

A Deep Dive into DeFi 2.0 Solutions for Liquidity

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Executive Summary

Token rewards and incentive schemes by Compound and SushiSwap kicked off DeFi Summer in 2020, resulting in the **pervasive problem of inefficient, expensive, and mercenary liquidity**.

Native protocol tokens guarantee the crypto-economic incentives that are key to DeFi. While they are 'free' in the sense that anyone can issue their own native tokens and airdrop them, we find that they are **similar to unissued company stock as they entitle holders to DAO governance and, in some cases, enable protocol revenue sharing**.

There are a few problems with DeFi 1.0 liquidity bootstrapping playbook from DAO / protocol perspective:

- Impermanent loss for LPs on DEXes
- **Business cost** and opportunity in playing the liquidity bootstrapping game
- **Token price volatility** deterring investors with shallow AMMs and IDOs
- Vulnerability to large price slippage or 'whale' manipulations
- **Counterparty risk** during exchange listing

It is clear that '**DeFi 2.0**' is innovating and solving these liquidity pain points with their own various solutions:

- 1. **Popsicle Finance:** Yield maximiser for LPs
- 2. **FEI x Ondo:** Liquidity as a service ('LaaS')
- 3. Tokemak: Decentralised liquidity direction and provision

1. Mercenary Liquidity

DeFi summer saw total value locked (TVL) skyrocket, which forced investors to pay attention to this new sector. Additionally, that summer saw the birth of yield farming, arguably popularised by Compound's issuance of their native utility token, COMP. COMP was awarded to users to incentivise deposits onto the Compound platform.

This was taken to the next level with SushiSwap's SUSHI token, which incentivised a 'vampire' liquidity attack on its rival, Uniswap, by providing SUSHI for every single Uniswap LP position deposited on the platform. The success of this liquidity attack proved that liquidity is mercenary and that incentives are robust in DeFi, with SushiSwap locking in well over \$1B in less than one week.





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Uniwap TVL from the month of September to October

TVL plunged during the SushiSwap vampire attack, rapidly recovering with the introduction of UNI



The 'DeFi Summer' model relies on high native token rewards to incentivise mercenary liquidity, with the playbook being that once high TVL is locked, the underlying protocol has already bootstrapped a sustainable product worth using with organic high APY and trading fees to self-sustain the TVL without mercenary liquidity for hire.

Importantly, the robust nature of DeFi incentives acts almost akin to natural laws of physics - with the right incentives, actions can be incentivised (deposit, borrow, lend, etc.). For example, consider the case of **Trader Joe**, a 'one-stop shop' for all DeFi needs, which burst onto the scene on the Avalanche chain. They were able to carve out their market-leading position through lucrative incentive reward schemes to lure new users and bolster their TVL.

2. Liquidity Incentivised by Platform Tokens

Liquidity is incentivised with native governance tokens. These governance tokens are usually utility tokens, which typically give holders access to a set of utilities such as protocol governance or a fraction of the trading fees earned. In terms of voting and governance, these tokens can be used to cast votes transparently on the blockchain. New token metrics are further being explored with staked utility tokens (e.g. the uses of tokens such as xSUSHI, wOHM, sSPELL). For example, sSPELL, the staked governance token (SPELL) from Abracadabra Money, enables holders to get a portion of the fees the protocol generates - essentially acting as a revenue-sharing system.

While anyone can deploy their own tokens on Ethereum (hence the emergence of many 'meme' coins such as Doge, Baby Doge, and Snow Dog), it is arguable that these utility/governance tokens are far from worthless. If they have governance rights associated with them, **they are similar to ownership shares of these protocols**. For example, the YFI token was dropped with creator Andre Cronje himself declaring them 'worthless'. Now YFI is worth \$22K, with an all-time high of \$90K. It has a market capitalisation of \$780M. Price notwithstanding, YFI token holders were able to vote to prevent any more than 30,000 YFI tokens from being emitted after one month of the token's yield farming scheme. The YFI token is far from speculative, with real control over the protocol: once staked, holders get revenue fees, can vote on proposals and even submit their own proposals to the protocol. **Arguably, these native tokens are like unissued protocol shares if they allow governance and even revenue-sharing opportunities.**





Meanwhile, global discussion on the taxonomy and categorisation of digital assets (payment, utility, security and non-fungible tokens) continue to take place. Recent SEC remarks hint at a tightening stance against these utility tokens, saying these crypto tokens are not fungible digital securities at the same level as security tokens (for now). Other jurisdictions also disagree about the taxonomy of assets such as Bitcoin, with debates on whether it is a commodity or security remaining.

