Hello Arbitrum Community,

We've been focused on developing an efficient decentralized algorithmic stablecoin using WBTC as collateral. Our prototype, created for EthIndia 2023 in December, earned us multiple pool prizes. Now, we're eager to further advance our project and launch the protocol on Arbitrum. We are looking for mentors who can give feedback and support us in the journey.

Idea Brief:

We're introducing a decentralized algorithmic stablecoin, featuring hard floor price and negative interest rates, using Bitcoin as collateral.

Summary:

Our decentralized protocol enables Bitcoin holders to maximize liquidity against their collateral. Borrowing will incur an interest which should be paid over time. By locking WBTC in a smart contract to create a "Vault," users can instantly mint pUSD, a USD-pegged stablecoin. Each vault must maintain a minimum collateralization of 110%. Stability relies on user-driven economic interactions and arbitrage rather than active governance or monetary interventions.

pUSD holders can redeem their stablecoins for the underlying collateral at any time. Collateral from all positions is proportionally burnt to redeem pUSD and get WBTC. Each time a redemption occurs, the MCR gradually increases by a small percentage. This strengthens the $1 floor but also makes it easy to stay above $1 in sticky markets. To counter this, our algorithm continuously reduces the MCR, with a cap at 110%. This approach provides more flexibility to those who minted in the 120+% range, effectively acting as a negative interest rate and re-pegging the price by increasing supply. The redemption mechanism and MCR adjustments will guarantee a stable coin value of at least $1.

pUSD can be staked in the "Stability Pool," serving as the primary defense for system solvency. Positions falling below the MCR are liquidated using pUSD from this pool. LPs in the stability pool lose a pro-rata share of their deposits but gain a pro-rata share of the liquidated collateral. Since vaults are typically liquidated at current MCR, which is above 110%, LPs receive more collateral in dollar-value relative to the debt they cover.

The protocol incorporates a soft liquidation mechanism through a risk-free Bitcoin pool. This pool is used to mark under-collateralized CDPs as 'soft-liquidated,' initiating a timer.

- Scenario A: If a CDP re-attains sufficient collateralization due to a Bitcoin price increase before the timer expires, it's unmarked, with a small percentage of collateral awarded to the pool as a protection fee.
- Scenario B: If the owner repays the debt or adds sufficient collateral before the timer expires, the CDP is unmarked, and a small percentage of collateral is allocated to the pool as a protection fee.
- Scenario C: If the timer expires without adequate collateralization, the stability pool liquidates the position, and the Bitcoin pool claims a share.

In short, the protocol offers USD borrowing at a low MCR overall, without losing stability.

This concept was meticulously devised after analyzing Liquity and other algorithmic stable coins, integrating their best features while addressing their shortcomings to build a robust system for a decentralized algorithmic stable coin.

We welcome critical feedback from experts and are happy to answer any questions.

Thank you for your attention and support.