

Ajna ELI5 (explain it to me like I am 5)

The Ajna protocol is a decentralized lending platform that allows users to create peer-to-peer secured loans without the need for governance or external price feeds. Ajna solves the problems of current lending protocols by automating as many parameters as possible. The protocol allows anyone to create a lending pool with any collateral, and by using market-derived interest rates and liquidation bonds to ensure fair outcomes.

What are the problems that Ajna is solving?

- Protocols (Maker, Aave, Compound) [whitelist the collaterals](#) that can be added
 - Protocols need liquid collaterals that can be liquidated in a price crash
- Interest rates are set by governance.
 - Setting of rates can be manipulated by different parties with conflicting agendas
 - The interest rate might not be optimal because it is not decided by market forces
- Collateralization ratios are set by governance and risk teams.
 - Lots of time and effort are spent by risk teams to determine safe numbers
- Lending protocols rely on Oracles to determine if loans need to be liquidated
 - Oracles can be temporarily manipulated ([Mango Markets manipulated](#))
 - Aave was recently [attacked on one of the smaller collaterals CRV](#)
 - The biggest oracle Chainlink is [managed by 4 of 9 multisig](#)
- Current [lending markets which can have NFTs as collateral](#) also require a [whitelist](#) or [verified collections](#).
 - Only the top NFT collections get whitelisted because in a liquidation, lending protocols want liquidity

What is Ajna and how does it solve the above problems?

- Ajna is permissionless. Anyone can start a lending pool with any collateral, quote-token.
- Pool utilization automatically determines interest rates.
- Lenders determine collateralization ratios.
 - Market forces make Ajna a more efficient lending market
- Lenders determine worst case price levels for collaterals. Independent kickers who post liquidation bonds set off collateral auctions.
 - This removes the need for Oracles
- The peer to peer loan pools also work for NFTs.
 - Ajna doesn't need whitelists for any pools that have an NFT or NFT collection as collateral
- Once the Ajna protocol is deployed, the protocol is immutable

Ajna takes inspiration from the decentralized exchange platform Uniswap, and aims to be the Uniswap of lending. Like Uniswap, Ajna allows anyone to create a pool consisting of a quote token (ERC20) and a collateral token (ERC20 or NFT). Lenders deposit quote tokens at specific price levels, while borrowers deposit collateral tokens and then take out quote tokens. If a loan becomes under-collateralized, it is eligible for a liquidation in a reverse dutch auction. This process allows Ajna to operate as a permissionless, decentralized, scalable lending platform.

Use Cases (Stablecoin/Stablecoin, Leverage, NFT borrowing, Shorting Markets)

Ajna's flexibility allows for a variety of use cases. For example, stablecoin collateral and stablecoin quote token can be used, such as USDT quote token and USDC as collateral token. The lowest collateralization ratio is only possible with Ajna, because this parameter is set by governance on other protocols. Ajna is believed to be the most efficient stablecoin to stablecoin lending market for this reason.

Another example is leverage of regular crypto tokens. Large and liquid tokens are serviced well by existing defi protocols, but have the issue of high collateralization ratios. Ajna's use of lenders choosing collateralization ratios and lack of oracles creates greater efficiency. Where current protocols would just reject lower tier tokens, Ajna creates a possibility for these less liquid names to have a lending or leverage market.

NFT borrowing is another use case for Ajna. In the current market, only the top 20 collections are serviced, but Ajna has no such limitation. It can be used by current NFT owners to get loans instead of selling their assets, and can additionally be used with flash loans to help finance the initial purchase of NFTs. This is especially useful for newer projects.

Ajna can help create shorting markets. By making an "XYZ" token the quote token and a stablecoin the collateral token, a borrow market is created where "XYZ" tokens can be taken out and shorted. This can be used for pure speculation on the "XYZ" token's price going down. Market makers need access to these kinds of facilities to create efficient sell side liquidity. The provider of the "XYZ" token can earn short term interest without locking into long term stakes. The breadth of possible shorting markets is what makes Ajna unique among current defi protocols.

