

STOXX Digital Asset Blue Chip Index: A Benchmark for the Crypto World

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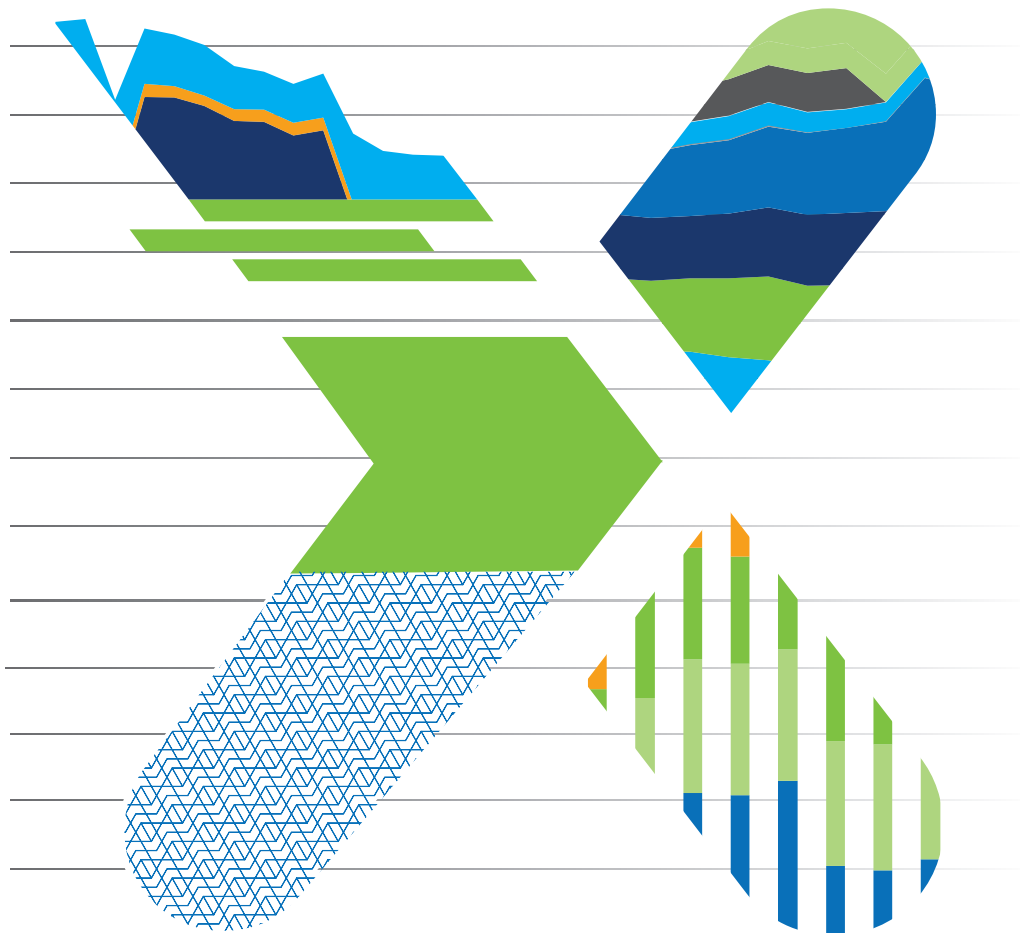


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1. Introduction

The nascent digital asset landscape will continue to grow and evolve in the coming years. While day-to-day usage has yet to fully develop, investment activity and institutional interest is already well-established. With the overall crypto market now surpassing USD 2.6 trillion¹, and with the tailwinds of regulatory successes, financial institutions are increasingly looking for investment opportunities in this ever-changing asset class.

Active and passive investment in this space will require innovative and transparent benchmarks, much in the same way that equity benchmarks have grown so integral to traditional global markets. Careful consideration must be given to the intricacies and specificities of digital assets when conducting this task; digital assets do not necessarily behave in the same manner as traditional assets, and the lack of systematic study in this area poses a benchmarking challenge.

The STOXX Digital Asset Blue Chip Index (referred to in this paper as the “Blue Chip Index” or “Blue Chip” for short) aims to represent the crypto market, providing a benchmark with selected assets deemed blue-chip in terms of quality, robustness, financial strength, growth potential, and activity. In doing so, the index is designed to capture those assets that are shaping the crypto market today and will also influence its direction in the future. This paper explains how this is achieved, why it is important, and presents the results which come from this way of thinking.

