DIGITAL ASSETS: PROMISE AND CHALLENGES

ITAY GOLDFEIN
WHARTON SCHOOL

VADUZ ROUNDTABLE
THE FINANCIAL SYSTEM 2030
A FINTECH REVOLUTION?

- Technology has always influenced the way the financial industry operates

- What is so special about the current FinTech revolution?
  - The pace at which new technologies are tested and introduced into finance is faster than ever before
  - Much of the change is happening from outside the financial industry, as young start-up firms and big established technology firms are attempting to disrupt the incumbents
A GLIMPSE INTO ACADEMIC RESEARCH

- FinTech initiative launched in 2016 at the *Review of Financial Studies* solicited research proposals on issues in FinTech
  - A crowdsourcing view on what FinTech is about
  - First special issue published in 2019
- Currently, a booming area of research focusing on several key topics:
  - Peer-to-peer lending
  - Big data and machine learning
  - Blockchain and digital assets
WHAT IS FINTECH? A WORD CLOUD
The key premise is decentralization

Traditional finance features central players, such as financial intermediaries and governments, who facilitate transactions and recordkeeping

In theory, with blockchain:
- Transactions happen in a decentralized way
- Consensus evolves without any centralized recordkeeping
- Information is shared by all

Motivation strengthened in the aftermath of the global financial crisis and the distrust in central players

This is enabled by technology
POTENTIAL GAINS FROM DECENTRALIZED CONSSENSUS

- Decentralized information alleviates the systemic risk from the failure of a central player
  - For example, a central counterparty (CCP) or a central computer system

- Decentralized process eliminates market power and rent extraction by large intermediaries
  - Key concern in finance due to the prevalence of large intermediaries and their effect on the efficiency of the system

- Flexibility of the process enables efficient trading of a large variety of assets
  - Many assets are traded inefficiently with large frictions in traditional financial systems, e.g., corporate bonds
  - With new technologies, non-fungible tokens enable trading on many non-traditional assets, such as artwork
LIMITED SCOPE OF DECENTRALIZATION

- Experience with financial technologies suggests that financial intermediaries cannot be easily displaced
  - Experience with peer-to-peer lending shows that financial intermediaries can end up dominating the new technologies
- Various forces in blockchain economics push back to concentration
  - Mining pools
  - Large investment in equipment
  - Interactions with blockchain governance
- Traditional benefits of intermediation are still present
  - Monitoring
  - Liquidity transformation
OTHER CHALLENGES

- Protocol for consensus generation
  - Proof-of-Work is most widely used, but strategies of participants can lead to adverse outcomes
    - Coordination problems, forks, etc.
  - Other protocols, e.g., Proof-of-Stake are not as widely tested and pose other challenges

- Energy costs
  - So far, the process behind blockchain consensus generation has been very costly on energy
  - This makes it unviable, especially with current concerns of sustainability
OTHER CHALLENGES – CONT’D

- Blockchain impossibility triangle
  - The idea is that blockchain can achieve only two out of the three objectives:
    - Consensus
    - Decentralization
    - Scalability

- Broader legal and regulatory framework
  - Large uncertainty on this issue with some recent negative shocks
    - Banning cryptocurrencies altogether in some places

- Some of the current applications generate bad reputation
  - Volatility of cryptocurrencies,
  - Fraudulent ICOs
  - Hard-to-justify prices for NFTs
CONCLUSION

- The idea of decentralized finance has a lot of positive aspects
- But, the forces for centralization and intermediation are strong
- A realistic middle ground is one where intermediaries continue to play a role, but some of the benefits of the technologies are still achieved
  - Partial decentralization
- There are also some other obstacles on the way to that equilibrium