



## Stablecoin State of Play & The Rise of Protocol Owned Stablecoins

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### SUMMARY

- Stablecoins are digital assets that aim to address price volatility by pegging their value to a target price to achieve price stability.
- Tether (USDT) is the largest stablecoin with a market capitalization of over \$65 billion, accounting for more than 40% of the stablecoin market share.
- Crypto-collateralized stablecoins that are not connected to off-chain entities continue to emerge with various mechanism designs, including those that are pure algorithmic stablecoins and hybrid algorithmic/crypto-collateralized stablecoins.
- Non-stablecoin protocols have started to experiment with protocol-owned stablecoins to enable vertical integration without relying on external composability, which might introduce operational risks.
- As the regulatory environment develops, stablecoin innovations need to balance mechanism design and regulatory compliance.

### THE IMPORTANCE OF STABLECOINS

A "stablecoin" is a digital asset whose target value is pegged to another asset (e.g., fiat currencies such as the US Dollar or Euro) in order to stabilize its price. As of 5 August 2022, stablecoins have a total market capitalization of more than \$150 billion, with a daily trading volume of approximately \$50 billion.

Stablecoins show promise for innovative applications. They could, for instance, assist businesses and individuals who need to make international payments quickly and securely, such as migrant workers sending money home to their families or large corporations looking for a less expensive way to pay foreign suppliers. Stablecoins also have practical applications in the increasingly global financial services sector.

Digital assets allow anyone to efficiently send payments or transfer value without the involvement of an intermediary entity. However, digital asset prices fluctuate frequently, which makes it difficult to transact while maintaining price stability. Stablecoins attempt to address this volatility by tying their values to a target price.

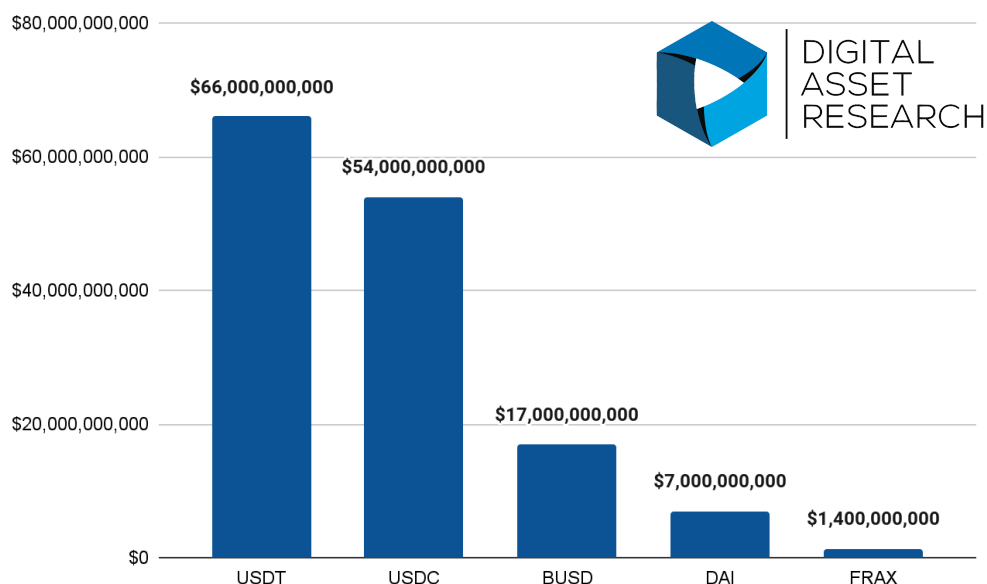
While stablecoins were initially used as the main trading pairs for digital asset market participants because they enabled transactions without full conversion back to fiat currencies, the rise of Decentralized Finance (DeFi) in the past two years has created a new market and utility for stablecoins. The popularity of stablecoins in the DeFi market increased innovation as developers introduced various mechanism designs to develop better stablecoins.

This report highlights the developments related to stablecoins and protocol owned stablecoins, including their mechanisms and associated risks. Our report is compiled from Digital Asset Research's (DAR's) data sources, public sources, media reports, and press releases, and, while wide-ranging, covers only representative developments related to stablecoins in the digital asset space.

