# **Lido DAO - Level 2 Report**

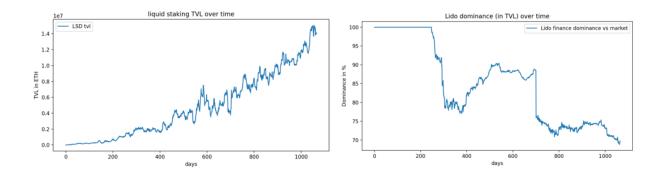
Key Insights **Analyst Thesis Protocol Overview** Protocol Architecture Staking Process Revenue Distribution Process APR on Lido Lido V2 Protocol Treasury Protocol Ecosystem Recent News/Highlights Team Governance Committees Tokenomics General Metrics (12/07/2023) Token utility **Token Allocation Protocol Traction** Market Analysis Roadmap

# **Key Insights**

- Lido DAO is a decentralized liquid staking solution for Ethereum, allowing users to stake their ETH and receive stETH in return
- stETH represents staked ETH and can be used in DeFi protocols, unlocking liquidity
- Lido DAO is governed by the LDO token, which is used for voting on proposals and protocol upgrades
- Lido DAO has integrated with multiple DeFi platforms, increasing the utility of stETH
- The project has a strong focus on security and has undergone multiple audits

# **Analyst Thesis**

Liquid staking derivative has been one of the main narratives in DeFi the last years. According to DeFillama, it's the DeFi category with the highest TVL inside protocols. Moreover, this sector is still growing even though tough market conditions.



As the graph on the left show, the market keeps continuing attracting value over time. At the same time, Lido Finance's TVL dominance in this market has been decreasing from 100% to reach around 70%. The dominance has been decreasing since more than one year now.

Since the launch of the project on Ethereum liquid staking, it seems that having the first mover advantage (time-battle tested proof) in LSD is one of the best feature to attract/retain liquidity.

Indeed, Lido trusts the first place in this market due to that its the oldest protocol in the market. Moreover, CEX as Coinbase or Binance have rapidly attracted liquidity, which shows that users still trusts more centralized services for the moment.

Furthermore, FRAX is offering better yield than Rocket Pool right now which could led to drag some liquidity towards FRAX ecosystem in the future.

Moreover, Rocket Pool is the most decentralized protocol in LSD ecosystem but it seems to struggle gaining more traction recently.

Finally, Lido has clearly been the catalyst of the last LSD narrative. Thus, it would be silly to not consider Lido as an investment case as FRAX finance because of the massive importance that the protocol has on Liquid staking market.

# **Protocol Overview**

Lido DAO is a decentralized autonomous organization (DAO) that offers a liquid staking solution for Ethereum (ETH). It allows users to stake their ETH without the need to run a validator node, thereby reducing the technical barriers to entry for staking. In return, users receive stETH, a token that represents their staked ETH and can be used in various DeFi protocols, unlocking liquidity.

The governance of Lido DAO is facilitated by the LDO token, which is used for voting on proposals and protocol upgrades. The project has a strong focus on security, having undergone multiple audits to ensure the safety of user funds.

Lido DAO has integrated with multiple DeFi platforms, increasing the utility of stETH and the overall value proposition of the project. However, the project faces competition from other staking solutions and platforms in the Ethereum ecosystem.

## Advantages of Lido DAO:

- Allow liquid staking without restrictions to its users
- highest level of integration of stETH in various DeFi platforms
- bug-bounty program which incentivizes users in case they fix bugs (up to \$2,000,000 for bugs)

## **Analyst Observation:**

The Lido governance's rejection of self-limiting deposits in June 2022 indicates a clear indifference towards the potential risks posed by the accumulation of stake. Despite growing concerns within the Ethereum community, Lido has chosen to prioritize profitability and disregard the existential threat that stake centralization brings.

While implementing controls at the base layer to reign in Lido's dominance might be a solution, it is unlikely to happen due to the challenges associated with a hard fork and the potential fracturing of Ethereum's social consensus layer.