2. The breadth of digital assets

As the era of digital asset maturity begins, the digital asset space will migrate towards tangible use-cases, with less fixation on mere price volatility and speculation. Both the breadth of these use-cases and an understanding of the underlying motivations are integral to the growth of the asset class.

Digital assets represent a space with numerous opportunities, fueled by technological innovation and market evolution. Born from a proposition of peer-to-peer, decentralized cash, the digital asset scope is now far wider and further reaching. The advent of tokenization has unlocked new venues for ownership, fractionalizing real assets ranging from art to real estate. After “read” and “write”, the third era of the internet centers around democratizing ownership and incentivizing creativity and entrepreneurship. In this regard, non-fungible tokens (NFTs) represent a step towards provenance and verifiable ownership within the digital realm.

Risk mitigation in the era of central bank digital currencies, deepfakes, and data breaches is another key issue, as is the opportunity to enhance the traceability and optimization of traditional industry supply chains. These go hand in hand with the well-established notions of monetary sovereignty and financial inclusion, with decentralization challenging long-standing ideas, promoting individual autonomy, bypassing intermediaries, and improving market and capital efficiency alike. These are just some of the motives that have led to the innovation of a wide range of assets and use-case sectors in the digital asset space.

¹ Source: CoinMarketCap

In order to properly understand this vast and dynamic ecosystem, a robust method of asset classification is required. The Bitcoin Suisse Global Crypto Taxonomy (GCT)² fulfils this requirement. Its primary objective is to make the digital asset space more accessible to investors by systematically structuring the industry into 6 sectors and 28 subsectors. The taxonomy not only streamlines comparison of individual digital assets but also enhances evaluation of similar asset groups.

The individual sectors within the GCT are as follows:

Cryptocurrency: A form of cryptographically secured digital money.

General Purpose Smart Contract Platforms: Digital assets that enable general-purpose functionality, usually expressed in the form of decentralized applications consisting of smart contracts and oracles.

Decentralized Finance: Digital assets powering smart-contract-based protocols that may operate on their own or on another blockchain. These protocols may recreate existing financial instruments (e.g., exchanges or loans) or create new ones (e.g., prediction markets).

Utility: Digital assets that enable access to, or represent, a resource (which need not be digital).

Culture: Digital assets that represent cultural works of art.

Tokenized Assets: Digital representations of real-world and intangible assets that can exist on- or off-chain. They act as digital certificates of ownership, enabling fractional ownership, increased liquidity, and efficient trading.

With digital assets exhibiting more inherent variance in design and financial functionality than stocks or bonds, understanding the similarities (and dissimilarities) between assets is crucial. Systematic use-case clustering of digital assets allows both differentiation and meaningful comparisons within and across sectors, enabling the formulation of digital asset indices based on strong fundamentals and tangible utility.

3. The case for blue-chip

What constitutes blue-chip has not been defined in the crypto world. In established markets, the term is used to describe the largest and most established companies – market leaders in their respective fields – whose shares are often considered to be a safer investment than others.³ The formulation of blue-chip indices has not only provided investor exposure to these high-quality assets, but also allowed investors to easily deduce the strength of the given market. They have become market barometers, acting as key indicators of the health of the underlying economy.

As investors contend with the current era of reliably negative stock-bond correlations potentially ending, the need for allocation diversification has motivated interest in, and the study of, digital asset investing.⁴ The formulation of a large number of digital asset indices has naturally followed.⁵ The goal, of course, is to capture the behavior of this ever-evolving market; identical to the traditional equity index mission statement. Currently, the most common digital asset index offerings are either single-asset indices, or those designed to track the largest assets in terms of market capitalization. While having their place, these offerings do not necessarily meet the criteria for a blue-chip index. Blue-chip is a fundamental analysis

² <https://www.bitcoinsuisse.com/crypto-taxonomy>

³ <https://dictionary.cambridge.org/dictionary/english/blue-chip>

⁴ Huang et al, "The Diversification benefits of cryptocurrency asset categories and estimation risk: pre and post Covid-19", 2022.

⁵ <https://www.coindesk.com/indices/crypto-index-offerings>

that entails more than simple technical analysis of volume and price performance. In an unregulated market dominated by retail investors and with limited data access, a blue-chip index derived methodically based on systematic metrics can democratize the difficult task of high-quality asset allocation.

We can draw inspiration from the EURO STOXX 50®, the eurozone's leading blue-chip index. The index methodology involves the selection of market capitalization leaders across twenty industry classification benchmark (ICB) supersectors.⁶ Without this sector consideration, it would be impossible to capture the behavior of the market as a whole, since disparate sectors move differently depending on market conditions.

