ALCHEMIX

Alchemix Q3 2023 Report

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Introduction to Alchemix

Established in February 2021, Alchemix is a DeFi lending protocol that offers Self-Repaying loans without the risk of forced liquidations. Alchemix's value proposition is that it enables its users to access tokenized value against their deposits, while those deposits harness the power of DeFi to automatically pay down a borrower's loan balance over time. Conceived as a new tool for people to take advantage of the time value of money, Alchemix is tested and audited and then deployed on-chain using smart contracts to provide security, transparency, immutability, and uncensorable access to all.

A borrower's loan comes in the form of synthetic tokens known as alAssets. Alchemix currently offers alUSD to borrow against Dai, USDC, USDT and FRAX and alETH to borrow against ETH, rETH, stETH and frxETH. Alchemix establishes a 1:1 pairing between collateral types (Dai/USDC/USDT/FRAX and ETH/rETH/stETH/frxETH) and their pair alAssets via deep exchange liquidity and the Alchemix Transmuter, which provides a backstop for the alAsset price.

Alchemix is currently deployed on the Ethereum Mainnet, Optimism, and Fantom networks.

This report provides relevant data for Q3 2023, 1 July 2023 to 30 September 2023. A bridge to Arbitrum has been deployed as well, but no strategies have been implemented as of yet.

Data sources for the numbers provided below include, but are not limited to, the Alchemix SubGraph, the Etherscan API, Bitquery and CoinGecko.

This report was released on 2023.11.30.

Major Developments

The third quarter of 2023 brought many developments into the crypto space and into the Alchemix world, including the following:

- Curve pools were exploited to the tune of tens of millions of dollars. Among these exploited pools was the alETH-ETH pool.
- As a result of the Curve incident, alETH incentives were halted. Currently waiting for the affected parties to be refunded before incentives are restarted.
- Alchemix's new Connext bridges for ALCX and alUSD are now operational.
- The protocol earned approximately $1.31 million in revenue for the quarter.
- Added some vaults on Optimism.
- As a result of the Multichain incident, alUSD became partially unbacked last quarter. The necessary transactions have been executed and alUSD is now fully backed.
- AIP-95b, the proposal to deploy a bridging solution for Fantom users to recover their ALCX and alUSD passed governance and was deployed shortly after the close of the quarter.

Curve Exploit Incident

On 30 July 2023, a number of Curve pools were exploited to the tune of tens of millions of dollars. Among these exploited pools was the alETH-ETH pool that is used to support the Alchemix ecosystem. Some funds were able to be rescued minutes before the exploit hit the alETH-ETH pool. After a period of negotiations the exploiter returned all stolen funds, but because of how incomplete the exploit was, arbitrageurs and MEV bots swooped in and caused a permanent loss for the liquidity providers. This permanent loss amounted to 3,856 alETH in aggregate. Two MEV bots operators returned some of their profits, but a large gap remains. Read the full post-mortem of the exploit of the alETH-ETH Curve pool here. As of this writing, work is still underway to determine the exact amounts of tokens to be returned to the liquidity providers, as well as what steps Curve will take to close the hole of the value of the outstanding alETH.

The fallout of this exploit has included the following:
- Because of the lack of a functioning alETH-ETH pool on Curve, the Alchemix Elixir (AMO) has not been earning revenue since the time of the exploit.
- alETH liquidity on Mainnet has been very limited.
- The price of alETH on Mainnet and Optimism fell pretty far from its soft price target of 0.991 ETH.
- Because of the general market uncertainty following the exploit, a larger amount of funds than usual were withdrawn from the Alchemists.
- Because of the time and attention that was spent on addressing the Exploit and its fallout, not as much time and attention could be spent on general protocol development.

Protocol Metrics

In this section we cover the most important metrics that indicate the sustainability and health of the protocol.

alAsset Prices

The main challenge for the protocol is to maintain a strong price for the alAssets, meaning that they converge towards the price of the assets with which they are paired. If the protocol is successful in achieving and maintaining a strong price, then it enables the Alchemist deposit caps to be increased. In turn, with growing deposits, protocol revenue increases.
In essence, a good price results in growing revenues and profit for Alchemix.

Without a robust and healthy price for the alAssets, Alchemix's value proposition diminishes, as a lower price would mean an effective lowering of the LTV ratio of a user's deposit. A sustained exact 1:1 peg between alAssets and their pairs is not possible, but the protocol aims to maintain a steady price close to 1:1 to enhance predictability and value for users.

The price and liquidity for alUSD and alETH are achieved by establishing liquidity pools in Curve, Velodrome and RAMSES.

The alUSD and alETH price history charts can be seen below.

Shortly after the launch of Alchemix v2, the protocol deployed a new mechanic called the Elixir, which is intended to help bolster the prices of alAssets. The Elixirs have also been called the AMOs. The mechanisms by which the new Elixirs and the Transmuters help maintain alAsset prices is detailed in the *System Components* section below.

alUSD Price vs. Dai

Trade size	Jul 1st	Oct 1st
$1M	**0.9963 (-0.37%)**	**0.9905 (-0.95%)**

alUSD price vs. Dai

alETH Price vs. ETH

Trade size	Jul 1st	Oct 1st
500 ETH	**0.9898 (-1.02%)**	**~0.7 (-30%)**

alETH became essentially non-functional on Ethereum as a result of the Curve hack. For details, please read the description of the incident above on page 7.

alUSD Liquidity Pools

Total size in all pools

	Jul 1st	Oct 1st
	$82.17M	**$65.87M**

Pool	Jul 1st	Oct 1st
Curve FRAXBP	**$59.31M**	**$45.46M**
alUSD3CRV	**$18.62M**	**$16.75M**
Velodrome USDC-alUSD	**$1.86M**	**$2.21M**
Velodrome MAI-alUSD	**$0.35M**	**$0.24M**
Velodrome FRAX-alUSD	**$0.35M**	**$0.44M**
Saddle L2D4	**$1.18M**	**-**
Bunni FRAX-alUSD	**$0.5M**	**$0.4M**
RAMSES FRAX-alUSD	**-**	**$0.37M**

aIETH Liquidity Pools

Total size in all pools

	Jul 1st	Oct 1st
	28788 ($55.64M)	**3096 ($5.18M)**

	Jul 1st	Oct 1st
aIETH Curve	**24855 ($48.07M)**	-
aIETH Saddle	**558 ($1.08M)**	-
aIETH Velodrome	**2743 ($5.27M)**	**2798 ($4.68M)**
frxETH Velodrome	**332 ($0.64M)**	**298 ($0.5M)**
frxETH Bunni	**300 ($0.58M)**	-
Ether price	$1,922	$1,727

alAsset Utility

Becoming embedded as part of the DeFi ecosystem substrate is of paramount importance for Alchemix.

Without a direct use for the alAssets (alUSD, alETH), the only action for users after taking an Alchemix loan is to swap their alAsset into something more "usable." This puts the protocol under constant pressure to devote resources to maintaining the price and liquidity of these alAssets by utilising ALCX emissions or its own non-native assets, both of which are value extractive for the protocol and for ALCX holders.

However, if the alAssets themselves can be used in a productive manner without requiring a swap, then it makes sense for users to hold these alAssets, which in turn takes pressure off of the protocol to maintain the prices. The fewer resources that Alchemix needs to devote to maintaining alAsset liquidity, the more resources are available to grow the protocol and generate revenue.

These protocols provide direct use-cases for alAssets, where the assets themselves can be used in a productive manner, or make it possible for Alchemix to provide liquidity cheaper than it would be possible otherwise.

Please note that we decided to exclude aggregator services that allow users to invest in the base alUSD and alETH liquidity pools but provide no additional incentives or special use-cases.

Premia Finance

Premia Finance is a decentralized options protocol, enabling anyone to buy and sell options in a fair and liquidity-efficient way.

In Premia v2 there were two pools available for Alchemix, the ALCX-Dai and the alETH-alUSD options pools. Users were able to deposit ALCX, Dai, alETH and alUSD and become the underwriters for these assets.

Traders buy options to speculate on the price of ALCX and alETH, and the depositors earn the fees paid by the traders.

With the launch of their v3, v2 pools have been deprecated. New alUSD-alETH pools will be launched soon, pending alAsset oracles and the further rollout of Premia v3.

Website: https://premia.blue

Holyheld

Holyheld focuses on bridging DeFi and traditional finance via the crypto debit card. It allows holders to top up their debit card balance using alUSD, alETH, ALCX and gALCX.