The growing stake centralization within Lido raises concerns about the dampening of future demand for Ethereum blockspace. As Lido continues to grow unchecked,

it approaches critical thresholds that can degrade core properties of Ethereum's value proposition, granting potential attackers increased powers over the chain and posing systemic risks to the ecosystem

# **Protocol Architecture**

## **Staking Process**

Users send their ETH to the Lido contract and receive stETH tokens in return. When users send their ETH to the Lido contract, it is divided into sets of 32 ETH. These portions of ETH are then sent to the selected validators. However, it's important to note that validators do not directly receive the ETH. Instead, they receive permission to use it through a contract. This means that validators do not have direct access to the user's ETH.

The selection of validators is done by the Lido DAO. To be chosen as a validator, there must be a validating operation record for a certain period of time or more. This ensures that validators have a proven track record and experience in validating operations.

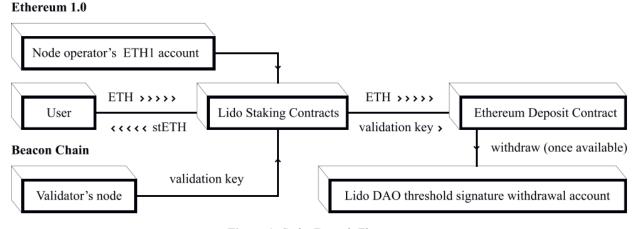


Figure 1: Stake Deposit Flow

## **Revenue Distribution Process**

In order to distribute the revenue, the Lido protocol needs to determine the amount of revenue generated from the staked ETH. This is done by retrieving revenue data and slashing data from the Ethereum network. The revenue data includes information about the rewards earned from staking, while the slashing

data refers to any penalties imposed on the staked ETH due to validator misconduct. By analyzing this data, Lido can accurately calculate the generated revenue and distribute it to the stETH holders accordingly.

#### Beacon Chain

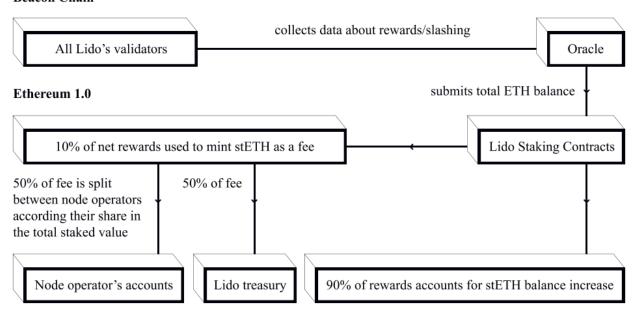


Figure 2: Staking profit distribution



Both process flow charts above may seem outdated but the change is minimal the only real change is that withdrawls are now possible but thats already included in the process flow charts.

## **APR on Lido**

#### 1. User's APR:

The User's APR represents the estimated rewards that users can earn by staking their ETH through the Lido protocol. It is calculated based on the Protocol APR and the rewards received by Lido validators.

#### 2. Protocol APR:

The Protocol APR is the estimated annualized return on staked ETH. It takes into account the rewards generated by the validators and the total pooled ETH. The Protocol APR is subject to change based on various factors such as network conditions and validator performance.

#### 3. Consensus Layer:

Validators in the Consensus Layer of Lido receive rewards for performing their duties, which include attesting blocks, proposing blocks, and participating in sync committees. The rewards are calculated based on a base reward, which represents the average reward received by a validator under optimal conditions per epoch. Validators can also face penalties if they are not online or do not meet certain criteria when attesting blocks. Slashing is a more severe penalty that forces a misbehaving validator to exit the network. To ensure the performance of Lido validators, it is important to have robust and resilient underlying operator sets. You can check the Operator Statistics and Metrics for more information on their performance.

#### 4. Execution Layer:

**Priority Fee:** The priority fee is an optional additional fee that can be paid directly to validators. It incentivizes them to include specific transactions in a block. The amount of the priority fee depends on the network demand. Higher network demand can result in higher priority fees.

