

RESEARCH REPORT

# Yield in Crypto Report

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The page features several large, abstract geometric shapes in the corners. A dark blue triangle is in the top-left corner. The bottom-right corner is composed of three overlapping shapes: a light red triangle, a dark blue triangle, and a small cyan triangle.

# 1.0 Introduction to Yield in Crypto

Ultra-low interest rates in the world of traditional finance have left investors around the world searching for ways to earn yield. With interest rates forming all time lows and inflation concerns rising, yields on traditional income-bearing assets are being squeezed and investors are looking elsewhere for return on their capital, bidding up already overvalued securities. In recent times, the global market has been starved of low risk yields. For example, in Australia, the best 24-month term deposit rate is 1.20%, corporate bonds are sitting between 2%-4%, and a median household rental yields 3.73%. Crypto assets are already an emerging investment class and over the past year the Decentralised Finance (DeFi) sector has been a source of low-risk yields that significantly surpass those available in traditional finance.

One of the most common and innovative use cases of crypto assets is “yield farming”, which is the process of allocating capital to Decentralised Finance (DeFi) protocols or Centralised Finance (CeFi) services to earn rewards. Most DeFi protocols are peer-to-peer financial platforms such as lending and borrowing protocols and decentralised exchanges that are powered by pools of liquidity with prices determined by algorithms. The fees charged to users are then shared between the capital providers and the protocol. The fees that capital providers earn are the intrinsic yield and can take many different forms. Centralised platforms can offer similar services, however, the peer-to-peer and decentralised nature of the service is replaced with centralisation which can lead to concerns around custody of funds, timely withdrawals and platform outages.

Generating yield in crypto can take many different forms. This report will cover the following most common methods to generate yield from crypto assets:

1. Staking Rewards: rewards for helping secure the blockchain
2. Lending Rates: interest earned for providing crypto assets other people can borrow
3. Exchange Rewards: fees earned for enabling decentralized trading on exchanges
4. Governance Token Yield: rewards in governance tokens earned for utilizing certain protocols
5. Fee Distributions fees distribution through revenue sharing of a protocol

The report will describe these methods in detail, outline the functionality using examples, and explore the major risk considerations. As an early participant in DeFi, Apollo Capital has extensive experience in yield farming and has participated in all of these methods.



## 2.0 Staking Rewards (Proof of Stake)

“Staking” crypto assets to earn a reward is one of the principal forms of generating yield. Staking involves a user depositing crypto assets in order to support the operations of a proof-of-stake (PoS) Layer 1 blockchain. Readers may be familiar with the term proof-of-work and the process of “mining” to earn Bitcoin. In Proof of Stake, miners lock funds up. Users who do this are known as “validators” or “stakers,” and are tasked with processing transactions, storing information, and adding blocks to the chain.

Many blockchains have a PoS consensus mechanism. Ethereum is slated to transition to Ethereum 2.0 later in 2022. This means users will be able to harvest yield in ETH (Ethereum’s native token) via staking if they meet the criteria of the protocol. Changing the consensus mechanism requires a new blockchain with a new protocol for staking and fee payouts. This will be achieved via the Ethereum Beacon Chain, which is currently live and running in tandem with the original Ethereum chain at reduced capacity.

### 2.1 Where Does The Yield Come From?

There are certain requirements, risks, and rewards associated with staking. In Ethereum 2.0’s case, the rewards are distributed to users that establish a validator node with 32 ETH, or those that join a fractionalised validator staking pool. The fees that were paid out to the network miners prior to the PoS change will now be paid out to the validator nodes for validating each transaction. Ethereum is programmed to inflate the supply of ETH. That ‘inflation’ or ‘reward’ is then distributed to ETH stakers, with the amount of inflation paid out, depending primarily on the total number of coins “staked” and the number of validators on the network. Recent developments in Ethereum have added deflationary elements to the protocol’s fee model, however for educational purposes of this report, the process of ‘staking’ ether results broadly in harvesting the increase in supply.

The act of staking to earn yield is not risk-free, with the ‘validator’ or ‘staker’ facing the possibility of price volatility, administrative hazards, and ‘slashing’. Price volatility of the underlying staked crypto asset while locked-up versus the potential yield offered for becoming a validator node or participating in a staking pool is a risk that users have to weigh up to determine the viability of the yield-generating opportunity.



The administrative costs and risks associated with running validator nodes is another variable to consider. Running validator nodes can be a complex operation and there are penalties that can be incurred due to the validator being misused, going offline, or failing to validate blocks.

'Slashing' can occur when the network rules are broken. In that process, the validators or node operators are removed from the network, and a portion of their stake is burned as a penalty. This can be very detrimental to the projected profit margins earned when staking. Earlier this year, 75 Ethereum 2.0 validators were slashed due to technical issues causing US\$30,000 in ETH to be burned. These penalties are programmed directly into the protocol and take effect without fail if rules or prerequisites are violated.

One strategy to mitigate the administrative risks associated with running a node is to delegate via centralised or decentralised staking protocols. These are called liquid staking protocols, and the going rate of interest they offer is approximately 5% return per annum.

Ethereum Staking Pools			
	<b>Blox Staking</b> Decentralized	5.54% Earn	>
	<b>Cream Finance</b> Custodial 8% fee	5.1% Earn	>
	<b>Stake Capital</b> Decentralized 10% fee 0.1 ETH Minimum	4.99% Earn	>
	<b>Rocket Pool</b> Decentralized 10% fee 0.1 ETH Minimum	4.99% Earn	>
	<b>StakeWise</b> Decentralized 10% fee 0.1 ETH Minimum	4.99% Earn	>
<a href="https://stakingether.com/">https://stakingether.com/</a>			