Sector representation is an important consideration in benchmark creation, but translating this notion into the digital asset space is not necessarily straightforward. The embryonic nature of the space in the traditional investment sense means there is no market-standard industry classification; one must therefore rely on taxonomies that have been specifically created for the digital asset market. While these may differ at the granular level, there are common elements in their makeup. Sectors are defined by asset use-cases and these are not necessarily comparable. If we liken these use-cases to traditional industry sectors, one can quickly see that they are integral to the digital asset blue-chip index idea and, much like the EURO STOXX 50 design, we can consider the leaders from each use-case sector in index construction.

This gives an insight into the motivation for the STOXX Digital Asset Blue Chip Index. The current difficulties in regards to systematic allocation, and the lack of a sector leader index, means that the diverse nature of the digital asset market may not be fully captured, with the desired market barometer not yet in place. This could be seen as a shortcoming for now, but will certainly be a shortcoming in the future as the asset class matures, institutional investment grows, and specific use-cases are increasingly defined.

4. What makes a blue-chip digital asset?

To decipher what makes a blue-chip digital asset, one can start by looking at traditional blue chip companies. What do we know about them? We know that they are leaders in their respective fields, boast huge financial resources, have relevancy and influence in the market, and are often front-runners in innovation.

The general consensus is that the digital asset landscape is too new for such classifications to be applicable. It is thought that the market is led by the two behemoths, Bitcoin and Ethereum, with all other assets falling under the same umbrella and in their speculative shadow. The truth is not so clear-cut, and the wide range of use-cases highlights the breadth of the market. Drawing direct analogies from the traditional equity markets while incorporating the intricacies of crypto is a challenge. Blue-chip digital asset determination must consider the uniqueness of this distinct market, and must rely on criteria and fundamentals that are specific to the asset class.

The first consideration is the age of the underlying protocol. In a world where thousands of tokens have been created and ultimately deemed worthless, the continued operation of a protocol is an inherent sign of quality, utility, and market confidence. It can also signify resilience and adaptability; one could even draw an analogy to Darwin's survival of the fittest model.

The second consideration is the asset's financial strength. Market capitalization in traditional markets can be more appropriately defined in the crypto space as total value secured (TVS) by the protocol. This is defined as the total economic value, expressed as the aggregate value of the entirety of all crypto

⁶ <https://qontigo.com/index/sx5e/>

assets, that are being secured by the underlying cryptoeconomic security mechanism. An asset with a large TVS can be assumed to have the resources to survive market shocks, while also having the resources to evolve, adapt, and retain the trust of the market.

The number of active protocol addresses is also considered. More precisely, this is defined as the number of unique sending blockchain addresses participating in protocol interactions on a daily basis. This is a measure of adoption and relevancy in a market in which sentiment still reigns supreme.

Another metric used to determine asset strength is the general economic activity of the protocol. This is quantified by calculating the fees collected from user interactions. Analogous to the revenue of a traditional enterprise, this is another indication of financial strength, as well as of utility, adoption, and trust.

Finally, but not of least importance, is the size of the developer community. If traditional blue-chip companies are those that drive innovation, then protocols with the greatest number of active developers will surely put themselves at the forefront in the crypto world, ready to evolve as new opportunities and market developments undoubtedly arise.

Combining these metrics and selecting the best-performing assets in their respective sectors will result in a blue-chip selection based on quality, financial strength, utility, market adoption, and growth potential.

5. STOXX Digital Asset Blue Chip Index methodology

The STOXX Digital Asset Blue Chip Index is derived from the Bitcoin Suisse Asset Universe, while also incorporating the Bitcoin Suisse Global Taxonomy and selection metrics designed to create a portfolio of high-quality, blue-chip assets. Assets are then weighted by market capitalization, with the index calculated using Laspeyres formula. Asset prices are based on executed trades across the two highest-scoring vetted exchanges at each point in time.⁷ This scoring is based on exchange quality, reliability, and trustworthiness criteria, as well as time-decayed trading volume comparisons.

5.1 Asset universe and initial screening

The universe of assets for the STOXX Digital Asset Blue Chip Index is reviewed semi-annually in March and September. The universe consists of all assets in the Bitcoin Suisse Index Reference Classification List that meet the following eligibility criteria:

- Digital assets must be ranked in the Top 75 in regard to market capitalization.
- Digital assets must have an active market on at least two eligible exchanges.
- Digital assets must be traded against both crypto quote currencies (Bitcoin and Ethereum), as well as one or more of the following fiat currencies: USD, EUR, GBP, CHF, JPY, and SGD.

