

# Digital Assets: A Window into the New Economy.

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# Introduction

Anyone staring out at a landscape from a window – knows it is impossible to take it all in at once.

And so, it is with the vast digital landscape taking over the financial world today.

The best that can be hoped for is to get a general understanding of the lay of the land and only to really get to know the terrain once you are out on the ground.

Given the massive changes going on in global finance and monetary systems the entire world financial order is being turned on its head.

Few people could envisage what changes would be unleashed the day that a certain Satoshi Nakamoto published his White Paper describing a digital cryptocurrency, titled “Bitcoin: A Peer-to-Peer Electronic Cash System” on 31 October 2008.

This paper is designed to provide the uninitiated reader a glimpse through the window into the new digital landscape that is now spreading around the world.

By design the paper is non-technical and descriptive.

It aims to cover some general foundational concepts to help the reader understand the area better.

Much like someone standing atop the Eiffel Tower and looking out over Paris – there will be a lot more discovery to be done – for those who are keen to do a deep dive into the streets and suburbs of the digital world.



# 1 Description of Foundational Concepts

**A Blockchain is an expanding set of records, gathered together into 'blocks' which are linked together using cryptography.**

Let us begin by asking some general questions around foundational concepts.

## **What is Blockchain?**

A blockchain to put simply, is an online record of transactions.

These could be transactions for:

- Money
- The movement of goods
- Exchanges in information

Taking the above definition and building on it, a blockchain is an expanding set of records, gathered together into 'blocks' which are linked together using cryptography.

It's a way to keep records, but there are many other ideas built on top of that basic concept.

The first of these ideas is about how blockchain stores those records.

Most people refer to this as distributed ledger technology.

In a distributed ledger a record of every transaction is held in many locations at the same time.

As a result, every time something in the blockchain is changed, everyone in the network is alerted about it - and has to consent to the changes.

This makes a blockchain incredibly difficult to hack into and change records as it would require someone to be able to change every single record at the exact same time.

## **Key Factors about Blockchain**

There are a number of key variables that makes blockchain such an exhilarating innovation.

Most importantly it's decentralized. The internet today as we know it is mostly centralized.

A lot of the services and sites you visit, store and keep your data in a database. Your bank, Netflix, Google, you name it, they all operate in a centralized system.

The blockchain meanwhile, is a decentralized system.

That means that the data lives on the network, instead of in one place.

## Why is that a good thing?

In the present centralized system, there are a number of challenges.

**Security** - If these centralized databases are hacked into, they can expose all the data at once. This has happened numerous times and you may have heard of things like Ransom Ware attacks in the news.

**Cost** – Constructing a centralized systems is generally exorbitantly expensive as a company needs to have all the digital capacity and infrastructure to make its system run smoothly.

**Data ownership** - In these centralized systems, your data is not your data and therefore the networks you give your data too make money out of it.

**Transparency** - How information gets used, by whom and for what is a bit of a grey area today.

A decentralized internet can address the above weaknesses.

**A blockchain doesn't require much trust, as it allows anyone to exchange goods or services without a third party. No more middlemen.**

## Why is Blockchain so special?

It's because it is a 'trust less system'.

As we all know when we buy things online, there are a number of external parties we have to trust.

Whether it is the seller, the payment system, a bank or even a website.

A blockchain doesn't require much trust, as it allows anyone to exchange goods or services without a third party. No more middlemen.

Many of today's networks are controlled by middlemen or agencies that often charge for the flow of information.

In a blockchain, there is no such centralised control, which can lead to lower costs and speedier transactions.

## Transparency

In a public blockchain like Bitcoin (there are private blockchains) anyone can see transactions, making it easier to track the flow of goods or services.

No one is in control.

Because blockchain is a decentralized system, it means no one person or group can control the system, meaning things can only change via consensus.

## 2 What is DLT?

Just as was the case with the internet in its infancy we are at the beginning of what this technology can do.

A distributed ledger is an online record of data and transactions. It is data stored in multiple places at the same time. DLT is the collective name given to any technology which uses this kind of system.

Some well-known examples of DLT include:

**Cryptocurrency** - A digital currency like Bitcoin or Ethereum.

One of the biggest uses of DLT we see today is to keep a record of monetary transactions

**Blockchain** - A decentralised system for recording transactions. Blockchain was first used to store transactions on the Bitcoin network. Blockchain is probably the most widely known example of DLT. But there are many others.