3. A Flawed Liquidity System

Protocols live and die by liquidity for both users and protocol DAOs. For the user, in the case of AMMs, if there is not enough liquidity, there will be high slippage and price impact resulting in volatility and inefficient markets for arbitrage. Uniquely for DEXes, **impermanent loss** is also another considerable cost of entering an LP position. According to a Bancor and Topaze Blue <u>report</u> written by Loesch et al., even though Uniswap V3 generated \$199.3M in trading fees for LPs, there was over \$260.1M in impermanent loss, **resulting in 49.5% of LPs with negative returns**. In other words, these LPs would have earned more money if they had just held their assets.



Meanwhile, for the protocols, liquidity must be incentivised with huge incentive schemes, which are extremely costly. (It has already been shown that these native platform tokens are far from worthless and are akin to unissued company shares). For example, Aave's <u>liquidity incentives for V2</u> amount to nearly \$800,000 / day in stkAAVE over 2.5 months (running from 27 April 2021 to target end date of 15 July 2021, using AAVE price as of 23 April 2021). This means that it would equate to around **USD 60M** (assuming 75 days and stkAave price at <u>\$364.80</u>



– note that actual AAVE price fluctuates). For example, Compound Finance paid over **\$76M** in COMP tokens but only \$100K in grant money.

Moreover, in the case of DeFi, the provision of liquidity on AMM DEXes is especially expensive, particularly in multi-sided market pools, which require more than one asset (e.g. a Uniswap pool with native token-ETH pair), essentially doubling the cost. For example, for \$500K of liquidity, there needs to be \$250K of each token. This is highly capital inefficient; although there are single-sided pools and pools with more than two tokens, such as Balancer or DoDo, the leading AMMs generally require twice as much deployable assets for liquidity.

Overall, reliance on governance tokens to incentivise liquidity is expensive and toxic from a protocol perspective. **Instead of building out new features and concentrating on UI/UX, large amounts of time and money are spent incentivising liquidity and marketing.** Swanson argues that this is similar to how internet companies in the early 90's were highly inefficient, as they were wasting precious resources (time, money and resources) in maintaining their own servers and computing infrastructure. However, the emergence of cloud computing from vendors such as AWS and Microsoft Azure enabled greater efficiency, so companies could focus on specialising and doing the things they do best. Perhaps this is a lesson that DeFi 2.0 can learn.





Overall, the current playbook to bootstrap liquidity for DeFi protocols results in the following problems:

- Impermanent loss for LPs on DEXEs
- Business cost and opportunity in playing the liquidity bootstrapping game
- High capital inefficiency
- Token price volatility deterring investors with shallow AMMs and IDOs
- Vulnerability to large price slippage or 'whale' manipulations
- Counterparty risk during exchange listing

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4. DeFi 2.0

A recent narrative that has burst onto the scene is 'DeFi 2.0.' There is not a single definitive source that exactly defines DeFi 2.0. However, one thing **it surely** addresses is the problem of liquidity - whether this is from the perspective of being an LP or from the perspective of protocols seeking liquidity.

New models of liquidity that we will examine are an LP yield maximiser, 'liquidity as a service' and decentralised liquidity provision and direction. These three models have been chosen as key case studies to examine the new DeFi 2.0 models as they all present their own unique solutions, each with comparable advantages and disadvantages. The following three protocols are considered:

- 1. Popsicle Finance
- 2. Fei x Ondo
- 3. Tokemak

Popsicle Finance

Popsicle Finance is a cross-chain yield optimisation protocol for liquidity providers ('LPs'). The purpose of Popsicle is to enable greater capital efficiency for chain-agnostic LPs looking for higher yields.

