obscuro.

Obscuro Tokenomics Proposal

Contents

Introduction

Disclaimer: This proposal summarises the current thinking for OBX Tokenomics. This remains to be an active area of research for Obscuro and the wider DeFi industry therefore elements of this proposal are likely to change before a token generation event.

A Layer 2 token economy is non-trivial and continues to be an area of much research and debate. This proposal document is just that, a proposal which is intended to deliver a viable starting point for an Obscuro token economy. The economic model is expected to evolve over the lifetime of Obscuro via governance proposals.

Obscuro depends upon a network of intercommunicating Obscuro nodes to achieve its decentralisation, scalability and privacy promises. The Obscuro Mainnet node operators incur operating costs for which they need to be remunerated. This is achieved through a rewards and incentives model for the Obscuro token called OBX. Additionally OBX provides the means for the Obscuro community to vote on change proposals to Obscuro and for ongoing development of the Obscuro ecosystem. Over 50% of OBX is distributed directly to the community so they control the evolution of Obscuro.

The Obscuro tokenomics have been designed to be circulatory and self-sustaining with no human intervention and no subsidies. Instead decentralised Obscuro smart contracts handle all token movements (transaction fees, rewards and staking).

Although OBX is not deflationary, token holders are incentivised to stake as Aggregator node operators or as staking delegates by means of a reward. This will lock up OBX in staking pools and reduce the number of OBX in circulation. As the demand to be able to utilise the Obscuro network grows, the value of OBX subsequently increases. Similarly a decrease in demand is reflected by a decrease in OBX value.

In summary, OBX has four utilities:

1. To provide a reward to incentivise users to correctly operate Obscuro nodes.
2. A medium in which users can pay fees and node operators can pay their stake and receive rewards to cover operational costs.
3. A means to vote on proposals for changes to Obscuro via a governance model.
4. A means to fund and incentivise the ongoing development of the Obscuro ecosystem via development opportunities, grants and competitions.

Token Issuance and Distribution

OBX is issued by the Obscuro Foundation. This Token Generation Event (TGE) occurs when the Obscuro Testnet is substantially complete and application builders and Obscuro participants can meaningfully interact with the Testnet. The Obscuro DAO controls the ongoing tokenomics for Obscuro Mainnet according to the DAO's constitution.

Total token supply is fixed at 1,000,000,000 OBX. The allocations aim to reward ongoing participation in Obscuro and minimise short-termism. The largest allocations with vesting from the get-go are for community members, third-party integrators and application developers building on top of Obscuro so they can grow and succeed alongside Obscuro.

An airdrop has been intentionally omitted from the allocation because typically they do not benefit projects in the medium to long term.

Recipient	Token Amount	Allocation
Contributor Whitelist	20,000,000	2%
Public Sale	26,000,000	2.6%
Foundation Fund	227,000,000	22.7%
Ecosystem Fund	227,000,000	22.7%
Pre-Seed Investor	*To be finalised*	
Other Investors		
Core Team		

Token Supply

There is a fixed supply of OBX. The distribution of tokens and the flow of tokens between participants in the Obscuro network means that over time the size of the token pools change but the number of tokens in existence does not change (there is no minting or burning). The Foundation and the Ecosystem pools decrease in size as grants are awarded to application developers to encourage participation in the Obscuro ecosystem and tokens are sold to fund the ongoing development of the platform. Rollup rewards for early bootstrapping of the Obscuro network could be funded from these pools. The governance protocols will determine whether or not this is the case.

There is an occasion where tokens will be slashed although this is expected to be very rare. Specifically, Aggregator operators that use a hacked enclave on their node in an attempt to break the ledger's integrity will be discovered by the protocol. Their punishment is to have their stake slashed and returned to the ecosystem pool.

