Discussion of Lyons and Viswanath-Natraj
“What Keeps Stablecoins Stable?”

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Tether

▶ Tether: From Coinmarketcap, last night:
  Market cap $67.9 b, 24-hour volume $53.4 b (!)

▶ What helps maintain the 🔒 to $1 peg?

▶ Decentralized arbitrageurs trade with Tether treasury.
  ▶ Sell 🔒 if price > 1.
  ▶ Buy 🔒 if price < 1.

▶ Seems like an arrangement that will work well in normal market conditions.
  ▶ Liquidity tends to vanish when markets are stressed.
  ▶ How much should we worry about market breakdown?
Paper

- Poses the question of what helps to keep stable on a short-term basis.
  - Or, what makes it easier to conduct the arbitrage if price is misaligned.

- Considers two changes in environment that improved the likelihood of maintaining the peg.
  2. April 2019: Move from Omni blockchain (10-minute blocks) to Ethereum blockchain (15-second blocks).

- Essentially move from large central player to decentralized arbitrage.
Results on Ethereum Move

Table 2:

<table>
<thead>
<tr>
<th>Period</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Ethereum Blockchain</td>
<td>-28.2</td>
<td>97.2</td>
</tr>
<tr>
<td>Post Ethereum Blockchain</td>
<td>-0.9</td>
<td>47.2</td>
</tr>
</tbody>
</table>

Figure 8:

DiD Coefficients: $|p-1|$

<table>
<thead>
<tr>
<th>Period</th>
<th>Coefficients</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q12019T</td>
<td>-20.5</td>
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<td>Q22019T</td>
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<td>Q32019T</td>
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<td>Q42019T</td>
<td>119</td>
<td>3.3</td>
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<tr>
<td>Q12020T</td>
<td>3.3</td>
<td>3.3</td>
</tr>
</tbody>
</table>
Contrast with ETFs

- Idea of minimizing tracking error common to most ETFs.

- ETFs have a small number of authorized participants who engage in arbitrage.

- Why doesn’t the decentralized arbitrage model work for ETFs?
  - Some underlying securities are illiquid — need to accept customized baskets.
Longer-Term Effects

- ETF model seems to work well, so centralized arbitrage may work for stablecoins as well.
  - But arbitrageurs need to be independent of sponsor.

- Another difference with ETFs: Many/most ETFs have daily disclosures of asset holdings.

- Tether discloses once a quarter.
  - First full disclosure in 2021, perhaps in response to legal cases.
  - Recently, cut down on commercial paper, increased T-bills.

- If money market funds can break the buck, seems as if Tether too can break the buck.
Two kinds of coordination frictions may affect stability.

1. Liquidity provision.
   - Markets are sometimes fragile.
   - Lot of liquidity providers in normal times, but liquidity provision can break down in times of stress.
   - Multiple equilibria can arise (Yang and Zeng, 2021).

2. Beliefs in stability of Tether treasury.
   - Global game models of currency attacks (Morris and Shin, 1998), bank runs (Goldstein and Pauzner, 2003).
Some Events Over Last Two Years

- Feb 2021: Settlement with NY Attorney General, $18.5 million fine.
  - Among other things, accused of not holding enough reserves.

- Oct 2021: CFTC fine, $41 million.
  ...from at least June 1, 2016 to February 25, 2019, Tether misrepresented to customers and the market that Tether maintained sufficient U.S. dollar reserves...

- Is the improvement in the peg post-April 2019 in part due to Tether doing a better job with managing its reserves?
Griffin and Shams (2020) results consistent with Tether lacking reserves in 2017-18.
May 12, 2022: Short-term failure of peg.
- Fell to $0.95 on some exchanges around 3:15 a.m. US Eastern time.
- Rebounded to $0.995 by 10 a.m.

Somewhat sudden vanishing of liquidity.

Rebound is good, shows resilience.
- One lesson from the 2008-09 crisis period (also 2010 Flash Crash) is that markets often work well until they don’t.
Other Frictions in Arbitrage

▶ Takes 5-10 days to withdraw fiat currency on Bitfinex.
  ▶ One-directional friction.

▶ Different prices on different exchanges suggests frictions.

▶ Redemption cost of $1,000 USD or 0.1% of trade.
  ▶ Seems small for large trades.
  ▶ Given huge volume, unlikely to have a big effect.
Tether’s system of decentralized arbitrage seems to be working well.
  ▶ Clear reduction in deviations from peg following move to Ethereum blockchain.

More frequent disclosure of reserves can’t hurt.

Stability in stressed market conditions may be too much to ask for.