Discussion of "Anatomy of a Run: The Terra Luna Crash"*

by Liu, Makarov and Schoar

7TH ANNUAL MACROPRUDENTIAL CONFERENCE,

STOCKHOLM, 30-31 AUGUST 2023

CAROLYN WILKINS, SENIOR RESEARCH SCHOLAR

GRISWOLD CENTER FOR ECONOMIC POLICY STUDIES

PRINCETON UNIVERSITY

*REMARKS REFLECT MY VIEWS AND NOT NECESSARILY THOSE OF MY FPC OR OTHER BANK OF ENGLAND COLLEAGUES

The Griswold Center for Economic Policy Studies

Princeton University Department of Economics

Outline of remarks

1. Contribution of the paper
2. Data selection and exclusions
3. Limitations of transparency
4. Further questions for research and policy

Two main objectives of Liu, Makorav and Schoar (1)

1. ***Enhance understanding of runs in the absence of regulatory oversight and safety nets (such as deposit insurance)***

   - Found that run precipitated by a small number of large sellers on 7 May 2022 (consistent with Nansen 2022)

   - Conclude run on Terra was not due to concentrated market manipulation, but was precipitated by growing concerns about the sustainability of the system – the increase in UST issuances combined with highly subsidised deposit rates on Anchor.

   - Authors don't elaborate on the absence of deposit insurance, so it's unclear what role they would have envisaged except possibly to weaken market discipline.

Two main objectives of Liu, Makorav and Schoar (2)

2. ***Extract broader insights of the ecosystem beyond Terra and apply to the entire Crypto landscape.***

   - Case study does excellent job making the point that transparency creates a coordinating mechanism and benefits actors sophisticated enough to analyse the data in real time (even though the hype touts transparency as a benefit relative to TradFi).

   - Carry over conclusions to other DeFi protocols, although analysis doesn't delve deeply into this.

Data selection and exclusions

- Authors exclude at different stages of the analysis smart contracts, exchanges and other intermediaries.
- How might these exclusions affect the conclusions?
  - For example, a smart contract could be written to pull liquidity out of UST if it ever de-pegged. Would this type of contract be excluded from the sample?
  - How do we know some of the excluded accounts didn't have incentives to make UST fail?
  - Do we know what information/incentives triggered the small number of large investors to act on 7 May?

Is there enough evidence to refute this:

"Terra Luna experienced a series of technical vulnerabilities and exploits that further eroded investor trust. ***Malicious actors exploited weaknesses in the platform's smart contracts***, leading to significant losses and undermining the overall integrity of the system. These incidents exposed the inherent risks associated with decentralized finance and raised doubts about Terra Luna's ability to provide a secure ecosystem for users."

Cryptoticker

"The Man behind Terra Luna Do Kwon is Finally Jailed: Why did Terra Crash?"

Limitations of transparency

- Impact of Blockchain Technology: In contrast to traditional institutions, blockchain technology and price data allowed investors to monitor each other's actions and may have amplified the speed of the run.
- Despite this, wealthier and more sophisticated investors were the first to run and experienced much smaller losses
  - Consistent with Cornelli, Doerr, Frost and Gambacorta, "Crypto Shocks and retail losses," 2023.
- How different is the dynamic from TradFi in the face of large, sophisticated investors with "private" information (either literally or because they can better interpret information available)?
  - Potentially relevant study -- Corsetti, Dasgupta, Morris and Shin, "Does one Soros Make a Difference? A Theory of Currency Crisis with Large and Small Traders," 2004.
- Role of "misinformation": did some Terra Luna insiders and investors contribute to the problem by aggressively underplaying the risks building up in the system on social media and other outlets.
  - This not only argues for consumer protection and market integrity safeguards, it also suggests lessons about lowering the barriers to entry to sophisticated markets.

Outstanding Questions for Research and Policy (1)

Could algorithmic stablecoins ever be stable?

- Are there better algorithms?
- If UST had been used for more real transactions (e.g. buying your groceries) would that have reduced the run risk?
- Some have concluded no:
  - E.g., HMT proposed in February 2023 that "activities relating to so-called algorithmic stablecoins should be subject to the same requirements as for unbacked cryptoassets".

BoE Financial Policy Committee Expectations (December 2019)

For systemic or likely to be systemic stablecoins:

- Stablecoins used as money for payments should meet equivalent standards to those provided by commercial bank money.
  - Implications for mechanisms to support stability (e.g., high quality liquid assets)
- Payment systems that use stablecoins should be regulated to standards equivalent to those applied for traditional payments.

Outstanding Questions for Research and Policy (2)

Tokenization:

- What might be the implications from this paper for tokenized money and assets? (BIS annual report 2023 discusses potential of tokenization)

Outstanding Questions for Research and Policy (2)

Tokenization:

- What might be the implications from this paper for tokenized money and assets? (BIS annual report 2023 discusses potential of tokenization)

Assessing network stability:

- Aside from the contribution of transparency to a run, how do bridges between programable blockchain networks affect the risk of spillovers to the rest of the system in the face of a shock like the Terra collapse? (Badev and Watksy 2023)

Outstanding Questions for Research and Policy (2)

Tokenization:

- What might be the implications from this paper for tokenized money and assets? (BIS annual report 2023 discusses potential of tokenization)

Assessing network stability:

- Aside from the contribution of transparency to a run, how do "bridges" between programmable blockchain networks affect the risk of spillovers to the rest of the system in the face of a shock like the Terra collapse? (Badev and Watksy 2023)

Risk management and governance

- What kind of expectations should investors and risk managers have with respect to monitoring and reacting to activity on chain, what kind of tools are needed to do so? (Nansen 2022)
- How to improve incentives in DeFi governance?

Conclusions

- Liu, Makarov and Schoar's work makes important contribution to our understanding of Terra Luna's workings and incentive structure, with implications for protocol design in DeFi.
- Run on Terra was likely due to its inherent fragility and transparency allowing actions to become a coordinating mechanism.
  - Asymmetric outcomes similar to TradFi when mingling of sophisticated and unsophisticated investors; is this somewhat more pronounced with crypto?
- Would be interesting to see the analysis, if possible, with a data set that has fewer exclusions (e.g., include smart contracts, intermediaries).
- Study raises interesting questions for further research and policy including whether algorithmic approaches to stablecoins could ever stand the test of time, implications for tokenization of assets, the stability of blockchain-based networks, and risk management.