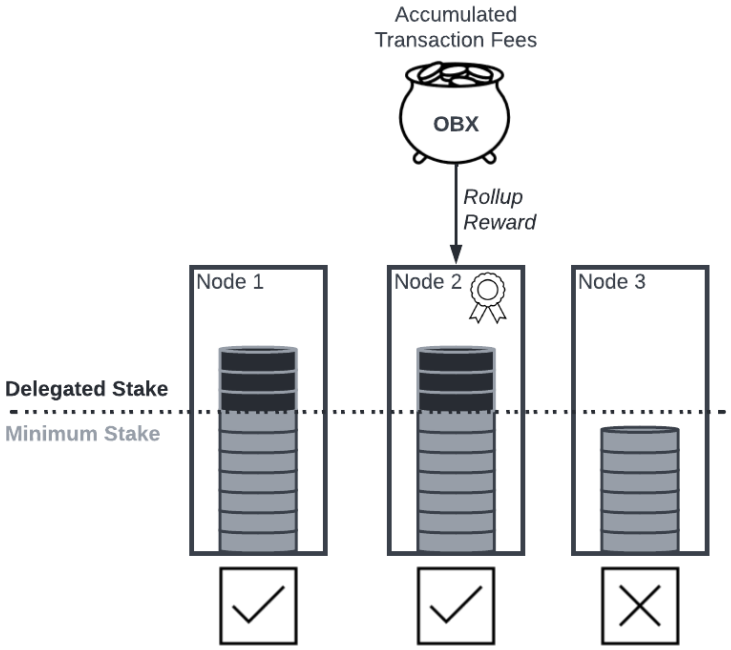
Token Staking and Delegated Staking

Aggregator nodes must stake OBX when they initially join Obscuro Mainnet as a means for the node operator to demonstrate their intention to maintain privacy, ledger integrity and not attempt to disrupt the safety of the network. The stake is intentionally set at a high value so the loss of stake is material to the operator. During the early life of Obscuro Mainnet the total minimum stake for all nodes is set to 8,000,000 OBX, or 50% of the total OBX tokens distributed at that time.

The amount required to stake will be reviewed and set by the Obscuro DAO as the Obscuro Mainnet total value locked (TVL) increases. Increasing the minimum stake as TVL increases continues to economically disincentivise would-be malicious actors from disrupting the network as the theoretical gain from a malicious event grows.

Delegated staking is also available to allow others without access to large amounts of OBX to participate in Obscuro Mainnet. Delegated stakes are evenly distributed across Aggregator nodes above the minimum stake per node. Delegated staking is not available for Verifier nodes because there is not a stake requirement for Verifier nodes to join the Obscuro network. Delegates are in a position to take a proportion of the rollup reward issued to the Aggregator node that wins the rollup submission lottery. Moreover, by evenly distributing staking across all Aggregator nodes the tendency for delegates to cluster around a very small number of nodes is not encouraged. There is no concept of Aggregator nodes with larger stakes having an improved chance of winning the rollup submission lottery therefore Obscuro Mainnet is prevented from trending towards centralisation which would erode how highly available Aggregator nodes are.

The diagram below summarises the different types of staking and the distribution of delegated stakes.



- Aggregator nodes 1 and 2 have the minimum stake value provided by the node operator and they are participants on the Obscuro network. Node 3 does not have the minimum stake therefore it is not a member of the Obscuro network.
- The delegated stake is evenly distributed between all the nodes on the Obscuro network.
- Node 2 has won the rollup lottery. The rollup reward is taken from the pool of transaction fees and shared proportionally amongst the node operator and delegates for Node 2 in line with the proportion of their staked value.

Rewards and Fees

Rollup rewards and active node rewards are paid out from a pool of OBX maintained by transactions fees paid in OBX. Because Obscuro does not link fees and rewards directly, the intention is to find a stable equilibrium between the amounts paid into the pool by end user transactions and the amounts paid out to nodes for their service. This equilibrium is established when the transaction fees can pay for the Ethereum gas costs to achieve a rollup submission interval of less than 1 minute. In periods when the number of transactions is high the pool will grow and the surplus will be used in periods when the number of transactions is lower in order to maintain the rollup submission interval thus providing a predictable user experience. This is called the 'float'.

The stable relationship between expenses and rewards for the Verifier and Aggregator can be summarised as follows:

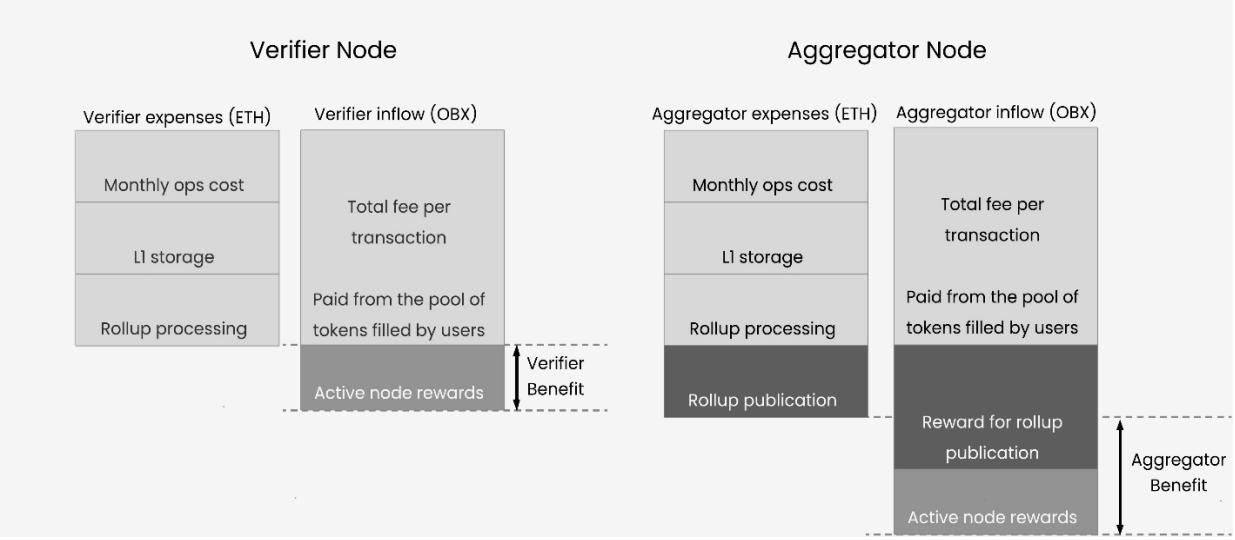


Figure 2: Node expenses and rewards. Thanks to Polo for granting permission to use this image.

The Aggregator benefit can be expressed as:

$$Aggregator\ benefit\ received = (reward\ for\ rollup\ publication + active\ node\ reward - rollup\ publication\ cost) \times percentage\ proportion\ of\ total\ stake\ on\ Mainnet$$

Public Sale and Whitelist

The Public Sale and Whitelist are important for Obscuro to gain early traction in the wider community, achieve organic growth and for early contributors to be recognised for their efforts. It is gratifying and empowering for community members to be rewarded for being active contributors to a project as opposed to receiving the same treatment as people arriving with potentially no genuine enthusiasm for the project. It is also in the interest of the project to identify the value-adding community members and incentivise them to remain active and continue adding value to Obscuro over the long term.

The Whitelist will be 2% of the total token allocation pool. Whitelist tokens will be distributed to contributors from the Obscuro community after the launch of Obscuro Mainnet at no cost to the contributor. Contributions are defined, captured, tracked and scored using a decentralised task management tool called Dework. The Dework bounty score indicates how much of the Whitelist pool a contributor is entitled to. Each contributor's token allocation will be a percentage of their total contributions against the entire community contribution up to the day of Obscuro Mainnet launch.

The Public Sale event and Whitelist distribution will be conducted through a reputable third-party private sale manager so regulatory checks are completed with confidence.

Foundation Fund

The Foundation token fund exists for several reasons. First, this fund will pay out active node rewards and rollup rewards to Verifier and Aggregator nodes on Obscuro Mainnet. Second, the Foundation is empowered to engage with engineering talent to further develop the Obscuro platform using tokens as a form of incentive. Third, governance change proposals are voted on through a vote entitlement for token holders.

Ecosystem Fund

The Ecosystem token fund exists to develop and evolve the Obscuro ecosystem using three primary methods. First, offer grants and incentives to application builders to deploy their applications to Obscuro Mainnet. 3% of the Ecosystem Fund is set aside for application builder incentives. Second, execute a marketing strategy to increase awareness in Obscuro. Third, incentivise members of the community to make meaningful contributions to Obscuro over the long term.

Investors and Core Team

Providing investors and the core team with the opportunity to participate in the Obscuro network is an important part of their contribution to the wider Obscuro ecosystem. Token allocations to these groups encourage continued engagement, interest and contributions.

Token Vesting

Token vesting periods are a mixture of time-based and milestone-based outcomes. The vesting periods have been designed to strike a balance between allowing utility in Obscuro Mainnet from the get-go and encouraging continued high-quality development and commitment to the Obscuro ecosystem over a number of years.

