







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

Uday Rajan
Stephen M. Ross School of Business
University of Michigan

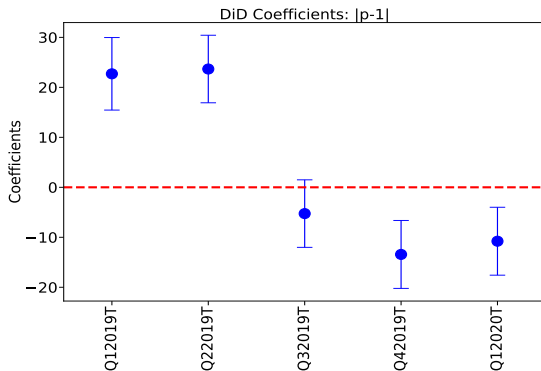
NYFed FinTech Conference
September 2022

- ▶ Tether: From Coinmarketcap, last night:
Market cap \$67.9 b, 24-hour volume \$53.4 b (!)
- ▶ What helps maintain the  to  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?

- ▶ 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.
 1. Nov 2018: Tether treasury becoming independent of Bitfinex.
 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.

► Table 2:

Period	Mean	SD
Pre Ethereum Blockchain	-28.2	97.2
Post Ethereum Blockchain	-0.9	47.2



► Figure 8:

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.

Index



Arb baskets



- ▶ 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  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).

- ▶ 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?

The image shows the top portion of the CoinDesk website. At the top, there are navigation links for 'TV & Videos', 'Newsletters', 'Podcasts', 'Indices', and 'E'. The CoinDesk logo is prominently displayed in the center. Below the logo is a secondary navigation bar with categories: 'Markets', 'Companies', 'Policy', 'Technology', 'Web3', 'Learn', 'Layer 2', and 'Sponsors'. A third navigation bar contains a list of market-related items: '\$19,320.95 +2.90%', 'Ethereum', '\$1,333.79 +5.09%', 'XRP', '\$0.531403 +31.40%', 'Binance Coin', '\$274.11 +3.14%', 'Binance USD', 'Crypto Prices', and 'CoinDes'.


Markets

Tether Says Its Stablecoin Is 'Fully Backed' Again

Tether says its USDT stablecoin is "fully backed by reserves," after reporting in April its token was only 74% backed.

By Nihilesh De Nov 8, 2019 at 5:00 a.m. EST Updated Sep 13, 2021 at 7:41 a.m. EDT

- ▶ 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.

- ▶ Takes 5-10 days to withdraw fiat currency on Bitfinex.
 - ▶ One-directional friction.
- ▶ Different prices on different exchanges suggests frictions.
 - ▶ Cf. Kroeger and Sarkar (2017) on Bitcoin.
- ▶ 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.