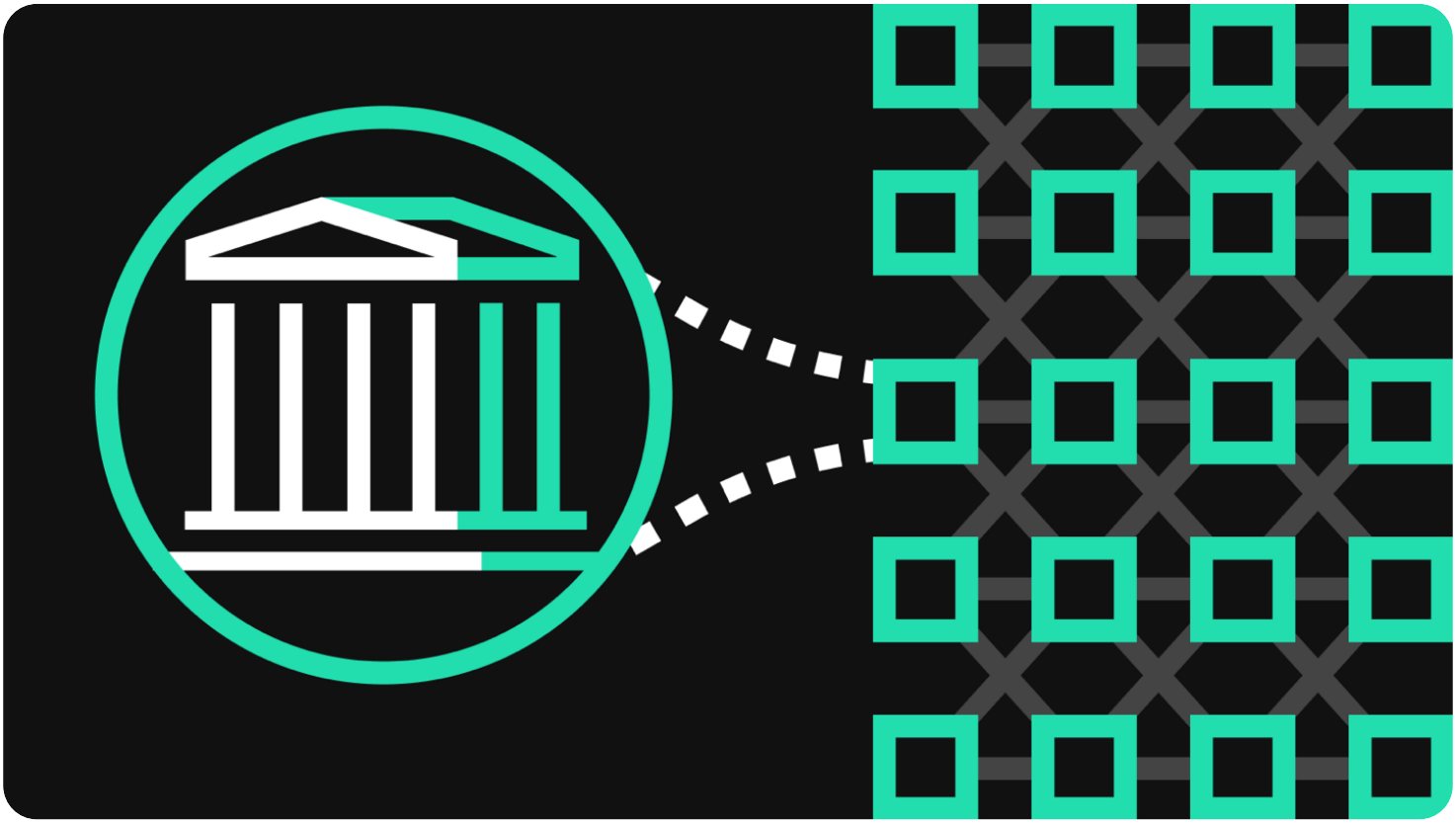

A Beginner's Guide to Decentralized Finance (DeFi)

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TL;DR

DeFi lets users access crypto financial services with just no more than a wallet with some crypto. A range of DApps facilitates lending, liquidity provision, swaps, staking, and more across many blockchains.