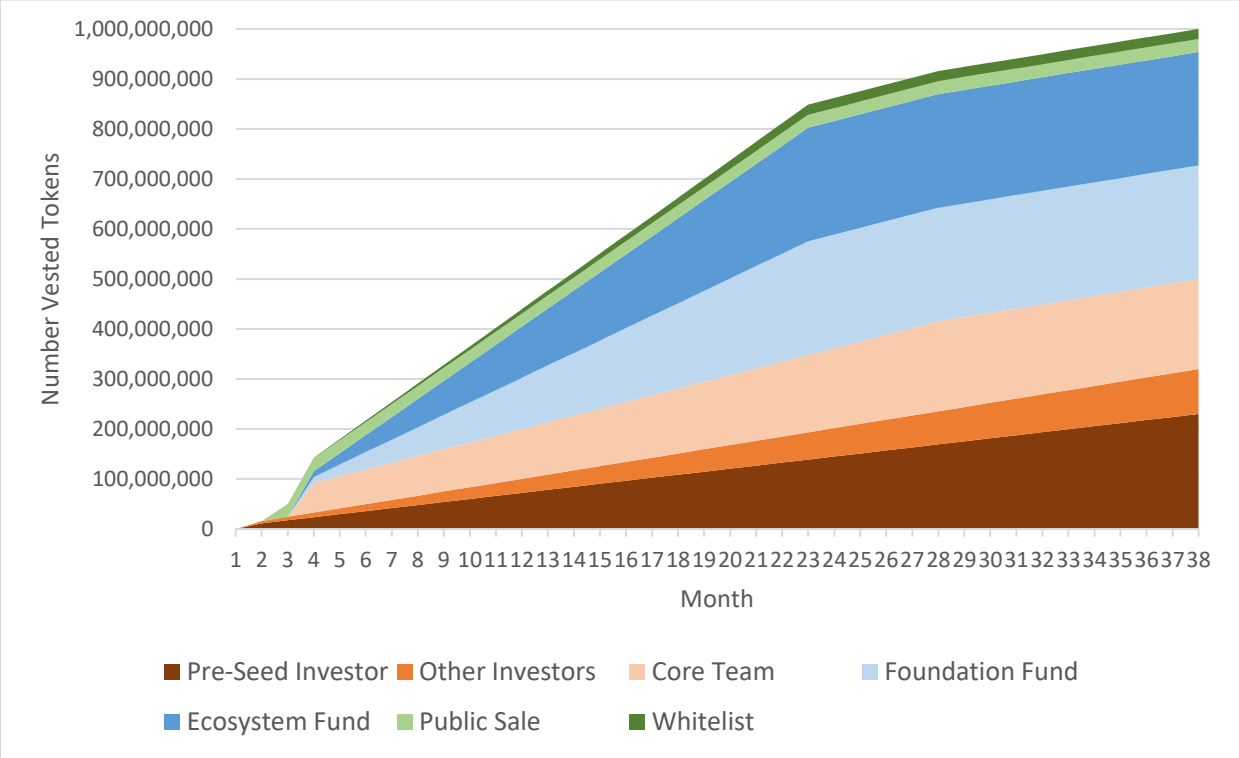
Tokens distributed to the Whitelist vest over the course of 20 months to encourage continued engagement with Obscuro and discourage early dumping.

Tokens distributed to the Public Sale vest immediately so they can be used to participate in the Obscuro Mainnet as early as possible. Specially, tokens can be used by application users to pay transaction fees, for node operators to stake and for members of the community to participate in delegated staking.

Tokens distributed to the Foundation Fund and Ecosystem Fund are released linearly at 5% per month to avoid downward pressure on the value of OBX and instead maintain a value at which rewards can continue to be paid without subsidies.

Tokens distributed to Investors and the Core Team are initially locked followed by a multi-year unlock to keep investor sentiment high, encourage long term focus in their investment and clearly demonstrate their commitment to the success of Obscuro.

Token Distribution	Token Amount	Vesting Basis	Vesting (NOTE: subject to lead investor review)
Contributor Whitelist	20,000,000	Milestone	Linear unlock of 5% per month from Obscuro Mainnet launch
Public Sale	26,000,000	Time	100% at TGE
Foundation Fund	227,000,000	Milestone	Linear unlock of 5% per month from Obscuro Mainnet launch
Ecosystem Fund	227,000,000	Milestone	Linear unlock of 5% per month from Obscuro Mainnet launch
Pre-Seed Investor	*To be finalised*	Time	5% at TGE then monthly linear unlock after for 3 years
Other Investors		Time	5% at TGE then monthly linear unlock after for 3 years
Core Team		Milestone	33% at Obscuro Mainnet launch 66% monthly linear unlock for 2 years



Token Pricing and Yield

Initial Token Price

Value can be thought of in many different ways and the price of OBX fulfils several requirements. First, Obscuro node operators are remunerated for their operational costs.

Second, Obscuro's decentralisation depends, in part, on the ability to make it economically unviable to control the majority of nodes in the Obscuro network. This is achieved through a staking model where OBX is used. Note Obscuro does not use a staking model where Aggregators win the opportunity to submit rollups based on the size of their stake. Instead Obscuro's consensus protocol, Proof of Block Inclusion (POBI), mandates that winning Aggregators are randomly selected. This avoids Aggregators winning based on their access to wealth and their ability to generate large stakes. Additionally, delegated staking provides the opportunity for members of the Obscuro community with limited capital to engage with Obscuro.

