Add DEFI5 To Aave V2 [Polygon] Collateral Assets

Hi everyone, good to be here!

Just popping down everything as specified by the ARC Template. It's not quite clear whether the risk rating is to be done by myself (a biased party) or as a conjunct work with Aave; so with that said, if there's anything missing or that needs expounding on, please let me know!

Sentence Rational

Integrate the DEFI5 index into Aave V2 on Polygon as a collateral asset.

References

- [Indexed Finance [DEFI5 Page]](#)
- [Indexed Finance Docs](#)
- Source Code:
- [Indexed Finance GitHub](#)
- [Indexed Finance GitHub](#)
- Contract Address:
- [DEFI5 Token](#)
- [DEFI5 Token](#)
- Audits
- [Daniel Luca's Audit](#)
- [Mudit Gupta's Audit](#)
- [Daniel Luca's Audit](#)
- [Mudit Gupta's Audit](#)
- Communities
- [Discord](#)
- [Twitter](#)
- [Telegram](#)
- [Medium](#)
- [Discord](#)
- [Twitter](#)
- [Telegram](#)
- [Medium](#)

Paragraph Summary

The DEFI Top 5 Index (DEFI5) is an hyper-focused ETF produced by Indexed Finance aimed at tracking the performance of the top decentralized finance protocols on Ethereum. We believe that DEFI5 would make an excellent collateral candidate on Aave.

DEFI5 is currently the largest ETF offered by Indexed, with US$16 million TVL at the time of writing, and is the [best-performing DeFi ETF](#) both since inception (558%) and YTD (446%).

Motivation

Unlocking utility for index holders - such as being whitelisted for usage as collateral on lending platforms - is a key focus for the Indexed protocol.

Recently, Indexed started pushing liquidity of its indices towards Polygon in an effort to make indices available to smaller investors who have been priced out of the Ethereum mainnet by gas prices.

At the time of writing, the Quickswap pair DEFI5-ETH has over US$4.2million in liquidity, and DEFI5-QUICK has over US$1.2million. This makes DEFI5 one of the largest assets on Polygon in terms of liquidity and trading volume. Several of the other ETFs offered by Indexed Finance are also traded (and incentivized) on Quickswap.

If accepted, DEFI5 would be the first index token listed as collateral on Aave. Index tokens are well suited for the purposes of collateral as they are designed to be less volatile than individual tokens. Moreover, we anticipate that users will hold ETF-like assets over longer time periods than others, making them more attractive as collateral on platforms that permit them to be used as such.

In short: by adding DEFI5 to Aave on Polygon, newcomers will be able to experience the magic of buying a high-performing DeFi index, depositing it on Aave and taking a loan against it.

Specifications

What is the link between the author of the AIP and the Asset?

I am a full-time member of the core team of Indexed Finance, which produced DEFI5.

Provide a brief high-level overview of the project and the token.

DEFI5 is one of - at present - six ETF offerings by Indexed Finance, a passive portfolio management protocol. DEFI5 is governed by the Indexed DAO, which has the ability to vote on the membership of a 'candidate list' of assets under consideration for inclusion on a four-weekly reindexing cycle.

Weightings of assets within DEFI5 are determined on-chain by a square-root FDV scoring strategy utilizing TWAPs from a Uniswap V2 oracle. After three weekly reweightings (which are adjusted by updating oracle prices for all currently active assets and then updating the target weights of the underlying AMM), a reindexing occurs which considers the FDVs of all candidates, removing and adding active members from the wider list as necessary.

Assets are shifted towards their target weights via incremental shifts as swaps occur between assets in the underlying AMM: the details of which are available here.

Explain positioning of the token in the AAVE ecosystem. Why would it be a good borrow or collateral asset?

The current active members of DEFI5 are UNI, AAVE, COMP, CRV and MKR (SNX was recently removed by a reindex, and is being gradually phased out by arbitrage via external market forces). These are all blue-chip DeFi assets that are already used as collateral on many lending platforms.

Provide a brief history of the project and the different components: DAO (is it live?), products (are they live?). How did it overcome some of the challenges it faced?

As one of the initial ETF offerings produced by Indexed Finance upon the latter's launch, DEFI5 is a 'core' ETF governed by the Indexed DAO, rather than a project in it's own right: however, assets within the pool are wholly owned by holders of the DEFI5 token rather than Indexed.

Since DEFI5 is - insofar as performance goes - at a remove from the goings-on at Indexed itself, the technical challenges faced by the latter are unremarkable in the context of this initial pitch. Happy to talk about them though, if anyone's interested!