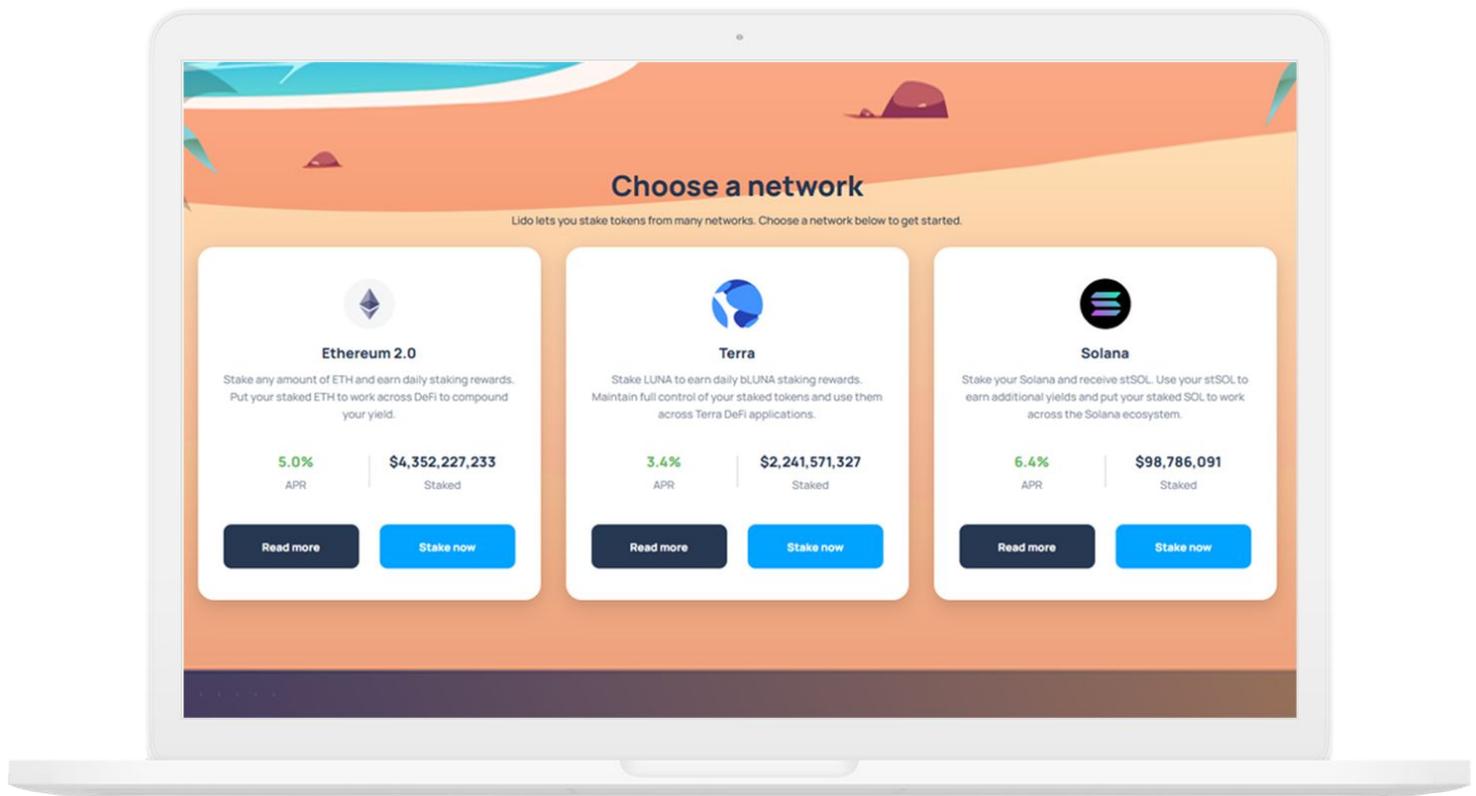
An innovative DeFi project, Lido Finance, is one of the most capital efficient staking protocols in DeFi as it provides staking options in pools across different PoS blockchains: Ethereum (ETH), Terra (LUNA) and Solana (SOL). Lido doesn't require a minimum stake amount and offers competitively low fees. Additionally, Lido's mechanism allows users to mint a staked token to represent their staked position, which can then be utilised again to earn yield - a unique product offering.



## 2.1 How Does Lido Finance Work?

Once an asset has been chosen for staking, the protocol will mint a token with an “St” prefix on a 1:1 basis representing their staked token. ‘St’ balances can be used like regular crypto assets to earn yields and lending rewards with the staking rewards updated daily. Therefore, the user is generating more profit as opposed to the standard staking pools.

## 2.2 Staking Pools Provided on Lido Finance



<https://lido.fi/>

Lido Finance currently sits as the sixth-largest DeFi protocol, with US\$9 billion in Total Value Locked (TVL) representing a growth of Lido Finance has experienced a 427% growth in TVL over the previous 2 and a half quarters. As events such as Ethereum 2.0 (expected in Q1/Q2 2022) and cross-chain compatibility roll out, PoS pool staking protocols such as Lido Finance will likely become a popular avenue for DeFi yield hunters.



## Lido Finance TVL Growth YTD



In summary, this method of generating yields is ideal for users who are bullish on a PoS blockchain and have a long term investment horizon (such as Apollo Capital's views on Ethereum). With only 7.5% of total circulating supply of Ethereum currently staked and the Ethereum 2.0 merge fast approaching, the crypto asset industry is primed for an influx of liquidity staking protocols. Apollo Capital has taken a proactive approach to Ethereum's roadmap by being an advisor and an early stage investor in a liquid staking protocol due to hit the market in Q2, 2022.



## 3.0 Lending Rates

As the crypto asset industry has matured over the past few years, borrowing and lending markets have become a centerpiece to the crypto industry. Putting “lazy” capital to work has been popular amongst crypto investors in the past few years with a profound increase in activity. The lending and borrowing market is separated into two main categories: Centralised Finance (CeFi) and Decentralised Finance (DeFi). Both sectors offer lending products. However, there are many differences in how fees are generated, the prerequisites required to use the products, types of rewards offered, attack vectors underlying the protocols, and the level of anonymity.

### 3.1 Lending in Centralised Finance

Centralised Finance combines crypto yield-generation products with the ease of use and security of more traditional financial services. These products are underpinned by centralised entities and include borrowing and lending, staking, trading, crypto debit card offerings, and more. Earning interest with CeFi is a common practice for users with a ‘set-and-forget’ approach at generating yield with their crypto assets.