Third, the value early contributors bring to Obscuro to help build the momentum within the community and provide feedback on the project needs to be recognised.

A Liquidity Bootstrap Auction (LBA) will be used for price discovery because it is a fair, decentralised and permissionless mechanism to establish the price of OBX very early in the token's lifecycle. Rather than using an AMM, the Obscuro community set the price for OBX. The liquidity auction pool for the auction will be initialised with a small percentage of tokens from

the Public Sale allocation being provided to one side of a stablecoin pair. Non-OBX holders can then come in and commit stablecoin, like USDT, into this liquidity auction pool thereby indicating a buy of OBX. At the end of a pre-defined time period the ratio of OBX to stablecoins in the liquidity auction pool determines the final Public Sale price of OBX. Stablecoin depositors receive the number of OBX tokens according to the stablecoin-equivalent price. For example if someone has a final deposit of 100 USDT and the final price for OBX is 0.1 USDT, they will receive 1000 OBX.

An additional mechanism to progressively limit the withdrawal amounts during the last days of the LBA reduces the risk of whales disrupting the fairness of the auction. This is designed to prevent whales inflating the token price early in the LBA by depositing a large amount of stablecoin into the liquidity pool with the intention of withdrawing a significant amount of their stablecoin deposits at the last minute causing the price to fix artificially high.[1]

Whitelist tokens will be excluded from the Public Sale. A vesting schedule helps mitigate downward pressure on the token price by Whitelist members trying to gain an economic advantage.

Liquidity Pools

With OBX being a native token to Obscuro Mainnet there is a requirement to exchange OBX for ETH in order to pay for the rollups submitted to Ethereum. This creates a need for an OBX/ETH trading pair. It is desirable for the OBX/ETH exchange rate to be as stable as possible so rollup costs in terms of OBX remain stable which in turn leads to a more accurate and reliable determination of transaction fees. This is a better experience for network participants.

The more liquidity a trading pair has the tighter the gap between offers to exchange OBX for ETH therefore the more stable the exchange rate. Liquidity pools are a means of creating deep liquidity. It also means participants can quickly convert OBX to ETH if they so wish. OBX liquidity pools are created by the Obscuro Foundation and Market Makers.

[1] Thanks to Delphi Digital for the inspiration: https://members.delphidigital.io/reports/introducing-lockdrop-lba-a-novel-token-launch-mechanism/

Appendix A – Alternatives Considered

Why Not Use ETH?

Obscuro is a Layer 2 solution for Ethereum. When a Rollup from the Obscuro Network is submitted to Ethereum the submitting Obscuro Aggregator node operator is required to pay a computation fee in the form of Ethereum gas. This gas fee must be paid for in ETH, Ethereum's native token. So why not simply use ETH across the Obscuro ecosystem and remove the need for OBX? There are 3 main reasons why OBX is preferable to ETH.

First, being able to measure the value of Obscuro is achieved by using a native utility token because it has a direct and intimate relationship with the Obscuro ecosystem, technology and network participants. Using ETH would cloud the value of Obscuro to the extent it would be impossible to measure and understand whether or not Obscuro is relevant and valuable to its users. If Obscuro does not deliver the features Web3 demand then its value will subside. If Obscuro provides access to new business opportunities then its value will grow.

Second, the Foundation can be more influential in the direction Obscuro takes by making use of Ecosystem Fund tokens for grants, aggregator incentives and competitions. Using ETH would be challenging because the Foundation cannot make decisions on an ETH token pool.

Third, OBX is a governance token. There is interest in holding governance tokens because there is a tangible return from being able to vote for proposals: you can vote for proposals which help prioritise your future plans so your plans can reach fruition more quickly and you can achieve your desired outcome.

Why No Revenue Model?

A revenue generation model employed by some L2 solutions is to charge a fee on transactions. For example this can be done by applying a fee scalar to the gas fee for submitting a rollup to the L1 thereby generating an income.

In theory Obscuro could use the same model with the operator of the Obscuro network, the Obscuro Foundation, charging a fee each time Obscuro is used. Those fees could be used to pay for the next tranche of development, run competitions and fund incentive schemes, for example. There are 2 main reasons why fees do not fit with Obscuro.

First, and most crucially, how are fees charged in a decentralised environment? There is no central sequencer or aggregator therefore no single "weigh station" to analyse smart contracts and determine the correct fee.

Second, Obscuro software is open source therefore anyone is able to fork the code and create a competing product. It would be possible to emulate Obscuro and charge a lower fee and undercut the original implementation of Obscuro.

