2019 Was The Year of DeFi (and Why 2020 Will be Too)

How Ethereum will create an open financial system with new financial assets and protocols.

by **Mason Nystrom** **December 5, 2019**

brought the world initial coin offerings. The answer for 2019 is unmistakable: the decentralized finance movement was by far the most impactful trend within the crypto and blockchain ecosystem.

Google searches for "decentralised finance" surged 273% in 2019 compared to 2018, according to our seo consultant: Victoria Olsina.

In order to understand *why* 2019 was the year of DeFi, let's break down what makes the open financial movement so revolutionary, and examine the strides the phenomenon has made towards creating an open financial system.

Defining DeFi

Open finance—or decentralized finance—refers to the paradigm shift from today's closed financial system towards an open financial economy based on open protocols that are interoperable, programmable, and composable.

As the crypto ecosystem looks to expand, the term Open Finance more accurately describes the intended destination, because Ethereum is creating a new on-chain economy that integrates with current financial systems. Open finance is not about creating a new system from scratch, it's about democratizing the existing system and making it more equitable using open protocols and transparent data.

The Properties of Open Finance

Interoperable

The current financial system is comprised of walled gardens with limited transferability or two-way access. Where interoperability is possible, it's controlled by middlemen and rent-seekers. Open finance is defined by platforms that can work together with a degree of transparency with functions that complement one another.

Programmable

and services. Digital assets and securities will usher in a new era of financial mechanisms and growth.

Composable

For many, a favorite childhood toy growing up are Legos, with which what you can build is only limited by your imagination. Composability refers to the concept that something can be selected and assembled in multiple combinations (i.e., Legos). Ethereum has shown the value of composability, having already become a protocol for other protocols such as Maker, UMA, Augur, Compound, and many more.

Criteria of an Open Finance Economy

Every financial system requires numerous traits to become an economic engine, but first, we must define those criteria. There are a few generally accepted characteristics that comprise any economic system.

A functioning financial system contains global, efficient markets that allow for:

- The ability for borrowers and lenders to transfer capital
- A process of exchange and trading (i.e., derivatives) with the necessary liquidity
- Means for individuals/investors to move, save, formulate, and allocate capital
- The capacity to offset and manage risk
- And provides regulatory protections for investors and individuals

So a new financial system that is open must meet these attributes while removing the typical intermediaries or centralized points of control. Let's examine the above characteristics and how they compare to the Ethereum ecosystem.

For a financial system to provide suitable market liquidity for borrowers, it needs lenders – and to obtain lenders a system requires borrowers. Chicken, meet the egg. This problem is initially solved via speculation. Crypto, which is a speculative asset class, has managed to create a few interesting lending and borrowing protocols.

MakerDAO was the first protocol to create a means by which individuals could continue to speculate through collateralization. While MakerDAO vaults (formerly called CDPs) have enabled users to borrow dai using ether as collateral, new lending and borrowing protocols dominated much of the 2019 crypto narrative. Compound and Fulcrum both create pools of capital allowing users to lend or borrow cryptoassets including dai, USDC (Coinbase's stablecoin), ether, and more.

Dharma was originally competing with Compound now leverages Compound's protocol to provide its customers with the best interest rate possible. Dharma achieves this through its "smart wallet" which automatically deposits customers' funds into the Compound protocol.

Most recently, MakerDAO's highly anticipated upgrade from single collateral dai (Sai) to multi-collateral dai (MCD) was successfully completed. The Maker protocol upgrade also came with a new dai savings rate (DSR), which provides interest to individuals who keep their dai in the Maker protocol. In the short term, the DSR is a smart contract that can be integrated into any other exchange and may become the base interest rate for the crypto DeFi space.

Long term and in the most bullish of circumstances, the DSR has the potential to become a trust-free savings rate similar to how treasury bills act as the risk-free rate. The distinction between trust-free and risk-free is subtle yet distinct. While Maker's protocol comes with elements of risk such as smart contract risk, it does not require trust from any single entity (the protocol is governed by MKR token holders). Eliminating the reliance on large organizations, including the government is a powerful tool for reducing systemic risk.

These various protocols showcase the power of composability: 1)Dharma provides an open platform by 2) leveraging Compound's open protocol, 3)

Exchange and Trading

Financial systems operate through open markets and require robust mechanisms for trading and transferring value. The 2019 trading landscape was primarily dominated by a few large players, predominantly Coinbase, Kraken, Gemini, Bitstamp, Bitfinex, and Binance.