While Ethereum was DeFi's original home, most blockchains with smart contract capabilities now host DeFi DApps. Smart contracts are essential to the services DeFi offers, which include staking, investing, lending, harvesting, and more.

So far, DeFi has allowed people to optimize their yield, join decentralized marketplaces, access banking services, and engage in quick borrowing and lending. However, DeFi isn't without its risks, and you should always research any project carefully before taking risks.

Introduction

Entering the DeFi world can be exciting to many but confusing as well. After some time HODLing, it's common to wonder how you can squeeze some extra gains out of your portfolio. However, there's a lot to unpack when it comes to DeFi.

When used responsibly, DeFi DApps and projects can become powerful tools. But if you jump in too soon, it's easy to become overwhelmed and make unwise investment decisions. The best way to get involved is to learn the risks and find what's suitable for you. With this in mind, let's explore the basics you'll need when starting your DeFi journey.

What is Decentralized Finance (DeFi)?

Decentralized finance (or simply DeFi) refers to an ecosystem of financial applications built on blockchain networks.

More specifically, the term DeFi may refer to a movement that aims to create an open-source, permissionless, and transparent financial service ecosystem. One that is available to everyone and operates without any central authority. The users would maintain complete control over their assets and interact with this ecosystem through peer-to-peer (P2P), decentralized applications (DApps).

The core benefit of DeFi is enabling easy access to financial services, especially for those who are isolated from the traditional financial system. Another advantage of DeFi is the modular framework it's built upon, with interoperable DeFi applications on public blockchains. These have the potential to create entirely new financial markets, products, and services.

What are the main advantages of DeFi?

Traditional finance relies on institutions such as banks to act as intermediaries and courts to provide arbitration.

DeFi applications don't need any intermediaries or arbitrators. The code specifies the resolution of every possible dispute, and the users maintain control over their funds at all times. This automation reduces the costs associated with providing and using these products and allows for a more frictionless financial system.

As these new financial services are deployed on top of blockchains, single points of failure are eliminated. The data is recorded on the blockchain and spread across thousands of nodes,

making censorship or the potential shutdown of a service a complicated undertaking.

Another significant advantage of such an open ecosystem is the ease of access for individuals who otherwise wouldn't have access to any financial services. Since the traditional financial system relies on the intermediaries making a profit, their services are typically absent from locations with low-income communities. However, with DeFi, the costs are significantly reduced, and low-income individuals can also benefit from a broader range of financial services.

What are the potential use cases for DeFi?

Borrowing and lending

Open lending protocols are among the most popular application types in the DeFi ecosystem. Open, decentralized borrowing and lending have many advantages over the traditional credit system. These include instant transaction settlement, no credit checks, and the ability to collateralize digital assets, no credit checks.

Since these lending services are built on public blockchains, they minimize the amount of trust required and have the assurance of cryptographic verification methods. Lending marketplaces on the blockchain reduce counterparty risk and make borrowing and lending cheaper, faster, and available to more people.

insurance.

As the blockchain industry matures, there's an increased focus on creating stablecoins. They

are crypto assets usually pegged to real-world assets that are easily digitally transferable. As cryptocurrency prices can fluctuate rapidly at times, decentralized stablecoins could be adopted for everyday use as digital currencies that are not issued and monitored by a central authority.

Because of the number of intermediaries involved, getting a mortgage is expensive and time-consuming. With smart contracts, underwriting and legal fees could be reduced significantly.

Insurance on the blockchain could eliminate the need for intermediaries and allow the distribution of risk between many participants. This could result in lower premiums with the same quality of service.

