Two Prime

THE RISE OF INSTITUTIONAL ETHEREUM INVESTORS

Two Prime Digital Assets

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UNDERSTANDING ETHEREUM 2.0 JAN 2021

Two Prime

Two Prime serves as the trusted investment partner for our clients, providing them intelligent exposure to digital assets. Our digital asset investment products leverage volatility to maximize upside while reducing downside risk. Our team blends traditional and crypto-specific strategies to achieve successful outcomes.

To learn more about the growing digital assets market and how intelligent investors work with Two Prime contact us at:

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2021: Institutional Ethereum Events

February 25th, 2021

Grayscale purchases 15,521 ETH over a 24 hour period - ETH value: **$1,625.39**

February 9th, 2021

EIP 1559 Upgrade Announced to address fee issue - ETH value: **$1,746.93**

February 8th, 2021

Ethereum Futures on CME Launch - ETH value: **$1,613**

February 24th, 2021

Andreessen Horowitz Invests $25 Million into Ethereum scaling solutions - ETH value: **$1,571.48**

March 8th, 2021

Meitu adds $50 million worth of ETH to their treasury reserves - ETH Value: **$1,724.23**

March 2nd, 2021

Amazon makes Ethereum readily available on their servers - ETH Value: **$1,491**

March 30th, 2020

Paypal will let US users buy with ETH - ETH Value: **$1,819.47**

April 5th, 2021

Scaramucci calls ETH a better store of value - Bitcoin Value: **$2,093.26**

April 6th, 2021

Mark Cuban claims Ethereum will dwarf Bitcoin - ETH Value: **$2,109.49**

April 13th , 2021

JP Morgan, Visa Invest $65 million into Ethereum scaling - ETH Value: **$2,139.36**

April 14th, 2021, 2021

Berlin Hard Fork goes live - ETH Value : **$2,299.35**

April 20th 2021

3 Ethereum ETFs begin trading - ETH Value: **$2,201.65**

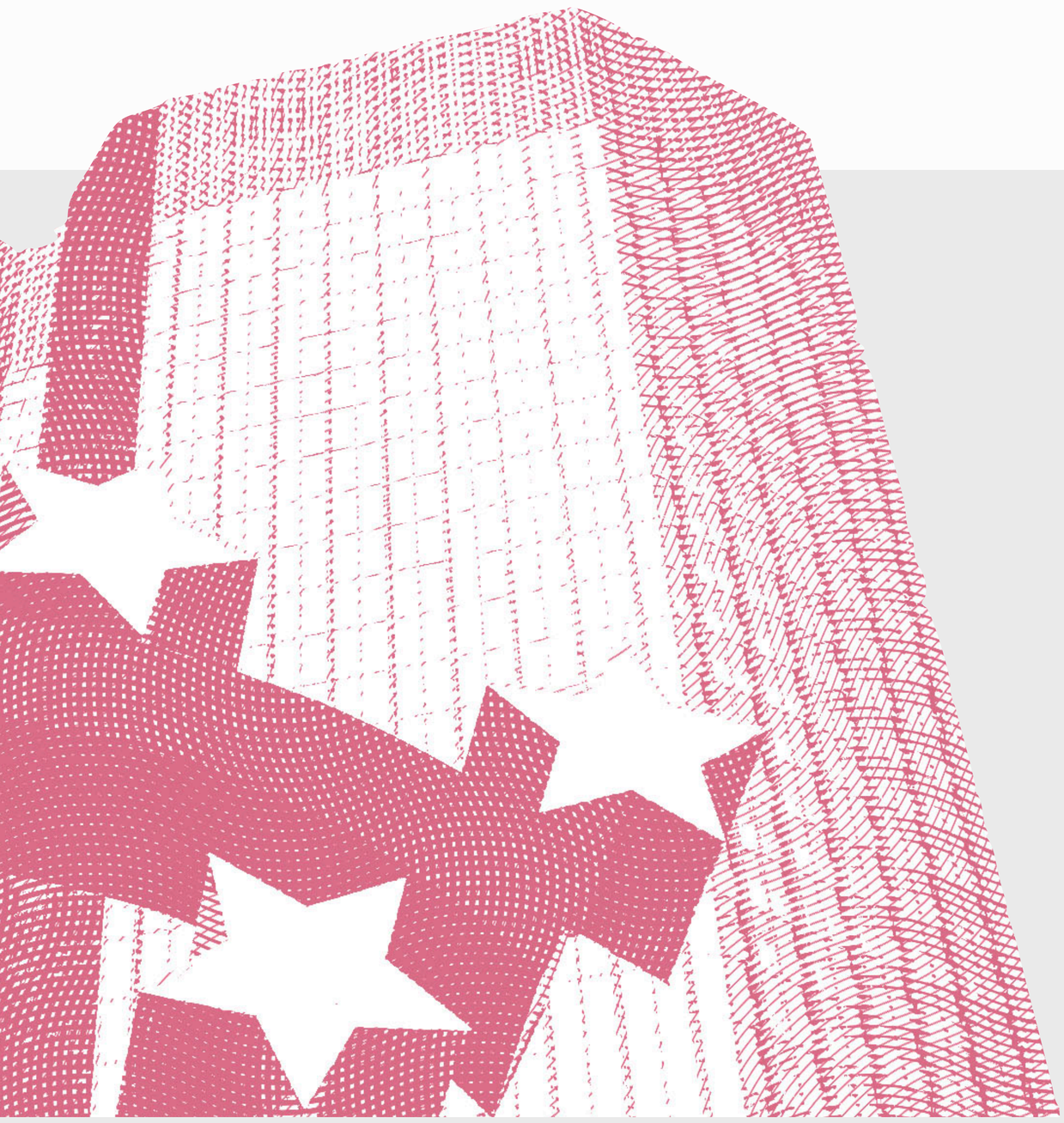
PERFORMANCE, RISK-MANAGEMENT, AND INSTITUTIONAL ADOPTION

Based on our analysis of ETH's price performance, derivatives markets, and on-chain data, we believe that ETH has earned a place, alongside BTC, as an institutional-grade investment, store of value, and treasury reserve asset.

The price of ETH, the digital asset used to pay for use of the Ethereum Virtual Machine (a global computer network able to process decentralized data functions), has **grown 907% in just the past year — and a stunning 85,587% since its inception in 2015**[1].

