



HASHDEX

# Market Pulse

Q1 2023

Ecosystem developments impacting crypto's investment case

# About Hashdex

Founded in 2018, Hashdex is a leading crypto-focused alternative asset manager. We provide innovative investors simple and secure access to the rapidly growing crypto asset class through regulated investment products.



Simple



Secure



Trusted

We exist to bridge the gap between traditional financial markets and the crypto economy.



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We are delighted to introduce our inaugural quarterly report, titled "Market Pulse," which offers a comprehensive analysis of the key trends and developments in the crypto asset market for Q1 2023.

The first quarter of 2023 saw a robust price rally, indicating continued global interest in crypto assets despite the destabilizing events of 2022 and the impending regulatory crackdown in the US since the FTX debacle.

Amidst a volatile macroeconomic landscape, a spreading banking crisis in the US and Europe, and further government intervention through liquidity injections, the Nasdaq Crypto Index (NCI) performed exceptionally well, increasing by 63.9% in the quarter. This growth significantly outpaced traditional risk assets, such as the Nasdaq 100 (+16.8%) and the S&P 500 (+7.0%).

The standout performance of the quarter was bitcoin (+71.1%), which demonstrated its strong attributes as an emerging decentralized digital store of value during a time when investors questioned the stability of the financial system in many geographies. During this period, Bitcoin's dominance in the total crypto market capitalization rose from 39.4% at the end of 2022 to 45.7% by the end of March. Its total market capitalization reached US\$550 billion once again while the industry's total market capitalization regained its US\$1.2 trillion value.

Looking ahead, the key development to watch is the long-awaited Shanghai upgrade on the Ethereum network, which will enable the unstaking of ether and bring the sequence of updates related to The Merge (activation of Proof-of-Stake and deactivation of Proof-of-Work consensus mechanism) to a conclusion. This event will enable new stakers into the ecosystem, further decentralizing it and making the investment case of Ethereum much stronger.

In this report, you will find an overview of the crypto market and global metrics, updates on ecosystem developments, performance data for Hashdex's indices, noteworthy news from the quarter, a glossary, and a fundamentals guide to help you understand specific terms covered herein and in upcoming reports.

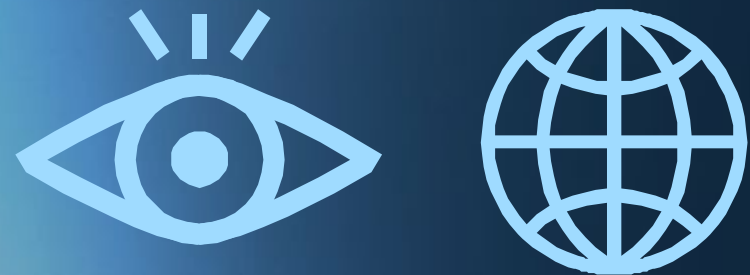
We trust that you will find this document informative and insightful. Please do not hesitate to reach out to us for a more in-depth discussion on any of the topics covered.

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# Market Overview and Global Metrics



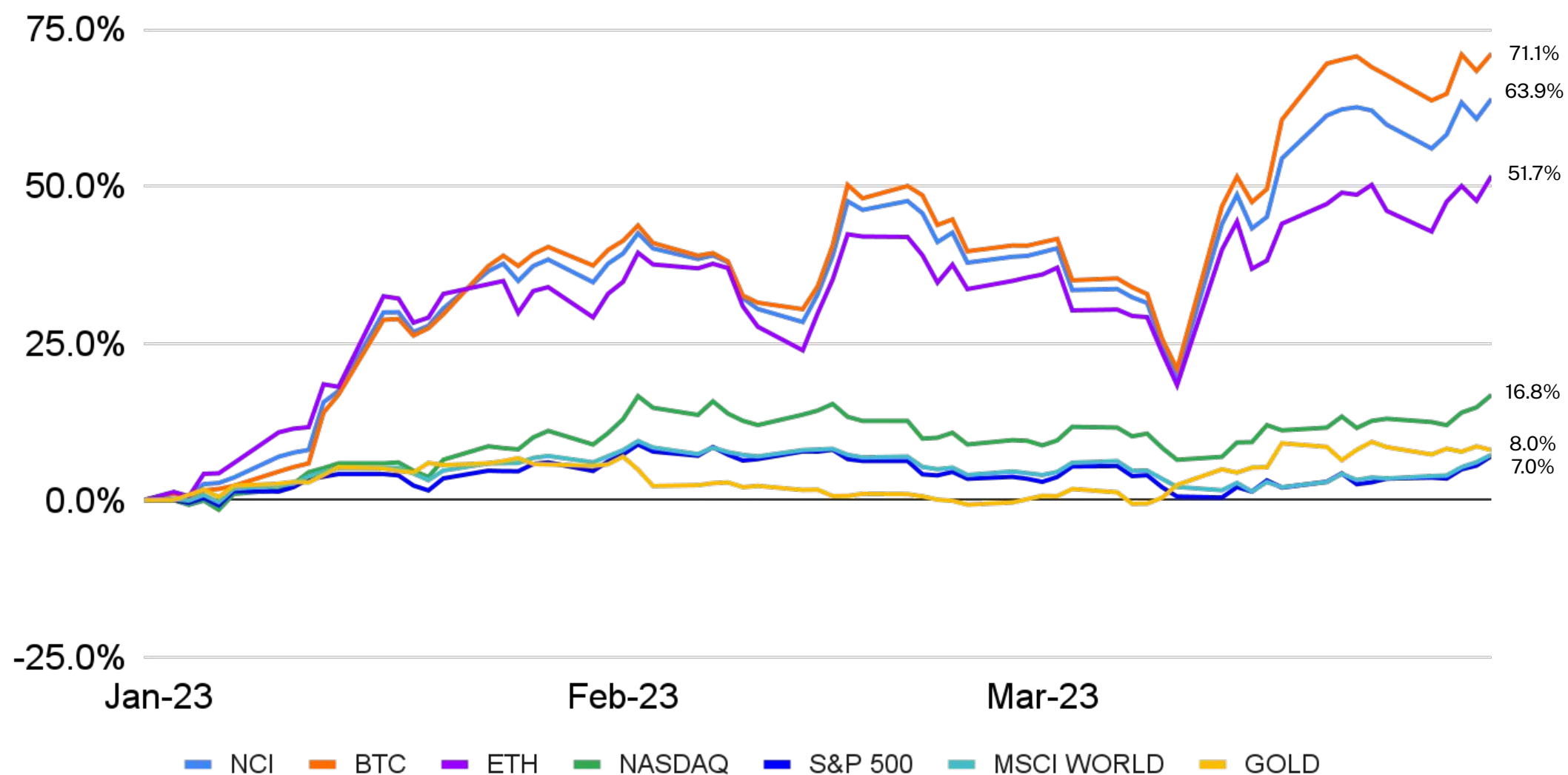


# Bitcoin and Ether: Remarkable performance far surpassed traditional asset classes

In **Q1'23**, bitcoin (BTC) saw an impressive surge in its price, rising from around \$16,500 to above \$28,000 by the end of the quarter. With a gain of 71.1%, BTC has significantly outperformed traditional alternatives, such as the S&P 500, the Nasdaq 100 and gold, which only posted gains of 7.3%, 16.8% and 8.0%, respectively. Ether (ETH), the second-largest crypto asset by market capitalization, also experienced an impressive growth spurt in Q1'23, although it underperformed in comparison to BTC with a 51.7% gain.

And while both BTC and ETH have significantly outperformed other asset classes, there is a strong case to be made for even a stronger investment opportunity in ETH during Q2'23. With the **Shanghai\*** upgrade and the increasing interest for the “risk-free internet bond,” demand for ETH is only expected to rise, potentially driving up its market value.

Performances among asset classes in Q1'23<sup>1</sup>



<sup>1</sup>Elaborated by Hashdex Research with data from Bloomberg and CF Benchmarks (from 12/31/2022 to 03/31/2023)  
 \*The first appearance of an expression containing a light blue highlight are described in further detail in the Glossary at the end.

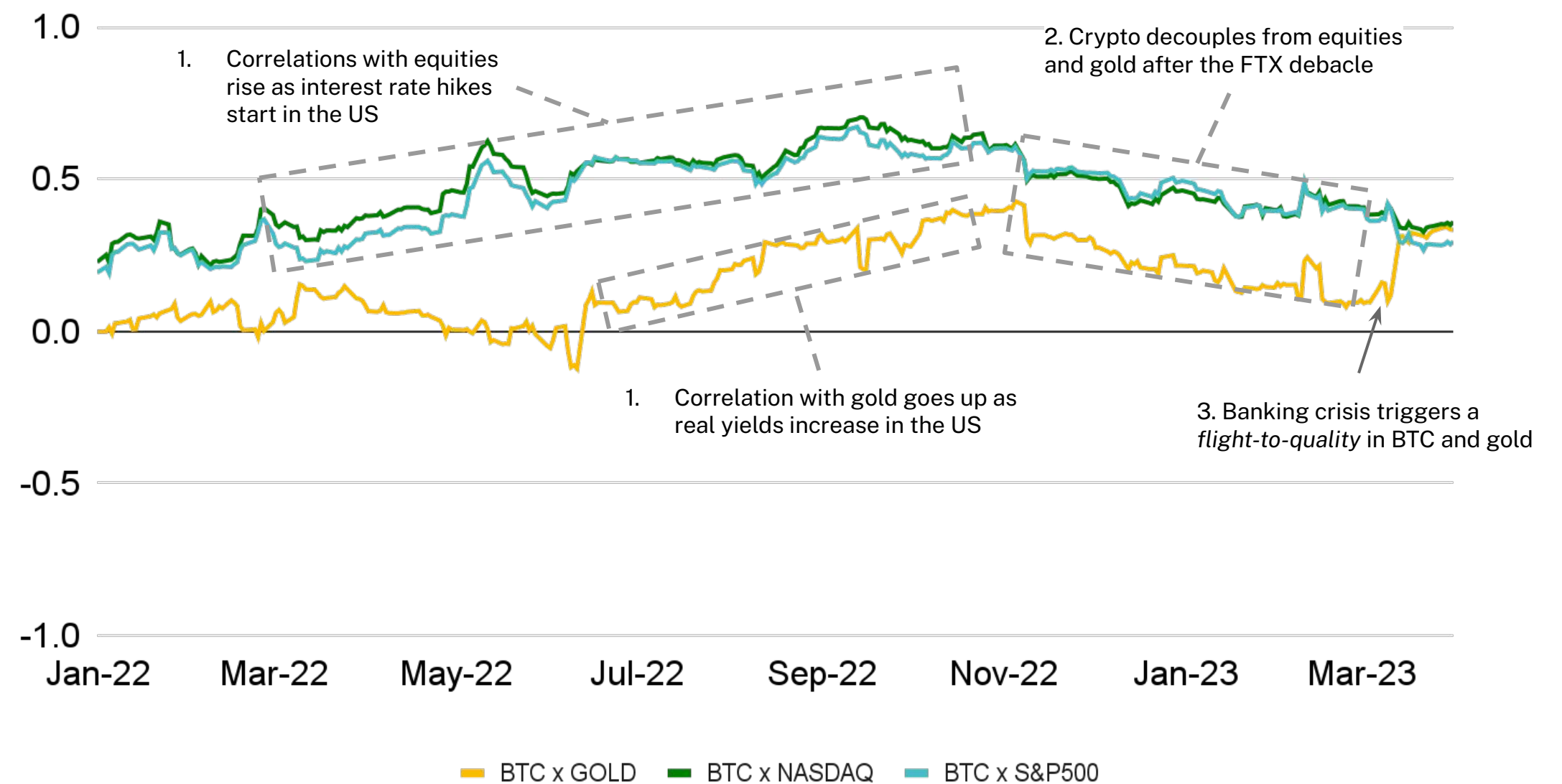


# Banking crisis spikes BTC's correlation with gold

Correlations between BTC and traditional asset classes have gone through at least three distinct periods since the beginning of 2022:

- 1. Jan-22 to Oct-22:**  
Higher interest rates, inflation fears, and the war in Ukraine
- 2. Nov-22 to Feb-22:**  
The FTX debacle, decelerating rate hikes, and the beginning of BTC's recovery phase
- 3. Mar-22 to now:**  
The banking crisis and a *flight-to-quality* in BTC and gold.

## 3 month rolling correlations (working days) <sup>1</sup>



<sup>1</sup> Elaborated by Hashdex Research with data from Google Finance (from 10/01/2022 to 03/31/2023)



## Market Cap and Total Value Locked rose alongside prices in Q1'23<sup>1</sup>

Though still a distance from the all-time high reached in late 2021, signs of recovery in the crypto markets are becoming evident. **Positive price movements** have contributed to a rise in market capitalization across nearly all segments and assets within the ecosystem, particularly for blue-chips (such as BTC and ETH), as well as Total Value Locked (TVL) in the ecosystem.

It's worth noting an interesting trend has emerged, perhaps driven by regulatory pressures in the US and concerns over inflation at the Federal Reserve: Bitcoin experienced a notable increase in its market capitalization while there was a decrease in the stablecoin market during the quarter. This suggests that inflows into BTC came from both traditional markets and the crypto industry. This may explain why other crypto assets are not performing as well as BTC in this phase of the cycle.