## STABLECOIN POPULARITY AND CHALLENGES

Stablecoins have over \$150 billion in market capitalization as of 5 August 2022, which is less than 10 percent of the total crypto market capitalization. Despite representing a relatively small portion of the entire digital asset market, major stablecoins play a significant role within the broader crypto ecosystem because they are utilized in popular trading pairs on centralized exchanges and as the go-to fiat denominated currency in the DeFi market. This is especially true for the most dominant stablecoins; major stablecoins like USDT, USD Coin (USDC), and Binance USD (BUSD) account for approximately 90% of the overall stablecoin market.

**Figure A – Market Capitalization of Leading Stablecoins as of 5 August 2022**



Source: Digital Asset Research's Market Data – rounded down to the nearest billion.

Despite their widespread use, stablecoins still have their own issues. For fiat-collateralized stablecoins, the most well-known example is the controversy surrounding Tether’s alleged lack of reserve transparency, which has led to legal and financial wrangling throughout short history. In a case brought by the New York State Attorney General that alleged false statements about its reserves, [Tether was involved in a \\$18.5 million settlement](#), despite [Tether saying](#) that its tokens are pegged at 1:1 with a matching fiat currency and are backed 100% by its reserves. [Concerns](#) about USDT's continued peg to the US Dollar were also voiced this year by US Treasury Secretary Janet Yellen.

Meanwhile, algorithmic stablecoins are known for de-pegging issues, which occur when the stablecoin deviates from its target value. The most extraordinary de-pegging event occurred in May 2022, when the TerraUSD (UST) algorithmic stablecoin, detached from its \$1 parity, entered a death spiral, and plummeted in value by more than 99%. The failure of UST rendered the entire token ecosystem on the Terra blockchain nearly worthless UST's market capitalization went from a peak of \$3.5 billion just prior to its de-pegging event to slightly above \$11 million, a mere 0.3% of its peak, as of 5 August 2022.