In addition to their dominant market capitalizations, what differentiates both ETH and BTC from the thousands of other 'alt-coins' in existence, is their liquid spot and derivatives markets. This provides professional asset managers a meaningful way to hedge and manage risk using futures and options strategies. It is perhaps no coincidence that the inflows of institutional capital to both ETH and BTC followed the emergence of more liquid derivatives markets in the second half of 2020.

We believe ETH is steeply undervalued relative to BTC, which began attracting institutional investment in 2020 and has exceeded $1 trillion in market capitalization. ETH on the other hand, which began attracting institutional investment in early 2021, has seen its market capitalization grow to **reach $275 billion, still just 25% that of BTC**. For starters, although both are powered by blockchain technology, ETH and BTC were built for very different purposes.



DEVELOPERS AND DEFI

Ethereum is, by far, the most widely used development platform for blockchain technology, with over 90% market share in application development and transaction volume[2]. According to Electric Capital, in the 3Q20 **Ethereum had 2,325 active monthly developers while Bitcoin had just 361**[3].

With a robust underlying blockchain and smart contracts platform, Ethereum has become the de facto layer 1 blockchain for decentralized finance applications (DeFi). There is currently **$59 Billion in USD locked in DeFi protocols, growing at a rate of nearly 40% per month**[4]. The Ethereum ecosystem will continue to benefit from the rapid growth and adoption of DeFi solutions in the market. As they grow, so does the value of ETH, as described in the Fat Protocol Thesis.

1. https://www.coindesk.com/price/ethereum
2. https://dappradar.com/blog/2020-dapp-industry-report
3. https://medium.com/electric-capital/electric-capital-developer-report-2020-9417165c6444
4. https://defipulse.com/

Grayscale Investment Trust and newly approved ETFs will open ETH to large, previously untapped pools of capital.

Ethereum has emerged as a leading open source technology development platform shaping the future of finance. While the investing public is perhaps more familiar with Bitcoin, ETH is gaining traction. **Grayscale** is the largest digital asset manager in the world and currently **holds about 3.2 million Ethereum tokens, or about 2.78% of total supply**[5]. As a closed-end trust with no direct redemptions, Grayscale's purchases decrease the total circulating token supply and create **steady upward pricing pressure**.

As an SEC reporting company, the Grayscale Trust for Ethereum allows institutional investors who are subject to regulatory limitations to access ETH while abiding by their investment mandates. To date, we have seen almost $40 Billion USD of Bitcoin[6] purchased by Grayscale in this manner. At Two Prime, we believe it is likely that Grayscale Ethereum purchases will follow a similar trajectory and scale.

As Grayscale and others move to launch ETFs in the coming months, the market for ETH will benefit from real-time liquidity and market access to institutional groups and corporate treasury managers. In April of 2021, three Canadian ETH ETFs were approved on the Toronto Stock Exchange, seeing **day 1 trading volume of over $45MM**. The competition for these products and the compression of fees will open up new pools of capital previously inaccessible to crypto markets. Beyond passive crypto funds for ETH, a slate of structured products, like Two Prime Digital Assets Fund I, with risk-management will follow, further opening up ETH demand.

2.78%

Of Total Supply of Ethereum Held by Grayscale

5. https://www.bybt.com/
6. https://www.coindesk.com/grayscale-bitcoin-trust-explained

