



 **BLOCKCHAIN**

# THE STATE OF **STABLECOINS**

# FOREWORD

We are pleased to present The State of Stablecoins, the first major empirical research study focused on the rapidly growing world of stablecoins.

Stablecoins, as the name suggests, are cryptocurrencies that are designed to minimize price volatility. This minimization of exchange rate volatility (most commonly against the US dollar) places stablecoins in stark contrast with more volatile cryptoassets like bitcoin, which lack any inbuilt price stability mechanism. Significant volatility is often cited as one of the main reasons why many institutions and individuals have remained on the cryptocurrency sidelines to date, and stablecoins have been developed to address this issue.

Today, stablecoins like Tether are most commonly used by cryptoasset traders to address market volatility. However, they also open up a number of other use cases where a volatile cryptocurrency may be less desirable (e.g., smart insurance). Stablecoins can serve as alternative stores of value or unit of accounts – use cases that globally amount to tens of trillions of dollars in value. In short, stablecoins represent one of a small handful of multi-trillion-dollar cryptoasset opportunities.

The findings in this research study are based on the analysis of a new data set collected from 57 individual stablecoins. The total number of active projects makes stablecoins one of the largest cryptoasset categories, and as we show in the report stablecoins are also a leading category across a number of other key metrics (e.g., venture funding). The level of interest and resources devoted to stablecoins is striking and indicates that stablecoins are viewed as a very important part of the digital assets ecosystem. Indeed, stablecoins are often thought of as a foundational or infrastructure layer, one that could significantly expand the cryptoasset userbase from our current estimate of approximately 20-30 million individuals.

In other words, stablecoins could help create a tipping point for much broader cryptoasset adoption.

The study utilized both public and previously non-public empirical data to present new insights on an innovative and rapidly evolving sector of the cryptoassets ecosystem. The study would not have been possible without the support of the dozens of stablecoin project teams that contributed data and feedback. We are grateful for the trust placed in our research team by study participants.

This report also represents the first major research output from Blockchain's newly established research team. We are looking forward to continuing and expanding our research into other digital assets and decentralized technologies, and we welcome your feedback on both this report and future research topics. Please contact us by email at [research@blockchain.com](mailto:research@blockchain.com).

The Blockchain Team

# REPORT DATA & METHODOLOGY

Data was collected on a total of 57 stablecoins across a broad range of data categories, including:

- Format: asset-backed vs. algorithmic, backing collateral type, etc.
- Adoption: market value, trading volume, Tier-1 exchange support, etc.
- Technology: platform (e.g., Ethereum), degree of stablecoin system automation, open source, etc.
- Legal structure: jurisdiction registration, software licences, etc.
- Investors and partners: funding, strategic/business development partners, etc.
- Team: team size, headquarters location, recruiting priorities, etc.

In total, we collected over 1,600 individual data points across 44 unique categories, and our analysis of this data is highlighted in the body of this report and 'primers' on some of the leading stablecoins. We have also presented a substantial portion of the raw data in the Data Appendix included at the end of the report.

A number of sources and methods were utilized for data collection and analysis, including:

- surveying stablecoin project teams
- publicly available data from stablecoin websites and other project resources
- other public and private data sources.

Where appropriate, data sources are noted next to charts and diagrams presenting key findings.

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# SUMMARY

## Empirical Data

### Overview

- Size: a total of 57 live and pre-launch stablecoins were identified for the research study sample
- Maturity: 23 stablecoins (40%) are live and 34 stablecoins (60%) are at the pre-launch phase
- Timing: the number of active stablecoin projects has dramatically increased over the past 12-18 months and more than a dozen project teams have stated they plan to launch in the coming weeks/months
- Stability: live stablecoins have had mixed results to date in achieving price stability, with asset-backed coins (e.g., Tether) generally delivering on their stability promise and outperforming algorithmic coins (e.g., NuBits)

### Format

- Stablecoins can be broadly divided into two main stability mechanism categories: algorithmic and asset-backed, with 77% of our total sample asset-backed
- Of the asset-backed stablecoins, a higher percentage (54%) utilize on-chain collateral (i.e., cryptoassets like ether) versus off-chain collateral (46%) (i.e., US dollars held in escrow)
- The US dollar is the most common stability benchmark or 'peg' and is utilized by 66% of stablecoins; other benchmarks include other fiat currencies (e.g., euro, yen), commodities (e.g., gold), and inflation (e.g., G10 average country inflation)
- 51% of stablecoins offer some type of 'dividend' or incentive mechanism built into the design of the stablecoin system (e.g., 'seigniorage shares', transaction fee dividends)

### Adoption

- Stablecoins are already an important part of the digital assets ecosystem: Tether (USDT) is the second most actively traded cryptocurrency (~60% of BTC daily trading volume) and earlier this year entered the top-10 cryptoasset rankings by market value
- Stablecoins are listed on over 50 different exchanges at present, with Tether featuring the greatest number of total individual exchange listings (at least 46)
- Stablecoins have had success gaining listings on major exchanges, with eight stablecoins (42% of live coins) featuring one or more Tier-1 exchange listings: Tether (6), TrueUSD (5), SteemDollar (4), NuBits (2), BitBay (2), Gemini (2), Paxos (2), Numins (1), STASIS (1), HelloGold (1)
- Even with the success of new entrants like TrueUSD in gaining listings on major exchanges, Tether continues to dominate with approximately 98% of total stablecoin daily trading volume
- The total market value of all stablecoins is \$3 billion, or 1.5% of the total market value of all cryptoassets; Tether comprises 93% of the all stablecoin market value

### Technology and Licensing

- None of the Tier-1 wallets have made any extra effort to support stablecoins to date, creating incentives for stablecoins to run on Ethereum and piggyback on broadening ERC20 token support
- While Ethereum is by far the most widely used technology platform for stablecoins, fewer than two thirds of all stablecoins (60%) are building exclusively on top of Ethereum
- Other technology platforms chosen for use by at least two stablecoins include Bitcoin, NEO and Stellar
- Over two-thirds of project teams (69%) have made their stablecoin code (e.g., smart contract) open-source for audit inspection
- Little clarity exists around code licensing, with very few projects disclosing or having made final decisions about how their code can be used or licensed by third-parties

### Funding, Legal, and Team

- \$350m in venture funding has been raised by all stablecoin project teams to date, and the present value of funding held by stablecoin projects is estimated to be around \$533m (primarily due to appreciation of Digix's ETH holdings)

# SUMMARY

## Empirical Data

- Algorithmic stablecoins have raised more funding (\$174m, or 50% of the total) than traditional asset-backed stablecoins (\$144m, 41%), with crypto-collateralized stablecoins lagging behind (\$33m, 9%)
- Stablecoins are legally domiciled in a wide variety of legal jurisdictions, with the US (10) and Switzerland (7) leading
- The vast majority of stablecoins (85%) are structured as for-profit, with only 15% operating not-for-profit structures
- The leading home for stablecoin teams is the US (17), with Europe (13) the second most popular location
- Recruitment: in addition to the emphasis placed on hiring engineering talent that is seen across most cryptoasset projects, stablecoins are hiring for business development (e.g., exchange listings) and legal compliance

## Viewpoint Summary

### Short-Medium Term

- While there is a great deal of excitement surrounding stablecoins, the technology is still nascent and it is highly unlikely that the perfect stablecoin design exists at present; further experimentation (and innovation) is expected
- Due to the aforementioned design uncertainty, as well as regional factors (e.g., local regulations), space may exist for approximately 5-8 significant stablecoins in the short to medium-term
- Many cutting-edge algorithmic stablecoin designs will initially launch with hybrid Tether-esque fiat backing (due to price stability concerns), which risks dampening some of the enthusiasm for algorithmic stablecoins
- Stablecoins are more complementary than competitive with other cryptocurrencies like bitcoin or ether, with many stablecoins relying on the security, compatibility and infrastructure provided by such cryptocurrencies
- Stablecoins will continue to see an increase in listings on more cryptoasset exchanges, and these listings will be motivated for reasons beyond simply offering traders options to reduce exposure to market volatility e.g., algorithmic stablecoins may prove popular to list as they could attract 'Soros-attack' trading (and significant trading volume) aimed at breaking the automated stability peg
- Key near-term regulatory issues include whether stablecoins (or aspects of stablecoin systems) are in compliance with securities and money service laws in some jurisdictions

### Longer Term

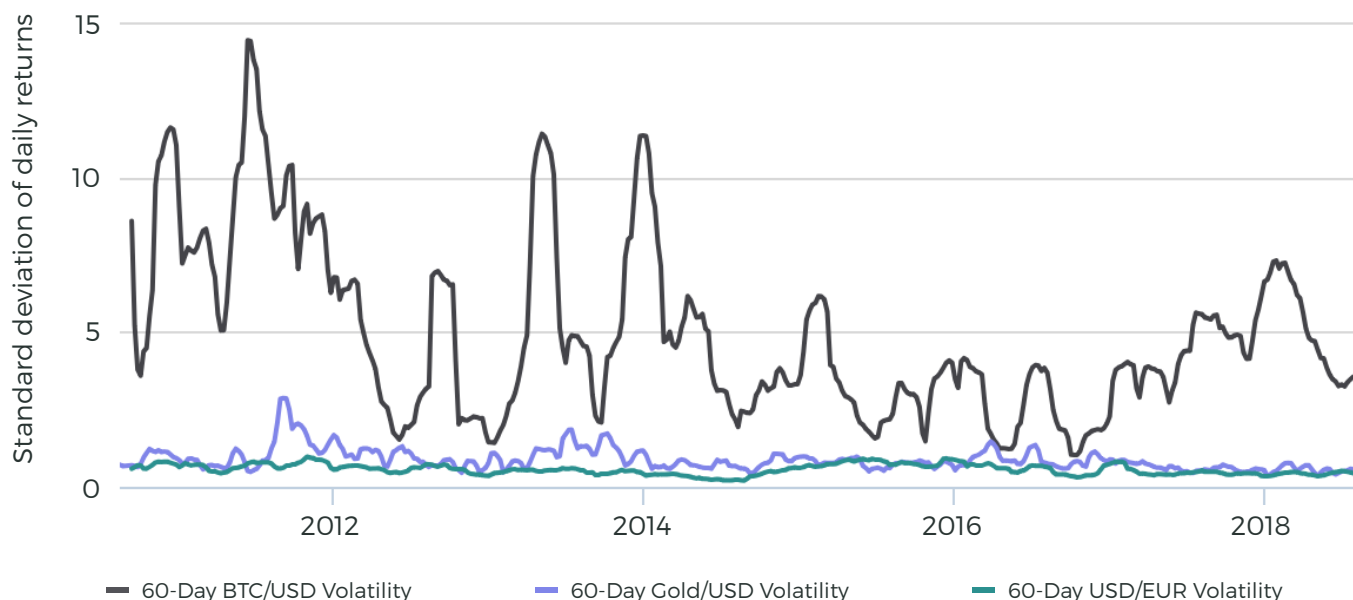
- Overall, stablecoins are best viewed as a form of infrastructure or foundational layer for cryptoassets that will generate immense value for the digital assets ecosystem
- A stablecoin could help create a tipping point for much broader cryptoasset adoption by successfully addressing concerns around volatility, which are often cited as a key reason why many institutions and individuals have remained on the digital assets sidelines to date
- Due to competition and other factors, it is unclear how much direct, long-term financial profits stablecoins will generate for their creators; greater long-term value may be derived from stablecoin-powered products and services (e.g., smart insurance)
- Some stablecoins may be deemed to pose greater direct competition to fiat currencies than bitcoin and may spark a competitive response or regulatory backlash from central banks, which in many jurisdictions have largely remained on the sidelines of cryptocurrency regulation to date
- The rise of stablecoins may weigh on the prices for some cryptocurrencies, such as bitcoin, that will face greater competition for certain medium of exchange (MoE) and store of value (SoV) use cases

# OVERVIEW OF STABLECOINS

## Overview

Digital assets are notoriously volatile. The volatility of bitcoin (BTC) has been declining as compared to earlier periods in the cryptocurrency's now nearly 10-years in existence. However, for the foreseeable future it is likely to remain more volatile than well-managed national currencies, as well as physical commodities like the one it is most frequently compared to, gold.

**Figure 1: Volatility Time Series - Bitcoin vs Gold vs Fiat**



To be clear, bitcoin's volatility from the perspective of many market participants is viewed as a positive characteristic. Indeed, contrary to the view expressed by Nobel Prize-winning economist Friedrich Hayek in *The Denationalization of Money*, bitcoin has demonstrated that millions of people would prefer to hold a currency that has the potential for price appreciation over one that is relatively stable.

In short, bitcoin's volatility has proven to be a 'feature', not a 'bug'.

However, this feature is also preventing cryptocurrencies from realizing their full potential as an alternative means of payment and unit of account in the broader economy, and many feel the solution to this problem will come from stablecoins.

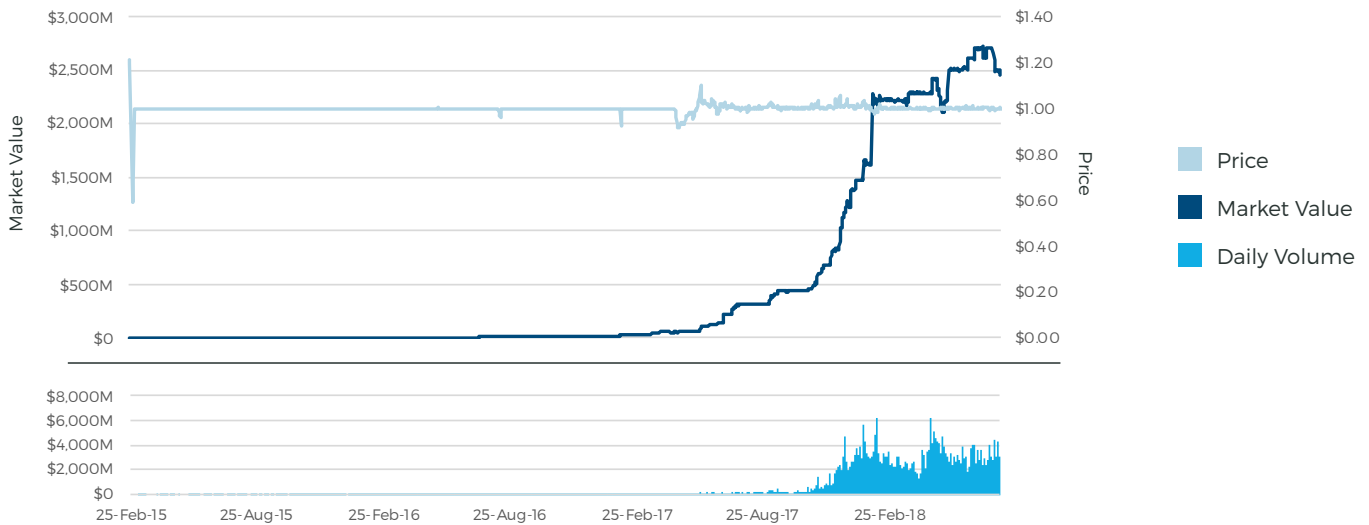
## What is a stablecoin?

As the name suggests, a stablecoin is a cryptocurrency that has been designed with the aim of minimizing price volatility.

Most stablecoins have been designed to be equal to the US dollar, the world's leading reserve currency. For example, a single currency unit of the largest stablecoin, Tether (USDT), is intended to be equal to one US dollar, and for the roughly three years that Tether has been actively traded in public cryptocurrency markets its exchange rate has proven to be generally reliable in delivering on this design objective (Figure 2).

# OVERVIEW OF STABLECOINS

Figure 2: Tether (USDT) - Exchange Rate and Market Value, 2015-Present



Other stability benchmarks besides the US dollar are also being employed by stablecoins, including baskets of various fiat currencies (e.g., IMF Special Drawing Rights), commodities or other tangible assets (e.g., gold, real estate), or economic measures (e.g., indexed inflation).

Stablecoins stand in stark contrast with bitcoin, and most other cryptocurrencies, which have no inbuilt mechanism to minimize exchange rate volatility. While a number of novel valuation methodologies

This debate over bitcoin's price reflects genuine and legitimate uncertainty over what a bitcoin is worth.

have been developed for cryptoassets, the debate over what a bitcoin should be worth carries on as strongly (and probably more strongly) today as it did in 2010 when bitcoin exchange markets first materialized. The marketplace for bitcoin, and its often volatile supply and demand forces, are what determine bitcoin's price. In contrast, stablecoins are designed to be anti-volatile, matching or closely mimicking the performance of so-called 'hard' currencies like the US dollar, euro, yen, and Swiss franc.

## Why use a stablecoin?

Stablecoins can provide a critical infrastructure layer for the digital assets ecosystem.

A highly volatile cryptocurrency such as bitcoin may be inappropriate or even unusable in certain circumstances, and for a number of products and services.

For example, if someone is living paycheck-to-paycheck and needs to make a regular rental housing payment each month, that person would be ill-advised to hold the funds needed for this payment in a currency as volatile as bitcoin. At the same time, if you are bullish on bitcoin's 'digital gold' investment thesis, and you believe it will continue to appreciate and successfully store value over time, then using bitcoin for everyday purchases may be psychologically unappealing. In both of these examples, a stablecoin, serving respectively as a store of value and medium of exchange, could be preferable for use.

Another important point to emphasize is that stablecoins are simply price-stabilized cryptocurrencies, meaning they incorporate many of bitcoin or ether's most compelling features: programmability (e.g., smart contract integration), efficiency (e.g., low-to-zero transaction fees, fast settlement times), fungibility, open (i.e., permissionless) access, and so on.



# OVERVIEW OF STABLECOINS

The emerging area of ‘smart travel insurance’, which insurance giants like Axa have begun exploring, is a compelling example of how smart contracts and stablecoin technology can be paired together (see inset). We document and discuss further stablecoin use cases later in this report.

## Smart Insurance: Why Stablecoins, Not Ether (ETH), Will Serve as the Numeraire

In the UK, annually approximately 600,000 passengers do not file eligible insurance claims for delayed/cancelled UK flights. A delayed/cancelled flight is a public record that can be queried by a ‘smart flight insurance’ blockchain application; if the flight is delayed or cancelled then the smart contract automatically pays the claimant, eliminating the painful claims process. Insurance premiums can also be escrowed ‘on-chain’ to eliminate counterparty risk.

In travel and many other smart insurance use cases, it would be preferable to denominate the smart contract with a stablecoin rather than a more volatile cryptocurrency, such as ether (ETH). Generally, people take out insurance to reduce risk and would therefore want smart contract insurance underpinned by a stable currency.

There are other motivations for the development of stablecoins. Although significant capital gains can be quickly made in the cryptoasset markets, there seems to be a growing demand from investors to take some money off the table by rotating into a less volatile cryptoasset. Market makers and traders may also welcome the steadier nature of stablecoins as they carry out their daily operations.

**Figure 3: Stablecoin Launch Timeline**



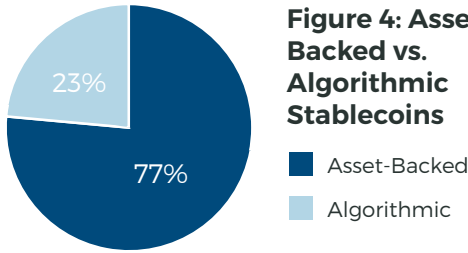
Volatility is one factor that has also stunted the development of debt and credit markets within the cryptoassets ecosystem. In certain jurisdictions, exchanging cryptocurrencies back into national currencies may also trigger a taxable event, an event some may prefer to postpone.

For these and other reasons, the emergence of stablecoins is a natural development in the cryptocurrency ecosystem. Tether, the largest stablecoin in terms of its market value of approximately \$2.7 billion USD, illustrates the underlying demand for a stablecoin. Tether recently moved up in the rankings into the Top-10 largest cryptocurrencies, and for some time now it has had the second highest trading volume after bitcoin.

# TAXONOMY

## Design: The Search for the Perfect Stablecoins

Stablecoins are one of the categories that best illustrate the tremendous creativity and innovation underway in the digital economy. A wide variety of different stablecoin designs have been developed and released to date, but broadly all stablecoins can be characterized as either a) 'asset-backed' and b) 'algorithmic'.



**Figure 4: Asset-Backed vs. Algorithmic Stablecoins**

■ Asset-Backed  
■ Algorithmic

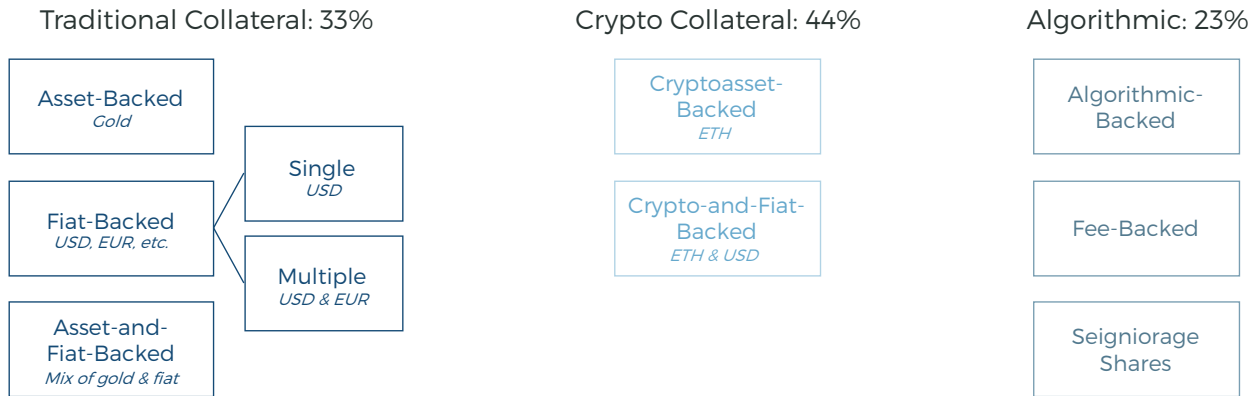
An asset-backed stablecoin design is one where some asset, most often US dollars but increasingly cryptoassets like ether (ETH), is held in reserve with the aim of supporting the stablecoin's exchange rate. Tether is the most well-known live example of such a fiat-based design, and Maker Dai is the largest cryptoasset-backed stablecoin.

In contrast with asset-backed designs, algorithmic stablecoins employ a set of rules expressed in software code that attempt to match the supply of the stablecoin with demand. An important

point to note here is that there have been, in contrast, algorithmic stablecoins have yet to launch.

Of these two types of stablecoins, asset-backed have been the more popular to date, and represent 77% of all stablecoins. Further, some algorithmic stablecoins as part of their rollout strategy also incorporate asset-backing. Generally, asset-backed stablecoins are easier to bring to market and simpler in their design, particularly when they are 'traditional asset-backed' (eg USD, gold). More complex designs include MakerDAO's Dai stablecoin, which is 'crypto-asset backed' with ether (ETH) and other cryptoassets.

**Figure 5: Taxonomy of Main Stablecoin Design Types**



The perfect stablecoin design, the so-called "Holy Grail of crypto", probably does not exist at present, and it may never exist. As we describe in more detail in the individual stablecoin primers later in the report, significant trade-offs have featured in every stablecoin design presented to date, and insufficient empirical data exists to understand which are the 'least bad' tradeoffs. Further, it is unlikely that a single design is optimal for all use cases. In other words, which stablecoin is 'best' depends upon a wide variety of sometimes competing factors, including:

- intended use (e.g., short-term trading store of value)
- degree of desired trust minimization and decentralization
- regulatory/jurisdictional compliance
- scalability

We now review some of the pros and cons and key hurdles of several of the main stablecoin design types.