The list of assets that pass these criteria is then trimmed further, with those assigned to the Tokenized Assets sector of the GCT ineligible. Additionally, digital assets that are functionally recognized as wrapped tokens, liquid staked tokens, liquidity pool tokens or privacy coins are also excluded.

In doing this it ensures that the final universe is tradeable, reputable, and *untethered*.

⁷ https://www.stoxx.com/document/Indices/Common/Indexguide/stoxx_digital_asset_guide.pdf

5.2 Incorporating metrics in asset selection

Those digital assets that pass the screening described above form the starting universe for blue-chip assessment.

As previously described, the five metrics are Age, TVS, Active Addresses, Economic Activity, and Developer Community. For each metric, assets are assigned a score of 1 if they rank within the top 50% in their respective sector. Assets with a score of 4 or more are selected as constituents of the STOXX Digital Asset Blue Chip Index. The metric scoring is quantified as follows:

Age: The age of a given asset is ranked against the ages of all other assets in the sector. The asset with the greatest age is ranked highest.

TVS: For a given asset, the three-month daily average TVS is calculated. This is then ranked against the corresponding three-month daily average TVS for assets in the respective sector concerned. The assets are ranked from the highest to the lowest TVS.

Active Addresses: For a given asset, the three-month daily average number of active sending addresses is calculated and then ranked against other assets in the sector. The assets are ranked from the highest to the lowest number of active addresses.

Economic Activity: For a given asset, the three-month daily average fees received by the protocol are calculated and then ranked against other assets in the respective sector. The assets are ranked from the highest to the lowest fee value received.

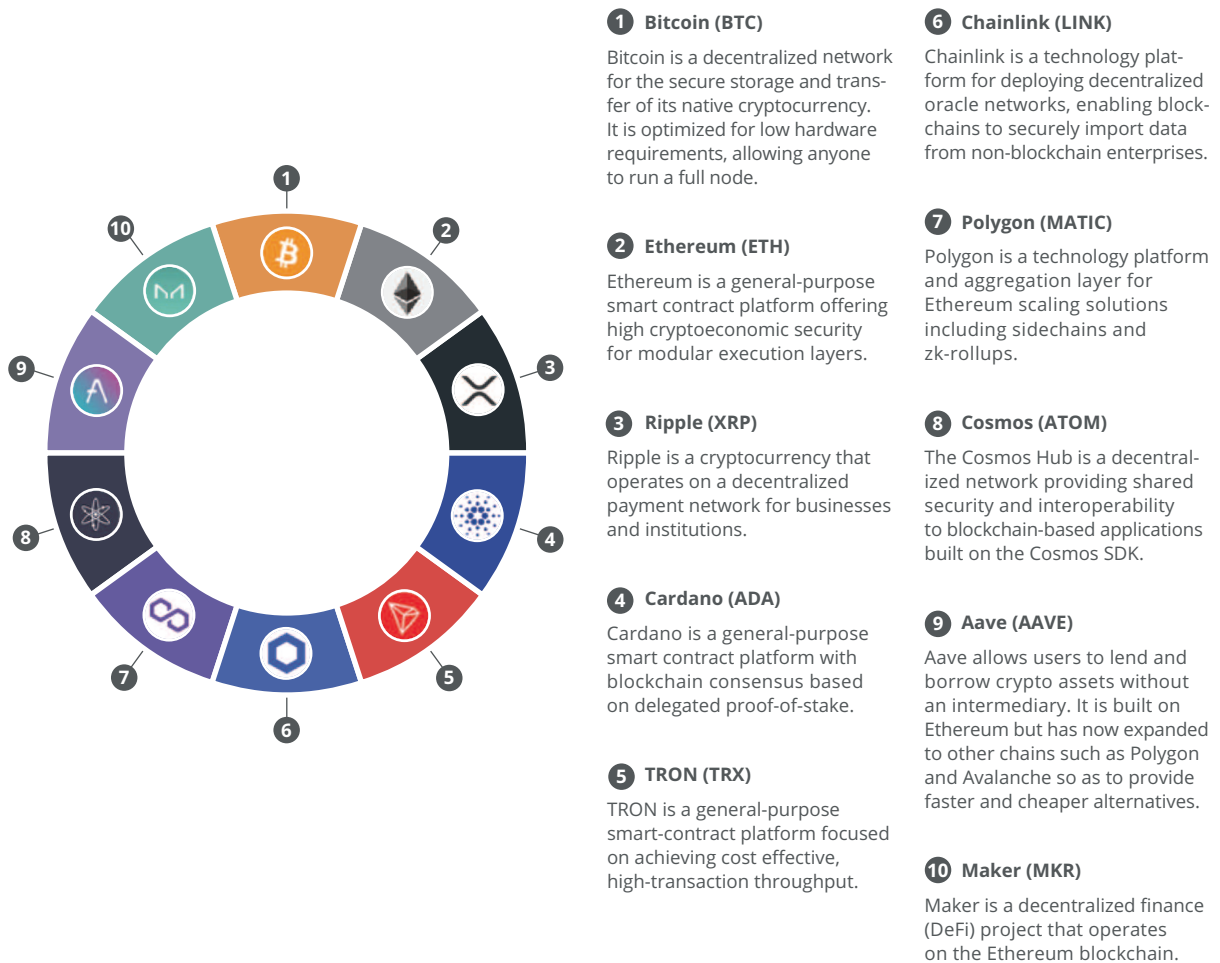
Developer: The developer community metric considers two scores. Firstly, the ratio of community developers to full-time developers is calculated. This ratio is then ranked within the sector, as is the number of full-time developers. Combining these two rankings gives the overall developer community ranking, with the highest-scoring assets then being selected.

