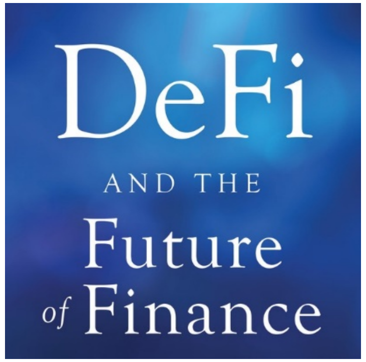

Course III:

DeFi Deep Dive

1. Credit and Lending

(iii) Aave

(a) What is Aave?

Credit/Lending: Aave

What is Aave?

- Aave, launched in 2017, is a lending protocol similar to Compound.
- More tokens to supply and borrow are offered
- Importantly, the Aave lending and variable borrowing rates are more predictable, because unlike the volatile COMP token in Compound, no subsidy is involved.

Credit/Lending: Aave

Two markets

- The first is for more-conventional ERC-20 tokens similar to those of Compound, supporting assets such as ETH, USDC, and DAI.
- The second is specific to Uniswap UNI LP tokens (discussed later).
- For example, when a user deposits collateral into a Uniswap market, she receives an LP token as a *Liquidity Provider* that represents her ownership in the market.
- The LP tokens can be deposited in the Uniswap market on Aave to generate additional returns.

Credit/Lending: Aave

Flash loans

- Aave charges a fee of 9 basis points (bps) on the loan amount to execute a flash loan.
- The fee is paid to the asset pool and provides an additional return on investment to suppliers, because they each own a pro rata share of the pool.
- An important use case for flash loans is that they allow users quick access to capital as a means to refinance positions.

Credit/Lending: Aave

Example

- Assume the price of ETH is 200 DAI.
- A user supplies 100 ETH in Compound and borrows 10,000 DAI to lever up and purchase an additional 50 ETH, which the user also supplies to Compound.
- Suppose the borrow interest rate in DAI on Compound is 15% on Aave is 5%.
- The goal is to <u>refinance</u> the borrowing to take advantage of the lower rate offered on Aave, which is analogous to refinancing a mortgage, a long and costly process in centralized finance.

Credit/Lending: Aave

Example

- One option is to manually unwind each trade on Compound and re-do both trades on Aave to reconstruct the levered position, but this option is wasteful in terms of exchange fees and gas fees.
- A flash loan provides an attractive alternative

Credit/Lending: Aave

Example

- Take out a flash loan from Aave for 10,000 DAI,
- Use it to pay the debt on Compound,
- Withdraw the full 150 ETH from Compound
- Resupply to Aave, and (at 5% APR) against that collateral to repay the flash loan.
- The latter approach effectively skips the steps of exchanging ETH for DAI to unwind and rewind the leverage.

Credit/Lending: Aave

Example

- The flash loan is a single transaction
- A flash loan used to refinance a position allows for DeFi client applications that let users migrate a levered position from one dApp to another with the single push of a button.