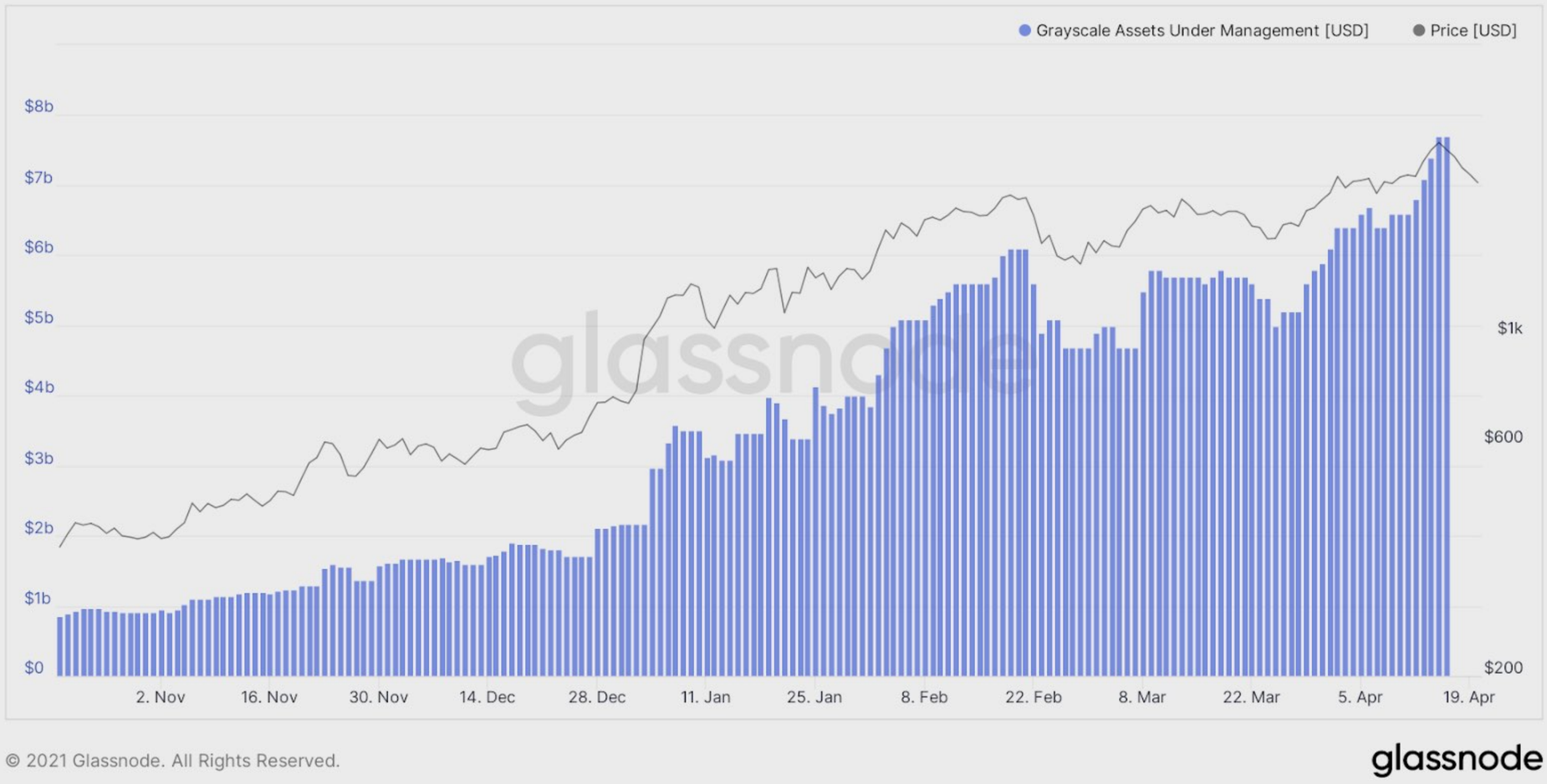


Fig. 1 Grayscale Ethereum Trust AUM

EXCHANGE FLOWS

Ethereum Balance On-Exchange: 1-Year Historical View

Fig. 2 Percentage of Ether Circulating Supply on Exchanges

As shown above, the recent change in net flows on/off exchange marks a historic moment for Ethereum. While coins have traditionally entered exchanges through mining activity, the net outflows that began in August, 2020, mark a conspicuous change in demand. ETH removed from exchanges indicates it is unlikely to be traded in the near term, effectively reducing the circulating supply and driving price upwards. A likely contributor to this phenomenon: large-scale institutional purchases that temporarily overwhelmed coin mining production and strained the ability of trading exchanges to meet demand.

