



Course III:

DeFi Deep Dive

1. Credit and Lending

(iii) Aave

(b) Stable Loans and Credit Delegation

Credit/Lending: Aave

Stable loan rate

- An Aave innovation (and as of this writing only available on Aave) is a “stable” rate loan.
- The choice of “stable” intentionally avoids the use of “fixed rate.”
- A borrower has the option to switch between the variable rate and the current stable rate.

Credit/Lending: Aave

Supply rate is not stable

- The supply rate is always variable, because under certain circumstances, such as if all borrowers left the market, it would be impossible to fund a fixed supply rate.
- The suppliers always collectively earn the sum of the stable and variable borrow interest payments minus any fees to the platform.

Credit/Lending: Aave

Stable rate is not a fixed rate

- The stable rate is not a fixed rate, because the rate is adjustable in extreme liquidity crunches and can be refinanced to a lower rate if market conditions allow.
- Also, some constraints exist around how much liquidity can be removed at a specific stable rate.
- Algorithmic stable borrowing rates provide value to risk-averse investors who wish to take on leverage without the uncertainty of a variable-rate position.

Credit/Lending: Aave

Credit delegation

- Aave is developing a *Credit Delegation* feature in which users can allocate collateral to potential borrowers who can use it to borrow a desired asset.
- The process is unsecured and relies on trust.
- This process allows for uncollateralized loan relationships, such as in traditional finance, and potentially opens up new sources of liquidity.
- The credit delegation agreements will likely have fees and credit scores to compensate for the risk of unsecured loans.

Credit/Lending: Aave

Credit delegation

- The delegator has sole discretion to determine who is an eligible borrower and what contract terms are sufficient.
- Credit delegation terms can be mediated by a smart contract.
- The delegated liquidity can be given to a smart contract, and the smart contract can use the liquidity to accomplish its intended function.
- The underlying benefit of credit delegation is that all loans in Aave are ultimately backed by collateral, regardless of whose collateral it is.

Credit/Lending: Aave

Example

- A supplier has a balance of 40,000 DAI in Aave earning interest.
- The supplier wants to increase their expected return via an unsecured delegation of their collateral to a trusted counterparty.
- The supplier likely knows the counterparty through an off-chain relationship, perhaps it is a banking client.

Credit/Lending: Aave

Example

- The counterparty can proceed to borrow, for instance, 100 ETH with the commitment to repay the asset to the supplier plus an agreed-upon interest payment.
- The practical impact is that the external relationship is unsecured because no collateral is available to enforce payment; the relationship is based essentially on trust.

Credit/Lending: Aave

Summary

- Aave flash loans offer extra returns to suppliers (incentives liquidity)
- Attracts arbitrageurs and other applications that require flash liquidity
- Stable borrow rates are compelling
- Credit delegation allows loan providers to take their own collateral in the form of nonfungible Ethereum assets, perhaps tokenized art or real estate not supported by the main Aave protocol.

Credit/Lending: Aave

Traditional Finance Problem	Aave Solution
<i>Centralized Control:</i> Borrowing and lending rates controlled by institutions.	Aave interest rates are controlled algorithmically.
<i>Limited Access:</i> Only select groups have access to large quantities of money for arbitrage or refinancing.	Flash loans democratize access to liquidity for immediately profitable enterprises.
<i>Inefficiency:</i> Suboptimal rates for borrowing and lending due to inflated costs.	Algorithmically pooled and optimized interest rates.
<i>Lack of Interoperability:</i> Cannot monetize or utilize excess collateral in a lending position.	Credit delegation allows parties to use deposited collateral when they do not need borrowing liquidity.
<i>Opacity:</i> Unclear collateralization of lending institutions.	Transparent collateralization ratios of borrowers visible to the entire ecosystem.