**Figure B – UST Depeg from \$1 to \$0.00601921**

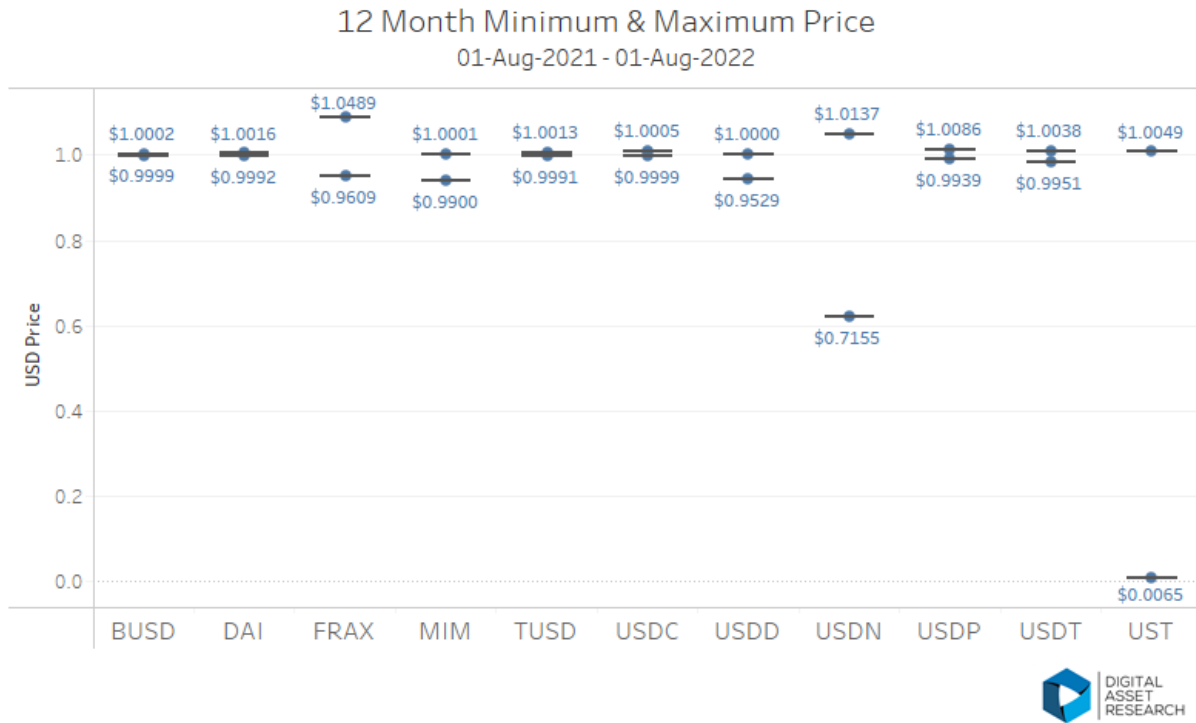


Source: Digital Asset Research’s Market Data

Other algorithmic stablecoins have also experienced de-pegging issues. On 18 June 2022, USDD fell to \$0.948 despite the efforts to keep the token over-collateralized. On the same day, Magic Internet Money (MIM) also dropped to a low of \$0.914 due to liquidity issues. Currently, USDD has stabilized at \$1, while MIM is still trading slightly below \$1 parity. Since

the collapse of the UST in May 2022, USDT has also frequently de-pegged from its \$1 parity, albeit minimally.

