FCAM

Decentralised Digital Investing

Curve –

Something worth fighting for.

April 2022

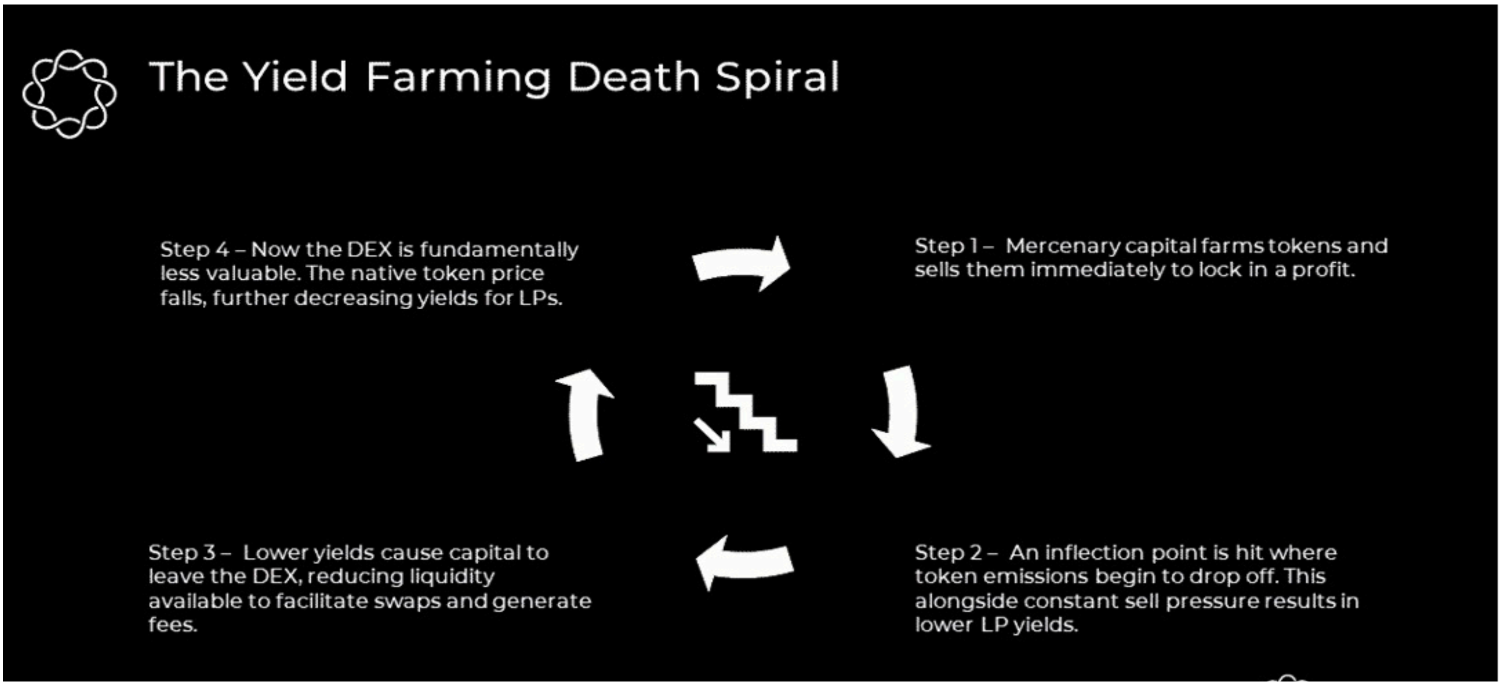
CURVE - SOMETHING WORTH FIGHTING OVER

In last month's note we examined Curve Finance and noted its success in becoming the largest DeFi protocol in terms of Total Value Locked (TVL). Curve developed a clever incentive system which attracted liquidity to the protocol but crucially incentivized liquidity providers (LPs) not to sell the CRV tokens received as rewards. Instead, LPs can lock their tokens in the protocol for up to four years and receive a boosted yield of up to two and a half times the base yield as well as participating in voting on which pools to direct the CRV rewards. These tokens are known as Vote Escrowed CRV (veCRV). We concluded last month's note by saying "The benefits of the veToken model have not gone unnoticed in DeFi and new protocols have emerged to try to capitalise on the model in what has become known as "The Curve Wars" in DeFi."