Maximal Extractable Value (MEV) Rewards: MEV refers to the maximum value that validators can extract from block production. It includes any additional value obtained by including, excluding, or changing the order of transactions in a block. MEV rewards provide an opportunity for validators to earn extra rewards beyond the standard block reward and gas fees.

- 5. Gas Fees: Validators also receive gas fees for including transactions in blocks. These fees are paid by users who initiate transactions on the network.
- 6. Consensus Treasury: The Consensus Treasury is a fee collected from the staking rewards. This fee is used to cover the operational costs of the Lido protocol and can be adjusted through a DAO vote.
- 7. APR Calculation: The APR calculation is based on the rewards received by Lido validators and the total pooled ETH. It provides an estimation of the rewards without any upfront forecasts.

#### Lido V2

The upgrade focuses on two main areas: a new staking router and improved withdrawal processes.

The staking router is a significant protocol upgrade for Lido. Currently, Lido uses a single NodeOperatorsRegistry, where a DAO selects node operators and incorporates them into a smart contract. With the V2 upgrade, this operator registry will be transformed into an extensible protocol using a modular infrastructure. This change will allow anyone to create modules, known as "plugins," that can be attached to the staking router. These plugins will increase the diversity of the validator set by including various node operators, such as community stakers, professional organizations, and DAOs. Additionally, the new staking router will enable users to store their keys on a layer-2 solution or off-chain, reducing the cost of managing node operators and validators.

The V2 upgrade also introduces a new feature for withdrawals. Lido users will be able to unstake their stETH and receive ETH at a 1:1 ratio. The withdrawal process involves three steps: request, fulfillment, and claim. Users lock their stETH and propose a withdrawal request in the first stage. Once the protocol sources the necessary ether to fulfill the request, the process moves to the fulfillment stage. Here, the protocol locks the ether, burns the stETH, and notifies the user that their ETH is ready to be claimed. Users can claim their ether at any time, with the majority of requests expected to be ready for claim in under a week.

Lido V2 introduces two withdrawal modes: Turbo and Bunker. Turbo mode is the default and aims to automate the validator process and minimize delays. Bunker mode, on the other hand, is designed for use in catastrophic circumstances to protect stakers from malicious actors.

DVT, or Distributed Validator Technology, is a mechanism that allows the duties of a single validator to be shared among multiple participants using a multi-signature scheme. Implementing DVT on Lido V2 involves integrating DVT modules into the protocol to enable the participation of DVT-based validators.

With the upgrade to Lido V2, the protocol aims to support different validator subsets, including DVT-based validators. The Staking Router, a core component of Lido V2, will orchestrate the deposit and withdrawal processes for different modules, including DVT modules. The Staking Router will allocate stake to each module based on the desired stake distribution set by the Lido DAO. The implementation of DVT on Lido V2 will require the development and

integration of DVT modules that adhere to the specified interface requirements. These modules will need to provide the necessary functionality for retrieving validator key information, managing stake allocation, and participating in the deposit and withdrawal processes.

## Analyst Observation:

Lido V2 aims to enhance the decentralization and flexibility of the Lido protocol by allowing a wider range of participants to become node operators through the modular staking router. This will increase the diversity of validators and promote a more inclusive staking ecosystem.

The improved withdrawal process in Lido V2 provides users with a seamless experience when unstaking their stETH. By following the request, fulfillment, and claim steps, users can easily convert their stETH back into ETH at a 1:1 ratio. This feature offers users more control and liquidity over their staked assets.

The introduction of Turbo and Bunker withdrawal modes further enhances the security and reliability of the Lido protocol. Turbo mode automates the withdrawal process, minimizing delays and ensuring efficient operations. On the other hand, Bunker mode serves as a fail-safe mechanism to protect stakers in extreme situations, preventing malicious actors from taking advantage of the system.

Overall, Lido V2 represents a significant upgrade to the Lido protocol, introducing a modular staking router, improved withdrawal processes, and enhanced security measures. These advancements aim to make liquid staking on Ethereum more accessible, decentralized, and user-friendly.

