Cryptocurrency exchanges, such as Binance or Coinbase, allow users to buy and trade crypto currencies with one another. They use an order book system which allows people to set purchase and sell prices, buy at market price and other order types.

These exchanges are centralised, meaning they have a central body like a traditional bank. This means users transfer their funds to an intermediary custodian to have their trades facilitated. Unfortunately, because centralised exchanges are controlled by people and they are the custodians of peoples’ funds, this defeats ethos of cryptocurrency and the control of your own assets/property. This also means that whilst the exchange holds your funds, they can utilise the equity, just like a regular bank.

They also require “Know Your Customer” (KYC) meaning in theory, what users thought was a way to avoid anything from taxes to authoritarian governments can be just as vulnerable to government regulation and intervention as a regular bank account.

Various exchanges are known for charging transaction fees that vary from as little 0% depending on the activity to more than 1%, and even negative interest, dependent on certain requirements.

This is where Decentralised Exchanges (DEX) come into play.

These exchanges operate without a central body, like a centralised exchange or a traditional bank. The central authority is replaced with a smart contract that’s written on a particular blockchain, for example Ethereum or Binance Smart Chain. This means that the tokens being traded must be built on the same blockchain platform, which limits the available tokens to the individual unless they use multiple DEXs and pools of funds at a time.

A smart contract is a piece of code that allows two parties to enter into an agreement; if both parties fulfil their obligations of the contract, then the smart contract will work as it should. If one party doesn’t do what they agreed to, the smart contract will not allow the transaction to take place.

DEXs do not require KYC, meaning a user can stay fully anonymous.

There is no need to trust a central authority, however the user must trust and know how to use the DEX properly. Most of the time, a DEX wont have any support system, so if you make a mistake during a trade, you’re on your own.

COSTS

Rather than an order book, DEXs use an automated market maker (AMM) which is written into the contract. The DEX holds the same amount of every token tradable on the DEX, meaning when a user does a trade, they are trading with a pool of funds rather than waiting for another user to complete their trade. The smart contract keeps a balance of liquidity between each pair of currencies in the trade. This decides the price impact based on how much your ‘buy’ changes the price of the token on that DEX. The AMM price impact can be anything from less than 0.01% to too much to make the trade worth it. The price impact is split the liquidity providers and the AMMs treasury.

The blockchain transaction fee can be as little as 1c, all the way to $500, depending on the blockchain the DEX is built on and the amount of congestion on the network.

Slippage cost is the percentage amount that the purchaser chooses to potentially pay over their asking price to ensure their trade goes through. For example, if a user wants to pay for 1 token that is currently $10, by the time their trade goes through, the price of that one token could have increased. If the user states that they are prepared to pay an extra 5% for that 1 token, that increases the chance of their transaction being completed.