Stablecoin stability and regulation

Ken Katayama

12 September 2022

Iakyara vol.361

Nomura Research Institute, Ltd.

Executive Summary

The TerraUSD crash in May reaffirmed the limitations of stablecoins dependent on arbitrage to maintain a stable value. Countries around the world are now moving to regulate stablecoins through various approaches reflecting differences in their respective interest rate environments and stablecoin adoption rates. Against such a backdrop, regulators may turn their attention to stablecoin ownership through currently unregulated self-custody wallets.

Ken Katayama

Senior Chief Researcher

Financial Market &
Digital Business Research
Department

TerraUSD debacle

In early May 2022, the stablecoin TerraUSD[1)] (UST) suddenly crashed, losing its peg to the US dollar.

I define "stablecoin," a term without a clear consensus definition, as a store of value and/or medium of exchange that aims to maintain parity with a fiat currency and is used on a permissionless blockchain[2)]. I classify stablecoins as fiat-backed, crypto-backed or algorithmic based on the mechanism by which they seek to maintain a stable value. Fiat-backed stablecoins are backed by safe financial assets such as bank deposits or government bonds and guaranteed by their issuer to be redeemable on demand. Crypto-backed stablecoins aim to maintain a stable value through overcollateralization with cryptoassets in accord with an issuance protocol. Algorithmic stablecoins rely on arbitrage against other cryptoassets to maintain a stable value[3)].

UST was an algorithmic stablecoin. Specifically, it was structured to maintain a stable value through arbitrage against LUNA[4)], a second cryptoasset governed by the Terra issuance protocol[5)]. The Terra ecosystem attracted capital inflows by developing various UST-based services, including the Anchor lending/borrowing protocol, which offered a 20% APR to lenders. However, whales drove down UST's value by liquidating their holdings[6)]. In response, arbitrageurs exchanged UST for LUNA, leading to massive LUNA issuance. In other words, the mechanism that was intended to maintain a stable exchange value between UST and LUNA ended up triggering a hyperinflationary death spiral.

NOTE

1) TerraUSD was rebranded "TerraClassicUSD" (USTC) but remains essentially worthless.

2) Some banks and other financial institutions use stablecoins in internal-account transactions on private blockchains, according to a Federal Reserve Board discussion paper. The quintessential example is JPM Coin, an instrument by which J.P.Morgan manages bank deposits. We omitted such stablecoins from our discussion because they are not targeted for additional regulation in any jurisdiction.

3) Such arbitrage generally involves a protocol that automatically burns one coin and issues another.

4) Now rebranded "Terra Classic" (LUNC).

5) Additionally, the Terra Foundation Guard claimed to have pledged other assets as extra collateral but these assets' whereabouts are currently unknown after they were converted to cryptoassets (Bitcoin) during TerraUSD's collapse.

6) Nansen (2022), On-Chain Forensics: Demystifying TerraUSD De-peg

Other stablecoins' stability

What about other stablecoins' stabilization mechanisms? The price of Dai (DAI), one of the most popular crypto-backed stablecoins, traded within ±0.4% of its $1.00 peg amid UST's implosion. During May as a whole, however, DAI's average trading price was within about 0.1% of its peg. Tether (USDT), the top fiat-backed stablecoin by market cap, traded at a hefty 3% discount to its peg in the wake of the UST crash. Meanwhile, USD Coin (USDC), a paragon of regulatory compliance among fiat-backed stablecoins, briefly traded at a 0.7% premium to its peg before settling back into a ±0.1% band around its peg. USDC users apparently have a high degree of confidence in the custodianship of USDC's collateral.

However, merely promoting fiat-backed stablecoin use and a high level of legal/regulatory compliance among issuers may not be enough to protect consumers. A July 2020 ECB report[7], for example, expressed concerns about management of stablecoins' collateral as follows: "Like [in the case of] money market funds… adequate management of reserve assets underpins users' confidence in stablecoins. A loss of confidence could trigger large-scale redemption requests… leading to the liquidation of reserve assets with negative contagion effects on the financial system."

7) Mitsu Adachi et al. (2022), Stablecoins' role in crypto and beyond: functions, risks and policy, *ECB Macroprudential Bulletin*

Regulatory approaches

Countries around the world are building stablecoin regulatory regimes that revolve mainly around stabilization mechanisms and AML/CFT compliance. Specific approaches vary among countries. Japan was an early mover in the space, regulating stablecoins ahead of the eurozone and US with a 2016 amendment of its Payment Services Act. Japan initially regulated stablecoins as "currency assets," not cryptoassets, until stablecoins were redefined as "electronic payment instruments" earlier this year by another amendment to the Payment Services Act. This latest amendment has enabled issuers and intermediaries to be regulated separately in light of actual practices in stablecoin ecosystems[8]. While stablecoins are assumed to be backed by financial assets[9], particularly bank deposits, issuers cannot reasonably expect to earn an appreciable return on such collateral with domestic interest rates as low as they are today across their entire term structure. Intermediaries are permitted to provide value transfer services. Doing so at commercial scale, however, entails more than a few challenges, including of course compliance with AML/CFT requirements[10].