If you'd like to read more on the subject of blockchain and banking, check out How Blockchain Technology Will Impact the Banking Industry.

Decentralized marketplaces

Some of the most popular DeFi applications available are Decentralized Exchanges (DEXs), such as Binance DEX. These platforms allow users to trade digital assets without needing a trusted intermediary (the exchange) to hold their funds. The trades are made directly between user wallets with the help of smart contracts.

Some exchanges, known as Automated Market Makers (AMMs), use liquidity pools to facilitate trading without directly needing a counterparty to match your trade. Uniswap and Pancake Swap are two of the best-known examples. Since they require less maintenance work and managing, decentralized exchanges typically have lower trading fees than centralized exchanges.

Blockchain technology may also be used to issue and allow ownership of a wide range of conventional financial instruments. These applications would work in a decentralized way that cuts out custodians and eliminates single points of failure.

Security token issuance platforms, for example, may provide the tools and resources for issuers to launch tokenized securities on the blockchain with customizable parameters.

Other projects may allow the creation of derivatives, synthetic assets, decentralized prediction markets, and many more.

Yield optimization

DeFi DApps can be used to automate and optimize the compound of yield gained from staking, reward pools, and other interest-bearing products. You may sometimes hear yield optimization referred to as yield farming.

For example, you might receive regular rewards from Bitcoin mining, delegating BNB, or providing liquidity. A smart contract can take your rewards, purchase more of the underlying asset, and reinvest it. This process will compound your interest, often significantly raising your returns.

Of course, you can do this manually. Using a smart contract, however, saves time and optimizes compounding. Your funds are usually pooled together with other users', meaning that gas fees are shared across all members of the yield optimizing smart contract.

What role do smart contracts play in DeFi?

Most of the existing and potential applications of decentralized finance involve creating and executing smart contracts. While a usual contract uses legal terminology to specify the terms of the relationship between the entities entering the contract, a smart contract uses computer code.

Since their terms are written in computer code, smart contracts have the unique ability to enforce those terms in an automated manner. This enables the reliable execution and automation of many business processes that currently require manual supervision.

Using smart contracts is faster, easier, and reduces the risk for both parties. On the other hand, smart contracts also introduce new types of risks. As computer code is prone to have bugs and

vulnerabilities, the value and confidential information locked in smart contracts are at risk.

What challenges does DeFi face?

- **Poor performance:** Blockchains are inherently slower than their centralized counterparts, affecting the applications built on them. The developers of DeFi applications need to take these limitations into account and optimize their products accordingly.
- **High risk of user error:** DeFi applications transfer the responsibility from the intermediaries to the user. This can be a negative aspect for many. Designing products that minimize the risk of user error is a tough challenge when the products are deployed on top of immutable blockchains.
- **Bad user experience:** Currently, using DeFi applications requires extra effort on the user's part. For DeFi applications to be a core element of the global financial system, they must provide a tangible benefit that incentivizes users to switch over from the traditional system.
- **Cluttered ecosystem:** It can be a daunting task to find the most suitable application for a specific use case, and users must have the ability to find the best choices. The challenge is not only building the applications but also thinking about how they fit into the broader DeFi ecosystem.

What are the risks of DeFi?

While the DeFi world can offer appealing APYs, it is not without risks. Even though they are decentralized, you are essentially consuming financial services, and some of the risks are familiar:

1. **Counterparty Risk:** If you take part in crypto loans or any other kind of lending, you're at risk

of the counterparty not repaying their debt.

2. **Regulatory Risk:** The legality of certain services and projects can be difficult to ascertain. If you are invested in a smart contract that is subsequently shut down due to regulatory problems, then your funds can be at risk.

3. **Token Risk:** The assets you hold have different risk levels affected by their liquidity, trustworthiness, token smart contract security, and associated project and team. As the DeFi pace has many low market-cap tokens, token risk can be particularly high.

4. **Software Risk:** Code vulnerabilities can undermine the security of smart contracts you're invested in. Your wallet could also be compromised due to connecting to DeFi DApps and giving them certain permissions.