# **Protocol Treasury**

The treasury looks all right. It consists mostly of LDO tokens (75%). The rest is mainly stETH and DAI. ETH itself is not held at all, which was not always the case. After the update of Ethereum, all ETH were replaced with stETH. I think this is a good move as it symbolizes that Lido Finance is staking their ETH in the protocol and earning not only the fees but also the lucrative APR. This could also be a factor why the revenues have increased so much.

# **Protocol Ecosystem**

Lido's stETH token is designed to be versatile and compatible with various DeFi protocols. It can be used in different ways across the DeFi ecosystem, including lending platforms, decentralized exchanges (DEXes), liquidity pools, aggregators, and optimizers.

Lending protocols, for instance, can adopt stETH, allowing users to borrow other assets while still earning rewards from Eth2 staking. This adds an extra layer of efficiency and flexibility to the DeFi ecosystem, enabling users to engage in both rewards farming and borrowing by using stETH as collateral. Some well-known lending protocols like Aave, Maker, Compound, Cream, and Alpha have incorporated stETH into their offerings.

Currently, there are more than 100 protocols associated with stETH or LDO, offering a wide range of possibilities for liquidity provision, yield farming, lending, and other DeFi strategies. Here you can see all the protocols associated with Lido DAO.

## **Recent News/Highlights**

#### Mantle wants to enter the LSD Market

Mantle, with a treasury comprising approximately 270,000 ETH, is in a favorable position to introduce its own liquid staked derivative (LSD). This proposed derivative, known as Mantle ETH (mntETH), would offer rewards similar to other popular liquid staked derivatives such as stETH. The creation of mntETH holds significant potential for Mantle, enabling the platform to unlock various synergies within its ecosystem.

Lido DAO has recently put forth a proposal to collaborate with Mantle by staking 40,000 ETH from its treasury with the platform. The aim of this partnership is to leverage the resultant stETH to bootstrap liquidity and foster integrations within the Mantle Network. In a notable gesture of support, Lido intends to share a portion of the revenue generated from Mantle's staked ETH with Mantle DAO.

This strategic move by Lido signifies a strong endorsement of Mantle and suggests a shift towards a more collaborative approach. The proposed collaboration is particularly significant considering the anticipated transition of Bybit stakers from stETH to mntETH, the native token of the Mantle Network.

# Greyscale adds LDO to its DeFi Fund and makes it their second biggest holding after UNI

Grayscale's DeFi fund, managing approximately \$3.1 million in assets, has recently made a noteworthy move by allocating over 19% of its portfolio to Lido DAO's (LDO) tokens. In order to raise funds for this purchase, Grayscale sold off some of its existing DeFi investments, but no asset was removed entirely from its portfolio.

This decision to invest in LDO tokens is particularly significant as the fund previously held zero LDO. It showcases a significant vote of confidence in the Lido DAO and its decentralized finance (DeFi) protocol. Grayscale's move highlights the growing prominence and potential of Lido's platform, which offers a liquid staking solution for Ethereum.

# **Team**

The Lido DAO team is composed of people from the blockchain and DeFi space. Key members include:

**Jordan Fish "CryptoCobain" -** Co-founder and CEO no Linkedin

Kasper Rasmussen - Co-founder and CMO

(24) Kasper Rasmussen | LinkedIn

Justin Reyes - Heas of DeFi Business Development & Partnerships

(24) Justin Reyes | LinkedIn

Jacob Blish - Head of Business Development

(24) A Jacob Blish | LinkedIn

Irina Katunina - Head of Analytics

(24) Irina Katunina | LinkedIn

## Governance

Lido DAO governance process is designed to be transparent, inclusive, and efficient. It consists of multiple steps and includes both a regular process and an emergency track.

