

StandardCoin: Inflation Backed Token Issue

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Non-Technical Core Whitepaper

ABSTRACT

Satoshi Nakamoto's development of Bitcoin and Vitalik Buterin's development of Ethereum allows the creation of on-blockchain digital assets to represent various custom currencies, financial instruments, as well as various financial contracts and decentralized autonomous organizations governed by consensus verified non-fungible code. Yet the underwriting of such contracts in any blockchain governed token as a currency-esque figure risks the token's value as a medium of exchange (MoE). Proposals using traditional reserve-backed tokens (USDT, USDC, et. al.), whose reliability is dependent on trust in the issuer, and algorithmic stable tokens (UST, FPI, et. al) which depend on speculative action to maintain price. Recent token price collapses have spotlighted limitations in both approaches. Standardcoin dynamically aggregates a list of ERC-20 tokens to collateralize an inflation backed token calculated using a consumer price index and allows for a decentralized issuance of such contract.

1. INTRODUCTION

Though the blockchain consensus model has been generally accepted as a path out of dependence on traditional financial institutions, brokerages, and trusted third parties to verify transactions, the weakness of fiat currency remains, albeit without the regime of central governments to attempt to limit volatility and ensure function as a medium of exchange. The large price swings in current cryptocurrency markets and the dependency on issuers and/or traders of so-called stablecoins limit the practical use of cryptocurrencies as a medium of exchange. Though Bitcoin (at time of writing) is the 16th largest currency in the world by market volume, putting it between the Russian Ruble and Mexican Peso, all cryptocurrencies combined are in less than one percent use as a MoE and an even fewer percent of financial instruments are governed by blockchain contracts.

Standardcoin is the first fixed price token to create a scalable and trustless chain whose contracts are truly independent from any centralized asset. The Standard Protocol (STD) encompasses a token whose value can be redeemed with the issuer for the worth of 1 (one) US Dollar on November 1 2008 at 0:00:00 CST. The protocol has a pool contract which holds a basket of tokenized consumer price assets as collateral. Pools can be added or removed with governance.

Though the purchase price of STD is fixed to the price of the CPI Inflation basket, any entity transacting in STD is free to set/demand a collateral ratio which is set with each wei (10^{-18}) unit. Increased token adoption will lead to market norms lowering the collateral ratio to levels that mirror current fiat bank reserve ratios. The issuing entity is fixed in specifying the collateral ratio, and any raising/lowering of such will require issuance of new tokens. A future protocol update will allow for dynamic resizing of reserve ratios through governance protocols and consensus. The current redeemable price of STD (and thereby, collateral) is calculated with at CPI index average as set by the United States Federal Reserve, data scraped from a Chainlink oracle and a weighted average of singular asset-backed token pools on Uniswap. A future update to the protocol will allow for a wholly decentralized calculation of such index, freeing up the one dependency on the US Federal Reserve.

2. GOVERNANCE AND DECENTRALIZATION

The Standard Protocol Governance token (GOV) is the utility token that governs the protocol and is freely volatile, its value recognizing the rights to system governance. Though we eschew a decentralized philosophy in designing a trustless platform, current dependence on centralized entities (i.e. US Federal Reserve Consumer Price Index) and a want to transition away from such requires minimal governance. The only governance parameters include the adjustment of collateral pools and setting transaction fees. The latter will be done through a voluntary burn/reissue smart contract to ensure trust in the inflation indices used.

GOV supply is initially fixed at 100 million tokens, but a lesser collateral ratio combined with greater adoption likely ensures deflationary circulation.

3. TRANSACTION MECHANICS

3.1 Minting and Issuance

Standardcoin can be minted by placing the appropriate amount of its constituent parts into the system. Minting using exclusively the STD contract is 100% collateralized, meaning that minting STD only requires placing collateral into the minting contract.

Issuance of Standardcoin with a set collateral ratio is similar, requiring a placing of the appropriate percent of parts into the contract, thereby fixing the ratio of such Standardcoin at what is in the contract with the remaining assets free in a governed account. Fractional issuance also requires the burning of the Standard Governance Token (GOV), as governed by the below equation.

$$(1 - C_r)(S) = (C_r)(V)(P_v)$$

Where C_r defines the collateral ratio, V and P_v define the number of GOV tokens and their price in STD burned, respectively, and S the Standardcoin minted.

3.2 Burning

A bearer of Standardcoin is free to verify the collateral ratio in their currency at anytime and any decrease of the ratio below the contractual amount will automatically burn the STD and force a proportional liquidation of value-equivalent assets in issuer's governed account. Furthermore, the rearrangement of the equation from the minting section calculates the GOV tokens which will be deposited in bearers account in the event of a forced liquidation.

The burning of fully backed STD is the trivial case. The burning of a fractionally collateralized STD will initially remove the assets from issuer held collateral. Bearer initiated burning requires payment of transaction fee, as well as forfeiture of GOV tokens to issuer. Forced liquidation will deduct transaction fee from collateral.

3.3 Management

Though the protocol is designed to accept any cryptocurrency and/or appraisable asset, initial iterations of STD will only accept on-chain coins with sufficient volume or Chainlink Oracles connect to non-tokenized assets to ensure the stability of the Standard protocol. Increased adoption, and thereby velocity of the token will allow the inclusion of more volatile assets into future pools.

3.4 Implication of Stability

STD can be minted and redeemed by the chain for its value multiplied by the reserve ratio, thereby fixing the cost. However, chain redemption is not the primary intended method of redemption.

The contractual federation of STD further requires any issuer of STD to burn both their own issued STD and redeem any STD issued with a higher collateral ratio at face value.

4. CPI CALCULATION

Though inflation backed stablecoins have been previously attempted, their mirroring of centralized inflation indices and inability of fractional collateral ratios prevent such from denominating transactions and measuring revenue against such.

STD uses the unadjusted CPI 12 month inflation rate reported by the US Federal Reserve, committed on chain by a ChainLink oracle, which defines the burn price of Standardcoin. This data is continuously updated currently shortly after new data is released. Future iterations of CPI Calculation are being currently developed to reduce the single dependency on a centralized entity and a burn/reissue contract will be put out when feasible.