5. Impermanent Loss: If you're staking in liquidity pools, divergences away from the price ratio you entered at will cause you to lose some tokens deposited in the pool if you withdraw.

Where can I find DeFi projects?

Ethereum has long been the traditional home of DeFi. However, there are now many blockchains to choose from with healthy DeFi ecosystems. Almost any network with smart contract capabilities can host DeFi DApps. BNB Smart Chain is a popular choice, along with Fantom, Solana, Polkadot, and Avalanche.

Finding projects and DeFi protocols will require some research. Online forums, messengers, and websites can help you learn about new opportunities. However, you need to be extremely careful with any information you find. Always be cautious and double-check the safety of any project you read or hear about.

What do I need to access DeFi projects?

To connect to DeFi DApps, you'll need:

1. A compatible wallet. A browser extension wallet like MetaMask or a mobile one such as Trust Wallet will do the job. A custodial wallet (one where you don't own the private keys) is less likely to allow you to connect to DApps.

2. Crypto. This seems obvious, but you might need a mixture of assets. For example, using any DApp on BNB Smart Chain will require BNB to pay your gas fees. Ethereum will require Ether (ETH). If you want to get started with liquidity pools and stake manually, you'll need a pair of coins of equal monetary value.

At its most basic, that's all you'll need. If you don't feel comfortable setting this up yourself, you can still access some DeFi services through a centralized entity. We'll cover this in a later section discussing centralized finance (CeFi).

DeFi vs traditional finance

Arguably the most significant difference between DeFi and traditional finance is accessibility. Anyone can create a wallet and begin using DeFi services so long as they have some crypto. There are no sign-ups or identity verification needed. To access traditional finance services, Know Your Customer (KYC) checks must be completed and other conditions met. This fundamental difference makes DeFi accessible to the unbanked, improving financial inclusion.

DeFi also offers financial services that aren't available in the traditional realm. By layering different DeFi services (sometimes known as DeFi legos), it's possible to create brand new products that utilize multiple platforms. This flexibility allows for innovative products that anyone can develop strategies for.

DeFi vs centralized finance (CeFi)

Even in the crypto world, not every financial service is decentralized. For example, staking through a centralized exchange like Binance often requires you to give up custody of your tokens. In this case, you must trust the centralized entity that deals with your funds.

The majority of the services offered will be the same. They likely are done through the same DeFi platforms that a user can access directly. However, CeFi takes away the often complicated nature of managing DeFi investments yourself. You may also have extra guarantees on your deposits.

CeFi is neither worse nor better than DeFi. Its suitability depends on your wants and needs. While you may sacrifice some control in CeFi, you often receive stronger guarantees and offload some responsibility for handling assets and executing transactions.

What is the difference between DeFi and open banking?

Open banking is a banking system where third-party financial service providers are given secure access to financial data through APIs. This enables the networking of accounts and data between banks and non-bank financial institutions. Essentially, it allows for new products and services within the traditional financial system.

DeFi, however, proposes an entirely new financial system that is independent of the current infrastructure. DeFi is sometimes also referred to as open finance.

For example, open banking could allow the management of all traditional financial instruments in one application by securely drawing data from several banks and institutions.

Decentralized finance, on the other hand, could allow the management of entirely new financial instruments and new ways of interacting with them.

Closing thoughts

Decentralized finance is focused on building financial services separate from the traditional financial and political system. This would allow for a more open financial system and could potentially prevent precedents of censorship, financial surveillance, and discrimination worldwide.

While a tempting idea, not everything benefits from decentralization. Finding the use cases that are most suitable for the characteristics of blockchains is crucial in building a valuable stack of open financial products.

If successful, DeFi could take power away from large centralized organizations and put it in the hands of the open-source community and the individual. Whether that will create a more efficient financial system will be decided once DeFi is ready for mainstream adoption.

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