### 3.2 How Does CeFi Lending Work?

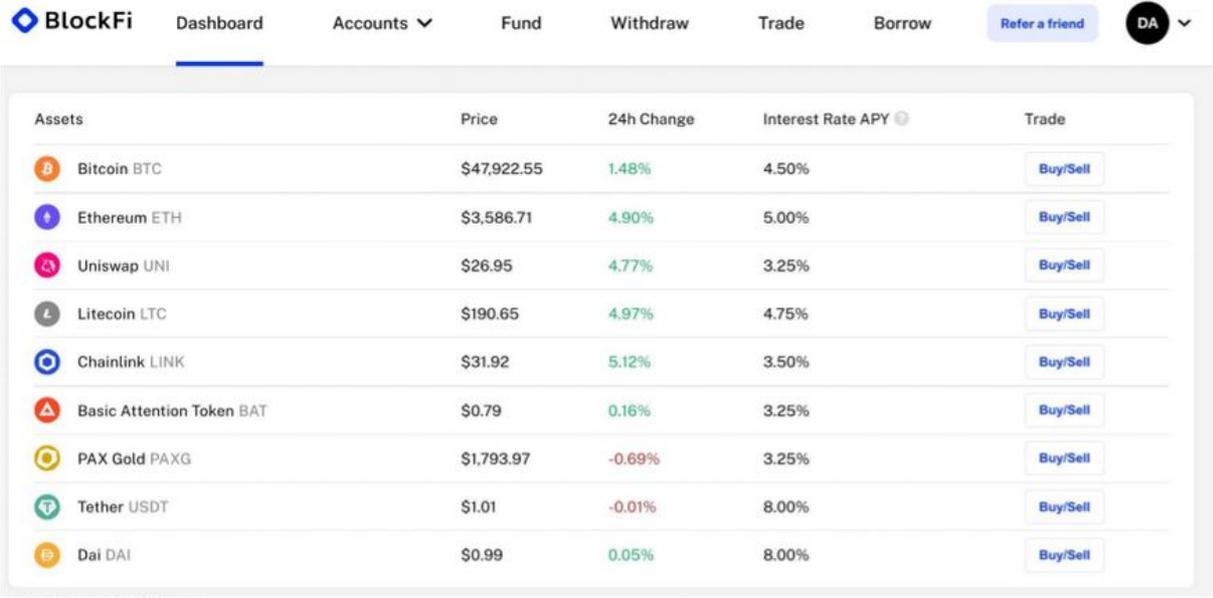
CeFi lending works in a very similar manner to traditional financial lending. A registered user on a CeFi platform deposits crypto assets or purchases them on the platform, selects the desired lending product, initiates it, and begins earning interest on their principal. The platform acts as a custodian of the funds and determines the interest rate the user earns.

With CeFi lending, users will need to create an account with a platform and use it to primarily transfer and receive funds. CeFi requires the user to provide their identity and must go through KYC (Know Your Customer) checks to begin using the products. The user also transfers the custody of their crypto assets to the platform. Once the funds are deposited they may not be tracked with full transparency and therefore, a true breakdown of how the yields are generated may be unknown. As established businesses that must comply with AML/KYC regulations, they house user information locally. These are standard practices in the traditional financial world. However, there is always a possibility of data security breaches as these platforms have been susceptible to hacks in the past. In January 2020, Poloniex, a well known crypto exchange fell victim to data breach and forced a mass password reset for users after credentials were leaked across social media.



Users may elect to harvest yield on interest bearing assets via a CeFi platform if it has a good range of cross chain exchange for crypto-assets, have fiat conversion requirements, or simply if the yields are more attractive than any platforms on DeFi. CeFi platforms will offer users incentives to utilise their platforms, which can be another lure for yield farmers. For example, the Celsius platform offers yield rewards in the staked crypto-asset at competitive annual returns or an option to earn their native token at a higher annual return. Users hunting yield often weigh up the yields offered in the staked token versus the native token as well as consider the risks associated with centralised ownership of personal data and private keys.

Block.Fi is one of the largest CeFi platforms and offers approximately a 4% annual return on native crypto assets such as BTC and ETH, and 7.50% on stablecoins like DAI, USDT and USDC. At the time of publication, it holds US\$10 billion in assets with 850 employees and 450,000 retail clients. It has one of the most attractive yield offerings in crypto; however, these yields have a trade-off.



The screenshot shows the BlockFi dashboard with a navigation bar at the top containing 'Dashboard', 'Accounts', 'Fund', 'Withdraw', 'Trade', 'Borrow', 'Refer a friend', and a user profile icon labeled 'DA'. Below the navigation bar is a table of assets with the following columns: Assets, Price, 24h Change, Interest Rate APY, and Trade. The table lists ten assets with their respective prices and interest rates.

Assets	Price	24h Change	Interest Rate APY	Trade
Bitcoin BTC	\$47,922.55	1.48%	4.50%	Buy/Sell
Ethereum ETH	\$3,586.71	4.90%	5.00%	Buy/Sell
Uniswap UNI	\$26.95	4.77%	3.25%	Buy/Sell
Litecoin LTC	\$190.65	4.97%	4.75%	Buy/Sell
Chainlink LINK	\$31.92	5.12%	3.50%	Buy/Sell
Basic Attention Token BAT	\$0.79	0.16%	3.25%	Buy/Sell
PAX Gold PAXG	\$1,793.97	-0.69%	3.25%	Buy/Sell
Tether USDT	\$1.01	-0.01%	8.00%	Buy/Sell
Dai DAI	\$0.99	0.05%	8.00%	Buy/Sell

https://app.blockfi.com/

Block.Fi is governed as an entity, and not by code which has left it susceptible to custodial, cyber and legal risks that DeFi protocols, for the most part, can avoid. There have been a few mishaps since Block.Fi's inception in 2017 and although they have not been devastating to their users, they have caused some inconveniences. Similar to traditional financial banks there have been instances where incorrect amounts of funds were sent to users as well as cyber attacks, one of note being, a SIM swapping hack which compromised their employees' phone numbers.

CeFi platforms also face regulatory scrutiny. It was recently announced that BlockFi will pay \$100m in Settlement with the SEC and State Regulators as part of an ongoing investigation into whether the products offered are securities. It remains to be seen whether CeFi and DeFi platforms will face the same regulatory scrutiny.

