# Cross Chain Bonding

## What is bonding?

Bonding allows Depo to acqure its own liquidity and other reserver assets such as LUSD by selling DEPO at a discount in exchange for these assets. The protocol quotes the bonder with terms such as the bond price, the amount of DEPO tokens entitled to the bonder, and the vesting term. The bonder can claim some of the rewards (DEPO tokens) as they vest, and at the end of the vesting term, the full amount will be claimable.

Bonding is an active, short-term strategy. The price discovery mechanism of the secondary bond market renders bond discounts more or less unpredictable. Therefore bonding is considered a more active investment strategy that has to be monitored constantly in order to be more profitable as compared to staking.

Bonding allows DEPO to accumulate its own liquidity. We can call our own liquidity POL(Protocol Owned Liquidity). More POL ensures there is always locked exit liquidity in our trading pools to facilitate market operations and protect token holders. Since DEPO becomes its own market, on top of additional certainty for DEPO investors, the protocol accrues more and more revenue from LP rewards bolstering our treasury.

Bonding is a mechanism in which a user can sell assets to a protocol in exchange for its native token. To incentivize users to sell to the procol, rather than the open markets, bonds are offered at a discounted rate. Bonds also hve a vesting period to prevent users from selling all the discounted tokens at once for a quick profit.

Bond price is determined by the supply and demand of bonds. It trends higher when there is more demand. As a result, bonding is a very competitive space – bonders compete with each other to grab the largest discount. Bond price can also be controlled by BCV(Bond Control Variable). It is a parameter set by policy team to adjust bond capacity. When BCV increases, bond price increases, thus resulting in a smaller bond capacity. As mentioned earlier, bonds are linearly vested over a period of time (5 days by default) to reduce sell pressure due to arbitrages.

## What are the Benefits of Bonding?

Bonding allows a protocol to accumulate their own liquidity. POL guarantees users that there is always sufficient liquidity for normal market operation. In other protocols, in case of a bank run, liquidity is often pulled from the protocol, exacerbating the situation with less exit liquidity.

POL transforms liquidity from a liability to a revenue source. Every swap transaction in a pool contributes a 0.3%/0.25%(Uniswap/Sushiswap) fee to the LPs. As liquidity is permanently locked in the treasury, these fees provide a constant source of revenue for the protocol. POL allows for additional yield farming opportunities.

## Bond Usecase

1. Choose bond from marketplace.

The Bond Marketplace provides the user with a suite of different bonds they can purchase from list.

2. After choosing a bond from the Marketplace, user will be greeted with the bond page. Make sure to connect user’s wallet first.

Each bond shows bond price and market price, vested days, percentage of profits

3. After user connect his wallet, enter the amount of LP tokens that user would like to supply. User will be quoted an equivalent amount of the payout token in the “You will get” field.

In this case, it shows balance, ROI, vesting TERM, Bond Contract.

4. If user don’t have the required LP token, user can click the link provided to acquire them.

5. There is also a Zap Pro feature that allows user to obtain LP tokens in a single transaction.

In this case, it shows Max Slippage Fee (percent value)

6. If this is user’s first bond purchase, user need to approve the bond contract to spend user’s token first. Then user need to sign another transaction to actually purchase the bond.

7. Once the bond transaction is confirmed, user have successfully purchased a bond.

The Approve transaction is only needed when user purchase a bond for the first time; subsequent purchase of the same bond only requires user to perform the Bond transaction.

### Multiple Bond Purchase

If the current bond is still vesting, buying another bond of the same type will reset the vesting period. This means any unclaimed rewards from the previous bond, vested or otherwise, will start vesting from period 0 again.

## Claim Usecase

1. If user have purchased a bond from the Bond Marketplace before, user’s dashboard wil lshow user the currently vesting bonds, and those that have fully vested.

In this case it shows LP token name, Claimable Amount, Pending Amount, and Vestige Lockup Status.

It also has Claim button.

2. Select the bond that is still vesting and click “Claim” button. A claim modal should show up.

It shows Bond Price, Market Price, Claimable rewards, Pending rewards, Fully vested status, ROI, Debt Ratio, Vesting Term and “Claim All” button.

3. User click “Claim All” button to claim the bond rewards. When the transaction is confirmed, the claimed rewards should go to the user’s wallet.

It shows Claimed Bond amount and “View on Etherscan” button.

4. Additionally, if the protocol supports staking of its reward tokens, user can click “Stake Now” which will direct user to the protocol’s staking pool.

## Formula of Bonds

bondDiscount = (marketPrice – bondPrice) / marketPrice

bondPrice = debtRatio \* BCV

debtRatio = tokenOwed / tokenSupply

BCV

BCV directly affects the bond price – the higher the BCV, the higher the bond price. As a higher bond price makes bond less attractive, the protocol can adjust this value to tune the bond capacity.

Maximum Bond Size

This controls the maximum amount of rewards tokens a user can purchase through a bond. It is set as a percentage of the total supply and typically ranges between 0.03-0.05% of the total supply.

Bond Vesting Term

A bond vests linearly to the bonder over a length of time, called the bond vesting term. This means the bonder can claim a portion of the reward tokens each day, with all rewards being claimable at the end of the term.