Metric	Q1'23	2022	1 year ago	YTD	12 months
Total Market Cap	\$1,183.8B	\$810.0B	\$2,178.0B	46.2%	-45.6%
BTC Market Cap	\$542.0B	\$319.5B	\$894.3B	69.6%	-39.4%
ETH Market Cap	\$216.1B	\$146.8B	\$406.9B	47.2%	-46.9%
Stablecoins Market Cap	\$129.3B	\$135.2B	\$181.5B	-4.3%	-28.8%
Others Market Cap	\$296.4B	\$208.5B	\$695.2B	42.2%	-57.4%
TVL	\$76.5B	\$56.5B	\$224.3B	35.4%	-65.9%
Bitcoin addresses with non-zero balances	45.4M	43.3M	41.1M	5.0%	10.4%
Ethereum addresses with non-zero balances	96.6M	92.1M	77.9M	4.9%	24.0%

<sup>1</sup>Elaborated by Hashdex Research with data from Messari, Glassnode and Defillama (from 03/31/2022 to 03/31/2023)

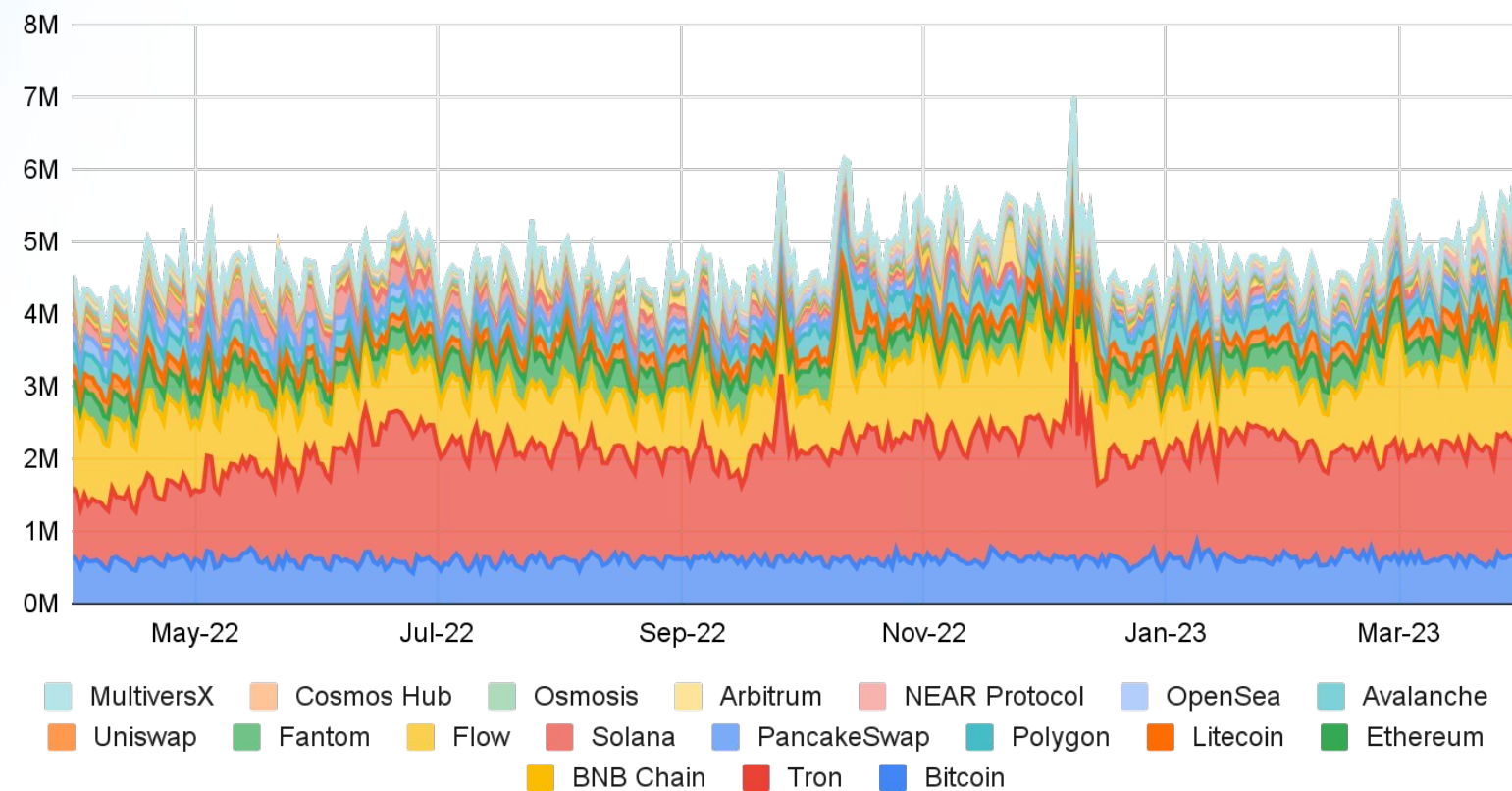




## The daily active user count has gone back above 5 million<sup>1</sup>

Following the FTX episode, which resulted in price drops and the disruption of ecosystems such as Solana, several investors initially lost confidence in the industry. Nonetheless, a robust quarter for prices and fundamentals has led to the recovery of the 5 million daily active users threshold.

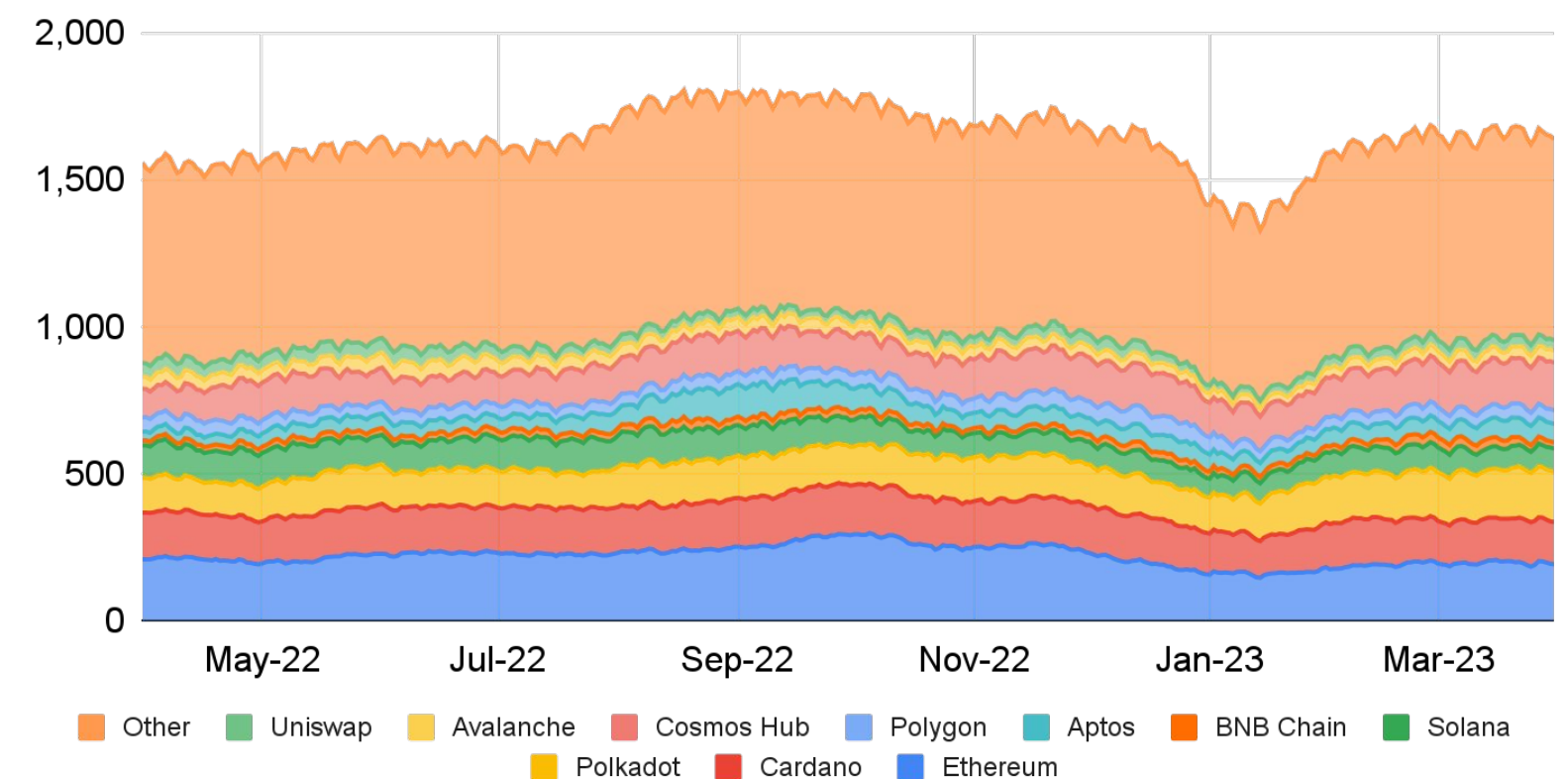
Active daily users across projects<sup>1</sup>



## Daily active developer rises again after late 2022 gutter<sup>2</sup>

After the FTX problem, the number of daily active developers started decreasing but as the market initiated a recovery in early 2023, this metric returned to previous levels.

Active daily developers across projects<sup>2</sup>



<sup>1</sup><https://tokenterminal.com/terminal/metrics/active-users> (from 03/31/2022 to 03/31/2023)

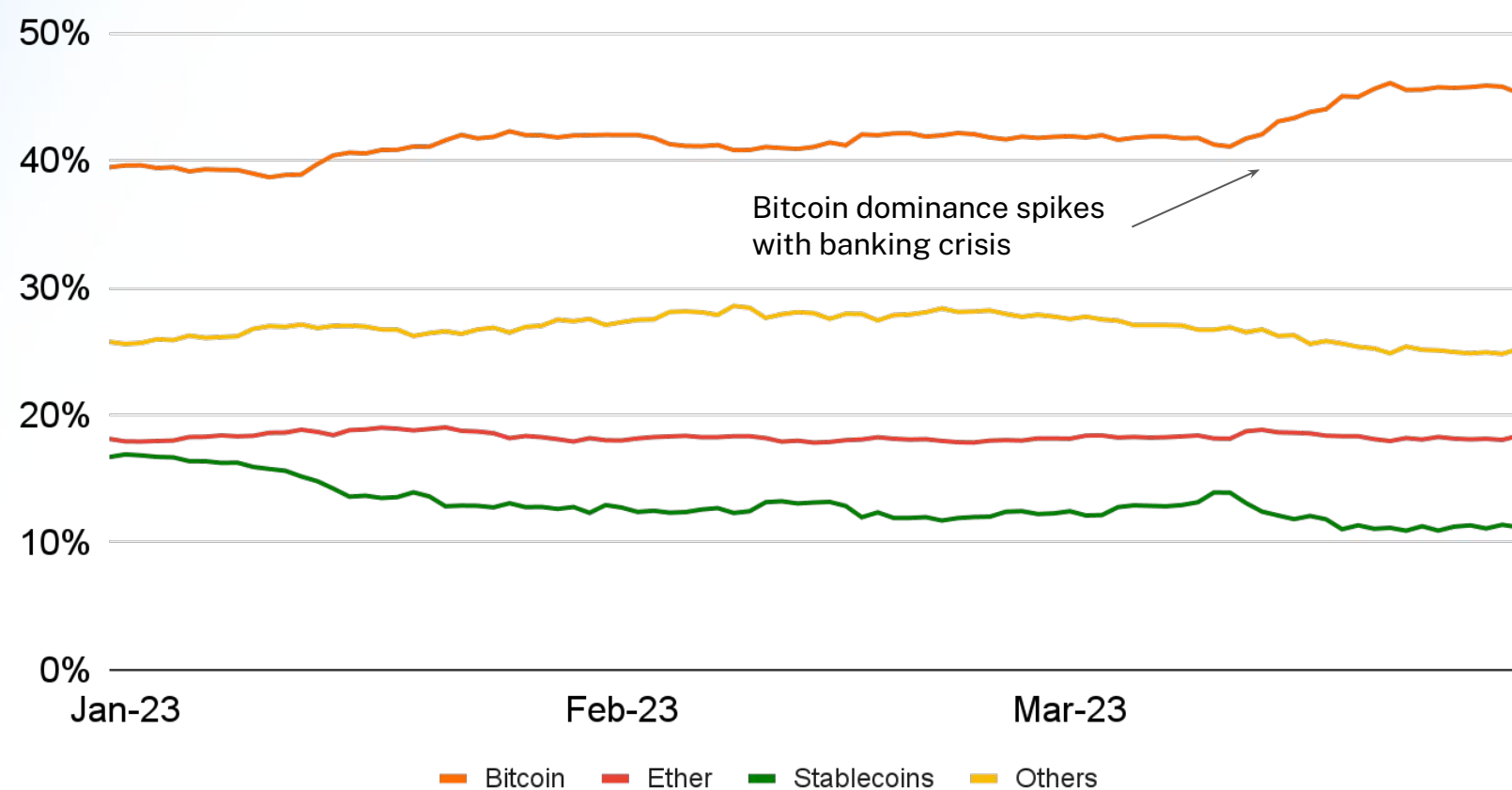
<sup>2</sup><https://tokenterminal.com/terminal/metrics/active-developers> (from 03/31/2022 to 03/31/2023)



## Bitcoin market dominance rises with its outperformance in Q1'23

During the quarter, there was a notable increase in demand for Bitcoin, both within the crypto industry and in traditional markets. As a result, BTC's dominance in crypto has significantly grown.