Website: https://holyheld.com

Curve & Convex

Through the Curve/Convex gauges $1 of ALCX spent as bribes provides more than $1 worth of CRV/CVX emissions to liquidity providers. Curve and Convex are the most important protocols, as the main alAsset liquidity pools reside on Curve.

Websites: https://curve.fi and https://www.convexfinance.com

Stake DAO

Stake DAO allows Alchemix to increase its veCRV voting power by the usage of their own veCRV tokens.

For more details please refer to the *Strategic Token Accumulation* section in this document.

Website: https://stakedao.org

Frax Finance

Frax Finance has been a partner for Alchemix for some time, setting up and rewarding liquidity pools together, including the Saddle D4 and Curve D3 pools. Rewards to the Curve D3 pool have been terminated, but multiple alUSD and alETH pools are operational with a FRAXBP (FRAX Base Pool), FRAX and frxETH pairings on Ethereum and Optimism, where Frax essentially pays for their own side of the liquidity.

Website: https://frax.finance

Velodrome

Velodrome Finance is the largest AMM by TVL on the Optimism L2 chain. As part of their launch campaign, they airdropped NFTs that provide voting power to notable projects, including Alchemix. Subsequent to receiving this NFT, Alchemix purchased additional VELO and uses this voting power to direct rewards to the two alAsset pools (alUSD-USDC, alETH-ETH) that have been set up in Velodrome. Alchemix also pays for bribes on Velodrome to help incentivize other VELO holders to vote for Alchemix's liquidity pools.

For more details please refer to the *Strategic Token Accumulation* section in this document.

Website: https://velodrome.finance

Balancer & Aura

Balancer hosts the 80/20 ALCX-ETH liquidity pool, which is going to form the basis of the upcoming veALCX system. Through Balancer and Aura gauges, the protocol will be able to collect revenue by using its AURA stake to vote for the pool. If needed, these votes can be used for alAsset pools as well in the future.

Websites: https://balancer.fi and https://aura.finance

RAMSES

RAMSES is a DEX on the Arbitrum L2 chain. As part of their launch campaign, they airdropped NFTs that provide voting power to notable projects, including Alchemix. Alchemix will use this voting power to direct rewards to alAsset pools that are yet to be established.

Website: https://www.ramses.exchange

Idle Finance

Idle Finance is a decentralized rebalancing protocol that allows users to automatically and algorithmically manage their digital asset allocation among different third-party DeFi protocols. Users can choose to maximize their interest rate returns through the Junior Tranche strategy or minimize their risk exposure through the Senior Tranche allocation strategy. The Senior Tranche is insured by the Junior Tranche in case of a partial loss of funds of the strategy.

Idle currently supports the alUSD3CRV Curve pool, meaning users can earn the yield provided by the alUSD3CRV pool with higher or lower yields, depending on their risk appetite.

Website: https://idle.finance

Beefy Finance

Beefy Finance is a yield aggregator.
Beefy makes it easy to earn compounding yields on deposits, when one does not have the time to compound it daily or the gas fee is too high for frequent compounding to be done.

Beefy currently supports the alETH-ETH, alETH-frxETH, alUSD-USDC, alUSD-FRAX and alUSD-MAI Velodrome pools on Optimism.

Website: https://beefy.finance

ALCX Governance Token

The governance token of the Alchemix protocol is ALCX. It allows users to influence protocol direction by voting on submitted proposals.
The continuous issuance of the ALCX token follows a pre-defined schedule. Alchemix provides various staking options for holders to minimize the effects of token inflation.

Below, we provide information on current inflation numbers, future total supply expansion and the emission allocation.

A portion of ALCX emissions are currently being redirected to the treasury, effectively reducing the amount of new ALCX that enters circulation.

Emission Schedule
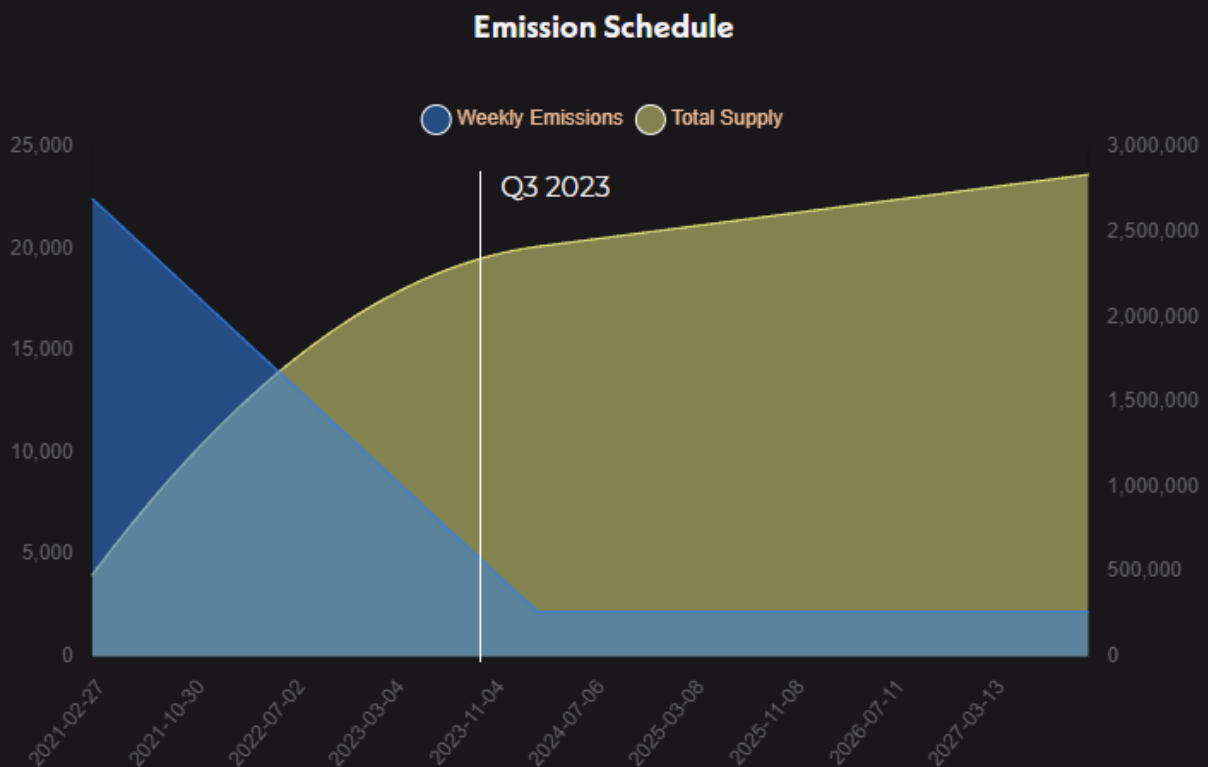
As shown on the chart, the initial high token issuance rate decreases in a linear fashion, dropping to the baseline 2200 tokens emitted per week at the 3-year mark.
At this date, annual inflation will be ~4.7%, very slowly decreasing in perpetuity.

Effective Annualized Inflation Rate

This calculation compares new ALCX issued vs. the total supply. This includes all ALCX in existence, including treasury holdings that are outside of circulation.

2023.07.01.	2023.10.01.	2024.01.01. (Projected)
15.22%	**10.97%**	**6.75%**

Projected ALCX Supply Growth Compared to 2023.10.01.

2024.10.01.	2025.10.01.
6.18%	**11.07%**

ALCX emissions are used to support the strategic goals of the protocol. The biggest challenge, as laid out in the sections above, is sustaining a stable price for alAssets. In order for the protocol to be sustainable long term, it cannot rely solely on token emissions to support the alAsset prices. For this reason, the treasury started accumulating strategic assets, such as CRV, CVX, VELO, AURA and RAM to be able to support the liquidity pools without emissions.

The protocol is still incentivizing single-sided staking, ALCX liquidity, and alAsset liquidity by using ALCX emissions. However, it has begun the transition to using emissions for the purpose of accumulating strategic assets.

Direct liquidity incentives through emissions may be wound down while the protocol becomes self-sustaining.

Change in the Emission Allocation from July 1st to October 1st

Previous emission allocation AIPs defined the percentage of total ALCX that should go to each location. However, some of the locations/gauges require a constant sum of ALCX to be supplied. As a result, the percentages have naturally shifted and the table below shows the current status.

As a direct result of the Curve hack, emissions to alETH pools were halted. They are expected to be restarted once affected LPs are partially refunded.

Alchemix no longer has an active presence on Fantom and the Saddle protocol was wound down, thus emissions no longer being directed to these locations.