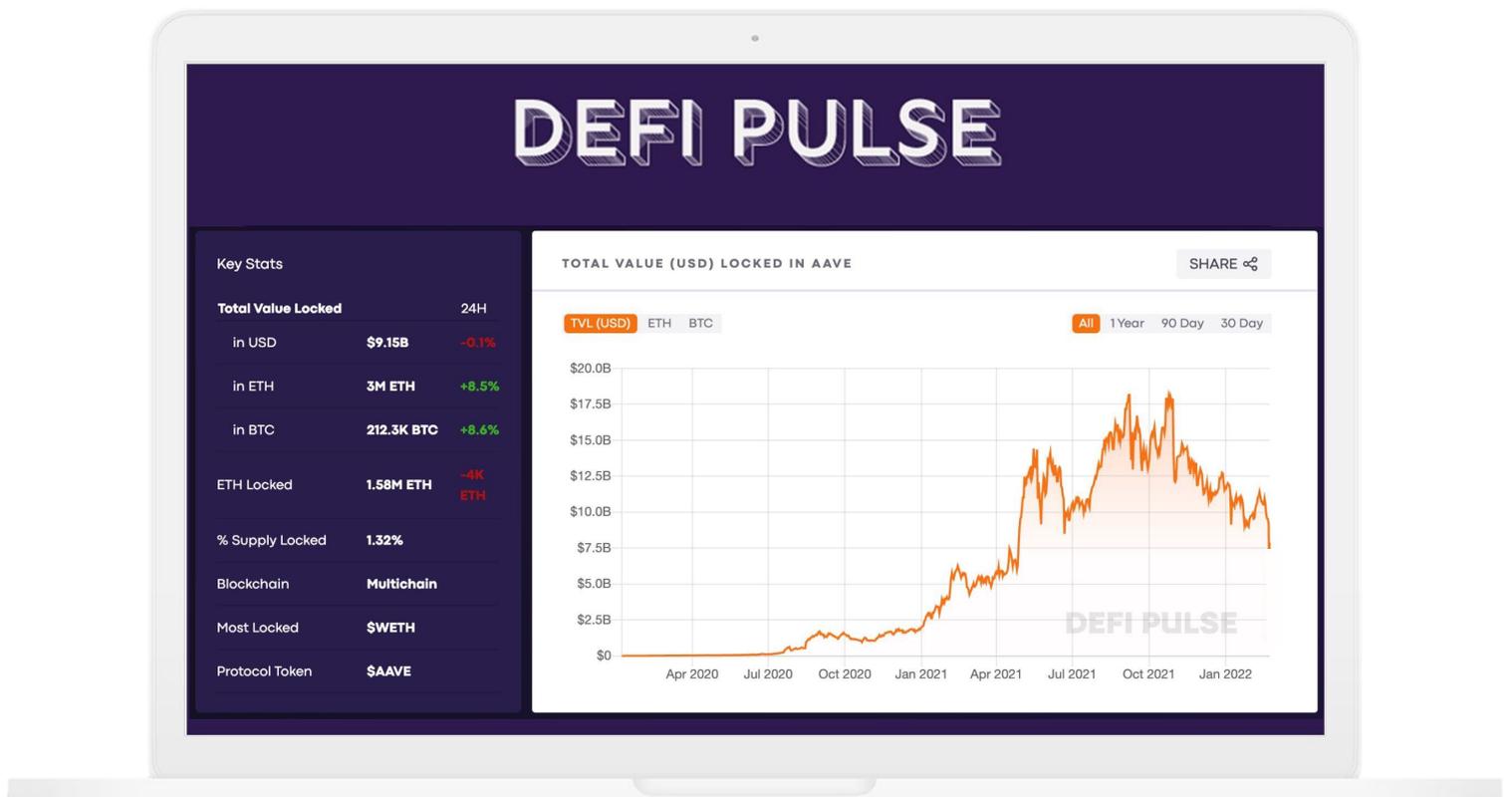


## 3.3 Lending and Borrowing in Decentralised Finance

Decentralised lending is one of the most effective ways to begin generating a yield on crypto assets. Decentralised lending replaces the middleman or trusted third party (typically a bank or credit issuer) with smart contracts for borrowing and lending contracts.

Platforms such as Compound Finance and Aave allow users to lend or borrow from other users in the DeFi ecosystem and have garnered significant traction over the past 24 months. The total amount of capital currently locked up in DeFi lending protocols exceeds US\$44 billion.

Apollo Capital has been a strong beneficiary of the growth in this sector of DeFi, as Aave (formally known as ETHlend) was one of Apollo Capital's first open market investments. Below is Aave's TVL graph and statistics since the inception of the protocol.

