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What Happens in Crypto Stays in Crypto?

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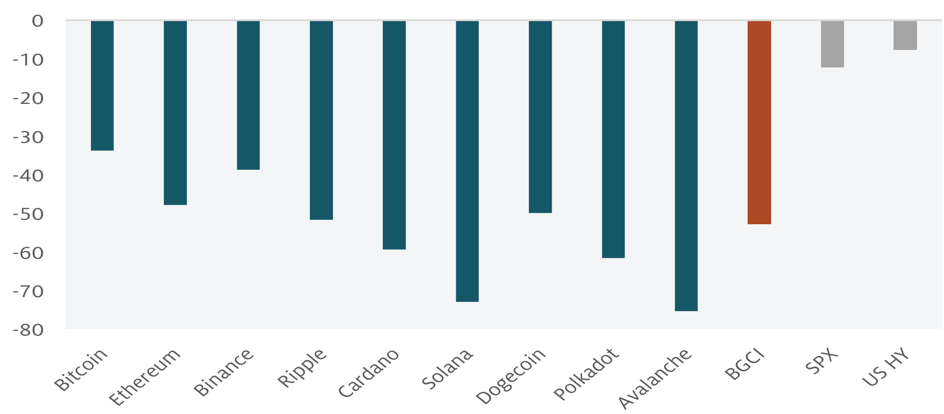
- It has been a vicious year for cryptocurrencies: The asset class is down over 50% YTD as of May 31, 2022.
- Even "stablecoins" have not been immune with TerraUSD, which ranked in the top ten crypto-assets by value, suffering a spectacular collapse that wiped out $40 bn of market cap, representing one of the most stunning crypto crashes witnessed so far.
- However, contagion into traditional asset classes is unlikely as crypto represents less than 1% of US households' net worth.
- Also, crypto-assets are largely confined to their own world and are only seldomly used to facilitate traditional transactions (e.g., as collateral for loans or assets in retirement plans).
- Further, Silicon Valley VC cash continues to invest aggressively into crypto, helping to prop up the sector.
- Decentralized Finance (DeFi) regulation has been in the works for a while, but the recent fiasco has accelerated plans and created a sense of urgency in Washington D.C.
- As Treasury Secretary Yellen has emphasized, the goal is to establish "tech neutral" regulation that protects investors, preserves stability and fosters innovation.
- A credible regulatory framework would be positive for the broader crypto ecosystem and especially benefit the largest incumbents.

The market cap of cryptocurrencies peaked in late-2021 at $3.0 tn and has since plummeted to around $1.3 tn. The primary catalyst for this decline has been an increasingly hawkish Fed with financial conditions tightening by the most since the global financial crisis. The drying up of liquidity has negatively impacted all risk assets, but with an especially pronounced impact on crypto **(Figure 1)**.

Figure 1: It Has Been a Vicious Year for Cryptocurrencies (% chg, YTD)

The Bloomberg Galaxy Crypto Index is down 53% YTD versus a 12% decline for the S&P 500 and 8% for high yield



Source: Bloomberg

Stablecoins are a relatively new type of crypto, designed with two purposes: (1) to act as a bridge between the "on-blockchain" DeFi world and the traditional fiat-based financial system; and (2) to serve as a base for DeFi trading among cryptocurrencies and other digital assets.

The largest stablecoins are Tether (USDT), USD Coin (USDC), and Binance USD (BUSD), all of which are fiat-backed. That is, they are collateralized by USD-instruments such as T-bills, commercial paper and CDs that reside off-blockchain, and are similar to unregulated and unaudited money market funds. While crypto evangelists might take offense, it is widely acknowledged that these features, plus the lack of deposit insurance and a lender of last resort, make stablecoins fatally susceptible to runs.[1]