This past year showcased crypto exchanges are primed to become the user interfaces for investing, trading, and other activities. Most major exchanges offered dozens of new trading pairs and developed new products or services such as mobile wallets, educational tools, and token products. Similar to Apple product stickiness, crypto customers will probably remain loyal to one or two crypto exchanges because of the lengthy onboarding process and people's desire to custody assets in a single location.

Notably, a few exchanges decided to focus on capturing institutional clients, building out custody solutions or acquiring the necessary infrastructure. While centralized trading has been widely popular (and profitable), it's not quite the new financial economy most crypto enthusiasts and entrepreneurs are hoping to achieve.

Uniswap emerged this year as the go-to decentralized exchange (DEX) for trading cryptocurrencies in a disintermediated fashion. Uniswap reported trading volume over $8 million in a twenty-four period in November of 2019. Uniswap currently comprises 33% of all DEX volume which exceeds IDEX and Kyber. Another decentralized exchange dYdX developed a platform combining trading, borrowing, and lending. The dYdX DEX aggregates spot prices and lending liquidity across multiple exchanges for its users. Notably, Binance also offers customers lending capabilities on its centralized exchange.

Initial Exchange Offerings (IEOs) were incredibly popular in the first half of 2019, where a centralized exchange served as the platform for token sales. Essentially, An exchange acts as the gatekeeper for these token sales and only verified customers are allowed to participate. The token sales were usually

tokens to effectively increase the price for holders. A report by Token Insights halfway through 2019 revealed the IEOs initial hype throughout the first couple of months of 2019 before slowly fading in popularity. While IEOs, ICOs, and STOs (security token offerings) have had their fair share of scams and misuses, the ability to raise capital is a necessary tool for any financial system.

Investing and Allocation of Capital

In the definition laid out in the beginning, the ability to formulate capital and move money were also present. Ethereum has mostly solved these two issues through first natively through the ability to transfer ether and secondly through security or token offerings as mentioned above.

Investing in cryptoassets has certainly evolved throughout 2019 and will continue to expand in the coming years. Speculation remains the most prominent use case for cryptocurrencies, however, many individuals perceive this trait as entirely negative. Tools and mechanisms for speculation are a vital component for any new asset class, especially an asset aiming to be the bedrock of an open financial system. One of the most important and subsequently hardest aspects to creating a new financial system is generating the necessary liquidity required for efficient investing.

Liquidity is the capacity for an investor to convert any asset into cash quickly. The term also refers to an individual's ability to buy or sell a financial instrument without affecting the asset's price. This is obviously incredibly difficult when the value of the entire crypto-economy is worth less than 200 billion dollars at the time of this essay. Highly liquid assets are composed of trillions of dollars in total value which makes it easy to buy or sell any given asset. The world's six largest companies have a market value three times greater than the market capitalization of all cryptocurrencies.

How about other assets:

- Gold: 7 trillion.
- Stock Markets: 70 trillion.

And the holy grail, derivatives: over 550 trillion. Futures, options, swaps and other contracts between individuals based on the performance of an asset, index, or entity.

So, how does a new asset class attract liquidity? By allowing anyone to create and trade assets that don't trade anywhere else. The best part is Ethereum literally enables entities or individuals to build new financial instruments and products which will be one of the greatest financial explosions in our lifetime.

One critical aspect is that these protocols are open. UMA is creating a derivatives platform providing standardized contracts for financial products. Synthetix is a protocol that enables the creation and issuance of synthetic assets such as cryptocurrencies, fiat currencies, and commodities. Synthetic assets and derivatives provided by open-source protocols will generate value for investors who seek to hedge against risk, diversify capital allocation, and find mechanisms to increase the return on investments. The types of derivatives are endless for traditional and cryptoassets. There are already over a dozen variations of Dai in existence which have been created by other DeFi protocols.

Staking

Staking is increasingly becoming a method of capital deployment. The concept of staking has emerged alongside the growth of cryptonetworks, specifically proof of stake blockchains. Staking is a broad term, but often refers to a mechanism by which individuals are required to support their conviction of an action with capital. Numerai's stock prediction tournament requires that data scientists stake their predictions with their capital (NMR tokens). The data scientists are then rewarded based on the accuracy of their predictions and on the amount of capital that they staked. The more conviction, the more an individual is willing to stake.

Other staking models for blockchain networks such as Ethereum will require 32 ETH to partake in block validation. If an individual acts in bad faith then their staked capital will be seized by the protocol. Various proof of stake

With the increasing popularity of lending and staking protocols, companies are looking to help individuals manage their capital and staking operations. Coinbase stakes Tezos on behalf of customers and deposits the rewards directly into customer accounts. Many exchanges have started to offer similar products or will in the near future.