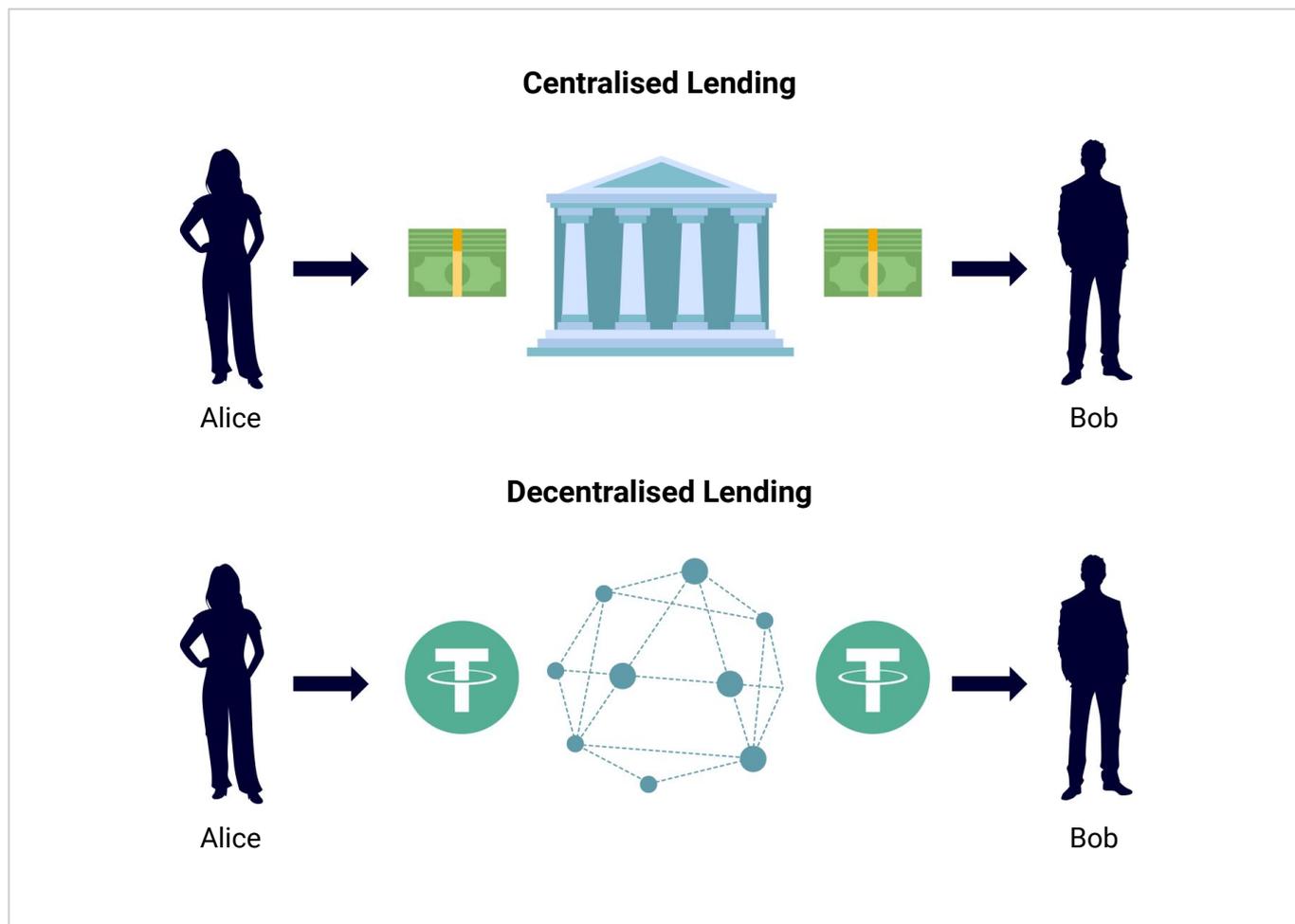


<https://defipulse.com/>



## 3.4 How Does DeFi Lending Work?

To begin earning interest, a user can simply allocate crypto assets to a given lending pool, or by providing collateral to a pool, they may quickly take out an interest-bearing loan.



One of the original lending and borrowing platforms, Compound Finance, has fifteen different crypto assets that users can lend or borrow in a decentralized manner.

As Compound Finance is an Ethereum-based application, all of the assets are what are known as ERC-20 tokens, crypto-assets that exist on the Ethereum platform. APY represents the Annualised Percentage Yield a lender will receive in the given crypto asset.



## Compound Finance

Supply Markets				Borrow Markets			
Asset	APY	Wallet	Collateral	Asset	APY	Wallet	Liquidity
 Aave Token	2.19%	0 AAVE	<input type="checkbox"/>	 Aave Token	10.33%	0 AAVE	\$1.35M
 Basic Attention ...	0.13%	0 BAT	<input type="checkbox"/>	 Basic Attention ...	3.86%	0 BAT	\$90.95M
 Compound Gov...	0.74%	0 COMP	<input type="checkbox"/>	 Compound Gov...	6.50%	0 COMP	\$0k
 Dai	2.38%	0 DAI	<input type="checkbox"/>	 Dai	4.05%	0 DAI	\$909.89M
 Ether	0.09%	0.0005 ETH	<input type="checkbox"/>	 Ether	2.77%	0.0005 ETH	\$2,698.44M
 Fei USD	0%	0 FEI	<input type="checkbox"/>	 Fei USD	0%	0 FEI	\$0k
 ChainLink Token	0.58%	0 LINK	<input type="checkbox"/>	 ChainLink Token	5.89%	0 LINK	\$24.77M
 Maker	0.00%	0 MKR	<input type="checkbox"/>	 Maker	2.33%	0 MKR	\$3.28M
 SushiToken	0.08%	0 SUSHI	<input type="checkbox"/>	 SushiToken	3.24%	0 SUSHI	\$335k
 TrueUSD	1.60%	0 TUSD	<input type="checkbox"/>	 TrueUSD	3.18%	0 TUSD	\$39.98M
 Uniswap	0.17%	0 UNI	<input type="checkbox"/>	 Uniswap	4.49%	0 UNI	\$92.36M
 USD Coin	1.48%	0 USDC	<input type="checkbox"/>	 USD Coin	3.06%	0 USDC	\$1,232.80M
 Pax Dollar	0.05%	0 USDP	<input type="checkbox"/>	 Pax Dollar	0.64%	0 USDP	\$22k
 Tether	2.17%	0 USDT	<input type="checkbox"/>	 Tether	3.71%	0 USDT	\$279.36M
 Wrapped BTC	0.13%	0 WBTC	<input type="checkbox"/>	 Wrapped BTC	3.52%	0 WBTC	\$1,131.61M
 yearn.finance	0.72%	0 YFI	<input type="checkbox"/>	 yearn.finance	6.42%	0 YFI	\$804k
 Ox	0.41%	0 ZRX	<input type="checkbox"/>	 Ox	5.74%	0 ZRX	\$60.54M

On top of facilitating loans, these platforms also distribute rewards to users as incentives, which are usually the native token of the platform and act as a boost to the yield.

This incentive structure is termed “liquidity mining” and was pioneered by Compound Finance. Since its inception, liquidity mining has become very popular amongst yield farmers and the market has seen many other platforms follow suit.



Yield farmers can supply a protocol with stablecoins such as DAI, USDC, or USDT and instantly begin generating a return through a lending fee on that platform. As previously mentioned, to incentivise the lender further, a platform can offer a reward in their native token for selecting that protocol to use over others available on the market.

Compound Finance, for example, offers lenders a rate of 2.70% APY on DAI. The platform also offers 1.54% APY in COMP tokens as an incentive to provide loans to the open market.

## Compound Finance's DAI Lending Product

The screenshot displays the Compound Finance interface for supplying DAI. At the top, the 'Dai' asset is selected. A central message states: 'To Supply or Repay Dai to the Compound Protocol, you need to enable it first.' Below this, the 'SUPPLY' tab is active, showing 'DAI Rewards' and 'COMP Rewards' sections. The 'Supply APY' is listed as 2.70%, and the 'Distribution APY' is listed as 1.54%. A large green 'ENABLE' button is positioned at the bottom of the main content area. The 'Wallet Balance' is currently 0 DAI.

Category	Value
Supply APY	2.70%
Distribution APY	1.54%



## 3.5 How Are Interest Rates Determined?

Interest rates are determined by the amount of liquidity available in the asset market of choice. The rates fluctuate in real-time based on the supply and demand. All rates are quoted as an APY rate. When there are large amounts of liquidity available in a pool for a particular crypto asset, the interest rate will be low, but growing larger for smaller pools. This mechanism helps to incentivise users to lend crypto into small pools to earn high interest and to borrow from larger pools where they pay less interest.