The regular process involves the following steps:

- 1. Idea and Proposal Phase: Ideas and proposals are shared on the Research forum to gather community feedback and undergo improvements and objections. This phase typically lasts for 7 days.
- 2. Gasless Snapshot Voting: The next step involves voting on Snapshot, where voting power is based on the token balance of each voter. The more LDO tokens a user holds, the more decision-making power they have. Snapshot votes last for 7 days, don't end on weekends, and conclude at least 24 hours before the next Aragon vote.
- 3. Aragon Voting: Aragon is a DAO framework with on-chain voting. Proposals are often combined into "Omnibus votes" to reduce voter fatigue. Aragon voting lasts for 72 hours, with a main voting phase of 48 hours and an objection phase of 24 hours.
- 4. Passing Votes: To pass on Snapshot, more than 5% of the total token supply must vote. On Aragon, more than 5% of the total token supply must vote "Yes" and more than 50% of the tokens used to vote must vote "Yes."
- 5. Emergency Cases: In urgent situations, votes can start without going through all the usual steps, but a post on the Research forum is still desired for context.
- 6. Committees: Committees are created through posts on the Research forum and Snapshot voting. They help streamline governance operations and report publicly on their activities.
- 7. Easy Track: Transactions from committees may go through Easy Track, where voting is based on vetoing. If more than 0.5% of users veto a motion, it is stopped; otherwise, it can be enacted.
- 8. LNOSG, LEGO, reWARDS, and Referral Program Committees: These committees focus on specific tasks related to node operator registry, grants to developers, incentive management, and referral program management, respectively. situations. It involves a shorter discussion and voting period, and it allows for immediate execution of approved proposals.

In urgent situations, it is possible to initiate a vote on Aragon without following the usual procedure of going through all the necessary steps, such as Snapshot

voting or the Research forum. However, it is still highly recommended to create a post on the Research forum, as it provides essential context for the proposal.

## Committees

Lido DAO operates various committees to streamline routine governance operations and enhance the efficiency of decision-making processes. These committees play a vital role in managing specific activities within the DAO.

## **LNOSG (Lido Node Operator Subgovernance Group):**

LNOSG focuses on evolving the node operator registry to ensure maximum decentralization, permissionless access, and security. Its primary objective is to establish mechanisms that reward effective node operators while minimizing the presence of ineffective or malicious operators. LNOSG plays a crucial role in maintaining the integrity and efficiency of Lido's node network.

## **LEGO (Lido Ecosystem Grants Organisation):**

The LEGO committee aims to foster the growth of the greater liquid staking ecosystem through fast and unimpeded grants to developers. Its mission is to provide funding to individuals, projects, and initiatives that benefit Lido and the surrounding ecosystem, while ensuring efficiency and accountability for significant developments. LEGO plays a crucial role in supporting innovation and expansion within the Lido ecosystem.

LEGO grants are categorized into four tiers based on their expected size and impact:

- a. Sandgrain: Grants that are considered nice to have but not vital. They are typically evaluated by a single person and amount to around \$1,000 USD.
- b. Pebble: Grants for non-critical yet beneficial contributions to Lido. These projects require more evaluation and receive grants of approximately \$10,000 USD.
- c. Boulder: Grants for significant, important projects that must be executed by experts and thoroughly evaluated by core contributors. They typically receive grants of around \$100,000 USD.
- d. Mountain: Grants for critical improvements to Lido that have a significant impact on growth, security, and operations. These projects receive grants of \$100,000

USD or more.

The LEGO organization consists of two main segments:

- a. LEGO Council: Comprised of eight individuals with diverse backgrounds and expertise, the LEGO Council is responsible for different domains within Lido. They oversee the overall operations and decision-making processes.
- b. LEGO Nominees: An expansion of LEGO consisting of ten individuals who manage personal allocations and have the authority to approve pebble-sized grants that benefit Lido and the industry.

#### reWARDS Committee:

The reWARDS Committee is entrusted with managing incentive programs for Lido's liquid staking assets. Its primary responsibility is to oversee the distribution of liquidity provider rewards to Lido's liquid staking asset liquidity pools, money markets, and other integration partners. By effectively managing incentives, the reWARDS Committee ensures the attractiveness and competitiveness of Lido's staking offerings.

## **RCC (Resourcing and Compensation Committee):**

The RCC's primary objective is to reduce operational burdens on Lido DAO members. It focuses on managing remuneration and other payout processes for contributors. The RCC oversees payroll, tracks contributor-related operating expenses, and ensures transparency in financial management.