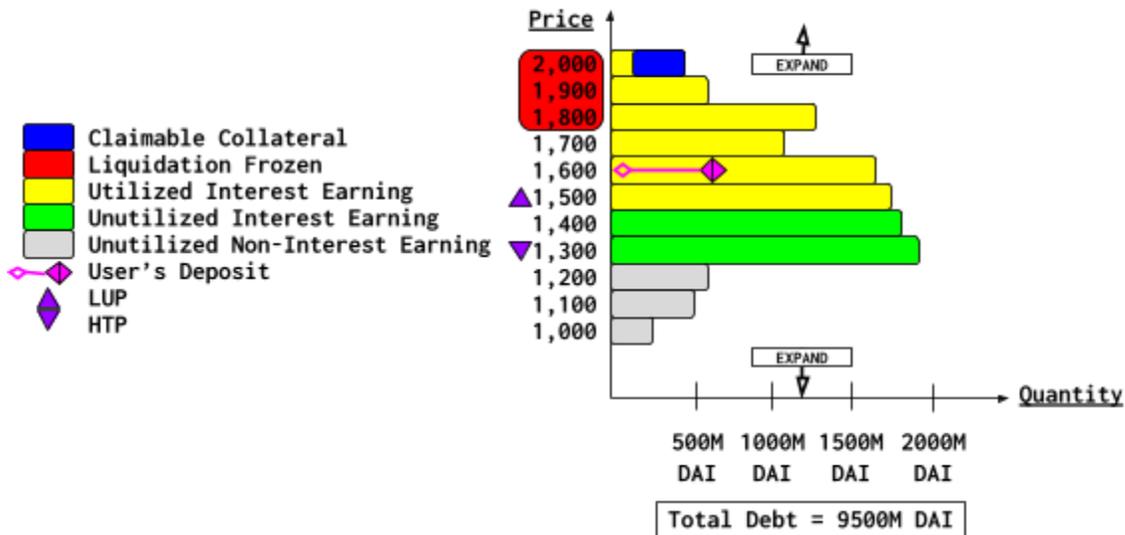
Borrow

In the Ajna protocol, borrowers can take out loans by pledging collateral to a lending pool and withdrawing quote tokens. If they use a non-fungible token (NFT) as collateral, they must pledge the entire NFT. A loan is considered fully collateralized when its debt is less than the value of its collateral, valued at the lowest utilized price (LUP) in the pool. Each loan has a threshold price (TP) which is determined by the borrower and determines if the loan is eligible for liquidation. If a loan becomes undercollateralized, it is eligible for liquidation.

Lending

In the Ajna protocol, lenders deposit quote tokens into specific price buckets and are credited with LPB (Liquidity Provider Balance) units. They can optionally self mint LPB tokens in the form of a non-fungible token (NFT) which represents a transferable version of their LPB in the pool. The deposited quote tokens increase the pool's quote token balance and the total sum of deposits across all price buckets. Deposits in the highest priced buckets offer the most liquidity to borrowers, but are also the first to be used to purchase collateral if a loan is liquidated. The lowest utilized price, or LUP, is a critical value in Ajna as it determines which loans are eligible for liquidation. Lenders cannot withdraw their deposit if doing so would cause the LUP to move below the highest threshold price (HTP) of the least collateralized loan. The loan Threshold

Price is defined as Loan Value in Quote Token terms divided by Collateral number of Units, the worst collateralized loan will have the Highest Threshold Price (HTP). Deposits above the HTP earn interest at the same rate, while deposits below the HTP earn no interest.



Interest Rates

The interest rates are determined by the utilization of the pool. If there is a surplus of lenders, the rates will be lowered, and if there is a shortage of lenders, the rates will be increased. This allows for a more efficient lending market. Please see [whitepaper](#) for exact details.

Auctions (Kicking an auction, Reverse Dutch Auction of Collateral)

Ajna pools have rules that prevent people (called "kickers") from starting spurious auctions unless they post a bond first. If the auction sells the loan for more than a protocol calculated Neutral Price (NP), the kicker loses some or all of their bond. If the auction sells the loan for less than that NP, the kicker gets their bond back plus a reward. Once an auction is "kicked", borrowers have an hour to "fix" their loan, otherwise anyone may purchase portions of the collateral via a reverse Dutch auction

Please see [whitepaper](#) for more information.

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