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2. Can users get yield from collateral?

- Users can earn yield from collateral in cryptocurrency through crypto lending and yield farming.
    a. **Crypto lending:**
    It is a decentralized finance (DeFi) service that allows investors to lend their crypto holdings to borrowers in exchange for regular interest payments. Borrowers can use their crypto holdings as collateral to secure cash loans. Crypto lending platforms can be centralized or decentralized, and lenders may receive annual percentage yields (APYs) of up to 20%. The interest earned is called "crypto dividends" and is usually paid in the same cryptocurrency that was deposited. Payments are typically compounded on a daily, weekly, or monthly basis. There are two main types of crypto lending platforms: decentralized crypto lenders and centralized crypto lenders. Both offer access to high interest rates, sometimes up to 20% annual percentage yield (APY), and both typically require borrowers to deposit collateral to access a crypto loan.
    b. **Yield farming**:
    It is another way to earn money with crypto. Yield farming techniques allow users to connect their cryptocurrency wallets and commit coins and tokens to a lending pool with others.
    Yield farming is a high-risk, volatile investment strategy that involves investors staking, or lending, cryptocurrency assets on a decentralized finance (DeFi) platform to earn a higher return. Also known as *liquidity mining*, refers to the lending or staking of cryptocurrency in decentralized finance (DeFi) protocols to earn additional tokens as a reward. Yield farming has become popular because it offers the potential to earn higher returns compared to traditional saving methods.
    An investor may receive payment on the return in additional cryptocurrency. The most common way to yield a farm is by depositing crypto assets into a decentralized lending or trading pool to provide liquidity.

3. What is an Arbitrage mechanism?

- Arbitrage is the simultaneous purchase and sale of the same or similar asset in different markets in order to profit from tiny differences in the asset’s listed price. It exploits short-lived variations in the price of identical or similar financial instruments in different markets or in different forms.

Arbitrage can be used whenever any commodity, stock, or currency may be purchased in one market at a given price and simultaneously sold in another market at a higher price. The situation creates an opportunity for a risk-free profit for the trader.
Arbitrage provides a mechanism to ensure that prices do not deviate substantially from fair value for long periods of time. With advancements in technology, it has become extremely difficult to profit from pricing errors in the market. Many traders have computerized trading systems set to monitor fluctuations in similar financial instruments. Any inefficient pricing setups are usually acted upon quickly, and the opportunity is eliminated, often in a matter of seconds.
As a straightforward example of arbitrage, consider the following: The stock of Company X is trading at $20 on the New York Stock Exchange (NYSE), while, at the same moment, it is trading for $20.05 on the London Stock Exchange (LSE). A trader can buy the stock on the NYSE and immediately sell the same shares on the LSE, earning a profit of 5 cents per share.

4. How can someone mint CDP?

- Collateralized Debt Position (CDP) is a smart contract-based system that enables users to lock up their cryptocurrency holdings as collateral to generate loans in the form of stablecoins or other tokens. The most prominent example of CDPs is the decentralized finance (DeFi) space, where platforms like MakerDAO pioneered the concept.In a typical CDP arrangement, users lock up a certain amount of cryptocurrency, often Ethereum (ETH), in a smart contract. The smart contract then mints a proportional amount of stablecoins, such as DAI, against the locked collateral. These stablecoins can be used for various purposes, including trading, investing, or simply as a stable store of value.
  Stablecoins like USDT, USDC, and PAX are collateral-backed cryptocurrencies, typically pegged to major fiat currencies such as the USD. Users exchange fiat)currency for stablecoins, with each token expected to be backed by a dollar held by the issuer. MakerDAO's CPD system enables issuing stablecoins like DAI without a central issuing party, using crypto assets as collateral instead of fiat currency. Initially, only Ether (ETH) was supported as collateral, but now other cryptocurrencies like ZRX, TUSD, and USDC are accepted. To hedge against volatile crypto prices, collateral must be at least 1.5 times the value of issued DAI. If collateral value drops below 150%, the position is uncollateralized, incurring a 13% liquidation penalty and a stability fee. Users deposit collateral into a contract and can mint a synthetic asset, ensuring the collateral-to-borrowed value ratio stays above a set threshold. Overcollateralization is standard, requiring the collateral value to significantly

exceed the borrowed asset's value. Falling below the minimum collateral ratio triggers liquidation. The CDP system ensures stability and security by maintaining collateralization ratios and applying penalties for under collateralization.

The way a CDP works is a user typically is required to deposit collateral into a contract, and then can mint a max amount of the borrowed synthetic asset (iAsset in the case of Indigo). The user must keep the ratio of value of collateral / value of borrowed asset greater than some threshold. Most protocols require overcollateralization. This means that you must deposit enough tokens of the collateral so that the value is over 100% (usually well over 100%) of the value of the minted/borrowed asset. The minimum required collateral ratio is that minimum amount you must have or you will get liquidated (more on that below).

*Collateral Ratio (CR) = (Price of Collateral * deposited amount of Collateral) divided by (Price of Minted/Borrowed Asset * amount of Minted/Borrowed Asset)*

5. How can someone redeem CDP?

- A collateralized debt position (CDP) can be redeemed when the assets are sold, the proceeds are used to pay off the debt, and the remaining amount is paid to the equity.

  In a security token CDP, holders can redeem their crypto-securities if at least one issuer remains solvent for the highest LVR score tranche. For each lower LVR score tranche, at least that many issuers must remain solvent for redemption to be possible. For example, holders of the tranche with the second lowest LVR score can redeem their crypto-securities if at least two issuers remain solvent. The lowest LVR score tranche can only be redeemed if all issuers remain solvent.

  Users should monitor their CDPs to ensure they remain adequately collateralized. If the collateral value falls below a certain threshold, users may need to add more collateral or repay part of the debt to avoid liquidation.

  If the user’s CR drops below the minimum required collateral ratio, that user will be liquidated. What that means is that the user will lose all of their collateral that they deposited, and be left with just the minted/borrowed asset. The user will end up with a loss if their CR is still above 100%. The liquidators will make money in this case as well.

  For example Indigo Protocol creates liquidation pools that allow users to deposit their minted/borrowed iAssets into the liquidation pool for yield. If all goes smoothly, the users will just earn yield on their deposited iAssets (think of this as single sided, no Impermanent Loss). However, if there are any CDPs in the protocol that can be liquidated on that iAsset, the Liquidation Pool will burn the

needed amount of iAsset in the Liquidation Pool and cover the CDP. So the users who deposit in the Liquidation Pool will lose any or all of their deposited iAsset, and they will receive the collateral from the liquidated CDP.