ETHEREUM'S ROLE IN THE MODERN PORTFOLIO

JULY 2021

GALAXY
FUND MANAGEMENT

INTRODUCTION TO ETHEREUM

Bitcoin technology, built on the Bitcoin blockchain, allows users to send bitcoin (BTC) balances. The Bitcoin blockchain maintains each user's BTC balance, making bitcoin an excellent non-sovereign store-of-value with unique monetary properties.

Ethereum takes blockchain technology further. On the Ethereum blockchain, all value is programmable as "smart contracts," which implement if/then logic into money itself. Imagine you have a $1 bill into which you can implant computer code. For example: if spending the $1 at a grocery store, then approve the transaction; if spending the $1 at a candy store, then reject the transaction. Ethereum introduces this into every asset, and in doing so, it significantly expands the world's choices for interacting with money.

Since 2015, the Ethereum blockchain has grown into the most actively used blockchain in the world. Ether (ETH), the cryptocurrency which powers the Ethereum blockchain, is now the second-largest cryptocurrency by market capitalization at $265 billion.[1] The Ethereum blockchain's open-source rails allow for the development of decentralized applications, which tap into smart contracts as their backend servers.

Upon inception, 72 million ETH were created and distributed in an initial crowdsale. To control the rate of new supply issuance, Ethereum's disinflationary mechanism caps supply at an additional 5 million ETH per year, as the current inflation rate is around 4.5%. This is to prevent the arbitrary creation of new supply that would potentially lead to inflation. Like bitcoin mining, ETH miners who successfully package transactions into blocks and upload them to the blockchain receive "block rewards" for their effort. Block rewards began at 5 ETH. The current reward (as of the publishing date of this piece) is 2 ETH.

1) Galaxy Digital Research as of June 2021

ETHEREUM IS A NEW INTERNET LAYER

Programmer Vitalik Buterin and several others co-founded the Ethereum blockchain in 2015. They realized that Bitcoin's principles extend beyond one currency to entire computer programs where identical inputs and programs produce agreement on outputs. This is known as "general programmability."

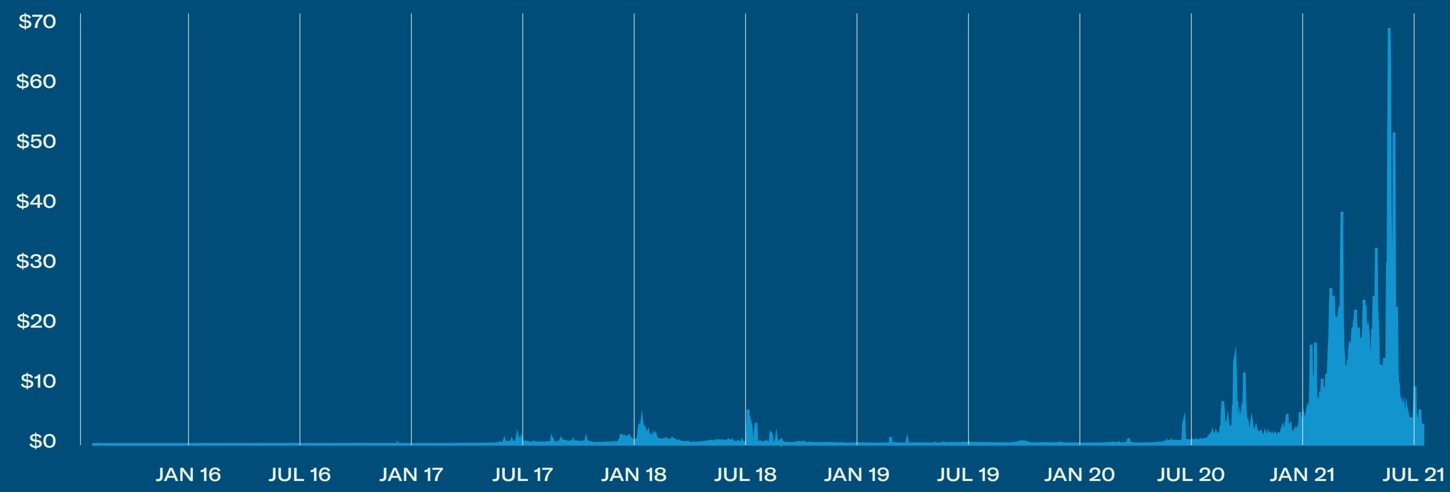
Ethereum enables properties that were never before possible on the internet. The Ethereum blockchain has a native form of value that lives on the internet. Its fully open-sourced, decentralized, and censorship-resistant properties mean that no large, siloed tech company can pull its smart contracts down. In this sense, it is the next iteration of the internet, solving some key problems.