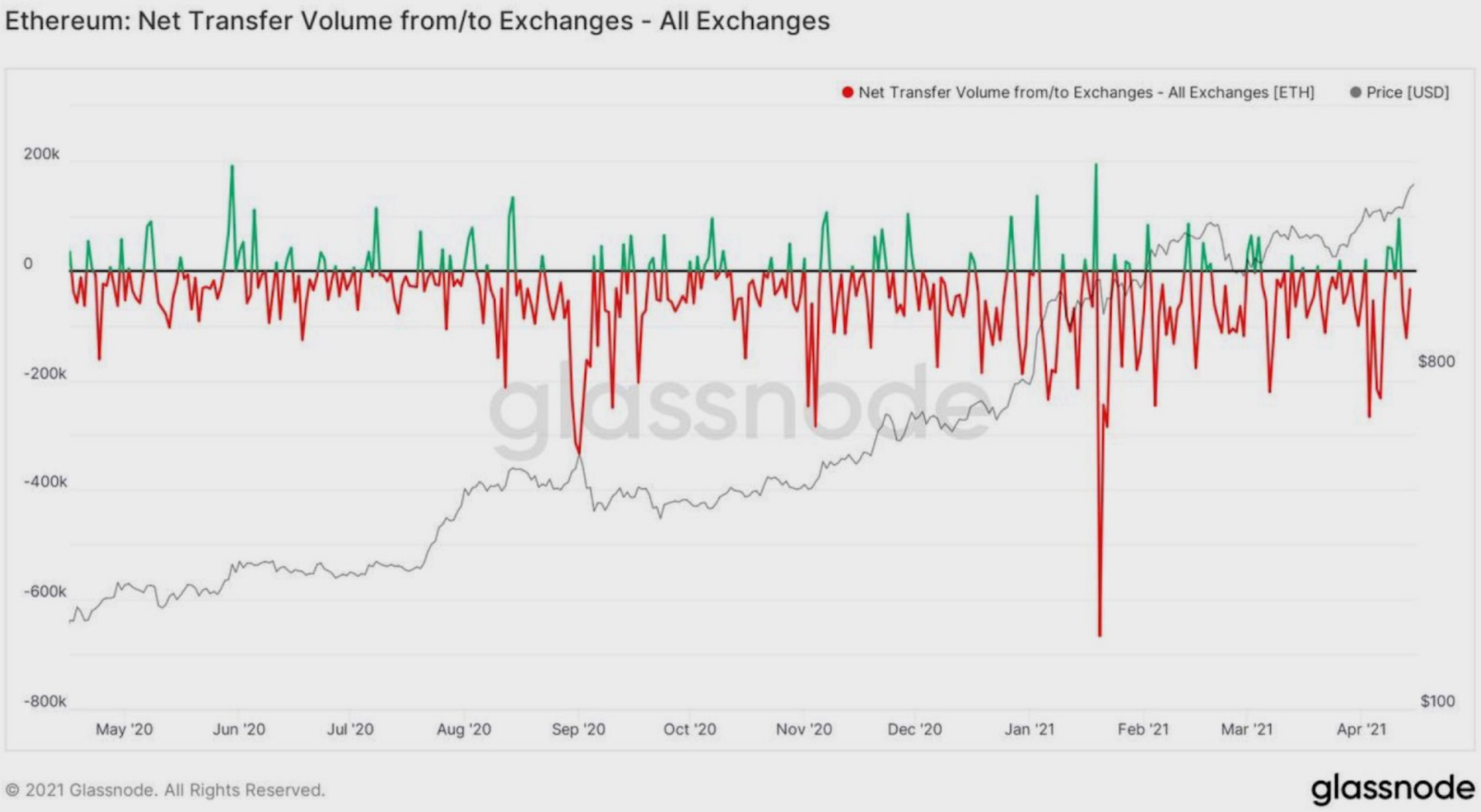


Fig. 3 Net ETH Transfer Volume from/to Exchanges

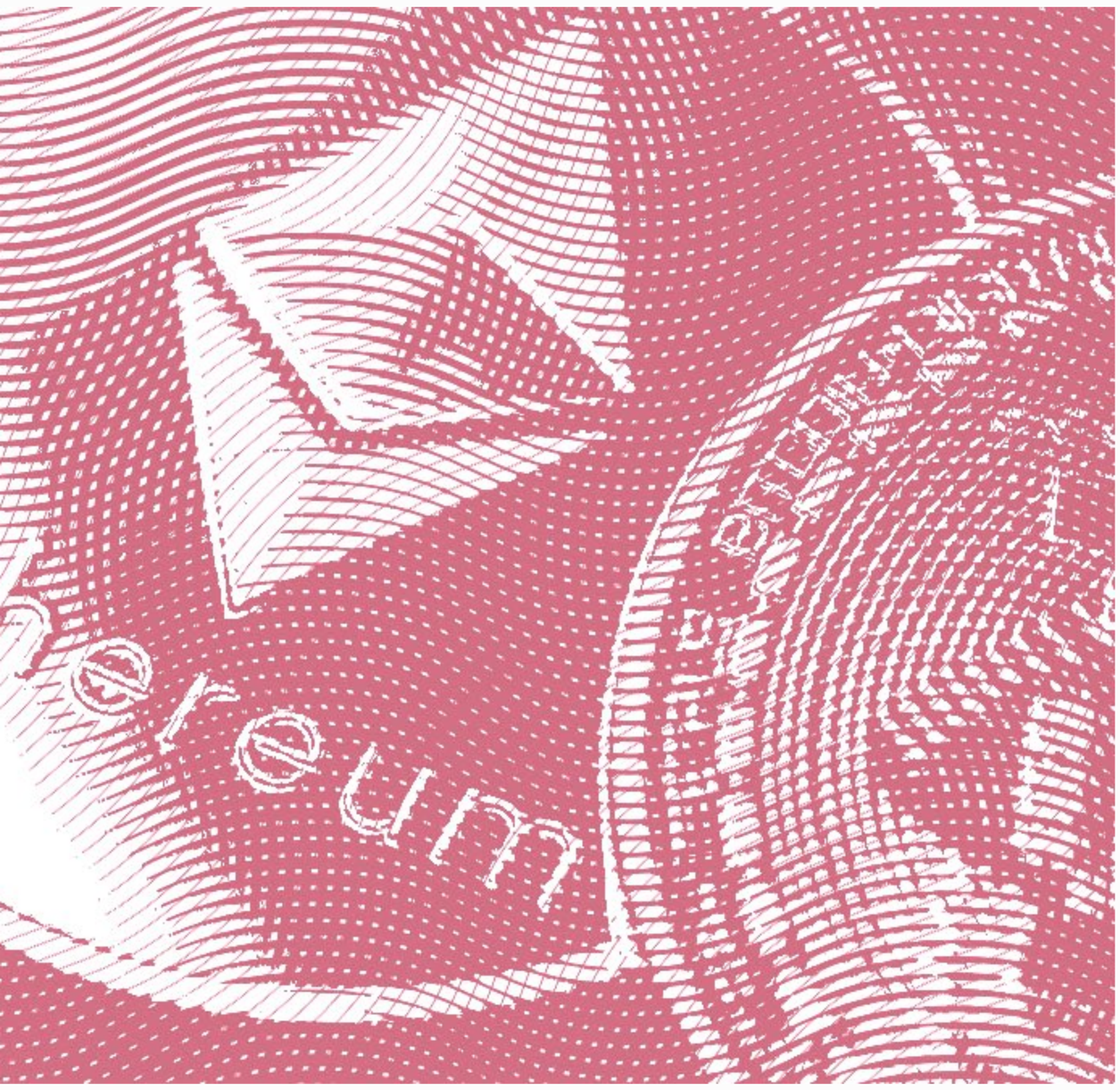
Corporate demand for Ethereum's decentralized computing platform has surged and shows no sign of stopping. Prices, market cap, and developer interest all reflect as much, with **ETH recently trading above $2000/coin, and a market cap approaching $250 billion.**

Ethereum Market Capital is Reaching

Quarter of a Trillion USD

Fig. 4: Wallets With More than 10K ETH

Ethereum addresses with a balance of more than **10,000 ETH continue to rise in lockstep with the price**. These addresses are buying to either hold for the long term or use in different Defi protocols.



DERIVATIVES MARKETS DATA POINTS

From Zero to $3B in Less Than a Year

In a market that was virtually non-existent one year ago, option trading has exploded for Ethereum since Deribit started offering option contracts. With a total open interest below $50mm in April of 2020, growth has been exponential, with new exchanges offering contracts, and **total open interest hovering around $3 billion**[7].

