

# SLAP v1.0 Whitepaper

-- A DeFi experiment with the Spontaneous Liquidity Accumulation Protocol (SLAP)

Jan-2022

## SLAP at a Glance

- SLAP's platform token is STEAM.
- SLAP is building a protocol that allows the liquidity of STEAM to be ever-growing in a spontaneous, automatic, and trustless way.
- STEAM is non-inflationary.
- The rewards for STEAM stakers are in stablecoins, not through inflation.
- The liquidity is 100% controlled by the protocol itself.
- The SLAP will have constant buying power for the STEAM token.
- STEAM tokens are not backed but have a theoretical price floor.
- The goal of SLAP is to grow the liquidity of STEAM continuously, to become the value anchor in the crypto market.

## The Goal

Liquidity is the key to any financial assets or applications. That's why we came up with the idea for SLAP, an innovative DeFi experiment, which allows for the liquidity to be ever-increasing.

Through the continuous growth of STEAM liquidity, the goal of SLAP is to provide the most liquid asset available and become the value anchor in the crypto market.

## Problems to solve

Liquidity is the key to any financial application, both in traditional finance and decentralized finance.

After liquidity mining or farming models were firstly introduced by Compound Finance, they have been widely applied in many DeFi projects. Especially in collaboration with the Uniswap V2 model, projects are paying liquidity mining incentives as rent, for borrowing liquidity from the market participants. However, this often brings hyper-inflation problems, especially in the bootstrapping stage, as protocols must pay large incentives to lure yield hunters to bring liquidity. Furthermore, liquidity may end up being controlled by whales, meaning a project could easily suffer adverse consequences when whales stop playing.

Olympus brought us something different. It created the concept of POL (protocol owned liquidity), and managed to control over 95% of its own liquidity, by selling platform tokens with discounts (the so-called bonding). Thanks to its 1 DAI pegging, it managed to bring extraordinary compounding APY to stakers.

However, the APY is maintained through high inflation. Therefore, the real APY in dollar value can be hardly assured, as new tokens are printed. If the token price plummets, the APY might appear to be the same in terms of the number of tokens, but that is clearly not the case in terms of USD value.

Dollar-pegged stablecoins still dominate the measurement of value in the crypto market. But is it the optimal choice for an on-chain decentralized market? Whereas in the short term SLAP's strength lies in providing yields in stable tokens, over the long run we aim to provide a better solution to the world of crypto. Being that rewards are not paid through inflating the STEAM token, and the protocols are consistently increasing liquidity, STEAM, over time, will become an anchor of value - and greatly surpass the capabilities of fiat-pegged stable coins.

SLAP was born to solve the problems above simultaneously and push the boundaries on what is possible.

## What is SLAP

SLAP, the Spontaneous Liquidity Accumulation Protocol, is a new generation DeFi protocol that allows the on-chain liquidity to grow spontaneously in an automatic and trustless way. At the same time, the stakers in SLAP will be entitled to rewards in stablecoins, rather than through inflating the protocol's token.

SLAP underpins a protocol token called STEAM. STEAM's liquidity is paired with other stable assets on DEXes, 100% controlled by the protocol itself and ever-growing. These features are achieved by automatic, periodic contributions to the liquidity pool by the protocol's smart contracts. The process is managed in a decentralized way.

STEAM will not be inflationary when rewarding the protocol users. The platform's token can only be minted through bonding or pairing and contributing to the liquidity pool at the current market price. In other words, no free STEAM tokens will be ever created.

Stakers in STEAM are incentivized with stablecoins, rather than through inflation. These rewards are from the protocol's revenue in STEAM bonding.

The goal of SLAP is to become the value anchor of the crypto market, through the ever-increasing liquidity and ever-decreasing slippage.

# How does SLAP work

## Bonding

A Token Bonding Contract is created for the minting of the STEAM token.

When users deposit stablecoins into the bonding contract, an equivalent amount of SLAP will be created at a price, controlled by the embedded algorithm, and vested for a predetermined period of time.

The paid stablecoins will be kept in the Reserve Pool.

In the Bonding Contract:

The SLAP bonding price will be continuously decreasing if no one bonds within a certain predetermined period of time.

The SLAP bonding price will be continuously increasing if users are bonding in every predetermined certain period of time.

The slippage of the SLAP bonding price is algorithmically controlled.

## The Reserve Pool

After bonding, the bonding contract will preserve the collected stablecoins for minting STEAM in the Reserve Pool. It will perform as the treasury of the SLAP protocol, for liquidity accumulation, distribution, and DAO reserves.

## The Allocation Contract

The assets in the Reserve Pool will be allocated periodically and evenly in a predetermined amount of time, according to the following rules.

### 1. Minting and Adding Liquidity

Periodically, the allocation contract will have a percentage of the crypto assets in the treasury, to be allocated in the same period, paired with the same value of STEAM, and contribute into the liquidity pool. The paired STEAM will be minted by the contract.

The percentage of this operation (a%) is determined by comparing the STEAM bonding price to its market price. If the market price is higher than the bonding price, the a% will be higher, and vice versa.

### 2. Buying-back and Adding Liquidity

Periodically, the allocation contract will buy back STEAM from the market, with b% of the crypto assets in the treasury. After this operation, the purchased STEAM will pair with another b% of the crypto assets in the treasury and contribute to the liquidity pool.

The percentage of this operation (b%) is determined by comparing the STEAM bonding price to its market price. If the market price is higher than the bonding price, the b% will be lower, and vice versa.

### **3. Distribution to STEAM Stakers**

Periodically, c% of the crypto assets in the treasury will be distributed to the STEAM stakers pro-rata. Therefore, the stakers will be able to harvest rewards directly in stablecoins, rather than in inflated STEAM.