First, the internet has no native concept of value. Before blockchains, money did not live on the internet; money was transfered online and settled offline. Some online payment companies would have preferred to make an internet-native currency, for example.

Second, applications and data are bundled. This allows tech conglomerates to manage silos that mine, sell, monopolize, and potentially abuse user data and access. Bundling applications and data also lands Big Tech between a rock and a hard place, forcing tech conglomerates to be both moderators and curators for content on the internet. Consider, for example, Facebook's Cambridge Analytica scandal. Or Twitter's recent banning of President Trump. The next iteration of the internet offers an imperturbable content substrate that platforms can tap into.

Third, closed applications stifle innovation. They do not incentivize open-source development and they hinder natural market competition. The next iteration of the internet is a collection of open, public APIs. Open-source code allows users to compose modular programs to create a superset of functionality.

TRANSACTION FEES PER DAY (AS OF JUNE 2021)



The amount spent on Ethereum transaction fees is a proxy for the demand for the network, which has gone parabolic in recent months. The network processes roughly 1.1 million transactions per day.

Source: etherscan.io as of June 2021

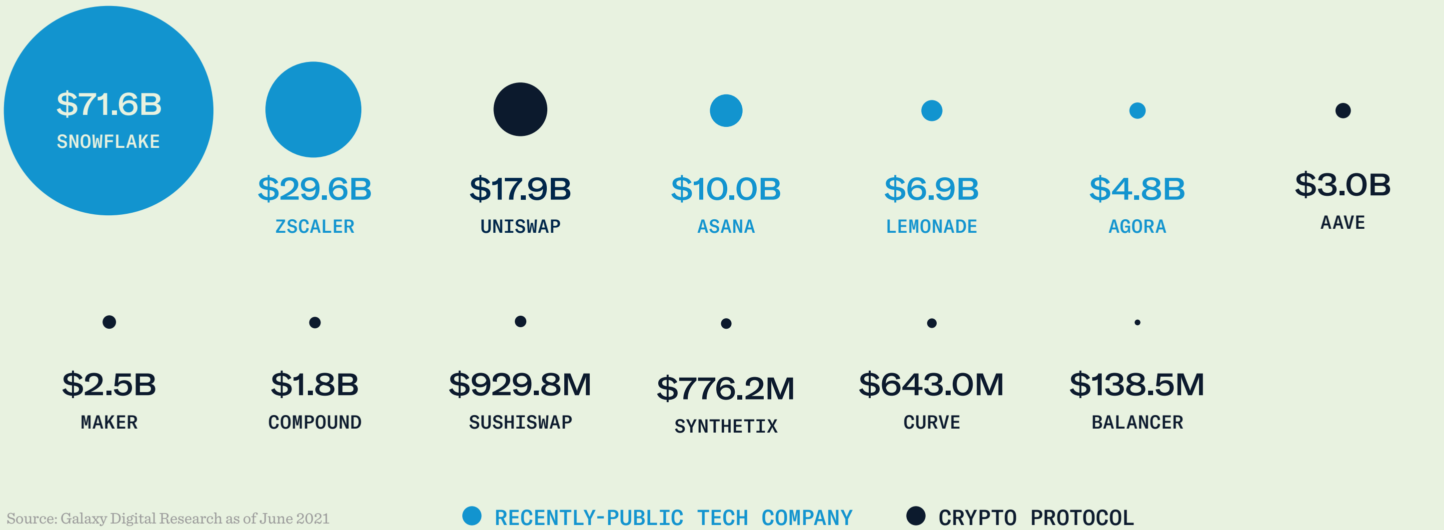
THE RISE OF DECENTRALIZED FINANCE AND NFTS