Distribution of Emissions on October 1st

Staking (33%)

ALCX/ETH BPT	20%
gALCX	13%

alAssets (67%)

alETH Curve	-
FraxBP Curve	31%
alUSD3CRV	5%

System Components

Three main components work in tandem to provide the functionality for the Alchemix system. These are the Alchemists, Transmuters and the Elixirs (AMOs).

User deposits are held by the Alchemist contracts. The Elixir and Transmuter contracts also hold a significant amount of funds that are responsible for providing a backstop for alAsset redemption. The Transmuters redeem alAssets for their underlying collateral pairs 1:1, but do this slowly, over a longer period of time.

The Elixirs, on the other hand, own a portion of the main alAsset liquidity pools and can take action to ensure that trades in their respective liquidity pools can be fulfilled at a reasonable level that is determined by governance. The Elixirs also provide a large portion of protocol revenue by farming the liquidity pool tokens.

Both the alUSD and alETH Alchemist contracts permit a maximum Loan-to-Value ratio of 50%. This means that users can borrow up to half of the value of their stablecoin deposits as an alUSD-denominated loan or half of the value of their ETH deposits as an alETH-denominated loan.

Excess funds are being deployed in the Transmuters or in the Elixirs to provide price stability and to earn additional protocol revenue.

This quarter the Elixirs contracted by $24.67M (-37%) as a result of the alETH Elixir being halted after the Curve hack. The alETH Elixir will restart after affected LPs are partially reimbursed and emissions to these pools restart. The alUSD Elixirs remain unchanged.

Elixir Contents

		Jul 1st	Oct 1st	Change
	alUSDFRAXBP	$35.37M	$35.37M	-
	alUSD3CRV	$8.28M	$8.28M	-
	alETH Curve	12990 ($24.93M)	-	-$24.93M (-100%)
	Other	$0.1M	$2.13M	+$2.03M (+2030%)
	Total	$68.68M	$45.78M	-$22.9M (-33.3%)

Elixir Ownership of Main Liquidity Pools

As of October 1st, the protocol owned 78% of the alUSDFRAXBP pool and 51% of the alUSD3CRV pool. The alETH-ETH pool is now defunct. This means that out of all the CRV/CVX emissions that go to these pools, which are mainly incentivized by Alchemix itself, the protocol makes back a considerable portion. This also provides considerable power in defining the price of assets in these pools.

Curve Pool Ownership
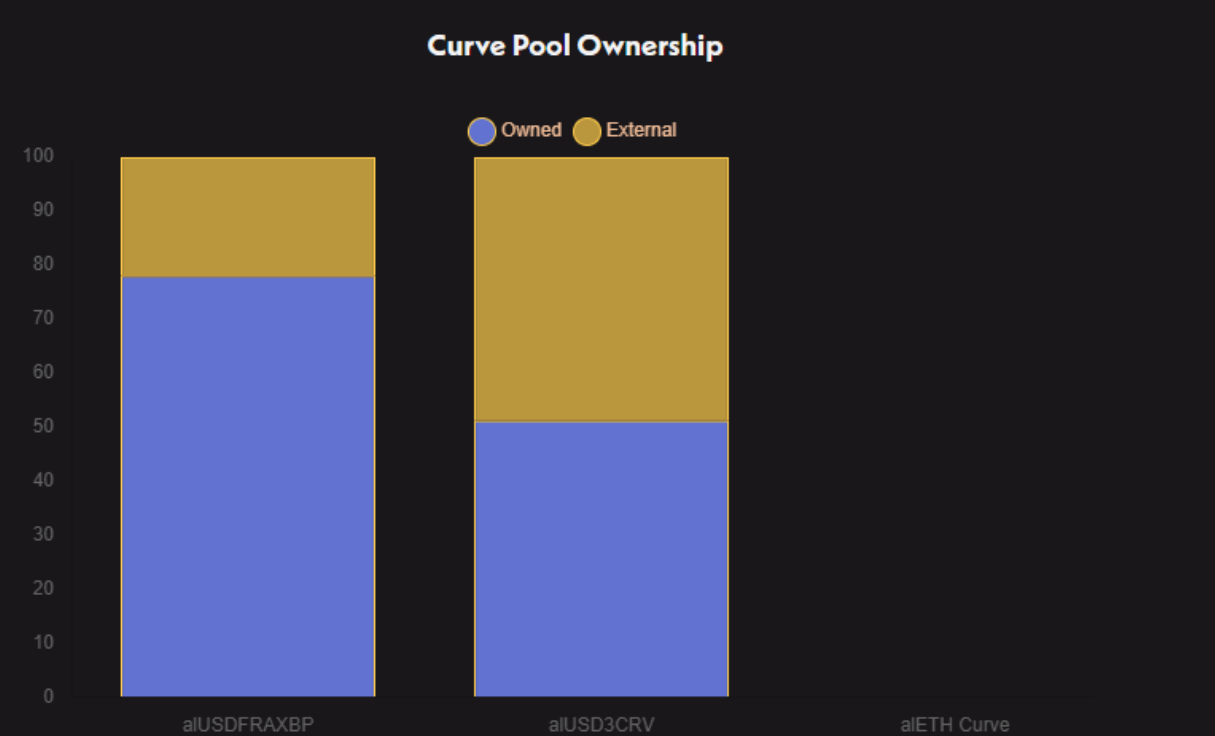
Treasury, Revenues and Expenses

Strategic Token Accumulation

The main goal of the Alchemix treasury is to use its value to support and expand the protocol. It acquires assets that it can use to provide a sufficient amount of liquidity for the needs of the protocol, or use for some other strategic purpose.

As a baseline, this is done by investing protocol revenue into these assets.

For previous quarters, Olympus Pro had also been used to supercharge growth, but this has since been stopped.
Olympus Pro is a vendor for DeFi protocols that allows for protocols to use a bonding curve to essentially sell their native tokens in exchange for other strategic tokens that are of interest to said protocols.

CVX (Convex Finance)

Using Olympus Pro bonding services, Alchemix accumulated CVX tokens in exchange for ALCX tokens. Alchemix also earns CVX from staked liquidity pool tokens and locked CVX tokens. These CVX tokens are used with Convex Finance to direct Curve Finance emissions. This, in turn, incentivizes liquidity, and earns revenue for the protocol.

ALCX-ETH 80/20 Balancer Pool

Pursuant to AIP-82A, and in preparation for the rollout of veALCX, the protocol migrated its ALCX-ETH Sushi liquidity to an 80/20 ALCX-ETH Balancer pool. The protocol accrues trading fees from the pool. It is expected that at some yet-to-be-determined point in the future, the protocol's liquidity in this pool will be staked in order to earn more yield.

sdCRV (Stake DAO CRV)

CRV (Curve) tokens can be permanently locked as sdCRV tokens in Stake DAO's smart contracts, similar to how CRV is permanently locked in Convex as cvxCRV. Stake DAO then enables holders to vote on Curve gauges through their platform. Stake DAO itself also holds CRV tokens, and they use these assets to boost the voting power of sdCRV holders, if they also hold the protocol's (staked) governance token veSDT.

For this reason, the Alchemix treasury holds veSDT tokens alongside a large stack of sdCRV tokens.

VELO (Velodrome)

Velodrome Finance is the largest AMM by TVL on the Optimism L2 chain. As part of their launch campaign they airdropped NFTs that provide voting power to notable projects, including Alchemix. Alchemix uses this voting power to direct rewards to relevant alAsset pools (such as alUSD-USDC and alETH-WETH) that have been set up in Velodrome.

As per AIP-59, additional VELO was purchased and locked as veVELO.

AURA (Aura Finance)

AURA tokens are used within Aura Finance to direct BAL (Balancer) emissions. This, in turn, incentivizes liquidity, and earns revenue for the protocol. Protocol-owned ALCX-ETH Balancer Pool Tokens will be staked in Aura to recapture a large percentage of AURA and BAL emissions.

As per AIP-82B, the first batch of AURA tokens was purchased and subsequently locked.

SDL (Saddle)

Similar to Curve, Saddle also has a gauge system where veSDL holders can direct SDL emissions to Saddle pools. On Mainnet, there are two pools deployed on Saddle where alAssets are present, the D4 stablecoin pool for alUSD and the Saddle alETH pool. On Arbitrum, alUSD is present in their L2D4 pool.

Using ALCX to bribe veSDL holders or purchasing SDL and using the veSDL voting power will result in cheaper liquidity than paying directly in ALCX.