8) The amended law is technology-neutral, allowing stablecoin issuers and intermediaries to be separate from each other regardless of whether their ecosystem is blockchain-based or uses centralized conventional databases.

9) Whereas US fiat-backed stablecoins are typically backed by US Treasuries among other safe financial assets, regulatory discussions in Japan mainly assume stablecoins will be backed with bank deposits, presumably because (1) instruments backed by, e.g., JGBs could be classified as securities like money market funds and (2) further discussions are needed before instruments not backed by bank deposits can be used as a medium of exchange.

10) At the urging of the Financial Stability Board, countries are requiring cryptoasset exchanges to comply with the so-called travel rule, including by retaining and reporting information on value transferors and transferees.

The EU's regulatory approach is to lump stablecoins together with other cryptoassets under its yet-to-be-finalized Markets in Crypto-Assets (MiCA) directive unveiled in 2020. In late June 2022, the EU Council presidency and European Parliament finally reached a provisional agreement on MiCA. Under MiCA, cryptoassets that seek to maintain a stable value by referencing a single fiat currency are defined as "electronic money tokens." In contrast, cryptoassets that reference a basket of fiat currencies, one or more commodities and/or one or more other cryptoassets are defined as "asset-referenced tokens" (ARTs). MiCA has separate sections devoted to ARTs and electronic money tokens, neither of which would be able to be issued or circulated within the EU without prior regulatory approval. Other matters addressed in detail by MiCA includes issuers' obligations, collateralization and a prohibition against interest-bearing tokens. The process of effectuating new regulations in the EU normally involves publication of regulatory technical standards in addition to finalization of the regulations' text. Cryptoasset issuers and service providers consequently still do not have complete clarity on MiCA's details.

The US has yet to adopt regulations pertaining solely to stablecoins. Stablecoins have so far been issued and used in the US pursuant to federal AML/CFT laws and state laws governing stablecoin issuance and circulation. In response to the stablecoin market's recent explosive growth, the President's Working Group on Financial Markets issued a November 2021 report recommending legislation requiring stablecoin issuers to be insured depository institutions.

Under a bipartisan bill[11] introduced in the U.S. Senate in June 2022, the month after TerraUSD imploded, digital assets, defined as natively electronic assets that are recorded using distributed ledger or similar technology, would be classified in three categories: (i) virtual currencies, (ii) payment stablecoins or (iii) other securities and commodities. Additionally, the bill assumes that only depository institutions would be permitted to issue or redeem payment stablecoins and conduct activities incidental thereto. The Office of the Comptroller of the Currency, which has supervisory authority over federally chartered banks, would be charged with deciding whether to grant depository-institution status to trust companies already active as stablecoin issuers and state-licensed stablecoin issuers/service providers in the aim of ensuring adequate market competition. The bill appears to endorse the view that entities that perform bank-like functions such as providing payment instruments should be regulated like banks. Lastly, virtual currencies include digital assets intended to trade at a stable value (relative to a fiat currency),

11) *Lummis-Gillibrand Responsible Financial Innovation Act*

like the aforementioned crypto-backed and algorithmic stablecoins. How US regulators decide to treat such virtual currencies bears watching going forward.

Potential regulation of self-custody wallet usage

Ongoing regulatory discussions in Japan, the US and Europe seek to impose a bank-like consumer protection mandate on stablecoin issuers and to require intermediaries to comply with AML/CFT regulations. However, some transactions would slip to the cracks of such regulations.

Stablecoin owners are not prohibited from using a self-custody wallet to bypass intermediaries, control their private keys and trade stablecoins on their own responsibility. Regulators are just starting to discuss self-custody wallets. Nowadays, NFT transactions are mostly settled in cryptoassets or USD-denominated stablecoins. Despite the mantra of self-responsibility, if self-custody wallets continue to account for the lion's share of NFT transactions, authorities may decide to somehow regulate them to protect third parties.

about NRI

Founded in 1965, Nomura Research Institute (NRI) is a leading global provider of system solutions and consulting services with annual sales above $5.0 billion. NRI offers clients holistic support of all aspects of operations from back- to front-office, with NRI's research expertise and innovative solutions as well as understanding of operational challenges faced by financial services firms. The clients include broker-dealers, asset managers, banks and insurance providers. NRI has its offices globally including New York, London, Tokyo, Hong Kong and Singapore, and over 13,000 employees.

For more information, visit https://www.nri.com/en

Inquiries to : Financial Market & Digital Business Research Department
Nomura Research Institute, Ltd.
Otemachi Financial City Grand Cube,
1-9-2 Otemachi, Chiyoda-ku, Tokyo 100-0004, Japan
E-mail : kyara@nri.co.jp

https://www.nri.com/en/knowledge/publication/fis/lakyara/