~$3 Billion USD

In Total Open Interest

7. https://skew.com

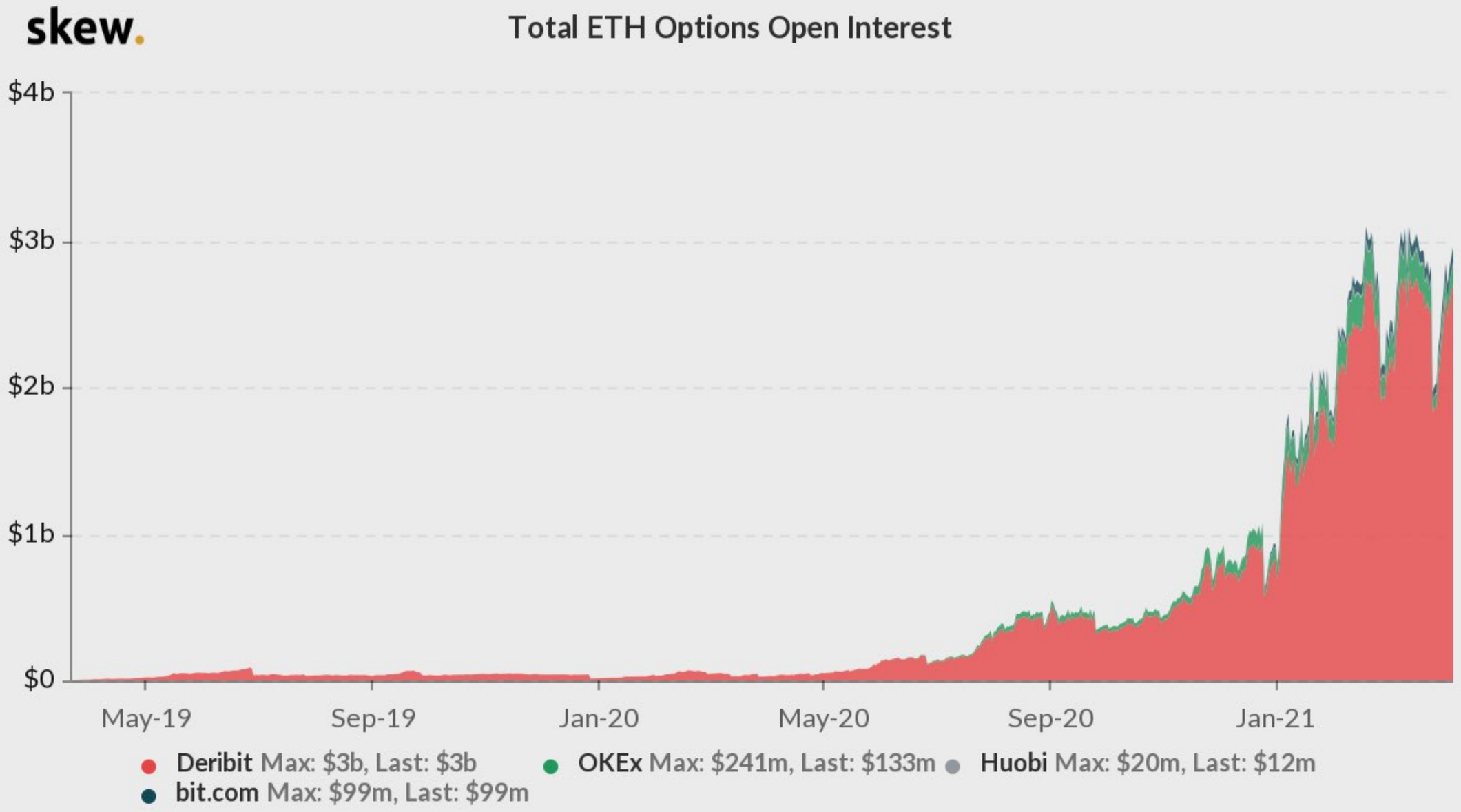


Fig. 5: ETH Options

Promising Hedge/Risk Management Signals

24-hour ETH options trading volumes have also undergone parabolic growth, with around $1MM USD in daily volume in May, 2019, **now exceeding $1 Billion USD in daily open interest in April, 2021**.

Option markets rely heavily on active institutional investors with a sophisticated approach to risk management. The growth of both futures and option markets have moved beyond mere retail speculation as institutional money managers have moved in to start hedging net long portfolios against outsized volatility events. As these markets continue to mature, we can expect a reduction in realized volatility, with spot positions becoming more stable and derivatives used to manage long/short exposure.

In traditional equity markets institutional investors use out of the money (OOTM) put options (option's whose strike price is well below the current price) to hedge long spot positions. In crypto markets we are seeing the same development occur as institutional investors enter the space. Options volume (options traded on a daily basis) and option open interest (the number of options contracts open at any given period in time) has subsequently increased to reflect higher institutional adoption of Ethereum.