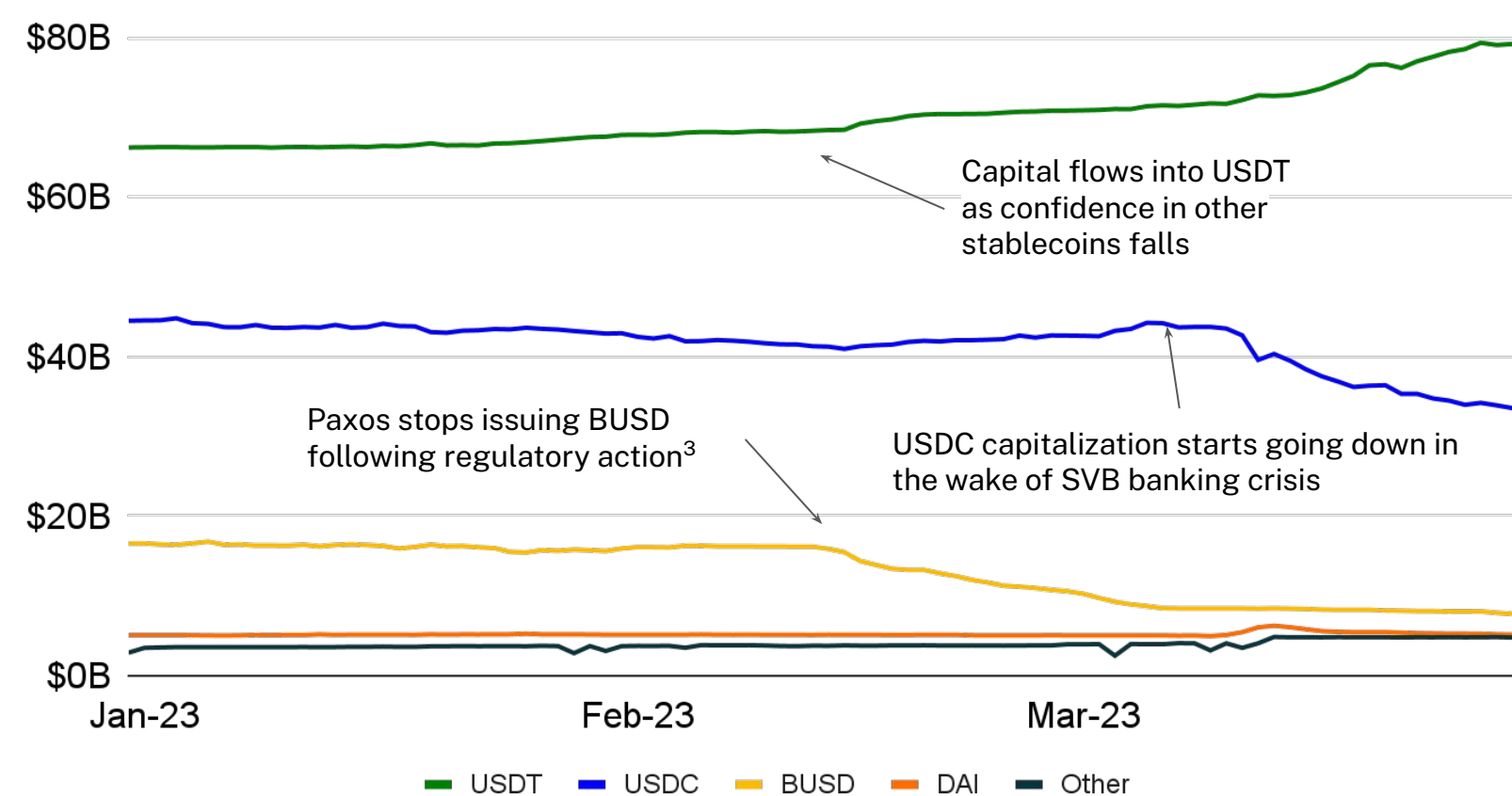
Crypto market capitalization dominance<sup>1</sup>



## USDT gains market share as banking crisis affects USDC and regulation pressures BUSD

Amid turbulent events, regulatory crackdowns, and episodes that included Circle's USDC temporarily de-pegging during the SVB crisis, Tether's USDT proved to be one of the big winners in the stablecoin market, avoiding negative spotlight and slowly increasing its relative dominance.

Stablecoin market capitalization evolution in Q1'23<sup>2</sup>



<sup>1</sup>Elaborated by Hashdex Research with data from Messari (from 01/01/2023 to 03/31/2023)

<sup>2</sup><https://www.coindesk.com/business/2023/02/13/paxos-to-stop-minting-stablecoin-busd-following-regulatory-action/> (from 01/01/2023 to 03/31/2023)

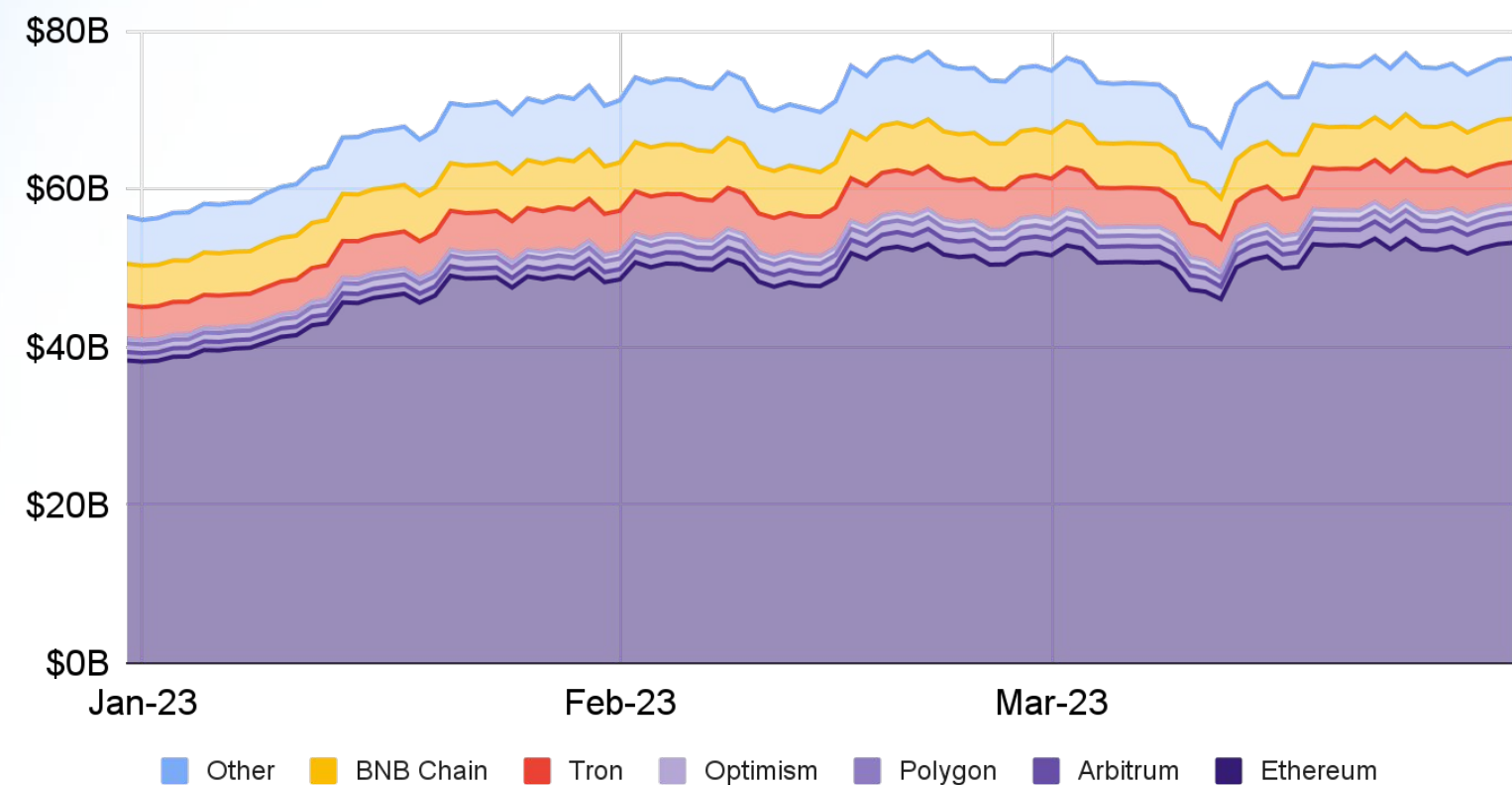
<sup>3</sup><https://www.cnn.com/2023/03/11/stablecoin-usdc-breaks-dollar-peg-after-firm-reveals-it-has-3point3-billion-in-svb-exposure.html> (from 01/01/2023 to 03/31/2023)



## Total Value Locked is dominated by Ethereum and its scaling solutions<sup>1</sup>

Each quarter, there is a trend that reflects where investors' attention and actual investment dollars are concentrated. In Q1'23, the primary fundamental trend is the emergence of rollups and sidechains built on Ethereum, which has led to increased dominance of the TVL on these networks.

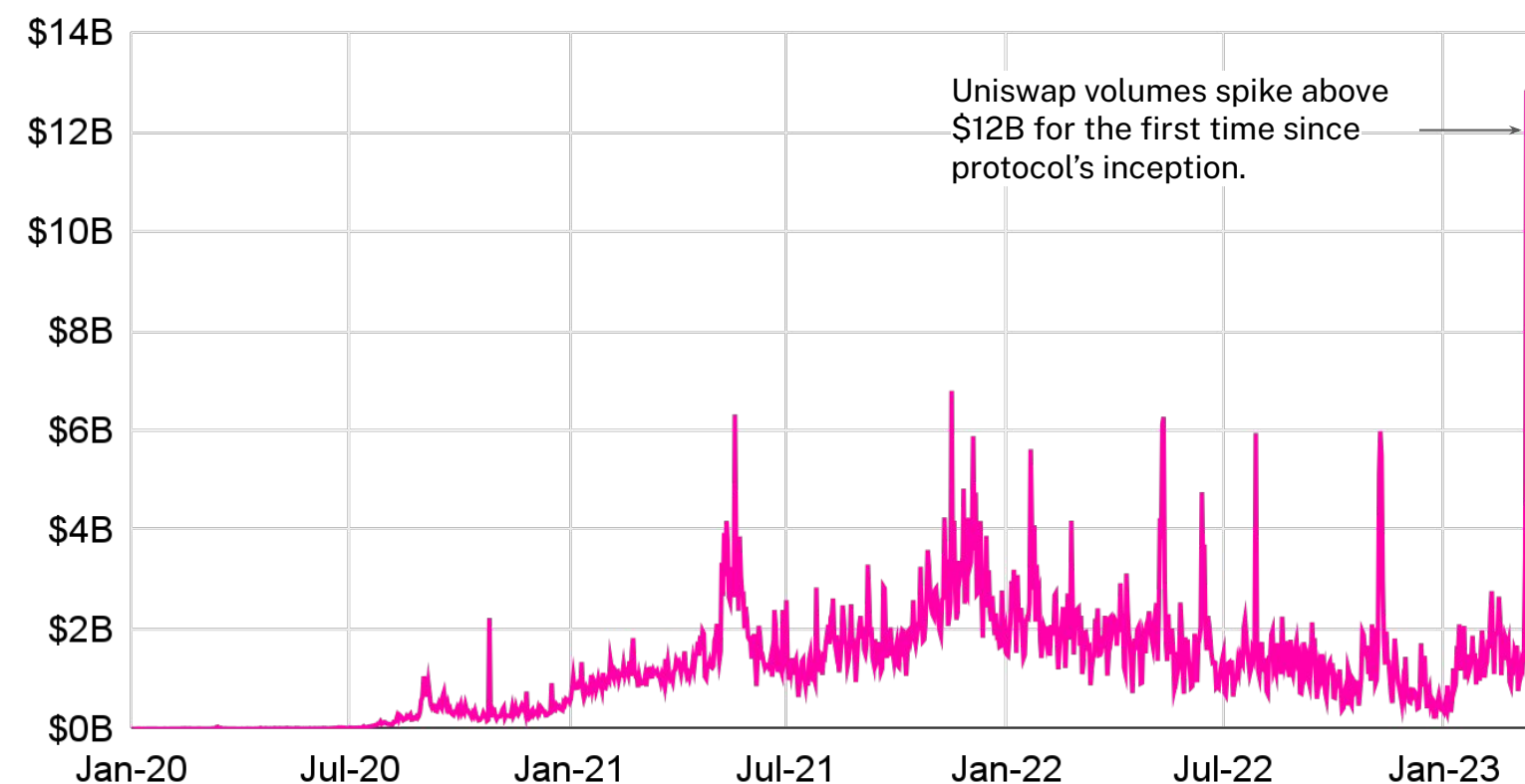
TVL across blockchains (Top 6 + others)<sup>2</sup>



## Uniswap reaches its daily volume all-time-high of \$12B amidst banking crisis

As observed during the FTX episode last year, decentralized exchange (DEX) Uniswap witnessed a surge in activity, indicating a moment of skepticism toward centralized entities and a growing interest in decentralized finance (DeFi) solutions.

Uniswap daily volume in USD<sup>3</sup>



<sup>1</sup>Here represented by Arbitrum, Polygon and Optimism.

<sup>2</sup>Elaborated by Hashdex Research with data from Defillama (from 01/01/2023 to 03/31/2023)

<sup>3</sup>Elaborated by Hashdex Research with data from Dune Analytics (from 01/01/2020 to 03/31/2023)





## Nasdaq to launch its crypto custody service in Q2'23 end<sup>1</sup>



**Nasdaq applied to the New York Department of Financial Services (NYDFS) for a limited-purpose trust company charter which would oversee its custody service.**

In the wake of recent closures of crypto-centric firms, traditional finance companies like Nasdaq are aiming to fill the gap. FTX exchange and banks Silvergate and Signature were among the most notable firms to shut down.

As more reputable players enter the market, the risks are reduced and good management practices are introduced to the crypto industry, which may open the doors for more institutional adoption.

## Adidas & Tommy Hilfiger push into the Metaverse<sup>2</sup>



TOMMY HILFIGER



**Adidas and Tommy Hilfiger to debut cross-platform digital fashions at Metaverse Fashion Week**

This collaboration is a notable milestone that demonstrates how established brands are embracing blockchain-based solutions. They are not only catering to the burgeoning metaverse market but also exploring new avenues to generate revenue.

As more established brands adopt blockchain-based services and solutions, they are likely to accelerate the trend due to the potential benefits, such as improved transparency and traceability in their supply chain, reduced costs, and enhanced customer engagement



<sup>1</sup><https://www.coindesk.com/business/2023/03/24/nasdaq-aiming-to-debut-crypto-custody-service-by-q2-end-bloomberg> (accessed 03/31/2023)

<sup>2</sup><https://www.glossy.co/fashion/adidas-and-tommy-hilfiger-to-intro-cross-platform-digital-fashion-at-metaverse-fashion-week> (accessed 03/31/2023)





Flybondi issues every ticket as an NFT<sup>1</sup>

flybondi  
travelX®



Argentinian low-cost airline Flybondi is integrating Web3 into its ticketing process by issuing e-tickets as non-fungible tokens (NFTs).

The new integration announced is called Ticket 3.0 and is an expansion of its existing relationship with NFT ticketing company TravelX launched in September 2022.