A token swap was performed with Saddle to acquire SDL as per AIP-65.

Per SIP-54, the Saddle DAO voted to wind down the protocol. As such, it will not be included in future reports.

YFI (Yearn Finance)

Yearn is a decentralized suite of products helping individuals, DAOs, and other protocols earn yield on their digital assets. The largest Alchemix vaults are the Yearn Dai and Yearn WETH vaults, which provide the yield for the "self-repaying loans".

Yearn is launching a new ve system for YFI, their governance token, where lockers can direct YFI emissions to reward vaults. As per AIP-64 the treasury has started accumulating YFI tokens to be able to participate in directing YFI emissions.

RAM (RAMSES)

RAMSES is a decentralized exchange on Arbitrum that is based on the Solidly model. As part of their launch campaign, they airdropped NFTs that provide voting power to notable projects, including Alchemix.
Alchemix will use their voting power to direct rewards to its relevant asset pools once the expansion to Arbitrum is complete.

Treasury Contents

A Treasury dashboard that highlights revenues and expenses, as well as assets and liabilities, can be found at https://alchemix-stats.com.

The table below does not contain ALCX holdings.

As a result of the slight market downturn and offset by protocol revenues, the treasury contracted by $3.29M (-27.3%). Additionally, a very large amount of stablecoin holdings were reclassified as AMO funds as a result of the Multichain protocol collapse, which also contributed to the large contraction.

	Jul 1st	Oct 1st	Change QoQ
alETH-ETH LP	-	$2.18M (1,262)	+$2.18M
ETH	$2.52M	-	-$2.52M (-100%)
CVX	$1.44M (385,137)	$1.22M (389,000)	-$0.22M (-29.0%)
ALCX-ETH LP*	$0.56M	$0.51M	-$0.05M (-8.9%)
SDT	$0.54M (1.28M)	$0.38M (1.28M)	-$0.16M (-29.63%)
sdCRV	$3.3M (4.34M)	$2.24M (4.34M)	-$1.06M (-32.12%)
VELO	$0.86M (9.71M)	$0.56M (10.93M)	-$0.3M (-34.88%)
AURA	$0.5M (280,000)	$0.31M (350,000)	-$0.19M (-38%)
YFI	$0.15M	$0.12M	-$0.03M (-20%)
OP	$0.36M	$0.38M	+$0.02M (+5.56%)
Stablecoins**	$1.48M	$0.51M	-$0.97M (-65.54%)
Other	$0.35M	$0.35M	-
Total	$12.05M	$8.76M	-$3.29M (-27.3%)

*ALCX-ETH only includes the ETH portion of the pair
**With the execution on AIP-95a

Protocol Revenue

The following shows protocol revenue for Q3 2023. The revenue is denominated in the USD value of the tokens earned at the time that the tokens were claimed. Included is revenue earned by the protocol's three Elixirs (alUSD-FRAXBP, alUSD-3CRV, alETH-ETH), the Mainnet Developer Multisig, the Optimism Multisig, and revenue earned from harvest fees on Mainnet and Optimism, a RAMSES veNFT on Arbitrum, and a newly acquired Aerodrome veNFT on Base. This report does not yet include revenue that may be earned from other sources of income owned by the treasury's time-lock address. Those revenues are planned to be included in future reports. This report also does not include tokens whose total revenue was less than $1,000 for the quarter.

Token	Revenue Earned	Token	Revenue Earned
CRV	$646,469.81	UNIDX	$17,071.84
VELO	$100,298.22	Dai	$11,035.93
AERO	$93,068.08	cvxCRV	$7,277.91
FXS	$83.489.89	alETH	$5,521.26
USDC	$83,273.75	SDT	$3,071.37
CVX	$47,036.70	auraBAL	$2,658.19
OP	$45,163.42	wUSDR	$2,570.00
BAL	$35,269.69	LQTY	$2,546.67
AURA	$33,184.31	alUSD	$1,950.56
WETH	$30,937.95	TAROT	$1,857.45
3Crv	$29,147.15	RAM	$1,835.86
ALCX	27,608.75	sdFRAX3CRV-f	$1,661.15
TOTAL			**$1,314,005.92**

Expenses

The DAO is currently approved for $450,000 in expenses per quarter to pay contributors, services, audits, bug bounty programs, transaction gas costs, etc.

An additional 20% of all emissions go to the core development team, part of which also funds the business development and governance (bizgov) and newsletter/reporting subDAOs, as well as payments for support/moderator contributors. It should be noted that this approval does not cover the expenses incurred in incentivizing market participants, such as bribing on Votium and elsewhere.

Total Addressable Market

In this section we aim to calculate the potential target market of Alchemix. Using Alchemix is (almost) always financially better than using any one of the integrated vaults directly. This is because Alchemix deposits the users' funds in the same vaults, but provides the yields up front.

So anyone that is directly depositing in the integrated vaults instead of using Alchemix is sacrificing their yield for some other (perceived) feature. This could be additional smart contract risk, not being aware of Alchemix, borrowing against their deposits in protocols such as Aave or Compound, being constrained by Alchemix deposit caps, etc.

	Market size	Protocol
TVL in integrated stablecoin vaults	**$898M**	**Total**
	$61M	Yearn
	$830M	Aave
	$7M	Vesper
TVL in integrated ETH vaults	**$17B**	**Total**
	$101M	Yearn
	$996M	RocketPool (rETH)
	$15.3B	Lido (stETH)
	$657M	Aave
	$2M	Vesper
Stablecoin TVL in potential new vaults	$359M	Others*
ETH TVL in potential new vaults	$1.4B	Others*
Total integrated	$17.9B	
Total in potential vaults	$1.77B	
Total Target Market size	**$19.7B**	

Potential new vaults include vaults from the protocols for which integration has been voted for by governance in AIP-47: Alpha Vaults: Yearn (non-integrated), Aave (non-integrated), Compound, Stargate, Tokemak, Index Coop, Galleon, Idle Finance and Gearbox.

To highlight, the largest single "vault" by a large margin is Lido's stETH strategy ($15.3B). stETH is already integrated into the Alchemix protocol.

In theory, all TVL in these vaults could move into Alchemix. In practice, this will never happen partly because of the above-mentioned reasons. On the other hand, Alchemix also encourages new TVL to be deposited in these vaults, as it makes for a better value proposition.

The Yearn vaults are prime examples of this, where Alchemix currently owns a substantial share of the Yearn Dai vault and the Yearn ETH vault.

Ethereum and Optimism

The following section provides information for protocol and user activity on the Ethereum Mainnet network and the Optimism L2 network.

Yield Harvests

Yield harvests are what enable Alchemix's self-repaying loans. Harvests are periodic withdrawals of yield generated by funds deposited in the Yearn vaults and other strategies. These harvested yields are then used to proportionally pay down depositors' loans. Yield harvests are not on any set schedule. They generally happen when enough yield has been amassed and transaction fees are low enough for the harvest to make financial sense. 10% of the yield that is harvested is captured by Alchemix as a service fee.

Total Harvests in Q3 2023 on Mainnet

	yvUSDC	yvDai	yvUSDT	aUSDC	aDai
Q4 2022	7,542	65,650	0	0	0
Q1 2023	9,623	156,670	0	199	0
Q2 2023	2,223	65,700	0	200	0
Q3 2023	2,500	110,360	647	250	0

	aUSDT	vaUSDC	vaDai	aFRAX	vaFRAX
Q4 2022	0	0	0	-	-
Q1 2023	0	0	0	-	-
Q2 2023	0	0	0	0	0
Q3 2023	0	8,188	0	0	0

	wstETH	rETH	yvETH	aWETH	vaETH	sfrxETH
Q4 2022	41.1	10.5	106.1	10.7	0	-
Q1 2023	46.4	3.2	54.1	0.5	0	-
Q2 2023	62	10	123	0.5	0	0
Q3 2023	31.2	21.2	89	1	0	5.6

OP Total Harvests in Q3 2023 on Optimism

	aDai	aUSDC	aUSDT	yvUSDC	yvDai
Q4 2022	0	0	0	-	-
Q1 2023	0	0	0	-	-
Q2 2023	256	348	695	-	-
Q3 2023	0	800	0	0	0

	aWETH	wstETH	yvWETH
Q4 2022	0	-	-
Q1 2023	0	-	-
Q2 2023	1.4	-	-
Q3 2023	0.3	0	0

In Q2 2023, there were over 70,000 USD equivalents and over 195 ETH harvested, including the first harvests on the Optimism network. In Q3 2023, there were over 122,000 USD equivalents and over 148 ETH harvested. The decline in quarter-over-quarter harvested ETH amounts is due in large part to more withdrawals than normal in the wake of the Curve exploit described above, while the increase in the quarter-over-quarter stablecoin harvests were largely due to an increase in yvDai yields.