**Git** - Git is distributed source control software.

Git is everywhere.

### A New Movement

DLT's are creating a version of the internet that is both decentralised and distributed.

In a decentralised model, the value and benefits can be shared across a network of users.

Typically, large companies capture and control this value themselves.

If DLT's are built successfully it can mean:

- More accessibility
- More transparency
- More efficiency
- Higher user reward
- New possibilities

### The Future

Just as was the case with the internet in its infancy we are at the beginning of what this technology can do. The internet also faced a number of challenges, especially when it came to scaling.



DLT is no different.

The majority of applications of DLT are yet to be discovered.

However, the space is moving incredibly quickly, and developers are building new solutions all the time.

The future is distributed.

## What can Blockchain be used for?

**Energy** - Person-to-person energy swapping. Potentially between borders.

**Supply Chains** - Track all sorts of shipments with complete transparency. Connecting records as items pass across many different handlers.

**Open Data Marketplaces** - Large open-source platforms to exchange big-data anonymously. Data is often described as the lifeblood of internet businesses.

**Governments** - Blockchain technology could be used to increase speed and visibility in the public sector.

**Auditing & Regulating** - Although not typically implemented, blockchain technology could be set up to be a looking glass into public transactions making regulatory roles significantly faster and easier.

**Insurance** - Make insurance more transparent, with set conditions for payouts.

**The Internet of Things** - Connecting smart devices to the Internet of Things and the sharing economy.

Blockchain started with Bitcoin, but there are no limits to where this technology could go in future.

Projects like Ethereum have taken the principles of blockchain and taken it in new directions.

But that's just the beginning.



# 3 What is Decentralized Finance (DeFi)?

**DeFi is an umbrella term for a variety of applications and projects in the public blockchain space geared toward disrupting the traditional finance world.**

Cryptocurrencies have exploded into a trillion-dollar industry today, sparking a wave of worldwide financial disruption.

At the heart of cryptocurrencies is a remarkable history of innovation that goes back to the 1980s, with advancements in cryptography.

Since then, a series of events have shaped crypto space, the first cryptocurrency, Bitcoin, being the most prominent. Things change quickly in the crypto space, and DeFi is a current trend — it's an exciting space to be, undoubtedly.

DeFi is an umbrella term for a variety of applications and projects in the public blockchain space geared toward disrupting the traditional finance world.

Inspired by blockchain technology, DeFi is referred to as financial applications built on blockchain technologies, typically using smart contracts.

Smart contracts are automated enforceable agreements that do not need intermediaries to execute and can be accessed by anyone with an internet connection.

DeFi consists of applications and peer-to-peer protocols developed on decentralized blockchain networks that require no access rights for easy lending, borrowing, or trading of financial tools.

Most DeFi applications today are built using the Ethereum network, but many alternative public networks are emerging that deliver superior speed, scalability, security, and lower costs.

## **Why Smart Contracts?**

Most smart contracts offer programming languages that allow multiple parties to interact with each other, without needing a centralized intermediary.

Blockchain's ability to capitalize on smart contracts has made them ideal platforms to choose when building out financial applications.

## **How did DeFi get its start?**

Humans bartered initially for goods and services.

But, as humans evolved, their economies evolved

We invented currency to make it easier to exchange goods and services.

Subsequently, coins helped usher in innovations and created better levels of economies.



However, progress comes at a cost.

Historically, central authorities have issued currencies that underpin our economies, which eventually gave them more power as more people began to trust them.

However, trust has been broken from time to time, which makes people question the centralized authorities' ability to manage the money it created.

DeFi was developed based on the idea of creating a financial system that is open to everyone and minimizes the need to trust and rely on a central authority.

Many people believe that DeFi started in 2009 with the launch of Bitcoin, which was the first p2p digital money built on top of the blockchain network.

Through Bitcoin, the idea of bringing transformation into the traditional financial world using blockchains became an essential next step in the decentralization of legacy financial systems.

The launch of Ethereum and, more specifically, smart contracts, in 2015 made it all possible.