In this note, we look at the first and most successful of these, Convex Finance. But before we do, it's worth considering why Curve's veTokenomics came to be superior to earlier methods of yield farming as these reflexive loops are a key feature of DeFi markets and also manifest themselves in traditional financial markets.

Step 1.

When a new protocol such as a DEX launches, it will offer incentives to liquidity providers paid in its own token to attract the all-important liquidity necessary for the DEX to be successful. Often what happens is that large pools of capital, often referred to as mercenary or parasitic capital, will provide liquidity to the protocol to farm the incentive tokens, but they sell them almost immediately to capture their profits. As the initial hype around the project attracts more liquidity, the TVL increases.



This creates reflexivity to the upside as more money pours in. The token price also increases which increases the yields paid to LPs as they are paid in the native token.

Step 2.

At some point, the incentives offered by protocol begin to taper off and yields begin to fall as the same amount of liquidity is sharing a smaller pool of rewards. Meanwhile, the mercenary capital has been continually selling their tokens which has a downward influence on the token price and further reduces the yield for all the LPs.

Step 3.

Once yields fall to a level considered by LPs to be unattractive to continue providing liquidity to the protocol, capital begins to leave. This creates a negative reflexive loop where the DEX is unable to support as much trading volume thereby generating lower fees from trading revenue. This lowers the fundamental value of the DEX which leads to a lower token price and declining yields for the remaining LPs.

Step 4.

More capital continues to leave the DEX which further impairs its fundamentals which depresses the token price even further.

Curve's Positive Flywheel Effect

Curve was able to create an incentive design which has been successful in avoiding the Yield Farming Death Spiral and instead created a positive flywheel effect. Instead of rewarding all token holders equally irrespective of the value they add to the protocol, Curve's veCRV tokenomics design encourages long term and value additive participants while discouraging shorter term speculative capital providers.

Curve provides three main benefits to long term capital providers.

1. It provides a prorated share of trading fees.

2. By locking CRV tokens for veCRV, LPs can earn up to 2.5 times the base yield on their capital.Tokens can be locked for up to 4 years. The longer they are locked, the higher the reward (up to 2.5x) as compensation for removing CRV supply from the market and showing long term commitment to the protocol.

3. Governance and gauge weight voting power. The gauge weight determines how Curve's future emissions are distributed. This feature has become important for other protocols which have launched liquidity pools on Curve. The more veCRV these protocols control, the more they can direct votes (and future CRV rewards) to their own protocols.

In our January 2022 Research note, we covered Yearn Finance. Yearn is highly integrated with the Curve platform and uses it to provide enhanced yields on its stable coin and other vaults. While Yearn has received criticism for farming and selling Curve tokens (which it does to facilitate investors' returns being automatically reinvested into their underlying investment asset), Yearn also has a veCRV accumulation strategy.

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It takes a share of the CRV rewards and locks them into veCRV for the maximum 4 years to help boost the yields it offers across all its vaults. According to Yearn they currently hold 5.7% of all veCRV. Prior to the arrival of Convex, Yearn was the largest individual holder of veCRV. https://yearn.vision/?orgId=1&refresh=1m&kiosk

However, as protocols began to realise the benefits that the Curve DEX's deep liquidity provided, it became important for protocols launching on Curve to accumulate veCRV to direct votes and CRV incentives to their respective gauges. And so, the competition to accumulate CRV heated up and lead to what has been described as "The Curve Wars".