Nonetheless, the Indexed protocol currently has a FDV of US$92 million (circulating market capitalization of US$31 million), and 5,316 members within its DAO.

How is the asset currently used?

As you'd expect, DEFI5 is currently being used as an asset for exposure to the wider DeFi sector without needing to pick a favourite.

It is currently available as a collateral asset on the Ruler protocol (whereupon it quickly reached the highest borrow-to-loan ratio of any asset listed there on launch day), and incentivized by Quickswap as a trading asset (as referenced above).

Emission schedule

Due to its underlying nature as an AMM LP token (see Technical Specifications below), DEFI5 does not have an emission schedule, and similarly does not have a maximum supply. DEFI5 tokens can be minted by either directly providing the underlying tokens in the appropriate amounts, or by utilizing the Uniswap router on the Indexed Finance website to purchase the underlying tokens in the appropriate amounts via ETH.

Similarly, DEFI5 tokens can be burned back to their underlying assets at any point: reducing the DEFI5 supply, but returning the NAV of the token to the burner.

Token (& Protocol) permissions (minting) and upgradability. Is there a multisig? What can it do? Who are the signers?

DEFI5 currently has proxy upgradability, subject to a successful Governor Alpha vote from holders of NDX, the Indexed Finance protocol governance token.

Market data (Market Cap, 24h Volume, Volatility, Exchanges, Maturity)

Figures accurate at the time of writing:

- Market cap: US$16,216,373

- 24 hour volume: US1,286,740

- Performative statistics versus ETH (since launch):

- Beta: 0.676

- Alpha: 3.42

- R^2: 0.331

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- Exchanges: Uniswap and Quickswap

- Maturity: 146 days since launch [see A Final Aside below]

Dune Analytics Dashboard - provides detailed data on DEFI5, but as of the most recent reindex is in need of an update to account for the presence of MKR.

Social channels data (Size of communities, activity on Github)

Whilst there is no specific sub-community for DEFI5, some figures for Indexed Finance as a whole are:

- Discord members: 4,860

- Telegram members: 1,002

- Twitter analytics:

- Followers: ~12,200

- 28 day impressions: 1.15 million

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- GitHub (indexed-finance/indexed-core):

- Commits: 512

- Date of first commit: 5 August 2020

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Contracts date of deployments, number of transactions, number of holders for tokens

DEFI5 was deployed on 6 December 2020 via this transaction.

At the time of writing, there are 1,083 holders after 19,593 transactions.

Technical Specifications

Indexed Finance uses AMM liquidity pools as the portfolio structure of its current suite of ETFs. DEFI5 is - in practice - an LP token representing a holders' share in the assets of a forked Balancer pool.

The primary changes made by the fork enabled more dynamic pool management so that assets can be bound, rebound and reweighed gradually and without the need to access external liquidity. For more technical detail, see the Indexed docs starting from the Protocol section.

If there are any questions that arise which the reader feels are not addressed there - please let us know here, and we'll both answer them here and update the documentation appropriately.

Security Considerations

A rogue action from the DAO can - with a governance vote - add nonsense tokens to the candidate list. Assuming that this was done 'just in time' for a scheduled reindexing, this could result in valuable assets being removed in favour of less desirable assets, albeit slowly: the shift is not immediate, but a gradual process (as can be seen by the fact that DEFI5 currently has six elements in it - SNX is being removed in favour of MKR).

With that said, the Indexed Governor Alpha contract that owns the core controller which administers the core pools (including DEFI5) is a significant mitigating factor against such an attack. The two day timelock imposed upon successful votes prior to their execution allows us enough time to warn holders to burn their DEFI5 tokens back into their underlyings before the reindex in the event that such a hostile vote succeeds.

We do not foresee such an action taken against a core pool as 'likely' - it is far more probable that a hostile attack on the Indexed DAO would involve an assault on the treasury and the NDX tokens therein, which would not affect DEFI5 in any way.

A Final Aside

There's a question about Lindyness to address related to the figures given in the Market Data section above, since DEFI5 is - in and of itself - quite a young asset, which would typically preclude it from being included on Aave as collateral.

Nonetheless, the design of DEFI5 is such that it includes the heaviest hitters from DeFi, which - almost by default - include the longest-lasting/most Lindy protocols. Moreover, the upgradable asset list and reindexing procedure ensures that in the event that an active component does die out, it is replaced within the ETF by another blue-chip asset (itself likely to be Lindy). As a result, we consider DEFI5 to have 'inherited' a degree of the longevity of its components.

Even in the event that the Indexed DAO is wiped out and no further rebalancing or reindexing occurs, external market forces will still be incentivized through arbitrage to keep the current target weights in check.