# TAXONOMY

## Type 1a: Traditional-Collateral ('Off-Chain') Backed

### Pros

- Demonstrated market demand and use: Tether's market value of \$2.7 billion has been achieved inspite of significant concerns around regulatory compliance, transparency and brand reputation
- Enforceable price floor: hard assets can be used to counter price instability and 'death spirals', which are a particular concern for some algorithmic stablecoins
- Trust: traditional asset-backed stablecoins enable traditional trust-enforcement measures (e.g., legal action); may be easier for some people to conceptualize and adopt
- Funding: asset-backed stablecoins have demonstrated strong fundraising appeal
- Simplicity: no complex inbuilt incentive structure as value exists in the collateral; no need for smart contract issuance / on-chain collateralization, meaning less engineering talent needed to implement
- Collateral flexibility: reserve can consist of one or many of the same type of asset (e.g., USD and EUR), or different assets (e.g., commodities, fixed income)
- Regulatory risk: banks can manage licensing, which is especially useful in the US given the fragmented nature of e-money regulations

### Cons

- Centralized: requires trust in the issuer or escrow agents
- Inefficient: lacks automated monetary supply mechanism; may require manual redemptions processing
- Banking: requires partnership with a bank or escrow agent that holds licenses for deposits / reserves
- Limited peg options (e.g., fiat that the banks can easily manage)
- Compliance: possible risks from underlying fiat (KYC / AML, security rather than utility token)
- Taxes: uncertain tax status, may generate taxable income
- Scalability: requires more backing assets to scale

## Type 1b: E-Money

A variation on the traditional off-chain asset backed model that carries some (but not all) of the same pros/cons is becoming an EU electronic money (E-money) institution, which some stablecoins like Monerium are pursuing. The process for becoming an E-money issuer includes:

- applying to become an Electronic Money Institution (EMI), which can be a short process (<90 days)
- creating a company in the state of application (typical options include Lithuania and Ireland) with an initial capital requirement of €350,000
- partnering with a reputable auditor and redemption parent (e-money is always redeemable).

### Pros

Several additional advantages over traditional asset-backed designs include:

- EU compliance: solution across SEPA payment system
- Financial integration: opens up other financial activity like money transfers, payments and issuing payment cards
- Reduced need for banking support: less reliant on finding a risk-averse banking partner.

As well as possessing many of the same cons as asset-backed models, additional cons for E-money include:

### Cons

- Reporting: KYC / AML requirements from EMI status unless small balances (< €250) and small annual transactions (< €2,500)
- Regional limitation: E-money likely does not port to the US and other jurisdictions
- Resources: likely more legal work than setting up EMI and reporting.

# TAXONOMY

## Type 2: Crypto-Collateral ('On-Chain') Backed

On-chain collateral-backed stablecoin designs, while 'natively digital', are similar to the above traditional asset-backed design in some ways. Some stablecoins are employing a hybrid on-chain/off-chain strategy to gain advantages from both designs.

### Pros

- Decentralized: auditable and open; greater degree of trust-minimization than an off-chain design
- Asset flexibility: collateral can span crypto, fiat, commodities and other assets; can choose to tie-up some collateral in smart contracts to create some trust-minimized asset backing
- Reduced banking requirements: less concern about actual trading liquidity / holding complications
- Network effects: adoption incentives through an additional system token (e.g., the MKR token in the case of Dai) that allow for speculation and appreciation

### Cons

- Stability: harder for the market to trust the maintenance of the peg, may be prone to gaming or other attacks; reputation may be damaged if peg is broken
- Complexity: may require additional tokens (e.g., governance tokens like Maker (MKR))
- Volatility of underlying assets: problematic if they concentrate around digital commodities or cryptoassets
- Resource-intensive: more complex than fiat asset-backed to create and can require substantial engineering resources
- Security: rely on smart contracts, which offer attackers additional threat surfaces and vectors; may require the use of trusted 'oracles' for price determination
- Market manipulation: natural targets for gaming/shorting, which may compromise decentralization
- Global competition: in contrast with stablecoins sheltered by local regulations, a digital native stablecoin may be more open to global competition
- Use cases: in contrast with asset-backed stablecoins like Tether, digital stablecoins have less well defined and established uses cases; less market demand for a decentralized stablecoin
- Scalability: requires more backing assets to scale; also unclear whether a decentralized stablecoin can reliably offer the same transaction capacity as a more centralized system

## Type 3: Algorithmic

Given the prioritization of creating trust in the stability mechanism over decentralization, many stablecoin designs have started with an asset-backed token. Asset-backed tokens are arguably less complex and easier to bring to market (assuming a banking partner can be found). However, many believe the long-term solution will likely be a digital-native, fully-algorithmic stablecoin, and we expect over time that many asset-backed stablecoins will attempt to convert to an algorithmic design.

Algorithmic designs share many of the same pros and cons of on-chain collateral-backed stablecoins, with arguably the key difference the greater complexity of a non-asset backed stability mechanism.

Potential advantages possessed by algorithmic stablecoins could include greater scalability (due to obviating the need for additional assets to back additional coin issuance) and stronger network adoption incentives. One of the more interesting aspects of the stablecoin space is the potential (or at least perceived) opportunity to earn profits on the creation of stablecoins. For example, 53% of stablecoins offer some type of 'dividend' or incentive mechanism built into the design of the stablecoin system (e.g., 'seigniorage shares', transaction fee dividends).

# USE CASES



Stablecoins can be employed for many of the same use cases as other cryptocurrencies like bitcoin, with the added benefit of price-stability. Whether or not price stability is desirable or a worthwhile tradeoff will depend on the individual context and circumstances, but the crucial point to understand about stablecoin use cases is that many of them are multi-trillion dollar opportunities. In other words, there is stablecoins have the potential to grow into one of the largest, if not the largest, digital asset categories.

## Medium of Exchange

At present, any business would take a significant risk accepting cryptocurrencies as a medium of exchange due to the significant volatility of this asset class. Stablecoins hold the potential to help unlock the use of cryptocurrencies for day-to-day payments for businesses and commerce as price stability is a key missing element for the adoption of cryptocurrencies by merchants and retailers all over the world.

Companies need a degree of certainty about their short-term cash reserves and revenues. Transacting in ether or bitcoin would make the role of a treasurer a difficult task as the business's runway (how long the company can survive if income and expenses stay constant) could adversely shift in an instant due to unfavorable market swings.

## Unit of Account

The unit of account is the measure by which goods and services are priced and a necessary feature for a given asset to become "money". In the US, retailers price goods in USD, employees are paid in USD by their employers, profits/losses and assets/liabilities are denominated in USD. There is currently no agreement regarding the intrinsic value (and future value) of a given cryptocurrency, meaning accepting bitcoin as a "unit" is therefore problematic.

Stablecoins can be pegged to established units of accounts in their respective countries and can thus become a digital representation of the unit of account (so long as the peg is maintained). Given their emphasis on price stability and the ability to peg stablecoins to inflation, stablecoins also arguably have a greater chance of becoming an independent unit of account in the longer-term.

## dApps

In the web 3.0 stack, decentralized applications ("dApps") are being built on top of infrastructure protocol layers. Many of those applications will likely rely on price stable cryptocurrencies to distribute value. Stablecoins should accelerate the shift from token speculation to usage in dApps as users won't be incentivised to hold (or sell) the token in anticipation of future price appreciation (or depreciation). This should in turn increase the token velocity and fulfil the potential of decentralised networks.

dApps are the channel through which stablecoins are likely to be brought to the masses in the foreseeable future. For example, MakerDAO and Dether recently partnered to bring Dai to mobile ATMs.

Finally, ERC20 stablecoins can be held and transferred by anyone who already has an Ethereum wallet, and nearly half of all stablecoin projects (48%) are running on Ethereum. Provided that Ethereum is a successful

# USE CASES

underlying infrastructure protocol for dApps, ERC20 stablecoins should be adopted faster and benefit from the Ethereum vibrant ecosystem.

## Store of Value

A store of value is a commodity, asset, or money that retains its purchasing power or value into the future. Some view cryptoassets including bitcoin as too volatile to be commonly accepted as a store of value.

Some companies need to hedge themselves over the long-term. For example, miners are currently highly exposed to the price of the cryptoasset they receive in return for computing resources. A stable reserve of liquid assets is needed to cover one-off additional fixed costs (such as purchasing hardware) and on-going variable costs (such as electricity).

In the current crypto ecosystem, volatility risk is currently being highlighted in fundraising via Initial Coin Offerings (“ICOs”). Projects generally raise a given amount of ether to allocate resources in order to deliver on their promises. Due to the high level of friction associated with converting cryptoassets into fiat, founding teams tend to hold most of their funds in ether. In a bear market associated with falling prices like the present one, management would have to meet investor expectations while suddenly having less capital at their disposal. Stablecoins could thus help founding teams of ICO projects manage their funding more safely over the long-term.

## Performance Measurement

If we consider a hypothetical project that grows over some reference period (e.g., 3 years), the same project priced in a stablecoin better demonstrates the growth in intrinsic value than when a volatile cryptocurrency like bitcoin is used as the reference currency, as bitcoin has dramatically appreciated over the past few years. In other words, tracking performance in terms of stablecoins should lead to a better representation of historical performance measurement. Stablecoins pegged to inflation would also obviate the need for making inflation adjustments to historical data.

## Derivatives/Lending

Derivatives are an effective way to hedge a position in an underlying asset. For example, commercial airline companies need to hedge their fuel costs, which is denominated in USD per barrel. An exposure denominated in USD is essential in this context. As an example, owning three bitcoins while shorting three bitcoin futures (currently possible via cash settled futures) results in a neutral USD exposure.

Derivatives are mostly cash settled, and stablecoins would enable this transfer of value at expiry in the digital world. As of now, CME and CBOE leverage the current underlying banking infrastructure, relying on costly intermediaries such as clearing houses and settle each contract in fiat. In order to shift these complex interactions on chain via smart contracts, USD denominated assets will be needed. One can foresee any derivative being settled on-chain via stablecoins in the future. This should minimize frictions and remove the need for centralized entities, which provide trust amongst participants in the current financial markets framework. Similarly, stablecoins could unlock decentralized lending.

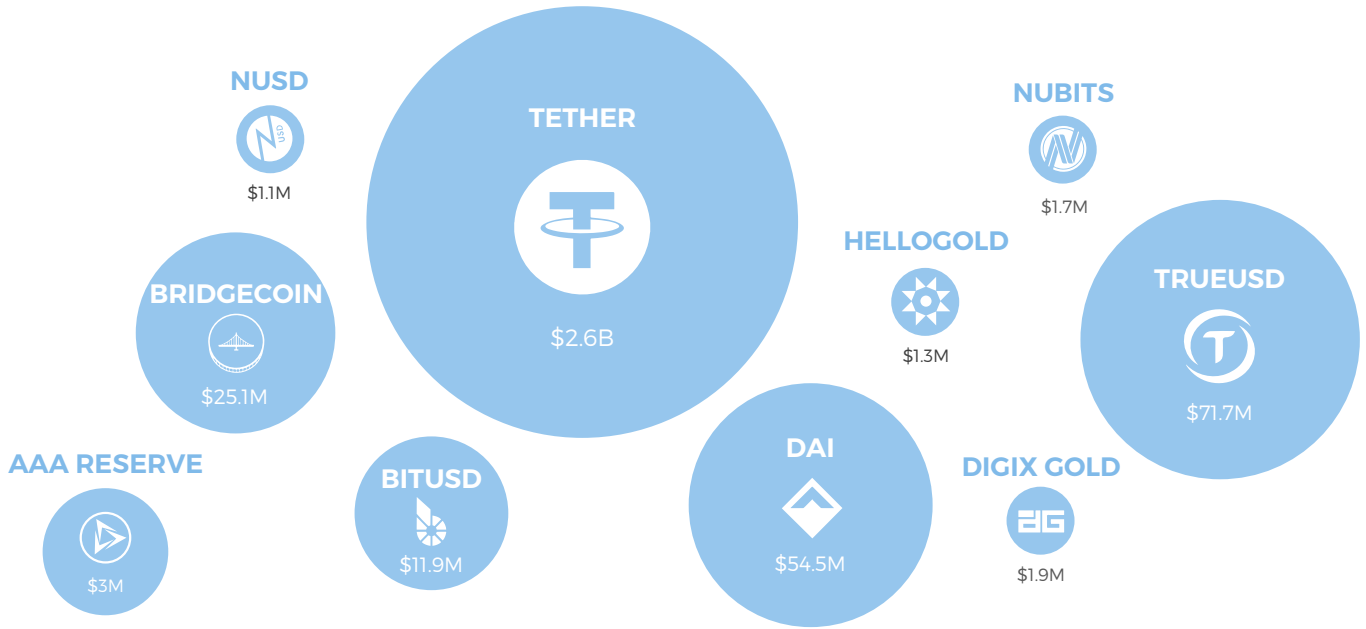
## Remittance

Stablecoins eliminate price volatility risk as crypto payments are being processed. To stay relevant in this context, transactions would have to be confirmed rapidly (ideally in a matter of seconds) to provide a good user experience and a noteworthy improvement compared to transfers relying on the current underlying banking infrastructure (international banking transfers currently take up to three days).

# ADOPTION

Stablecoins are nothing new and have been actively used for the past four years. They also already form an important part of the digital assets ecosystem. The total market value of all stablecoins is approximately \$3 billion, or 1.5% of the total market value of all cryptoassets (Figure 6).

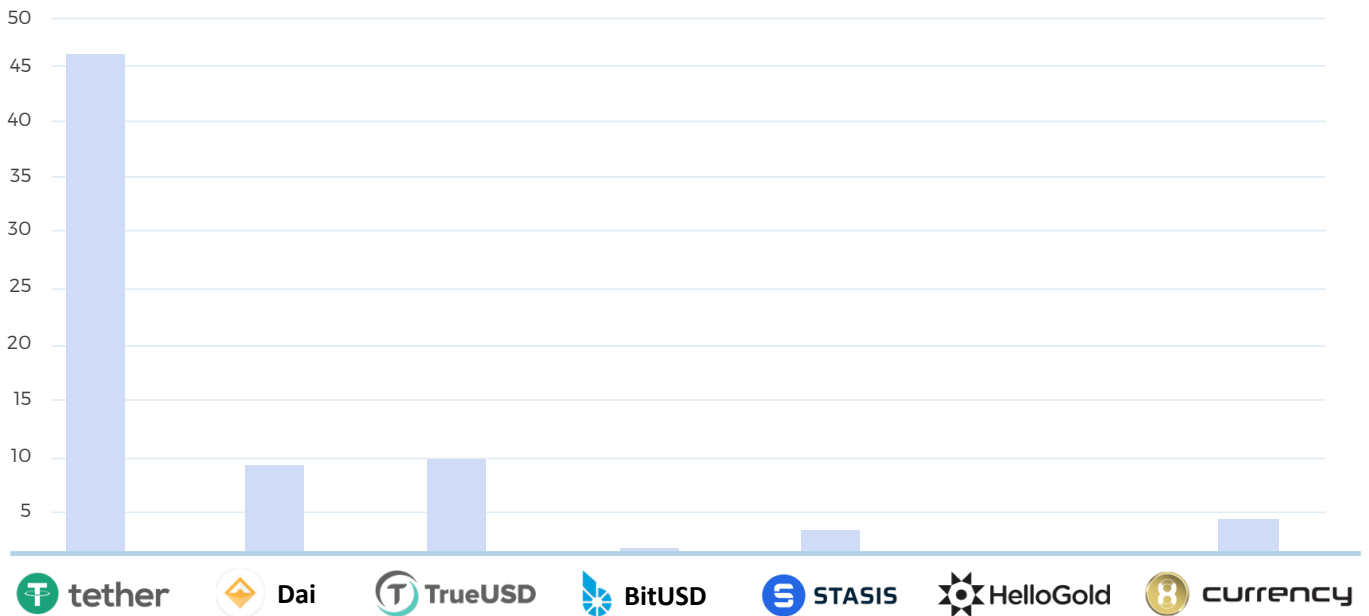
**Figure 6: Market Value of Live Stablecoins\***



\*Note: this figure has not been drawn to scale given Tether's dominant market value share.

Stablecoins are listed on over 50 different exchanges at present, with Tether featuring the greatest number of total individual exchange listings (at least 46) (Figure 7).

**Figure 7: Number of Cryptoasset Exchange Listings for Live Stablecoins**



# ADOPTION

A number of stablecoins have also had success gaining listings on major exchanges, with ten stablecoins (43% of live coins) featuring on one or more Tier-1 exchange listings: Tether (6), TrueUSD (5), SteemDollar (4), NuBits (2), BitBay (2), Gemini (2), Paxos (2), Numins (1), STASIS (1), HelloGold (1).

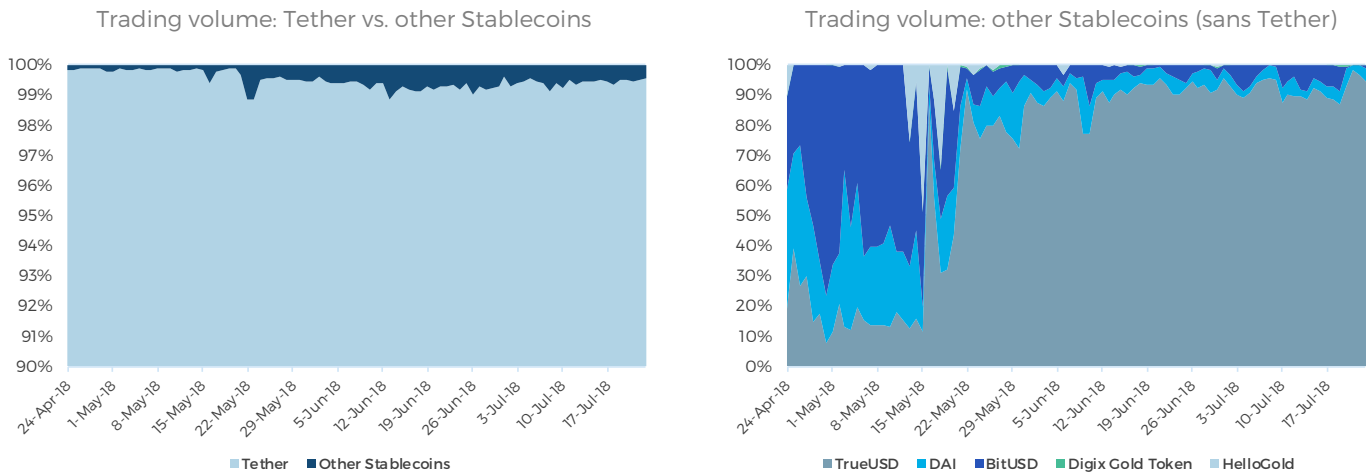
**Figure 8: Stablecoins Listed on Major Cryptoasset Exchanges**



However, the story of stablecoin use and adoption to date is primarily a story about Tether (USDT). Tether is the second most actively traded cryptocurrency, equal to approximately 60% of BTC daily trading volume. Earlier this year Tether entered the top-10 cryptoasset rankings by market value and it currently comprises 93% of the total market value of all stablecoins.

Even with the success of new entrants like TrueUSD in gaining listings on major exchanges, Tether continues to dominate and commands approximately 98-99% of all stablecoin trading volume (Figure 9).

**Figure 9: Stablecoin Exchange Trading Volumes - April 2018-July 2018**





# ADOPTION

A similar picture emerges when we look at the currency trading pairs for stablecoins, with Tether in the clear lead with at least 159 different cryptocurrencies trading against Tether (Figure 10). The next closest stablecoins, BitUSD and Dai, have 23 and 17 crypto pairs, respectively. There are also relatively few fiat-stablecoin trading pairs, which reflects the fact that stablecoins at present are primarily used by cryptoasset traders to address market volatility.

**Figure 10: Number of Cryptocurrency and Fiat Trading Pairs for Stablecoins**

|                        | Tether (USDT) | Dai (DAI) | TrueUSD (TUSD) | BitUSD | AAA Reserve (AAA) | Digix Gold Token (DCX) | STASIS | HelloGold (HGT) | x8c | Strong USD |
|------------------------|---------------|-----------|----------------|--------|-------------------|------------------------|--------|-----------------|-----|------------|
| Number of Fiat Pairs   | 1             | 0         | 2              | 0      | 3                 | 0                      | 2      | 0               | 0   | 1          |
| Number of Crypto Pairs | 159           | 17        | 6              | 23     | 0                 | 1                      | 13     | 3               | 4   | 1          |

# REGULATORY LANDSCAPE

While certain countries and regions are home to more stablecoin activity than others, stablecoins are a global phenomenon; project teams are based in North America, Europe, Asia, the Middle East, and Oceania (Figure 11). The leading home for stablecoin project teams is the US (19), with Europe (13) the second most popular location. Within Europe Switzerland (5) leads, followed by the UK (3). Interestingly, two leading cryptocurrency trading locations, China and Japan, do not have a stablecoin project team based inside their countries.

**Figure 11: Primary Physical Location of Stablecoin Project Teams**



We also gathered data on where stablecoins are legally domiciled, and again the sample data shows that stablecoins are spread globally in terms of their legal personality (Figure 12). The leading legal domicile for stablecoins is again the US (10), followed by Switzerland (7). Australia, Cayman and Jersey are the legal homes for more than one project.

**Figure 12: Legal Domicile of Stablecoin Projects**



# REGULATORY LANDSCAPE

As with initial coin offerings (ICOs), a key near-term regulatory question in some jurisdictions is whether stablecoins are in fact securities and potentially at risk of violating any securities laws. Here, an important question in the context of tokens in the eyes of US law, and the laws of other jurisdictions, is why the purchaser bought the asset? If the purchaser bought the asset seeking to profit, then it could be classified as a security. If not, then it may not be deemed a security.

Because someone buying a stablecoin pegged to a fiat currency often does not expect profit, then an argument can be made that these types of stablecoins do not in fact meet the definition of a security in some jurisdictions. However, if someone is buying a related asset, like say a bond in an algorithmic seigniorage shares-style system, they might be expecting a profit, and so this asset might be a security. Stablecoins backed by commodities like gold may also be deemed an investment and therefore qualify as a security.

Standard money transmission laws may also apply to stablecoins, which in the US would entail abidance with anti-money laundering (AML) laws at the Federal level and licensing at the state level. Various consumer protection laws may also be relevant. Stablecoin projects would be well advised to familiarize themselves with the Liberty Reserve case.

For the above and other reasons, we anticipate that legal and compliance expenses will continue to be significant for many stablecoin projects.

## “Stop trying to create money”

In July of this year the Mr. Agustín Carstens, General Manager of the Bank of International Settlements (BIS) (sometimes referred to as the central bank for other central banks), published a statement saying “My message to young people: stop trying to create money”.

Mr. Carstens’ statement was generally directed at the cryptocurrency community, although it is not clear whether his comments were directed specifically at volatile cryptocurrencies like bitcoin or stablecoins. What is clear is that many economists and central bankers for some time now have been highly critical of cryptocurrencies like bitcoin, in large part due to its volatility, with some going so far as to jettison the term ‘cryptocurrency’ from official speeches in favour of the term ‘cryptoasset’.

