DIGITAL ASSET SOLUTIONS

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How are returns generated in the field of decentralized applications (DeFi)?

Decentralized finance applications (DeFi) based on blockchain technology are a relatively new phenomenon. By eliminating third-party intermediaries, DeFi allows anyone to participate directly in various markets. In a manner similar to the traditional financial market, several platforms in this blockchain-based space cover essential financial use cases.

Whether it's lending, trading tokens, or derivatives, the functioning of mechanisms in the DeFi (decentralized finance) space is secured by publicly viewable programs. Unlike the multi-layered traditional financial system, there is no counterparty risk. Furthermore, the use of blockchain for processing transactions guarantees a new level of transparency. In addition, a free pricing evaluation based on the supply and demand of liquidity ensures an independent yield curve.

The DeFi sector emerged in 2019 on the Ethereum blockchain, which enables the creation of smart contracts. Since then, the sector has experienced significant growth and expanded across various networks. Dominated by "liquid staking projects", credit platforms and decentralized exchanges, the market is valued at around 50 billion dollars. The latter offers market participants the opportunity to participate in various liquidity pools and, consequently, trading fees. Due to its blockchain-supported nature, the DeFi market is characterized by unrestricted process execution (code is law) and 24/7 availability.

Capital Market 2.0 via the blockchain

What is essential for traditional capital markets is also crucial for decentralized financial applications. Blockchain applications operate in a dynamic market driven by the supply and demand of liquidity. Thanks to the underlying freely accessible blockchain networks, the barriers to participating in DeFi (decentralized finance) are generally low. This fuels global competition on the one hand, while on the other hand, it attracts participants who may pursue their own interests at the expense of investors. As such, caution is necessary when entering the field.

- Lending/Borrowing through decentralized money markets
- Providing liquidity on decentralized trading platforms
- Supporting the consensus mechanism of a blockchain through staking

Independent, decentralized money markets

In traditional finance, financial institutions such as banks and financing companies serve as intermediaries that enable borrowing and lending. In the realm of decentralized finance applications, third parties are replaced by programs that automate and directly enforce credit transactions between borrowers and lenders. "Smart contracts" based on mathematics and cryptography replace the creditworthiness checks that are common in the traditional finance world, which rely in part on promises and the reputation of the borrower. DeFi actors can inject liquidity into the protocol using credit pools, which is then loaned to borrowers.

To ensure the complete automation of these relationships, borrowers must provide collateral (usually high-quality cryptocurrencies) that will be liquidated by the protocol in the event of a rapid decline in value and used to repay the loan. The same rules apply to every participant. Credit relationships, therefore, only take place on an over-secured basis, and interest rates adjust to the risk-adjusted demand

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for borrowing. Thanks to the unparalleled transparency on blockchains, the smart contracts of protocols and all holdings, including transactions, can be viewed by anyone at any time.

Figure 1: Total Value deposited into DeFi applications | Source: DeFi Llama

Providing liquidity on decentralized trading platforms

Following traditional cryptocurrency exchanges, decentralized exchanges (DEXs) soon emerged thanks to smart-contract-enabled blockchains. Unlike centralized exchanges, DEXs do not have an order book managed by dedicated market makers. In the DeFi sector, market participants create liquidity pools themselves, in which they provide liquidity for the tokens in the corresponding currency pair. Through liquidity pools, exchange participants can trade cryptocurrencies, with so-called "automated market maker" algorithms (AMMs) ensuring price quoting.

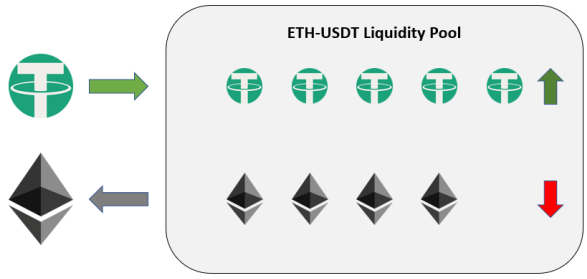

Figure 2: Illustrative example of a USDT swap for ETH through an AMM | Source: Digital Asset Solutions AG

The price is automatically adjusted by the protocol - without a central broker - based on the token reserves in the liquidity pools. As a reward/incentive, liquidity providers (LPs) receive a share of the fees and, if applicable, additional token distributions from the decentralized exchanges.

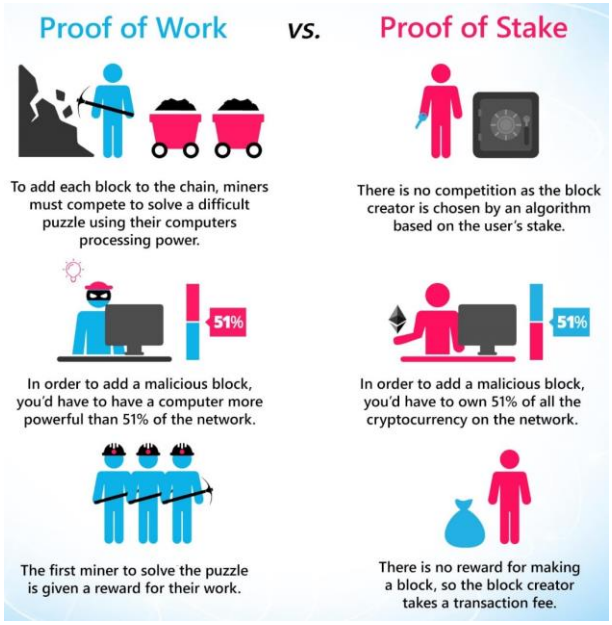

Figure 3: Differences PoW & PoS | Source: Blockgeeks

Generating returns through staking

Blockchain networks are public infrastructures maintained by economically motivated actors. Bitcoin and other networks rely on proof-of-work mining to ensure security and continuous operation, with miners compensated for computational power. In proof-of-stake (PoS) networks, participants instead provide monetary collateral. In the staking process, the corresponding cryptocurrencies are held and locked up for a certain period of time to secure the network and receive rewards. The staking process can vary depending on the cryptocurrency and platform.

A risk premium for new technology

Lastly, the DeFi sector is not without risks. The first DeFi protocols were established around 2017 and saw little use until after the Covid crisis in 2020. As a result, the track record of the market leaders extends only a few years, immediately increasing their risk profile.

Moreover, the public accessibility of these protocols is a double-edged sword. On the one hand, counterparty risk is eliminated by visible, automated

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computer programs, limiting the attack surface to auditable code. On the other hand, protocols can be attacked daily, with a programming error in the smart contracts potentially leading to the loss of the deployed digital assets.

In addition to security risks, regulatory risks and volatility risks also exist in the DeFi sector. Savvy DeFi users should not only have knowledge of investment risks, but also make a precise selection from the diverse range of DeFi protocols.