Proposal to add support for FRAX

Updated to fit the ARC template

Add FRAX as an asset on Aave

I'm a Frax community member helping with integrations.

References

- Project: https://frax.finance

- Whitepaper: Introduction - Frax ¤ Finance

- Twitter: https://twitter.com/fraxfinance 1

- Codebase: frax.finance · GitHub

- Documentation: https://docs.frax.finance/

- App: https://app.frax.finance/

- Audit: https://certik-public-assets.s3.amazonaws.com/REP-Frax-06-11-20.pdf

- FRAX token contract: 0x853d955acef822db058eb8505911ed77f175b99e

- Telegram: Telegram: Contact @fraxfinance

- Discord: https://discord.gg/eKXUxaKJXT

Summary

FRAX is a redeemable stablecoin with a dynamic collateral ratio that adjusts based on market demand. Frax is unique among recent stablecoin designs in that each FRAX is always redeemable for $1.00 worth of assets from the Frax protocol. This has kept the price of FRAX in a relatively tight band around $1.00, making Frax an ideal asset to borrow and lend against on Aave. Frax is already integrating with Aave and is currently the 4th largest aUSDC holder and growing, demonstrating a strong synergy between the communities.

v2 of the Frax protocol was recently announced and introduces a lending module that can be built directly onto Aave. This would enable the Frax protocol to supply large amounts of FRAX to Aave on demand. The first step towards this integration is the addition of FRAX and FXS as assets on Aave.

Overview

FRAX is a redeemable stablecoin with a dynamic collateral ratio that adjusts based on the market demand for FRAX. Currently, each FRAX is collateralized by approximately $0.87 USDC and $0.13 of the Frax governance token, FXS. When the price of FRAX is at or above $1.00, the protocol gradually lowers the collateralization ratio of USDC to FXS. When the price of FRAX is below $1.00, the protocol gradually increases the ratio. FRAX can always be minted or redeemed by the protocol for $1.00 of assets, which counterbalances significant price deviations from the $1.00 target. Frax emphasizes a highly autonomous approach with no active management of the price stability function.

The Frax community recently approved the investment of system collateral, currently approximately $96m USDC, into yield bearing USDC. Accordingly, the protocol began supplying USDC to Aave to earn a return on this collateral. Frax already has over 15,000,000 aUSDC and will continue increasing deposits on Aave, demonstrating a strong synergy between the Frax and Aave communities. Frax is currently the #4 largest holder of aUSDC.

Continued growth of the Frax protocol and system collateral could lead to Frax becoming one of the larger suppliers of USDC to Aave.

Positioning within Aave Ecosystem

The Frax community is very active and looking for venues to lend and borrow FRAX. Aave should enjoy increased revenue from the lending and borrowing of FRAX, as well as additional USDC deposits as the Frax collateral pool grows. While Frax is often lumped together with "algorithmic stablecoin" protocols, a closer analysis shows that the Frax protocol is in fact stable and capital efficient.

Frax recently announced v2 of the Frax protocol. v2 introduces algorithmic market operations controllers (AMOs). AMOs are autonomous contracts that build on the base Frax protocol without disrupting it's operation. The team has proposed incorporating lending AMOs directly into decentralized lending markets. The lending AMO could be built directly on Aave to supply large amounts of FRAX from the protocol to Aave. This would effectively create a FRAX dispenser on Aave, somewhat analogous to the Fed discount window, where borrowers could borrow directly from the FRAX protocol via Aave. A direct integration with Aave will also make supplying FRAX more attractive to other market participants because there is a

guarantee of FRAX liquidity directly from the protocol, avoiding the pitfalls of high utilization rates on money markets. This integration could drive significant TVL and fees to Aave.

A direct integration with Frax via a lending AMO contract will offer Aave users the ability to effectively mint and redeem stablecoins on demand via Aave. From a borrower's perspective, direct protocol integration should keep the supply relatively steady, which should keep borrowing costs low and predictable. This would make FRAX an ideal stablecoin to borrow. To realize this integration, FRAX and FXS need to first be added as collateral on Aave.