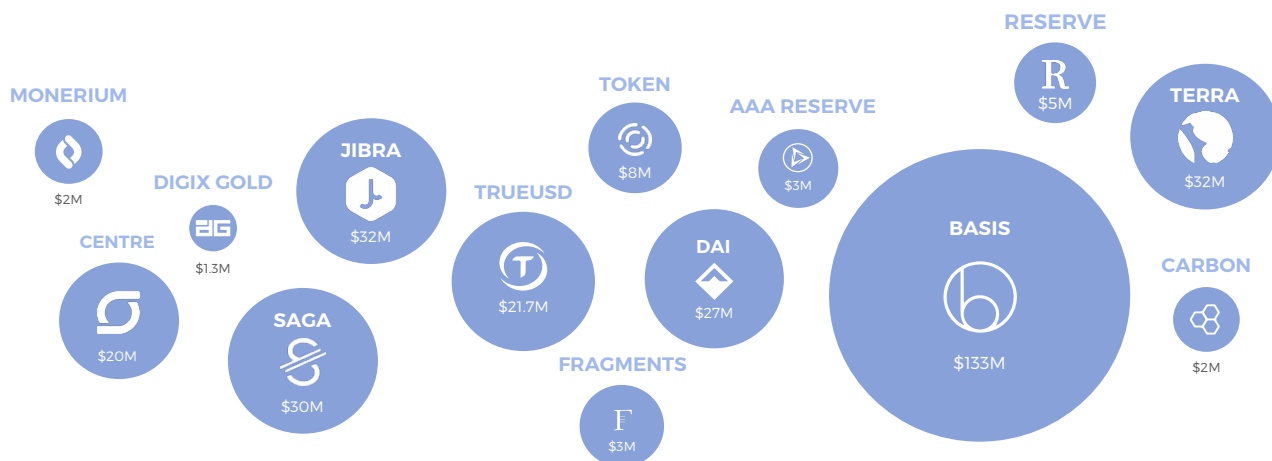
The growing regulator preference given to the term cryptoasset may be a reflection of bitcoin’s greater use today for investment purposes (store of value) over its use in everyday transactions and payments (medium of exchange). However, the use of the term cryptoasset may also reflect the more seemingly open embrace by regulators of new digital assets, commodities or securities over new currencies.

Rightly or wrongly, volatile cryptocurrencies like bitcoin are not viewed by many central bankers as a serious competitive threat to their own national currencies. However, a stablecoin of sufficient size and use may be deemed to pose greater direct competition to fiat currencies than bitcoin and may therefore spark a competitive response or regulatory backlash from central banks, which in many jurisdictions have largely remained on the sidelines of cryptocurrency regulation to date. What is less clear here for cryptocurrencies is “how big is too big?” Central bankers have been reluctant to provide specific quantitative levels that would trigger concerns (e.g., what percentage of payments made with a cryptocurrency would be deemed to pose a threat to a central bank’s ability to conduct monetary policy?).

# FUNDING & PARTNERSHIPS

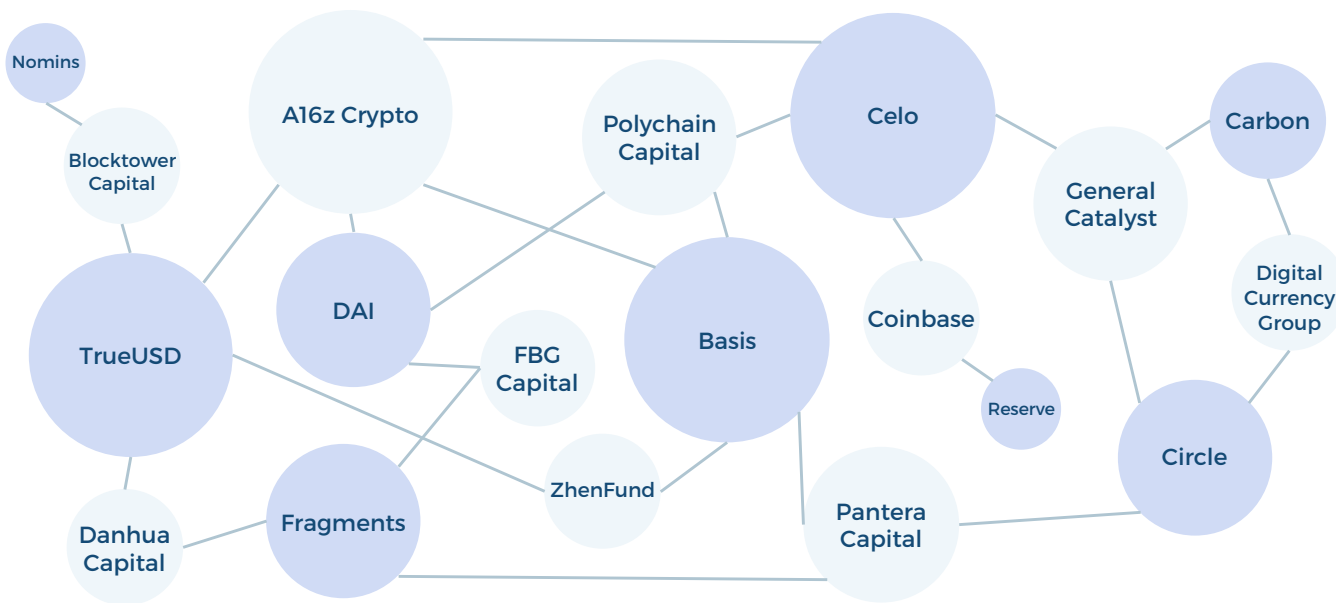
Stablecoin projects have raised a significant amount of funds so far, \$350m to date, highlighting their importance within the crypto landscape. Basis notably raised over one-third of this amount, \$133m, from funds which have already placed numerous bets into cryptoasset networks (such as Andreessen Horowitz) and simultaneously convinced established funds such as Bain Capital Ventures to invest in tokens (rather than later stage equity investments).

**Figure 13: Stablecoin Project Funding**



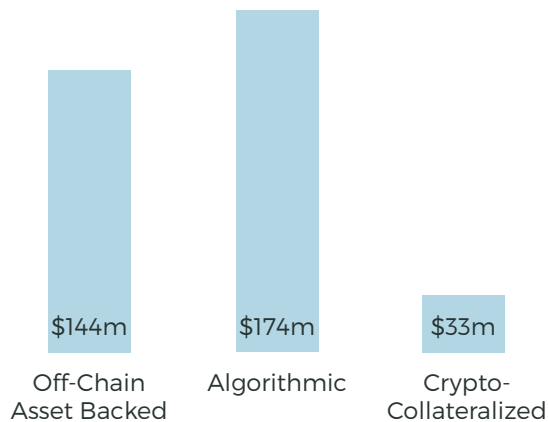
The most active investors in stablecoin projects are divided into two broad categories: venture capitalists and funds solely focused on cryptoassets. The former include Andreessen Horowitz (investments in Basis, TrustToken, Dai/Maker and Celo), Lightspeed (SAGA), Octopus (Token) and True Ventures (Fragments). The latter include the usual suspects such as Polychain Capital (Dai/Maker and Celo), Blocktower (Haven and TrueUSD), Digital Currency Group (Carbon and Token), and Pantera Capital (Fragments).

**Figure 14: Many Investment Funds Have Backed Multiple Stablecoins**



# FUNDING & PARTNERSHIPS

**Figure 15: Funding by Stablecoin Type**



Investors have been allocating funds across a variety of different stability mechanism designs, highlighting the diversity of views on different stablecoin designs. The off-chain asset-backed collateralized stablecoin projects TrueUSD, CENTRE (which designed USDC), SAGA, Digix, Token and Monerium raised a combined amount of \$144m, whilst non-collateralized tokens (also referred to as “algorithmic central banks”) such as Basis, Terra and Carbon have raised a combined \$174m. Crypto-collateralized tokens, such as Maker Dai and Reserve, have raised the least total funds at \$33m.

In the case of algorithmic central banks (non-collateralized stablecoins), token holders benefit from the growth of the network, expecting future purchases from new participants. As the adoption of stablecoins grows, an increase in supply should follow to maintain the peg, resulting in dividend-like

payments to token holders. On the other hand, the revenue model for fiat-backed cryptocurrencies such as Tether is to charge a fee once USD is converted into the stablecoin (and vice versa) and by receiving interest on the money held. However, increased competition between such centralized companies should bring downward pressure on fees, which could converge to zero in the long run.

The large amounts raised from those projects and their steep valuations may appear disproportionate at first, as one could argue that the upside of stablecoins, from an investor perspective, is somehow limited in the long term (either from a token or equity holder standpoint). Upon closer inspection, this category of tokens should accelerate the adoption of cryptoassets, especially from businesses and entities who cannot tolerate significant price volatility. A plethora of use cases should follow via decentralized apps. Stablecoins are seen as a missing piece of the puzzle for value accretion within cryptonetworks – investors financially tied to this ecosystem are thus incentivized to fund such projects and find the viable technical implementations as quickly as possible.

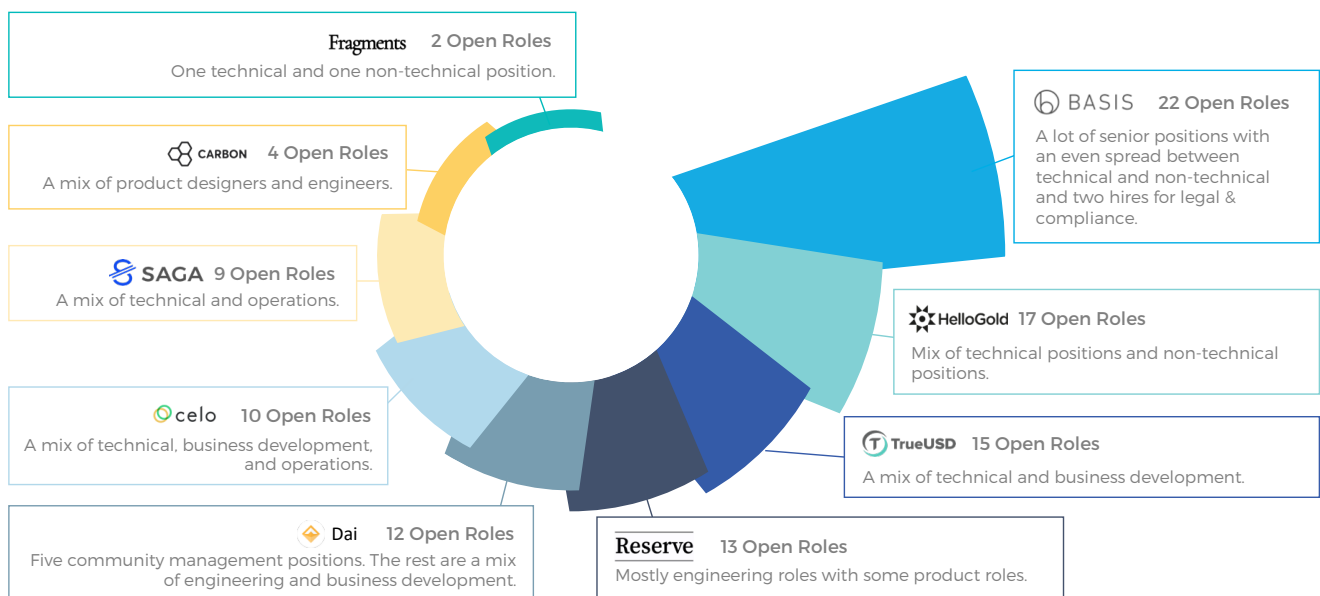
# LOOKING AHEAD

## Competitive Landscape

Recently it has not been uncommon for a new stablecoin to be announced each week, and the ever-growing number of stablecoin projects raises questions around competition and how many stablecoins the cryptoassets ecosystem can support.

One way to examine how projects are competing with each other is by analysing recruitment. In addition to the emphasis placed on hiring engineering and product talent that is seen across most cryptoasset projects, hiring areas of focus for stablecoin projects include business development (e.g., exchange listings), community management, and legal/compliance. Beyond developing the software and core product, obtaining a sufficient number of exchange listings and liquidity are seen as the two most important success factors by many stablecoin projects.

**Figure 16: Stablecoin Staff Recruitment**



As we have reviewed in this report, there are many different ways that stablecoins can differentiate, including stability mechanism design, technology platform, reference pegs, jurisdictional/regional focus, fundraising, and so on.

In terms of the core stablecoin design, different choices create trade-offs across a number of dimensions, such as the degree of transparency and automation (trust-minimization) offered by a stablecoin, as well as the complexity of the price stability mechanism. Utilizing the empirical data collected, we have compared the various stablecoin projects across these three metrics in Table 1.

# LOOKING AHEAD

**Table 1: Comparative Overview of Stablecoin Design Features**

| Platform           | Stablecoin        | Transparency | Automation  | Complexity  |
|--------------------|-------------------|--------------|-------------|-------------|
| Ethereum           | AAA Reserve (AAA) | Low Medium   | Low         | Low         |
|                    | Augmint           | High Medium  | High Medium | Medium      |
|                    | Basis             | High         | High Medium | High        |
|                    | Bridgecoin (BCO)  | Low Medium   | Medium      | Medium      |
|                    | Dai (DAI)         | High         | High Medium | High        |
|                    | Digix Gold (DGX)  | Medium       | Medium      | Low         |
|                    | Fragments         | High Medium  | High Medium | High        |
|                    | HelloGold (HGT)   | High         | Medium      | High        |
|                    | Kowala            | Low Medium   | High Medium | High Medium |
|                    | nomins (nUSD)     | High         | High Medium | High        |
|                    | SAGA (SGA)        | High Medium  | Medium      | High        |
|                    | Stably            | High Medium  | Low Medium  | Medium      |
|                    | TrueUSD (TUSD)    | Medium       | Low Medium  | Low         |
|                    | x8c               | Low Medium   | Low Medium  | Medium      |
| Omni Protocol      | Tether (USDT)     | Low          | Low         | Low         |
| Hedera Hashgraph   | Carbon (CUSD)     | High Medium  | Medium      | Low         |
| Nano               | NOS               | High Medium  | Medium      | Medium      |
| Dfinity            | Phi               | TBD          | TBD         | TBD         |
| Proprietary        | Celo              | TBD          | TBD         | TBD         |
| Stablecoin Neutral | USDC              | High Medium  | Low Medium  | Medium      |
| TBD                | Borreal (Aurora)  | TBD          | N/A         | N/A         |
|                    | Stableunit        | TBD          | High Medium | High        |
|                    | Terra             | High Medium  | High Medium | High        |
| N/A                | Reserve           | High         | High        | Medium      |

Today, it would appear that prioritization of automation/transparency generally carries with it the trade-off of greater stability complexity (i.e., risk that the peg will be broken). In other words, the more decentralized the stablecoin design, the less likely it is to remain price stable against a peg like the US dollar.

The success of Tether offers at least some evidence that so far the market has prioritized stability over decentralization (i.e., transparency and automation). Our view is that market participants are likely to continue to place a premium on stability over decentralization for the near-term. Anyone who prioritizes decentralization already has the option to own arguably the most decentralized cryptoasset, bitcoin. Indeed, the current preference for price stability is recognized by many of the algorithmic stablecoins, some of which are in the process of developing hybrid algorithmic/asset-backed launch designs.

Longer-term we expect stablecoins to become increasingly decentralized as projects continue to experiment with various designs and additional empirical data is gathered on 'what works'. For now, design uncertainty, as well as other factors such as regional/local regulations, lead us to believe that space may exist for approximately 5-8 significant stablecoins in the short to medium-term.

## Impact

A successful, well-designed stablecoin could help create a tipping point for much broader cryptoasset adoption by successfully addressing concerns around volatility, which are often cited as a key reason why many institutions and individuals have remained on the digital assets sidelines to date.

The rise of stablecoins may also affect the prices for some cryptocurrencies, such as bitcoin, that will face greater competition for certain medium of exchange and store of value use cases. However, in our view stablecoins are more complementary than competitive with major cryptocurrencies like bitcoin or ether. Indeed, many stablecoins rely on the security, compatibility and infrastructure provided by cryptocurrencies like bitcoin and ether. Overall, stablecoins are best viewed as a form of 'infrastructure' or foundational layer for cryptoassets that will generate immense value for the overall digital assets ecosystem.

The advantage of reduced volatility that stablecoins offer over other cryptocurrencies makes them attractive in certain settings and use cases, such as reducing exposure to cryptoasset market volatility. But does the broader world beyond the digital assets ecosystem really need (or want) stablecoins?

## LOOKING AHEAD

Stablecoins do not exist in a vacuum, and in addition to competing with other more volatile cryptoassets like bitcoin, they are also competing against national legal tender currencies. How successful or unsuccessful central banks are at managing national currencies will certainly influence the fate of stablecoins and cryptocurrencies as a whole. But stablecoins do not simply offer great competition in the marketplace for currencies and money. Like bitcoin, stablecoins are helping to usher in a new era of monetary innovation and encouraging established institutions like central banks to re-examine the nature and possibilities around one of our oldest institutions, money, and its role in the financial system.





# LIVE STABLECOINS

# TETHER

## OVERVIEW

### TICKERS

USDT, EURT

### LAUNCH DATE

2014

### LIVE

Yes

## FORMAT

### TOP-LEVEL CATEGORY

Asset-Backed

### SUB-CATEGORY

Off-Chain Collateral Backed

### COLLATERAL

USD, EUR

### DIVIDEND

None

### REFERENCE PEG

USD

## ADOPTION

### MARKET VALUE

\$2,703,889,070

### AVG. DAILY VOLUME

\$4,141,330,000

### FIAT PAIRS

1

### CRYPTO PAIRS

159

### EXCHANGES

33

## LEGAL STRUCTURE

### OWNERSHIP

iFinex

### LEGAL JURISDICTION

British Virgin Islands

### TEAM LOCATION

Distributed

## TECHNOLOGY

### PLATFORM

Omni Protocol & Ethereum

### OPEN SOURCE

Hybrid, built on Omni Layer

## INVESTORS & TEAM

### FUNDS RAISED

Unknown

### ADVERTISED JOBS

0

### WEBSITE

tether.to



## Key Takeaways

- Continued rise into the Top-10 cryptocurrency rankings demonstrates Tether's importance, as well as the overall market demand for stablecoins
- More centralized and opaque than other stablecoins, but making efforts of late towards greater transparency
- Despite entrance of new competitors, continues to dominate the stablecoin market
- Most similar to: USDC, TrueUSD, AAA Reserve, and Stably

## Overview

Formerly known as RealCoin, Tether (USDT) was established in 2014, making it one of the oldest stablecoins. It is a cryptoasset that leverages distributed ledger technology to allow individuals and organizations "to store, send, and receive digital tokens pegged to dollars, euros, and yen person-to-person, globally, instantly, and securely for a fraction of the cost of any alternative".

A 'tether' (the currency unit) is issued and redeemed using the Omni Layer protocol (previously known as Mastercoin), which is an 'overlay network' that runs on top of the Bitcoin blockchain. Backed by off-chain collateral, Tether is designed to protect its stakeholders from cryptocurrency volatility by maintaining a one-to-one reserve ratio between the cryptocurrency token (tether) and its associated real-world asset (fiat currency). This configuration is supported by a 'Proof of Reserves' process and "Tether Limited", the business entity responsible for custody of fiat reserves and conversion of value across the network.

Once a tether has been issued it can be transferred, stored, spent, etc. just like a bitcoin or any other cryptocurrency. The fiat currency held in reserve is thereby effectively transformed, gaining the general properties of a cryptocurrency while also having its price "tethered" (stabilized) to the price of the fiat currency held in reserve.

Tether tokens have no transaction fees and can be traded for other tokens at exchanges or withdrawn and held in any bitcoin wallet where the user controls their private keys. Tether Limited generates revenue from imposing a small fee on the issuance of new tokens.

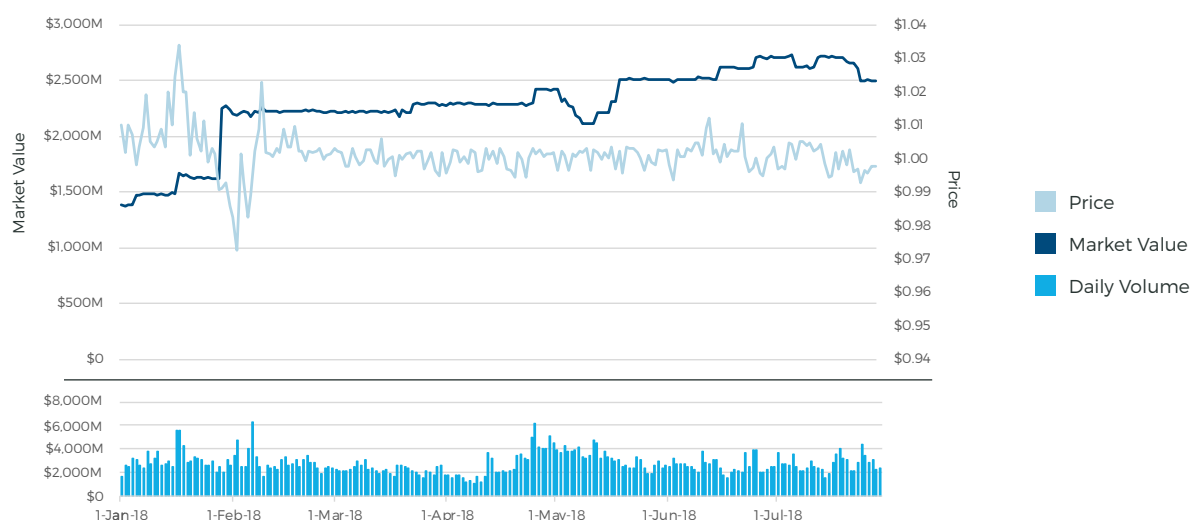
| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Low        | Low                               | Low          |

# TETHER

## Strengths

Tether dominates the current stablecoin landscape. It is the most widely adopted stablecoin and is used by many industry-leading exchanges such as ShapeShift, Bittrex, Bitfinex, Binance, and Poloniex. It has proven particularly attractive to major exchanges that do not offer US dollar customer accounts. For example, in 2017 Tether experienced a rapid increase in volume on Poloniex, arguably playing a key role in it becoming the market leading exchange by volume in mid-2017.

Tether's market cap has grown from ~\$7million in 2017 to \$2.7 billion today. The upsurge in market capitalization has mainly come from adoption by active cryptocurrency traders who use Tether as a risk management and hedging tool. Crypto traders can move funds into USDT to de-risk from general crypto volatility while simultaneously avoiding leaving the cryptocurrency market by converting back to fiat currency. As shown in the below chart, Tether's continued growth demonstrates the significant demand for fiat-backed cryptocurrencies in the market.



## Trade Offs & Concerns

### Negative Publicity

Since 2015, many cryptocurrency exchanges and trading platforms have integrated and partnered with Tether to support deposits and withdrawals. However, Tether has been accused of running a 'fractional reserve.' Tether's reputation and image has been impacted by challenges associated with public transparency regarding its backing, though it has maintained that USD reserves have always been sufficient. The recent FSS report was a first step in showcasing such proof, but more will be needed to improve public transparency going forward.

### Counterparty Risk & Reliance on Traditional Banking System

Tether's vulnerability to counterparty risk is significant and inherent to its current design. The company relies on legacy banking institutions in Taiwan and perhaps Puerto Rico to custody its fiat reserves. Tethers are therefore subject to the same credit and counterparty risk inherent with any standard bank deposit.

