Bitcoin Suisse | Decrypt

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Stablecoins – Navigating Crypto Volatility

Cryptocurrencies are often deemed “too volatile” for certain business use cases. However, an increasingly large subgroup called stablecoins might come to the rescue. Where are stablecoins set to have an impact? And how “stable” are they really?

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On September 11, the Swiss Financial Market Supervisory Authority (FINMA) published a supplement to its ICO guidelines concerning stablecoins.[1] Their assessment of stablecoins and the regulations which apply to them comes after an inquiry by the Libra Association, seeking guidance on how their proposed Libra currency would be classified. FINMA is not the first regulatory body to take a closer look at stablecoins – the European Central Bank released a 55-page report on stablecoins in August,[2] evaluating stablecoin types as well as their role and implications in the crypto markets. The fact that this particular class of tokens has drawn such attention from international regulatory bodies recently shows that there is significant interest in them. What are stablecoins – and why were they created?

The goal of stablecoins is to maintain a peg to a government-issued currency. The majority are collateralized off-chain with the respective fiat currencies. Stablecoins allow cryptocurrency traders to escape the volatility of crypto markets. Since they are issued on a blockchain (e.g. on Ethereum or on Bitcoin’s Omni layer), they are easily and quickly transferable between cryptocurrency exchanges. This enables, for example, a more efficient arbitrage of the markets. Additionally, their on-chain nature is crucial for decentralized finance – smart contract-based lending platforms such as MakerDAO or Compound use stablecoins for handing out decentralized loans.

For the tokenization of traditional assets such as shares or real estate that are quoted in local currencies, an on-chain counterpart of the local currency is needed. Most shareholders will, for example, want their dividends paid in government-issued currency. Trading will occur against the local unit of account. As such, stablecoins will allow for a smoother integration with traditional financial infrastructure.

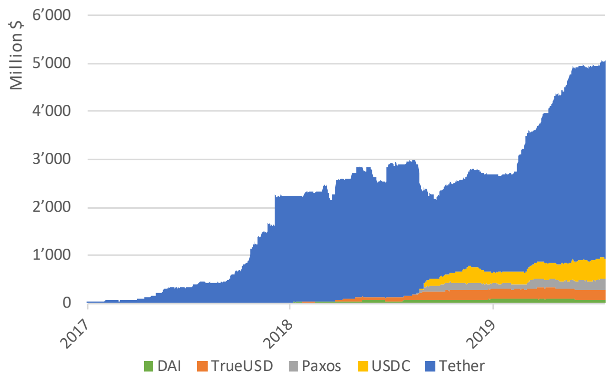
> *“We must improve the linkage between these worlds by giving fiat currency the same desirable technological qualities of cryptocurrencies.”*
> *– Cameron Winklevoss*

By far the largest stablecoin is Tether (USDT), sitting at a market capitalization above $4bn. Other notable players in the USD stablecoin market are USD Coin (USDC,

1. https://finma.ch/en/news/2019/09/20190911-mm-stable-coins/
2. https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op230~d57946be3b.en.pdf

$430M), Paxos (PAX, $240M), TrueUSD (TUSD, $200M), and DAI ($80M). In addition to its USD product, Tether has issued tokens pegged to EUR (EURT, €50M) and CNY (CNHT, ¥20M). The Swiss Franc can be used in tokenized form on the Ethereum blockchain through the CryptoFranc (XCHF, CHF 12M), which was employed in a real estate transaction in Zug.[3]

Illustration 1: The total market capitalization of major stablecoins has grown from $10M at the beginning of 2017 to >5$ billion today.



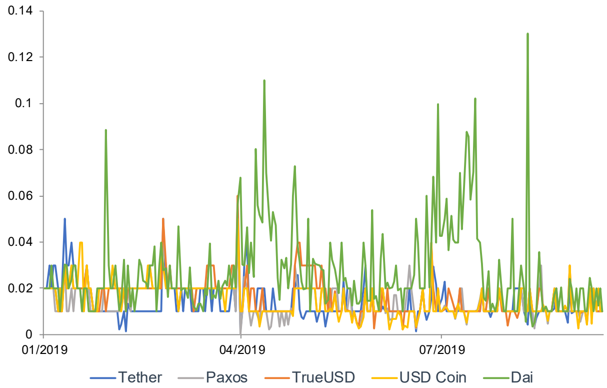
Source: coinmarketcap.com, Bitcoin Suisse Research.