Appendix 2 – Tokenomics Modelling

By constructing a tokenomics model is it possible to find an optimal balance between all aspects of the Obscuro tokenomics: how frequently rollups can be submitted to Ethereum Mainnet, the cost of bootstrapping the Obscuro network via subsidies, the cost of the L2 transaction fee, the number of node in network, the initial token price, and the target stake for Aggregator nodes.

A full explanation of the model is beyond the scope of this document. Instead some example scenarios are included below to demonstrate how adjustments can be made to the Obscuro protocol over time to create a self-sustaining, attractive and fair network where node operators are sufficiently rewarded.

Variables used in model:

- Maximum fee per transaction
- Number of transaction per rollup *
- Number of Aggregator nodes in the network *
- Stake value per rollup
- How frequently the rollups are submitted to Ethereum Mainnet
- Token price

Assumptions used in the model:

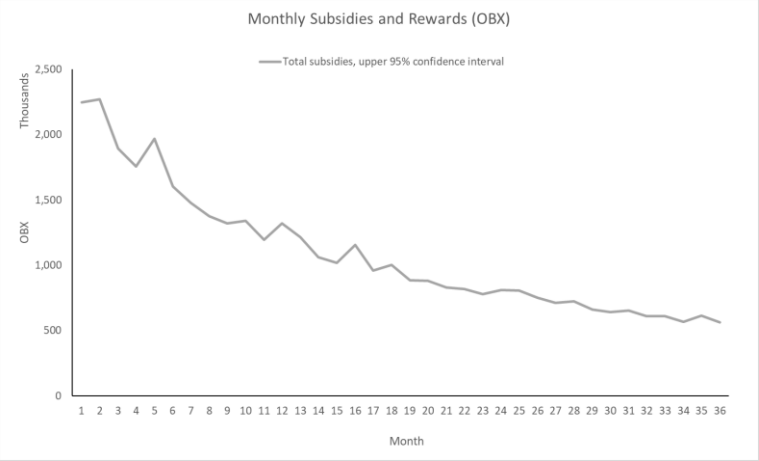
- cost to submit the rollup to Ethereum Mainnet = $700 *
- monthly node host costs = $70

Variables and assumptions indicated with * are additionally modelled using four different growth scenarios (static, linear, aggressive linear, random) with the upper and lower bounds of 95% confidence internal being used in the calculations.

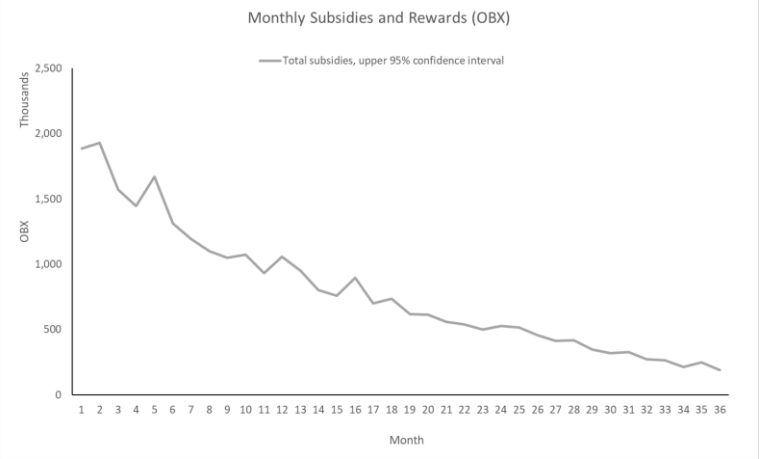
Changing L2 Maximum Transaction Fee

The charts below show the subsidies and rewards to be paid out per month for three different scenarios where the maximum transaction L2 fee changes.

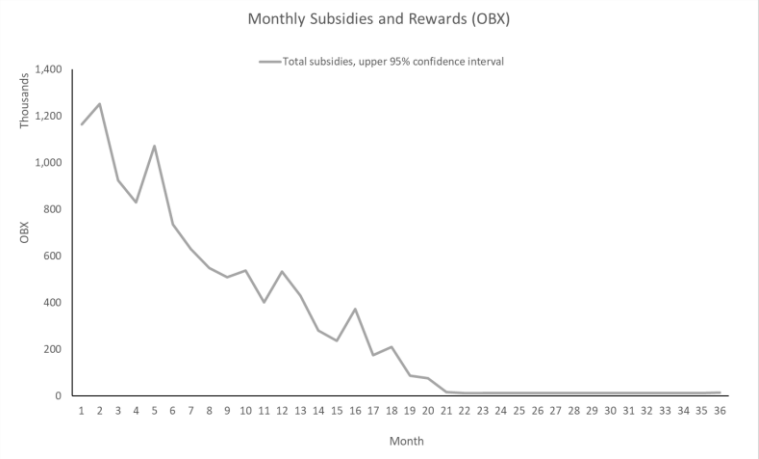
Max transaction fee = $0.50
No. of transactions per rollup increase 3% MoM
Rollup submission interval = 2h
Token price increase 10% MoM