Popsicle Finance is a live product still in development. **However, its chief aim is to maximise yields for LPs in a multi-chain and chain-agnostic world.** There are two main features: 'V3 Optimiser,' which comes in two 'flavours': Sorbetto Fragola and Limone. Fragola enables LPs on Uniswap V3 to maximise their yields, whereas Limone enables LPs on multiple chains to optimise their yield. Notably, Limone is still in development and Fragola is only on Ethereum mainnet. **Currently on Fragola there are 22 LP pools that users can choose from**. Additionally, users can farm the platform's native token, ICE, under the 'Stand' section. ICE can be staked for nICE tokens, which serve as token revenue sharing for all nICE holders.

In Fragola, LPs first deposit their LP positions into the relevant V3 Pool (e.g. SHIB-WETH LP) and in return receive Popsicle LP (i.e. p-SHIB-WETH LP), which will represent their portion of their pool. Popsicle Finance claims that they will be able to automatically allocate the deposited LPs in areas of concentrated liquidity where trading fees can be collected in AMMs. This solves a pain point of capital inefficiency for LPs on Uniswap V3. Even though <u>concentrated liquidity</u> makes V3 more capital efficient compared to V2, for LPs, this still leaves the problem of selecting the right liquidity position, which will change according to various factors such as market demands and volatile asset prices. **Popsicle offers to automate**



this process by gathering many LP positions together and automating the position of concentrated liquidity by aggregating historical data.

Top LP Pools on Popsicle Finance (Top 5 by APR)

Tokemak incentivises users to balance both sides of the reactor with variable TOKE rewards

Uniswap V3 Pool	Projected APR (%)	TVL (USD)
WETH/ICE 0.3%	238.20%	321.24K
SHIB/WETH 0.3%	196.78%	530.92K
SPELL/WETH 0.3%	161.11%	1.32M
SHIB/WETH 1.0%	103.51%	731.44K
WETH/ENS 0.3%	94.44%	2.08M
USDC/WETH 0.05%	86.35%	6.22M

As of 21 Dec 2021 Source: Popsicle Finance, Crypto.com Research

Unfortunately, in August 2021, Popsicle Finance was exploited for \$25M. In October 2021, the platform <u>announced</u> that it would fully repay the victims with ICE tokens. Following this, Popsicle Finance was relaunched in November 2021, with 'Fragola'.

Fragola Statistics 13 Days After Hack Relaunch

TVL quickly climbed to \$33M, after paying back victims of the treasury exploit

Total Value Locked	\$33,000,000
Actively LPing	14 pools
Total Fees	\$1,164,789
Fees to nICE Holders	\$227,000
Total nICE Staked	8,495,499.69

As of 21 Dec 2021 Source: Popsicle Finance, Crypto.com Research

As of writing, **Popsicle Finance has doubled its TVL from November**. Currently, the platform holds <u>\$66M</u> in TVL. Popsicle Finance shows many hallmarks that mark DeFi 2.0, namely:

- Building on DeFi 1.0 'primitives' (i.e. using Uniswap LPs as an accepted asset)
- Multichain positioning, and chain agnosticism (e.g. Limone will support multiple chains across many LP positions)
- Solves DeFi 1.0 liquidity problems (i.e. the problem of inefficient and lack of profitability for LPs).

Fei x Ondo

Fei and Ondo are two protocols working to provide 'liquidity as a service.' Recognising that liquidity is expensive for many protocols to bootstrap, this solution enables new protocols to halve the cost of liquidity in exchange for a fixed small fee (2-3%) and to undertake the risk of impermanent loss. (However, the protocol will have the junior tranche upon redemption).