The Ethereum network is a 2nd generation blockchain that first maximized the potential of this technology within the financial industry. It encouraged businesses and enterprises to build and deploy projects that formed the ecosystem of DeFi. DeFi brought a plethora of opportunities to bring about a transparent and robust financial system that no single entity controls.

But the turning point for financial applications started in 2017, with projects facilitating more functionalities in addition to just money transfer.

### **Challenges within centralized finance**

Financial markets can enable great ideas and drive the prosperity of society.

Still, power in these markets is centralized.

When people invest in the current financial system, they relinquish their assets to intermediaries, such as banks and financial institutions — this keeps the risk and control at the centre of these systems.

Historically, we've seen bankers and institutions failing to see risks in the market, as seen in the 2008 financial crisis.

Undoubtedly, when central authorities control money, risk accumulates at the centre and endangers the system as a whole.

Bitcoin and early cryptocurrencies, which were initially developed to give individuals complete control over their assets, were only decentralized when it came to issuance and storage.

Providing access to a broader set of financial instruments remained challenging, up until the emergence of smart contracts and that enabled DeFi.

# 4 DeFi Protocols and how they work

DeFi has grown into a complete ecosystem of working applications and protocols that deliver value to millions of users.

Assets worth over \$60 billion are currently locked in DeFi ecosystems, making it one of the fastest-growing segments within the public blockchain space.

Let's now examine some of the popular DeFi use cases and protocols available in the market today:

## **DeFi Lending and Borrowing**

DeFi gave finance a new direction by enabling lending and borrowing.

Widely regarded as 'Open Finance', decentralized lending offered crypto holders lending opportunities to gain annual yields. Decentralized borrowing allowed individuals to borrow money at a specific interest rate.

The aim of lending and borrowing is to serve financial service use cases while fulfilling the needs of the cryptocurrency community.

Let's look at Compound Finance as an example of DeFi lending and borrowing platform.

**Decentralized borrowing allows individuals to borrow money at a specific interest rate.**

## **How Does Compound (COMP) Work?**

COMP is the governance token for the Compound Decentralized Finance protocol.

Compound is an algorithmic money market protocol that lives on the Ethereum blockchain.

This network is credited with starting the current DeFi interest.

Compound accords with the general consensus of DeFi in terms of interoperability. The network is open to the integration of third-party assets and platforms.

Compound supports the use of API protocols to simplify the user experience.

This interoperability has led other platforms to build upon Compound's vision in unique ways.

Today, Compound users can leverage third-party market management tools in a seamless manner.

The project is a lending protocol developed on the Ethereum blockchain that allows users to gain interest by lending out assets or to borrow against collateral.

Using Compound doesn't take any technical understanding.

An investor simply need to understand what 'yield farming' is and how to lock up funds in the farming pools to start earning returns.

## **Yield Farming**

Compound was the first platform to introduce yield farming to the market in mid-summer 2020.

Yield farming protocols reside at the core of Compound's functionality. Currently, Compound supports the borrowing and lending of a selection of cryptocurrencies.

Specifically, you can lend and borrow a number of cryptocurrencies, some examples include Dai (DAI), Ether (ETH), and USD Coin (USDC).

Users of Compound earn interest by depositing cryptocurrencies.

Yield farming is similar to staking crypto in many ways. Users lock their cryptocurrency into large farming pools. The investor receives rewards based on the amount of crypto they lock and for how long they participate in the pool.

Unlike staking pools, yield farming pools feature much shorter lockup periods. Many offer no required lockup periods.

Once cryptocurrencies are supplied on the Compound platform, users can use them as collateral for loans.

## **Fully Autonomous**

Compound leverages audited smart contracts to accomplish these tasks in an autonomous manner.

The network's contracts take care of all vital functions on the network. Tasks such as storage, management, and the facilitation of all pooled capital are handled by these protocols.

## **Secure**

Compound maintains network security through various means. The network has undergone numerous security audits by reputable agencies like Open Zeppelin.

These organizations have certified the network's coding as sound and capable of handling the demands of the network securely.

## **Interoperability**

Interoperability is the ability of computer systems to exchange information and value.

It is a catalyst for blockchain and cryptocurrency adoption as it has the potential to create a network of blockchains by building bridges between them.



# 5 Decentralized Exchanges

**Decentralized Exchanges allow users to exchange or swap tokens with other assets, without a centralized intermediary or custodian.**

## Introduction

Decentralized Exchanges (DEX) are one of the essential functions of DeFi, with the maximum amount of capital locked compared to other DeFi protocols.

