# Decentralized Finance on Institutional Level - A Review of Potential, Advantages and Challenges of High-Level Adoption

Daniel Ramos, Gabriel Zanko, MobileyourLife – Bogotá, D.C., Colombia

## Abstract

Decentralized Finance (DeFi) has become a staple in the current state of the cryptocurrency market, since it has acted as an entry-point for a great number of users. This rise in popularity has also grabbed the attention of institutional clients, who are evaluating the implementation of DeFi services. However, for this process to generate the desired transition, a number of improvements are required on multiple levels.

Index Terms – Decentralized Finance, blockchain, security, cryptocurrency, innovation, institutional.

### I. INTRODUCTION

During the year, we have released a pair of research documents that focused on Decentralized Finance (DeFi) and its current state<sup>1,2</sup>, which broke many expectations due to its fast and steady growth in the last few months.

Starting with the climb triggered by the launch of the decentralized governing system of Compound, and paired with the continuing growth of cryptocurrency as a whole due to the popularization of trading and eCommerce as viable alternatives during the lockdowns, DeFi as a sector of the cryptocurrency market has caught the attention of not only current users at the time, but also attracted a large number of new users and has even caught the attention of clients in the institutional level.

Since the difference in the services and solutions offered to personal users and institutions is drastically defined, we will explain in this documents some fields in which DeFi can improve to become more attractive to this kind of high-level clients, according to a piece written by Jamie Burke, CEO and Founder of Outlier Ventures<sup>3</sup>.

### II. DEFI THROUGH THE YEAR

Since the beginning of the year, DeFi has been through a variety of events that are considered as causes for the drastic increase in Total Value Locked (total number of tokens currently locked in contracts within DeFi platforms, multiplied by the value of each token, Figure 1).

# II.a. COVID-19 pandemic

In the early months of the year, when the spread of the COVID-19 virus was still underestimated and countries were only counting on closing borders and cancelling flights to certain regions of the world, analysts were speculating about people looking towards cryptocurrency as a "safe alternative" against fiat currency<sup>4</sup>. However, much like what happened with the Iran-U.S. tensions in early January, this was only the cause for more people to buy the tokens, and the early rises were cause by the rise in transaction volumes.

As time went on and the virus spread further, governments started to enforce lockdowns, economies started to take grave hits. Since people all around the world were no longer allowed to perform their everyday activities as often, consumption experienced a great reduction, which then translated into businesses in the services and productions sectors to struggle heavily. This has ultimately motivated a multitude of users to take on cryptocurrency, while the prices of the most relevant tokens kept rising.

## Total Value Locked (USD) in DeFi



Figure 1. Total Value Locked in the DeFi market for the past 12 months. Note the increases in growth in late March, mid-June, and early August. Retrieved from defipulse.com

# II.b. BTC's third halving

On May 11<sup>th</sup>, Bitcoin went through its third "halving" event, in which the mining rewards for each completed block were reduced in half to 6.25 BTC per block. This is done as a measure to extend the lifespan of the token (since there is a fixed maximum of 21 million BTC to be mined) and as a countermeasure to the devaluation caused by having a constant influx of more currency into the market.

Based on the previous two events, it was expected for this halving to trigger a bullish run that could make the price of BTC rise in an accelerated manner<sup>5</sup>, which would also cause big growths in the market given that BTC is the most dominant cryptocurrency by a large margin. However, these effects tend to show themselves on the long-term future, probably after 12 to 24 months, so what we have experienced across the market may be the early signs of the trend.

# II.c. Compound's COMP token

On June 16<sup>th</sup>, Compound, a very relevant DeFi protocol at the time which focuses on giving developers and enthusiasts the tools required to offer financial services based on blockchain, finished their "semicentralized" stage and released their public governance token, COMP. Since then, all the major decisions taken regarding the protocol have been voted by holders of the token.

This movement worked on two levels: it caught the attention of multiple outlets since a platform of that size

to be completely released to public governance, while also driving a wave of interested users to the platform and, consequently, to DeFi as a whole, which reflected in a fast increase in TVL around the middle of June (Figure 1).

#### II.d. ETH's rise

Multiple other events throughout the year have worked indirectly in favor of DeFi, since the vast majority of the platforms are based on the Ethereum network so a rise in the price of ETH translates into an increase in both the value of the tokens and TVL. This was made clear in the month of September, when a period of instability and drops in ETH's value caused the constant rise in TVL to falter.

## III. INSTITUTIONAL DEFI

Based on the impact the year has had on individuals entering the DeFi market, Jaime Burke believes that institutional adoption of these tools and services is imminent. He defines "institutional DeFi" as a group containing a mix of multiple types of platforms: (1) crypto-native businesses which are excluded from access to typical banking, (2) financial firms interested in cryptocurrency via custody or derivatives and ETFs, (3) fintech firms that would experience profits from implementing DeFi and (4) traditionally underbanked industries and markets.