Project History

The project launched in December 2020. The project is currently using snapshot voting for governance. The project has deployed Compound Governor Alpha; it is fully functional but awaiting the minimal threshold of FXS to be emitted. There is a 48 hour timelock for governance.

Frax underwent a significant expansion and contraction withing the first 2 months of launch, providing a stress test for the protocol. In a three week period, the supply of FRAX increased over 5x, from approximately 25m to 134m. The supply of FRAX then contracted by approximately 33%. FRAX maintained a tight band around $1.00 throughout the cycle. The team has subsequently released updates to the protocol to smooth volatility during expansions and contractions, most importantly the updated PID controller for the protocol. V2 of the protocol also includes an interest rate module, intended to dampen FXS volatility during periods of contraction.

Given that FRAX is a stablecoin, FRAX's stability around $1.00 is obviously important and worth reviewing. Warp Capital performed the following analysis independently in February. There have been no notable changes or deviations for FRAX since this analysis was performed:

From inception FRAX has maintained the peg of $1, trading within the normal range. Figure 1 illustrates the USD price for the last 30 days of stablecoins from different groups: fiat-backed like BUSD, GUSD etc.; algorithmic with overcollaterization like sUSD, DAI; elastic like AMPL and algoseignorage like BAC, ESD and FRAX. The noticeable divergence is present for BAC and ESD – fully algoseignorage without any collateral. Also, elastic AMPL converges to the peg with the high volatility.

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Figure 1. Last 30 days stablecoins performance vs. USD

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Figure 2. Last 30 day performance without 3 aforementioned algorithmic stablecoins that have experienced high volatility (AMPL, BAC, ESD). As we see FRAX goes in line with other stablecoins demonstrating alike volatility.

Figure 3. Last 30 day stablecoin performance vs USD excluding sUSD.

If we exclude sUSD which has the big spike at the beginning of 2021, we will get the performance illustrated on Figure 3. Figure 3 shows the dynamics of the remaining stablecoins and as we see FRAX is within the range of other stablecoins.

Here is an updated view of FRAX's stability taken from the FRAX app:

Given that FRAX is highly collateralized (currently approximately 87% collateralized by USDC and interest bearing USDC like aUSDC) and FRAX's initial Aave LTV is likely to be lower than the collateralized amount, there is a high likelihood that FRAX used as collateral on Aave would effectively be over collateralized by USDC and equivalents. This should reduce the downside risk for Aave as a protocol.

It is also worth noting that there is also approximately $60m of Uniswap, Sushiswap and FRAX-3Pool LP tokens locked within the Frax protocol. A significant portion of this is locked for greater than 2 years. This provides guaranteed liquidity for FRAX and provides significant benefits to the stability of the protocol in times of volatility.

FRAX Usage and Emission

FRAX is a stablecoin that can be freely minted and redeemed via the Frax protocol. Currently, Frax is mostly used in AMM

trading pairs and to liquidity mine the Frax governance token, FXS. Through constant building (FRAX AMOs as an example), integrations (like Aave) and performance / awareness over time, FRAX should build organic usage as a stablecoin. The team has no ability to arbitrarily mint or redeem FRAX in the contract.

Market, Social and Contract Data

FRAX currently has a $110m market capitalization with an average daily volume of $9m during March 2021. FRAX is the #9

token on Uniswap based on liquidity ($102m)

Frax's telegram is the main social channel with 5,600+ members. The contracts were deployed December 16 2020. There have been 53k transfers and currently 851 holders, however 97.5% of the supply is currently deposited as liquidity on decentralized exchanges. Given Frax liquidity mining, it is likely that significantly more users exist but have staked their tokens in liquidity pools to receive rewards.

Security Considerations

Frax has undergone extensive code reviews and an audit by Certik (linked above). Frax is in the process of undergoing additional audits. The protocol currently has approximately $300m TVL.

I appreciate you taking the time to review. Please let me know if you have any questions or concerns.

Vote

- Add FRAX

- Don't Add FRAX

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voters