Deposits and User Metrics v1

The Alchemist v1 contracts were officially deprecated on the 13th of October 2022. The funds were moved to a temporary migration contract, and there were still some amount of funds left in this contract at the end of this quarter, namely $0.68M of Dai and $0.1M of ETH.

Deposits and User Metrics v2

This section provides numbers for user activity in the protocol's v2 contracts. All data is for Q3 of 2023.

v2 Mainnet Stablecoin Deposits

v2 Mainnet ETH Deposits

Legend: yvWETH, wstETH, frxETH, rETH, Others

Y-axis: 0, 5,000, 10,000, 15,000, 20,000, 25,000

X-axis: 2022-03-16, 2022-05-13, 2022-07-10, 2022-09-06, 2022-11-03, 2022-12-31, 2023-02-27, 2023-04-26, 2023-06-23, 2023-08-20

Q3 2023
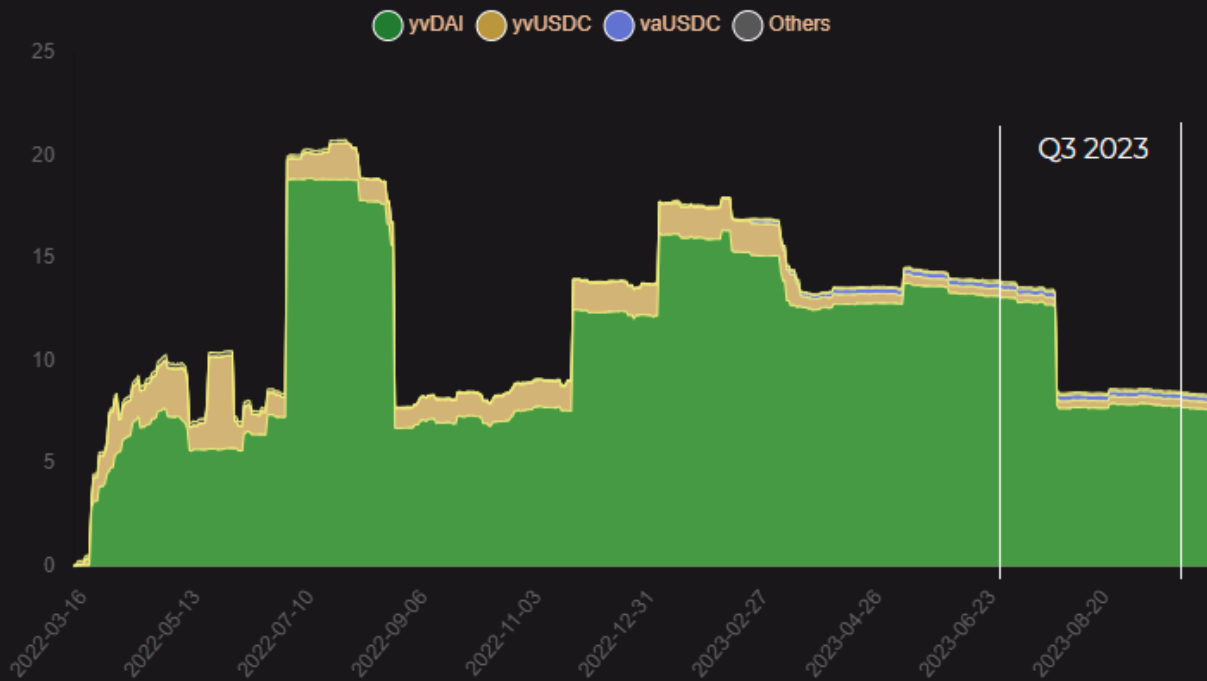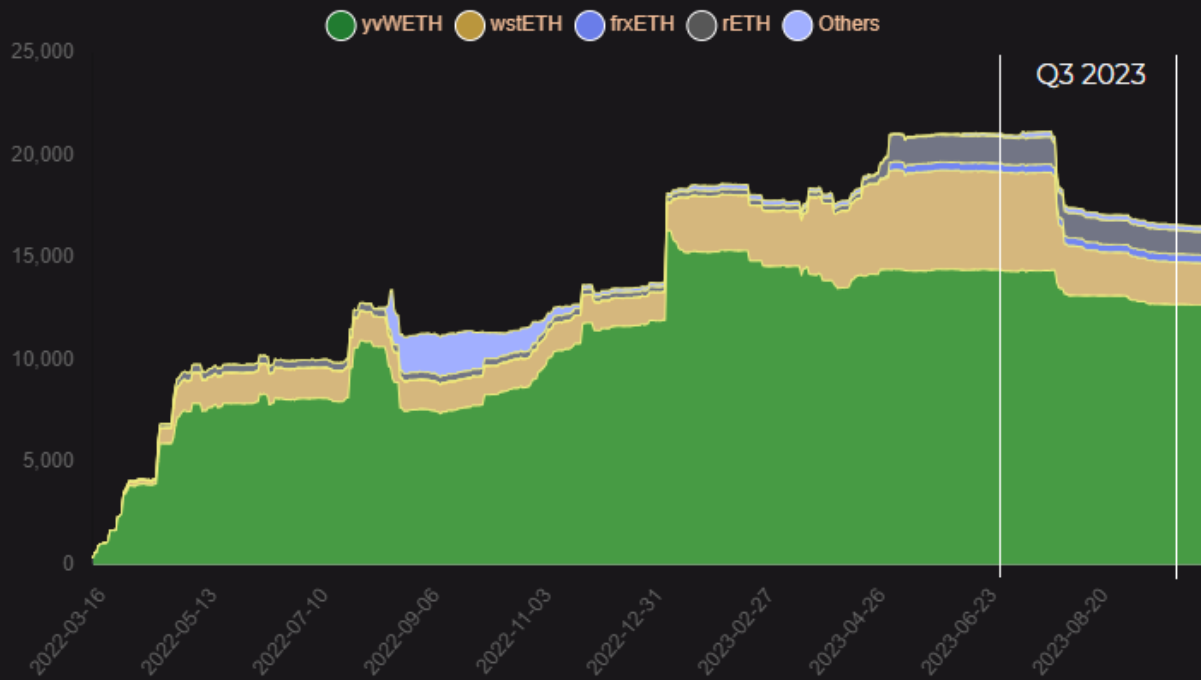
Optimism Stablecoin Deposits

Legend: aDAI, aUSDC, aUSDT

Y-axis: 0, 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35

X-axis: 2022-09-28, 2022-11-06, 2022-12-15, 2023-01-23, 2023-03-03, 2023-04-11, 2023-05-20, 2023-06-28, 2023-08-06, 2023-09-14