### Lack of Legal Rights for Tether Holders

Concerns have arisen over what exactly Tether promises and its legal obligations regarding redemptions. Tether Limited issued a legal clarification, which in essence states that holding tethers provides no legally enforceable rights for the holder.

### Opacity / Single Point of Failure

Tether more broadly represents two main problems with fiat backed stablecoins: (1) lower transparency than on-chain collateralized systems, and (2) a centralized, single point of failure. Many believe Tether has not gone far enough to minimize the degree of trust and dependence on Tether Limited, which is relied upon to circulate funds by creating and destroying asset-backed tokens.

# TETHER

## Opportunities for Improving Tether

### Disclose Reputable Asset Custodian

Any asset-backed cryptocurrency is only as secure as the ultimate custodian of the underlying assets. Depositing the underlying funds/assets in a known banking institution that is secure, reputable, and trusted would potentially represent a significant improvement to Tether.

The safer the bank, the better. An ideal candidate would be a true 'narrow bank' in which assets are as liquid as its liabilities, meaning that deposits are invested one-to-one in safe government bonds or held in cash with no fractional reserve banking.

### Enhance Trust in the Issuing Entity

Significant improvements could also be made with regards to the issuing entity as this is where the majority of the operational risk lies regarding the creation and destroying of asset-backed tokens. The greater the trust and transparency, the better. In fact, this entity could actually be a deposit-accepting bank itself.

### Add Legal Enforceability

Another perhaps difficult area is determining the legal status of the token itself. Tethers have no associated legal enforceability. Any coin that gave the owners real legal rights (but also still facilitated peer-to-peer exchange) would represent a vast improvement over the current offering. Whether such a coin would be legally deemed 'money', a security, or something else is unclear.

## Conclusion

Despite its weaknesses, Tether has grown rapidly and is now one of the top-10 cryptocurrencies in terms of value and second only to bitcoin in terms of daily trading volume. Tether also has regulatory approval as a Money Service Business with the Financial Crimes Enforcement Network (FinCEN). However, Tether has been shrouded in suspicion around its collateral reserves, and third-party verification of Tether's off-chain fiat reserves has not erased all doubts.

Bottom line: traders have not shied away from using Tether on crypto exchanges, and Tether has built up trust with leading cryptocurrency exchanges, which is a key factor in its continued dominance. However, Tether's shortcomings have created an opportunity for an alternative stablecoin to enter the market. Stablecoins that minimize trust and counterparty risk by storing collateral on-chain offer a particularly strong contrast with Tether's relatively centralized structure.

# DAI

## OVERVIEW

### TICKER

DAI

### LAUNCH DATE

2017

### LIVE

Yes

## FORMAT

### TOP-LEVEL CATEGORY

Asset-Backed

### SUB-CATEGORY

On-Chain Collateral Backed

### COLLATERAL

ETH

### DIVIDEND

Stability fee

### REFERENCE PEG

USD

## ADOPTION

### MARKET VALUE

\$53,606,957

### AVG. DAILY VOLUME

\$436,059

### FIAT PAIRS

0

### CRYPTO PAIRS

17

### EXCHANGES

10

## LEGAL STRUCTURE

### OWNERSHIP

Maker (MKR) Token Holders

### LEGAL JURISDICTION

Switzerland

### TEAM LOCATION

Santa Cruz, CA, U.S.

## TECHNOLOGY

### PLATFORM

Ethereum

### OPEN SOURCE

Yes

## INVESTORS & TEAM

### FUNDS RAISED

\$12,000,000

### ADVERTISED JOBS

12

### WEBSITE

makerdao.com



## Key Takeaways

- Decentralized, on-chain collateral backed by the ether (ETH) cryptocurrency (and other ERC-20 tokens in the near future)
- As one of the early Ethereum projects, Dai has developed over several years a relatively strong community
- Currently listed on ten (10) exchanges with seventeen (17) cryptocurrency pairings
- Most similar to: BitShares, Haven, Augmint, and Reserve

## Overview

Dai is an on-chain collateral backed stablecoin, backed by the ether (ETH) cryptocurrency. 'Maker' is the entity that created the decentralized technology that runs on top of the Ethereum blockchain that powers Dai. The Dai stablecoin system employs smart contracts on Ethereum that actively stabilize Dai's exchange rate through the use of Collateralized Debt Positions (CDPs) and autonomous feedback mechanisms. Appropriately incentivized external actors (e.g., market traders) also play a role in stabilizing Dai.

CDPs are collateralized smart contracts that allow users to generate Dai in proportion to the value of the deposited assets. A user deposits ether into the CDP smart contract, where it is held until the debt (as well as interest) is fully paid.

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Med-High   | High                              | High         |

## How does it work?

In order to combat the volatility of the underlying collateral, the Dai system can liquidate CDPs by auctioning off the underlying collateral held by the smart contract whenever the value of the collateral falls sufficiently.

The Dai system has a governance token called MakerDAO (MKR). Ownership of MKR gives these token holders governance rights over the Dai system's risk parameters and types of collateral that can be held in CDPs. When users close CDPs they must pay a stability/governance fee in the form of MKR which is then burned by the Dai system. This reduction in the supply of MKR is one of the direct financial incentives for holding MKR and supporting the Dai ecosystem.

### Stability Protections

Dai's price is stabilized through the following autonomous feedback mechanisms:

- Target Price
- Target Rate Feedback Mechanism
- Sensitivity Parameter

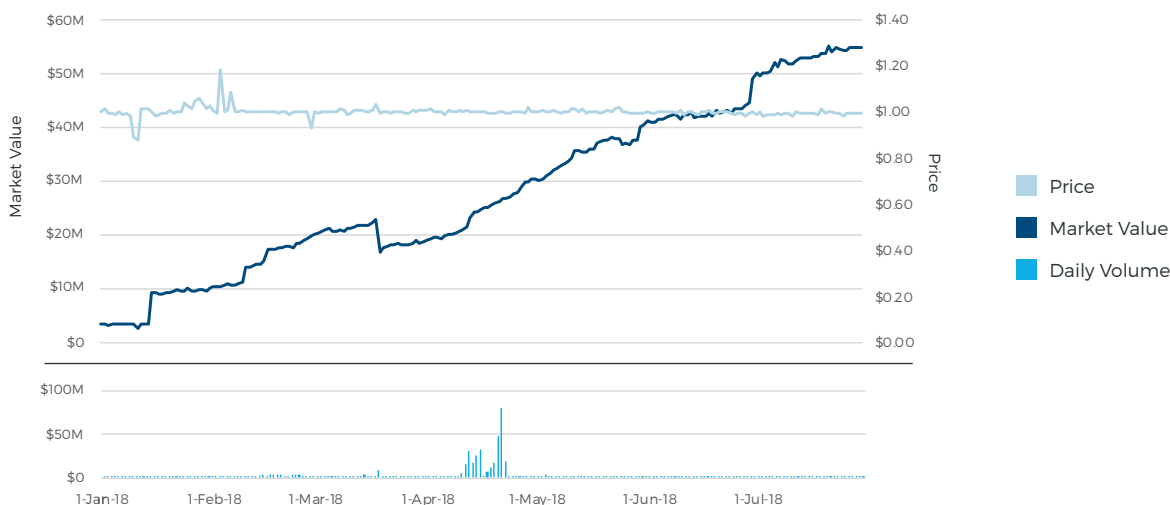
# DAI

- Global Settlement

The Target Price mechanism provides two functions: (1) it allows for the calculation of the collateral to debt ratios of CDPs and (2) it determines the value of assets deposited into CDPs in the case of global settlement. The Target Rate Feedback Mechanism (TRFM) is one of the most important mechanisms because, in the case of market instability, it helps maintain the Dai market price around the Target Price. This is done by changing the Target Rate and (consequently) the Target Price to balance supply and demand for Dai by adjusting users' incentives to generate or hold Dai.

The Sensitivity Parameter determines the magnitude of Target Rate change in response to deviations of the Dai market price away from the target price. This is one of the means by which Maker token holders exert their power over the Dai market, as Maker voters can set the Sensitivity Parameter to stabilize the coin, while TRFM and Target Price are determined by the market. However, the TRFM is not engaged by default and is only used during periods of market instability.

Another important mechanism, Global Settlement, is an emergency tool that is used to ensure Dai holders and CDP owners have a claim on the correct value of their holdings in the case of serious market instability. This is likely to be used in cases of long-term market irrationality, hacking or security breaches, and system upgrades. Furthermore, the voters are not necessarily people from the Maker core team, but MKR holders, making the network more decentralized.



## Strengths

### First Mover Advantage in its Class

With the concerns surrounding Tether (some of which apply equally to other centralized, fiat-backed stablecoins), Dai is in an attractive position as the first decentralized, on-chain collateral backed stablecoin to successfully launch. The code has been open source and auditable for much longer than many other stablecoin projects.

### Decentralized Governance

The Maker team intends for the Dai stablecoin system to be governed in its entirety by MKR token holders. Whilst most development and governance decision are currently driven by the core Maker team, the planned future decentralized governance will reduce the reliance on a centralized team. The Maker team is putting a concerted effort towards more transparency and promoting decentralized governance through the Maker Foundation, which aims to promote greater decentralized governance of the Dai system through the MKR token. This degree of effort around decentralizing governance is not found in any other live stablecoin project.

# DAI

## Experienced Developer Team

Maker is generally viewed as having a strong team of highly-skilled smart contract developers and security specialists (DappHub). The project has the benefit of having been in development for three years and has, thus far, maintained a relatively stable price and smooth launch.

## Framework for Multi-Collateral Dai

The Collateralized Debt Position model for maintaining Dai's stability means future upgrades could include other types of collateral, which would allow Dai to leverage and benefit from the stability and success of other cryptoassets (including other stablecoins).

## Third-party Developer Community

The open-source nature of the Dai stablecoin system means that third-parties can build useful applications on top of the Dai backend. Already there have been third-party applications built which integrate the Dai system, such as EasyCDP and AutoCDP, which is a testament to the third-party Dai developer community.

## Trade Offs & Concerns

### Only One Form of Collateral Available (ETH)

Currently only ETH (Pooled ETH) is available as a collateral type for backing Dai. Reliance on ETH means that all Dai are susceptible to large drops in a single cryptoasset's price, creating single point of failure risk. Moreover, the long-term success of the CDP model depends on the ability to find uncorrelated CDP types, and currently most cryptoassets are strongly correlated.

Similar to other crypto-backed stablecoins, Dai is exposed to the volatility seen in cryptoasset prices and potential 'black swan'-type events. Even though Dai has held up relatively well during the approximately 70% cryptoasset market price decline from the December 2017 high, it is unclear how the Dai system will maintain its stability during times of rapid increases and decreases.

### Over-collateralization required

Under the current Dai structure, excess capital is required to produce \$1 of Dai (e.g., a minimum of \$1.50). While over-collateralization helps provide confidence during a downturn, some may view it as an inefficient deployment of capital.

### Difficult to Understand

The Dai system is much more complex than many competing stablecoins. This can be a disadvantage as everyday users may be more reluctant to use a stablecoin whose operations and dynamics they cannot easily understand, especially compared to relatively simple fiat-backed stablecoins.

### Supply constraint

The total supply of Dai has an upper bound, capped by the amount that collateral users are willing to put into CDPs. The exact collateral upper limit is unknown, but any such limit may diminish Dai's ability to scale as compared to its competitors.

### Potential for Smart Contract Vulnerabilities

Dai's utilization of smart contracts, which are a nascent technology frequently afflicted by software bugs, could leave it more vulnerable than its off-chain collateralized competitors. In addition, the Dai system has one of the most complex codebases of any current token project on Ethereum, and this greater attack surface potential opens Dai up to more attack vectors for hackers. The Maker team has carried out several smart contract audits (Trail of Bits, etc.) in an attempt to mitigate this risk.

# DAI

## Conclusion

Dai's structure, backed by ETH in a smart contract, is inherently decentralized. Users do not rely on a trusted-third party, as is the case with more centralized stablecoins such as Tether and Digix, where the stablecoins are essentially IOU coins. Dai is also not subject to the same counterparty risks or traditional banking risks as Tether. Since Dai's launch in December 2017, the token has managed to stay quite stable relative to its USD soft-peg. The forthcoming launch of multi-collateral CDPs will help expand the reach of the token and allow the circulating supply of Dai to increase further.

There will continue to be ongoing concerns over whether Dai's economic model is scalable and whether the collateral used for CDPs will be uncorrelated enough to protect Dai from the risk of large scale market price crashes. In short, only time will tell whether Dai's stability mechanism is robust enough for the topsy turvy world of cryptoassets. Should Dai continue to perform it is well positioned to see increased usage as a decentralized alternative to Tether and other fiat-backed stablecoins.



# TRUEUSD

## OVERVIEW

### TICKER

TUSD

### LAUNCH DATE

2018

### LIVE

Yes

## FORMAT

### TOP-LEVEL CATEGORY

Asset-Backed

### SUB-CATEGORY

Off-Chain Collateral Backed

### COLLATERAL

USD

### DIVIDEND

None

### REFERENCE PEG

USD

## ADOPTION

### MARKET VALUE

\$78,431,429

### AVG. DAILY VOLUME

\$14,998,500

### FIAT PAIRS

5

### CRYPTO PAIRS

10

### EXCHANGES

11

## LEGAL STRUCTURE

### OWNERSHIP

TrueCoin LLC

### LEGAL JURISDICTION

Delaware

### TEAM LOCATION

San Francisco, CA, U.S.

## TECHNOLOGY

### PLATFORM

Ethereum

### OPEN SOURCE

Yes

## INVESTORS & TEAM

### FUNDS RAISED

\$21,700,000

### ADVERTISED JOBS

15

### WEBSITE

trusttoken.com/trueusd



## Key Takeaways

- Off-chain, fully collateralized USD-backed ERC20 stablecoin
- Currently the 2nd largest live stablecoin by market value
- Collateral stored in escrow accounts managed by third-party regulated financial institutions
- Early problems with price stability following Binance exchange listing
- Most similar to: Tether, AAA Reserve, Token, and Circle USDC

## Overview

TrueUSD (TUSD) is an off-chain fiat-collateralized stablecoin that runs on Ethereum. Technically, TrueUSD does not hold any USD in its reserves. Instead, it has partnered with registered banks and institutions with fiduciary obligations to keep the funds in an escrow account. Together with this third-party trusted off-chain escrow account, users must pass a KYC/AML check, wire USD to one of the TrueUSD third-parties, and provide an Ethereum address to receive TUSD. The transaction, once validated, initiates the TrueUSD smart contract, which mints an equivalent amount of TUSD that is delivered to the user's Ethereum address. If the user wants to redeem the TUSD tokens for fiat, the user sends the tokens back to the smart contract, which burns the tokens and issues USD to the user from the escrow account. This burning process effectively secures an exact 1-to-1 match between USD in the escrow account and TrueUSD. Each time coins are minted or burned, 'TrustToken', the company behind TrueUSD, takes a 0.1% fee (\$75 minimum).

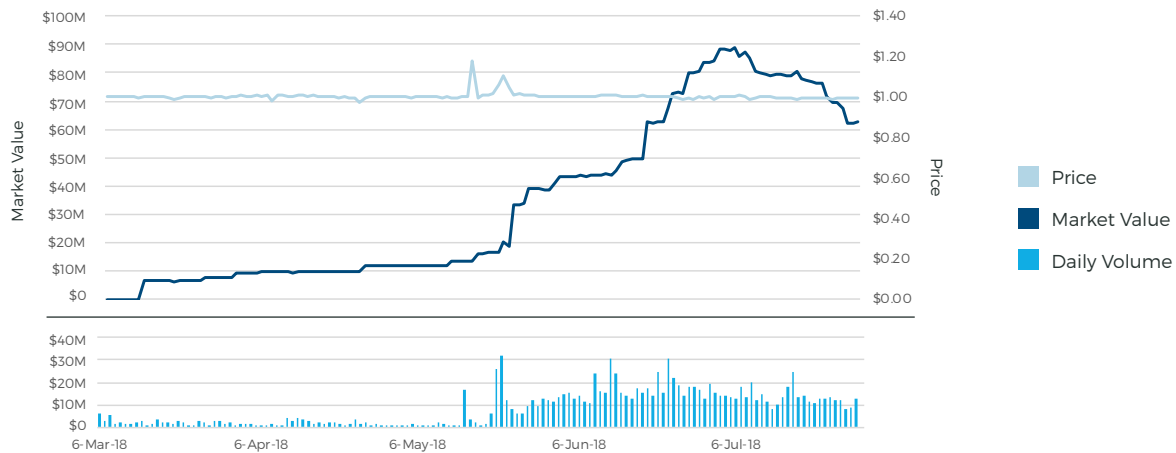
| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Low-Med    | Low                               | Medium       |

## How is it used?

TrueUSD uses smart contracts that are fully open source, meaning anyone can view and audit the code. As well as KYC/AML checks, traditional financial escrow accounts are utilized to enable regular attestations and traditional legal protections. By partnering with regulated financial institutions, TrueUSD enables direct banking, which introduces safeguards to prevent it from manipulating reserve holdings. This feature addresses one bone of contention for many with Tether's structure.

TrustToken, the entity behind TrueUSD, has received investments from many well-known and respected venture capitalists including a16 crypto, BlockTower Capital, GGV Capital, Jump Capital, and Danhua Capital. For its KYC/AML services, TrueUSD uses A10tix, ComplyAdvantage, and Thomson Reuters, a bank-grade compliance stack.

# TRUEUSD



## Strengths

### Escrow Protection and Fund Management

TrueUSD is openly taking a hybrid approach to tokenizing US Dollars. Unlike other fiat-backed stablecoins, the escrow account used by TrueUSD does offer legal protection to token holders. Many parties are generally familiar with third-party escrow accounts and are happy to rely on them for funds management and dispute resolution. Any individual or institution that passes a KYC/AML check has the ability to redeem TrueUSD for USD.

### Legal Framework

TrueUSD has retained law firms WilmerHale and White & Case to develop its legal framework for collateralized cryptocurrencies. This framework exists alongside the team's network of other fiduciary, compliance, and banking partners. The team's legal counsel has provided a memorandum that TrueUSD tokens are not securities, likening the token to deposit and safekeeping receipts, which the SEC has previously issued a no enforcement action for their use. It is worth noting that the previous SEC no action letter does not directly apply to TrueUSD unless the SEC has specified that it applies. However, this attention to the legal framework and escrow accounts, as well as the transparent demonstration around its efforts around compliance, contrasts favorably in the eyes of many with the approach taken to date by Tether.

### 2nd Most Tier-1 Exchange Listings and Market Value

TrueUSD's listings on popular exchanges such as HitBTC, Binance, UpBit, and Bittrex (more Tier-1 exchanges than any stablecoin except Tether) gives it a lead on competing stablecoins. TrueUSD and Tether are also listed on several of the same exchanges, enabling TrueUSD to substitute for (and take market share from) Tether.

### Transparency

Given the speculation around Tether, transparency into a project's holding structure and operations is becoming increasingly valued among fiat-collateralized stablecoins. Unlike Tether, TrueUSD ownership structure has been publicly acknowledged, and the escrow accounts are reviewed (aka an attestation) by Cohen & Co (a top-50 accounting firm) and published publicly every month here: <https://blog.truustoken.com/truUSD-attestation-reports-86f693b90a4>.

# TRUEUSD

## Trade Offs & Concerns

### Instability

The reliability of TrueUSD's stability mechanism has been called into question as TUSD rose to \$1.39 in May following the Binance exchange listing announcement.

### Minimum Redemption Requests

Per the Terms of Use policy, the company may "prohibit wire submissions of USD or redemption requests of TrueUSD if the total amount submitted or requested is less than \$10,000 USD." Further, the company may reduce this minimum amount in the future in coordination with its fiduciary network. With such a high submission and redemption minimum, TrueUSD seems to be targeted at institutions rather than the small user. However, the \$10,000 minimum cuts both ways; while prohibitive for many people, the amount was determined by the vetted participants of TrueUSD's fiduciary network and may create an opportunity for TrueUSD to differentiate itself through better governance than other off-chain collateralized stablecoins.

### Counterparty Risk & Reliance on Traditional Banking System

Also like Tether, TrueUSD is vulnerable to counterparty risk due to its reliance on legacy banking institutions.

## Conclusion

TrueUSD is one of the first of the 'better Tether' stablecoins to come to market and has had early success in growing its trading volume and listings on a number of major exchanges. Indeed, TrueUSD has managed to pole vault into the #2 stablecoin position even though it launched well after Dai. Its off-chain collateral structure will be seen as an advantage by some (e.g., the use of regulated and compliant institutions), and in certain circumstances, a disadvantage by those that value decentralization. Whether the use of trusted escrow audits and traditional third parties hurt or help TrueUSD more will only be known over time.

# AAA RESERVE

## OVERVIEW

### TICKER

AAA

### LAUNCH DATE

2017

### LIVE

Yes

## FORMAT

### TOP-LEVEL CATEGORY

Asset-Backed

### SUB-CATEGORY

Off-Chain Collateral Backed

### COLLATERAL

Multi-currency

### DIVIDEND

None

### REFERENCE PEG

Real-termsL C10 inflation

## ADOPTION

### MARKET VALUE

\$2,950,674

### AVG. DAILY VOLUME

Not applicable

### FIAT PAIRS

3

### CRYPTO PAIRS

0

### EXCHANGES

0

## LEGAL STRUCTURE

### OWNERSHIP

Arc Fiduciary LTD

### LEGAL JURISDICTION

Jersey

### TEAM LOCATION

London, UK

## TECHNOLOGY

### PLATFORM

Ethereum

### OPEN SOURCE

Yes

## INVESTORS & TEAM

### FUNDS RAISED

\$3,000,000

### ADVERTISED JOBS

0

### WEBSITE

aareserve.com



## Key Takeaways

- Multi-currency and multi-asset (fixed income) off-chain collateral backed
- Only stablecoin currently pegged to inflation
- Utilizes fixed income investments to generate a positive return to maintain peg
- Most similar to: Tether, TrueUSD, Saga, Monerium, CircleUSDC

## Overview

AAA Reserve Currency (AAA) is an off-chain, fiat-collateralized stablecoin. AAA claims to be the most stable of all live stablecoins and three times less volatile than USD since its launch in January 2018.

AAA is designed to hold multiple fiat currencies, such as the US dollar, sterling and yen, along with fixed income assets (e.g., British gilts or other AAA-rated credit investments) as collateral backing for the value of AAA coins. Proceeds raised from the sale of the AAA ERC20 token are invested back into these asset categories, with the diversified lending and fixed income investments expected to produce a positive investment return that offsets the loss of purchasing power of the fiat currencies held in the portfolio. This expected positive investment return is what will enable AAA to maintain its peg to inflation.

The issuing of AAA coins is overseen by Arc Fiduciary Ltd, a special purpose vehicle (SPV) registered in Jersey (the Bailiwick of Jersey) that operates as a not-for-profit.

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Low        | Low                               | Low-Med      |

AAA Price



# AAA RESERVE

## Strengths

### Superior Store of Value and Unit of Account

At present, AAA is the only live stablecoin that is pegged to inflation. This makes AAA arguably both a superior store of value and unit of account versus other stablecoins pegged to the US dollar, which loses approximately 2% of its purchasing power per year. With its fixed income portfolio, the SPV holding AAA's reserve collateral is expected to produce a positive investment return that offsets the loss of purchasing power of the fiat currencies in the portfolio, enabling AAA to maintain its peg to inflation (the average inflation for G-10 countries).