24-hour ETH Options Daily Open Interest Have Exceeded

$1 Billion USD

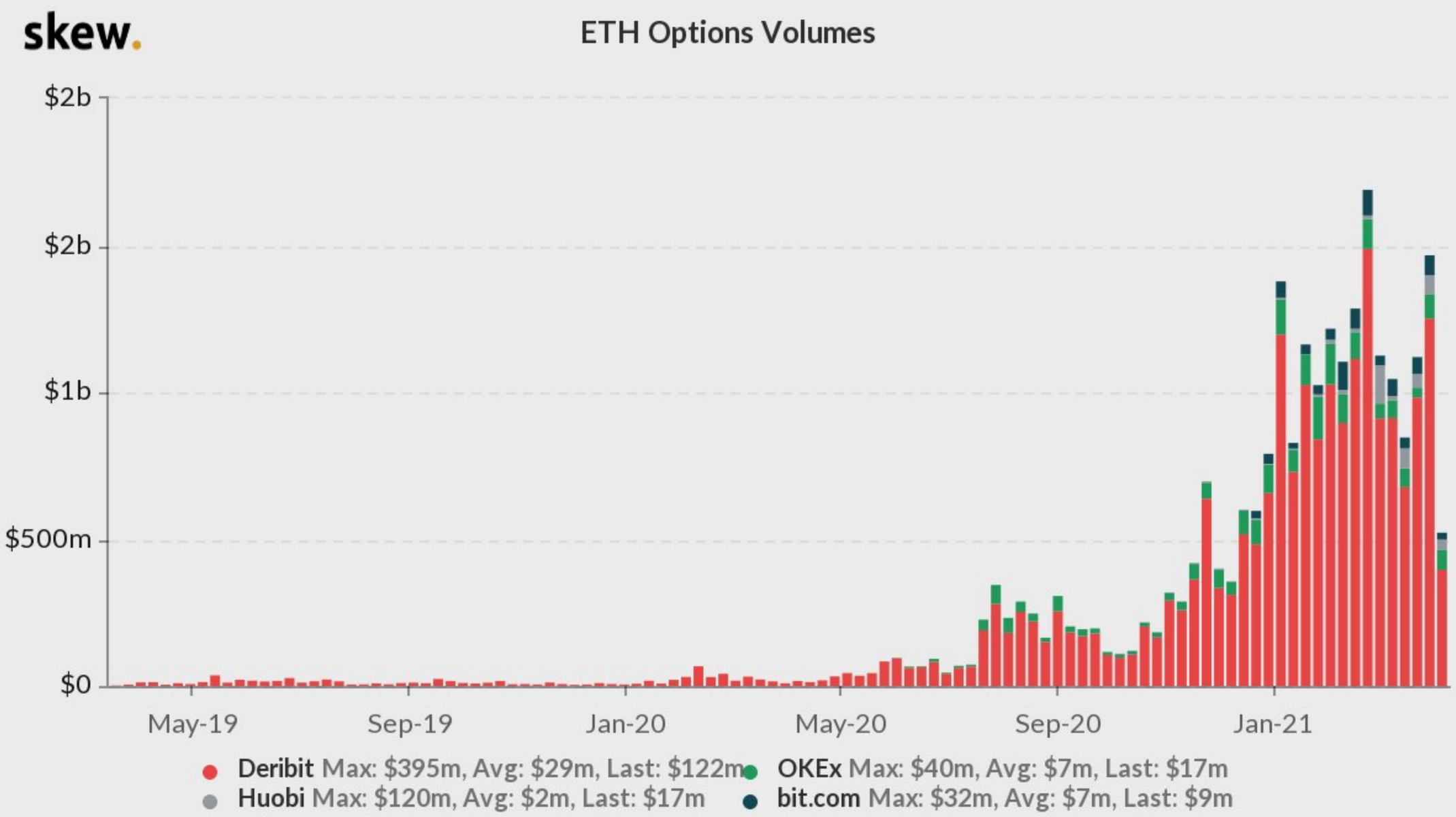


Fig. 6: ETH Options Volumes

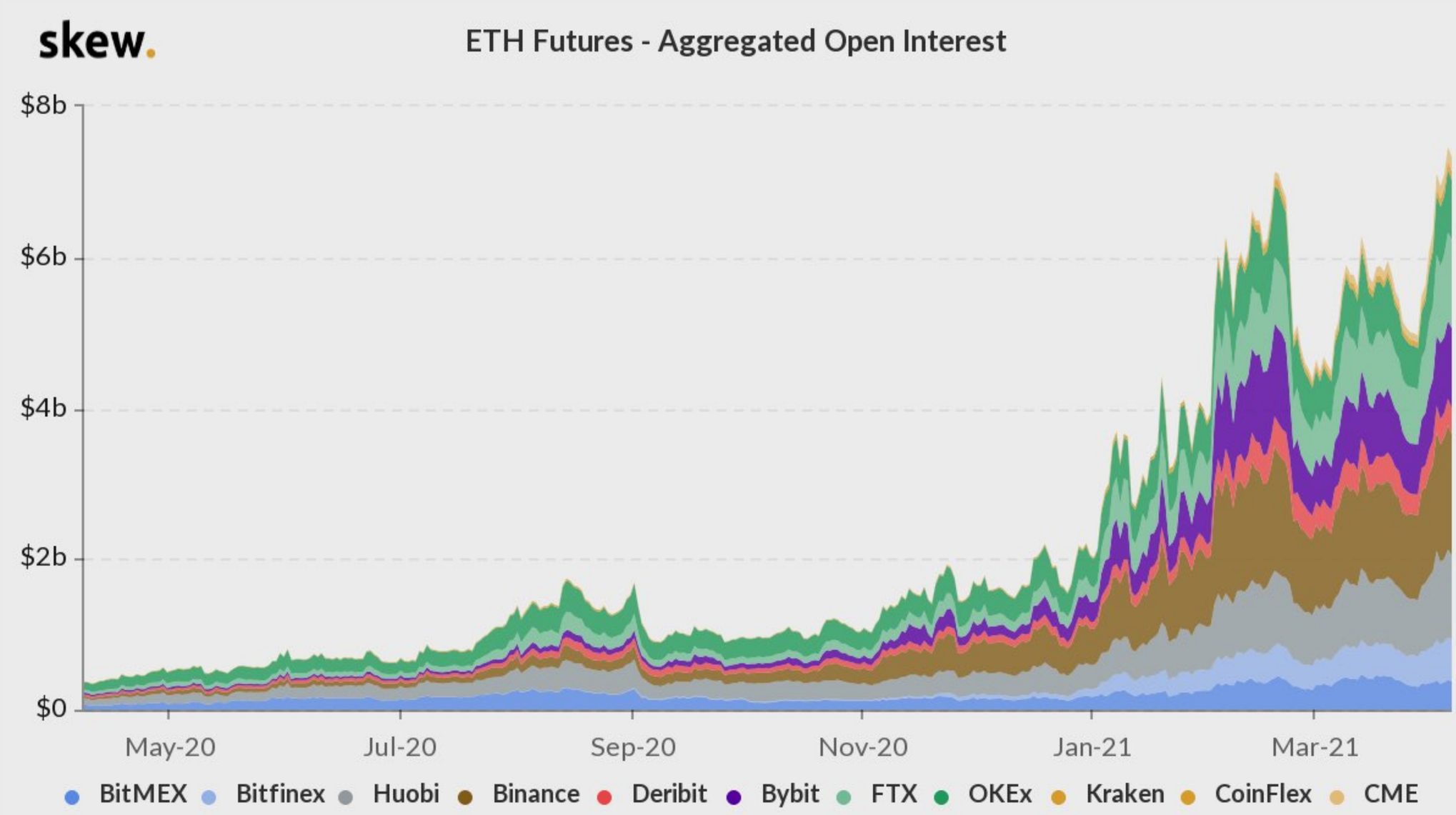


Fig. 7: ETH Futures

20X Increase in ETH Futures Positions

Open interest in the futures market is further evidence that institutional demand has surged over the last 12 months. At only $365mm total open interest in April of 2020, we've seen a **20x increase in the futures positions, now over $7.5 billion open interest**[10].