The NFT ticketing technology is built on the Algorand blockchain and allows passengers to change their name, transfer and sell their “NFTickets” independently.

Algorand

Siemens issues €60M digital bond<sup>2</sup>

SIEMENS



German conglomerate Siemens issued €60M digital bond on Polygon, with a one-year maturity in accordance with Germany’s Electronic Securities Act.

The act, which came into force in June 2021, allows the issuances of securities in electronic form and does not require a physical securities certificate.

Such a bond issuance makes paperwork more efficient and removes the requirement of a central clearinghouse.

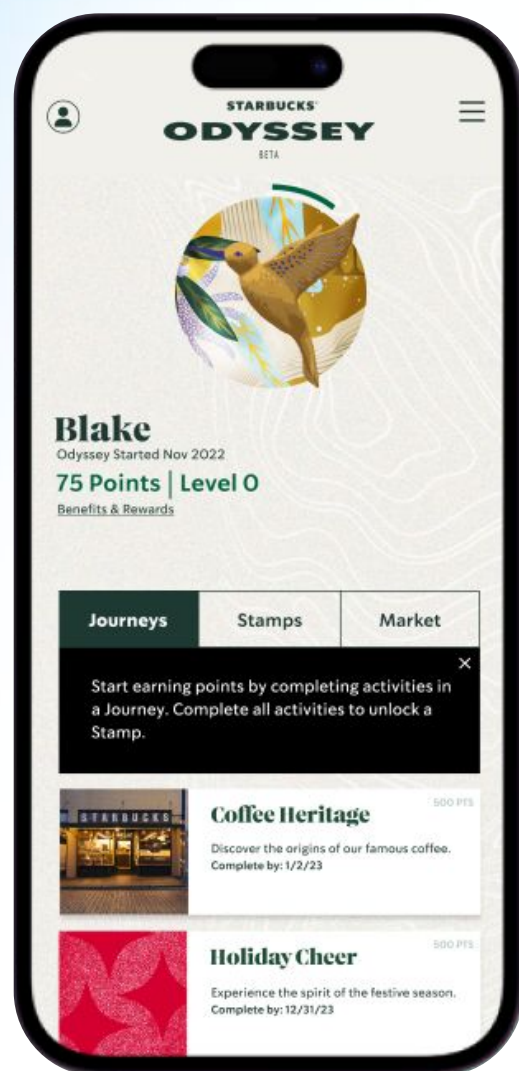
polygon

<sup>1</sup><https://finance.yahoo.com/news/argentinian-airline-issues-every-ticket-205344176.html> (accessed 03/31/2023)

<sup>2</sup><https://blockworks.co/news/german-conglomerate-siemens-issues-e60m-digital-bond-on-polygon> (accessed 03/31/2023)



## Starbucks extends its loyalty program to Web3<sup>1</sup>



Starbucks Odyssey is an extension of Starbucks Rewards, powered by Web3 technology, that unlocks access to exciting new benefits and experiences for members.

The experience allows members to participate in a series of entertaining, interactive activities called “Journeys.”

Once a Journey is complete, members will earn collectible “Journey Stamps” (NFTs) and Odyssey Points that will open access to new benefits and immersive coffee experiences that they cannot get anywhere else.



<sup>1</sup><https://odyssey.starbucks.com> (accessed 03/31/2023)

## Avalanche partners up with AWS, for government-related data storage.<sup>1</sup>



As a part of its deal with Amazon, Ava Labs will offer “subnet deployment” as a service through the AWS Marketplace.

This implies that Ava Labs can be approached by any corporation or institution to deploy a personalized Subnet on the AWS infrastructure.

These Subnets function as unique blockchains constructed on the Avalanche network, while having the flexibility to incorporate customized sets of rules within its infrastructure.



<sup>1</sup><https://cointelegraph.com/news/ava-labs-partners-with-aws-to-offer-one-click-node-deployment> (accessed 03/31/2023)







# Ecosystem Developments



# Bitcoin had its best quarter in 2 years<sup>1</sup>

In **January**, the potential alleviation of inflation expectations and the possibility that the Fed could avoid keeping rates higher for longer pushed BTC up by almost 40%.

**February** was mostly eventless, as prices across asset classes were flat, with bitcoin roughly flat with a 0.5% upside, negatively impacted by regulatory actions against crypto firms.

**March** began with fears of the Fed hiking again (or accelerating the pace of hiking) before a complete reversal of this perspective transpired as Silvergate, SVB, and Signature fell, and the fragility of European banks and US regional banks was exposed, pushing BTC up by almost 22%.

BTC Price<sup>2</sup>



<sup>1</sup>TradingView (accessed 03/31/2023)

<sup>2</sup>CF Benchmarks (from 12/31/2022 to 03/31/2023)

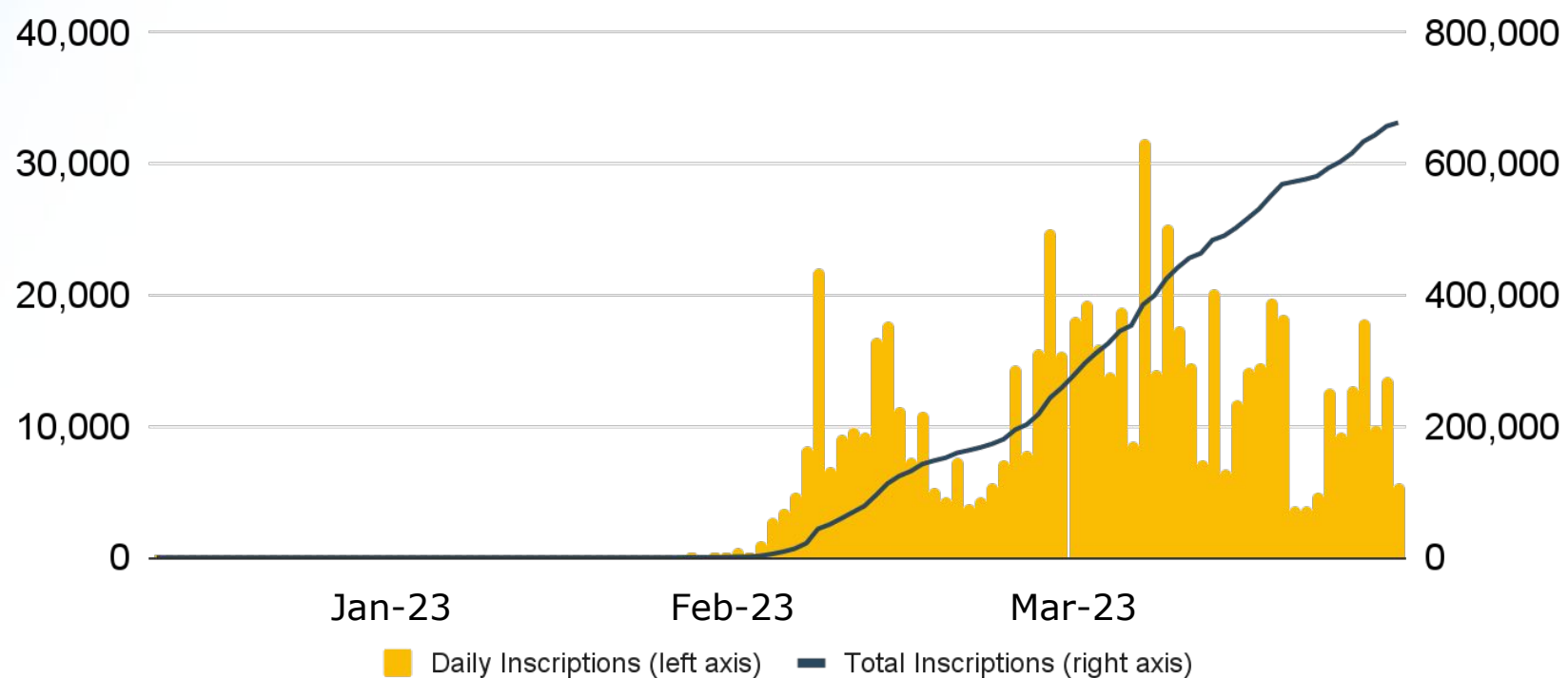




## The surge of NFTs on Bitcoin brings more utility to the flagship blockchain

Ordinal Theory is a way to assign an ordinal number to every satoshi,<sup>1</sup> giving rise to a novel way to create NFTs on Bitcoin. Incriptions are a way to assign data on the blockchain to any ordinal, allowing for the storage of text, images, songs, videos and even video games on the Bitcoin blockchain.

Number of Incriptions over time<sup>2</sup>



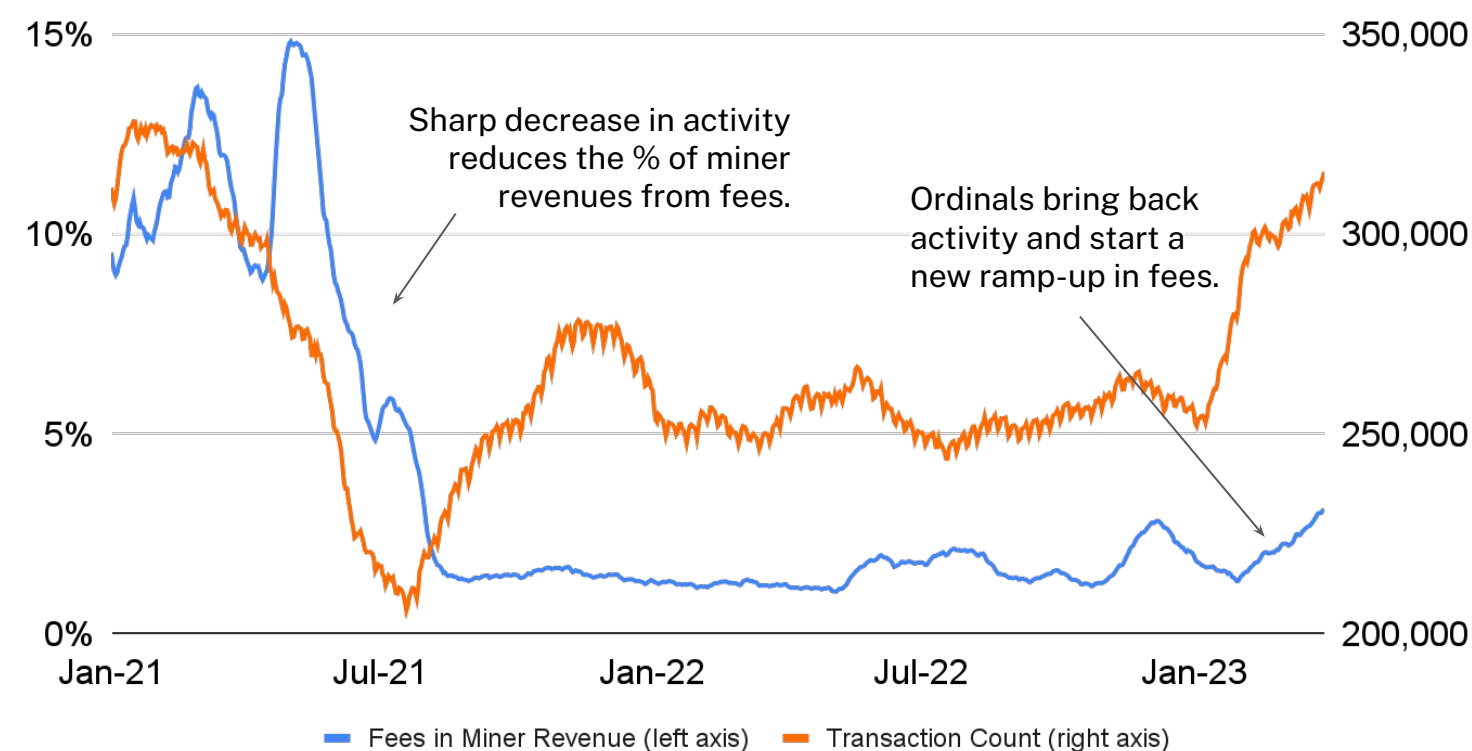
<sup>1</sup>One satoshi is the smallest fraction of a BTC, equal to 0.00000001 BTC.  
<sup>2</sup>Elaborated by Hashdex Research with data from Dune Analytics (from 12/14/2022 to 03/31/2023)  
<sup>3</sup>Elaborated by Hashdex Research with data from Glassnode (from 01/01/2021 to 03/31/2023)



## Inscriptions have brought up the percentage of fees into miner revenues

As competition for registry on the Bitcoin blockchain grew, transaction fees started going back up. This increases the share of miner revenue coming from user-paid fees and makes it more feasible for the security of the network to rely only on fees over the long haul.