Fei will provide the other 'half' of the liquidity in a two-sided AMM requiring native protocol tokens (e.g. ABC) and Fei's FEI tokens. Meanwhile, Ondo enables the business model to be structured on a technological level by offering the Ondo vault, which enables DeFi users to trade risk and reward balances of pooled assets. In this case, Ondo will enable FEI to take the senior tranche of the FEI-ABC AMM pool. A breakdown of the subscription and redemption process is below:



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FEI x ONDO Liquidity as a Service ('LaaS') Subscription Process DAOs looking to secure AMM liquidity can do so at half the price



As of 10 Dec 2021 Sources: Fei, Crypto.com Research





As of writing, this new partnership between Fei and Ondo has around \$100M in commitments, with \$50M from Fei's initial commitment and another \$50M matched from partners. The first of the vaults to be launched are Universal Market Access (UMA), Gro Protocol (GRO), Shapeshift (FOX) and NEAR (NEAR). The vault will initially deploy the liquidity into Uniswap.

Tokemak

Tokemake looks to provide and direct a decentralised, sustainable liquidity solution using its native protocol toke, TOKE.



The mechanism of Tokemak has two distinct elements. First, there are liquidity providers (LPs) who stake their tokens (currently genesis reactors are only ETH / USDC) and get back 'tTokens,' which represent their share of the pool (e.g. tETH if ETH is deposited). LPs are rewarded with TOKE tokens for doing so. Next, there are liquidity directors (LDs) who are TOKE holders, and stake their TOKE for voting rights in 'reactors' (which show which pools such as FXS, ALCMX, SUSHI, OHM) to direct liquidity.

The TOKE token is used to pay LPs incentives and for LDs to direct liquidity. However, the protocol keeps the yield generated by liquidity - essentially allowing the protocol / DAO to **accumulate its own protocol-controlled assets over time.**





The Tokemak protocol disaggregates the liquidity provisioning into three distinct roles: capital, market-specific knowledge and technology to price/trade assets. This disaggregation is important as it solves many of the traditional liquidity provisioning challenges. First, capital providers are able to provide only one asset instead of two - e.g. ETH or USDC. This greatly reduces the barriers of entry to becoming a liquidity provider (LP). Next, liquidity providers decide where liquidity should be directed and to which token pairs (e.g. ETH-ABC or USD-ABC). The role of pricing mechanisms will be outsourced to DEXes such as SushiSwap or Uniswap.

Tokemak's long-term vision is to accumulate enough protocol-controlled assets (PCA), so that TOKE will be 'backed' by these assets. There will be no need for more TOKE emissions to incentivise the LP side of the reactors, as PCA can be deployed instead.

As of writing, the Tokemak team has completed its first **C.o.R.E** ('Collateralisation of Reactors Event') in October 2021. During C.o.R.E, TOKE holders vote on which reactors for which assets will be launched from a list of 16 protocol candidates. The top 5 protocols that were chosen by TOKE holders were: **OlympusDAO** (OHM), **Frax** (FRX), **Tracer** (TCR), **SushiSwap** (SUSHI) and **Alchemix** (ALCX). These reactors have been ignited and are now live. Currently, the next reactors have also been chosen by TOKE holders (voting started November 2021) but are not yet live.

Pool	TVL (\$US M)	APR
Genesis (ETH)	387.1	7%
Genesis (USDC)	221.8	12%
ΤΟΚΕ	188.8	VARIABLE
TOKE-ETH (Sushi LP)	169.2	153%

Tokemak Pools at a Glance Total Tokemake TVL stands at \$1.34B

As of 10 Dec 2021 Sources: Tokemak, Crypto.com Research



Tokemak Reactors (C.o.R.E 1 only)

Tokemak incentivises users to balance both sides of the reactor with variable TOKE rewards