Convex Finance

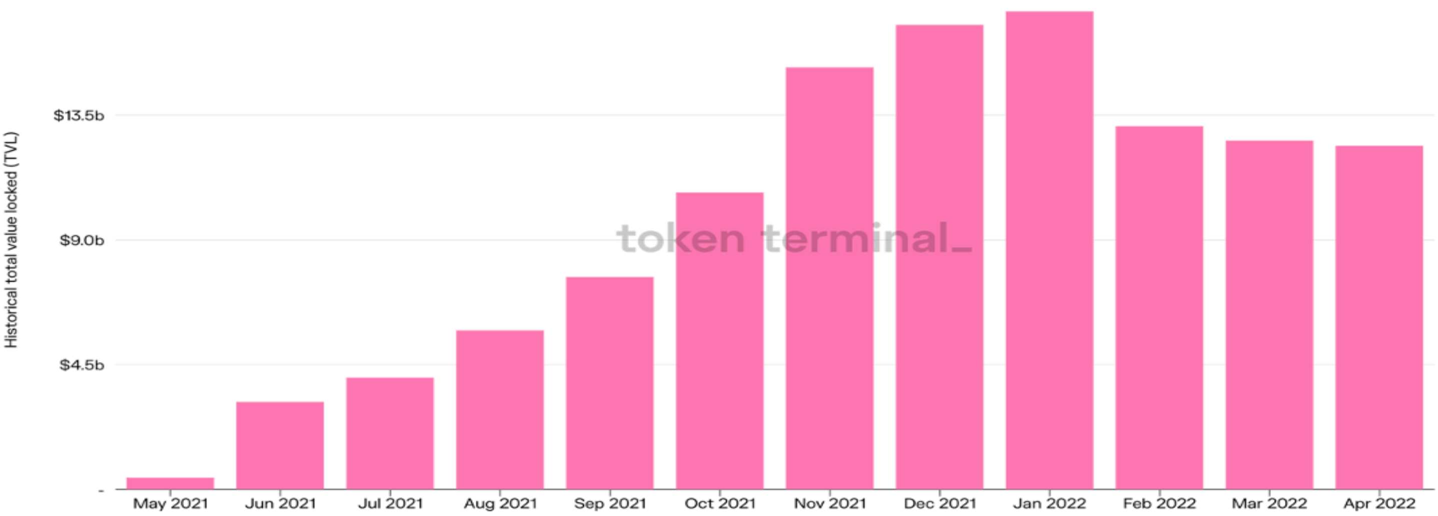
Convex Finance is a DeFi protocol built on top of Curve to facilitate higher returns for liquidity providers and CRV stakers. Launched on May 17, 2021, by an anonymous team of developers, Convex quickly exceeded $1 billion in total value locked (TVL) in its first two weeks. As of April 2022, TVL is close to $12.5 billion

Since its launch almost a year ago, Convex has generated revenue for the protocol of around $30m and has produced revenue for stakers and liquidity providers of around $550m.

When Convex launched in May, the DeFi community noticed the similarities between Convex and Yearn and perceived them as competitors. As Curve is such an attractive source of yield in DeFi, Yearn also has a vault for locking CRV to boost rewards as many of Yearn's vaults depend on strategies that farm CRV. There even seemed to be a race between the two protocols to see who could attract more staked CRV.

In less than one month, the CRV locked on Convex exceeded that of Yearn.

However, calling Convex a competitor to Yearn doesn't quite paint the full picture. In short order, Yearn migrated all of their existing Curve based strategies to include Convex and farm CVX rewards. Yearn has now harvested around 8% of all CVX minted.



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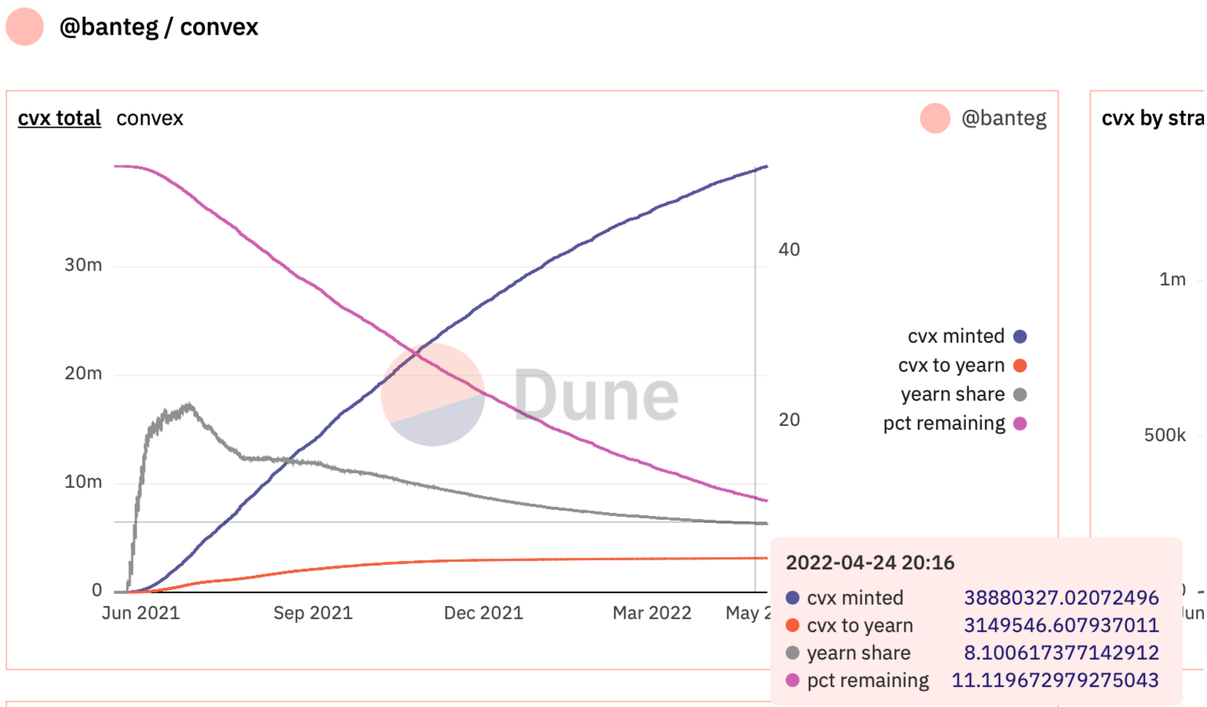

