

DeFi: decentralized finance is on the rise

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The traditional finance market is centralized. Central authorities issue the currency that powers our economy. Centralized financial organizations, e.g., banks, control our assets. Hence, the ability to regulate the flow and supply of such currencies in the market resides with a central authority. Risk is also at the center. The centralization of authority and practice across the financial system has led to a potentially unmanageable level of complexity. Complexity at this magnitude creates risk. Unchecked risk will increase creating new vulnerabilities. This coupled with a lack of transparency compounds the problem. For example, if central banks print more currency to handle a financial crisis and it does not resolve the crisis, it may result in extreme inflation disrupting an entire economy. A potential solution is to decentralize.

Cryptocurrencies like Bitcoin, Ether, and hundreds of others offer secure decentralized peer-to-peer trading without intermediaries. Here users have control over their crypto assets. Unfortunately, cryptocurrencies have not decentralized the financial system. While the cryptocurrencies are decentralized, they are typically accessed via centralized access points such as exchanges. So how will we move towards decentralized finance? From stable coins, decentralized exchanges and wallets to payments networks, lending and insurance platforms, key infrastructural development, marketplaces, and investment engines the decentralized finance (“DeFi”) ecosystem is the way forward. DeFi utilizing technology implemented using a blockchain-based ecosystem will provide the user with full control of their assets. It will add transparency, stabilization, and efficiencies to global finance. DeFi also referred to as “open finance” is an ecosystem where blockchains, digital assets, open protocols are integrated with conventional financial structures. DeFi includes smart contracts, and distributed applications (“dApps”) built on a blockchain. Currently, the Ethereum platform is the primary choice for the DeFi. Why: because many dApps have been built using Ethereum and Solidity smart contracts so there is a large pool of talented developers. Additionally, these development projects breed composability. A DeFi platform is composable if its existing resources can be used as building blocks and integrated into higher order dApplications. Composability leads to rapid and compounding innovation. The fact that most DeFi protocols are open source, i.e., freely available, developers across the globe can collaborate to create new products leading to innovation, maturation, and a secure network. Composability creates the MetCalfe “network effect”, i.e., the value of goods or services grows as the number of users increases.

The DeFi ecosystem categories include: infrastructure, know your client (“KYC”) / identity, custodial services, payments, investing, derivatives, marketplaces, stable coins, prediction markets, insurance and credit, and lending.

Stablecoins are blockchain-issued tokens designed to hold on to a specific value. This is usually done by “pegging” it with fiat currencies like the US dollar, or other relatively stable assets like gold. Stablecoin incorporates collateral to accommodate for the price variation. Fiat-collateralized stable coins store their value in fiat currencies and are typically redeemable at a 1:1 ratio with the pegged currency. These stablecoins require trust in a centralized entity and are therefore vulnerable to loss of peg and destabilization from external geopolitical factors. Crypto-collateralized stablecoins are backed by crypto assets. They rely on trustless issuance and maintain their 1:1 peg against assets through algorithmic methods including over-collateralization and incentives. The trustless issuance makes this type of coin wholly transparent and the reserve auditable. Non-collateralized stablecoins use an algorithm whereby the system supplies more tokens with increased demand while the price of each token is lowered and vice versa to maintain a stable peg. Tether (“USDT”), a centralized stablecoin with the majority of its supply hosted on Ethereum, maintains a multi-billion-dollar dominance. MakerDAO.com’s Dai is the most popular crypto-collateralized stable coins because of its openness, stability, and censorship resistance.

Marketplaces include centralized exchanges like Coinbase and decentralized exchanges (“DEX”) like IDEX a popular DEX dApp built on the Ethereum blockchain. Other DEXs include Binance DEX, Radar Relay, and EtherDelta. These dexchanges are in the early stage of adoption and have not experienced substantial volume due in part to weak user interfaces.

Credit and digital money lending products built on a blockchain have probably become the most popular in recent years, owing to the extensive use of MakerDAO.com’s Dai and liquidity pool designs such as Compound.Finance. You can be your own bank. Users deposit their money as digital assets and when someone else borrows the digital assets the user earns interest. Distributed autonomous organization (“DAO”) based

smart contracts dictate the loan terms, connect lenders and borrowers, and are in charge of distributing the interest. Due to the inherent transparency of the blockchain and no middleman, the lender earns higher returns and more clearly understands the risks.

DeFi infrastructure is needed for dApplication tooling. For example, a DeFi dApp may require security token issuance. Polymath.network provides the necessary framework, tools, and resources for any issuers to launch tokenized securities on a blockchain. Polymath has standardized token contracts for securities enabling compliance to meet the regulatory requirements. Additionally, it is integrated with various service providers such as custodians, broker-dealers, legal entities to assist issuers.

DeFi infrastructure is in the maturation stage approaching a plateau of productivity. As such, the degree of decentralization in DeFi services varies, i.e., not every component in the ecosystem is decentralized. For example, decentralized lending is based on common components such as custody, price feeds, margin calls, protocol development, and interest rate determination. Centralized finance products are custodial in nature, use centralized price feeds, and initiate margin calls, provide liquidity for their margin calls, and centrally determine interest rates all centrally. Dharma.io is a DeFi lending product that is non-custodial but uses centralized price feeds, margin calls, liquidity, interest rates, and administration. MakerDAO and Compound are DeFi lending products which are non-custodial and have decentralized permissionless initiation of margin calls and provision of margin call liquidity.

Similarly, except for a few like Dai, not all stablecoins are decentralized. As mentioned, they are simply tokens that represent fiat currency deposits held in a bank somewhere. Until the legislators, regulatory bodies and the law progresses and adapts to DeFi services, there will always be some form of centralization. For example, take the case of buying a property on the blockchain. Though you can tokenize the deed, the legislation, regulation, the law, and the courts of that jurisdiction will also have to evolve to legally recognize the tokenized deed.

The DeFi market is tiny compared to traditional finance, but it has picked up its pace rapidly this second quarter of 2020 during the pandemic. The total value locked in DeFi protocols surged to over \$2 billion. DEXs's had record volumes and continue to gain market share on centralized exchanges. Lending markets had a great quarter. Compound's liquidity mining program increased its outstanding debt 32-fold. The native tokens of these protocols appreciated significantly as investors see substantial future earnings from their underlying protocol. As this trend continues with more projects and financial dApps, we can expect to reach a genuinely decentralized financial reality where the traditional finance market is interoperating with digital assets and blockchain in perfect sync.

To summarize, ultimately DeFi will provide for censorship resistance, worldwide participation, and the elimination of trusted third parties within the financial ecosystem. As it matures, the underlying blockchain infrastructure will provide performant, inexpensive transactions/settlement, immutability of the financial contracts, and execution of smart contracts. DeFi will provide user possession of the private keys needed such that a user can be in full control of their assets without the need for a trusted third-party. The DeFi ecosystem transparency will support and provide price and market efficiency. DeFi will grow via the network effect, as the rise of innovation, performance and resulting participation will elevate a vibrant global ecosystem of financial applications.


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