DEXs allow users to exchange or swap tokens with other assets, without a centralized intermediary or custodian.

Traditional exchanges (centralized exchanges) offer similar options, but the investments offered are subject to that exchange's will and costs.

The extra cost on each transaction is another negative aspect of CEXs, which DEXs address.

Let's now look at two popular Exchanges – UniSwap & Pancake Swap

## Uniswap

Arguably the most popular decentralized exchange (DEX) and automated market maker (AMM) built on the Ethereum network Uniswap boasts more than \$30 billion total value locked (TVL).

The Uniswap AMM facilitates peerless ERC-20 token swaps without the use of order books.

To initiate a swap, there does not need to be a buyer or a seller on the other side of the trade. This allows for super-fast swaps in a completely decentralized manner, free of intermediaries.

Furthermore, Uniswap does not require know-your-customer (KYC) information for users to participate. The Uniswap AMM has been a top performer in the DeFi Pulse rankings for several months.

Though competition in the space is at an all-time high, Uniswap remains the first-choice decentralized exchange (DEX) for many people.

Uniswap has certainly benefited from the network effect and early adoption of DeFi.

Uniswap has been present from the early stages of the development of the technology.

The Uniswap community mainly exists of a small group of highly competent developers and DeFi experts.

### **Swapping Tokens**

Users are required to create an account on Metamask to utilize this service.

Once a Metamask account is created, users can select tokens they own to swap for another type of cryptocurrency.

### **Adding Liquidity**

To provide liquidity, users deposit an equivalent value of tokens into the token's associated exchange contract

Once you have tokens for liquidity, you can add them to a "pool" on the UniSwap interface.

Users who provide liquidity on UniSwap earn exchange fees, calculated per the value of tokens offered for liquidity.

### **Removing Liquidity**

You can remove the liquidity on UniSwap by merely choosing the 'Remove Liquidity' option from a drop-down menu.

UniSwap token: \$UNI

\$UNI is the governance token of UniSwap, meaning the token holders have a say in the protocol's development and treasury.

The token was launched in September of 2020 and was awarded to anyone who has used Uniswap.



## **Pancake Swap**

PancakeSwap has seen a lot of interest in recent months. Essentially a clone of Uniswap, Pancake Swap provides a very similar user experience to Uniswap.

However, with rising Ethereum transaction fees and network congestion, a serious AMM competitor was bound to emerge. PancakeSwap is the number one AMM and yield farming platform on Binance Smart Chain.

Launched in September 2020, the platform has seen rapid adoption in recent times.

PancakeSwap is a marketing machine. Community engagement has been one of the most crucial factors in the success of the platform.

With a host of community incentives including non-fungible tokens including (NFTs), airdrops, competitions, and lotteries, PancakeSwap is creating a community of dedicated followers.

Customers stake the native CAKE token or provide liquidity to lending pools to earn CAKE rewards.

Rewards can be harvested and added to liquidity pools to earn fees, or compounded, with rewards issued with every block.

This creates a simple way to make passive income with DeFi.

### **Transaction Fees**

This has been one of the primary drivers in the success of PancakeSwap.

Ethereum gas fees cost hundreds of dollars per transaction. This can add up to a large portion of any profits, especially when trading smaller amounts on Uniswap.

### **Crypto Exchanges Compared**

With so many crypto exchanges compared to one another so often, it can be difficult to know where to start.

Some of the main reasons people are seeking alternatives to Ethereum-based DeFi protocols are high gas fees (transaction fees) and scalability.

Though these are being addressed with the introduction of Ethereum 2.0 it could be some time before these updates are implemented.

Let us now examine another innovation – Binance Smart Chain (BSC)



**Binance Chain and BSC are designed to work in unison, and Binance has built-in easy cross-chain compatibility between them.**

## What is Binance Smart Chain (BSC)

Launched in September 2020 BSC is a blockchain service that allows developers to build their own decentralized apps using smart contracts.

The original Binance Chain wasn't built to allow such functionality, but the BSC has been designed to provide the same kind of speedy transactions while also greatly expanding the available features and capabilities.

It's also compatible with the Ethereum Virtual Machine (EVM) which means it's capable of running dapps ported over from Ethereum.

