Discussion of:

Technological Changes and Central Banking

by David Andolfatto

Todd Keister
Rutgers University

Bank of Korea International Conference
June 3, 2022

Background

- Broad topic: financial stability risks associated with crypto/digital assets
  - a substantial concern in jurisdictions around the world
- Terra/Luna collapse in May highlights risks associated with financial innovation
- The surprise (to me) was not that it collapsed
  - design seems clearly susceptible to a self-fulfilling "run"
  - Weber (2019) "Skepticism About Algorithm-Based Stablecoins"
- Rather, the surprise was how large it had become
  - market capitalization of over $18b

- What if the collapse had come a year from now? Or two years?
  - how integrated might TerraUSD have become with traditional markets/institutions?

The paper

- Encourages us to look ahead at risks that may emerge in the future …
- … and to think about what can be done now to mitigate those risks
  - an extremely important message for central bankers and other regulators
  - a difficult task, but the paper points in some promising directions
- Raises a particular concern:
  - combination of technology and governance of crypto arrangements …
  - … may undermine traditional approaches to regulation/supervision of financial entities
    - technology: difficult to limit people's access (to Bitcoin, etc.)
    - governance: focuses on Decentralized Autonomous Organizations (DAOs)
      - there is no institution (in the traditional sense) to regulate or take action against

- While the risks currently posed by DAOs to financial stability and the real economy seem small …
- … the sector is growing rapidly; risks could develop quickly
- Paper discusses ways in which these risks could become systemic
  - example: a stablecoin may be attractive as a common means of payment in global supply chains
  - a collapse or disruption would then have real economic consequences

Q: What should central banks do?

  - one option: offer a competing product (CBDC)
    - to be effective, a CBDC would need to be easily used cross-border (supply chains)
    - requires international cooperation; perhaps involvement of the BIS, IMF

Comments

- Provides an interesting and thought-provoking discussion of an important issue
  - highlights the importance for policymakers to act quickly
  - a use case for CBDC: crowd out undesirable, risky forms of private money

- My comments will focus on:
  1. DeFi data
  2. Regulation difficulties
  3. CBDC vs. private money
  4. Lock-in effects

1) DeFi data

- Paper focuses on unique challenges raised by **De**centralized **Fi**nance, DAOs
- But there may also be a positive side:
  - decentralized entities operate through a public ledger
  - which in principle provides a lot of information to policymakers
- Monitoring activity is a crucial first step in financial stability policy
  - not an easy task; often underappreciated
  - example: policy makers had limited insight into size of repo markets in 2007
    - in contrast, size of TerraUSD was known in real time
- Data gaps exist, of course. Owners of digital wallets are not known, for example

Q: How can we use the information in public ledgers to support financial stability?

2) Regulation difficulties

- Difficulty of effective regulation is not limited to DeFi, DAOs
  - centralized entities also create challenges

a. Centralized entities can be outside the regulatory perimeter (example: Tether)

- and may much less transparent, since not all activity is on a public ledger
  - example: what assets does Tether hold?

⇒ offshore, centralized crypto arrangements may be more challenging than pure DAOs

b. Regulated entities present challenges as well

- some crypto/digital entities are being established as regulated entities (USDCoin)
  - as a way to enable some activities, attract customers
- paper says dealing with this case is, in principle, straightforward
  - which is true, but …

- In practice, preventing regulated entities from creating systemic risk is not easy
- Example: Money Market Mutual Funds in the U.S.
  - were born in part as a form of regulatory arbitrage and in part as a useful innovation
  - fragility became apparent in 2008, following failure of the Reserve Primary Fund
    - run on institutional prime MMFs → guarantees from the U.S. Treasury and liquidity facilities created by the Federal Reserve
  - post-crisis effort by policymakers to create reforms that would prevent future runs
    - pushback from the industry; resulting reforms were ineffective
      - required public support again in March 2020

⇒ DAOs are interesting and may create novel challenges to regulation

- but need to ensure we do not overlook risks from more "familiar" sources

3) CBDC vs. private money

- CBDC can provide a public alternative to risky private forms of money
- But … the private market could also provide a very safe form of digital money
  - a stablecoin backed 100% by cash reserves and Treasury bills

Q: Why is that not enough? Do we really need a public alternative?

  - if there is demand, the private solution should be profitable to offer

- Also, thinking about MMFs is again instructive.
  - MMFs holding only government securities did not experience runs in 2008, 2020
  - but their availability did not prevent prime MMFs from becoming a systemic risk

Q: Is the availability of a safe alternative (like CBDC) sufficient? Or is more needed?

  - if we cannot regulate (risky) private money, is there a case for *subsidizing* safe money?

4) Lock-in effects

- There are strategic complementarities in the choice of medium of exchange
  - I want to use type of money that others will readily accept
- Tends to generate multiple equilibria, lock-in effects
  - whatever people initially coordinate on becomes difficult to dislodge
  - examples: technology adoption (QWERTY keyboard, VHS vs. Betamax)
- Preventing coordination on undesirable arrangements requires that a better alternative be available *from the start* (⇒ important to move quickly on CBDC)
- But also: sometimes it is desirable to *subsidize* a preferred technology
  - encourage adoption, which "pushes" toward the desired equilibrium
    - Ennis & Keister (2005, "Optimal fiscal policy under multiple equilibria")
  - again, should we consider subsidizing safe money (CBDC)?

Conclusion

1. DeFi data
2. Regulation difficulties
3. CBDC vs. private money
4. Lock-in effects

- Interesting paper – gives us a lot to think about
  - I look forward to further discussion