## 3.6 Interest Bearing Tokens

In contrast to the time-consuming, gated and cumbersome process of receiving a bank loan, crypto lending operates in a permissionless, instantaneous environment that is governed by smart contracts. Users can interact with a smart contract instantaneously to deposit collateral then receive an interest bearing token or c-token.

Here is an example of how c-tokens function using the figures in the diagram. The stable coin DAI is deposited. In response the smart contract mints cDAI. Over time, the cDAI token will accrue interest in DAI. With the rates displayed, at the end of a year the cDAI token represents a multiple of 1.027 DAI tokens. Therefore the user has earned an annual rate of 2.7% in DAI for a year. The cDAI token will continue to accumulate with the rate determined by the decentralized lending market over time.

Below shows a comparison of the best yielding DeFi and CeFi platforms for the most popular crypto assets.

CeFi Interest Rates	NEXO	Block-Fi	YouHodler	CoinLoan	Celsius	Crypto.com
BTC	6%	4%	4.80%	5.20%	6.20%	4.50%
Ethereum	6%	4%	5.50%	5.20%	5.35%	5.50%
USDC	10%	7.50%	12%	10.30%	8.88%	10%
DAI	10%	7.50%	12%	10.30%	8.88%	10%
USDT	10%	7.50%	12.30%	10.30%	8.88%	10%
DeFi Interest Rates	Compound	Fulcrum	Cream	dYdX	AAVE	DDEX
BTC (Wrapped)	0.52%	1.25%	1.66%	0.00%	0.30%	0%
Ethereum	0.14%	0.01%	0.57%	0.04%	0.02%	0.01%
USDC	3%	9.21%	5.57%	5.13%	8.14%	0.04%
DAI	2.66%	5.73%	4.68%	4.76%	5.46%	0.20%
USDT	4.35%	6.69%	9.80%	0.00%	4.80%	5.19%



## 3.7 CeFi vs DeFi

The above figures clearly show CeFi options being the most profitable yields in crypto for lending; however, yield farmers do not only look at the potential yield APY when deciding upon where to allocate their capital. They must also take into account which platforms are the most reputable, secure, and transparent. Previous years have seen CeFi platforms incur hacks, data exploits, KYC issues and freezing of funds.

It is for these reasons that Apollo Capital prefers to use DeFi platforms when generating yield from lending. It is worth noting that 'liquidity mining' incentives on DeFi protocols can boost annual yield figures dramatically into the 15%-40% annual return range. These opportunities are what the Apollo Capital Opportunities Funds actively seek. For example, a new blockchain named Avalanche is currently hosting their 'Avalanche Rush' incentive. The enhanced returns are displayed below.

PAIRS				
	AM3D (MIM-USDC.e-DAl.e) ● Axial	Total APY ⓘ 18.75%	TVL ⓘ \$2,726,174.60	xSNOB Boost ⓘ 1.00x
	AA3D (AVAI-MIM-USDC.e) ● Axial	Total APY ⓘ 15.38%	TVL ⓘ \$41,455.22	xSNOB Boost ⓘ 1.00x
	USDC.e-MIM ● Pangolin	Total APY ⓘ 12.36%	TVL ⓘ \$187.86	xSNOB Boost ⓘ 1.00x

<https://app.snowball.network/> - 21/02/22



## 4.0 Exchanging Rewards

Another popular method to earn yield is by becoming a Liquidity Provider (LP) for Automated Market Maker (AMM) platforms.

Readers will no doubt be familiar with the traditional order book that powers stock exchanges like the ASX and the NYSE. The first decentralised cryptocurrency exchanges, EtherDelta and ForkDelta, tried to replicate this method, but for a variety of reasons they didn't work well. Beginning with Uniswap, a new generation of platforms for token exchanges rely on what are known as automated market maker protocols. Trades are executed not against an order book, but against pools of paired assets provided by Liquidity Providers in exchange for rewards.

Of course, similar to the lending and borrowing protocols, AMM platforms can provide extra incentives on top of the fees awarded to LPs.

### 4.1 How Do AMMs Work?

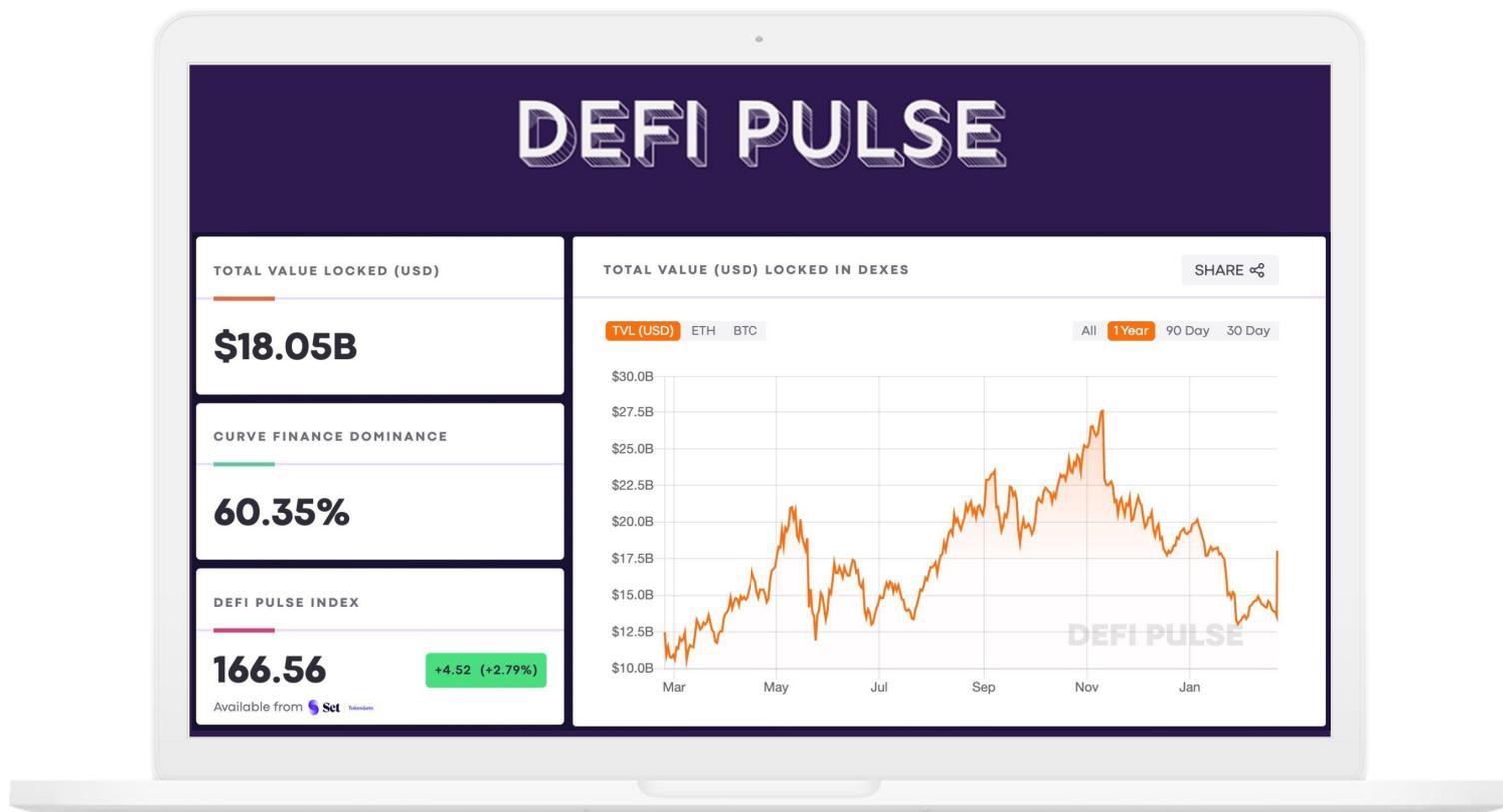
AMMs are at the core of several of DeFi's most popular protocols and apps. Uniswap and Curve utilise AMMs, offering decentralised trading pools that let individuals provide liquidity directly to markets for the trading of crypto assets.