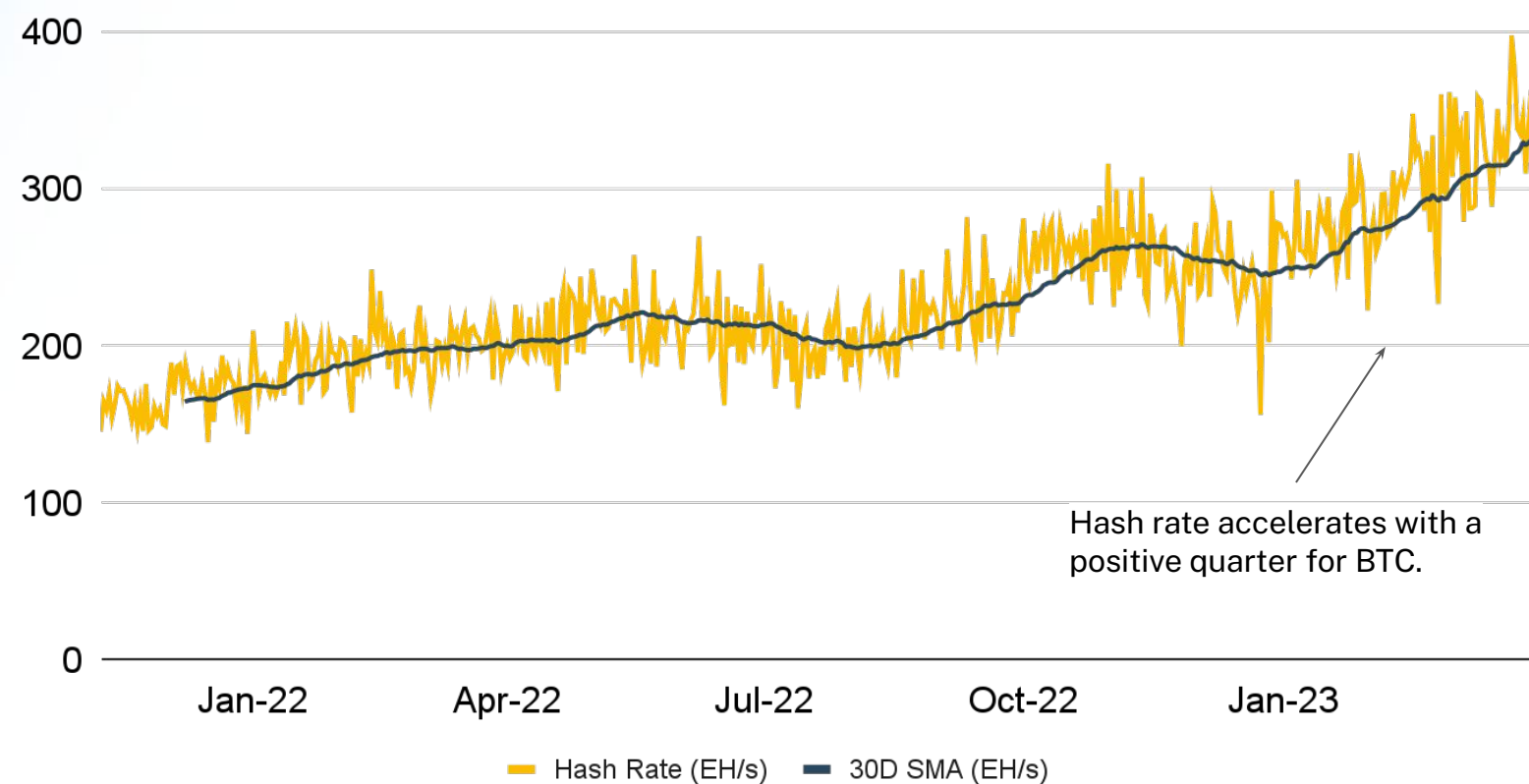
Fees in Miner Revenue and Transaction Count (30 SMA)<sup>3</sup>



## Hash rate continues to climb higher, making Bitcoin as secure as ever

The computational power of the Bitcoin network has continued its growth even after a year-long bear market, with Q1'23 seeing an increase in 18% in hash rate that makes the network as secure as ever.

Mining Hash Rate<sup>1 2</sup>



<sup>1</sup>One exahash per second (EH/s) is equal to  $10^{18}$  hashes per second (H/s).

<sup>2</sup>Elaborated by Hashdex Research with data from Glassnode (from 11/01/2021 to 03/31/2023)

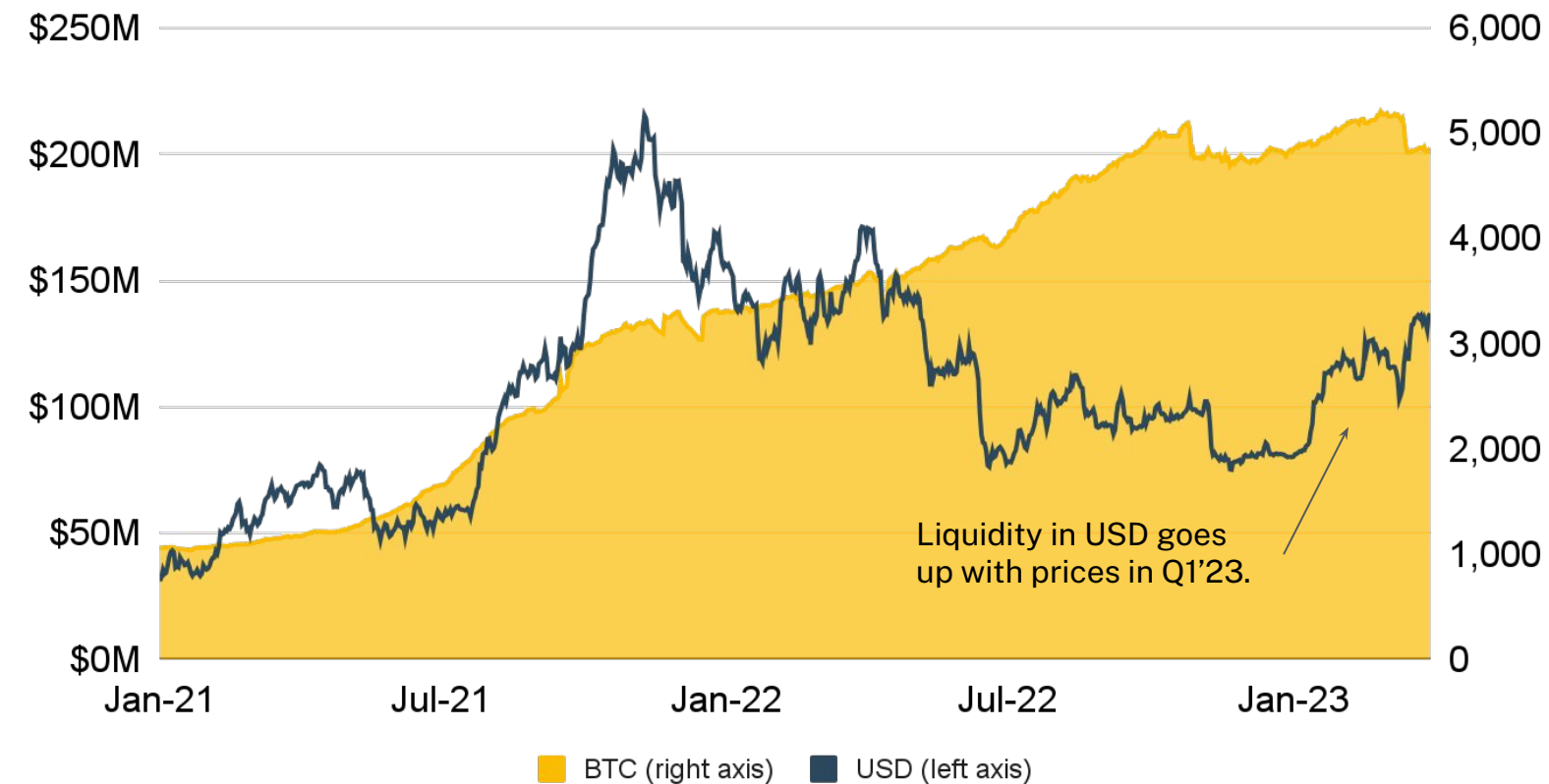
<sup>3</sup>Elaborated by Hashdex Research with data from Glassnode (from 01/01/2021 to 03/31/2023)



## Lightning Network liquidity stays flat in BTC, but grows in USD terms as price rises

The Lightning Network capacity continued above the 5,000 BTC mark reached in October 2022 for the first time. With BTC price going up, the same amount of BTC is able to carry out more USD denominated micropayments using Bitcoin's leading scaling solution.

Lightning Network Capacity<sup>3</sup>





# Bitcoin global metrics<sup>1</sup> show BTC's strength and continued growth



Metric	Q1'23	2022	1 year ago	YTD	12 months
Price (USD)	\$28,464.7	\$16,535.7	\$45,537.7	72.1%	-37.5%
Market Cap (USD)	\$542.0B	\$319.5B	\$894.3B	69.6%	-39.4%
Bitcoin Dominance	45.7%	39.4%	41.1%	15.8%	11.2%
24h Exchange Volume (USD)	\$5.4B	\$2.1B	\$4.3B	154.5%	27.6%



Hash rate (EH/s)	326.1	277.5	193.8	17.5%	68.2%
Active Addresses	1,049,777	843,094	978,678	24.5%	7.3%
Daily On-chain Transaction Fees (USD)	\$917.9k	\$201.9k	\$774.9k	354.7%	18.5%
Lightning Capacity (BTC)	4,828.1	4,830.2	3,639.9	0.0%	32.6%
% coins held for 6+ months	75.9%	77.6%	75.0%	-2.1%	1.2%

<sup>1</sup>Elaborated by Hashdex Research with data from Messari and Glassnode (from 03/31/2023 to 03/31/2023)





## Ethereum's value and recent token performance might present an opportunity<sup>1</sup>

The first quarter of 2023 was an intriguing time for the native token of the Ethereum network. Although its 51.7% performance may seem lackluster compared to that of BTC's (71.1%), there were several factors that might bolster the belief in ETH's investment thesis.

These included the **development of layer-2** solutions that greatly enhanced the network's scalability, the **deflationary** character of ETH throughout the quarter that coincided with heightened network activity, and the imminent release of the major Shanghai upgrade. All of these drivers signal a more secure and potentially higher-upside bet on ETH.

Moreover, considering the regulatory and macro environment that propelled BTC to become the best-performing global asset in Q1'23, the price behavior of **ETH could present a long-term opportunity.**



<sup>1</sup>TradingView (accessed 03/31/2023)

<sup>2</sup>CF Benchmarks (from 12/31/2022 to 03/31/2023)



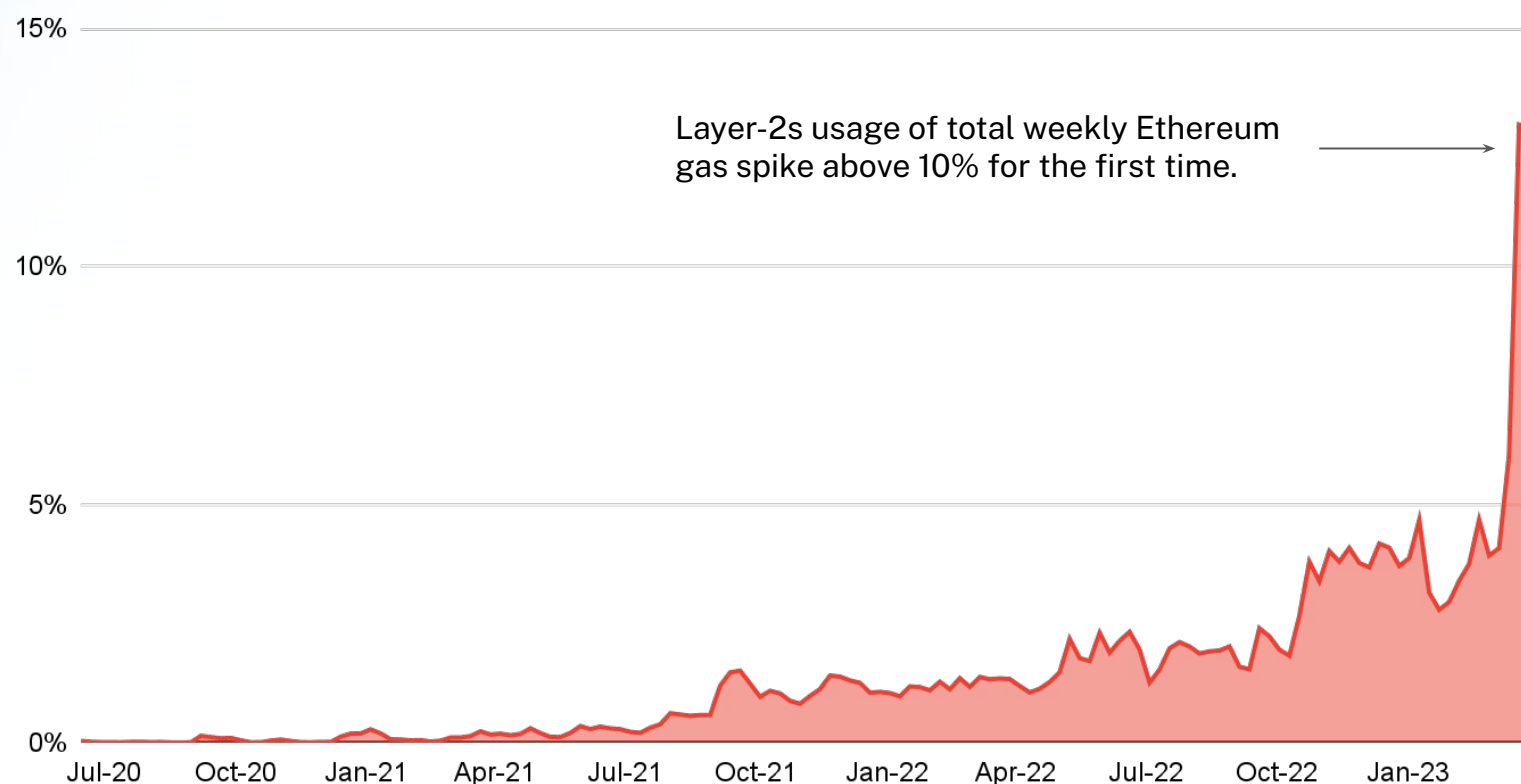




# Layer-2s reach new all-time-high of gas usage on Ethereum's base layer<sup>1</sup>

With rollups bringing services, applications, and especially users to Ethereum, the ETH investment case is becoming more robust. These factors also increase ETH's potential upside as they reinforce Ethereum's position as the leading smart contract platform and strengthens its long-term potential as a valuable investment.