The stablecoin market can be expected to grow much larger in the years to come. Innovations on the horizon involve, for example, Facebook's Libra – a currency which is planned to be backed by a basket of currencies and assets such as government bonds.[4] Binance has recently launched a venture into stablecoins with their "Venus" project, aiming to create stablecoins pegged to local currencies across the globe on their own blockchain.[5] And last, but not least, the People's Bank of China has announced that their Central Bank Digital Currency can now finally "said to be ready" after five years of development.[6] As such, it is likely that we will see the major shifts in the stablecoin market during the next few years.

Not All Stablecoins Are Made Equal

There are several metrics for measuring how stable stablecoins are. The first metric is called Daily Deviation. To calculate each coin's daily deviation from the $1.00 peg, we took the maximum of two numbers: daily high minus $1.00 and $1.00 minus the daily low. Looking at 2019, there are clear winners and losers.

Illustration 2: Intraday daily price deviations in 2019 have been fairly minor, with DAI being the least stable and Tether and Paxos being the most stable coins.



	2019 Average Deviation	2019 Max Deviation
Tether	0.014	0.05
Paxos	0.014	0.05
TrueUSD	0.016	0.06
USD Coin	0.015	0.05
DAI	0.028	0.13

Source: coinmarketcap.com, Incrementum AG.

A second metric for measuring the stability of stablecoins is classical volatility using standard deviation. When using historical data to measure volatility, the robustness of the results depends on the number of observations. **The more the better**. We calculated the average of the squared differences from the mean of daily price changes over the entire dataset available for each coin, beginning in 2015 with Tether. Then we took the square root of that figure and expressed the deviations on an annualized basis (Illustration 3).

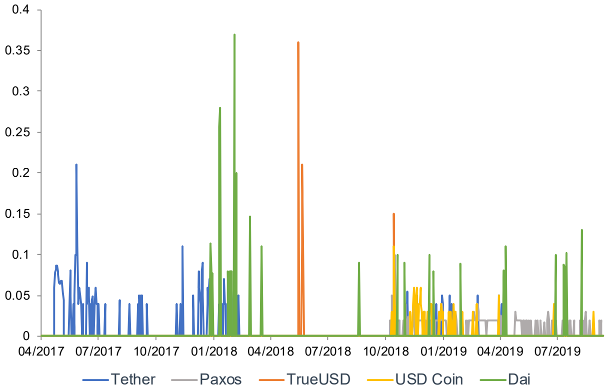
The first two standard deviations should capture 95.4 % of all data points. Plotting the days when the variation of each stablecoin's price fell within the last 4.2 % of the observations, one can easily see the worst days for each coin. For example, TrueUSD had a 36-cent variation between high and low on May 15, 2018. This occurred two hours after being listed on the Binance cryptocurrency exchange. Many traders poured into the stablecoin, causing the coin to briefly trade at a premium to the dollar.

However, most stablecoin holders do not mind when the peg breaks to the upside. The problem is when the peg breaks to the downside, which is often the case with the largest stablecoin, Tether. In addition to Tether, DAI has been one of the most volatile stablecoins.

3. https://www.s-ge.com/en/article/news/20191-finance-blockchain-property
4. https://libra.org/en-US/white-paper/
5. https://www.binance.com/en/support/articles/360032604131
6. https://www.theblockcrypto.com/linked/35493/chinas-central-bank-digital-currency-is-ready-after-5-years-of-development

The governors of DAI have responded by changing the stability fee several times this year already.

Illustration 3: The most volatile stablecoin is DAI, whereas Paxos and USD Coin show the lowest volatility over the last three years.



	Standard Deviation
Tether	8.51 %
Paxos	3.19 %
TrueUSD	7.39 %
USD Coin	3.97 %
DAI	10.24 %

Source: coinmarketcap.com, Incrementum AG.

As we mentioned in the last episode of Bitcoin Suisse Decrypt, information asymmetry provides trading opportunities for investors. Each stablecoin's price can be seen as a proxy for the perceived risk of that stablecoin breaking the peg to the dollar. Market participants with knowledge regarding the amount of reserves that each company holds to back the number of coins in circulation can short or long stablecoins. In the early 1990s, George Soros was able to short the British pound and make a billion dollars in one day, because he realized the printing presses were running faster in England than they were in Germany. A blockchain-based Soros strategy could spell the doom for a stablecoin if the reserves that back the stablecoin become too low.

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