Decentralised Exchanges (DEXs) were the first DeFi category to utilise AMMs. Before DEXs, trading crypto assets were only possible on centralised exchanges and commonly distributed in a centralised manner via an initial coin offering (ICO) similar to an initial public offering (IPO). AMMs have been pivotal to the rise of DeFi as they have decentralised the listing processes and provide a new avenue of access to crypto assets on the secondary market.

To put the decentralised exchanges in perspective, the leading DEX, Uniswap, averaged US\$811 million (A\$1.1 billion) in daily transaction volume in July. That's roughly one-fifth of the volume traded on the ASX, which handled an average of A\$5.3 billion in daily volume that month. But because Uniswap is built on the self-executing smart contract platform of Ethereum, Uniswap Labs needed just 37 employees to achieve this feat. The ASX, in contrast, has nearly 1,200 employees, according to LinkedIn. Uniswap is less than 3.5 years old. The ASX has been around for 35 years.



Below is a diagram depicting the growth in TVL of DEXs since their inception all the way up to US\$28.58 billion. Again, the Apollo Capital Fund has been a beneficiary of this organic growth with positions in the top three DEXs in the market.



<https://defipulse.com/>

## 4.2 Fees

Liquidity providers earn yield through receiving fees from users using that liquidity to swap tokens. With Uniswap, the fee is 0.3% for swapping tokens and it is split by liquidity providers proportional to their contribution to the liquidity pool.

Swapping fees are immediately deposited into liquidity reserves. This increases the value of liquidity tokens, functioning as a payout to all liquidity providers proportional to their share of the pool. Fees are collected by burning liquidity tokens to remove a proportional share of the underlying reserves.



Looking at the comparisons of fees generated on protocols in crypto, there is no doubt the AMM model is one of the most adopted and capital efficient applications in crypto today with Uniswap owning the number two position.

# Crypto Fees

There's tons of crypto projects.  
Which ones are people actually paying to use?

Share Bundle Filters Yesterday

Name	▼ 1 Day Fees	7 Day Avg. Fees
 Ethereum	\$19,773,176.82	\$22,479,902.34 ✓
 Uniswap	\$2,884,644.05	\$2,924,755.28 ✓
 Binance Smart Chain	\$1,626,639.06	\$1,955,190.74 ✓
 Avalanche	\$648,772.80	\$664,253.28 ✓
 SushiSwap	\$616,519.39	\$602,085.55 ✓
 Trader Joe	\$544,071.83	\$612,483.68 ✓
 SpookySwap	\$498,574.81	\$556,021.96 ✓
 Compound	\$409,643.20	\$262,998.64 ✓
 MakerDAO	\$242,097.94	\$247,267.66 ✓
 Aave	\$213,382.49	\$224,362.93 ✓

<https://cryptofees.info> - 21/03/22

Uniswap is currently providing almost US\$2.9 million in fees daily to liquidity providers, making it the second largest fee-generating protocol in the crypto asset industry.

Ethereum is the largest, with approximately US\$19.8 million in fees distributed to miners and validators each day. Bitcoin, which once was a clear market leader of the last decade, has made way for other fee-generating DeFi protocols.



## 5.0 Governance Token Yield

As mentioned throughout this report, it is common for DeFi protocols to incentivise liquidity by rewarding liquidity providers with additional governance token yield. By passively accruing a governance token of value, liquidity providers are able to achieve a much higher return on their locked capital over a period of time.

These governance token incentives allow for a greater distribution of ownership and enables a protocol to become sufficiently decentralised. The boosted yield from these schemes incentivises users to overcome the steep learning curve associated with interacting with complex DeFi protocols.

As early as 2019, Synthetix was the first protocol to incentivise staking of their native token, SNX, with inflation rewards of SNX. However, Compound Finance is known as the first protocol to introduce yield farming in June 2020.

Compound Finance launched their governance token COMP and offered this token to lenders and borrowers of crypto assets such as BTC, ETH and stablecoins. This kicked off what is now referred to as 'DeFi Summer' throughout June, July and August of 2020. In these months, countless protocols replicated the successful liquidity incentivisation model that was pioneered by Compound and the term "yield farming" was born.

After the speculative DeFi frenzy experienced throughout these three months, the DeFi asset market witnessed a significant pullback. Despite this, DeFi proved that there was product-market fit for decentralised exchanges and borrowing/lending protocols. Incentivising liquidity is now commonplace for emerging DeFi protocols due to the large competitive advantage that can be achieved through a successful program.