However, BSC isn't a rebranded version of the original Binance Chain, nor is it a layer-two or sidechain platform meant solely to expand upon the original Binance Chain.

It's a completely separate, standalone blockchain that can continue on even should the Binance Chain go offline, but the two blockchains are ultimately designed to work in parallel.

### How does BSC work?

BSC utilizes what it calls a Proof-of-Staked Authority (PoSA) consensus algorithm (see below for an explanation), a hybrid of proof-of-stake (PoS) and proof-of-authority (PoA) models.

Validators on the network are those who have staked a certain amount of BNB, and then receive transaction fees when they validate approved blocks on the network.

As mentioned, Binance Chain and BSC are designed to work in unison, and Binance has built-in easy cross-chain compatibility between them.

Assets can be quickly transferred between the blockchains, thus pairing the speedy trading capabilities of the former with the smart contract functionality of the latter.

Binance Chain's BEP-2 and BEP-8 tokens can likewise be swapped for the Smart Chain's BEP-20 tokens.

Additionally, EVM compatibility means that creators of dapps on other blockchains could port them over to BSC with relative ease.

This could be particularly compelling to dapp operators as Ethereum continues to grow and gas fees rise although Ethereum's planned shift to a proof-of-stake model in Ethereum 2.0 could alleviate some of its current scaling concerns.

### What's so special about BSC?

The cross-chain compatibility between Binance Chain and BSC offers an intriguing tandem of possibilities to developers, letting them harness the respective strengths of both blockchains to maximize the functionality and performance of their dapps.

Additionally, EVM compatibility means that dapps can be brought over from Ethereum and then potentially enhanced and expanded on the Binance Smart Chain.

There are a lot of up-and-coming blockchains that aim to steal some of the thunder from Ethereum thanks to EVM support, including Avalanche and Telos, and Binance is adding its name to that list with Smart Chain.

Binance has the advantage of immense name recognition in the space, not to mention considerable funding and liquidity given its flourishing exchange and ecosystem.

### **What can you do with BSC?**

BSC is really targeted at developers of decentralized apps, whether they are looking for a platform to build a new app on or want to port over a project from Ethereum.

Between the dual-chain system, EVM support, and Binance's own backing, the firm hopes to draw developers into its ecosystem, creating value for all stakeholders.



# 6 What is Staking?

**Staking involves holding funds in a cryptocurrency wallet to support the security and operations of a blockchain network.**

## Introduction

You may think of staking as a less resource-intensive alternative to mining.

It involves holding funds in a cryptocurrency wallet to support the security and operations of a blockchain network.

Simply put, staking is the act of locking cryptocurrencies locking to receive rewards.

In most cases, you'll be able to stake your coins directly from your crypto wallet, such as Trust Wallet.

On the other hand, many exchanges offer staking services to their users.

Binance Staking lets you earn rewards in an utterly simple way – all you have to do is hold your coins on the exchange. To get a better grasp of what staking is, you'll first need to understand how PoS works.

PoS is a consensus mechanism that allows blockchains to operate more energy-efficiently while maintaining a decent degree of decentralization (at least, in theory).

Let's dive into what PoS is and how staking works.

## What is PoS?

If you know how Bitcoin works, you're probably familiar with PoW.