Burke describes that the key to mainstream adoption of DeFi in the largest institutional level comes from certain features associated to this type of platforms, which could help them develop tools that may attract new clients. The first of these features is non-fungible tokens (NFTs), which are programmable digital assets that do not necessarily represent a currency. NFTs could give institutions ways to provide access to entirely digital representations of real-life assets. The intent for the popularization of this type of asset can be seen in the increase in value of platforms focused on asset-digitization services, like Synthetix reaching above \$1 billion in TVL in late-August.

Another great advantage of adopting DeFi at an institutional level comes with the benefits inherent to blockchain systems in terms of security and recent improvements made in the field of transaction confidentiality. With privacy primitives like zeroknowledge proofs becoming more popular, the need to trust in the ethical behavior of the users becomes less worrying to enthusiasts, and adding solutions like transaction mixing, Layer 2 scaling and other methods of general confidential computing, institutions can create ecosystems that are both secure and inviting to clients. One of the main examples of Layer 2 scaling is Aztec, a platform initially created to offer zeroknowledge systems to validate transactions in a private way, which implemented a new version of their platform that improves on scalability via Layer 2.

## IV. POTENTIAL IMPROVEMENTS

In spite of the benefits it may bring, the implementation of this kind of systems brings with it a number of questions that can make users doubt is DeFi is able to hold up to the hype or if it could keep up with the demands in innovation that institutional clients would bring with them. The main concern comes in terms of security, as the fast-paced and permissionless nature of DeFi, reaching all-time highs in terms of transactions per second (Figure 2), gives opportunities to users with high technical knowledge to create or copy an unaudited and unregulated contract or network.



Figure 2. Daily Ethereum transactions for the past year. Note the constant increase since January 2020 up to early August, and how the latest decreases kept the number above the 1 million mark. Taken from etherscan.io.

This issue could be tackled by tightening the regulations, but that would also be acting against the nature of DeFi, which could end up driving away more users than it brings in. And even if there were intentions to regulate this kind of activities, would they be able to do it? "Is there a threshold where its net benefit becomes irresistibly better than the current system in encouraging innovation, competition and economic expansion?", Burke asks.

The answer to this question requires a deep and thorough process of analysis and testing, but initial theories predict that we could see a similar situation to what happened in the early days of Bitcoin and Ethereum, where regulators where deeply adamant about the concepts but grew to accept them as beneficial services (Figure 3), and the perception of DeFi may also become less stern as time moves on and more high-profile users or institutions become knowledgeable in the benefits of implementing this tools in their services, but there are ways to improve the current systems in order to reduce the entry barriers and turn it into a friendlier landscape for high-level newcomers.

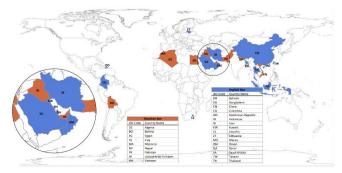


Figure 3. Legal status of cryptocurrency around the world. Note the small amount of countries with explicit, absolute bans (orange) and countries with non-specific or implicit bans (blue). The global tendency of acceptance over time could also occur with DeFi.

Besides scalability and knowledge, another important topic for institutional clients is financial risk management. As we mentioned before, the nature of DeFi lends itself to inherent issues regarding the safety of investments, which would require the platforms to implement new measures to reduce the risk on the client-level. Institutional users that would like to mitigate this risk for their clients can offer solutions that range from basic insurance of investments, which may

prove useful but also difficult to test in such new environments, to custody mechanisms, although the implementation of these systems should be performed carefully not to turn the institution into a centralized auditor, thus defeating the point of implementing DeFi services.

Multiple analysts have discussed the potential friction that may be caused by the implementation of these systems in institutions and how a lack of enforcement and regulation may become the main obstacle to fulfill compliance duties and preventing money laundering, but that the adoption of rigorous KYC/AML measures might defeat the point or even go against the nature of DeFi itself<sup>6</sup>.

On the other hand, one of the ways in which DeFi might improve without sacrificing its decentralization is in accessibility aspects. Should institutions put in the effort in migrating their current systems and databases or support the development of bridges between CeFi and DeFi, this process would not only become smoother for them as adopters but also for their potential clients. Furthermore, the movement towards an almost-entirely digital environment might facilitate a large number of processes that are either time-consuming, complicated, or prone to human error in today's standards.

## V. CONCLUSION

In their analysis, Outlier Ventures managed to pinpoint the main topics that should be considered in discussions for adoption of DeFi at an institutional level, an idea that a year ago was nearly non-existent and that has gained great momentum in the last few months, and focusing on these topics might prove crucial in the near future, when the viability of DeFi tools and services at the institutional level will be repeatedly proposed, analyzed and tested.

If both the potential institutional adopters and the largest DeFi platforms on the market make the necessary efforts and compromises to improve on both ends, a gradual transition could be created in a way that the implementation of the systems is not disruptive enough to generate concern in regulatory agencies, but fast enough to keep up with the expected demands of both the institutions and their clients.

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