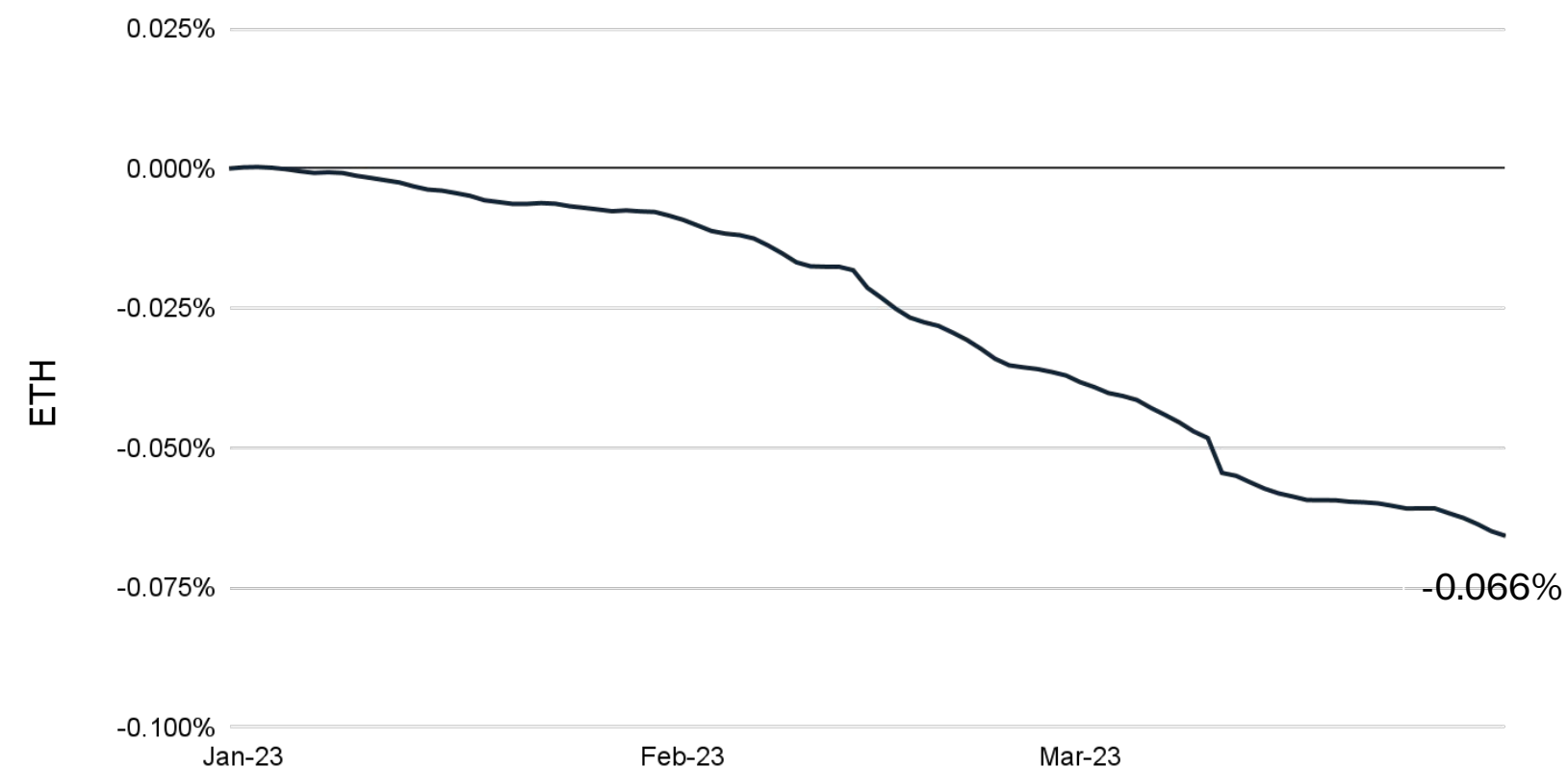
% of total weekly Ethereum gas spent by layer-2 proof contracts<sup>1</sup>



# Higher activity on Ethereum brings a fully deflationary quarter for the ETH supply<sup>2</sup>

During a period characterized by volatile market conditions, explosive events, and heightened activity due to layer-2s, a historical first was observed: a quarter in which ETH experienced deflation from start to finish. As activity increases in future bull phases, the deflationary nature of ETH will only gain greater significance.

ETH supply variation in Q1'23<sup>2</sup>



<sup>1</sup>Elaborated by Hashdex Research with data from Dune Analytics (from 06/15/2020 to 03/31/2023)

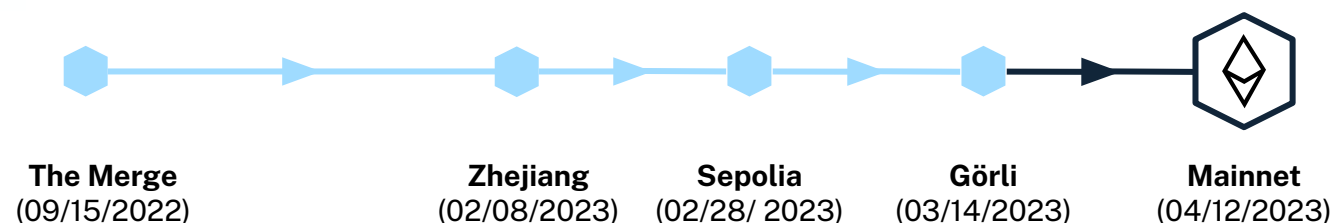
<sup>2</sup>Elaborated by Hashdex Research with data from Etherscan (from 12/31/2023 to 03/31/2023)



# Shanghai activation date is confirmed for April 12th<sup>1</sup>

After the successful Merge last year, the upcoming update to the Ethereum network is set for April 12th. Should ETH inflows surge into staking as liquidity for such operations increases, the Shanghai upgrade aims to curb ETH volatility and pave the way for institutional investments in Ethereum's native token.

## The road to Shanghai



<sup>1</sup><https://hashdex.com/en-US/insights/shanghai-s-activation-date-is-confirmed-the-final-upgrade-in-ethereum-s-transition-to-proof-of-stake> (03/31/2023)

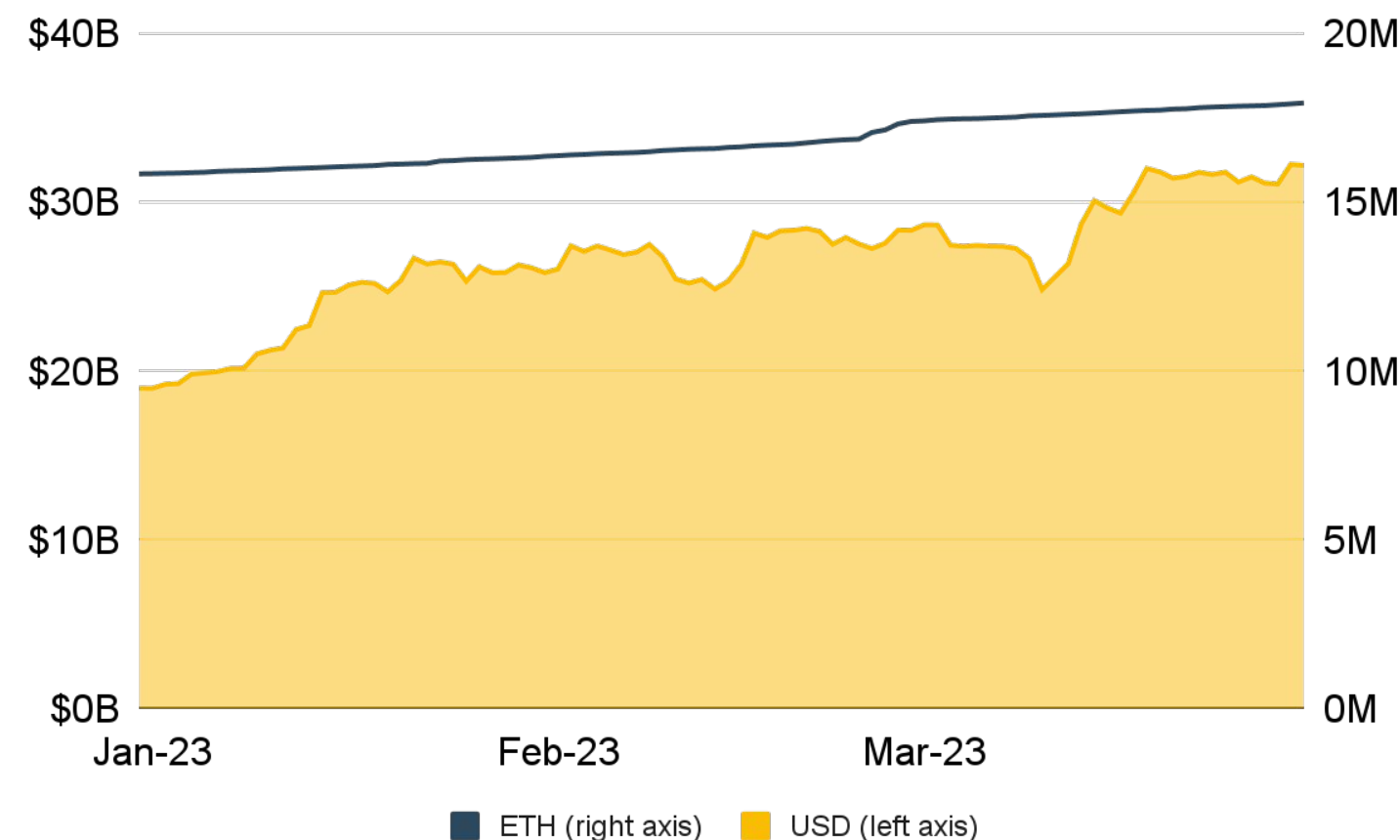
<sup>2</sup>Elaborated by Hashdex Research with data from Glassnode (from 12/31/2022 to 03/31/2023)



# The total value staked on Ethereum reached 18 million ETH<sup>2</sup>

As the quarter concluded, the anticipated Shanghai update and the release of staking withdrawals led to surpassing the milestone of 18 million ETH staked on Ethereum. The narrative going forward revolves around tracking how much ETH will be staked once unstaking is enabled, which can positively impact the network's security.

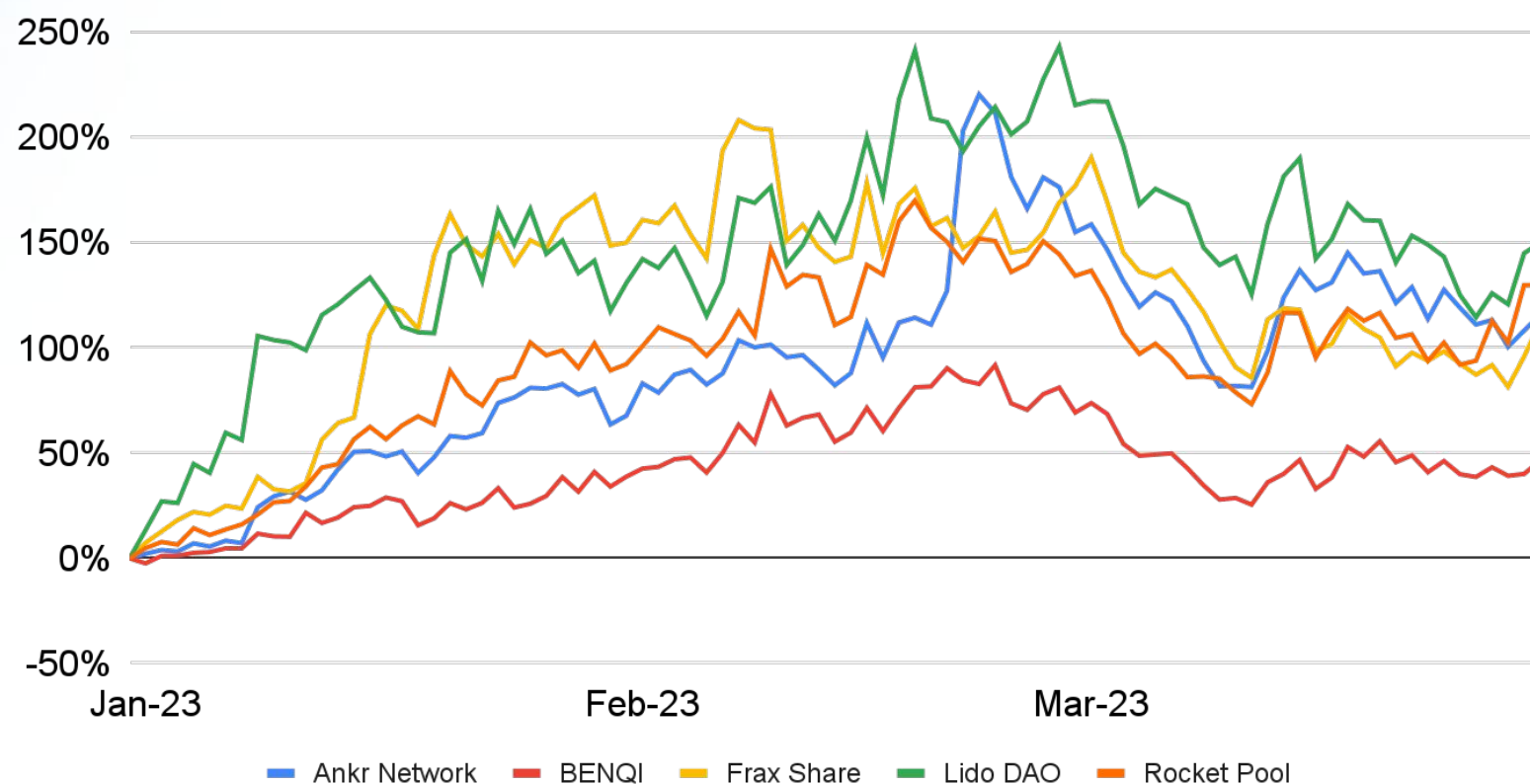
## Evolution of Total Value Staked on Ethereum in Q1'23<sup>2</sup>



## Liquid Staking mania is reflected in the performance of governance tokens<sup>1</sup>

Following the increased usage Liquid Staking Derivatives (LSDs) in the past two quarters, the performance of governance tokens of these protocols reflected this hype.