Convex Finance is a platform for CRV token holders and Curve liquidity providers to earn additional interest rewards and Curve trading fees on their tokens. Put another way, Convex Finance offers boosted Curve staking.

It is important to note that for an external protocol to use veCRV the Curve community has to approve the protocol through a vote to be included in the whitelist contract. Here are some of the key points taken from the proposal which was approved prior to Convex's launch.

- *Convex Finance provides a boost to Curve LPs without auto selling rewards while taking a small performance fee on only CRV itself.*

- *Convex Finance provides more rewards to CRV stakers by passing performance fees to CRV stakers along with their normal 3CRV rewards untouched.*

- *Convex Finance hopes to simplify the Curve boosting system and provide more incentives to locking CRV.*

CRV locked in Convex will be locked forever. A tokenized(cvxCRV) version will allow users to trade their cvxCRV back to CRV at any time through incentivized pools. Majority of Convex performance fees will be given to cvxCRV holders as normal CRV(10%) with most of the rest being locked and tokenized as cvxCRV and given to CVX stakers(4.5%). There will also be a small 0.5% fee for gas incentives for claiming rewards from gauges and keeping the system moving.

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Motivation:

As DeFi farmers ourselves, we saw a need for a platform that allowed users to receive the max boost possible from CRV in a simplified manner. Convex Finance aims to enable more users to be onboarded into the Curve ecosystem by making it easy and painless for users to receive better yields on their CRV and Curve LP tokens compared to what the average user might receive on their own.

What this emphasises is the synergy created between the two protocols. Convex is designed to function entirely on top of Curve Finance and in synergy with it.

The clever part about this model is it has allowed Convex to absorb a substantial amount of the circulating Curve supply which prevents it being sold onto the market. They now own more than any other protocol. This allows them to give a significant boost to all the Curve pools for which their users provide liquidity and it allows Convex to control where the majority of CRV incentive rewards are allocated.

The key features Convex created which improved on Curve's veCRV model are:

1. Convex created a liquid version of veCRV that allows individual users to earn Curve platform fees without having to lock their tokens for 4 years to earn the maximum boost.

2. The liquid veCRV, cvxCRV, allowed Convex to acquire more veCRV voting power than any other protocol.

3. This voting power has allowed Convex to control which pools CRV awards are allocated to, while providing a significant yield boost to everyone using the Convex platform to farm Curve pools.

Like Curve, Convex aims to be a decentralized user-owned protocol, which allows an individual's CVX tokens to provide a certain amount of voting power. And that voting power allows CVX token owners to direct how Convex uses its veCRV to allocate CRV rewards.

The Power of Governance

CVX is the governance token behind Convex. The token is issued to LPs that stake through Convex and all cvxCRV holders. Additionally, CVX is rewarded to LPs on DEXs that offer cvxCRV/CRV trading as a reward. These incentives are crucial to ensure that CRV stakers can access liquid markets and able to sell cvxCRV.

vlCVX

To receive the full benefit of the token, it is necessary to vote lock. CVX is locked for roughly 16 weeks + 3 days and so provides access to a share of protocol profits and governance.

While vote-locked, stakers are entitled to a share of the protocol's CRV revenue earned by liquidity providers, which is distributed in cvxCRV. The fact that cvxCRV cannot be unbundled back to CRV results in all CRV farmed by Convex being captured and perpetually time-locked within the protocol. This mechanically increases the pool of veCRV even if no additional CRV deposits are made.