We see, in real-time, just how useful Ethereum technology really is as we watch the rise of Decentralized Finance (DeFi) and non-fungible tokens (NFTs). DeFi is a global, open alternative to traditional financial services, including savings, loans, trading, insurance, yield-generation, and more. Ethereum now hosts seventeen DeFi applications valued at more than $1 billion, including Compound, Uniswap, and Aave. These protocols are quietly producing up to hundreds of millions in annualized revenue. The increase in total value locked on the DeFi network jumped from $677M in January 2020 to $15.9B in January 2021 and now rests at $50B as of June 2021. To put it simply, total value locked represents the number of assets that are currently being staked in a specific protocol.

DeFi runs on smart contract blockchains such as Ethereum, automatically executing contracts when conditions are met. Ethereum's general programmability allows for this sophisticated functionality and enables developers to build financial services decentralized apps. DeFi has experienced exponential growth in the first half of 2021 that we anticipate will continue.

A non-fungible token (NFT) is a unique crypto asset that cannot be exchanged for another thing of equal value. In the same way that the Mona Lisa painting cannot be substituted, you cannot replicate an NFT. Think of it this way: one bitcoin token is worth the same as another bitcoin token, and theoretically, you could trade bitcoin tokens with a friend, preserving the value in the exchange. NFTs do not function that way. NFTs are a one-of-a-kind digital entity, whether your NFT is a drawing, song, video, or other digital creation.

MARKET CAP OF DEFI APPS VS. SELECT RECENTLY-PUBLIC TECH COMPANIES

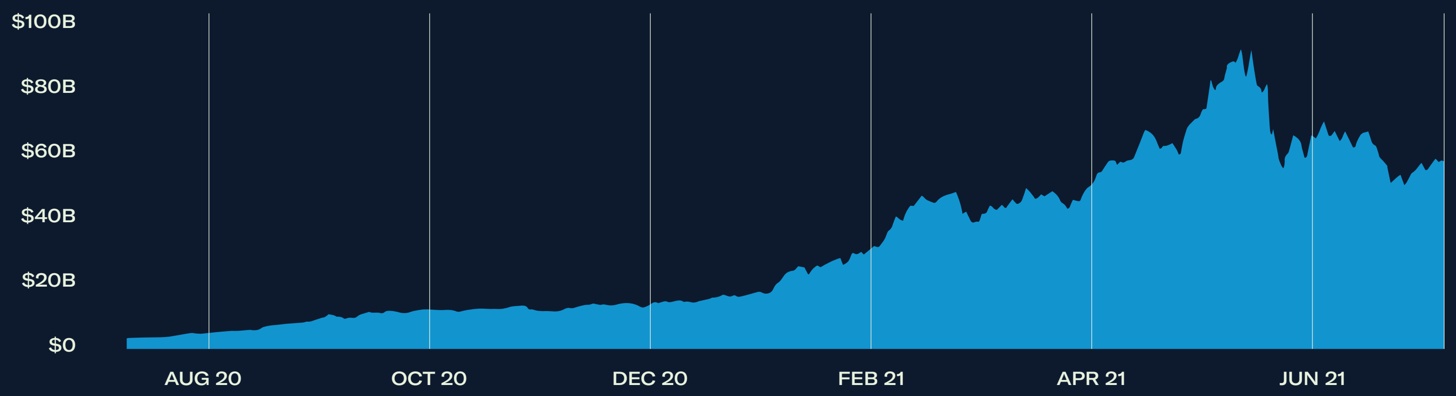


Source: Galaxy Digital Research as of June 2021

ANNUALIZED REVENUE OF DEFI APPS VS. SELECT RECENTLY-PUBLIC TECH COMPANIES (30D VS. QUARTERLY ANNUALIZED)

Source: Galaxy Digital Research as of June 2021

TOTAL VALUE LOCKED (USD) IN DEFI (AS OF JUNE 2021)



Source: DeFi Pulse as of 7/06/2021

ETHEREUM 2.0

Ethereum 2.0 is the initiative to increase the scalability of the Ethereum blockchain The existing Ethereum implementation can only scale to 30 transactions per second. This caused “gas prices” (the amount of ETH required to fuel transactions) to rise throughout 2020. In late August and early September 2020, there was general consensus that something needed to be done to address rising gas prices.