### Diversified Stability Mechanism

The AAA model seeks stability from multiple fiat currencies as well as fixed income assets like UK gilts and other high-quality bonds. Given continuous fluctuations across different fiat currencies, a basket of diverse, real assets may provide additional layers of stability beyond other stablecoins that are backed by a single fiat currency.

### Legally Compliant Stablecoin

Many financial institutions are only interested in and legally able to adopt compliant financial instruments like AAA, and it is with these institutions where AAA may have a significant advantage over other stablecoins. AAA is operating within the regulatory framework of Jersey and can take advantage of its financial passporting rights.

### Proven Stability Mechanism

Like many other stablecoins, AAA Reserve uses an off-chain collateral model, which in some ways is much simpler than either on-chain collateral or algorithmic models. It is easy to understand how exchange rate stability for stablecoins like AAA is achieved.

### Non-Profit Structure

The AAA SPV operates as a not-for-profit, which eliminates potential incentives to game/attack seigniorage share-style stablecoins.

## Trade Offs & Concerns

### Counterparty Risk

Like Tether and other off-chain stablecoins, AAA is centralized through its reliance on AAA Fiduciary Ltd., making AAA subject to counterparty risk. For example, if AAA Fiduciary Ltd were to ever fail or experience fraud the value of the AAA stablecoin would likely drop.

### Liquidity and Lack of Exchange Support

The AAA Reserve coin is much less popular than some live competitors, such as Dai, Tether, and TrueUSD. A central value proposition for stablecoins is their usage for trading and across blockchain-based applications, making the liquidity and the popularity of a given stablecoin a significant determinant in its success. AAA is lagging behind its live competitors in these areas.

### Limited Income or Profit Upside for AAA holders

While the inflation peg allows AAA holders to potentially outperform holders of other fiat-backed stablecoins or non-or-low interest-bearing cash deposits, the upside for AAA holders appears lower than other seigniorage share-style or fee-backed stablecoins. The lack of upside for AAA holders on the growing use of AAA may reduce adoption interest amongst speculators and network effect dynamics.

# AAA RESERVE

## Conclusion

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The AAA model offers a potentially superior store of value and unit of account versus other stablecoins. No other stablecoin at present is pegged to inflation, and many designs would have difficulty making the transition to an inflation peg without making significant structural changes. AAA's structure may therefore give it an edge for certain use cases, such as low risk investments like savings retirement accounts, as well as for benchmarking and performance measurement over time. AAA's multi-currency purchase options could also make it an attractive on-off ramp from fiat to cryptocurrencies (and vice versa).

AAA's main challenge is rapidly growing stablecoin competition. A separate commercialization vehicle was recently established to drive greater use of AAA, and its market value will soon boost to approximately \$3 million. However, AAA will continue to suffer criticism (like Tether and other similar off-chain collateral models) for its relative lack of decentralization (counterparty risk) and trivial technical innovation.

# HAVVEN

## OVERVIEW

### TICKER

nUSD

### LAUNCH DATE

2018

### LIVE

Yes

## FORMAT

### TOP-LEVEL CATEGORY

Asset-Backed

### SUB-CATEGORY

On-Chain Collateral Backed

### COLLATERAL

Cryptoassets

### DIVIDEND

Yes

### REFERENCE PEG

USD & other fiat currencies

## ADOPTION

### MARKET VALUE

\$1,139,726

### AVG. DAILY VOLUME

\$45,505

### FIAT PAIRS

None

### CRYPTO PAIRS

3

### EXCHANGES

1

## LEGAL STRUCTURE

### OWNERSHIP

Havven

### LEGAL JURISDICTION

New South Wales, Australia

### TEAM LOCATION

Sydney, Australia

## TECHNOLOGY

### PLATFORM

Ethereum, EOS (Q4 2018)

### OPEN SOURCE

Yes

## INVESTORS & TEAM

### FUNDS RAISED

Unknown

### ADVERTISED JOBS

3

### WEBSITE

havven.io

# HAVVEN

## Key Takeaways

- One of a handful of 'fee-backed' stablecoins
- Began trading in July 2018 on a top-50 exchange (Hong Kong-based Kucoin)
- Relatively decentralized (e.g., on-chain collateral-backed)
- Most similar to: Terra, Dai, Augmint, and BitShares

## Overview

Havven is an on-chain collateral-backed stablecoin system that employs two tokens: (1) nomins (nUSD), the stablecoin and (2) Havvens (HAV), the collateral-backed nUSD. The Havven project is one of a handful of transaction fee-based stablecoin designs that have been developed to date.

nUSD users (spenders of the stablecoin) pay an approximate 0.2% transaction fee to HAV holders who collateralize the network. This fee compensates HAV collateral providers for supporting exchange rate stability.

Issuance of nUSD requires a greater value of HAV to be escrowed in the system's smart contract. This feature is intended to provide confidence that nomins can be redeemed at face value even if the price of HAV coins falls. The collateral ratio varies, but approximately 20% of the value of a HAV coin will be issued as nomins, and the remaining 80% will be staked as a buffer against price changes.

When a user decides to stake their HAV in a smart contract escrow, the nUSD will be generally issued in line with the ratio mentioned above and automatically put up for sale at a price of approximately \$1 USD, with the proceeds paid back to HAV holders. To release escrowed HAV, the Havven smart contract system buys the nUSD (also at a price of \$1 USD) and burns them from the system to reduce the circulating supply.

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Med-High   | High                              | High         |

# HAVVEN



## Strengths

### Direct Incentives

As long as demand exists for nomins there is a baked-in incentive to maintain a stable nUSD price. In other words, users who act to stabilize the nUSD price are rewarded for their efforts by being paid the transaction fees. Of course, being rewarded in transactions fees requires transactions (fundamental demand).

Direct incentives also motivate users to act quickly to stabilize the price because they will receive a larger fraction of the total fees generated. These direct incentives may help avoid the potentially circular incentive structure found in some project designs that have yet to be tested in the market (e.g., Basis).

### Stability Tied to Economic Activity

Unlike some stablecoin projects, transaction fees offer the possibility of directly linking the stability mechanism with bona fide economic activity. This feature may help market participants have more confidence that growth in the use of the token is being driven by actual fundamental economic activity rather than speculative interests.

### Over-Collateralization

Although over-collateralization is somewhat capital-inefficient, the conservative ratio may help create confidence amongst market participants in Haven's stability system.

## Trade Offs & Concerns

### Stability

nUSD only commenced trading on a single cryptocurrency exchange in July 2018, but so far it has had some difficulty maintaining its \$1 USD peg. It is worthwhile to note that the trading volume thus far is still below \$200,000 per day and total nUSD in circulation is valued at a little bit more than \$1m, meaning it may be premature to draw long-term conclusions about the stability and performance of nUSD in the market based on only a few weeks of data. However, average daily trading volume has been declining since launch.

### Fee-Based Adoption Incentivization Model

Since the transaction fee percentage is low, one can argue that the fee-based model does not provide competitive returns to supporters when compared to other cryptocurrency projects. For example, even if annual transaction volume reaches \$15 billion, a 0.15% transaction fee would yield \$22.5 million in pre-tax fee revenue. In other words, given the current circulating supply of 64 million (or max. 100 million circulation cap), Haven may not generate sufficient returns for investors when compared to other projects seemingly offering more upside. One could argue that another advantage could be potential price appreciation of the HAV token.



# HAVVEN

## Collateralization Ratio

Transaction fees are distributed in proportion with how effectively each issuer reacts to the changing collateralization ratio. The Haven system monitors the nUSD price and responds by adjusting its targeted global supply, and individual issuers (Haven stakers) are incentivized to adjust their collateral ratio.

For instance, if the value of nUSD drops below the desired peg, HAV holders in essence need to burn nUSD to create upward pressure on the nUSD price in return for an increased allocation of transaction fees. However, during any black swan event, it is unclear whether market participants will have sufficient confidence to burn their stablecoins/fiat to save the peg if both the value of HAV and nUSD are falling sharply in the secondary market. Furthermore, unless there is a convenient mechanism for investors to adjust the collateral ratio constantly a substantial number of HAV holders may not respond to changes in the target collateralization rate, and this would adversely impact the stability of nUSD.

## Possible Reliance on Securing Large Partnerships

The success of the fee-based approach may rely heavily on actual adoption and use cases in the market, i.e., adding large e-commerce partners to the ecosystem who can create incentives for spending the stablecoin and driving adoption. Whether large e-commerce platforms will join the Haven network when they can create their own stablecoin – under their own control and brand – is an open question. Unlike the similar Terra stablecoin, Haven lacks strong ties to large e-commerce platforms, raising questions over whether the Haven team can win enough partnerships fast enough to achieve the necessary dominance and network effect.

## Over-Collateralization

Although over-collateralization helps to provide confidence during a downturn, it is an inefficient deployment of capital and may limit its ability to scale when compared to some competitors.

## Conclusion

Haven's relatively-decentralized and revenue-generating design presents an intriguing stability mechanism. However, the launch is arguably off to a somewhat rocky start, and Haven's ultimate success may hinge less on its design than the project team's business development prowess (e.g., success in securing e-commerce relationships), where it appears to be at a disadvantage to other projects.

Like other crypto collateral-backed stablecoins, the nUSD stablecoin is subject to the volatility of its backing asset. As such, Haven must be over-collateralized to protect against any irregular volatility. However, such over-collateralization does not protect against black swan events that would cause the coin to become under-collateralized. No stablecoin design developed to date is without its tradeoffs. Only time will tell whether the tradeoffs chosen by the fee-based model employed by Haven are on balance the correct ones.

# DIGIX

## OVERVIEW

### TICKER

DGX

### LAUNCH DATE

2018

### LIVE

Yes

## FORMAT

### TOP-LEVEL CATEGORY

Asset-Backed

### SUB-CATEGORY

Off-Chain Collateral Backed

### COLLATERAL

Gold

### DIVIDEND

Yes

### REFERENCE PEG

Price of 1g of 99.99% LMBA Standard Gold

## ADOPTION

### MARKET VALUE

\$2,034,912

### AVG. DAILY VOLUME

\$5,973

### FIAT PAIRS

0

### CRYPTO PAIRS

1

### EXCHANGES

1

## LEGAL STRUCTURE

### OWNERSHIP

DigixGlobal PTE LTD

### LEGAL JURISDICTION

Singapore

### TEAM LOCATION

Singapore

## TECHNOLOGY

### PLATFORM

Ethereum

### OPEN SOURCE

Yes

## INVESTORS & TEAM

### FUNDS RAISED

\$1,300,000

### ADVERTISED JOBS

0

### WEBSITE

digix.global



## Key Takeaways

- Off-chain, gold-collateralized ERC20 token
- Well funded: one of the early ETH crowdfunding campaigns, ~\$200 million in ETH funds currently held
- Open source and high transparency
- Most similar to: HelloGold and x8c

## Overview

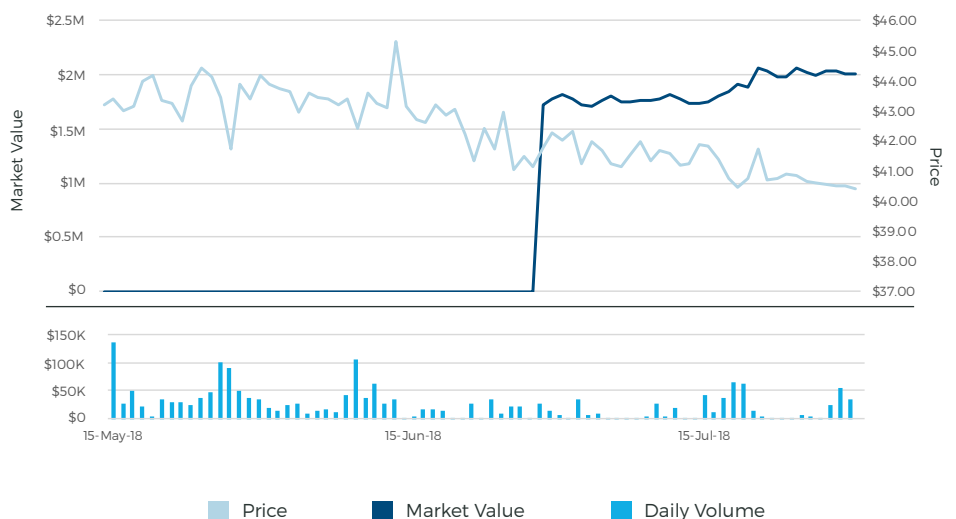
Digix (DGX) belongs to a growing class of 'price-stabilized' cryptocurrencies backed by physical commodities. The DGX coin is described as "digital gold on a blockchain."

Each DGX token is an on-chain representation of 1 gram of physical gold in one of the gold cast bars from London Bullion Market Association-approved refiners. Digix uses the Safe House Singapore as its custodian vault and has a redemption policy.

Digix uses their proprietary Proof of Provenance (PoP) protocol to ensure the stored gold is maximally secure and its ownership/custodianship is tracked correctly on the Ethereum blockchain. DGX tokens are processed through three processes:

1. PoP Cards are uploaded onto the Digix network and the Digix Minter Smart Contract mints DGX tokens
2. Users can then redeem gold bars with their PoP cards
3. Developers can use their PoP cards and DGX tokens to develop front-end contracts

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Medium     | Low                               | Med-High     |



# DIGIX

## Strengths

### New Form of Gold Trading and Ownership

DGX, through tokenization, offers a new way to trade and own gold. Gold has a strong, lengthy track record as a store of value. The token and protocol ensure full control of the digital representation of the underlying assets and offer a convenient way for some users to trade, transfer, and store tokenized gold.

### Digix Resources and Track Record

Digix is one of the oldest projects based on Ethereum and its team is relatively experienced and well-known within the cryptoassets industry and Ethereum ecosystem. As one of the early ETH crowdfunding campaigns, the project currently holds approximately \$200 million in ETH funds. Given the team's resources, experience, and success thus far, Digix is viewed as being in a strong position to provide a platform for a range of asset-backed tokens.

### Industry Partnerships

Digix has secured a number of industry partnerships, including Consensys, Blockchain at Berkeley, Kyber Network, Maker, and Request Network.

## Trade Offs & Concerns

### Single Point of Failure (Centralization)

DGX is relatively centralized as the token represents a claim on the gold backing the token. The user is forced to trust Digix as the issuing party as well as its custodian vault, the Safe House Singapore. This creates counterparty risk for token holders.

### Gold Peg

Commodity-backed cryptocurrencies like DGX occupy something of a middle ground between USD-pegged stablecoins like Tether (which have proven less volatile than DGX) and cryptocurrencies such as bitcoin (which are more volatile than DGX). Volatility in the price of gold can significantly impact the value proposition of DGX. Unlike other stablecoins, which are pegged 1-to-1 with fiat currencies like USD, DGX's price is pegged to a historically more volatile precious metal. Many users are interested in stablecoins due to their parity with various fiat currencies, making them useful for purchasing goods and in trading. It is unclear if these same use cases will apply as widely for a token pegged to gold.

## Conclusion

The DGX token, alongside the DigixDAO, presents a novel application of blockchain technology; firstly, by tokenizing off-chain assets, and secondly by implementing decentralized governance through DigixDAO. DGX bridges the gap between the physical world and the crypto world by enabling digital access to a time-tested store of value.

Digix is arguably more of a supply chain management tool for gold rather than a stablecoin. Today, investors use gold as a volatility hedge and portfolio asset, not as a means of payment. It is unclear why DGX would be adopted en masse as a means of payment if a more stable digital means of payment exists. This may leave DGX's best hope for wider adoption limited to its role as an alternative store of value to other cryptoassets, like bitcoin.



# PRE-LAUNCH **STABLECOINS**

# BASIS

## OVERVIEW

### TICKER

Unknown

### LAUNCH DATE

Q3 2018

### LIVE

No

## FORMAT

### TOP-LEVEL CATEGORY

Algorithmic

### SUB-CATEGORY

Seigniorage Shares

### COLLATERAL

Not applicable

### DIVIDEND

Yes

### REFERENCE PEG

USD

## ADOPTION

### MARKET VALUE

Not applicable

### AVG. DAILY VOLUME

Not applicable

### FIAT PAIRS

Not applicable

### CRYPTO PAIRS

Not applicable

### EXCHANGES

Not applicable

## LEGAL STRUCTURE

### OWNERSHIP

Intangible Labs

### LEGAL JURISDICTION

Delaware

### TEAM LOCATION

Hoboken, NJ, U.S.

## TECHNOLOGY

### PLATFORM

Ethereum

### OPEN SOURCE

Not now, on roadmap

## INVESTORS & TEAM

### FUNDS RAISED

\$133,000,000

### ADVERTISED JOBS

22

### WEBSITE

basis.io



## Key Takeaways

- Designed as an 'algorithmic central bank'; automated software replicates many traditional central banking operations in an attempt to maintain price stability
- Top-funded pre-launch stablecoin: \$133 million raised from leading investors; prestigious advisory group
- Most similar to: Fragments, Carbon, and Kowala

## Overview

Basis is a 'seigniorage shares' style stablecoin that innovates on a design first developed by Clearmatics founder, Robert Sams, in 2014. There are three key components to the Basis stability system: the stablecoin (Basis token), bonds, and shares. One Basis token is intended to equal approximately \$1 USD.

While the Basis stability system is considered complex, it uses common investment incentives and instruments, akin to traditional bonds and equity shares, to entice market participants to help the coin maintain exchange rate stability.

For example, when the value of a Basis token falls, the system creates new bonds worth one Basis token each. These bonds are then sold by the system for Basis tokens, which reduces the token supply and thereby drives the token price back up to its targeted value.

Further, a bond may be sold at a discount (e.g., 0.8 of a Basis token) if the market experiences a more significant decrease in demand. The system will later pay back these bondholders in times of expansion, before paying 'dividends' (in the form of new Basis tokens) to Basis shareholders.

Expansion occurs when the price of the Basis token exceeds \$1 USD and the system must print new Basis tokens, which increases the token supply to drive the price back down to its target value.

Other noteworthy points: fully repaid bonds are 'burned' (taken out of supply), bonds expire every five years, and do not pay out in Basis tokens if they expire. Market participants are incentivized to purchase bonds to profit from future Basis token minting, which makes the purchase valuable provided the bond is redeemed before the 5-year expiration date.

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Med-High   | High                              | High         |

# BASIS

## Strengths

### Investors and Advisors

Intangible Labs, the company behind Basis, reported in April it had raised \$133 million from 225 investors, including Andreessen Horowitz, Bain Capital Ventures, Pantera Capital, Polychain, and Digital Currency Group. This funding provides the team with vastly more capital than any other pre-launch stablecoin project to develop the technology and for market making purposes. The project has also attracted a number of distinguished advisors, including investor Stanley Druckenmiller and economist John Taylor.

### Decentralized

The seigniorage shares style model that Basis intends to launch is currently viewed as one of the most trust-minimized and decentralized stablecoin designs. In contrast with Tether, the use of an on-chain algorithmic system diminishes the counterparty risks inherent in all fiat-collateralized stablecoins. Algorithmic systems are also 'censorship resistant', meaning they are not dependent on third-party banks that can either choose or be compelled by external agents (e.g., government) to block transactions, freeze assets, etc.

### Off-chain Stabilization

The Basis team will use some of the significant funding raised to establish an off-chain reserve. This reserve will help protect the \$1 peg while the market cap of the token is relatively low. As the market cap grows and more funds are needed to ensure the peg, the team will sell Basis shares held in reserve. The team recognizes that off-chain stabilization is a means to an end, with the goal that the system becomes fully decentralized after an initial "stewardship" period. The team has considered using solely on-chain assets to back the protocol in its early days, but believes that the volatility of these assets would undermine stability if it were to rely solely on them.

## Trade Offs & Concerns

### Complex and Unproven Monetary Policy

A number of doubts have been expressed over whether the outlined incentive structure will be enough to keep the Basis token stable. For example, the incentives structure of Basis could motivate a well-funded market participant(s) to attempt to control (and manipulate) the market, either for personal gain or malicious purposes (though this is not possible early on when the system is backed by assets, and becomes more difficult as the system grows). Further, there is some doubt that Basis could handle sustained (e.g., multi-year) drops in demand or a medium-term loss of confidence, though these concerns are addressed in detail in their FAQ and an analysis of the system's stability that will be made public soon.

### Reputational Damage Risk from Broken Peg

Maintaining market confidence plays a key role in the success of every stablecoin, but market confidence is especially important to purely-algorithmic stablecoin designs that do not intend to use hard assets (e.g., US dollars) to intervene in the marketplace as needed to ensure stability. As has been shown, when a stablecoin's peg breaks it can create lasting reputational damage. Fully algorithmic stablecoins are arguably at greater risk of experiencing a broken peg.

### Off-chain stabilization

In the early days, Basis has indicated that it will rely on off-chain stabilization mechanisms (e.g., utilizing market makers), but has not committed to a set end point for these off-chain stabilization mechanisms (though it does intend to become "fully decentralized" in the long run). This means there is some counterparty risk early on. The logic behind this model is that the counterparty risk inherent to systems that use off-chain assets is less prevalent when the system is small but becomes more and more material as the system grows. By utilizing off-chain assets early on and then moving to a fully on-chain monetary policy, Basis intends to maintain a superior risk profile throughout its adoption, with low (and eventually zero) counterparty risk both early on and in the long run.

# BASIS

## Conclusion

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Basis is one of the most notable stablecoins and is receiving significant attention around its fundraising, innovation, and impressive brain trust.

Long-term, Basis aims to serve as a fully decentralized stablecoin protocol. For the immediate future (perhaps years), however, Basis will rely on a mix of on-chain and off-chain stabilization mechanisms. The logic is that when the system is small in size there is not enough volume to entice third-party market-makers to respond to the stability-promoting incentives the protocol provides. As the system grows, however, the incentives become stronger, and the protocol becomes self-sustaining. For this reason, the Basis team intends to “steward” the network until it is large enough for the bare-bones protocol to take over. The team has considered using solely on-chain assets for this stewardship phase so that it can be fully decentralized on day one, but it believes that the volatility of these assets would undermine the stability of any stablecoin protocol if it were to rely solely on them. As such, the team intends to use a hybrid reserve of on-chain and off-chain assets early on to back the system, with detailed plans to be announced soon.

Basis has not yet launched its stablecoin, and a number of questions remain about the exact nature of its final design and implementation. However, Basis’s strengths and resources ensure that it will be an important player in the stablecoin space for the foreseeable future.

# FRAGMENTS

## OVERVIEW

### TICKER

TBD

### LAUNCH DATE

TBD

### LIVE

No

## FORMAT

### TOP-LEVEL CATEGORY

Algorithmic

### SUB-CATEGORY

Seigniorage Shares

### COLLATERAL

ETH

### DIVIDEND

Yes

### REFERENCE PEG

USD

## ADOPTION

### MARKET VALUE

Not applicable

### AVG. DAILY VOLUME

Not applicable

### FIAT PAIRS

Not applicable

### CRYPTO PAIRS

Not applicable

### EXCHANGES

Not applicable

## LEGAL STRUCTURE

### OWNERSHIP

Not applicable

### LEGAL JURISDICTION

United States

### TEAM LOCATION

San Francisco, CA, U.S.