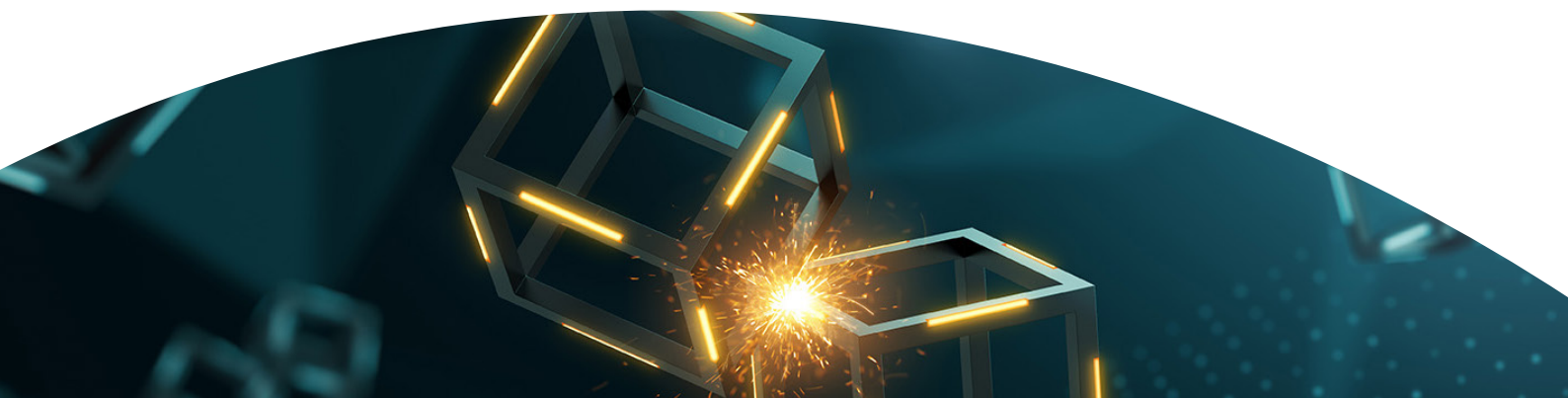
It's the mechanism that allows transactions to be gathered into blocks.

Then, these blocks are linked together to create the blockchain.

More specifically, miners compete to solve a complex mathematical puzzle, and whoever solves it first gets the right to add the next block to the blockchain.

PoW has proven to be a very robust mechanism to facilitate consensus in a decentralized manner.

The problem is, it involves a lot of arbitrary computation.





The puzzle the miners are competing to solve serves no purpose other than keeping the network secure.

One could argue, this in itself makes this excess of computation justifiable. At this point, you might be wondering: are there other ways to maintain decentralized consensus without the high computational cost?

Enter PoS. The main idea is that participants can lock coins (their “stake”), and at particular intervals, the protocol randomly assigns the right to one of them to validate the next block.

Typically, the probability of being chosen is proportional to the number of coins – the more coins locked up, the higher the chances.

This way, what determines which participants create a block isn’t based on their ability to solve hash challenges as it is with PoW.

Instead, it’s determined by how many staking coins they are holding.

Some might argue that the production of blocks through staking enables a higher degree of scalability for blockchains.

This is one of the reasons the Ethereum network is planned to migrate from PoW to PoS in a set of technical upgrades collectively referred to as ETH 2.0.

### **Who created PoS?**

One of the early appearances of PoS may be attributed to Sunny King and Scott Nadal in their 2012 paper for Peercoin.

They describe it as a “peer-to-peer cryptocurrency design derived from Satoshi Nakamoto’s Bitcoin.”

The Peercoin network was launched with a hybrid PoW/PoS mechanism, where PoW was mainly used to mint the initial supply.

However, it wasn’t required for the long-term sustainability of the network, and its significance was gradually reduced. In fact, most of the network’s security relied on PoS.

### **What is Delegated PoS?**

An alternative version of this mechanism was developed in 2014 by Daniel Larimer called Delegated Proof of Stake.

It was first used as a part of the BitShares blockchain, but soon after, other networks adopted the model. These include Steem and EOS, which were also created by Larimer.

DPoS allows users to commit their coin balances as votes, where voting power is proportional to the number of coins held.

**Staking involves validators who lock up their coins so they can be randomly selected by the protocol at specific intervals to create a block.**

These votes are then used to elect a number of delegates who manage the blockchain on behalf of their voters, ensuring security and consensus.

Typically, the staking rewards are distributed to these elected delegates, who then distribute part of the rewards to their electors proportionally to their individual contributions.

The DPoS model allows for consensus to be achieved with a lower number of validating nodes.

As such, it tends to enhance network performance.

On the other hand, it may also result in a lower degree of decentralization as the network relies on a small, select group of validating nodes.

These validating nodes handle the operations and overall governance of the blockchain. They participate in the processes of reaching consensus and defining key governance parameters.

Simply put, DPoS allows users to signal their influence through other participants of the network.

## **How does staking work?**

As we've discussed before PoW blockchains rely on mining to add new blocks to the blockchain.

In contrast, PoS, chains produce and validate new blocks through the process of staking.

Staking involves validators who lock up their coins so they can be randomly selected by the protocol at specific intervals to create a block.

Usually, participants that stake larger amounts have a higher chance of being chosen as the next block validator.