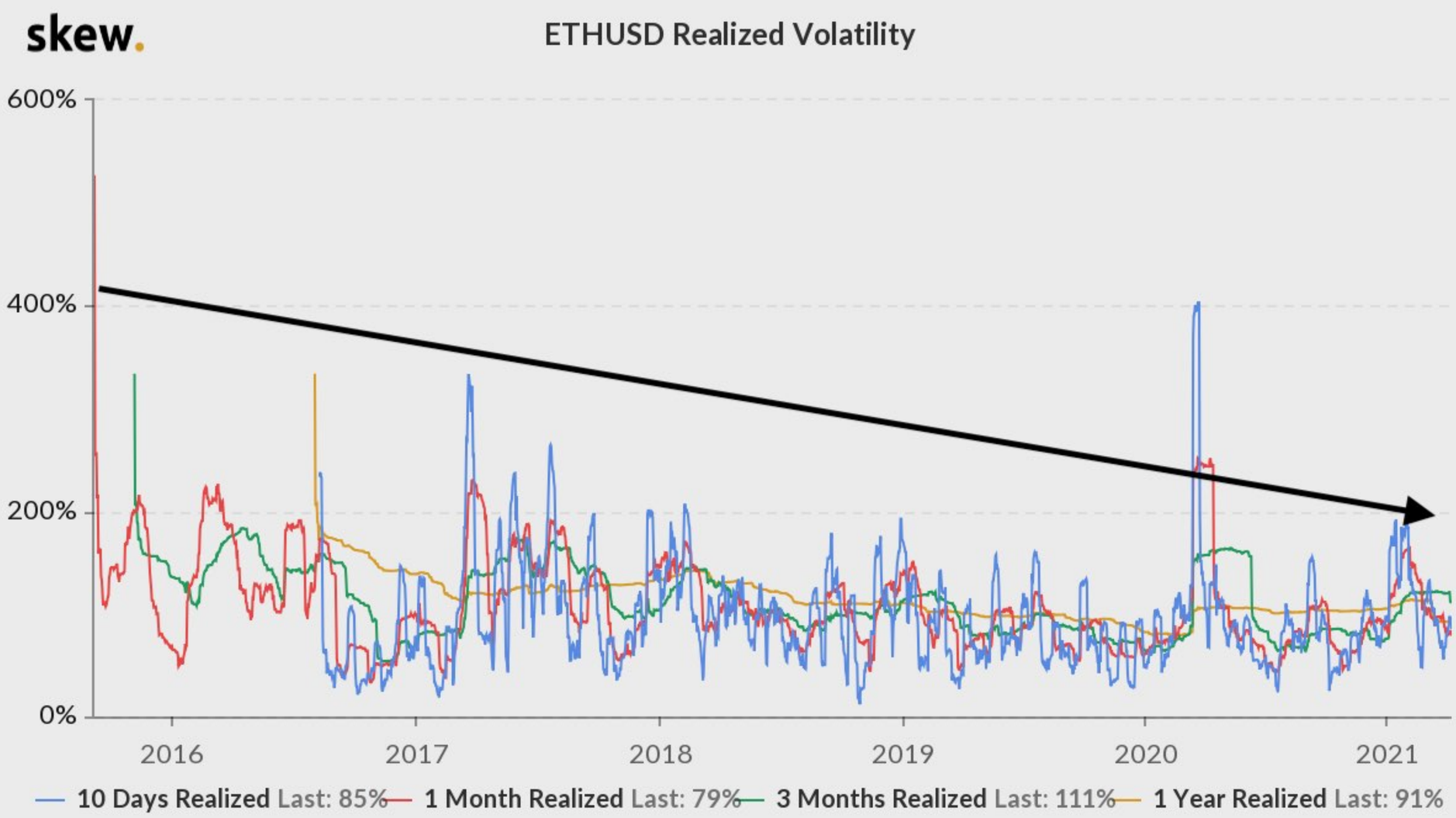


Fig. 8: ETH Volatility

Volatility and the growing discorrelation with BTC

Institutional demand shows no sign of slowing and emerging technologies in the DeFi and NFT space continue to prove out the real-world use cases of the Ethereum platform.

While ETH price historically correlates 90% to Bitcoin[11], we expect to see **increasing independence in price behavior** as the ETH ecosystem grows in capability, credibility, and volume. In the near term, we expect continued price appreciation as funding continues to support creative growth in decentralized applications and institutional investors purchase additional ETH.

These upward trends do not come without volatility; sharp downside moves exceeding 10% have become the norm. Year to date, we've seen two corrections that exceeded 30% from peak to trough, two additional corrections above 20%, and another five events that exceeded 10%.

That said, realized volatility for larger digital assets like ETH has steadily decreased over time, as shown in the chart above. While outsized events like 2017 and 2020 can be destabilizing, the industry as a whole has started to anticipate local volatility events and take them in stride. Declining volatility also indicates a more liquid market with more large traders stabilizing the price.

Ultimately the volatility of these products will be consumed by traditional finance arbitrageurs, derivative traders, and automated trading programs.

ETHEREUM TOKENOMICS & ECOSYSTEM

Staked Value Driving

"Staking" is an aspect of some blockchain's consensus mechanisms. Staking offers additional tokens, akin to being paid interest, in exchange for locking up a cryptocurrency for a period of time. As part of Ethereum's upgrade to Ethereum 2.0, **ETH's staked value now exceeds $9 billion, with over 3.7 million ETH2 deposited, or 3.26% of total ETH supply**[8]. Staked ETH remains indefinitely locked until Ethereum 2.0 is completed, likely in 2022 or 2023.

More ETH staked assets means fewer coins in circulation, creating upward pressure on price in the short and medium term. Read more on the ETH 2.0 implications here.