## TECHNOLOGY

### PLATFORM

Ethereum

### OPEN SOURCE

No source code on GitHub

## INVESTORS & TEAM

### FUNDS RAISED

\$3,000,000

### ADVERTISED JOBS

2

### WEBSITE

fragments.org

# Fragments

## Key Takeaways

- Decentralized, Seigniorage Shares / algorithmic model
- Untested monetary policy
- Most similar to: Basis, Kowala, and Carbon

## Overview

According to its website at press time, Fragments proposes a seigniorage shares-based stablecoin that utilizes three different assets: reserves, bonds, and USD Fragments. Similar to how some stablecoins have been referred to as a “Better Tether”, Fragments has been referred to by some as a “Better Basis”. However, it should be noted that Fragments reports that they will soon be releasing a whitepaper for their protocol detailing a new approach to stability that will vary significantly from current projects and the version of their protocol examined here.

The algorithmic Fragments protocol enables both long-term and short-term use cases (e.g., store of value and medium of exchange) based on the protocol’s ability to automatically expand and contract its currency supply as needed. For short-term use, Fragments is pegged at \$1 USD. Fragments plans to move from the USD reference peg in the future to a CPI-based basket, the constituents of which will likely be voted on by token holders.

The protocol, which is built on the Ethereum blockchain, operates on a concept called rebasing, which is a way of expanding and contracting supply based on demand. When the platform needs to grow supply, it mints and distributes coins and when the platform needs to decrease supply, it motivates participants to remove supply by issuing bonds.

Token holders act as market makers, buying Fragments in times of price drops below the \$1 peg and selling Fragments when the price rises above the \$1 threshold. The algorithm activates when market makers are not able to maintain this equilibrium in price. During times of inflation, Fragments holders receive newly minted Fragments, which they can then sell. Conversely, in times of deflation holders are rewarded for burning Fragments into bonds to decrease supply and push the price back up to \$1.

Autonomy is an important characteristic in the Fragments design, with the aim of enabling quick adaptability and action in the system.

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Med-High   | High                              | High         |



# FRAGMENTS

## Strengths

### Addressing Concerns with Basis

The potential strength of Fragments can be examined vis-à-vis Basis, a similar stablecoin design.

The decentralized Basis protocol is designed to self-stabilize. However, if there is a crisis of confidence in the Basis ecosystem, Basis holders might want to exit their positions instead of swapping their coins for bonds, which are options on the coins. In other words, the Basis protocol may need a buyer of last resort.

In the opposite direction, if there is very positive news, nothing forces the Basis holders to sell the additional coins that they are receiving. Thus, they might want to keep their coins and accrue even more coins because they anticipate more positive news. For these and other reasons, there is some reasonable skepticism over whether Basis will trade at its peg.

The Fragments design attempts to address this issue by introducing a capital reserve buffer which will act as something akin to a 'moral authority'. In this instance, programmatic bidding will remove bonds from supply when needed and when supply increases.

## Trade Offs & Concerns

### Untested and Complex Monetary Policy

The monetary policy behind Fragments is untested, and the Fragment asset classes (USD Fragments, USD Fragment Bonds, and Reserve Collateral Assets) and structure are complicated. Similar to other seigniorage share models, how the coin will perform under severe downward price pressure remains to be seen.

Accordingly, the project does not call itself a stablecoin, but rather, a "low volatility cryptocurrency."

## Conclusion

Fragments is one of a growing number of algorithmically adjusted stablecoins. Like Basis, the project offers a new, untested design. At this stage there are more questions than answers about how these stability mechanisms will perform over time in the marketplace.

Another open question is who represents the target market for Fragments? Previous stablecoins largely target traders and exchanges, while Fragments seems to target everyone. Given the current proliferation of stablecoins, the Fragments community may want to focus on targeted use cases (e.g., use cases that require an algorithmic, trust-minimized solution) and organic growth.

# SAGA

## OVERVIEW

### TICKER

SGA

### LAUNCH DATE

Q4 2018

### LIVE

No

## FORMAT

### TOP-LEVEL CATEGORY

Asset-Backed

### SUB-CATEGORY

Off-Chain Collateral Backed

### COLLATERAL

Fiat

### DIVIDEND

Yes

### REFERENCE PEG

SDR with variable backing

## ADOPTION

### MARKET VALUE

Not applicable

### AVG. DAILY VOLUME

Not applicable

### FIAT PAIRS

Not applicable

### CRYPTO PAIRS

Not applicable

### EXCHANGES

Not applicable

## LEGAL STRUCTURE

### OWNERSHIP

Non-profit foundation

### LEGAL JURISDICTION

Switzerland

### TEAM LOCATION

Tel Aviv, Israel

## TECHNOLOGY

### PLATFORM

Ethereum

### OPEN SOURCE

Not now

## INVESTORS & TEAM

### FUNDS RAISED

\$30,000,000

### ADVERTISED JOBS

9

### WEBSITE

saga.org



## Key Takeaways

- Multi-currency, off-chain collateral backed
- Leaves room for price appreciation (balancing stability and growth)
- Top-3 funded pre-launch stablecoins, \$30 million USD raised to date (tied with Terra)
- Team and advisors include a former central bank governor and the chairman of JPM international, as well as a Nobel prize winning economist. The project's Chief Economist is a former central banker.
- Most similar to: AAA Reserve, Monerium, and CircleUSDC

## Overview

Saga (SGA) is an Ethereum-based "stabilized currency", meaning it is not a single peg currency. It is backed by a reserve that utilizes the International Monetary Fund's (IMF) special drawing rights (SDRs) as its unit of account. The reserve is held in a regulated financial institution where it accrues interest, which will be paid out to the benefit of SGA token holders. The reserve backing model is variable, starting with 100% backing in SDR and decreasing gradually as its economy grows and market trust is demonstrated. The reduced backing is manifested in price appreciation.

Saga's early investors hold a different token called Saga Genesis (SGN) which is a voucher token convertible to SGA. The amount of SGA received per SGN token (the conversion ratio) depends on the strength (demand) of SGA, but it is capped at no more than 15 SGA per SGN.

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Medium     | High                              | Medium       |

## Strengths

### Price Appreciation Mechanism

The variable reserve backing allows the currency to develop its intrinsic value while taming volatility.

### Full Regulatory Compliance

Saga is working under the authority of FINMA and complies with KYC and AML regulations. Holders of the currency must identify online.

### Interest Payments to SGA Token Holders

The Saga reserve is held in major banks where it accrues interests that will benefit SGA token holders. It is a competitive advantage compared to other digital currencies which pay no interest rates.

# SAGA

## Funding and Investors

Saga has raised \$30 million from reputable investors, making it one of the top-3 funded pre-launch stablecoins.

## Team and Advisors

The team includes Barry Topf, a former senior economist of the Bank of Israel and a monetary committee member. The board of advisors includes three noteworthy individuals: Prof. Myron Scholes (father of Black & Scholes pricing model), Dr. Jacob Frenkel (Chairman of JPM International, previously the governor of the Bank of Israel), and Prof. Dan Galai, co-inventor of Vix (the Volatility Index).

## Trade Offs & Concerns

### Reserve Ratio

It is unclear how best to manage the reserve ratio. The team defines three successive stages (Small / Fragile Economy, Growing Economy, Standalone Economy) and suggests a gradual decrease (modeled mathematically) of the reserve ratio as confidence increases in the Saga economy. The reserve ratio starts at 1:1, when the economy is weak.

The reserve ratio is a function of the number of outstanding SGA tokens, and the price of the SGA token is a function of the number of outstanding tokens. Order requests from the market cause the smart contract to issue or liquidate tokens and these supply adjustments will impact the price.

### Adoption Friction

Saga requires that all people interested in purchasing SGA be first approved through a Know Your Customer (KYC) process, which causes additional onboarding friction and may deter some users. However, the KYC process will also attract users seeking a compliant cryptocurrency.

### Counterparty Risk & Reliance on Traditional Banking System

Like Tether, Saga is vulnerable to counterparty risk due to its reliance on legacy banking institutions.

### Centralization

In the short-run, the Saga foundation plays a governing role over some aspects of the smart contract.

In the long-term, however, the Saga Foundation does not have any decision-making authority, even though it will exist in perpetuity.

## Conclusion

The Saga team is comprised of several experts in different areas of study, including economics, mathematics, and other social sciences, illustrating the view that developing an innovative, new monetary system requires an interdisciplinary approach. Saga's diverse team and funding ensure it will be a player in the stablecoin space. Saga does not consider itself a stablecoin though, but rather a currency with volatility-taming mechanisms – this is due to it being a model built to depart gradually from fiat reserves towards intrinsic, un-pegged value.

Saga states that it is more of a monetary startup than a technology one, in the sense that the core focus is creating a global monetary model independent of the considerations of any single nation state. As a currency-first project Saga risks compromising decentralization and trust minimization for other priorities. However, Saga's utilization of decentralized technology aligns with its expressed wish to submit control over the money supply algorithm to a broader consensus mechanism.

# USD COIN (USDC)

## OVERVIEW

### TICKER

USDC

### LAUNCH DATE

Q3 2018

### LIVE

No

## FORMAT

### TOP-LEVEL CATEGORY

Asset-Backed

### SUB-CATEGORY

Off-Chain Collateral Backed

### COLLATERAL

Fiat

### DIVIDEND

None

### REFERENCE PEG

USD

## ADOPTION

### MARKET VALUE

Not applicable

### AVG. DAILY VOLUME

Not applicable

### FIAT PAIRS

Not applicable

### CRYPTO PAIRS

Not applicable

### EXCHANGES

Not applicable

## LEGAL STRUCTURE

### OWNERSHIP

Circle Inc.

### LEGAL JURISDICTION

Cayman Islands

### TEAM LOCATION

Boston, MA, U.S.

## TECHNOLOGY

### PLATFORM

Stablecoin neutral

### OPEN SOURCE

Yes

## INVESTORS & TEAM

### FUNDS RAISED

\$20,000,000

### ADVERTISED JOBS

0

### WEBSITE

centre.io



## Key Takeaways

- Off-chain collateral backed by fiat currency
- Well-funded pre-launch stablecoin (has raised \$20m to date)
- Regulated company with U.S. and international compliance programs
- Most similar to: Tether, TrueUSD, Saga, Monerium, AAA Reserve

## Overview

Circle, a leading cryptocurrency exchange and liquidity provider, with major investors (e.g., Goldman Sachs), recently announced a new stablecoin called USD Coin (USDC), which is launching this month.

USDC will be a dollar-backed stablecoin running on the Ethereum blockchain. The design is based on the open source fiat stablecoin framework developed by CENTRE, an open source initiative established by Circle in late-2017. Initially, only U.S. dollars will be supported, but Circle plans on adding tokens for the euro and pound.

Other notable features:

- A separate web app has been created for customers to purchase and use USDC, with new tokens minted or burned based on submissions or redemptions
- Primary market and trading pairs for the coin will be on Circle Poloniex and several other partners' exchange platforms
- Strong support from banking partners, including a top-10 U.S. bank
- Revenue from this initiative will be generated through trading spreads captured on exchange
- Working with banking partners, public auditors, and top-tier insurance underwriters
- Use cases include exchanges, smart contracts, settlement, remittance and lending (CENTRE has partners focused on each of these opportunities)
- CENTRE should be highly transparent with both audit results and financials
- CENTRE governance will be distributed

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Medium     | Low                               | Medium       |

## Strengths

### Legally Compliant Stablecoin

Many financial institutions are only interested in and legally able to adopt compliant financial instruments, and it is with these institutions where USDC may have a significant advantage

# USD COIN (USDC)

over other stablecoins. Circle is operating within the regulatory framework of U.S. and foreign money transmission laws and working with established banks and auditors. CENTRE will audit its members and also be audited itself by respected firms. Circle is regulated by FinCEN as a licensed money transmitter and is actively seeking appropriate licenses from various state banking departments and international regulatory authorities. In the U.S., money transmitter licenses are handled on a state-by-state level, and Circle has already obtained a license from all the required states.

## Open Source

The development of USDC is open source, meaning multiple developers can work on the project and audit the code. The framework is being developed by CENTRE, providing a degree of independence between USDC and Circle. Given the inherent centralization associated with fiat-backed stablecoins, open sourcing USDC helps to re-balance the initiative back towards the principles associated with blockchain technology. As an ERC20 token, USDC can easily be integrated into other major exchanges without being a member of CENTRE.

## Strategic Partnerships

Circle is a large, well-established and trusted cryptoassets company with a proven track record and focus on mainstream adoption. Circle has shown that it can onboard new and reputable partners quickly, which will aid USDC adoption. For example, Bitmain, which is exploring an IPO, brings strategic support and resources to this initiative. Circle's investors include a suite of experienced venture capitalists, including Blockchain Capital, Pantera, Tusk Ventures, Breyer Capital, and IDG Capital. Further, Circle has generated early support from some players in the cryptoassets ecosystem for USDC.

## Trade Offs & Concerns

### Ecosystem Competition Concerns

Lack of adoption across other exchanges and wallets will reduce access to and the usefulness of USDC.

As a major exchange, Circle is actively competing with other cryptoasset exchanges, and it is unclear whether major competing exchanges will choose to adopt USDC (which may be viewed as aiding Circle). Mitigating this concern is historical precedent – Tether is also closely associated with another major exchange, Bitfinex.

### Centralization

USDC is still heavily reliant on a single entity (Circle), and its focus on compliance means it is not fully censorship resistant as various parties can deny or limit its use.

### Adverse Shift in Regulations

Circle's success, and the success of USDC, is significantly linked to it remaining in compliance with prevailing laws and regulations. Should an adverse regulatory shift occur, or should Circle fail to gain the necessary approvals, this could severely limit the use of USDC.

## Conclusion

As one of the leading cryptocurrency exchanges, which now includes Poloniex via an acquisition in February 2018, Circle is arguably one of the best positioned organizations to destabilize Tether's exchange dominance and drive widespread adoption of a competing stablecoin. Circle's view is that all fiat currency will become cryptocurrency, and USDC is one step forward in bringing mainstream financial services to the world of cryptocurrency and blockchain technology. With its other suite of offerings, including Circle Invest and OTC trading, USDC can speed up transactions made with dollars and provide a less volatile and compliant alternative to institutions and users interested in embracing cryptocurrency. Circle is also very familiar with the strict regulations applicable to the still-nascent cryptocurrency space and knowledgeable about navigating regulatory uncertainty. CENTRE is expected to be highly transparent with audits and financials. Overall, USDC appears well positioned to provide strong competition for Tether and other similar fiat-backed stablecoins.

# TERRA

## OVERVIEW

### TICKER

TBD

### LAUNCH DATE

Q4 2018

### LIVE

No

## FORMAT

### TOP-LEVEL CATEGORY

Algorithmic

### SUB-CATEGORY

Algorithmic

### COLLATERAL

Luna (initial fiat backing)

### DIVIDEND

Yes, fees paid holders

### REFERENCE PEG

ST: SDR (+commodity)

LT: Fiat

## ADOPTION

### MARKET VALUE

Not applicable

### AVG. DAILY VOLUME

Not applicable

### FIAT PAIRS

Not applicable

### CRYPTO PAIRS

Not applicable

### EXCHANGES

Not applicable

## LEGAL STRUCTURE

### OWNERSHIP

TBD, maybe token holders

### LEGAL JURISDICTION

TBD

### TEAM LOCATION

Seongnam, Korea

## TECHNOLOGY

### PLATFORM

TBD

### OPEN SOURCE

Unknown

## INVESTORS & TEAM

### FUNDS RAISED

\$32,000,000

### ADVERTISED JOBS

0

### WEBSITE

terra.money



## Key Takeaways

- One of a handful of 'fee-backed' stablecoin designs
- Algorithmic and decentralized multi-currency model; maintains an on-chain stability reserve
- Amongst top-3 funded pre-launch stablecoins, \$30 million USD raised to date (tied with Terra)
- Support from major Asian (especially South Korean) e-commerce firms
- Most similar to: Haven, AAA Reserve, Monerium, Saga, and CircleUSDC

## Overview

Terra, in the beginning, will mirror the composition of the IMF Special Drawing Rights (SDRs). The protocol relies on the 'Luna' asset for the price stability of Terra (the stablecoin). Luna's supply, which is fixed, is determined at genesis. Terra transaction fees are paid out to Luna holders, who deposit Luna to stake in the Stability Reserve.

When the reserve ratio against circulating supply falls below the minimum (1.2:1) target ratio, the algorithm triggers transaction fee percentages to increase accordingly. The expected increase in cash flow, via the increased transaction fee percentage is expected to increase the price of Luna and bring the stability reserve ratio back to the target.

Luna are essentially a non-dilutive share in future transaction fees accrued by the Terra network and governance token.

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Med-High   | High                              | High         |

## Strengths

### e-Commerce Use Case Focus

Terra's adoption roadmap focuses on it being used as a currency at online checkout. Currently, the Terra project has six members of its Terra Alliance that will facilitate checkout with 'TerraPay', and the project is moving forward with on-boarding partners for real-world use cases to drive demand for Terra.

### Team and Partners

The project is headed by a co-founder of TMON, the 2nd largest e-commerce provider in South Korea. One of the founding members of Kakao PLC (largest messenger app in South Korea) is part of the team. The team notes that Terra partners have \$25B in transaction volume, making it arguably one of the most feasible projects in the stablecoin arena.

### Relatively Conservative Algorithmic Stability Mechanism

In theory, the system may hold-up relatively well in a black swan market sell-off scenario due to the non-speculative and revenue-generating nature of Luna.

# TERRA

## Trade Offs & Concerns

### Transaction Fee Competition

The fundamental premise of the Terra model is that it can achieve broad adoption via e-commerce platforms and that its fee remains competitive. However, Terra may find it difficult to compete should other zero-fee stablecoins prove more popular, or if larger e-commerce platforms such as Amazon, WeChat and Facebook enter the stablecoin arena and are willing to offer lower stablecoin transaction fees (or zero transaction fees), or should payment companies such as Visa reduce their transaction fees.

### Business Model Uncertainty and Capitalization

The initial supply of the coin is not yet known, making it difficult to develop a clear forecast. Further, it appears that the Terra team will not receive any money or profit after the initial ICO. Going forward, the team may not be sufficiently capitalized, have sufficient ongoing incentives or continued vested interest in the project's longer-run success.

### Expansion through Fiscal Spending

When the exchange rate of Terra is greater than the price peg, the system mints new Terra and takes proposals/votes from Luna stakeholders to engage in decentralized fiscal spending for the betterment of the system. While the project team has stated that these funds will be used "to fuel discounts in our ecosystem of e-commerce companies", it is unclear how these grants will be monitored to avoid misuse of the funds.

## Conclusion

The Terra stablecoin project is both pragmatic, with its inclusion of e-commerce platforms in the founding partner group, and ambitious. Over time Terra will include commodities (such as gold, corn, etc.) with the ultimate goal being to transition the Terra stablecoin to a completely fiat-independent instrument. Insofar as Terra is a valuable currency that people choose to transact with, Luna will retain its value by the transaction fees that Terra use generates.

Although the team has impressive backing and experience as well as growing international exposure, its strengths primarily rely on Asia and especially the South Korean market. At the same time, South Korea is one of the leading cryptocurrency markets at present. Should other e-commerce/social media platform providers across the globe with larger user bases enter the stablecoin field, Terra may no longer be as competitive, particularly outside Korea. For now, however, Terra's e-commerce adoption prospects compare favorably to other pre-launch stablecoin projects.

# CARBON



## OVERVIEW

### TICKER

CUSD

### LAUNCH DATE

Q2 2019

### LIVE

No

## FORMAT

### TOP-LEVEL CATEGORY

Hybrid, ultimately  
Algorithmic

### SUB-CATEGORY

Seigniorage Shares

### COLLATERAL

Fiat at launch

### DIVIDEND

Yes

### REFERENCE PEG

USD

## ADOPTION

### MARKET VALUE

Not applicable

### AVG. DAILY VOLUME

Not applicable

### FIAT PAIRS

Not applicable

### CRYPTO PAIRS

Not applicable

### EXCHANGES

Not applicable

## LEGAL STRUCTURE

### OWNERSHIP

Carbon-12 Labs

### LEGAL JURISDICTION

Delaware

### TEAM LOCATION

New York, NY, U.S.

## TECHNOLOGY

### PLATFORM

Hedera Hashgraph initially

### OPEN SOURCE

No

## INVESTORS & TEAM

### FUNDS RAISED

\$2,000,000

### ADVERTISED JOBS

4

### WEBSITE

carbon.money

## Key Takeaways

- Decentralized Seigniorage Shares model
- One of the first cryptocurrencies to build on Hedera Hashgraph
- Will launch as a hybrid (algorithmic/fiat-backed)
- Most similar to: Basis, Fragments, and Kowala

## Overview

Carbon is a non-collateralized, seigniorage shares model stablecoin that utilizes two tokens: (1) Carbon stablecoin and (2) Carbon Credit token ("Carbon Credit").

When demand is falling for the Carbon stablecoin (i.e., trading below the 1 USD peg) Carbon Credits are auctioned off via a reverse Dutch auction smart contract to market participants who are willing to burn their stablecoins. The Carbon Credit holders are later rewarded during the expansion cycle when the stablecoin demand increases beyond the peg ratio. When the demand for the Carbon stablecoin increases (i.e., its price is higher than the \$1 peg) newly minted stablecoins are distributed to Carbon Credit holders on a pro-rata basis, creating downward pressure to push the price back to the peg.

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Med-High   | High                              | High         |

## Strengths

### Seigniorage Model

Similar to Basis, the seigniorage model is more decentralized and non-collateralized compared to other existing IOU/crypto-backed models. That is, Carbon doesn't need to hold fiat in centralized banks or hold fluctuating cryptocurrencies as collaterals. Carbon slightly modifies the seigniorage shares model allowing users to freeze portions of their funds to manage contraction and growth cycles.

### Attractive Cryptoeconomics (compared to Basis)

During a price downturn (e.g., stablecoin price declines to \$0.85), the upside for Basis bondholders is capped at 15% if the bonds can be redeemed at par without expiration. Any further upside (when trading above the peg) goes to Basis shareholders - who directly contributed towards arresting the peg break - instead of the bondholders.

In contrast, the Carbon system gives 100% of the upside to users who helped the system to contract through burning their tokens. If the Carbon stablecoin was trading at the same price (\$0.85), the Carbon Credit holders will receive uncapped upside to their investment (i.e., potentially receive unlimited newly minted



# CARBON

coin on a pro-rata basis), and therefore Carbon theoretically yields significantly higher returns during the expansion cycle. Furthermore, there is a risk and uncertainty that the Basis bonds may not be redeemed and thus expire after five years. This uncertainty impacts the risk/reward profile for Basis bonds and could cause its secondary market to become relatively illiquid compared to the Carbon Credit market.

## Scalability and First Mover Benefits from Utilizing Hashgraph

Carbon will use Hedera Hashgraph, which can in theory achieve a much faster throughput compared to a blockchain-based stablecoin (e.g., up to 50-100k+ transactions/second compared to, say, bitcoin's approximately 7 transactions/second). Development is taking place on Ethereum as Hedera Hashgraph will support the ETH virtual machine. Interoperability is central to Carbon's management strategy and should help Carbon move value amongst ecosystems. As one of the first cryptocurrencies to commit to utilizing Hashgraph, Carbon may be well positioned to serve as the preferred stablecoin on Hashgraph. However, it also leaves Carbon exposed to Hashgraph's launch roadmap (expected in Q1-Q2 2019) and the inherent limitations of Hashgraph protocol rules, as noted below.