This allows for blocks to be produced without relying on specialized mining hardware, such as ASICs.

While ASIC mining requires a significant investment in hardware, staking requires a direct investment in the cryptocurrency itself.

So, instead of competing for the next block with computational work, PoS validators are selected based on the number of coins they are staking.

The "stake" (the coin holding) is what incentivizes validators to maintain network security. If they fail to do that, their entire stake might be at risk

While each Proof of Stake blockchain has its particular staking currency, some networks adopt a two-token system where the rewards are paid in a second token.

On a very practical level, staking just means keeping funds in a suitable wallet.

This enables essentially anyone to perform various network functions in return for staking rewards. It may also include adding funds to a staking pool which we'll cover shortly.

### **How are staking rewards calculated?**

There's no short answer here. Each blockchain network may use a different way of calculating staking rewards.

Some are adjusted on a block-by-block basis, taking into account many different factors.

These can include:

- how many coins the validator is staking
- how long the validator has been actively staking
- how many coins are staked on the network in total
- the inflation rate
- other factors

For some other networks, staking rewards are determined as a fixed percentage. These rewards are distributed to validators as a sort of compensation for inflation.

Inflation encourages users to spend their coins instead of holding them, which may increase their usage as cryptocurrency.

But with this model, validators can calculate exactly what staking reward they can expect.

A predictable reward schedule rather than a probabilistic chance of receiving a block reward may look favourable to some.

And since this is public information, it might incentivize more participants to get involved in staking.

### **What is a staking pool?**

A staking pool is a group of coin holders merging their resources to increase their chances of validating blocks and receiving rewards.

They combine their staking power and share the rewards proportionally to their contributions to the pool.

Setting up and maintaining a staking pool often requires a lot of time and expertise.

Staking pools tend to be the most effective on networks where the barrier of entry (technical or financial) is relatively high.

As such, many pool providers charge a fee from the staking rewards that are distributed to participants.



**Joining a staking pool instead of staking solo might be ideal for newer users.**

Other than that, pools may provide additional flexibility for individual stakers.

Typically, the stake has to be locked in a fixed period and usually has a withdrawal or unbinding time set by the protocol.

What's more, there's almost certainly a substantial minimum balance required to stake to disincentivize malicious behaviour.

Most staking pools require a low minimum balance and append no additional withdrawal times.

As such, joining a staking pool instead of staking solo might be ideal for newer users.

### **What is cold staking?**

Cold staking refers to the process of staking on a wallet that's not connected to the internet. This may be done using a hardware but it's also possible with an air-gapped software wallet.

Networks that support cold staking allow users to stake while securely holding their funds offline.

It's worth noting that if the stakeholder moves their coins out of cold storage, they'll stop receiving rewards.

Cold staking is particularly useful for large stakeholders who want to ensure maximum protection of their funds while supporting the network.

### **How to stake on Binance**

In a way, you could think of holding your coins on Binance as adding them to a staking pool.

The only thing you have to do is hold your PoS coins on Binance, and all the technical requirements will be taken care of for you.

The staking rewards are usually distributed at the start of each month.

You can check the previously distributed rewards for a given coin under the Historical Yield tab on each project's staking page. PoS and staking opens up more avenues for anyone wishing to participate in the consensus and governance of blockchains. What's more, it's a very easy way to earn passive income by simply holding coins.

As it's getting increasingly easy to stake, the barriers of entry to the blockchain ecosystem are getting lower.

It's worth keeping in mind, though, that staking isn't entirely without risk.

### Next Steps for BSC

It's early days for BSC, which was just launched at the start of September 2020 after the concept was unveiled earlier in the year.

Binance is putting in a lot of effort behind the platform thanks to its \$100 million support fund for DeFi apps and emphasizing the benefits of the dual-chain approach.

Interestingly, the launch of BSC and strong attempts to court DeFi developers go against Binance's core business of being a centralized exchange.

According to the company, it is continually trying to "disrupt" itself. Accordingly, BSC has taken a considerable market share of the DeFi space in recent months.

Using BSC transaction fees can cost just a few pennies and are often extremely fast.

Fees are paid using Binance Coin (BNB).

Though there are fluctuations in fee costs, and more complex transactions generally cost more, the low fees on BSC are lowering the barrier to entry for a new generation of DeFi users.