Performances of governance tokens of LSDs in Q1'23<sup>1</sup>



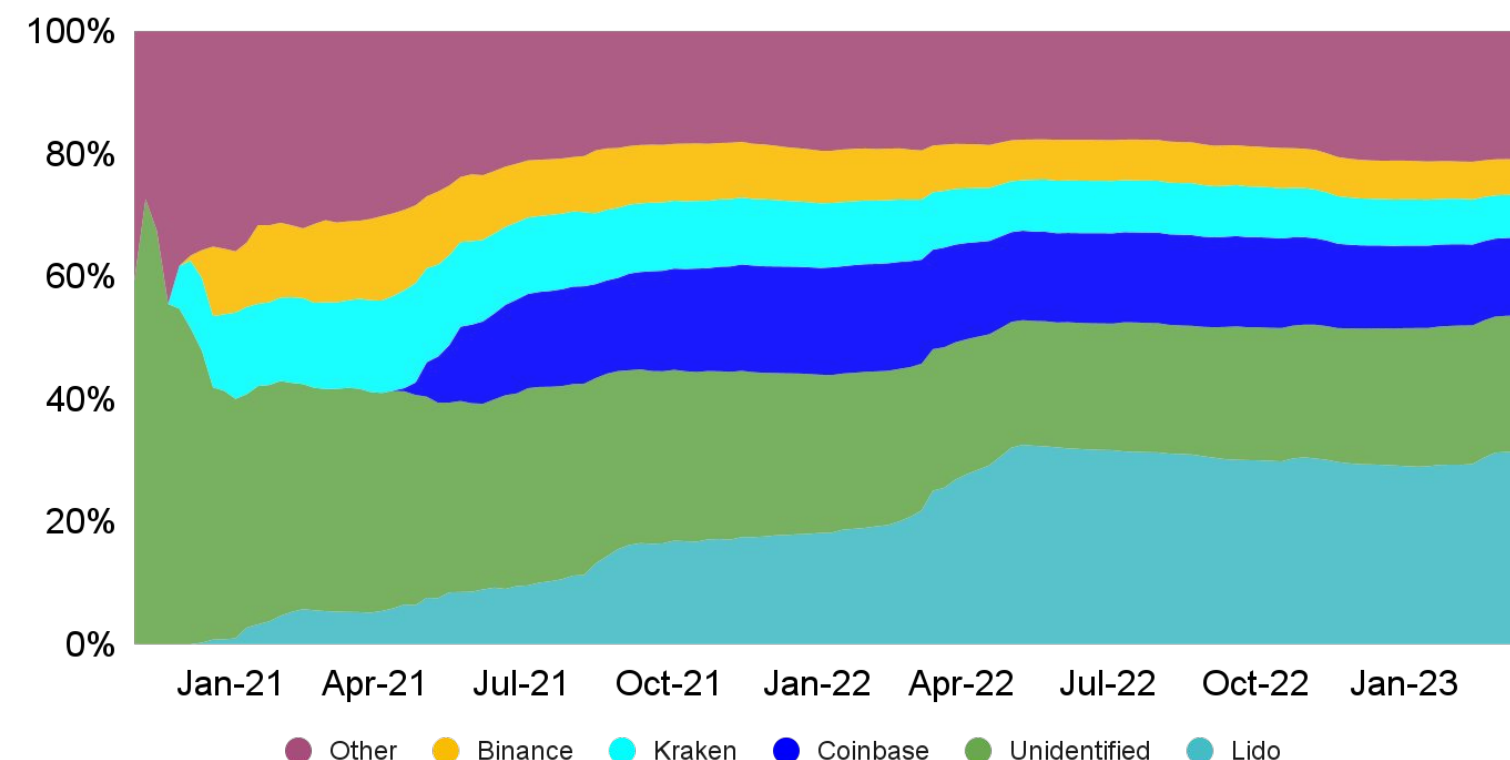
<sup>1</sup>Elaborated by Hashdex Research with data from Messari (from 12/31/2022 to 03/31/2023)  
<sup>2</sup>Elaborated by Hashdex Research with data from Dune Analytics (from 11/02/2020 to 03/31/2023)



## Lido's share among staking providers reaches ~31% by the end of Q1'23<sup>2</sup>

A possible downside during this quarter was the notable resurgence in validator concentration on the leading liquid staking provider Lido, reaching an impressive dominance of around 31%. While it is expected that the Shanghai update will bring more decentralization of validators to the network, this is an issue to follow in the coming quarters.

ETH staking distribution over time<sup>2</sup>





# Ethereum<sup>1</sup> has seen staking growth and improvement in all price-related metrics



Metric	Q1'23	2022	1 year ago	YTD	12 months
Price (USD)	\$1,822.0	\$1,195.5	\$3,283.5	52.4%	-44.5%
Market Cap (USD)	\$216.1B	\$146.8B	\$406.9B	47.2%	-46.9%
ETH Dominance	18.2%	18.1%	18.7%	0.5%	-2.5%
24h Exchange Volume	\$2.4B	\$0.5B	\$3.1B	342.1%	-23.6%

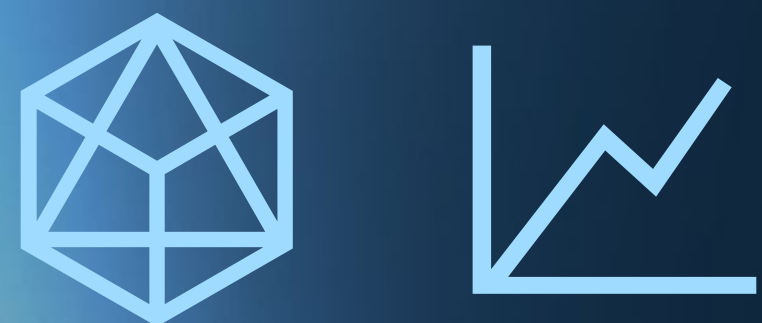


ETH staked (USD)	\$32.6B	\$19.0B	\$37.0B	71.6%	-11.8%
Active Addresses	481,199	334,874	526,345	43.7%	-8.6%
Daily On-chain Transaction Fees (USD)	6.0M	2.4M	18.1M	153.3%	-66.9%
Total Value Locked (USD)	\$53.2B	\$38.3B	\$123.3B	38.9%	-56.9%

<sup>1</sup>Elaborated by Hashdex Research with data from Messari, Glassnode and DeFillama (from 03/31/2023 to 03/31/2023)







# Performance of Hashdex's Indices

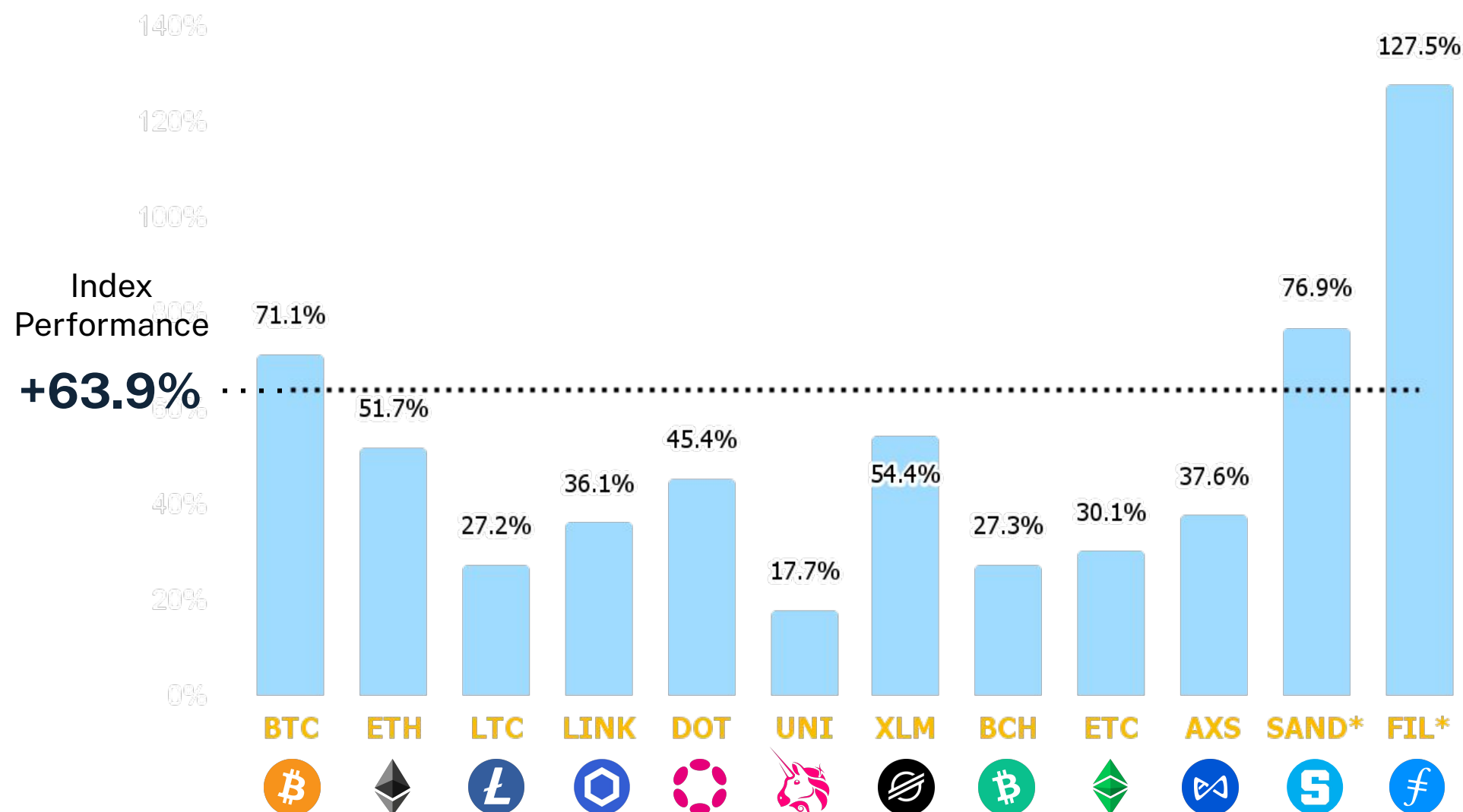
# The Nasdaq Crypto Index™ (NCI™)

The NCI™ had a strong quarter (+63.9% QoQ) driven by the outstanding performance of its primary blue chip asset, BTC.

BTC's significant increase (+71.1%) was initially spurred by a surge in demand for risky assets as the macroeconomic climate improved in January, and later strengthened due to increasing demand for a stable, fixed-supply asset that serves as a store of value amidst growing concerns about the health of the global financial system.

ETH, the second largest digital asset in the index, delivered a slightly lower performance than BTC with a 51.7% QoQ growth in the same quarter. Investors are closely monitoring Ethereum's progress as the network undergoes a major technological upgrade (Shanghai) in early April.

Filecoin (FIL) and The Sandbox (SAND), which left the NCI™ in the March 1, 2023 reconstitution, had the strongest performances in the quarter, with +127.5% and 76.9%, respectively.



Elaborated by Hashdex with data from CF Benchmarks (from 12/31/2022 to 03/31/2023)  
 \*Filecoin (FIL) and The Sandbox (SAND) left the NCI in the March 1st, 2023 reconstitution



# Performances of indices tracked by Hashdex products<sup>1</sup>



Index	Jan-23	Feb-23	Mar-23	YTD	6 months	12 months
Nasdaq Crypto Index	37.7%	0.9%	18.0%	63.9%	40.1%	-41.2%
Nasdaq Crypto Index -Europe	39.1%	1.7%	17.0%	65.5%	35.6%	-
Nasdaq Bitcoin Reference Index	39.9%	0.5%	21.8%	71.1%	44.1%	-38.3%
Nasdaq Ether Reference Index	32.9%	1.9%	11.9%	51.7%	35.2%	-44.8%
CF DeFi Composite Index	41.9%	4.5%	-5.8%	39.8%	5.1%	-56.0%
CF Web 3.0 Smart Contract Platforms Index	66.1%	-3.3%	2.2%	64.1%	-7.2%	-
CF Digital Culture Composite Index	65.8%	-3.5%	-8.0%	47.2%	-10.0%	-69.5%
Vinter Hashdex Risk Parity Momentum Crypto Index	37.7%	0.1%	2.9%	41.9%	-	-

<sup>1</sup>Elaborated by Hashdex Research with data CF Benchmarks and Vinter (from 12/31/2022 to 03/31/2023). Missing performances in a given range (e.g., 6 months or 12 months) relate to indices that were launched later than the corresponding initial dates.