When complete, the redesigned Ethereum 2.0 blockchain will see throughput—transaction speed—rise to 2000+ transactions per second, which is roughly the same throughput as the VISA network, with additional gains coming from “off-chain” optimizations, commonly referred to as layer-2 solutions.[1] “Phase 0, the launch of the Ethereum 2.0 blockchain known as the “Beacon Chain,” is the initial phase in what will be a 2-year process to make the Ethereum 2.0 blockchain production-ready. Launching the Ethereum 2.0 initiative required 524,288 ETH of deposits in a smart contract to provide the initial economic security, which has to do with Proof of Stake. Proof of Stake (PoS) is an algorithm employed by cryptocurrency protocols to reach consensus. In PoS blockchains, an individual or group is algorithmically chosen to verify transactions with computer hardware based on the tokens they have staked, or locked up, in the network as a form of collateral. The people sending their ETH to the Beacon Chain contract were doing so in order to act as validators for the network. At the end of November 2020, more than 1,190,000 ETH were deposited. Investors took it as a vote of confidence: ETH rose 58.0% that month.

Ethereum 2.0 will not cause any disruption to current ETH holders. Ethereum 1.0 will seamlessly become part of the 2.0 chain; this process is called “The Merge.”

A fully scaled Ethereum blockchain will broadly create a trustless, decentralized settlement layer for assets. This advanced blockchain will offer the ability to move value around the world for pennies, allowing for a new system of stablecoin payment rails that could replace current bank wire and payment systems.. Ethereum’s utility extends far beyond financial inclusion, however, with related developments in gaming and NFTs offering people forms of provable digital ownership.

Many of these functions currently exist, but high gas fees outprice global usage. Paying a $10 gas fee to send assets is still more efficient than a bank wire, but this could drop dramatically when ETH 2.0 and its accompanying roll-ups are fully implemented, opening the door to everyone in the world.

ETHEREUM COMPARISON

	ETHEREUM 1.0	ETHEREUM 2.0
TRANSACTIONS PER SECOND	30	2,000+
SECURITY MECHANISM	PROOF OF WORK	PROOF OF STAKE
NUMBER OF BLOCKCHAINS	1	64+

1) Source: Ethereum.org as of June 2021

ETHEREUM IN THE PORTFOLIO

ETH is a growth asset: it is a bet on the growing network effect of an exciting new information substrate. It is a bet that more billion-dollar applications will be built on the Ethereum blockchain.

It is closest to a basket of early-stage, high-growth technology stocks that provides investors exposure to the explosion of next-gen smart contracts and decentralized applications. In this sense, investing in ETH is like investing in the future of the internet. We expect the value of ETH to increase as the Ethereum blockchain solidifies its position as the preferred blockchain for the next iteration of the internet.

Like bitcoin, investing in nascent ETH is primarily about allocation sizing. Allocation sizing depends on an investor's risk profile and time horizon. But, if you conceptualize ETH as analogous to an index of high-growth technology stocks, you might consider sizing it accordingly.

ETH's last bull run was mainly tied to bitcoin's concurrent run. Three years later, ETH now stands on its own with clear, real-life use cases. The Ethereum blockchain will continue to mature as the base layer technology for smart contracts and decentralized applications. And ETH will stand to benefit as the next iteration of the internet evolves.

CONTACT US

STEVE KURZ
Head of Asset Management
Steve.kurz@galaxydigital.io

PAUL CAPPELLI
Portfolio Manager
Paul.cappelli@galaxydigital.io

GENERAL INQUIRES
(212) 390 9205
GFM@galaxydigital.io
galaxyfundmanagement.com

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Different from Directly Owning Bitcoin, Ethereum or Other Digital Assets. The performance of the Fund will not reflect the specific return an investor would realize if the investor actually purchased a Digital Asset. Investors in the Fund will not have any rights that Digital Asset holders have.

