

# STABLECOINS, DIGITAL CURRENCY, AND THE FUTURE OF MONEY

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What first started as a niche phenomenon within the cryptocurrency community has now reached the realms of multinational conglomerates, policymakers and central banks. From JP Morgan's Jamie Dimon to Facebook's Mark Zuckerberg, stablecoins have made their way into the agenda of today's top CEOs. As projects like Libra have enjoyed broad media coverage, they are also increasingly being scrutinised by regulatory authorities. And, as the term stablecoin spreads, its meaning has started to blur.

This article aims to educate readers on stablecoins by providing the historical context behind their origin and describes which key factors have driven their adoption. Moreover, we propose a novel definition for stablecoins. We then briefly discuss the different use cases for stablecoins, plus the underlying economic incentives for creating them.

## The history of stablecoins

It is impossible to have a well-rounded discussion about stablecoins without examining their origins. Although numerous stablecoin projects exist today, there is one stablecoin that stands out in its significance – Tether. As one of the first and to this day, most widely used stablecoins, Tether has played a significant, albeit controversial role, in the development of stablecoins.

As of July 2020, there are more than ten billion Tether tokens in circulation. Each token is meant to be worth USD 1.00. The issuing company, Tether Limited, claims that Tether tokens are 100% backed by liquid reserves. However, numerous parties raised allegations that there

is a shortfall in these reserves. These allegations have been fuelled by severe deficiencies in the auditing process. Nonetheless, Tether is still by far the most actively traded stablecoin.

One of the key drivers for Tether's growth was its listing on and distribution through cryptocurrency exchanges. This support allowed Tether tokens to spread across the cryptocurrency trading ecosystem quickly. Tether could circumvent traditional wire transfers by providing an alternative settlement mechanism. Although token users were unable to withdraw their US dollars, Tether allowed them to transfer their US dollar-pegged tokens between exchanges without being exposed to the price volatility of cryptocurrencies. Moreover, stablecoins posed an opportunity for cryptocurrency exchanges to become less dependent on unstable banking relationships.

Given the strong demand for a stablecoin like Tether, it comes as no surprise that new players have rushed into the market from late 2017 onwards. The surge in projects has also sparked creativity in terms of how to design a stabilisation mechanism for a stablecoin. For example, a project called Maker DAO built a decentralised stablecoin (DAI) whose reserves would comprise of other cryptocurrencies and be completely governed on-chain using Ethereum's smart contracts. Another project called Basis raised USD 133 million with the goal to launch an algorithmic cryptocurrency protocol that claimed to create a stable digital currency without requiring any asset backing.

Nevertheless, it is noteworthy that the Basis team decided to shut down the project because it would have been applicable to US securities regulations. In parallel to the stablecoin developments from the

cryptocurrency community, large institutions started to experiment with blockchain technology – mainly for large scale transactions. For example, UBS published a paper introducing the so-called Utility Settlement Coin, MIT developed the idea of a Tradecoin, JP Morgan announced a pilot of the JPM Coin, and eventually Facebook officially revealed its plans to launch a new global digital currency called Libra.

## Stablecoin definition

While the term stablecoin gained widespread popularity, there is still a lot of ambiguity regarding its exact meaning. Currently there is no unified view on what a stablecoin is exactly. This has caused many stablecoin initiators to assume that they fall outside current regulations. By contrast, regulators have increasingly questioned if and how stablecoins are functionally different from their non-DLT based counterparts. Leaving aside technological implementation details, many stablecoins do appear functionally equivalent to existing payment systems.

So, the question arises: are stablecoins purely a technology enhancement or are they a fundamentally new form of money? In our paper "From Tether to Libra: Stablecoins, Digital Currency and the Future of Money" we propose to define stablecoins as digital units of value that exhibit the following three properties:

1. It is not an existing form of currency
2. It does not require any direct relationship with the issuer
3. It is tradable on a secondary market at a relatively stable and predictable price

The advantage of using this definition is that it is technology neutral and helps prevent relabelling already existing payment instruments as stablecoins. For example, settling commercial bank money over a distributed ledger would not render it a stablecoin because it is already an existing form of (fiat) currency. But also, private currencies like the "WIR Geld" would not be considered a stablecoin because of the direct relationship that is required with the issuer as well as the absence of a secondary market. In contrast, Tether would be deemed a stablecoin because it is not an existing form of currency (i.e. not US dollars), it can be used without having any direct relationship with the issuer (e.g. for peer-to-peer transfers) and it is tradable on a secondary market with a somewhat stable, market price of its own.

## Use cases and business models

Even though the idea of stablecoins has outgrown its cryptocurrency origins, its main usage is still very much rooted in the cryptocurrency space. We currently see the following main use cases:

- Cross-border payments and arbitrage: stablecoins have been used for cross-border payments, especially between cryptocurrency exchanges, giving traders a tool to take advantage of arbitrage opportunities and thereby improve market efficiency.
- Trading and settlement: stablecoins have been used as a trading instrument to quickly convert volatile cryptocurrencies into more stable currency substitutes and vice versa. Conversely, from the perspective of the cryptocurrency exchanges, they allowed them to offer their users US dollar-like trading and settlement functionalities without depending on traditional wire transfers. Therefore, stablecoins enable exchanges to become less reliant on often-fragile banking partnerships.
- Decentralised finance (DeFi) applications: these offer a broad variety of use cases including decentralised exchanges, lending markets, derivatives and on-chain asset management. For all of these applications, stablecoins play an important role. Additionally, stablecoins like DAI allow users to take on leveraged trading positions. Moreover, users can also lock up their DAI tokens to earn interest (e.g. Aave, Compound and dYdX).

Despite decent public attention, other use cases like payment, payroll and remittance have not found much adoption yet. Similarly, the integration of stablecoins into decentralised applications (DApps) or as a cash-leg for smart contract-based financial contracts have yet to find wider adoption.

The major revenues of today's stablecoin projects stem from interest earnings on the reserve funds that back stablecoins, but are not paid out to token holders. However, as interest rates in many major currencies are currently close to zero, alternative revenue sources might be necessary. Tether for instance charges an issuance and redemption fee. Additionally, Tether's smart contract is technically ready to charge a transaction fee of up to 20bps. Given their predominantly fixed-cost structure, stablecoins present highly scalable business models. The major costs include legal set-up, IT development costs and auditing costs. Unsurprisingly, to reduce costs, many issuers are incorporated in offshore locations while still benefitting from the global reach of today's DLT platforms.

## Conclusion and outlook

Stablecoins are a moving target with tremendous potential to fundamentally change the financial system. With DLT providing a borderless and easy to integrate infrastructure, stablecoins have the potential to be scaled up rapidly on a global scale and disrupt existing payment systems. Stablecoins are challenging our notion of money, creating a paradox situation, where they may

be used like a currency without actually being one. It remains yet to be seen whether stablecoins are going to coexist, complement, or takeover existing payment systems. In any case, we should aim to use more concise technology-neutral language, allowing us to focus on the truly disruptive potential of future money forms and apply new technologies such as DLT, in a more purpose-driven way.

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<https://arxiv.org/pdf/2005.12949.pdf>

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**Christian Schüpbach** is a fintech expert at Swisscom where he leads the digital asset initiatives. Over the past few years Swisscom launched various digital asset ventures that focus on crypto custody, issuance and infrastructure. Christian's background is in investment banking where he spent more than 15 years in roles that spanned from exotic derivatives trading to research and client facing roles.