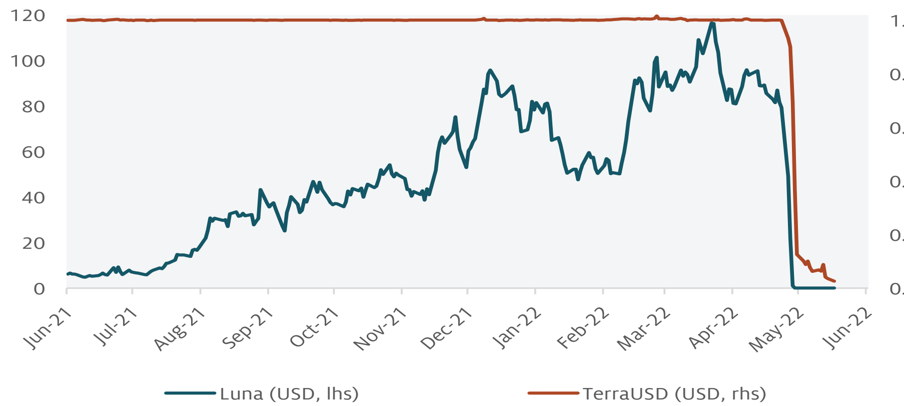
The fourth largest stablecoin is Dai (XDI Curncy on Bloomberg), which is crypto-backed. That is, rather than T-bills and such, its reserves consist of other crypto ("on-chain" assets). Dai's reserves are largely comprised of Ethereum (ETH), the second largest crypto after Bitcoin. Further, Dai aims for a collateralization ratio of 170%, which would be more than plenty for most asset classes. However, given crypto's extreme volatility, it is likely insufficient to guarantee Dai won't ever break the buck and trigger a run into safer assets.

The Algo Alchemists: Turning Lead into Gold, and Then Back into Lead

In addition to fiat- and crypto-backed stablecoins, fertile minds have invented a third category, algorithmic, that is even riskier and more controversial. Algorithmic stablecoins are not backed by fiat assets or even a larger, more established cryptocurrency. Rather, they are akin to a structured product that uses an all-too-clever algorithm to balance supply and demand between the stablecoin and its accompanying collateral token.[2]

Figure 2: Algorithmic Stablecoins — From Hero to Zero

Once Luna (the collateral coin) fell below $80, confidence evaporated and the scheme imploded. TerraUSD (the stablecoin) broke the buck on May 9, 2022 and is now trading at 2 cents.



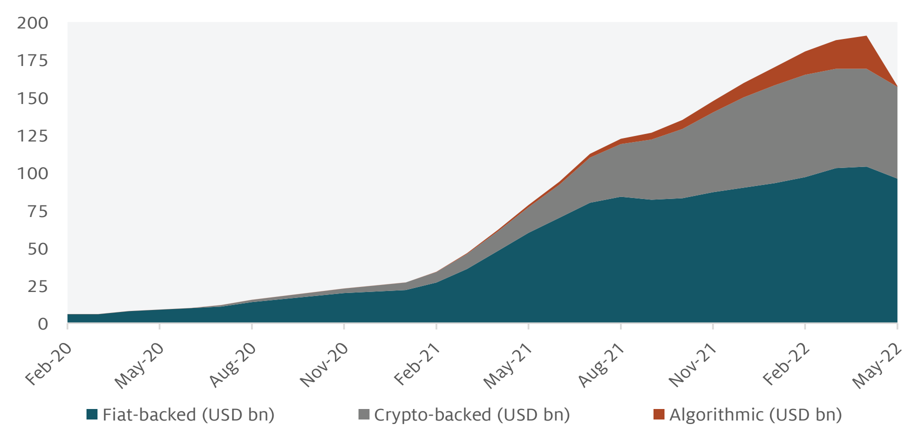
Source: Bloomberg

Algorithmic stablecoins have been prominent in the news lately as the dominant token, TerraUSD, broke the buck in early May **(Figure 2)**. This was caused by the plummeting value of its collateral token, Luna, which largely reflected the broader crypto selloff. Within days a spectacular collapse had wiped out $40 bn of market cap, representing one of the most stunning crypto crashes witnessed over the last decade.

It is not uncommon for smaller, relatively unknown crypto-assets to blow up, but TerraUSD was a top ten crypto by market cap and the fourth largest stablecoin. For a while, shockwaves from the fiasco appeared to threaten the entire crypto ecosystem. Terra's collapse knocked more than $80 bn off the broader sector's market value, as investors fled for safer havens. Markets have calmed down over the last couple weeks but the value of algorithmic stablecoins has been almost entirely wiped out **(Figure 3)**.