Max transaction fee = $1.00
No. of transactions per rollup increase 3% MoM
Rollup submission interval = 2h
Token price increase 10% MoM



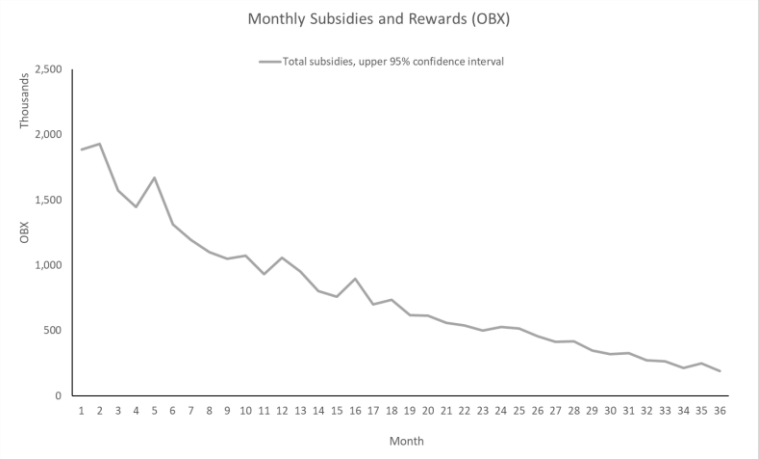
Max transaction fee = $2.00
No. of transactions per rollup increase 3% MoM
Rollup submission interval = 2h
Token price increase 10% MoM



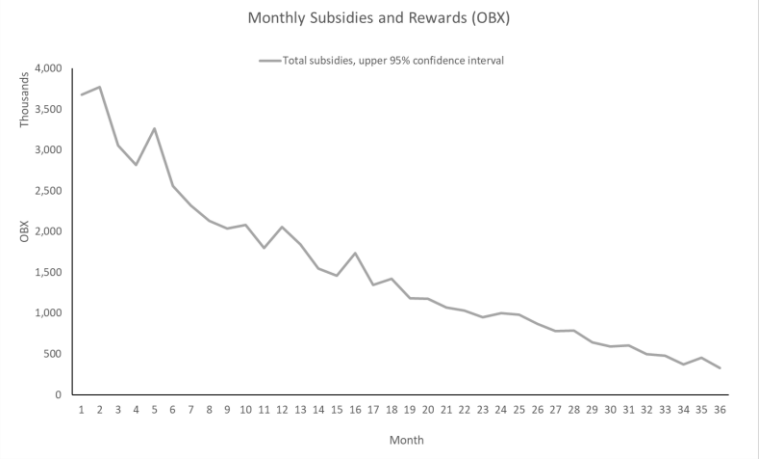
Changing Rollup Submission Interval

The charts below show the subsidies and rewards to be paid out per month for three different scenarios where the rollup submission interval changes.

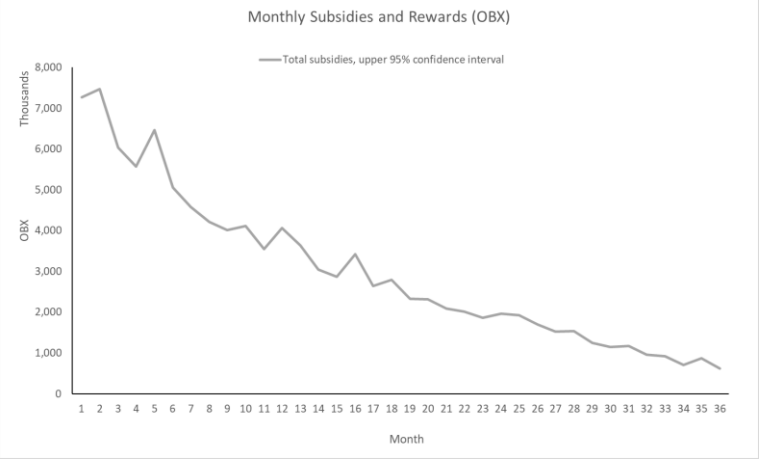
Max transaction fee = $1.00
No. of transactions per rollup increase 3% MoM
Rollup submission interval = 2h
Token price increase 10% MoM