Incorporating these metric scores allows us to select assets that fulfil the desired selection criteria based on quality, financial strength, utility, market adoption, and growth potential.

5.3 Index constituents

The review scoring methodology led to a basket of 10 assets being selected following the December 2023 review.

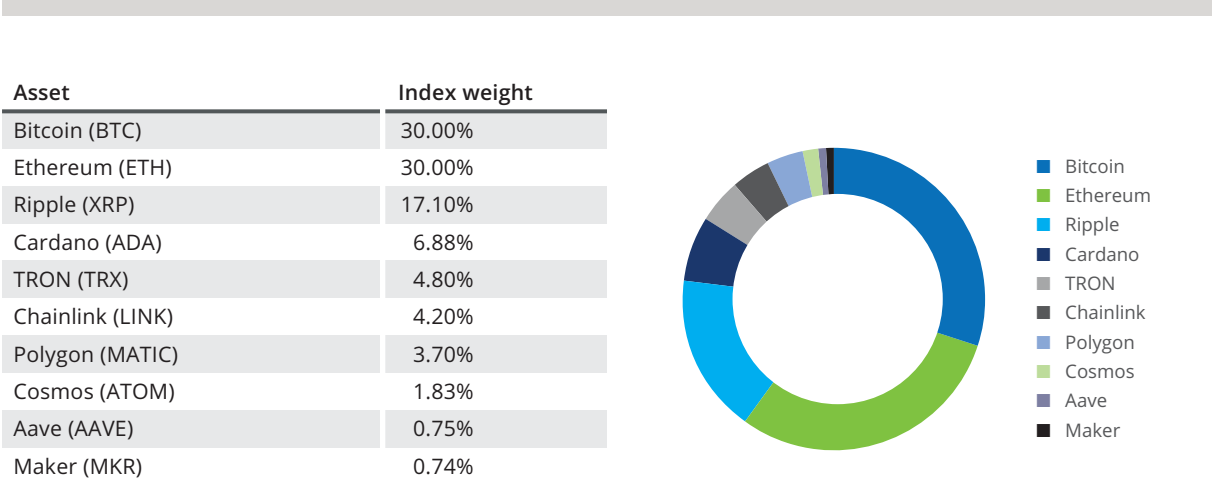
Figure 1: Index constituents



Source: STOXX, Bitcoin Suisse.

The individual weight capping of 30% allows assets aside from Bitcoin and Ethereum to gain meaningful weight and therefore strongly impact index performance.