# **Tokenomics**

# **General Metrics (12/07/2023)**

LDO Price	\$1.88
Market Cap	\$1,647,212,761
Fully Diluted Market Cap	\$1,874,519,209
Circulating Supply	878,738,800

Total Supply	1,000,000,000
Volume (24h)	\$16,284,258
TVL	\$14,521,715,391
Market Availability	Binance, Bitget, OKX, Coinbase, Kraken

## **Analyst Observation**

In terms of TVL and Marketshare of Liquid Staking Derivatives Lido clearly sits on top of every protocol which tries the same.

## **Token utility**

Lido DAO has two main tokens: LDO and stETH.

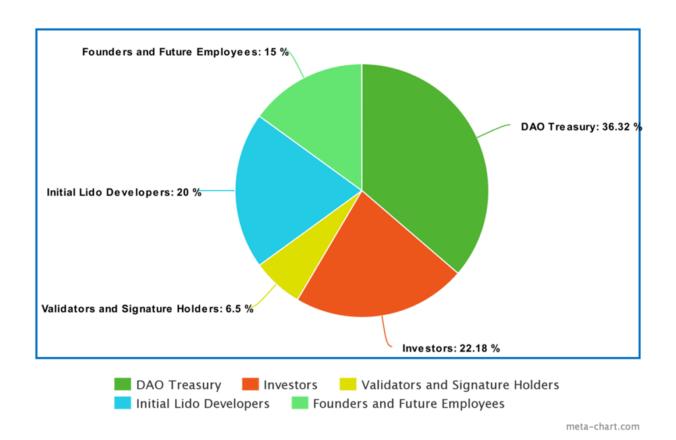
- LDO has several purposes within the Lido ecosystem.
  - Governance It is used as a governance token, allowing LDO holders to participate in the decision-making processes of the protocol. This means that LDO holders can vote on proposals, such as changes to protocol parameters or the addition of new features.
  - Staking rewards Additionally, LDO can be staked to earn rewards. By locking up LDO tokens and participating in Lido's staking mechanisms, users can receive incentives in the form of additional LDO tokens or other rewards.
- stETH represents staked ETH and is issued to users when they stake their ETH through Lido DAO. stETH can be used in various DeFi protocols, unlocking liquidity and enabling users to earn additional yield
  - stETH is a type of cryptocurrency known as a rebasing token. Unlike traditional tokens with a fixed supply, the total supply of stETH can change over time. When the supply changes, the amount of stETH held by each token holder also changes proportionally. This means that if the total supply increases, each token holder will have more stETH, and if the total supply decreases, each token holder will have less.
  - One important thing to note is that the yields earned by holding stETH are automatically reflected in the increased amount of stETH held. So, as you

- earn yields, the number of stETH tokens you have will increase accordingly.
- While this system is relatively simple for individual users, it can become more complicated when stETH is used in decentralized exchanges (DEXs) where liquidity pools are involved. In DEXs, the stETH held in liquidity pools also needs to undergo the rebasing process to ensure that the proportion of stETH in the pool remains consistent with the overall supply changes.
- In summary, stETH is a rebasing token that adjusts its total supply and the amount held by each token holder based on the changing yields earned.
  However, when stETH is used in DEXs, additional steps are taken to account for the rebasing process in liquidity pools.

## How does Lido ensure the peg?

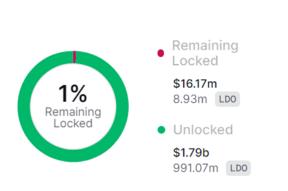
Lido employs three mechanisms to maintain the price peg of stETH. Firstly, when stETH falls below its target price, users are incentivized to buy it and then sell it for ETH, creating a natural financial incentive that helps stabilize the price. Secondly, liquidity mining is utilized to encourage investors to deposit both stETH and ETH into the liquidity pool, providing liquidity and further supporting the price stability. Lastly, stETH's appealing features, such as the ability to freely trade it while still earning staking rewards, make it an attractive option for lending protocols like Aave. This organic demand generated by its usefulness in DeFi lending protocols contributes to maintaining the price peg of stETH. (With the last Ethereum Upgrade 1 stETH is redeemable for 1 ETH so concerns are smaller than before)