Furthermore, BSC users don't suffer the same network congestion as Ethereum-based applications. This reduces the likelihood of platforms crashing due to high traffic.

That being said, now that Ethereum 2.0 is out the network effect of the world's second-largest blockchain will be difficult to ignore.

The infrastructure built on Ethereum has created a community and network of developers like no other project in the crypto space.

Although all cryptocurrency and DeFi investments come with inherent risk, PancakeSwap does have the support of the Binance ecosystem.

A couple more things to explore before we conclude, Wallets & Stablecoins.



# 7 Wallets & Stablecoins

## Wallets

A cryptocurrency wallet is an app that allows you the cryptocurrency user to store and retrieve your digital assets.

As with conventional currency, you don't need a wallet to spend your cash, but it certainly helps to keep it all in one place.

When a user acquires cryptocurrency, such as bitcoins she can store it in a cryptocurrency wallet and from there use it to make transactions.

Cryptocurrency wallets are apps just like those you might run on a smartphone or computer.

If you prefer the tactile experience of holding a wallet, you can also buy a physical device that runs a wallet app.

Wallets can hold multiple cryptocurrencies.

When you want to acquire cryptocurrency, whether by purchasing it in a currency exchange or receiving it as a gift or as revenue, you direct the sender to a unique cryptographic address issued by the wallet.

You might picture your cryptocurrency stored on the wallet the same way files are stored on a USB drive, but, in fact, the information stored on the wallet only points to your cash's location on the blockchain, the public ledger that records and authenticates all transactions for a cryptocurrency.

Spending with the wallet is as simple as scanning a retailer's QR code or directing a specific amount of cryptocurrencies to the retailer's public address.

**As with conventional currency, you don't need a wallet to spend your cash, but it certainly helps to keep it all in one place.**

## Stablecoins

Stablecoins are a viable solution to volatility issues surrounding cryptocurrencies and are helping DeFi gain prominence.

The name says it all.

A stablecoin's value is tied to a relatively stable asset, like gold or the US dollar, to keep its price consistent. Stablecoins became useful during risk-off moments in the crypto space, providing a safe haven to investors and traders.

Stability makes them a reliable collateral asset. Stablecoins also play an important role in liquidity pools — an integral part of the DeFi ecosystem and DEXs.

## The Future of DeFi

As we mentioned at the start of this paper, we are now observing a quantum leap in the new possibilities of the functionalities of money through the innovation of DLT's.

For the first time in history everyone can take part in the governance of DeFi protocols and get a seat at the table where the world of decentralized finance is actively created.

The DeFi space is gradually catching up with the traditional financial system and despite some of the obstacles which are evident when one operates on the bleeding edge of innovation, the world of decentralized finance is on the path to prosperity.

Over time, it's difficult to predict how this space will shape when the power to build financial services will democratize.

However, at the point where DeFi and fintech map and merge, we'll have an inflection point where the new financial technology becomes a fully integrated part of the global financial system.



# About the Author

## John Marcarian



John is an Australian Chartered Accountant with over 25 years of experience. Having founded CST Tax Advisors in 1992, John has in-depth knowledge of international tax matters for both businesses and globally mobile expats.

In 2004 John established the Singapore Office of CST. CST now has offices in a number of cities around the world.

### **Recognised Thought Leader**

John has had a number of articles published in the Tax Specialist, a publication of the Institute of Chartered Accountants of Australia, and the Tax Yearbook, a publication of the International Tax Planning Association.

Most recently, John has published two books; 'Expatriation', which is aimed at assisting potential global expats plan their move and 'The CST Way' a professional services book for Global Accounting Firms.

John is a sought-after speaker on tax and business matters and regularly presents to business groups around the world.

### **Recognised Tax Specialist in Digital Assets**

John has a deep understanding of digital assets and the Fourth Industrial Revolution presently underway around the world in the area of blockchain and digital assets.

A recognised tax specialist in digital assets, John has a qualification from the MIT Sloan School of Management in Blockchain technologies.

He has contributed tax expertise to a specialist US publication on international tax and digital assets.

He works regularly with companies issuing tokens and other forms of digital assets. This unique blend of skills gives John a practical day to day knowledge of the business challenges faced by entrepreneurs in the digital asset market.





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