Reactor	TVL SPLIT (\$US M)	TVL TOTAL (\$US M)	TOKE Rewards (per cycle)
Frax (FXS)	FXS (118.2) TOKE (70.9M)	189.1	FXS (43.0%) TOKE (70.9%)
Alchemix (ALCX)	ALCX (46.5) TOKE (31.7)	78.2	ALCX (45.0%) TOKE (58.0%)
Sushi (SUSHI)	SUSHI (26.6) TOKE (18.3)	44.9	SUSHI (45.0%) TOKE (58.0%)
OlympusDAO (OHM)	OHM (18.0) TOKE (15.0)	33.0	OHM (48.0%) TOKE (54.0%)
TracerDAO (TCR)	TCR (12.0) TOKE (11.4)	23.4	TCR (50.0%) TOKE (52.0%)
Visor (VISR)	VISR (8.1) TOKE (5.9)	14.0	VISR (46%) TOKE (57.0%)

As of 10 Dec 2021 Sources: Tokemak, Crypto.com Research

5. Conclusion

Building on DeFi 1.0, DeFi 2.0 protocols such as Popsicle Finance, Fei x Ondo and Tokemak are looking to provide solutions to liquidity whether it is addressing the problem of LP impermanent loss, protocol liquidity or liquidity provision and direction.

Summary of Protocols

Each protocol offers its own tools and mechanisms to solve specific liquidity problems

Protocol	Target Problem(s)	Key Characteristics	
Popsicle Finance	Choosing LP positions on Uniswap V3	Automated LP yield maximiser	
	LP Impermanent Loss	Multichain / Chain agnostic LP (to be built)	
Fei x Ondo	Double asset provision for LPs	<i>'Liquidity as a Service'</i> with FEI tokens and single native platform tokens	
	Expensive protocol / DAO Liquidity	Ondo vaults for structured returns	
	Mercenary Liquidity		
Tokemak	Double asset provision for LPs	Single asset provision for LPs	
	Expensive protocol / DAO Liquidity	Decentralised liquidity direction for LDs voted by TOKE holders	
	Mercenary Liquidity	<i>'Protocol Controlled Assets'</i> (to be accumulated)	

Source: Crypto.com Research



References

Aave Finance, and Anjan Vinod. "introduce Liquidity Incentives for Aave v2." *Aave Finance*, 6 02 21,

https://app.aave.com/#/governance/11-Qmf1JeXiw8BDUoKJ89VmUJ8wy22D2udq L4HxprCG7DZ5zG. Accessed 2 12 21.

- Bancor, et al. "Impermanent Loss in Uniswap v3." -, vol. -, no. -, 2021, -, https://arxiv.org/pdf/2111.09192.pdf. Accessed 15 12 21.
- Fei Protocol, and Brianna Montgomery. "Introducing Liquidity-as-a-Service from Fei Protocol and Ondo Finance." *Fei Protocol Medium*, 21 10 2021,

https://medium.com/fei-protocol/if-you-are-part-of-a-dao-or-protocol-that-wantsto-create-liquidity-for-your-token-without-f49a01f02863. Accessed 8 12 21.

Messari, and Ryan Swanson. "Tokemak: Nuclear Efficiency with Liquidity-as-a-Service." *Messari*, 28 10 21,

https://messari.io/article/tokemak-nuclear-efficiency-with-liquidity-as-a-service?r eferrer=asset:tokemak. Accessed 18 12 21.

- Ondo Finance. "Ondo Finance Docs." *Ondo Finance Docs*, https://docs.ondo.finance. Accessed 12 12 21.
- Popsicle Finance. "13 Days of Eating Sorbetto Fragola." *Popsicle Finance Medium*, 19 11 21,

https://popsiclefinance.medium.com/13-days-of-eating-sorbetto-fragola-b61c5c6 be485. Accessed 19 12 21.

- Tokemak. "C.o.R.E. Collateralization of Reactors Event." *Tokemak Medium*, 11 09 21, https://medium.com/tokemak/c-o-r-e-collateralization-of-reactors-event-2a2d5b2 f8e70. Accessed 6 12 21.
- Tokemak. "C.o.R.E. The First Token Reactors." *Tokemak Medium*, 7 10 21, https://medium.com/tokemak/c-o-r-e-the-first-token-reactors-b61caa5a388b. Accessed 8 12 2021.





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