## **Token Allocation**



## **Lockup Schedule:**







## **Protocol Traction**

- Lido has seen consistent growth in monthly active users, which is getting close to the ATH of over 14,000 in February 2023. The YTY growth stands at a whopping 314%. This suggests strong organic user traction.
- The number of unique ETH staking depositors has surpassed 160,000, showing Lido's market lead in liquid staking.
- Social metrics like Twitter followers and Github activity are rising steadily, indicative of a growing community.
- Main risks are regulatory uncertainty around staking services and potential competition from other liquid staking protocols.
- Lido has seen strong growth in revenue, generating over \$100 million in protocol revenue in 2022. This revenue comes primarily from staking rewards and fees. In 2023 so far protocol revenue stands at \$30 Million.
- As of now, Lido has over \$14.6 billion in total value locked (TVL), making it by far the largest DeFi protocol. The TVL has remained resilient even during the

- recent crypto market downturn. It is the only DeFi Protocol which shows signs to regain its ATH in the DeFi space.
- Lido takes a 10% fee on staking rewards, so as Ethereum staking continues to grow, Lido's revenue potential is substantial. Ethereum's merge to proof-of-stake has been a catalyst for staking growth.
- The LDO token has utility within the Lido DAO, allowing holders to vote on governance proposals. LDO also entitles holders to a portion of the protocol fees.
- However, LDO price has underperformed compared to protocol growth and revenue. The token economics may need revisiting to better align incentives.



All financial information and metrics that has been used are from <u>TokenTerminal</u>, <u>Dune Analytics</u> and Nansen.

# **Market Analysis**

	Lido DAO	Rocket Pool	Frax Finance
TVL	\$15,000,000,000	\$1,870,000,000	\$460,000,000
Marketcap	\$1,855,145,579	\$688,471,363	\$459,825,874
Revenue (YTD)	\$30,700,000	no data	\$600,000
Marketcap/TVL	0.12	0.368166504	1
Marketcap/Revenue	60.43	no data	766.38

#### Financials:

- Lido DAO has the highest total value locked (TVL) at around \$15 billion, compared to Rocket Pool's \$1.87 billion TVL and Frax Ether's \$460 million.
- Lido and Frax takes a 10% fee from staking rewards and Rocket Pool takes 15%.
- Rocket Pool has a unique token model with RPL used as collateral by node operators. This provides additional revenue streams beyond just staking fees.

#### Market Activity:

- Lido's stETH is the most liquid staked ETH derivative with over \$13 million daily trading volumes across major exchanges. Rocket Pool's rETH has under \$500k in daily volumes while Frax Ether' 24h volume is around \$1.4 million.
- LIf you compare frxETH and stETH you can see that the token from Frax manages the peg better than Lido. Even if it is only a minimal difference, frxETH deviates by only -0.06% and stETH by -0.21% in the 90 day average. Rocket Pool's reward-bearing token deviates more. rETH traded between 0.22% and 2.89% in the period from October 2022 to July 2023.

#### On-Chain Data:

- Lido has the largest number of depositors at over 160,000. Rocket Pool has around 7,900 while Frax Ether has under 1,800 depositors.
- Lido's node is the largest validator on Ethereum with over 7 Million ETH staked. Rocket Pool runs multiple smaller nodes totaling around 700,000 ETH. Frax Ether's node has around 200,000 ETH staked.

In summary, Lido dominates in terms of TVL, staking revenue, liquidity for its stETH token. Rocket Pool and Frax Ether cater more towards smaller protocol-focused stakers.

# Roadmap

Lido DAO's focus on security, active governance, and integration with DeFi platforms positions it as a leading liquid staking solution for Ethereum. The project's ability to adapt to the evolving staking landscape will be crucial for its continued success. Furthermore, on August 1st, 2023, development and operation support for Lido on Polkadot and Kusama will be discontinued.

There is not a Roadmap per se as Lido functions through a DAO (see proposals here).