# News of the Quarter & Hashdex Reports



## News of the Quarter

- **USDC depeg triggers domino effect on other stablecoins** - [Read more](#)
- **DeFi TVL hits 2023 high as Lido liquid staking extends its lead** - [Read more](#)
- **CFTC charges Binance** and its founder, Changpeng Zhao - [Read more](#)
- **Bitcoin Ordinals daily inscriptions surge** due to 'BRC-20 tokens' - [Read more](#)
- **The Shanghai upgrade** aims to boost liquidity - [Read more](#)
- **Introducing Base:** Coinbase's L2 Network - [Read more](#)
- **U.S. Banking system turmoil has spurred** bitcoin outperformance: Coinbase - [Read more](#)
- **Nasdaq eyes crypto custody** launch by end of second quarter - [Read more](#)
- **Blockchain-based debt protocol Obligate** records first bond issuance on Polygon Network - [Read more](#)

## Hashdex Reports

## Market Pulse | Q1 2023

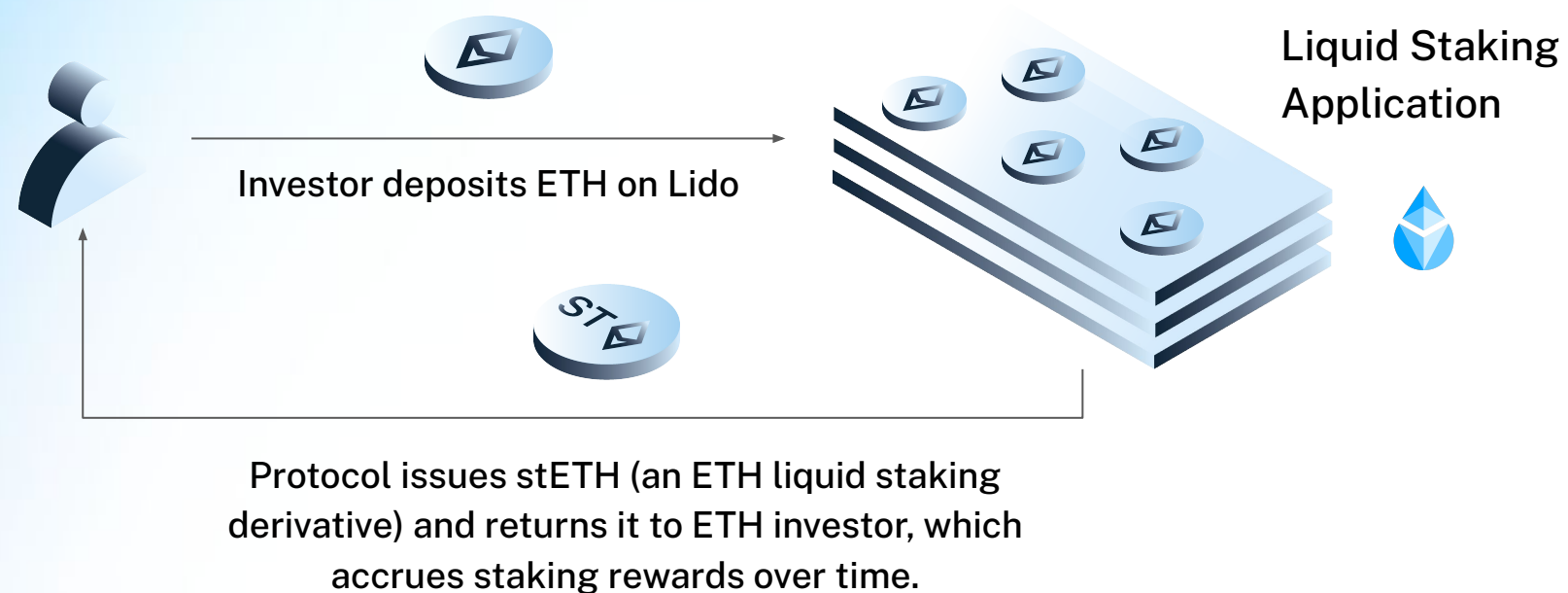
- **Genesis bankruptcy** might close the loop of centralized finance busts - [Read more](#)
- **Bull Run or Bull Trap:** Opportunities and risks as crypto rushes into 2023 - [Read more](#)
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# Fundamentals Guide & Glossary

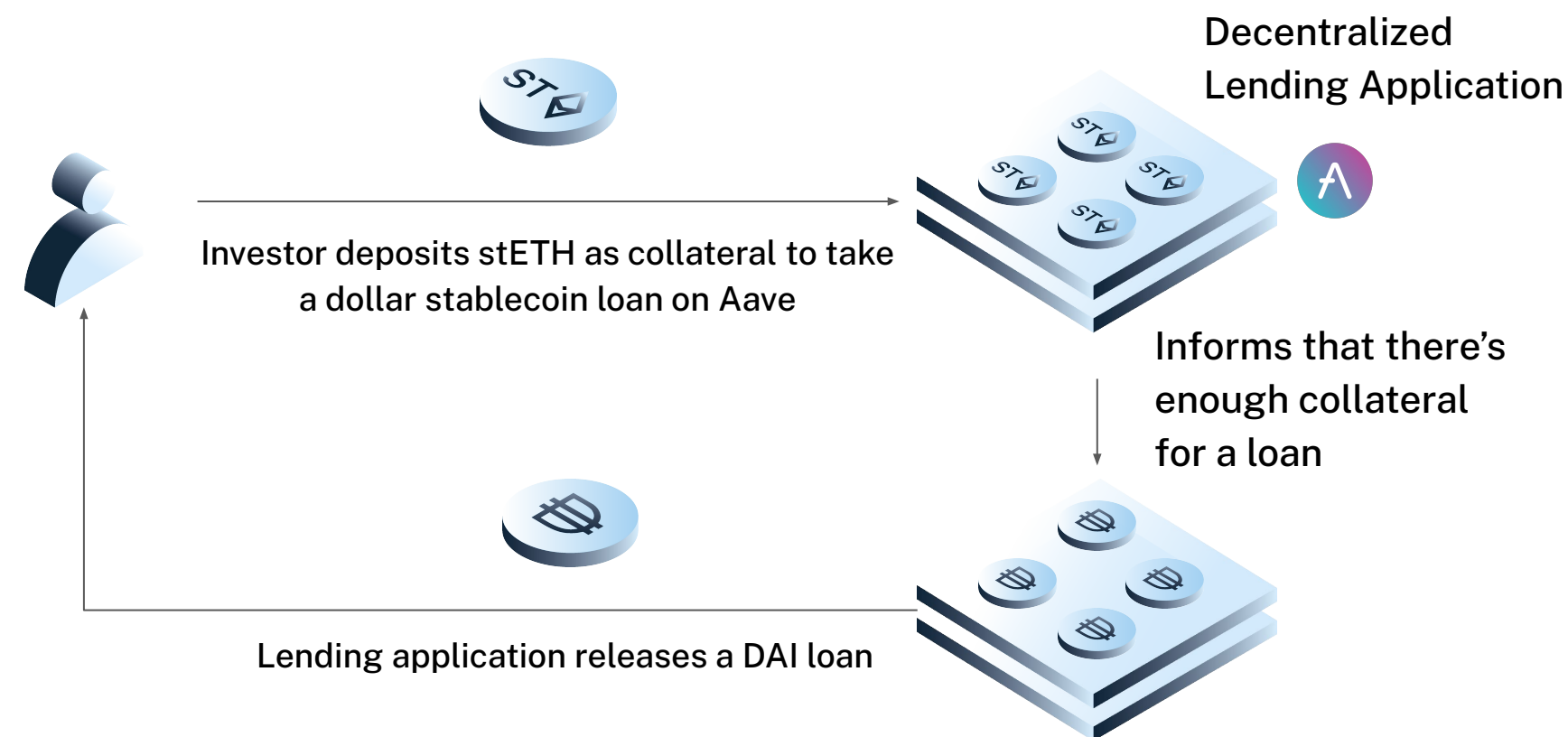
## Liquid Staking Derivatives (the Lido example)



**Liquid staking derivatives (LSD)** represent a novel financial product in the crypto landscape. They enable users to stake crypto assets while simultaneously trading them as liquid assets on secondary markets. This is achieved by generating a derivative token that symbolizes the staked asset, which can then be traded via exchanges or used in other protocols.

**Traditional staking** requires users to lock their assets for a predetermined duration, resulting in the loss of some liquidity. Liquid staking derivatives address this issue by allowing users to reap staking rewards while retaining the ability to trade their assets flexibly.

## Using LSD on Lending Applications (stETH as collateral on Aave)



**During the initial quarter of 2023**, liquid staking derivatives have played a significant role in the crypto narrative, as they incentivize participation in staking while preserving liquidity, meeting the rising demand for staking rewards.

This approach could potentially boost the adoption of proof-of-stake networks and offer investors a **novel means to generate passive income**. Liquid staking derivatives are also likely to impact DeFi by facilitating new use cases, including **collateralization** and **lending**.

**Decentralized exchange (DEX)** - A peer-to-peer marketplace where users directly trade one token for another and provide liquidity in exchange for transaction fees independently of an intermediary.

**Decentralized Finance (DeFi)** - Major growth crypto sector that offers peer-to-peer (P2P) financial services and technologies built on protocols such as Ethereum.

**Dominance** - The ratio between a crypto asset market capitalization and the total market capitalization of the asset class, which measures the relevance of a project in the industry.

**Gas** - The fees associated with transacting and executing smart contracts or decentralized applications on the Ethereum blockchain and other smart contract platforms.

**Governance token** - Type of cryptoasset that provides holders with a degree of influence over a platform's protocol, products, and future functionality. Governance tokens are often issued via decentralized protocols that aim to encourage community-led growth and self-sustainability.

**Hash rate** - The conventional unit measure for the computational power on a Proof-of-Work network, a proxy for the security of a blockchain and how costly it is to attack it.

**Layer-1** - A blockchain such as Bitcoin or Ethereum that serves as the base layer for a crypto ecosystem and is where on-chain transactions and code execution are performed.

**Layer-2** - A parallel network that serves as a secondary set of off-chain solutions built on top of an existing Layer-1 to reduce bottlenecks and offer greater scalability and privacy.

**Lightning Network** - A scaling solution built atop Bitcoin that allows off-chain transactions with increased speed and lower transaction costs, without giving up security.

**Liquid Staking** - The form of staking where depositors are rewarded with a token that can redeem the original deposited asset, while providing a liquid asset for other use cases such as DeFi.

**NFTs** - Non-fungible tokens (NFTs) are a special type of token that represents a unique digital asset, such as a picture, a song or a video.

**Proof-of-Stake** - Consensus mechanism where validators lock an amount of native tokens as a guarantee of action in good faith, being randomly selected over time to propose and attest to new blocks of transactions.

**Proof-of-Work** - Consensus mechanism where miners utilize electricity and computer hardware to solve a cryptographic puzzle and become eligible to include a new block on the blockchain.

**Protocol revenue** - The revenue generated by crypto projects from fees that are returned to the protocol and holders of its related crypto asset.

**Rollups** - A blockchain scaling solution that increases throughput by "rolling up" transactions into a single piece of data that is then submitted for processing on a base-layer blockchain, allowing for fast and cheaper end-user experience.

**Shanghai** - The Ethereum upgrade taking place on April 2023 that enables withdrawals of staked tokens, lowers transaction costs, and makes improvements to the Ethereum Virtual Machine.

**Sidechain** - A sidechain is an external secondary blockchain protocol that is connected to a primary blockchain network (mainchain). They are typically designed to allow for the transfer of data and value between themselves and the mainchain, and oftentimes use a different consensus mechanism than the mainchain.

**Smart contract platform** - A blockchain that serves as a framework for building decentralized applications and various types of tokens.

**Web3** - A decentralized internet infrastructure that enables global users to connect and interact with digital assets, websites and apps without any centralized control.

**Total Value Locked (TVL)** - The total value of all assets locked into a DeFi protocol or ecosystem. It is a metric often used to measure a protocol's growth and adoption.

**Validator** - A validator node is responsible for verifying transactions and including them in the upcoming potential blocks in a Proof-of-Stake blockchain network.

<sup>1</sup>Elaborated by Hashdex Research with adaptations from <https://www.gemini.com/cryptopedia/glossary>.



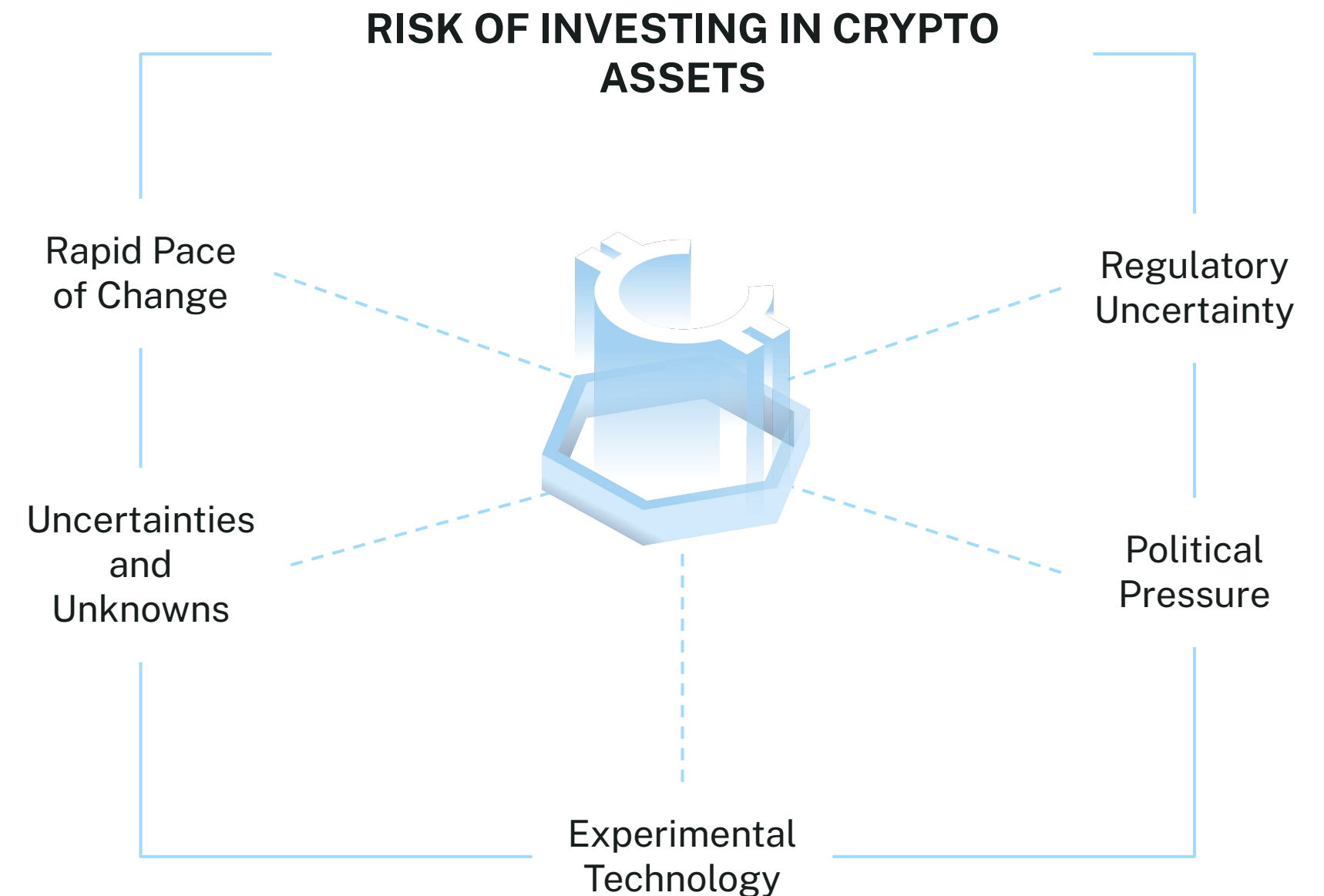
# Risks of Investing in Crypto Assets

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**Please review risk disclosures thoroughly!**



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