Q3 2023

35
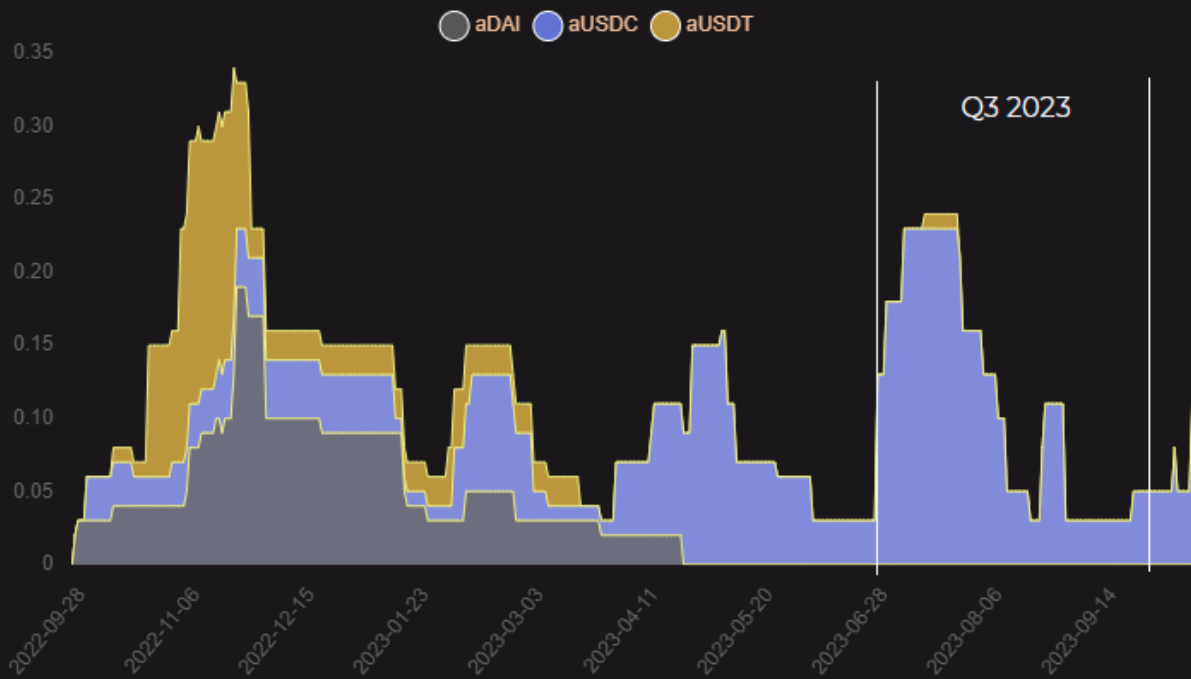
OP Optimism ETH Deposits
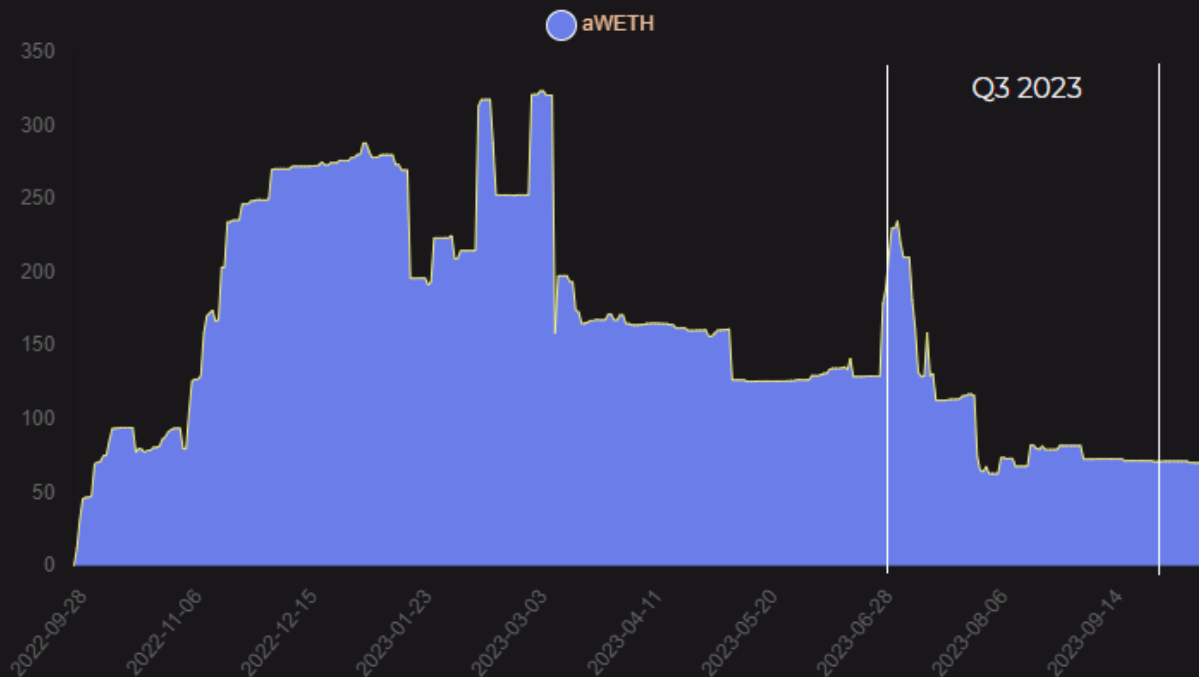
⬨ Net Deposits on Mainnet at Quarter End

	Jul 1st	Oct 1st	Change QoQ
Stablecoins	**$14.4M**	**$8.78M**	**-$5.62M (-39.03%)**
ETH	**$44.08M (22930)**	**$29.89M (17612)**	**-$14.19M (-32.19%)**
Total	**$58.48M**	**$38.67M**	**-$19.81M (-33.87%)**

OP Net Deposits on Optimism at Quarter End

	Jul 1st	Oct 1st	Change QoQ
Stablecoins	**$0.13M**	**$0.05M**	**-$0.08M (-61.54%)**
ETH	**$0.41M (211)**	**$0.12M (71)**	**-$0.29M (-70.73%)**
Total	**$0.54M**	**$0.17M**	**-$0.37M (-68.52%)**

Gross Deposits Mainnet

	yvUSDC	yvDai	yvUSDT	aUSDC	aDai
Q4 2022	0.77M	9.06M	3,300	0	44,000
Q1 2023	0.12M	6.0M	841	318	0.5M
Q2 2023	7,200	1.3M	19,600	289	28,700
Q3 2023	14,355	0.5M	30	0	91

	aUSDT	vaUSDC	vaDai	aFRAX	vaFRAX
Q4 2022	0	6	0	-	-
Q1 2023	0	0.18M	0	726	1,568
Q2 2023	0	91,300	0	0	28,300
Q3 2023	0	15,100	0	0	0

	wstETH	rETH	yvWETH	aWETH	vaETH	sfrxETH
Q4 2022	0	0	5,337	141	0.55	-
Q1 2023	3,060	0	6,651	62.4	52.2	-
Q2 2023	1,935	1,082	1,444	177	0	405
Q3 2023	257	103	256	253	0	93

Gross Deposits Optimism

	aDai	aUSDC	aUSDT	yvUSDC	yvDai
Q4 2022	182,000	35,000	193,000	-	-
Q1 2023	19,200	410,000	24,500	-	-
Q2 2023	10,600	0.25M	58	-	-
Q3 2023	20,900	0.36M	1,050	860	0

	aWETH	wstETH	yvWETH
Q4 2022	352	-	-
Q1 2023	652	-	-
Q2 2023	648	-	-
Q3 2023	890	0.02	19.6

In Q2 2023, there were more than 1.8 million in USD equivalents, and more than 5,600 ETH and staked equivalents deposited into the v2 contracts. In Q3 2023, there were over 900,000 in USD equivalents, and more than 1,800 ETH and staked equivalents deposited. The drop in quarter-over-quarter ETH deposits is due in large part to the fact that the deposits to the alETH Alchemist on Mainnet were disabled for a time following the Curve exploit. This disabling of the alETH Alchemist was done as one of the safety measures taken to mitigate the fallout of the exploit.

Number of Unique Depositors Mainnet

	Q4	Q1	Q2	Q3
alUSD Alchemist	205	154	126	50
alETH Alchemist	194	210	124	47

Tokens Minted Mainnet

	Q4	Q1	Q2	Q3
alUSD	0.68M	1.4M	0.25M	0.27 M
alETH	1,784	2,736	2,827	513

Number of Unique Depositors Optimism

	Q4	Q1	Q2	Q3
alUSD Alchemist	38	26	19	23
alETH Alchemist	61	43	29	27

Tokens Minted Optimism

	Q4	Q1	Q2	Q3
alUSD	0.18M	0.23M	0.22M	0.21M
alETH	149	291	401	466

In Q2 2023, 155 unique addresses deposited into the v2 alUSD Alchemists across all networks, and 153 unique addresses deposited into the v2 alETH Alchemists across all networks. In Q3 2023, 73 unique addresses deposited into the alUSD Alchemists across all networks, and 74 unique addresses deposited into the alETH Alchemists across all networks. Only addresses that made a deposit in each respective quarter are counted here. Addresses that made deposits in previous quarters, but did not make any deposits while still carrying a balance in Q1 are not counted.

In Q2 2023, 0.47 million alUSD debt tokens were minted across all networks, and over 3,200 alETH debt tokens were minted. In Q3 2023, 0.48 million alUSD debt tokens were minted across all networks, and 979 alETH debt tokens were minted across all networks.

This quarter-over-quarter decline in user alETH activity and issuance is attributable in large part to the Curve exploit. Following the exploit, one of the safety precautions that was taken was disabling deposits and mints in the alETH Alchemist on Mainnet.

First-time depositors on Mainnet

Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023
178	394	165	293	248	172	64

First-time depositors on Optimism

Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023
24	72	44	31	32

The above table shows the number of first-time depositors on Mainnet and Optimism v2 Alchemists by quarter. This is measured by addresses making first-time deposits, not individual people, as it is impossible to know what addresses are controlled by whom. It is possible that some individuals have made multiple deposits in Alchemix across multiple addresses.