**Figure C – Depeg Phenomenon of Stablecoins**

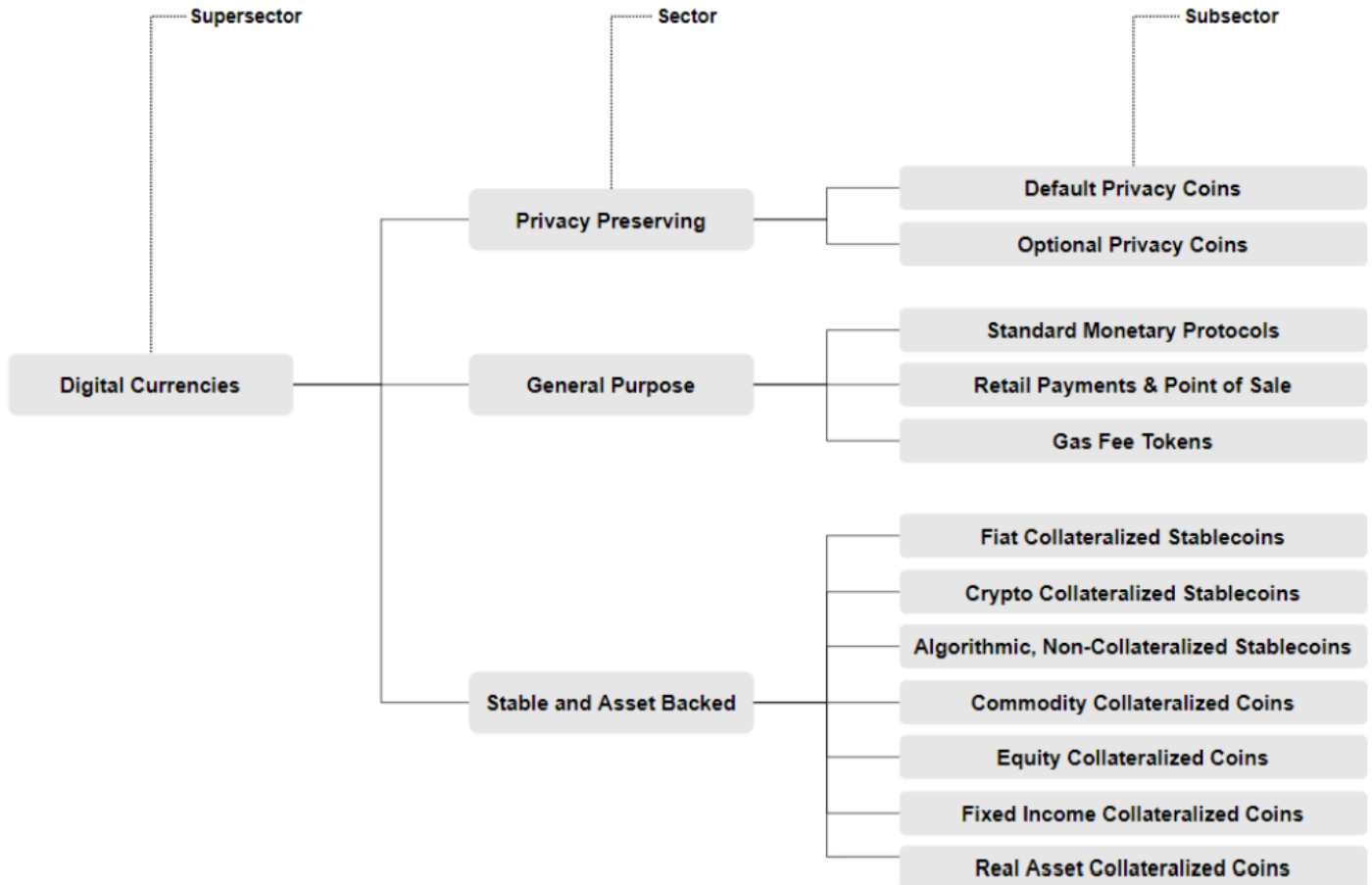


Source: Digital Asset Research's Market Data

The chart above shows the maximum and minimum price of various stablecoins over the past year and indicates that the largest stablecoins by market capitalization – USDT, USDC, and BUSD – maintained a relatively stable price above \$0.99.

# MAJOR STABLECOINS TYPES

There are multiple types of stablecoins that have developed different mechanism designs as the industry matures. The [DAR Industry Taxonomy](#) categorizes stablecoins into the following three subsectors:



Source: Digital Asset Research's Taxonomy Classification

## Fiat Collateralized Stablecoins

Fiat collateralized stablecoins are backed by a pool of financial instruments that are deemed stable and liquid such as cash, short-term deposits, and commercial paper. These financial assets will be kept in bank accounts or other centralized custodians to ensure that the reserves value will be as close as possible to 1:1 with the stablecoin supply in circulation. In order to issue a particular number of tokens of a certain cryptocurrency, the issuer must provide collateral in the form of dollar reserves of the same amount. The leading players in this category are as follows:

- USDT  
[Tether \(USDT\)](#) is a USD-pegged stablecoin that was first introduced in October 2014 under the name of Realcoin. With a market capitalization of more than \$65 billion, USDT is the most popular stablecoin in circulation, constituting approximately 43 percent of the total stablecoin market capitalization. Users can interact with USDT on

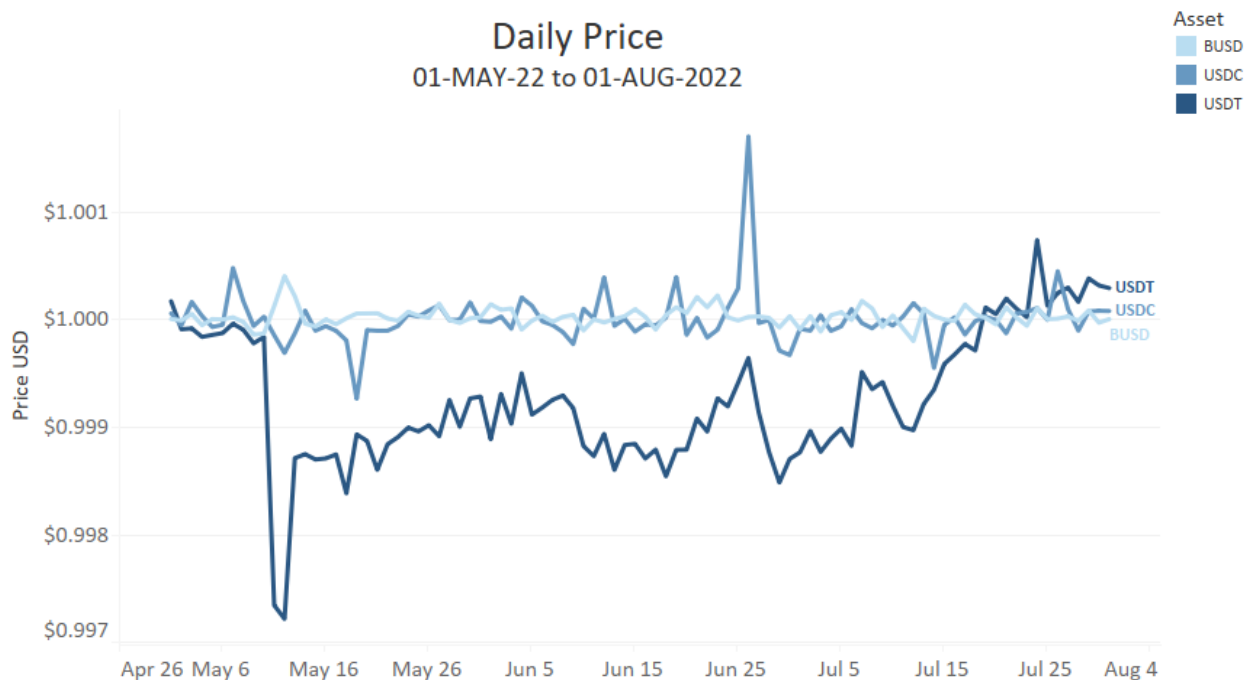
numerous blockchain platforms such as Ethereum, TRON, Algorand, Solana, Avalanche and Polygon.