The best example of this is SushiSwap, which launched as an exact replica of Uniswap in August 2020. At the time, Uniswap did not have a governance token and was instead owned by large venture capitalists and core contributors. SushiSwap attracted billions in liquidity from Uniswap by incentivising liquidity with SUSHI tokens. "Vampire attacks" like this are still prevalent, but they are typically not as effective. Increasingly, innovation is the key ingredient to rapid growth in DeFi.



Innovators such as Curve Finance have created token models that have significantly reduced the negative impact of highly inflationary tokens. Curve Finance's governance token, CRV, is used as a reward token in almost 50 liquidity pools spanning five blockchains. To counteract this inflationary pressure, Curve Finance introduced Vote Locking Boost where users can permanently stake their CRV to receive a yield boost.

This model reduces token supply and increases the attractiveness of buying CRV to receive a boost on yield farming. The success of this initiative has caused Vote Locking to become a standardised token model for protocols with highly inflationary incentives schemes.

The ability for DeFi protocols to offer a token of value for liquidity can be seen as a competitive advantage over the traditional financial system. Traditional savings accounts simply cannot compete with DeFi alternatives when it comes to earning high yields passively.

Big banks are unable and unwilling to incentivise deposits with listed shares of the company. However, the higher yields on offer to DeFi participants come with additional risks that are unique to DeFi and require a level of technical competence to fully understand and evaluate.



## 6.0 Fee Distribution and Revenue Sharing

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A common criticism of crypto assets is that they have no cash flow, and therefore are poor investments where their future value is dependent on what a 'greater fool' might be willing to pay for them. For many low quality crypto assets this remains true, but for a new class of DeFi assets, it is not the case.

The recent boom in adoption and usage of Decentralised Finance has created hundreds of revenue generating protocols. As discussed throughout this report, there are many ways in which protocols are generating revenue for both liquidity providers as well as their token holders.

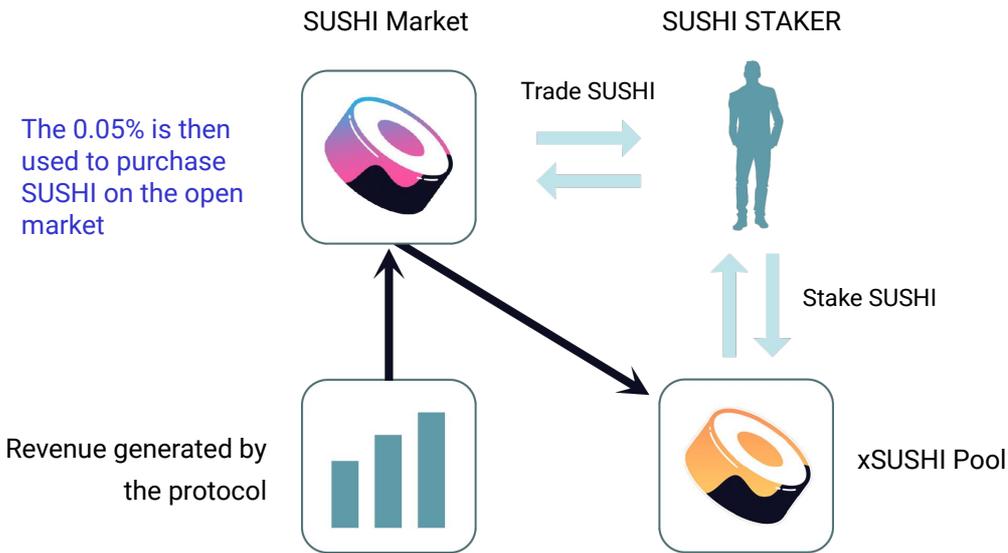
While we have discussed how liquidity providers can generate yield, there are examples of protocols that share the revenue generated by liquidity providers to stakers of the native governance token. Traditionally these revenue sharing protocols have existed within the DeFi sector. However protocols within the Metaverse and NFT infrastructure sectors are beginning to adopt these models. For example, 'LooksRare', a new competitor to the NFT marketplace giant 'Opensea', differentiates itself by sharing fees generated to stakers of their native governance token LOOKS.



The best example of this is SUSHI and xSUSHI. xSUSHI is an interest-bearing token that represents staked SUSHI, the governance token of the Sushi DEX. 8.88% of all fee revenue generated by the liquidity providers of Sushi is redirected to xSUSHI token holders. The protocol algorithmically and continuously uses the fees generated to buy SUSHI off the open market and deposit the purchased SUSHI into the pool owned by xSUSHI holders. This increases buying pressure of SUSHI and increases xSUSHI's value in SUSHI terms.

2

- The 0.05% is then used to purchase SUSHI on the open market



1

- Liquidity Providers earn 0.3% in fees on SUSHI DEX
- From the 0.3%, 0.05% is kept by the SUSHI Protocol

3

- The purchased SUSHI is deposited into the xSUSHI pool
- The SUSHI tokens are divided amongst the xSUSHI holders (users staking SUSHI), meaning their xSUSHI is now worth more SUSHI

Fee distribution and revenue sharing are becoming an important part of the governance token value proposition for many major protocols. It is common for early stage projects to suggest that revenue sharing will eventually be voted in by decentralised governance once the protocol becomes sufficiently decentralised. These protocols tend to wait for sufficient decentralisation due to the regulatory and legal concerns that arise as revenue sharing protocols can be defined as securities. Governance tokens such as UNI currently do not offer revenue sharing for UNI stakers.



## 7.0 Conclusion

Concepts such as liquidity providing for exchanges, lending substantial capital and earning dividends on crypto protocols (fee distribution and revenue sharing) were previously only accessible to institutions with a large capital base and sophisticated investors.

DeFi has significantly reduced these barriers and availed these activities to the masses. The crypto asset industry has also brought new paradigms to the financial world with practices such as staking crypto assets to guarantee returns in that asset as well as new structures, incentive plans and rewards for utilising protocols in a certain manner.

Apollo Capital is bullish on the role that DeFi will play in the financial sector moving forward. The technological movement that DeFi has given birth to will continue to challenge the status quo of traditional financial practices. In addition, as the global economy transitions from Web 2.0 to Web 3.0 these “yield-seeking” strategies outlined in the report and various new DeFi opportunities will make mainstream adoption.

Similarly to the Digital Revolution that saw the Internet transform the way information was communicated and shared, DeFi will do the same for finance, by taking advantage of a decentralised global network to build a more transparent and efficient financial market.

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