Max transaction fee = $1.00
No. of transactions per rollup increase 3% MoM
Rollup submission interval = 1h
Token price increase 10% MoM



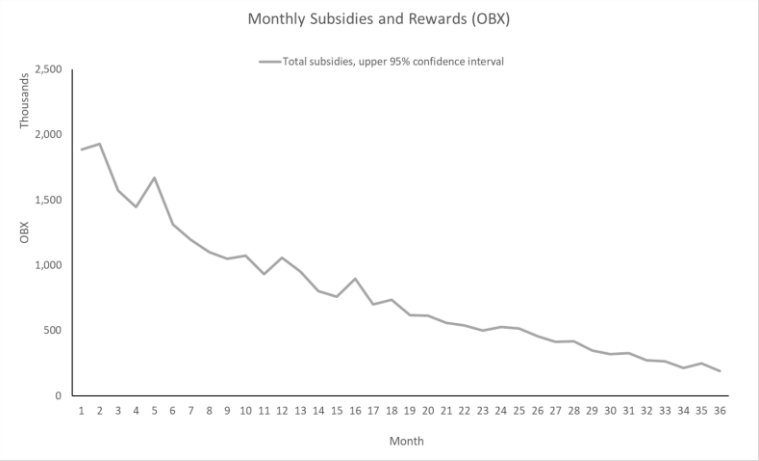
Max transaction fee = $1.00
No. of transactions per rollup increase 3% MoM
Rollup submission interval = 0.5h
Token price increase 10% MoM



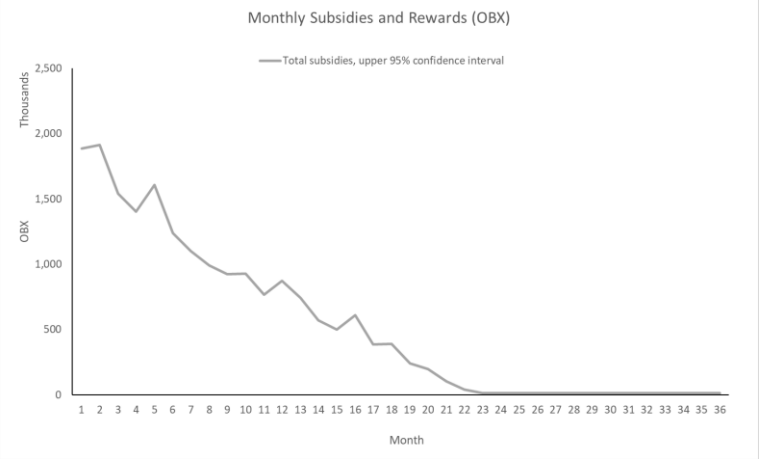
Changing Number of Transactions per Rollup

The charts below show the subsidies and rewards to be paid out per month for three different scenarios where the number of transaction per rollup changes.

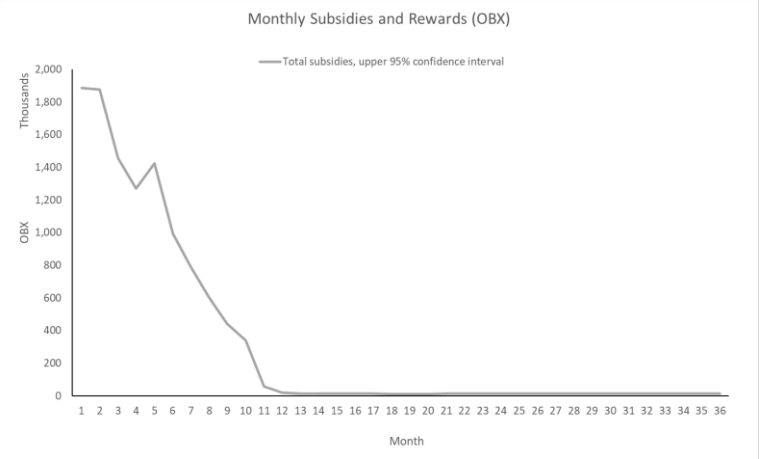
Max transaction fee = $1.00
No. of transactions per rollup increase 3% MoM
Rollup submission interval = 2h
Token price increase 10% MoM



Max transaction fee = $1.00
No. of transactions per rollup increasing 5% MoM
Rollup submission interval = 2h
Token price increase 10% MoM



Max transaction fee = $1.00
No. of transactions per rollup increasing 10% MoM
Rollup submission interval = 2h
Token price increase 10% MoM



Appendix 3 – Contributors

Thanks to the following contributors to this document:

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