Another approach to staking investments has been through non-exchange custodians such as Staked and Atlas which provide staking as a service for individuals. While centralized exchanges have the opportunity to offer this feature for their existing users, specialized services may be able to capture a percentage of market share if individuals are more interested in the active governance of a particular crypto network versus simply earning rewards. It's possible that lending and borrowing protocols like Compound will eventually offer staking as a service features. More exchanges and applications will offer staking services in 2020 because of Ethereum's shift towards proof of stake as well as the launch of several PoS blockchains.

Risk Management and Regulatory Protections

Risk management and regulatory protections are admittedly less robust than the previous categories within Ethereum and crypto as a whole. In general, Ethereum natively mitigates some of the risk factors of the current financial system that come from opaque information, intermediaries, proprietary systems, and less effective social coordination (e.g., trust). However, Ethereum currently comes with its own set of tradeoffs that result from rapidly developing technology, such as smart contracts that can be designed with errors or manipulated if not created correctly. Further, insurance risk, liquidity risks, and more nuanced features of crypto networks make open finance complex from a risk management perspective.

ConsenSys Codefi's DeFi Score has outlined many of these risk factors in more depth. DeFi is a rapidly growing space in Ethereum and the past year brought many of these issues into the limelight as companies, individuals, and developers now seek to minimize these risk factors. Of course, solutions

From the regulatory side, things are getting better, but it's mostly a wait and see what the SEC, CFTC, and other global regulatory bodies say about cryptoassets. In 2019, the regulatory clarity for cryptoassets in regards to trading, issuance, and usage has improved and become more defined. However, there are still hundreds of nuanced questions that need answers, and subsequently, dozens of laws that will be required before widespread adoption is possible. The volatile prices of crypto and entrance of large multinational companies like Facebook are consistently bringing cryptoasset regulation centerstage.

New Categories for the New Financial Economy

Innovative technologies create new or alter existing business models for profit generation and investment. The internet empowered more efficient crowdfunding through sites like GoFundMe, Kickstarter, and Indiegogo. StockX created a robust marketplace for sneakerheads which increases liquidity and value for collectors.

New Markets

While not a necessary requirement for a financial system, new markets open up the potential to further manage and hedge against types of risk. Prediction markets and information markets are one instance where thousands of individuals can leverage their knowledge collectively or independently. For instance, Augur's prediction market is being used to bet on election outcomes which could prove incredibly valuable over time as organizations around the world seek to understand the likelihood of political outcomes.

Numerai's Erasure protocol provides a data marketplace where individuals can use their specific knowledge to sell predictions or information about the world which are transparent and contractually enforceable.

Another aspect of betting is the lottery, which we all know isn't worth playing. However, PoolTogether has created a new "no-loss lottery" that leverages other open finance protocols. For example, PoolTogether allows

year). The winner of the lottery receives the combined interest that has accrued from all the pooled funds and everyone else (the losers) receives their original money back. Interesting new gambling mechanisms like this may reduce the negative outcomes that individuals receive from the traditional lottery. More importantly, this is once again a perfect example of how open protocols and applications can be leveraged to create something new.

Stablecoins

Stablecoins are cryptoassets that maintain a stable value against a target price (e.g., the U.S dollar). There are multiple categories of stablecoins that have emerged over the course of the past two years. MakerDAO has created Dai. Facebook is gearing up for Libra. Walmart is prepping for the Walmart Coin. Coinbase issued USDC, which is available in over 80 countries. Binance recently announced Venus. JP Morgan created a digital asset for settling transactions between institutional clients. The International Monetary Fund has stated that "Stablecoins are a threat to banking and cash."

Each of these organizations are taking a specific route to stablecoin adoption. MakerDAO is looking to reshape the financial system and create a more stable cryptocurrency. Facebook is aiming to become a payments company using their social media prowess. JP Morgan and other banks are trying to increase operational efficiency. USDC has been used as a trading pair for cryptoassets and more recently in lending and borrowing protocols. Walmart will likely use its stablecoin as an upgrade to loyalty points. Each of these paths towards mainstream adoption differs slightly and it will be interesting to watch which method proves most effective.

In the short term, fiat-collateralized stablecoins will dominate because they solve various problems with our current system: cost, reach, speed, and openness. Stablecoins as digital currencies offer near-instantaneous transfers at lower costs anywhere in the world. Digital currencies can be programmed, tracked, and embedded in digital applications. Fiat-collateralized stablecoins can become native to social media and have the potential to reach millions of people that have never had access to traditional

Non-fiat collateralized stablecoins will likely take longer for widespread adoption because it requires a mental shift to reimagining value. New forms of money and their adoption will greatly depend on the ability to be used as a store of value and as a means of payment/medium of exchange. Ethereum has become the defacto collateral that backs many of the existing open financial protocols. As more protocols issue new derivatives and securities they may also seek to use Ethereum as collateral further cementing Ethereum at the center of open finance.

