Note: global success stories seem more the result of private initiatives (M-pesa, AliPay, WeChat) and less CBDC (state banks).
- Wholesale CBDC (plus regulatory reforms—e.g., open banking) seems like the way forward.
  - Let PayPal, Novi, Square, other Fintechs have access to CB accounts and payment rails.
  - A variation of an old theme: free-entry into narrow-banking.