## Trade Offs & Concerns

### Funding and Reserve Ratio

When compared to other similar stablecoin projects such as Basis (which raised ~\$130 million), the Carbon team has only raised \$2M. The lack of funding may make it difficult for Carbon to challenge similar but more well-funded projects in areas where funding can play an important role (e.g., initial market adoption, interest, partnerships).

Although the white paper does not discuss the stability reserve, it appears in one of the online postings made by the Carbon team that they will have 30% of the market cap as its stability reserve. It is unclear whether 30% of the relatively small market cap will be sufficient to protect the peg in its early stages of network life.

### Controversial Pricing Oracle Design

Every 24 hours, a Schelling point scheme is initiated where nodes submit bids for what they believe is the correct exchange rate for Carbon. Anyone who bids outside the 25th and 75th percentiles will have their balances deducted and given to the bidders whose bids fall within the 25-75th percentile. This confiscation of collateral may work against Carbon and ultimately deter broader participation. For example, even if a node reports a price that is a few basis points beyond the 25-75th percentile, the imposed penalties might be deemed as too severe.

### Potential Post-Launch Manipulation

One of the general concerns with algorithmic stablecoins is the risk that actors may attempt to manipulate the system, particularly while the market cap is relatively small. Any break in a stablecoin's peg, regardless of the explanation, may cause a potential crisis in confidence and reduction in demand. During such a crisis for Carbon, market participants may be less likely to burn their dollars/stablecoins to save the network and obtain Carbon Credit tokens, which could become worthless should the entire system collapse.

### Centralization (Hedera Hashgraph Protocol)

While the Hashgraph protocol offers potential advantages, particularly around capacity, Hashgraph is a 'permissioned' (more centralized) protocol run by a limited number of nodes (39 are currently planned). There are also concerns around the relationship between Hashgraph and the Carbon team, some of whom used to work on the Hashgraph team. More specifically, there is a concern that Hashgraph team members or close insiders may assume dominant Carbon node roles, which would allow them to acquire the majority of processing fees and hold significant influence over future decision making for both protocols.

## Conclusion

Among the different stablecoin projects, Carbon stands out for its innovative approach. However, Carbon will be challenging to implement successfully in its own right, and the project is also relying on the new Hashgraph decentralized ledger that has yet to launch and prove its reliability. There are also concerns around whether Carbon can prevent successful gaming/attacks.

# MONERIUM

## OVERVIEW

### TICKER

TBD

### LAUNCH DATE

TBD

### LIVE

No

## FORMAT

### TOP-LEVEL CATEGORY

Asset-Backed

### SUB-CATEGORY

Off-Chain Collateral Backed

### COLLATERAL

High quality, liquid fixed income assets

### DIVIDEND

None

### REFERENCE PEG

USD, EUR, etc.

## ADOPTION

### MARKET VALUE

Not applicable

### AVG. DAILY VOLUME

Not applicable

### FIAT PAIRS

All major fiat currencies

### CRYPTO PAIRS

TBD

### EXCHANGES

Undisclosed

## LEGAL STRUCTURE

### OWNERSHIP

Private

### LEGAL JURISDICTION

Brussels

### TEAM LOCATION

Iceland

## TECHNOLOGY

### PLATFORM

Ethereum

### OPEN SOURCE

Partially

## INVESTORS & TEAM

### FUNDS RAISED

\$2,000,000

### ADVERTISED JOBS

0

### WEBSITE

monerium.com



## Key Takeaways

- Multi-currency, off-chain collateral backed
- Licensed EU e-money institution subject to audits and regulatory supervision
- Most similar to: AAA Reserve, Tether, TrueUSD, USDC

## Overview

Monerium is a multicurrency-backed stablecoin that utilizes USD, Euros, and other currencies as collateral to achieve price stability. Each Monerium coin corresponds with one fiat currency unit (e.g., one US dollar). The fiat currency backing Monerium is held in reserve at a traditional regulated financial institution.

Based in the EU, Monerium is in the process of becoming an EU regulated e-money service provider and it will issue e-money tokens in major currencies. Monerium is a funded project and has secured certain undisclosed partnerships that may help the project achieve adoption by providing a bridge between the existing regulatory environment and blockchain ecosystems.

Monerium will be an ERC20 token and will run on Ethereum.

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Medium     | Low                               | Low-Med      |

## Strengths

### Multi-Fiat Backing Options

In contrast with some stablecoins that only offer pegging/backing to a single fiat currency (e.g., US dollars), Monerium is being built to be backed with any fiat currency.

### Legally Compliant Stablecoin

Many financial institutions are only interested in and legally able to adopt compliant financial instruments and it is with these institutions where Monerium may have a significant advantage over other stablecoins. Monerium is operating within the regulatory framework of European Union and its money transmission laws.

### Accountability and Team Experience

In contrast with the structure for other off-chain stablecoins (e.g., TrueUSD), Monerium has positioned itself as the ultimate legally liable and responsible entity. Some members of the team have experience working in supervisory institutions (e.g., central banking) and in the legal establishment.

### Transparency

The Monerium codebase is partially viewable to the public. As the project is built on Ethereum it could benefit from Ethereum's vast developer community through contributions to the code and sharing the project's goals.

# MONERIUM

## Trade Offs & Concerns

### Centralized

Off-chain fiat-backed stablecoins are not fully decentralized; they rely on banks or other traditional financial institutions, resulting in counterparty risk.

### Lack of Buzz and Online Activity

The Monerium Twitter page has not had a post since its announcement of three new board members in October 2017. Searches on Etherscan and Amberdata.io for an Ethereum address did not result in any matches. On Monerium's public GitHub, the Monerium repository only has 22 commits.

Overall, Monerium's online presence is not as strong as other stablecoins. With so many stablecoin competitors, interacting with and updating the public may be essential to generating the necessary awareness and buzz to drive interest and adoption. However, the team may be somewhat limited in this area due to the ongoing e-money application before regulators, and the Monerium team could be working within a private repository until it is ready to emerge from stealth mode.

## Conclusion

Monerium faces significant competition from similar and already live stablecoins like Tether, TrueUSD, AAA Reserve, and from others soon to launch, like Circle USDC. The lack of news and active community around Monerium is a concern. However, Monerium's focus on compliance may give it a regulatory edge once it does launch.

# KOWALA

## OVERVIEW

### TICKER

KUSD

### LAUNCH DATE

TBD

### LIVE

No

## FORMAT

### TOP-LEVEL CATEGORY

Algorithmic

### SUB-CATEGORY

Seigniorage Shares

### COLLATERAL

Algorithmic

### DIVIDEND

Yes

### REFERENCE PEG

USD

## ADOPTION

### MARKET VALUE

Not applicable

### AVG. DAILY VOLUME

Not applicable

### FIAT PAIRS

1

### CRYPTO PAIRS

2

### EXCHANGES

1

## LEGAL STRUCTURE

### OWNERSHIP

Kowala SEZC

### LEGAL JURISDICTION

Cayman Islands

### TEAM LOCATION

Nashville, TN, U.S.

## TECHNOLOGY

### PLATFORM

Ethereum (separate blockchain)

### OPEN SOURCE

Most code is open source

## INVESTORS & TEAM

### FUNDS RAISED

\$4,000,000

### ADVERTISED JOBS

0

### WEBSITE

kowala.tech



## Key Takeaways

- Decentralized, Two-token, Algorithmic/Mint & Burn
- Incentivizes traders to help stabilize price
- Most similar to: Basis, Fragments, and Carbon

## Overview

Kowala is a dual-token system that consists of a mining token (mUSD) and a stablecoin (kUSD). The value of 1 kUSD is targeted to equal 1 USD, and the supply of kUSD is automatically adjusted based on market demand. New kUSD are distributed to miners. The protocol is designed to maintain the value of the kUSD stablecoin on exchanges.

kUSD is a protocol coin with its own blockchain. This blockchain utilizes modified versions of both the Ethereum codebase and a unique PoS mechanism derived from Tendermint. This consensus mechanism was developed to deliver faster transaction times and drastically lower transaction fees. Kowala's blockchain automatically adjusts stablecoin money supply based on demand as measured by exchange prices. These prices are reported into the blockchain via a decentralized oracle.

Rather than keeping a fiat reserve, Kowala uses three primary stability mechanisms to maintain kUSD value stability:

1. Minting (algorithm)
2. Stability Fee (algorithmic)
3. Trading Activity (market)

The minting algorithm pushes the price down in times of inflation by minting new kUSD, while a 'burn wallet' is used to decrease supply and manage the price back towards \$1 peg. The mechanism, Trading Activity, involves traders who engage in activities that help stabilize the price as well.

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Med-High   | High                              | High         |

## Strengths

### Active, Pioneering Development

The Kowala GitHub is regularly updated and the code has been on testnet with a mainnet launch slated for Q3 2018. Kowala is one of the early projects to utilize Tendermint, which should offer comparatively greater throughput than other systems.

### Agent-based Modeling

Kowala uses agent-based software to model variations in order to test the stability mechanisms. As mentioned with other stablecoins, death spirals and black swan events are significant

# KOWALA

concerns. While models do not always capture real world scenarios, the team is actively refining its protocol in an effort to identify potentially destabilizing activity and uncover unforeseen vulnerabilities.

## Trade Offs & Concerns

### Community

The Kowala community is small and faces strong competition from similarly positioned projects like DAI. As the project evolves, kUSD stability will in part rely on the efforts of traders, who can be rather fickle.

### Funding and Partnerships

While the team is composed of individuals with relatively strong professional pedigrees, primarily in software, Kowala has not had an ICO, nor has it raised any notable VC funding. This is in contrast with many of its competitors. Further, Kowala has yet to specify its existing partnerships, although it claims to have partnered with several investment entities.

## Conclusion

Overall, Kowala is both one of the more ambitious stablecoin designs, but also one with corresponding higher-risk (in terms of the likely success of its stability mechanism). In the absence of reserves, its stability relies on various unproven assumptions that may be vulnerable following launch. The lack of disclosure of financial resources and partners makes it difficult to assess Kowala's prospects at present.

# STANDARD. ONE

## OVERVIEW

### TICKER

TBD

### LAUNCH DATE

TBD

### LIVE

No

## FORMAT

### TOP-LEVEL CATEGORY

Meta-Token

### SUB-CATEGORY

Meta-Stablecoin

### COLLATERAL

Stablecoin TCR

### DIVIDEND

None

### REFERENCE PEG

USD and any other fiat

## ADOPTION

### MARKET VALUE

Not applicable

### AVG. DAILY VOLUME

Not applicable

### FIAT PAIRS

TBD

### CRYPTO PAIRS

Not applicable

### EXCHANGES

Not applicable

## LEGAL STRUCTURE

### OWNERSHIP

1A1Z LTD

### LEGAL JURISDICTION

United Kingdom

### TEAM LOCATION

London, U.K.

## TECHNOLOGY

### PLATFORM

Cross-Chain

### OPEN SOURCE

Yes

## INVESTORS & TEAM

### FUNDS RAISED

Unannounced

### ADVERTISED JOBS

0

### WEBSITE

standard.one



## Key Takeaways

- Decentralized curation, unification, risk protection of stablecoins, protocol governance, and monetary policy
- Automated market maker to unify the liquidity of stablecoins and simplify their exchange
- Community-insured basket of stablecoins, protecting users from the risk of any particular stablecoin losing value
- Seeks to unify the stablecoin ecosystem and protect users from risk and ensure the stablecoin ecosystem remains both decentralized and reliable
- Most similar to: Messari, Bancor

## Overview

StandardOne was founded in 2018 in response to the proliferation of stablecoins creating market fragmentation and making it difficult for users to assess risks. StandardOne creates a decentralized ecosystem of stablecoin rating agents. The community of ONE token holders vote to whitelist the best stablecoins, allowing them to be added to a diversified basket.

This basket of stablecoins serves three functions:

1. Pools liquidity and exchange between stablecoins
2. Diversifies risk across multiple stablecoins
3. Creates a market mechanism for protecting users against the risk of stablecoins losing value.

The ONE token is used for governance, whitelisting, and selection of collateral stablecoins through staking. In return, system fees are collected and distributed to ONE holders who participate in governance. Token holders can stake votes to elect the Rating Agents that decide which stablecoins to whitelist by staking their reputations. ONE must be staked to support the addition of stablecoins into the diversified basket. When users buy a StandardOne meta-stablecoin, they are given the option between a Standard coin or a Risk coin.

The Standard coin is a "meta-stablecoin" that can be redeemed at any time. Its value is insured from risk by the holders of the Risk coin. Risk coins are redeemable, but redemption is not immediate as holders will take the first losses if one or more of the stablecoins in the basket fail. In return for holding this risk they are compensated over time by holders of Standard coin.

Standard coin and Risk coin may be redeemed for any and all of the underlying stablecoins in the basket. They can also be transferred, stored, etc. just like bitcoin or any other cryptocurrency.

| Automation | Complexity<br>Stability Mechanism | Transparency |
|------------|-----------------------------------|--------------|
| Medium     | High                              | High         |

# STANDARD.ONE

## Strengths

### Unified Ecosystem

Instead of creating a new stablecoin, StandardOne seeks to build the tools needed to foster a strong stablecoin ecosystem to the benefit of stablecoin users and projects. This helps avoid a situation where liquidity and attention in the space becomes ever more fragmented.

### Transparency

StandardOne is a decentralized and cross-blockchain protocol, with the ONE token used for governance. Stablecoins included in StandardOne baskets will benefit from community validation and efficient pricing.

### Expert Insight

StandardOne users may choose how to engage with the StandardOne ecosystem. Industry experts may decide to evaluate individual stablecoins and nominate the best of stablecoins for inclusion in the StandardOne baskets.

### Risk Management

StandardOne creates a marketplace for the risk associated with stablecoins. Users who want the lowest degree of risk can acquire protection from users who have an appetite for it. Members of the StandardOne community may choose to take on risk in compensation for a premium, or reduce risk by paying a premium.

## Trade Offs & Concerns

### Governance Risk

Rating Agents in the StandardOne system are attempting to provide in-depth research and audit projects in a new and often opaque space. It may be difficult for them to make accurate assessments in a rapidly changing space where best practices have yet to be established. Deep-pocketed speculators or stablecoin projects might also attempt to sway the whitelisting process in their favor.

### Bug/Hack Risk

By creating a decentralized basket of stablecoins, StandardOne has the risk of bugs or hacks. In the event that a critical flaw with the contract is discovered, it could lead to funds becoming trapped or stolen.

### Regulatory

A decentralized basket of currencies is not anticipated by existing regulation. It is not yet clear what regulations will govern users or how the meta-token will be treated.

### Systemic or Correlated Failures

The StandardOne system cannot mitigate against large-scale, systemic, or correlated failures across the stablecoin space. If failures of one token create contagion across multiple stablecoins, this could overwhelm the 'insurance buffer' built into StandardOne.

## Conclusion

StandardOne is a decentralized organization that aims to assess and reduce risk in the stablecoin ecosystem. Holders of the 'Standard' coin gain insured and diversified access to an interoperable set of the top stablecoins. StandardOne can promote the entire stablecoin ecosystem by curating the best projects and creating incentives for standardization.

StandardOne can help the ecosystem avoid some of the pitfalls and problems that have plagued the wider cryptocurrency world. Stablecoins are designed to preserve wealth, rather than act as speculative assets. Therefore, losses from low-quality projects could adversely impact the reputation of the sector as a whole. StandardOne will help avoid catastrophic failures that could reduce faith in the entire sector.



# DATA APPENDIX



# STABLECOIN OVERVIEW

| Overview                    |                     | AAA Reserve  | Bridgecoin   | Digix Gold Token   | Gemini Dollar   | Globcoin   |
|-----------------------------|---------------------|--|--|--|---|--|
|                             | Ticker(s)           | AAA  | BRC  | DCX  | GUSD  | GLX  |
|                             | Launch Date         | 2017   | Q4 2018  | 2018   | September 2018  | TBD  |
| Format                      | Top-Level Category  | Asset-Backed   | Asset-Backed   | Asset-Backed   | Asset-Backed  | Asset-Backed   |
|                             | Sub-Category        | Off-Chain Collateral Backed  | Off-Chain Collateral Backed  | Off-Chain Collateral Backed  | Off-Chain Collateral Backed   | Off-Chain Collateral Backed  |
|                             | Collateral          | Multi-currency, fixed-income   | Fiat, crypto, IPs, physical assets, etc.                                 | Gold   | USD   | 15 fiat pairs & gold   |
|                             | Reference Peg       | G10 Inflation  | USD for now  | Price of 1g Gold   | USD   | USD, fiat pairs, gold  |
| Legal Structure             | Ownership           | Arc Fiduciary LTD  | Sweetbridge  | DIGIXGLOBAL PTE LTD  | Unknown   | RCS  |
|                             | Legal Entity        | Non-For-Profit SPV (AAA Fiduciary LTD)   | Sweetbridge, Inc.  | Public company   | Gemini Trust Company LLC  | Reserve Currency Solutions SA, AG  |
|                             | Legal Jurisdiction  | Jersey (Bailiwich of Jersey)   | Switzerland  | Singapore  | United States   | Zug, Switzerland   |
|                             | Country Location    | United Kingdom   | U.S. & U.K.  | Singapore  | United States   | Switzerland  |
|                             | City/State Location | London   | Phoenix & London   | Singapore  | New York, NY  | Unknown  |
| Tech                        | Platform            | Ethereum   | Ethereum   | Ethereum   | Ethereum  | Ethereum   |
| Investors, Team, & Partners | Investors           | BondMason  | Crowdsale outside U.S. to users  | Global Brain, Fenbushi Capital   | Unknown   | Unknown  |
|                             | Funds Raised        | \$3,000,000  | \$17,000,000   | \$1,300,000  | Unknown   | Unknown  |
|                             | Partners            | Not applicable   | Sweetbridge Alliance including Mattereum                                 | ConsenSys, Maker, Blockchain at Berkley, Kyber Network, etc.   | Unknown   | TBA  |
|                             | Other Comments      | AAA Reserve can only be stored and used via 3 wallets. Exchanges and financial instution partnerships are on their roadmap. There is not a full transparency as to when the product will be functional. They don't have a strong presence on social, they only publish the current exchange rate AAA/USD on Twitter. | Two coin model, BRC is coin for payments, SWC is a loyalty/rewards token | Recently open-sourced code for DigixDAO 1.0: <a href="https://github.com/DigixGlobal/dao-contracts">https://github.com/DigixGlobal/dao-contracts</a> | Audit reports (escrow and tech) online: <a href="https://gemini.com/dollar/#reports">https://gemini.com/dollar/#reports</a> . <a href="https://gemini.com/dollar/trailofbits">https://gemini.com/dollar/trailofbits</a> | Bringing stablecoins to the next level. The only coin that marries 15 currencies and gold for a deliberate purpose: to mirror the global economy. The only coin to be based on a proven and well-used model. They have a Swiss base, an experienced currency team, and a proven product. |

# STABLECOIN OVERVIEW

|                             |                     | HelloGold  | Kowala   | Monerium  | NOS  | Paxos Standard  |
|-----------------------------|---------------------|--|--|---|--|---|
| Overview                    | Ticker(s)           | GOLDX  | KUSD   | Unknown   | NEURO, NOLLAR  | PAX   |
|                             | Launch Date         | 2017   | TBD  | TBD   | TBD  | September 2018  |
| Format                      | Top-Level Category  | Asset-Backed   | Algorithmic  | Asset-Backed  | Asset-Backed   | Asset-Backed  |
|                             | Sub-Category        | Off-Chain Collateral Backed  | Seigniorage Shares (mint & burn)   | Off-Chain Collateral Backed   | Off-Chain Collateral Backed  | Off-Chain Collateral Backed   |
|                             | Collateral          | Gold   | Algorithmic  | High quality, liquid fixed income assets                              | EUR  | USD   |
|                             | Reference Peg       | 1g of Gold   | USD  | USD, EUR and other currencies   | USD, other fiat  | USD   |
| Legal Structure             | Ownership           | HelloGold Sdn Bhd  | Kowala SEZC  | Private   | NOS  | Unknown   |
|                             | Legal Entity        | HelloGold Sdn Bhd  | Kowala SEZC  | Limited company   | NOS Stablecoin Limited   | Paxos Trust Company LLC   |
|                             | Legal Jurisdiction  | Malaysia   | Cayman Islands   | Brussels  | Malta  | United States   |
|                             | Country Location    | Malaysia   | United States  | Iceland   | Malta, Germany   | United States   |
|                             | City/State Location | Kuala Lumpur   | Nashville, TN  | Unknown   | St. Julians, Munich, Berlin  | New York, NY  |
| Tech                        | Platform            | Ethereum   | Ethereum   | Ethereum  | Nano-Fork  | Ethereum  |
| Investors, Team, & Partners | Investors           | Equity fundraise & token sale  | Self-funded  | Unknown   | ICO  | Unknown   |
|                             | Funds Raised        | \$7,700,000  | \$4,000,000  | \$2,000,000   | TBA  | Unknown   |
|                             | Partners            | Brinks, BullionStar, AEON Credit Services, Axiata Digital  | CanYa  | Unknown   | Paymentworld, E&S, Youcal, TNG, Arweave, InsurLab, 10x Value Partner | Withium will perform monthly attestation procedures   |
|                             | Other Comments      | GOLDX is held in a vault audited by Bureau Veritas and insured by XL Insurance. The gold is fully allocated. According to HelloGold, it remains the only tokenized gold product structured this way. Token holders can receive physical delivery of the gold backing GOLDX with a minimum redemption size of 1 gram. | Two distinctive tokens:<br>1) kUSD: stable coin used as store of value, medium of exchange, and unit of account.<br>2) mTokens: mining token pegged to fiat. Anyone who holds this token and contributes to find block hashes is eligible to participate in mining activities. | Bridges existing regulatory frameworks with blockchain fiat issuance. | Built on DAG/Blocklattice tech (Nano fork).                          | Paxos Smart Contract Audit: <a href="https://medium.com/nomic-labs-blog/paxos-standard-pax-audit-report-ca743c9575dc">https://medium.com/nomic-labs-blog/paxos-standard-pax-audit-report-ca743c9575dc</a> |