Figure 3: The Market Value of the Three Flavors of Stablecoins (USD bn)

Algorithmic stablecoins enjoyed strong growth in the year to April, but then imploded



Source: Bloomberg

1.See the May 25, 2022 survey from the University of Chicago https://www.igmchicago.org/surveys/stablecoins/

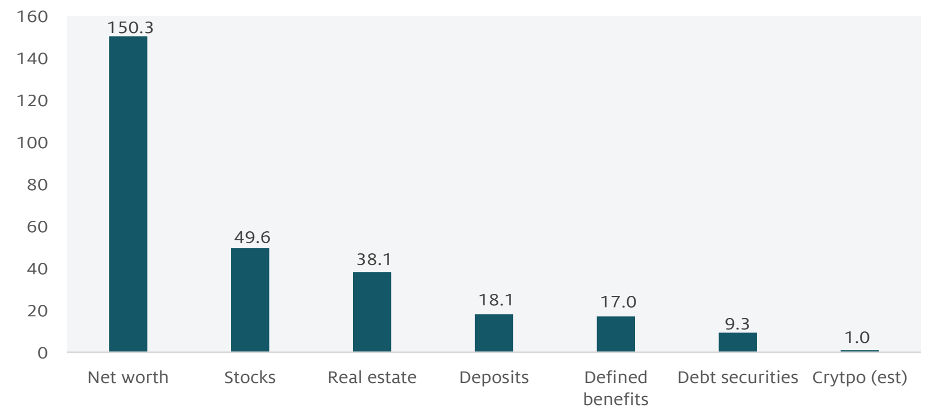
2.For an entertaining explainer please see: https://news.bloomberglaw.com/banking-law/matt-levines-money-stuff-terra-flops Or, for a more technical explanation, by Ethereum's thoughtful cofounder Vitalik Buterin: https://vitalik.eth.limo/general/2022/05/25/stable.html

Systemic Risk: How Likely is Contagion into Traditional Asset Classes?

Given how brutal a year it has been for crypto, many investors are asking about the risk of transmission into equities and other risk assets. To answer this question, we start by analyzing the net worth of U.S. households **(Figure 4)**. As of the end of 2021 the total clocked in at over $150 tn, with the biggest buckets consisting of equities ($50 tn) and real estate ($38 tn). While Fed data doesn't yet include crypto-assets, we estimate its value to be in the $0.5 tn to $1.0 tn range, meaning crypto represents less than 1% of total net worth.

Figure 4: The Net Worth of U.S. Households (USD tn)

Crypto-assets represent < 1% of total net worth, suggesting contagion is unlikely



Source: Federal Reserve Board

We estimate the net worth of US households has declined by $12 tn YTD, with over 80% of that hit being attributable to the slump in stocks. Even though the crypto universe has plummeted by over 50% YTD, we project it is responsible for less than 5% of the total decline in net wealth. The asset class has grown sixfold since early 2020 but is still not large enough to have systematic effects. In particular, crypto is far smaller, proportionately, than housing was in 2007 or tech was in 2001.

That said, some households might be in financial distress (witness the agonizing tone of many Reddit forums) and there could be a meaningful hit to retail investor confidence. Beyond anecdotes, there is little hard data to draw conclusions from, reflecting the unregulated nature of crypto. However, a recent study demonstrates the crypto eco-system is dominated by large and concentrated players. For example, Bitcoin holdings are much more concentrated than other forms of wealth, with the top 0.01% of participants holding 26% of Bitcoin wealth.[3] Most crypto wealth is held by a small number of extremely rich households, a reality that differs substantially from the idealized, decentralized model that is often painted by crypto enthusiasts.

The Smart Money? The Tidal Wave of Silicon Valley VC Cash Keeps Flowing In

A second reason to believe contagion is unlikely is that, despite its brutal performance YTD, money keeps flowing into crypto. To illustrate, last month Andreessen Horowitz, one of the premier Silicon Valley VC firms, raised a record $4.5 bn for its Crypto Fund IV. This is the largest crypto-dedicated fund so far and follows up on their Crypto Fund III, which brought in $2.2 bn last June. In fact, seven crypto funds have raised over $1 bn in the last year. This suggests Silicon Valley VC cash is continuing to flow into crypto, even after the Terra-Luna debacle, helping to prop up the sector.