ETH's Staked Value Now Exceeds

$9 Billion USD

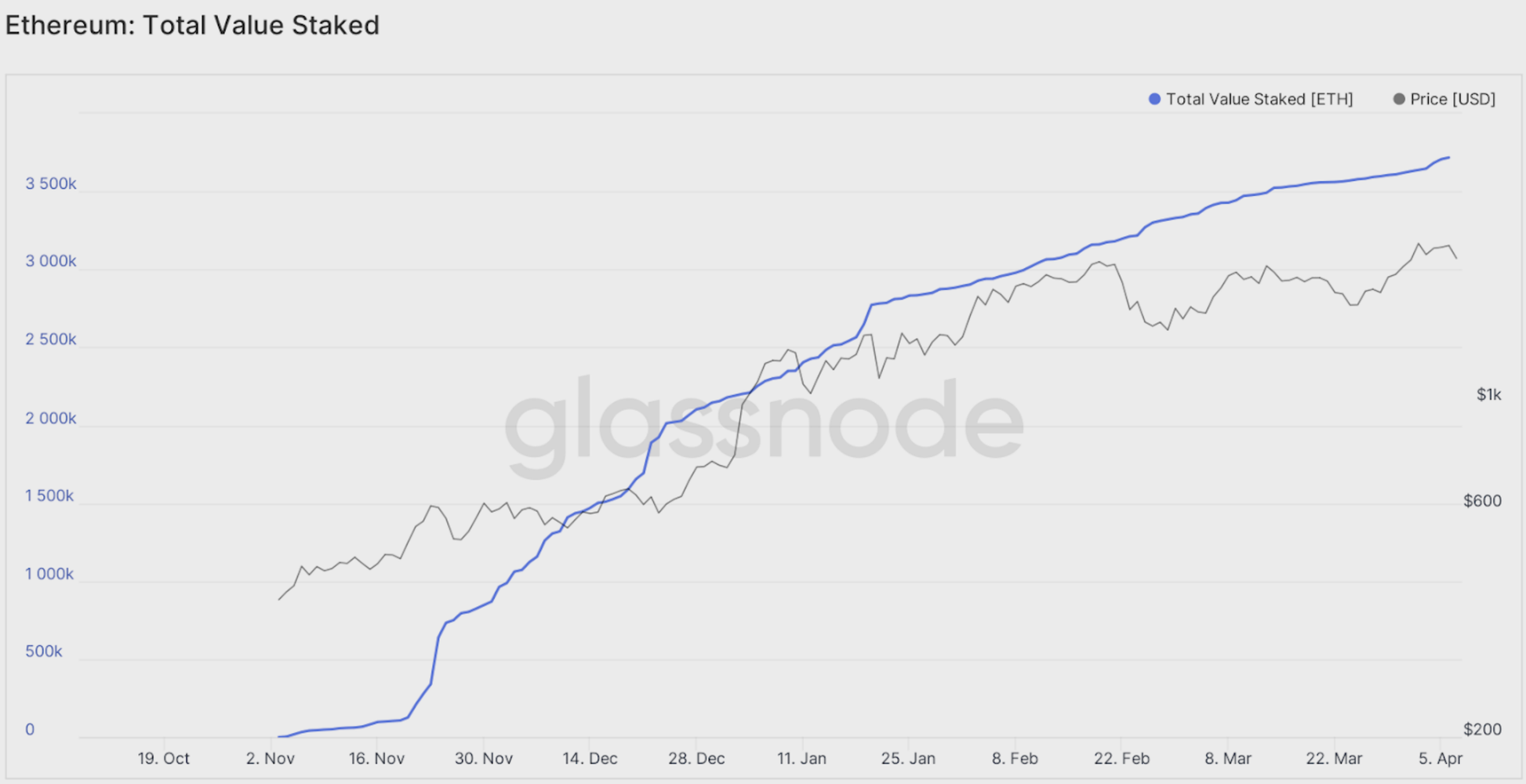


Fig. 9: ETH Staked Value

Ethereum Improvement Protocol (EIP) 1559 vs Legacy Auctions

EIP 1559 promises to increase the efficiency and speed of the network by standardizing prices for users and miners. Before EIP 1559's implementation network participants would submit a limit order to the network at a price, in ETH, that they are willing to pay for a given transaction. The transactions with the highest bids up to half network capacity are accepted into the next block of transactions for validation on the network. EIP 1559 replaces the auction system with a per block flat fee[8] plus optional tip system. The tip is designed to allow network participants who need to get their transactions processed in the next block to skip in line during periods of high network activity[9]. The difference between these two systems is analogous to the difference between eBay and Amazon's business models. Where the old system was a free for all auction system where multiple participants pay different prices for the same product, the new system ensures every participant pays the same price for each product with the only difference being the delivery time which is analogous to the tip in the protocol.

EIP 1559's most important protocol modification for ETH's long term investors is the burning mechanism introduced to the base fee. In the future, all Wei[10] paid for the base fee is deleted from circulation[11] effectively **canceling out ETH's inflation rate of 4.37% and potentially decreasing the total ETH supply depending on network volume**. This process is analogous to a company buying back its own stock with profits on a continuous basis.

Total Locked Value (TLV) Indicates a Healthy ETH Ecosystem

Many of the most successful DeFi applications offer smart-contract based solutions for lending and borrowing cryptocurrencies. This is done by sending cryptocurrency to a smart contract address and locking it up for either a flexible or fixed period of time. The amount of ETH utilized in this manner supports strong network health and utilization. **About 22.5% of total ETH supply is in a smart contract and growing** as a percentage of global supply by the day.

~22.5%

of Total ETH Supply is in a Smart Contract

8. This flat, or "base," fee is determined by a supply and demand equation built into the protocol. If transactions in the current block are more than half network capacity the base fee in the next block is raised up to a maximum
9. Since the base fee is increased if network activity is more than half capacity tips are unlikely to be used during normal network activity. Only during periods where transactions in the current block increase sharply from the previous block are tips likely to come into play to ensure a place in the block.
10. Wei is the smallest unit an ETH token can be divided into.
11. Miners will in the future be paid exclusively with block rewards and tips.

Fig. 10: ETH in Smart Contracts

The duration of ETH locked in smart contracts varies, but smart contract growth continues to drive adoption, and creates upward pressure on price. DeFi, or decentralized finance, comprise slightly more than one-third, **$53B or 10M ETH worth**, of all smart contracts on the Ethereum network.

DeFi Ecosystem Growth

DeFi, or decentralized finance, is the most promising use case to emerge for the Ethereum network thus far promising to subvert and replace traditional finance (TradFi) in the coming years. As shown in figure 12, there are many successful projects on Ethereum with **more than $1 Billion**, the greater part of which is Ethereum tokens, locked in each of their protocols. As implied, DeFi is decentralized therefore holders of the exchange's governance token must vote to accept modifications from developer teams that work on their protocols. Furthermore, a protocol's products are governed by rules laid out in advance in code and therefore require no oversight outside of the two parties taking part in a given exchange. About 11.1 million ETH tokens are locked within DeFi smart contracts.

$1 Billion+ USD

Locked Into Successful Ethereum Project Protocols

DEFI PULSE	Name	Chain	Category	Locked (USD) ▼	1 Day %
1.	Compound	Ethereum	Lending	$11.05B	-1.40%
2.	Maker	Ethereum	Lending	$9.37B	2.79%
3.	Aave	Ethereum	Lending	$6.41B	-4.56%
4.	Uniswap	Ethereum	DEXes	$6.17B	-2.89%
5.	Curve Finance	Ethereum	DEXes	$5.61B	-0.80%
6.	SushiSwap	Ethereum	DEXes	$4.14B	-2.96%
7.	InstaDApp	Ethereum	Lending	$2.81B	0.04%
8.	Synthetix	Ethereum	Derivatives	$2.52B	6.03%
9.	Balancer	Ethereum	DEXes	$2.31B	-0.65%
10.	Bancor	Ethereum	DEXes	$1.92B	-5.34%

Fig. 11: DeFi Top 10 Applications by total $ Value Locked

The product suite offered by DeFi products is diverse but generally they fall into a few categories: Exchange Protocols (DEXes)[12], Collateralized Lending Protocols, and Collateralized Derivatives products/exchanges. Each protocol focuses on a specific niche within its subcategory, for example, Curve Finance is a decentralized exchange focused on swapping pegged[13] assets for minimal slippage.

12. DEX or Decentralized Exchange
13. Pegged assets are assets that have the same underlying value and therefore net of fees should trade at the same price

CONCLUSION

With a robust developer community, a rapidly expanding DeFi ecosystem, and the availability of liquid derivatives market, Ethereum is starting to get the attention of institutional investors and corporate treasuries. While Ethereum and Bitcoin were designed to achieve very different ends, both have had remarkable success expanding their networks, attracting talent and investment. With potential challenges ahead, including the successful execution of Ethereum 2.0 and a transition to Proof of Stake (PoS), the path ahead for ETH could get steep and bumpy. With long term vision and dynamic risk-management strategy, we believe it's a path worth taking.