Withdrawals Mainnet

	yvUSDC	yvDai	yvUSDT	aUSDC	aDai
Q4 2022	0.28M	3.1M	473	0	34,400
Q1 2023	1.1M	4.5M	1,387	0	0.5M
Q2 2023	0.14M	0.44M	0	265	29,500
Q3 2023	2,450	5.9M	0	14,000	0

	aUSDT	vaUSDC	vaDai	aFRAX	vaFRAX
Q4 2022	100	6	0	-	-
Q1 2023	50	0	0	642	0
Q2 2023	0	0	0	0	0
Q3 2023	0	0	0	0	0

	wstETH	rETH	yvWETH	aWETH	vaETH	sfrxETH
Q4 2022	12.7	77	681	1,714	0.2	-
Q1 2023	676.3	3.3	4,545	105	0	-
Q2 2023	934	29	706	174	50	0.2
Q3 2023	3,350	254	1,812	121	0	71

OP Withdrawals Optimism

	aDai	aUSDC	aUSDT	yvUSDC	yvDai
Q4 2022	80K	414	0.17M	-	-
Q1 2023	81K	0.44M	40K	-	-
Q2 2023	32K	0.13M	100	-	-
Q3 2923	21K	0.45M	50	0	0

	aWETH	wstETH	yvWETH
Q4 2022	107	-	-
Q1 2023	720	-	-
Q2 2023	286	-	-
Q3 2923	960	0	18.4

In Q2 2023, there were more than 850,000 in USD equivalents, and more than 2,100 in ETH and staked equivalents withdrawn from the Alchemists across all networks. In Q3 2023, there were more than 6.3 million in USD equivalents, and more than 6,500 in ETH and staked equivalents withdrawn from the Alchemists across all networks. This large quarter-over-quarter increase in withdrawals is likely due in large part to market uncertainty in the wake of the exploit of Curve pool discussed above.

Self-Liquidations Mainnet

	yvUSDC	yvDai	yvUSDT	aUSDC	aDai
Q4 2022	0.1M	1.0M	0	0	9,500
Q1 2023	3,674	1.4M	0	0	32K
Q2 2023	31K	0.3M	0	0	108
Q3 2023	17.7K	0.22M	0	0	0

	aUSDT	vaUSDC	vaDai	aFRAX	vaFRAX
Q4 2022	100	0	0	-	-
Q1 2023	50	2,499	0	102.85	0
Q2 2023	0	0	0	0	0
Q3 2023	0	0	0	0	0

	wstETH	rETH	yvWETH	aWETH	vaETH	sfrxETH
Q4 2022	0	6.93	463.94	56.17	0	-
Q1 2023	6.51	0	232.58	25.19	0	-
Q2 2023	8.65	0.6	123.7	0.8	0.8	0
Q3 2023	7.8	0	128.6	0	0	26.6

Self-Liquidations Optimism

	aDai	aUSDC	aUSDT	yvUSDC	yvDai
Q4 2022	39,000	384	0.01	-	-
Q1 2023	6,500	0	4,000	-	-
Q2 2023	1	1	0.01	-	-
Q3 2023	407	0	0	96	0

	aWETH	wstETH	yvWETH
Q4 2022	10.2	-	-
Q1 2023	46.2	-	-
Q2 2023	327	-	-
Q3 2023	78	0	0

In Q2 2023, users self-liquidated over 300,000 in USD equivalents, and over 460 ETH and staked equivalents from the Alchemists across all networks. In Q3 2023 users self-liquidated more than 280,000 in USD equivalents, and more than 240 ETH and staked equivalents from the Alchemists across all networks. This quarter-over-quarter drop in ETH self-liquidations is likely due to alETH having been cheaper to buy in the wake of the Curve exploit described above, thus making repayment with alETH more cost effective than self-liquidation.

Repayments Mainnet

	USDC	Dai	USDT	FRAX	alUSD	ETH	alETH
Q4 2022	0	14,300	0	-	0.3M	20.02	936.6
Q1 2023	30K	39K	0	0	2.4M	48.11	1,941.39
Q2 2023	23,700	3,500	1,400	0	30,100	27.5	843.5
Q3 2023	52,200	1,000	197	0	2.5M	14	2,865

Repayments Optimism

	USDC	Dai	USDT	alUSD	ETH	alETH
Q4 2022	0	0	0	89,600	0.85	48.02
Q1 2023	0	89	0	0.27M	0.25	278.28
Q2 2023	2	0.1M	1K	60K	0.13	58
Q3 2023	50,555	10,000	0	0.19M	1.71	445

In Q2 2023, users manually repaid over 215,000 in USD-equivalent debt, and over 925 in ETH-equivalent debt across all networks. In Q3 2023, users manually repaid over 2.8 million in USD-equivalent debt, and over 3,300 in ETH-equivalent debt across all networks. This large quarter-over-quarter increase in debt repayment is likely due at least in part to the market uncertainty following the Curve exploit described above.

Transmuter Deposits Mainnet

	USDC	Dai	USDT	FRAX	ETH
Q4 2022	2.4M	5.8M	34,800	-	3,172
Q1 2023	91K	2.2M	0.2M	-	1,191
Q2 2023	0.1M	0.35M	989	0	757
Q3 2023	0.14M	0.41M	40K	0	1,988

Transmuter Deposits Optimism

	USDC	Dai	USDT	ETH
Q4 2022	656	42K	509	192
Q1 2023	17K	7K	4K	67
Q2 2023	0	0.1M	2K	45
Q3 2023	60K	10K	25	871

In Q2 2023, over 550,000 alUSD and over 800 alETH were deposited into the v2 Transmuters across all networks. In Q3 2023, over 660,000 alUSD, and over 2,800 alETH were deposited into the Transmuters across all networks.

Transmuter Withdrawals Mainnet

	USDC	Dai	USDT	FRAX	ETH
Q4 2022	2.3M	1.3M	34,800	-	3,172
Q1 2023	47K	0.5M	0.2M	-	593
Q2 2023	85K	86K	1.5K	0	517
Q3 2023	30K	90K	40K	0	1,978

Transmuter Withdrawals Optimism

	USDC	Dai	USDT	ETH
Q4 2022	402	3,300	508	169
Q1 2023	16,500	1	10	20
Q2 2023	0	1K	2	35
Q3 2023	8.5K	10.1K	25	871

In Q2 2023, over 180,000 alUSD and over 550 alETH were withdrawn from the v2 Transmuters before successful transmutation across all networks. In Q3 2023, over 178,000 alUSD and over 2,800 alETH were withdrawn from the Transmuters before successful transmutation across all networks.

Transmuter Claims Mainnet

	USDC	Dai	USDT	FRAX	ETH
Q4 2022	0.1M	4.2M	18,500	-	619
Q1 2023	34K	1.7M	920	-	408
Q2 2023	34.2K	0.37M	0	0	286
Q3 2023	0.1M	0.37M	451	0	145

OP Transmuter Claims Optimism

	USDC	Dai	USDT	ETH
Q4 2022	304	38,000	0	10.79
Q1 2023	0	6,600	4,000	46
Q2 2023	0	0.1M	2K	25
Q3 2023	51K	10K	0	384

In Q2 2023, over 515,000 in USD equivalents and over 300 WETH were claimed from the v2 Transmuters across all networks. In Q3 2023, over 530,000 in USD equivalents, and over 529 WETH were claimed from the Transmuters across all networks. Most of the alETH transmutations were on the Optimism network, as the Mainnet alETH Transmuter was redirected to the Elixir following the Curve exploit.

Other Networks

The following section provides information for activity on other networks

 Arbitrum Deployment

Alchemix launched a bridge for the Arbitrum network. Arbitrum is an Ethereum Layer 2 (L2) solution. It is a form of an optimistic rollup. Read more about Arbitrum here. As of this writing, only a bridge has been deployed, but no vaults/strategies have been implemented. Reporting will begin once Alchemist strategies are deployed.

There is currently a single liquidity pool operational for alUSD in the form of the RAMSES alUSD-FRAX pool. In anticipation of Alchemix deploying Alchemists on Arbitrum in the near future, RAMSES Exchange granted Alchemix a veNFT on 23 May 2023.

Other Information

This section covers other non-numerical and/or interesting information, such as governance updates.