- USDC

[USD Coin \(USDC\)](#) is a USD-pegged stablecoin that was introduced in 2018 by Centre, a consortium founded by [Circle](#) and [Coinbase](#). Due to the fact that USDC is fully backed by cash and U.S. Treasuries, a financial institution can hold it without fear of fluctuation. USDC reserves are kept in the custody of leading U.S. financial institutions, including BlackRock and Bank of New York Mellon. Its market capitalization is currently more than \$50 billion. Multiple blockchain platforms, including Ethereum, Solana, Avalanche, TRON, Algorand, Stellar, Flow, and Hedera, support USDC integration.

- BUSD

[Binance USD \(BUSD\)](#) is a stablecoin pegged to the U.S. dollar that is issued by the cryptocurrency exchange [Binance](#) and the blockchain company [Paxos Trust](#). Similar to rival stablecoins USDT and USDC, the BUSD stablecoin seeks to maintain a price of one U.S. dollar at all times by backing itself with fiat reserves. Its current market capitalization is more than \$15 billion and it is supported on the Ethereum and BNB blockchains.



Source: Digital Asset Research's Market Data

### Crypto Collateralized Stablecoins

Crypto-collateralized stablecoins hold their collateral in the form of digital assets. These stablecoins are often overcollateralized and stored in a multi-signature smart contract that typically can clawback assets in the event of volatility in the collateralized asset; overcollateralization and clawback mechanics help ensure price stability during extreme market moves. The leading players in this category are as follows:

- DAI

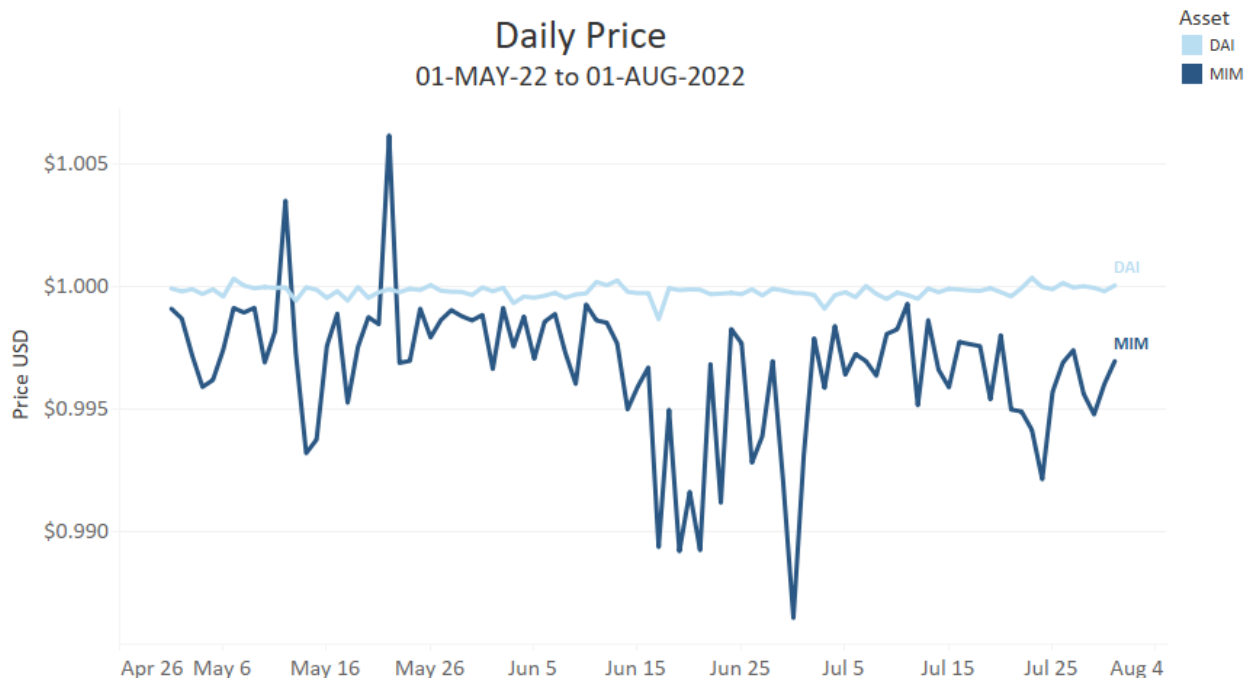
[DAI](#) is a decentralized, USD-pegged stablecoin that was developed by [MakerDAO](#), a decentralized autonomous organization (DAO) run by contributors around the world who own MakerDAO's cryptocurrency, Maker (MKR). MKR owners have the right to vote on decisions related to the future development of MakerDAO's smart contracts and DAI.

Unlike USDT and the majority of other major stablecoins, DAI is decentralized, which means that there is no centralized entity that controls the supply of new DAI in circulation. The purpose of DAI was to make available a decentralized stablecoin that is not volatile, but which could also enable market participants to take out loans by providing digital assets as collateral and minting DAI. Currently, users can mint DAI by providing Ethereum-based (ERC-20) digital assets as collateral. DAI has the largest market capitalization of any Crypto Collateralized stablecoin, with a market capitalization of approximately \$7 billion.

- MIM

[Magic Internet Money \(MIM\)](#) is a decentralized, USD-pegged stablecoin that was introduced by [Abracadabra Money](#). Abracadabra Money is a lending platform that uses interest-bearing tokens (ibTKNs), such as yvWETH, yvUSDC, and xSUSHI, as collateral to borrow MIM. There are two main tokens in the Abracadabra Money ecosystem: SPELL, which serves as the governance token to vote on proposals, and MIM, which is the core stablecoin of the Abracadabra Money protocol.

Abracadabra Money's main innovation was bringing interest-bearing tokens into use, enabling users to rehypothecate their digital assets and utilize leverage. Prior to MIM, interest-bearing tokens were generally left idle or discarded. Abracadabra Money's lending engine allows for leveraged yield farming while also allowing users to mint MIM using staked crypto assets that are frequently illiquid on other DeFi platforms.



Source: Digital Asset Research's Market Data

## Non-Collateralized Stablecoins (Algorithmic or Hybrid):

Algorithmic, non-collateralized stablecoins do not employ a full reserve model to guarantee price stability, but instead rely on an algorithmic system. This ranges from a purely algorithmic non-collateralized design to a partially collateralized algorithmic design. Unlike Fiat or Crypto Collateralized stablecoins, this type of stablecoin typically accomplishes price stability by lowering the number of coins in circulation when the market price falls and raising the number of coins when the market price rises. There are also other novel algorithmic approaches that stablecoin protocols implement to maintain price stability. The leading players in this category are as follows:

- FRAX

[FRAX](#) is a partially-collateralized algorithmic stablecoin protocol. The [FRAX ecosystem](#) includes two tokens: the Frax (FRAX) token that serves as the native stablecoin for the protocol and Frax Shares (FXS) that serves as the governance token. Combining the principles of Uniswap and AMMs, Frax creates an innovative hybrid stablecoin concept. In a Uniswap liquidity pool (LP), the ratio of assets must be proportional due to the constant product function. FRAX transforms this concept into an original stablecoin design and is used as an LP token to stabilize its mintable-to-redeemable ratio at \$1.