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The CVX Bribing* Economy

Convex has managed to lock around 200m CRV tokens for veCRV since its inception. There are currently 35.9m CVX tokens locked for voting on Convex, which means every CVX token can direct about 5.57 veCRV token votes.

So, to control those votes, you either need to buy CVX tokens, or you need to pay people who have CVX tokens to vote for you.

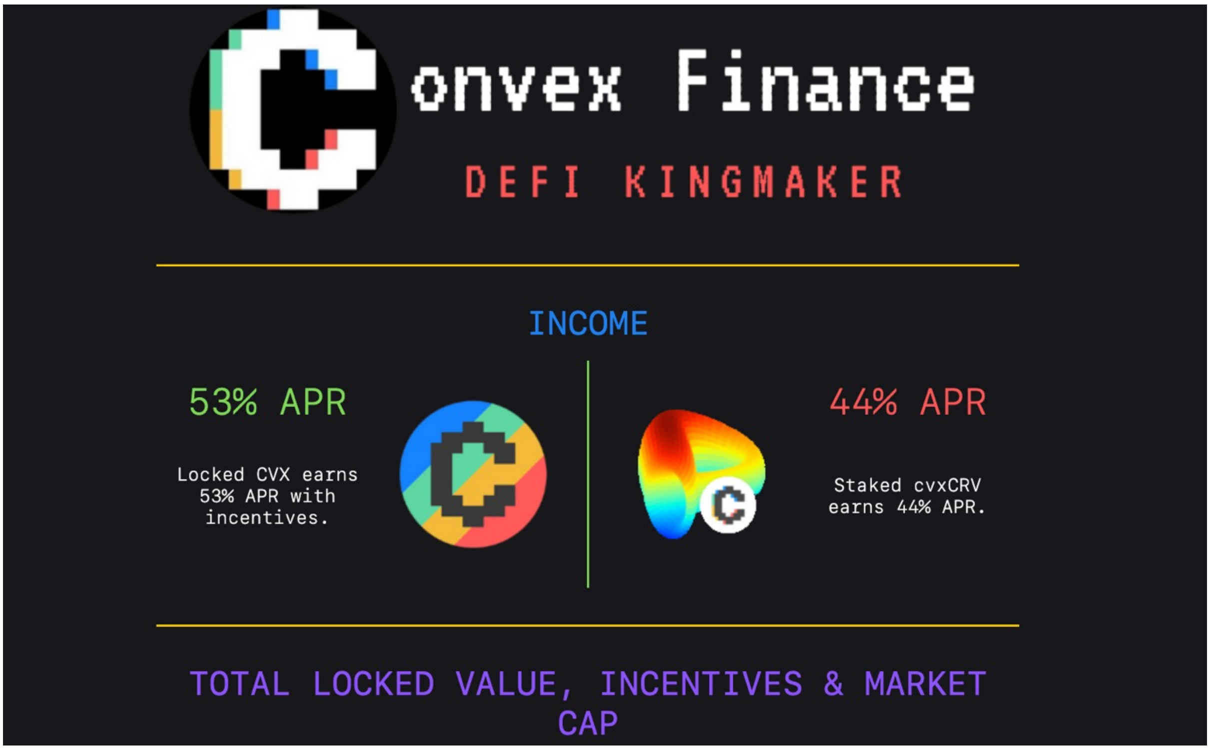
This is where bribes come in. Protocols will pay CVX holders to vote for their pools, based on the assumption that over time it will be cheaper to pay CVX holders than to acquire more CVX. These bribe amounts change semi-weekly based on the competition from other protocols trying to bribe CVX holders, and for the last few months it ranged from $0.37 to $0.87 per CVX vote.

**Bribing is a derogatory term coined as a type of slang term in DeFi. In the real world, it is referred to as "lobbying". At least in DeFi, this "lobbying" is transparent as it happens on chain.*

For CVX holders has been especially good. In addition to earning a yield on CVX tokens, token holders have been able to earn significant income from the incentives (bribes) paid to them by the protocols.

According to data from https://llama.airforce/#/convex/flyer the yield from bribes has averaged around 45% and is currently as high as 53%.

CVX token lockers have been paid $135m in bidding fees in the past 6 months.