Governance

The following are Governance proposals that were voted on in Q3 2023:

- **AIP-93: Investment in Curvance.** This proposal was to authorize investing 50,000 USDC in the Curvance protocol.
  Read the proposal and discussion <u>here</u>.
  The proposal passed with nearly 100% of the vote. 40,000 ALCX voted for the proposal, and 1.3 ALCX abstained.
  See the snapshot <u>here</u>.
- **AIP-95a: alUSD only Multichain Response - Optimism and Arbitrum.** This proposal was to restore backing to Optimism/Arbitrum alUSD.
  Read the proposal and discussion <u>here</u>.
  The proposal passed with 40.88% of the vote. 28,000 ALCX voted for the proposal, and 41,000 ALCX abstained.
  See the snapshot <u>here</u>.
- **AIP-95b: Multichain Response - Fantom.** This proposal was to restore alUSD and gALCX backing on Fantom.
  Read the proposal and discussion <u>here</u>.
  The proposal passed with 27.67% of the vote. 18,000 ALCX voted for the proposal, and 47,000 ALCX abstained.
  See the snapshot <u>here</u>.
- **AIP-96: Stuck alETH Bridger Resolution.** This proposal was to vote on resolving the issue of bridgers having lost alETH in the wake of the Curve exploit.
  Read the proposal and discussion <u>here</u>.
  Option 4 - Reimburse spent ETH + 10% passed with 52.35% of the vote (32,000 ALCX). Option 2 - Arbers get ETH Principal + Minimum 10% Bounty on Arbitrage received 47.62% of the vote (30,000 ALCX).
  See the snapshot <u>here</u>.
- **AIP-97: Resume alETH Alchemist, redirect ETH backing to AMO.** In the wake of the Curve exploit, as the situation became somewhat more clear, this proposal was to re-enable the alETH Alchemist, and to redirect alETH Alchemist repayments, self-liquidations and harvests to the Elixir.
  Read the proposal and discussion <u>here</u>.
  The proposal passed with 99.99% of the vote. 49,000 ALCX voted for the proposal, and 3.7 ALCX abstained.
 See the snapshot <u>here</u>.

- **AIP-98: Multi-Tenant veDAO Launchpad.** This proposal was to provide Multi-Tenant funding.
  Read the proposal and see the snapshot <u>here</u>.
  The proposal passed with 92.81% of the vote. 42,000 ALCX voted for the proposal, 2,100 ALCX abstained, and 1,200 ALCX voted against.

NB - Due to various issues, including the Curve exploit, AIP 94 - OP Boost Adjustments - has not yet gone to a Snapshot vote.

Other Stats

The following are some miscellaneous statistics:
- Gas: Between 1 July 2023 and 30 September 2023, on Mainnet, 1.56 ETH was spent on gas by users transacting with the alUSD Alchemist contract, and 2.59 ETH was spent on gas by users interacting with the alETH Alchemist contract.

alUSD Alchemist
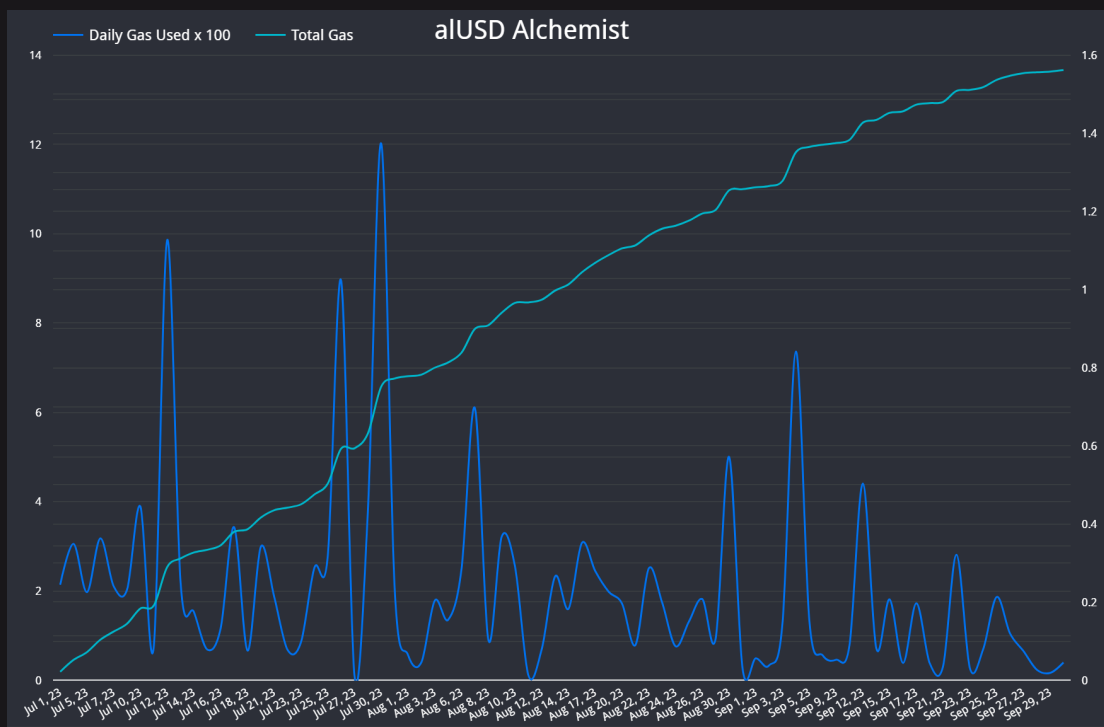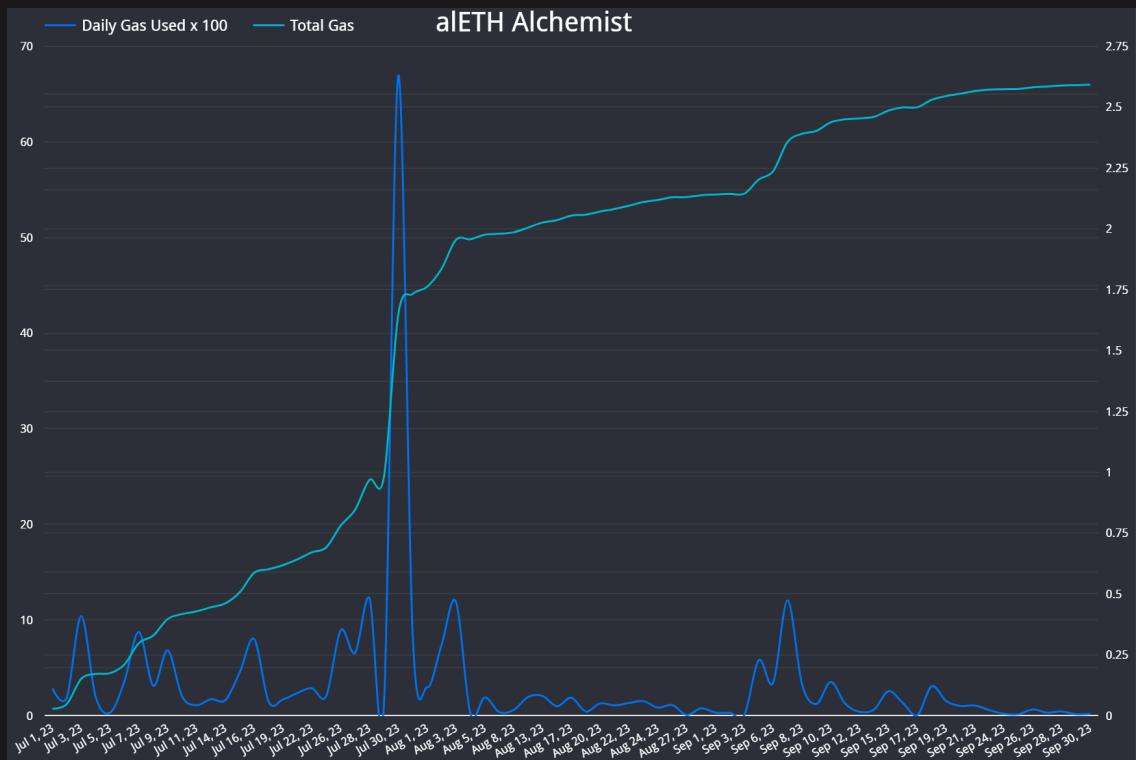
- The numbers for some of this report's metrics are available for review here and here.
- See Google Trends for Q3 2023 for Alchemix here.

Links

- Alchemix website
- Alchemix Newsletter
- Alchemix statistics
- Alchemix GitHub (includes contract addresses)
- Alchemix Development GitBook
- Alchemix User Docs and quarterly Financial Reports