Moreover, this is consistent with data from JP Morgan that tracks flows into alternative asset classes (private equity, private debt, real estate and hedge funds).[4] They show that digital assets have attracted an impressive $26 bn ytd, following $45 bn in all of 2021. The sector continues to bring in more cash than hedge funds and appears en route to cementing its status as a bona fide alternative asset class.[5]

The market cap of the crypto universe peaked in November of last year at $3.0 tn, up 12x from early 2020. Even though it has since declined to $1.3 tn, crypto-assets are certainly moving closer to mainstream status. Further, most large financial institutions are actively marketing crypto services and an NBC survey undertaken in March indicated 21% of Americans have invested or traded in the asset class. These achievements reflect the ambition and self-hype of crypto entrepreneurs. However, one unavoidable consequence of their success is greater government oversight. As Kant wrote: Whoever wills the end, also wills the means.

Toward Tech-Neutral Regulation: Same Activity, Same Risk, Same Regulation

"These events (the Terra-Luna debacle) underscore the need for clear regulatory guardrails to provide consumer and investor protection, protect financial stability, and ensure a level playing field for competition and innovation across the financial system." **— Lael Brainard, FRB Vice Chair, May 25, 2022**

3. "Blockchain Analysis of the Bitcoin Market" by I. Makarov (LSE) and A. Schoar (MIT), Apr 2022
4. JP Morgan "Alternative Investments Outlook and Strategy," May 2022
5. Critics argue this is at best premature given that crypto's value proposition remains murky and cryptocurrencies don't yet fulfil any of the three classic roles of money (medium of exchange, unit of account, store of value)

Regulation has been in the works for a while, but the Terra-Luna fiasco has definitely accelerated plans, especially regarding stablecoins. There is a renewed sense of urgency emanating from the Fed, Treasury, White House and Congress. Ultimately, bipartisan legislation is necessary, so it is encouraging that Senators Cynthia Lummis, R-Wyo. (who is one of the crypto industry's staunchest supporters in Congress) and Kirsten Gillibrand, D-N.Y. are drafting a comprehensive bill to regulate the industry. They plan to release a draft in June and are optimistic voting will take place in 2023.

Regarding stablecoins, what can we expect now that they are firmly in the regulatory crosshairs? In addition to greater disclosure and transparency, many economists are calling for full one-for-one collateralization by Treasuries or equivalents.[6] However, unambiguously eliminating the risk of breaking the buck and initiating runs requires some form of deposit insurance and lender of last resort. Unfortunately, such ambitious measures are unlikely to be included in June's legislative proposals.

We began this note by asking if the recent turmoil in crypto will remain in crypto. As long as crypto-assets are relatively small (as a % of total net wealth) and confined to their own DeFi world, they pose little systemic threat to traditional finance (TradFi). However, crypto-assets have increased sixfold since early 2020 and are increasingly being used to facilitate traditional transactions (e.g., as collateral for loans, and as assets in retirement plans). This reflects our increasingly digital economy and suggests, absent a credible regulatory framework, systemic risks will continue to rise.

Moreover, the key risks facing TradFi (e.g., money laundering, tax evasion, consumer fraud, runs and panics) also plague the crypto/DeFi world.[7] As Cecchetti et al stress, the overarching regulatory principle, restated in the G7 communiqué on May 20, is simple: "same activity, same risk, same regulation." Or, as Treasury Secretary Yellen emphasized on Apr 7: the goal is to establish "tech neutral" regulation that preserves stability while fostering innovation.

We believe a coherent regulatory framework would prove positive for the broader crypto ecosystem. It would especially benefit the largest incumbents, which is somewhat troubling as the top five players already account for 76% of market cap (with Bitcoin alone representing 44% and Ethereum another 17%). Finally, despite the siren call of crypto, blockchains, and the broader DeFi ecosystem, the space will remain challenging for investors. As Bloomberg's Jonathan Levin recently cautioned, the Amazon of crypto is out there, but so are hundreds of Pets.com.

6. See "Taming Wildcat Stablecoins" by G. Gorton (Yale) and J. Zhang (FRB), 2021
7. "TradFi and DeFI: Same Problems, Different Solutions" by S. Cecchetti et al, May 2022