### **4. Marketing and DAO Fund**

The rest d% the crypto assets in the treasury will be reserved in the Marketing and DAO Fund, for ecosystem building, marketing, and incentives for stakeholders.

### **5. Buy Back and Burn**

During extreme market circumstances, the Buy-Back-and-Burn mechanism will be initiated. This will provide a strong purchasing force for the STEAM tokens. e% of the crypto assets in the treasury will be applied to purchase STEAM from the market and burn. Normally, this function will not be triggered and e% will be set to be zero.

(From the allocation above, you can easily get  $a\% + 2*b\% + c\% + d\% + e\% = 1$ )

## **Main Features**

### **Non-inflationary**

STEAM doesn't have a supply cap, but it is non-inflationary. How is that achieved?

From the mechanisms above, STEAM can only be minted through the bonding contract or by adding liquidity to the allocation contract.

The bonding contract allows users to buy STEAM tokens with other crypto assets with relatively short vesting terms. Therefore, users need to pay for the newly minted STEAM, possibly at a discount, while not far away from the market price, due to arbitraging activities. STEAM is minted through bonding at or close to the market value.

The mint-and-add-liquidity mechanism in the allocation contract can also create new STEAM. But newly minted STEAM tokens, paired with stablecoins of the same value from the treasury, go directly into the liquidity pool, controlled by the protocol. Therefore, these newly minted STEAM tokens can only be purchased by others, rather than sold. And they are contributed into the liquidity pool at the current market price, as the pool with the Uniswap v2 mechanism, requires the paired tokens to be input with the same value.

These two scenarios are the only chance to increase the total supply of the STEAM token. As the newly created STEAM is always born at a cost, at or close to the market value, we can safely say STEAM is NON-INFLATIONARY.

## Ever-increasing Liquidity

The allocation contract will constantly increase pool liquidity using the assets collected from the bonding contract in the reserve pool, either by minting and contributing or buying back and contributing. Therefore, the size of the liquidity pool will be ever-increasing, leading to an ever-decreasing slippage for traders.

As the liquidity pool in the DEXes will follow the classic XYK model deployed by Uniswap v2, the enhancement of the liquidity will be translated to an increase in the 'K' value.

## 100% Protocol Controlled Liquidity

One of the key mechanisms behind SLAP is to contribute liquidity via the protocol itself, spontaneously. As there are no other incentives than transaction fees for STEAM holders to join in the liquidity pool, therefore, the STEAM liquidity pool in DEXes will most likely be 100% controlled by the protocol itself.

The benefit of the 100% POL (Protocol Controlled Liquidity) is that there will be no risk of whales pulling out the liquidity, as the only 'whale' will be SLAP itself. SLAP cannot rug pull the liquidity and sell the tokens. The STEAM tokens in the POL can only be bought by other users. Combined with the ever-increasing feature mentioned above, it will provide powerful support for liquidity and trading depth.

## Constant Buying Power

The allocation contract will produce constant buying power for the STEAM tokens. A proportion of the treasury funds will be applied to buy back STEAM from the market and contribute to the liquidity pool, periodically.

The percentage will be dynamically adjusted. If the bonding price is higher than the market price, bonding to get STEAM will be less attractive than buying from the secondary market. During this occurrence, the proportion of funds used for buying back will be increased, to drive the market price up.

This mechanism will provide strong support for the STEAM price.

## Yields in Hard Money

STEAM stakers will be eligible for staking rewards from the crypto assets in the treasury, rather than through inflation of the STEAM token. In other words, the STEAM stakers are earning USD.

Let's do some simple math. If 50% of the treasury funds are distributed to stakers in 3 months, let's suppose the STEAM price stays unchanged, that would translate to a 200% APR in USD for a buy-and-stake strategy, assuming the STEAM staking rate is 100%. If only 50% of the STEAM tokens are staked, the APR would be 400%, which means, you would get all of your cost of the STEAM tokens back in 3 months. In the latter example, even if the STEAM price goes to zero, you are not losing anything.

The incentive of USD also creates some interesting market dynamics. If the STEAM price is dropping, the APR for users utilizing the buy-and-stake strategy will, however, be increased, as the distribution of the

staking rewards in the treasury is stable and lagged (by 3 months in the example above). The increase of the rate of return for stakers will provide encouragement for STEAM's buying power and may ultimately reverse the price drop.

## **STEAM is Not Backed but Has a Price Floor**

STEAM is minted through bonding or minting-and-contributing to the liquidity pool. It is not backed by any crypto assets but has a price floor, which is the theoretical lowest price. How is that possible?

Thanks to the POL and non-inflationary features, 100% of the liquidity is controlled by the protocol, and the circulating STEAM always comes at a cost. The liquidity controlled by the protocol makes sure that the STEAM tokens in the liquidity pool can only be purchased, rather than sold by users. In other words, the STEAM in the liquidity pool only guarantees the purchasing liquidity, but it is not actually in circulation.

With limited circulation, we can calculate the potential price floor of the STEAM token, under the hypothesis that all of the circulating supply is sold back into the liquidity pool, following the XYK algorithm. Well, this can hardly happen, given that there will be staking rewards for STEAM stakers, and the circulating supply would literally become zero.

Therefore, even though STEAM is not backed, it has a theoretical price floor.

### References:

[Uniswap v2 Whitepaper](#)

[Olympusdao Whitepaper](#)

[A prototype of 'Spontaneous Liquidity Accumulation Protocol' \(SLAP\)](#)

The Financial Mathematics of Market Liquidity by [Olivier Gueant](#)

[DeFi 2.0 and Liquidity Incentivization](#) by Chainlink