A FRAX liquidity pool contains collateral and FXS as its underlying assets and the stablecoin's price fluctuates based on the collateral's ratio. When the price of FRAX falls, the protocol shifts the ratio towards collateral and away from the FXS token in order to restore confidence in the stablecoin. Those who add collateral into the pool at the discounted FXS ratio that the protocol mints during the "recollateralization swap" period have an arbitrage opportunity. This mechanism in turn recollateralizes the protocol to the desired target collateral ratio.

- USDD

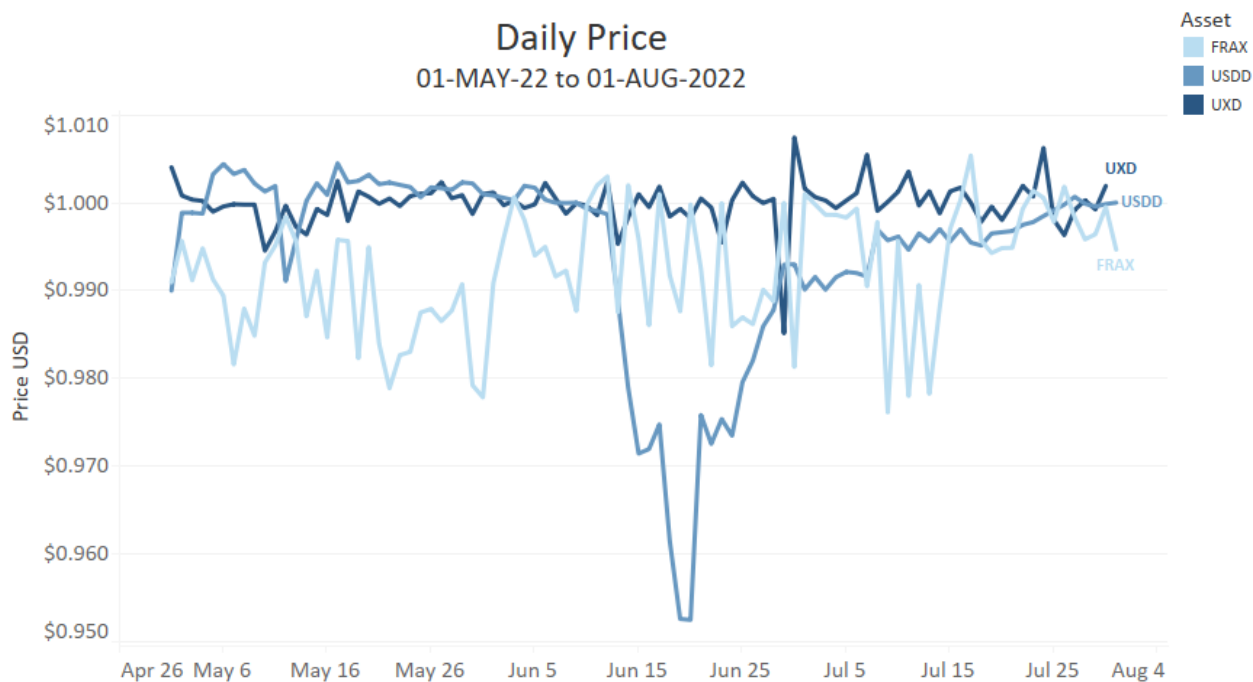
[USDD](#) is the native stablecoin token from [TRON](#)'s protocol. Aiming to be the main settlement currency in crypto, USDD initially debuted as a decentralized algorithmic stablecoin, but is now transitioning into a hybrid model with enhanced transparency and a collateral component. With its hybrid model, USDD aims to ensure its stability and security by over-collateralizing its reserves with a minimum guaranteed collateral ratio of 130%, which is even higher than the 120% ratio set by DAI. TRON DAO Reserve is responsible for maintaining this collateral, as well as for providing custody for the reserve assets, maintaining the stability of USDD's exchange rate, and enforcing convertibility during a redemption process. All USDD collateral reserves are stored in public on-chain wallets and listed on the TRON DAO Reserve's website for full transparency.