No Guarantee of Return or Performance. The obligations or performance of the Fund or the returns on investments in the Fund are not guaranteed in any way. Any losses of the Fund will be borne solely by investors in the Fund. Ownership interests in the Fund are not insured by the Federal Deposit Insurance Corporation, and are not deposits, obligations of, or endorsed or guaranteed in any way, by any banking entity.

Regulation. Digital Assets, including Bitcoin, Ethereum and DeFi tokens, are loosely regulated. Ongoing and future regulatory actions may alter, perhaps to a materially adverse extent, the value of a Fund's investment. If any Digital Asset is determined to be a "security" under U.S. federal or state securities laws or a Digital Asset exchange is determined to be operating illegally, it may have material adverse consequences for Digital Assets due to negative publicity or a decline in the general acceptance of Digital Assets. As such, any determination Digital Asset exchanges are operating illegally or that any Digital Asset is a security under U.S. federal or state securities laws may adversely affect the value of a particular Digital Asset or Digital Assets generally and, as a result, the value of a Fund's investment.

Exchanges. Exchanges may suffer from operational issues, such as delayed execution, that could have an adverse effect on the Fund. Digital Asset exchanges have been closed due to fraud, failure or security breaches. Any of the Fund's funds that reside on an exchange that shuts down or suffers a breach may be lost.

Value. Several factors may affect the price of Digital Assets, including Bitcoin, Ethereum and DeFi tokens, including, but not limited to: supply and demand, investors' expectations with respect to the rate of inflation, interest rates, currency exchange rates or future regulatory measures (if any) that restrict the trading of a Digital Asset or the use of a Digital Asset as a form of payment. There is no assurance that a Digital Asset will maintain its long-term value in terms of purchasing power in the future, or that acceptance of bitcoin payments by mainstream retail merchants and commercial businesses will continue to grow.

Protocol. Many Digital Asset networks, including Bitcoin, Ethereum and DeFi tokens, operate on open-source protocols maintained by groups of core developers. The open-source structure of these network protocols means that certain core developers and other contributors may not be compensated, either directly or indirectly, for their contributions in maintaining and developing the network protocol. Lack of incentives to, or a failure to properly, monitor and upgrade network protocol could damage a Digital Asset network. It is possible that a Digital Asset protocol has undiscovered flaws that could result in the loss of some or all assets held by the Fund. There may also be network-scale attacks against a Digital Asset protocol, which could result in the loss of some or all of assets held by the Fund. Advancements in quantum computing could break a Digital Asset's cryptographic rules. The Fund makes no guarantees about the reliability of the cryptography used to create, issue, or transmit Digital Assets held by the Fund.

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Decentralized Finance (DeFi) Risks. Decentralized Finance (or DeFi) refers to a variety of blockchain-based applications or protocols that provide for peer-to-peer financial services using smart contracts and other technology rather than such services being offered by central intermediaries. Common DeFi applications include borrowing/lending Digital Assets and providing liquidity or market making in Digital Assets. Because DeFi applications rely on smart contracts, any errors, bugs, or vulnerabilities in smart contracts used in connection with DeFi activities may adversely affect such activities. DeFi lending is subject to counterparty risk and credit risk, but because lending is automated through the DeFi protocol, rather than individual decisions made by a portfolio manager on behalf of a Fund, such risks may be exacerbated, particularly if there are flaws in DeFi protocol's code or operation. DeFi applications may involve regulated financial products or regulated activities, however because of their decentralized nature, there is generally no entity subject to regulatory supervision. Accordingly, DeFi applications may be subject to more risks than engaging in similar activities through regulated financial intermediaries. In addition, in certain decentralized protocols, it may be difficult or impossible to verify the identity of a transaction counterparty necessary to comply with any applicable anti-money laundering, countering the financing of terrorism, or sanctions regulations or controls. All of these risks could cause the value of DeFi tokens held by a Fund to decline, including to zero.

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