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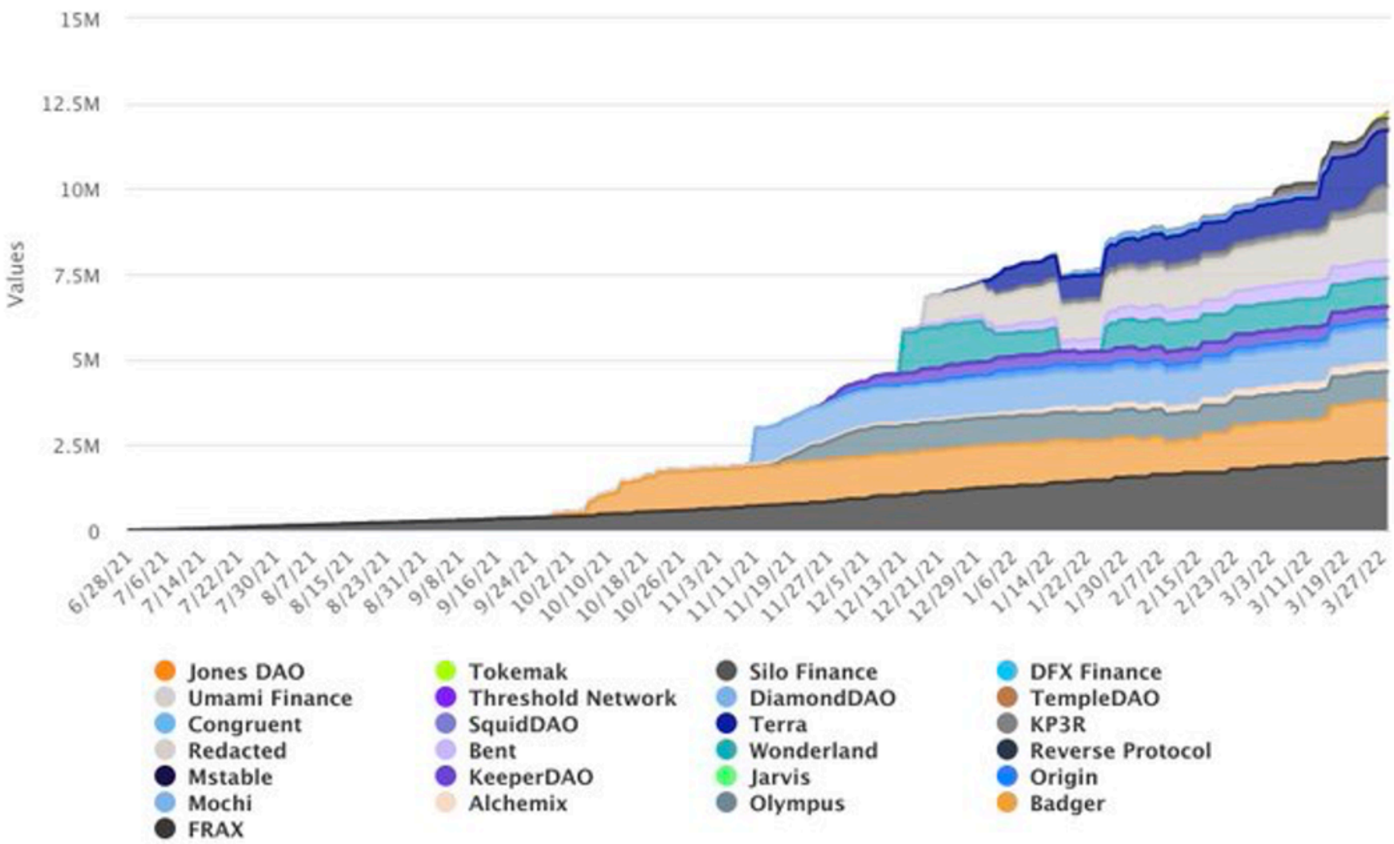
DAOs are now accumulating CVX

Protocols are now acquiring CVX in their DAO treasuries as they see the capital efficiency of using vlCVX to direct votes to their CRV liquidity pools. Rather than simply pay CVX holders for their votes, some protocols see value in using some of their treasury funds to own CVX outright and use it for voting.

To conclude, the DeFi space is evolving so quickly. Convex Finance has only been around a little less than a year. It's a great example of the composability of smart contracts in DeFi and the utility they can provide for unlocking additional value in the space.

It seems like Convex has already won the Curve Wars and now the battle seems to be moving to fighting to control Convex.



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