Looking Towards 2020

It's clear that Ethereum has established itself as the protocol that will become the foundation for the new financial economy. In 2020, new and existing companies will develop on top of borrowing and lending protocols that will enhance efficiency and build new products. Some of these have already been created, such as Idle and Staked's robo-advisor for yield generation. More will develop over the course of the next year.

Crypto companies are increasing their capabilities to facilitate better trading as well as new products and services. Coinbase and Binance will continue their rapid expansion through acquisitions and product releases. Decentralized exchanges will hopefully become easier for the average user and perhaps mobile native.

There will be an explosion of synthetic assets and new derivatives which will create tens of millions in value in 2020 and eventually billions in value. Some will be shit (literally), while others will be new and novel. New financial products and instruments are continually being developed that will drive further liquidity and potential profits for investors.

Speculation will continue to grow in 2020 as cryptoassets evolve with the addition of newer investing categories like staking, information markets, and yet to be conceived ideas will further create value for individuals, entities, and investors. Risk management will continue to improve with a more comprehensive analysis of the associated risk with open finance from the

be favorable for the continued use of cryptoassets and blockchain networks.

The interoperable, programmable, and composable nature of the open financial stack built on Ethereum provides the foundation for a new financial economy. However, remember that this movement is not merely throwing out the old financial system, but rather integrating with the current system where possible and creating where necessary. The new financial system must serve everyone, not only the already crypto-initiated. Lastly, the creation of a new financial system will take time. While 2019 saw significant strides forward in the development of decentralized finance, 2020 looks set to make a leap.

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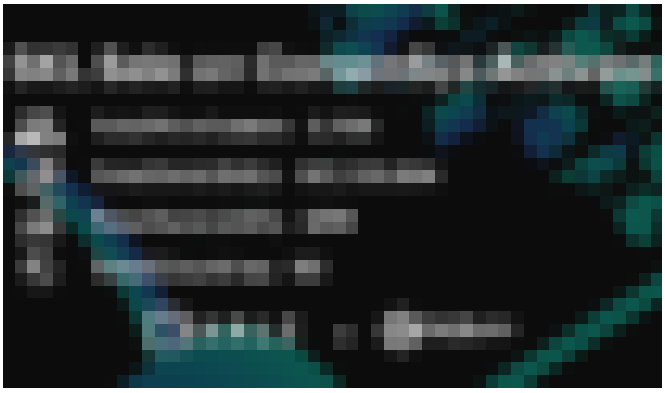

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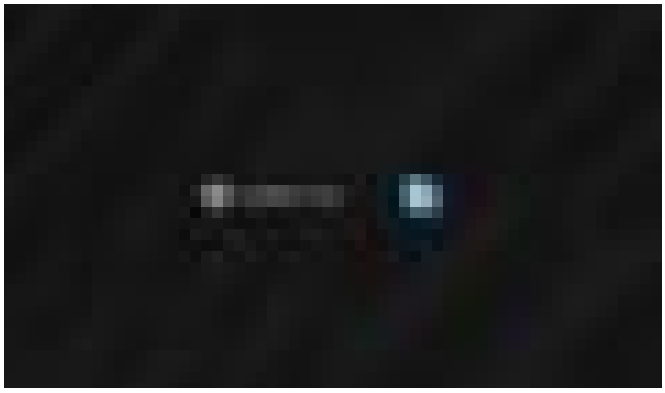

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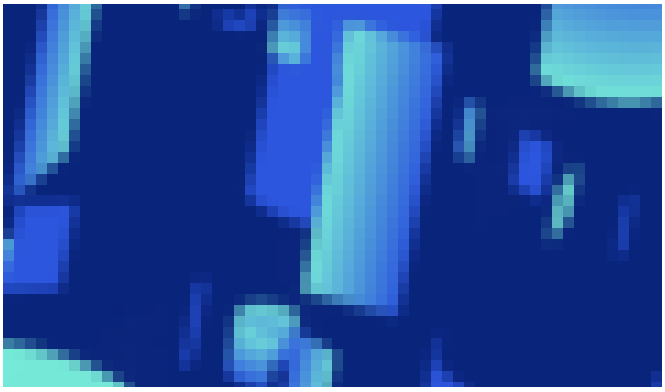

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