- UXD

[UXD](#) is a decentralized algorithmic stablecoin developed by the UXD protocol. UXD is a collateralized, algorithmic USD-pegged stablecoin that uses a delta-neutral derivative position to maintain its value. UXD claims that it is 100% backed (fully collateralized) by a delta-neutral position, allowing users to always redeem 1 UXD for 1 USD worth of



assets. It has two native tokens: UXD, which serves as the native stablecoin of the protocol, and UXP Token, which serves as the UXD DAO's governance token.



Source: Digital Asset Research's Market Data

## THE RISE OF PROTOCOL OWNED STABLECOIN

As the digital asset market matures, protocols and market participants are increasingly aware of the power that stablecoins hold. Top stablecoins issuers such as Tether and Circle have a large sway in shaping the future of the crypto ecosystem, especially as USDT and USDC become more integrated within the DeFi market. In general, having control over a token whose value is stable and ensures its users that the peg will maintain, is extremely powerful.

For protocols and decentralized applications, benefits related to vertical integration include:

- Composability without relying on third parties.
- New product offerings/additional revenue sources.
- More efficient implementation of stablecoin-related strategy.

Protocols and dApps recognize that enormous value can be unlocked by having their own stablecoins. Major players are currently developing their own stablecoins and some have already launched, including:

- AAVE  
Aave, a major lending protocol on Ethereum (and other L2 chains), passed a [proposal](#) to launch its own stablecoin called GHO. GHO will be overcollateralized

and backed by crypto assets. Aave protocol users will be able to deposit collateral and mint GHO. This is an example of vertical integration for the protocol as it provides Aave borrowers and lenders with more functionality options.

- **CRV**  
Curve, the largest decentralized exchange for stableswaps, [confirmed](#) that it is introducing its own stablecoin. While details are limited, Curve founder Michael Egorov said that the stablecoin will be overcollateralized. Market participants are speculating that the mechanism will allow Curve liquidity provider (LP) positions as collateral to mint the stablecoin.
- **NEAR**  
Near, a layer 1 blockchain with smart contract functionality, [launched](#) its own stablecoin, USN. USN is an algorithmic overcollateralized stablecoin whose value is tied to crypto asset collateral, including NEAR and USDT.
- **SNX**  
Synthetix, a decentralized derivatives platform on Ethereum (and other L2 chains) that provides exposure to synthetic assets, has its own stablecoin called [sUSD](#). Users can deposit SNX to mint sUSD, and then can use sUSD to trade synthetic assets and earn additional incentives.

Protocols are seeing the benefits of having multiple product line offerings under the same platform, similar to how a bank benefits from offering services ranging from a simple savings account to complex structured products for institutional investors. At the same time, it is not easy to replicate the network effects and the level of trust that the large stablecoin players such as USDT and USDC have been able to achieve. That said, many protocols and dApps seem to have decided that the benefits of having their own stablecoin outweigh the challenge.

## CONCLUSION

The rise of stablecoins is advantageous for the digital asset market because they increase market functionality and adoption. The benefits associated with controlling a stablecoin encourages the creation of protocol-owned stablecoins amongst major blockchain protocols and decentralized applications (dApps) because they allow for vertical integration whereby protocols and dApps can enhance their offerings in an efficient manner without relying on external composability and potentially introducing operational risks. At the same time, achieving the necessary network effects to become the dominant stablecoin player is extremely challenging in an increasingly stringent regulatory environment. As the digital asset market matures, the industry will need to balance the risks associated with new innovative stablecoin designs and regulatory compliance.

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