# STABLECOIN OVERVIEW

|                             |                     | Phi  | SAGA  | STASIS  | Stronghold USD              | Tether  |
|-----------------------------|---------------------|--|---|---|-----------------------------|---|
| Overview                    | Ticker(s)           | Unknown  | SGA   | EURS  | Unknown                     | USDT, EURT  |
|                             | Launch Date         | TBD  | Q4 2018   | April 2018  | 2018                        | 2014  |
| Format                      | Top-Level Category  | Asset-Backed   | Asset-Backed                                    | Asset-Backed  | Asset-Backed                | Asset-Backed  |
|                             | Sub-Category        | On-Chain Collateral Backed   | Off-Chain Collateral Backed                     | Off-Chain Collateral Backed   | Off-Chain Collateral Backed | Off-Chain Collateral Backed   |
|                             | Collateral          | Real world assets  | Fiat  | EUR   | USD                         | USD, EUR (Yen pre-announced)  |
|                             | Reference Peg       | TBD  | SDR   | EUR   | USD                         | USD   |
| Legal Structure             | Ownership           | DFINITY Stiftung   | Non-Profit Foundation                           | STASIS Foundation   | Stronghold                  | iFinex  |
|                             | Legal Entity        | DFINITY Stiftung   | Non-Profit Foundation                           | STSS (Malta) Limited  | Stronghold                  | Hong Kong-Based LTD   |
|                             | Legal Jurisdiction  | Switzerland  | Switzerland                                     | Malta   | Unknown                     | British Virgin Islands  |
|                             | Country Location    | Switzerland  | Israel  | Malta   | United States               | Distributed   |
|                             | City/State Location | Zug, Canton of Zug   | Tel Aviv  | Unknown   | San Francisco, CA           | Distributed   |
| Tech                        | Platform            | Dfinity  | Ethereum  | Ethereum: EIP-20  | Stellar                     | Omni Protocol   |
| Investors, Team, & Partners | Investors           | Not applicable   | Singulari Team, Mangrove Capital Partners, etc. | Self-funded   | Unknown                     | Unknown   |
|                             | Funds Raised        | Unknown  | \$30,000,000                                    | Unknown   | Unknown                     | Unknown   |
|                             | Partners            | Not applicable   | Unknown   | Exante.eu, epayments.com  | IBM                         | BitFinex  |
|                             | Other Comments      | Seems to be in the ideation stage. Don't think many/if any of Dfinity's resources have been dedicated to this. | None  | Recently announced, big promises, attempts to lure institutional money. | None                        | Although many have accused Tether of being a fraud, this seems less and less likely for various reasons (eg new compliance hire, continued printing of USDT after CFTC subpoena, hiring reputable PR firm, etc.). |

# STABLECOIN OVERVIEW

| Overview                    |                     | Token   | TrueUSD  | White Standard  | x8c                         |
|-----------------------------|---------------------|---|--|---|-----------------------------|
|                             | Ticker(s)           | Unknown                                       | TUSD   | WSD   | Unknown                     |
|                             | Launch Date         | Sept. 2018                                    | 2018   | June 2018   | 2018                        |
| Format                      | Top-Level Category  | Asset-Backed                                  | Asset-Backed   | Asset-Backed  | Asset-Backed                |
|                             | Sub-Category        | Off-Chain Collateral Backed                   | Off-Chain Collateral Backed  | Off-Chain Collateral Backed   | Off-Chain Collateral Backed |
|                             | Collateral          | Deposits in commercial banks                  | USD  | Fiat  | Fiat & Gold                 |
|                             | Reference Peg       | USD   | USD  | USD   | None                        |
| Legal Structure             | Ownership           | Corporation based in U.S.                     | TrueCoin LLC   | U.S. persons  | X8 Currency                 |
|                             | Legal Entity        | Regulated financial institutions              | Delaware   | The White Company U.S., LLC   | Privately held company      |
|                             | Legal Jurisdiction  | United States                                 | Delaware   | United States   | Unknown                     |
|                             | Country Location    | United States                                 | United States  | United States   | Switzerland                 |
|                             | City/State Location | San Francisco, CA                             | San Francisco, CA  | Florida   | Zug, Canton of Zug          |
| Tech                        | Platform            | ETH smart contract                            | Ethereum   | Stellar   | Ethereum                    |
| Investors, Team, & Partners | Investors           | Octopus Ventures, EQT Ventures, Op bank, etc. | a16z crypto, Blocktower Capital  | Apis Capital Management   | Unknown                     |
|                             | Funds Raised        | \$8,000,000                                   | \$21,700,000   | \$850,000   | Unknown                     |
|                             | Partners            | Yes, confidential for now                     | Blocktower Capital, Cooley, Standofrd-StarX fund, Futurism                             | Stellar Foundation, Interstellar, REM loyalty, Spl.yt, REEL, Debitum, etc.          | Not applicable              |
|                             | Other Comments      | None  | Problems with price stability following exchange listing (~40% after Binance listing). | Regularly audited and fully transparent. \$50,000,000 current post money valuation. | None                        |

# STABLECOIN OVERVIEW

|                             |                     | Augmint                    | BitUSD                     | Boreal (Aurora)  | Celo  | DAI (Maker)   |
|-----------------------------|---------------------|----------------------------|----------------------------|--|---|---|
| Overview                    | Ticker(s)           | Unknown                    | BITUSD                     | Unknown  | Unknown   | DAI   |
|                             | Launch Date         | TBD                        | 2014                       | TBD  | TBD   | 2017  |
| Format                      | Top-Level Category  | Asset-Backed               | Asset-Backed               | Asset-Backed   | Asset-Backed  | Asset-Backed  |
|                             | Sub-Category        | On-Chain Collateral Backed | On-Chain Collateral Backed | On-Chain Collateral Backed   | On-Chain Collateral Backed  | On-Chain Collateral Backed  |
|                             | Collateral          | ETH (BTC later)            | BitShares core token (BTS) | ETH & various cryptocurrencies   | Cryptoassets  | ETH   |
|                             | Reference Peg       | USD, EUR                   | USD                        | Not applicable   | USD   | USD   |
| Legal Structure             | Ownership           | Decent                     | Unknown                    | Unknown  | Celo  | Maker (MKR)   |
|                             | Legal Entity        | Public company             | Unknown                    | Aurora   | Privately held company  | Non-For-Profit  |
|                             | Legal Jurisdiction  | Unknown                    | Unknown                    | Unknown  | Unknown   | Switzerland   |
|                             | Country Location    | United Kingdom             | United States              | Panama   | United States   | United States   |
|                             | City/State Location | London                     | Boston, MA                 | San Francisco  | San Francisco, CA   | Santa Cruz, CA  |
| Tech                        | Platform            | Ethereum                   | Unknown                    | Unknown  | Proprietary   | Ethereum  |
| Investors, Team, & Partners | Investors           | Not applicable             | Unknown                    | Not applicable   | Polychain Capital, Andressen Horowitz, Coinbase, etc.               | Andressen Horowitz, Scanate, Polychain Capital, etc.  |
|                             | Funds Raised        | Unknown                    | Unknown                    | Unknown  | Unknown   | \$12,000,000  |
|                             | Partners            | Not applicable             | BitShares                  | Not applicable   | Cash transfer programs, social payments, paid participation schemes | DigixDAO  |
|                             | Other Comments      | None                       | None                       | Not much information is listed on Boreal but it is a stablecoin being created in the Aurora network. | Little information about Celo currently, white paper is not public. | The Maker team recently announced a proposal for the Maker Foundation which aims to promote the decentralized governance of the Dai system through MKR. |

# STABLECOIN OVERVIEW

|                             |                     | FiatPeg                    | Goldmint                   | LibreCash                  | Nomins                                   | OnRamp                     |
|-----------------------------|---------------------|----------------------------|----------------------------|----------------------------|--|----------------------------|
| Overview                    | Ticker(s)           | Unknown                    | Unknown                    | Unknown                    | nUSD                                     | Unknown                    |
|                             | Launch Date         | TBD                        | 2018                       | TBD                        | 2018                                     | TBD                        |
| Format                      | Top-Level Category  | Asset-Backed               | Asset-Backed               | Asset-Backed               | Asset-Backed                             | Asset-Backed               |
|                             | Sub-Category        | On-Chain Collateral Backed | On-Chain Collateral Backed | On-Chain Collateral Backed | On-Chain Collateral Backed               | On-Chain Collateral Backed |
|                             | Collateral          | Fiat and assets            | Asset                      | Cryptoassets               | Cryptoassets (Havven token)              | Fiat                       |
|                             | Reference Peg       | Fiat, equities, etc.       | Gold                       | USD                        | USD                                      | USD                        |
| Legal Structure             | Ownership           | Unknown                    | Unknown                    | Unknown                    | Havven                                   | Unknown                    |
|                             | Legal Entity        | FiatPeg Limited            | GoldMint PTE LTD           | LibreBank Foundation       | Havven                                   | OnRamp Technologies LTD    |
|                             | Legal Jurisdiction  | Jersey                     | Russia                     | Unknown                    | Australia                                | Australia                  |
|                             | Country Location    | United Kingdom             | Russia                     | Unknown                    | Australia                                | Australia                  |
|                             | City/State Location | London                     | Moscow                     | Unknown                    | Sydney                                   | Sydney                     |
| Tech                        | Platform            | NEO                        | Ethereum                   | Ethereum                   | Ethereum, EOS                            | Unknown                    |
| Investors, Team, & Partners | Investors           | Unknown                    | Unknown                    | Unknown                    | Blocktower, Alphablock Investments, etc. | Unknown                    |
|                             | Funds Raised        | Unknown                    | Unknown                    | Unknown                    | Unknown                                  | Unknown                    |
|                             | Partners            | Unknown                    | Unknown                    | Unknown                    | Tokensoft, Elysian                       | Unknown                    |
|                             | Other Comments      | None                       | None                       | None                       | None                                     | None                       |

# STABLECOIN OVERVIEW

|                             |                     | <b>Peblík</b>              | <b>////Pier</b>            | <b>StatiCoin</b>           | <b>SwissRealCoin</b>       |
|-----------------------------|---------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Overview                    | Ticker(s)           | Unknown                    | Unknown                    | Unknown                    | Unknown                    |
|                             | Launch Date         | TBD                        | TBD                        | Oct. 2017                  | 2018                       |
| Format                      | Top-Level Category  | Asset-Backed               | Asset-Backed               | Asset-Backed               | Asset-Backed               |
|                             | Sub-Category        | On-Chain Collateral Backed | On-Chain Collateral Backed | On-Chain Collateral Backed | On-Chain Collateral Backed |
|                             | Collateral          | Asset                      | Cryptoassets               | Unknown                    | Assets                     |
|                             | Reference Peg       | Mineral commodities        | Unknown                    | Unknown                    | Commercial real estate     |
| Legal Structure             | Ownership           | Unknown                    | Unknown                    | Unknown                    | Unknown                    |
|                             | Legal Entity        | Peblík Limited             | Unknown                    | Unknown                    | Crypto Real Estate LTD     |
|                             | Legal Jurisdiction  | Barbados                   | Unknown                    | Unknown                    | Switzerland                |
|                             | Country Location    | Canada                     | Unknown                    | Unknown                    | Switzerland                |
|                             | City/State Location | Toronto                    | Unknown                    | Unknown                    | Zug                        |
| Tech                        | Platform            | Ethereum                   | Ethereum                   | Ethereum                   | Ethereum                   |
| Investors, Team, & Partners | Investors           | Unknown                    | Unknown                    | Unknown                    | Unknown                    |
|                             | Funds Raised        | Unknown                    | Unknown                    | Unknown                    | Unknown                    |
|                             | Partners            | Unknown                    | Unknown                    | Unknown                    | Unknown                    |
|                             | Other Comments      | Security token offering    | None                       | None                       | None                       |

# STABLECOIN OVERVIEW

|                             |                     | Basis   | BitBay                                | Carbon                                      | Corion      | Fragments   |
|-----------------------------|---------------------|---|---------------------------------------|---|-------------|---|
| Overview                    | Ticker(s)           | Unknown   | BAY                                   | CUSD  | Unknown     | Unknown   |
|                             | Launch Date         | Q3 2018   | 2015                                  | Q2 2019                                     | TBD         | TBD   |
| Format                      | Top-Level Category  | Algorithmic   | Algorithmic                           | Hybrid at launch, Algorithmic later         | Algorithmic | Algorithmic   |
|                             | Sub-Category        | Seigniorage Shares  | Algorithmic                           | Seigniorage Shares                          | Unknown     | Seigniorage Shares  |
|                             | Collateral          | Not applicable  | Unknown                               | Fiat at launch                              | Unknown     | ETH   |
|                             | Reference Peg       | USD   | Unknown                               | USD   | USD         | USD   |
| Legal Structure             | Ownership           | Intangible Labs   | Unknown                               | Carbon-12 Labs                              | Unknown     | Not applicable  |
|                             | Legal Entity        | Delaware Corp.  | Unknown                               | Delaware Corp.                              | Unknown     | Privately held company  |
|                             | Legal Jurisdiction  | Delaware  | Unknown                               | Delaware, USA                               | Unknown     | United States   |
|                             | Country Location    | United States   | Unknown                               | United States                               | Unknown     | United States   |
|                             | City/State Location | Hoboken, NJ   | Unknown                               | New York, NY                                | Unknown     | San Francisco, CA   |
| Tech                        | Platform            | Ethereum  | Unknown                               | Hedera Hashgraph                            | Ethereum    | Ethereum  |
| Investors, Team, & Partners | Investors           | Andressen Horowitz, Ausum Ventures, etc.  | Unknown                               | The Fund, FirstMark, General Catalyst, etc. | Unknown     | Pantera Capital, Founder Collective, Turing Capital, etc.   |
|                             | Funds Raised        | \$133,000,000   | Unknown                               | \$2,000,000                                 | Unknown     | \$3,000,000   |
|                             | Partners            | Not applicable  | Unknown                               | Hedera Hashgraph                            | Unknown     | Unknown   |
|                             | Other Comments      | Basis has not yet launched their stablecoin, so there are still a number of questions that remain about their implementation. | One of the most unstable stablecoins. | Raised \$2m seed round in April 2018.       | None        | Fragments defers from being called a stablecoin and is referred to as a low volatility cryptocurrency instead. The fragments protocol hasn't launched yet so there are still a number of unanswered questions surrounding the implementation of the protocol. |



# STABLECOIN OVERVIEW

|                             |                     | NuBits  | Reserve   | Stable             | Stableunit   | SteemDollars |
|-----------------------------|---------------------|---|---|--------------------|--|--------------|
| Overview                    | Ticker(s)           | USNBT   | RES, RSH  | Unknown            | Unknown  | SBD          |
|                             | Launch Date         | 2014  | TBD   | TBD                | TBD  | 2016         |
| Format                      | Top-Level Category  | Algorithmic   | Algorithmic   | Algorithmic        | Algorithmic  | Algorithmic  |
|                             | Sub-Category        | Seigniorage Shares  | On-Chain Collateral Backed                          | Seigniorage Shares | On-Chain Collateral Backed   | Algorithmic  |
|                             | Collateral          | Bitcoin   | Cryptoassets  | Unknown            | ETH & maybe BTC  | Unknown      |
|                             | Reference Peg       | USD   | USD   | Unknown            | USD value on Jan. 2019 + 1% inflation  | USD          |
| Legal Structure             | Ownership           | Unknown   | Coinbase & founder                                  | Unknown            | DAO  | Unknown      |
|                             | Legal Entity        | Unknown   | Delaware C-corp                                     | Unknown            | TBD  | Unknown      |
|                             | Legal Jurisdiction  | Unknown   | United States                                       | Unknown            | Unknown  | Unknown      |
|                             | Country Location    | Sweden  | United States                                       | Unknown            | Distributed  | Unknown      |
|                             | City/State Location | Luleå, Norrbotten County  | San Francisco, CA                                   | Unknown            | Distributed  | Unknown      |
| Tech                        | Platform            | Unknown   | Multi-platform                                      | Unknown            | Ethereum   | Unknown      |
| Investors, Team, & Partners | Investors           | Unknown   | Peter Thiel, Coinbase, GSR.io, Fenbushi, etc.       | Unknown            | None yet   | Unknown      |
|                             | Funds Raised        | Unknown   | \$5,000,000   | Unknown            | Self-funded  | Unknown      |
|                             | Partners            | Unknown   | Patomak Global Partners                             | Unknown            | Not applicable   | Unknown      |
|                             | Other Comments      | Peg has broken twice: first in 2016 and then again in 2018, leaving some to argue it is now a zombie/dead <a href="https://medium.com/reserve-currency/the-end-of-a-stablecoin-the-case-of-nubits-dd1f0fb427a9">https://medium.com/reserve-currency/the-end-of-a-stablecoin-the-case-of-nubits-dd1f0fb427a9</a> | Recently announced. The white paper is not out yet. | None               | Whitepaper was published in March of 2018. Little information available about development. | None         |

# STABLECOIN OVERVIEW

|                             |                     | Terra   | Unum                       | Xank   |
|-----------------------------|---------------------|---|----------------------------|--|
| Overview                    | Ticker(s)           | Unknown   | Unknown                    | XANK (TBD)   |
|                             | Launch Date         | Q4 2018   | TBD                        | TBD  |
| Format                      | Top-Level Category  | Algorithmic   | Algorithmic                | Algorithmic  |
|                             | Sub-Category        | Algorithmic (with initial fiat backing)   | On-Chain Collateral Backed | On-Chain Self-Funding Treasury Backed  |
|                             | Collateral          | Luna token  | Unknown                    | Reserve  |
|                             | Reference Peg       | ST: SDR, LT: fiat   | USD                        | IMF SDR  |
| Legal Structure             | Ownership           | TBD, maybe token holders  | Unknown                    | Private  |
|                             | Legal Entity        | Terraform Labs  | Unknown                    | TBD  |
|                             | Legal Jurisdiction  | TBD   | Unknown                    | Unknown  |
|                             | Country Location    | South Korea   | Unknown                    | South Korea  |
|                             | City/State Location | Seongnam  | Unknown                    | Seoul  |
| Tech                        | Platform            | TBD   | Ethereum                   | Fork from Dash   |
| Investors, Team, & Partners | Investors           | Unknown   | Unknown                    | Angel Round  |
|                             | Funds Raised        | \$32,000,000  | Unknown                    | Unknown  |
|                             | Partners            | TMON, Carousell, Pomelo, Tiki.vn, etc.  | Unknown                    | Amadeus Next   |
|                             | Other Comments      | Strong Team with immediate e-commerce adoption. Could struggle if other competitors with lower fee + larger userbase enter the market, or Visa etc. cut fees. | None                       | The Xank Treasury will go beyond funding protocol maintenance to fund projects that are urgent, impactful and meaningful to our lives. |

# STABLECOIN OVERVIEW

|                             |                     | Coin Payment Processor        | Jibrel   |
|-----------------------------|---------------------|-------------------------------|--|
| Overview                    | Ticker(s)           | cPRO                          | JUSD, JGBP, JEUR, JKRW, JJOD   |
|                             | Launch Date         | April 2018                    | August 2018  |
| Format                      | Top-Level Category  | Hybrid                        | Hybrid   |
|                             | Sub-Category        | Hybrid                        | Proof of Solvency mechanism  |
|                             | Collateral          | ETH, cPRO, ERC20              | On-Chain: Jibrel Network Token, Off-Chain: Fiat  |
|                             | Reference Peg       | Unknown                       | USD, GBP, EUR, KRW, JOD  |
| Legal Structure             | Ownership           | Open Source                   | Public company   |
|                             | Legal Entity        | Association                   | Jibrel AG  |
|                             | Legal Jurisdiction  | Not applicable                | Switzerland  |
|                             | Country Location    | Serbia                        | Switzerland  |
|                             | City/State Location | Belgrade                      | Zug  |
| Tech                        | Platform            | Ethereum                      | Ethereum   |
| Investors, Team, & Partners | Investors           | Not applicable                | MENA & crypto funds  |
|                             | Funds Raised        | \$0                           | \$32,000,000   |
|                             | Partners            | Open Consortium Gold Partners | Central Bank of Jordan, Dubai Financial Services Authority, etc.   |
|                             | Other Comments      | None                          | Proof of solvency mechanism implies the Jibrel DAO will hold Jibrel Network Token (JNT) of the same value as the Jcash in circulation at that time. This ensures that users can transparently check that the value backing the assets is held on-chain as well, for instant liquidity. |

# STABLECOIN OVERVIEW

|                             |                     | Alchemint | CryptoPeg  | Freedium             | MinexCoin                  | Moxey               |
|-----------------------------|---------------------|-----------|--|----------------------|----------------------------|---------------------|
| Overview                    | Ticker(s)           | Unknown   | Unknown  | Unknown              | Unknown                    | Unknown             |
|                             | Launch Date         | Q3 2018   | TBD  | TBD                  | 2017                       | 2018                |
| Format                      | Top-Level Category  | Unknown   | Asset-Backed   | Unknown              | Asset-Backed               | Unknown             |
|                             | Sub-Category        | Unknown   | On-Chain Collateral Backed   | Unknown              | On-Chain Collateral Backed | Unknown             |
|                             | Collateral          | Unknown   | BTC, possibly ETH  | Unknown              | USD                        | Not applicable      |
|                             | Reference Peg       | Unknown   | USD & other fiat   | Unknown              | Unknown                    | Not applicable      |
| Legal Structure             | Ownership           | Unknown   | None   | Unknown              | Unknown                    | Unknown             |
|                             | Legal Entity        | Unknown   | Decentralized open source project                                    | Freedium             | MinexSystems               | TradeAuthority, LLC |
|                             | Legal Jurisdiction  | Unknown   | Unknown  | Unknown              | Hong Kong                  | United States       |
|                             | Country Location    | Unknown   | Unknown  | United Arab Emirates | Ukraine                    | United States       |
|                             | City/State Location | Unknown   | Unknown  | Dubai                | Kiev                       | Baton Rouge, LA     |
| Tech                        | Platform            | NEO       | Bitcoin  | Unknown              | Not applicable             | Ethereum            |
| Investors, Team, & Partners | Investors           | Unknown   | None   | Unknown              | Unknown                    | Unknown             |
|                             | Funds Raised        | Unknown   | \$0  | Unknown              | Unknown                    | Unknown             |
|                             | Partners            | Unknown   | Unknown  | Unknown              | Unknown                    | Unknown             |
|                             | Other Comments      | None      | Truly decentralized, not even a DAO, purely open-source like Bitcoin | None                 | MNX/BTC atomic swaps       | None                |

# STABLECOIN OVERVIEW

|                             |                     | Polys (Top1) | Stably (StableUSD)         | Standard.One       | USD Coin (CENTRE)  |
|-----------------------------|---------------------|--------------|----------------------------|--------------------|--|
| Overview                    | Ticker(s)           | Unknown      | USDS                       | Unknown            | USDC   |
|                             | Launch Date         | TBD          | TBD                        | TBD                | Q3 2018  |
| Format                      | Top-Level Category  | Asset-Backed | Asset-Backed               | Meta-Token         | Asset-Backed   |
|                             | Sub-Category        | Unknown      | On-Chain Collateral Backed | Meta-Stablecoin    | Off-Chain Collateral Backed  |
|                             | Collateral          | Unknown      | USD                        | Stablecoin TCR     | Fiat   |
|                             | Reference Peg       | Unknown      | USD                        | USD and other fiat | USD  |
| Legal Structure             | Ownership           | Unknown      | Stably Blockchain Labs     | 1A1Z LTD           | Circle, Inc.   |
|                             | Legal Entity        | Unknown      | Stably Blockchain Labs     | Standard.One       | Circle, Inc.   |
|                             | Legal Jurisdiction  | Unknown      | Canada                     | United Kingdom     | Cayman Islands   |
|                             | Country Location    | Unknown      | Canada                     | United Kingdom     | United States  |
|                             | City/State Location | Unknown      | Vancouver                  | London             | Boston, MA   |
| Tech                        | Platform            | Ethereum     | Ethereum                   | Cross-chain        | Stablecoin neutral   |
| Investors, Team, & Partners | Investors           | Unknown      | 500 startups, Beenext      | Unknown            | Private  |
|                             | Funds Raised        | Unknown      | Unknown                    | Unannounced        | \$20,000,000   |
|                             | Partners            | Unknown      | Not applicable             | Not applicable     | 20 total partners  |
|                             | Other Comments      | None         | None                       | None               | USDC is issued through the CENTRE open source framework and membership scheme. Multiple companies can join as issuers on the protocol - as well as other fiat stablecoins - and customers can access USDC through exchanges, digital wallets, and banks. |