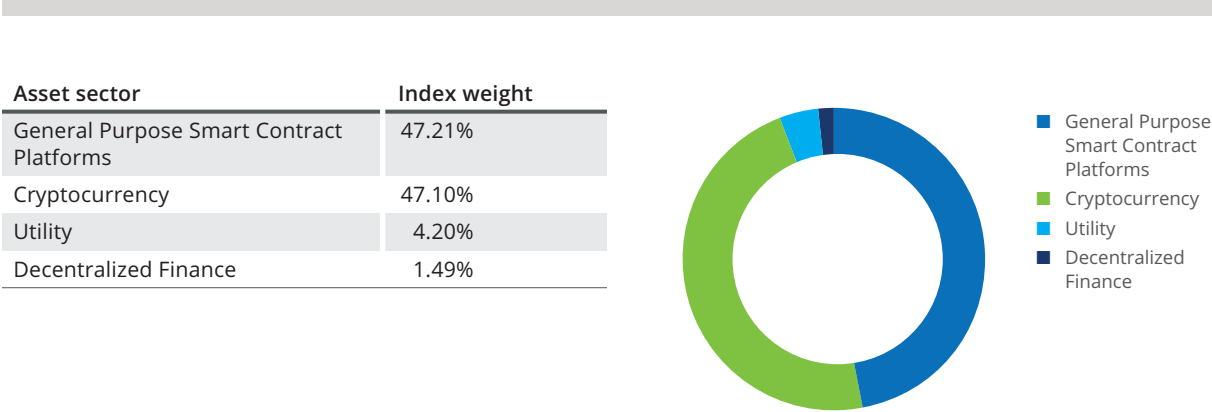
Table 1: Index constituent weights as of the December 2023 review.



Source: STOXX.

A range of use-case sectors were included, with assets from four of the five eligible sectors being selected. No assets from the Culture sector passed four or more of the selection criteria, resulting in none being deemed blue-chip at this review.

Table 2: Index sector weights as of the December 2023 review.



Source: STOXX.

A comprehensive breakdown of the individual metric scores can be seen in Table 3. The table shows that three assets were selected across all five metrics, with the remaining seven scoring in four of the five. The strength of the assets in these categories shows that the scoring criteria provide an appropriate level of scrutiny.

A look at the historical reviews reveals that all sectors were represented in the index at one point in time. The basket size ranged from 7 to 10 constituents, with 18 individual assets present across the total of 12 historical reviews.

Table 3: Individual asset metric scores as of the December 2023 review.

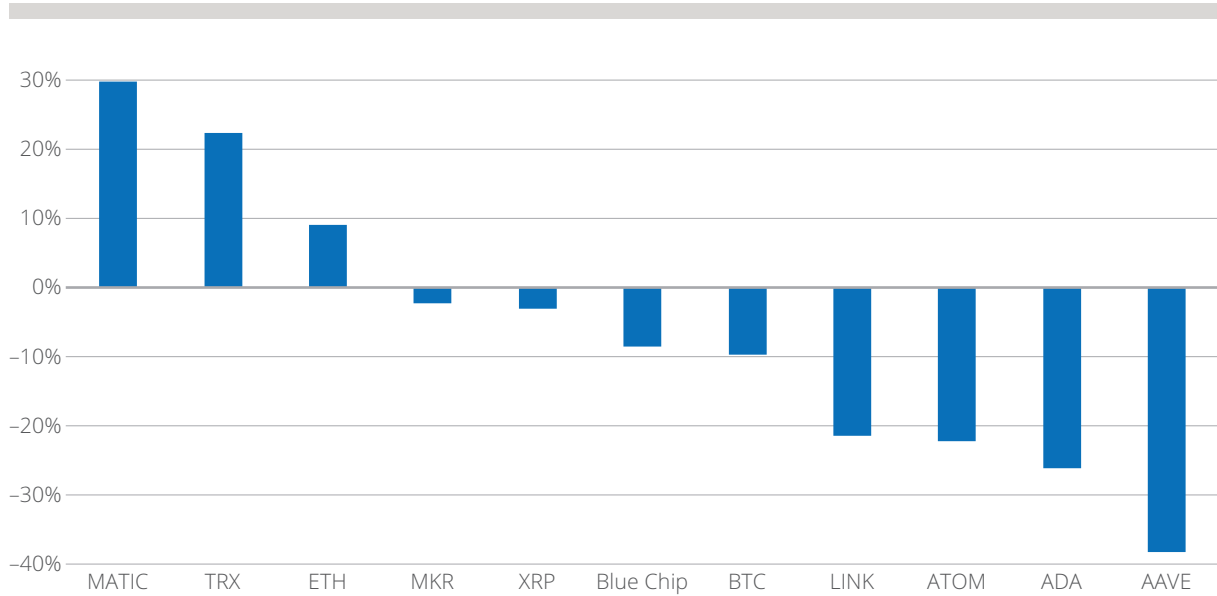
Asset	Sector	Age	TVS	Active Addresses	Economic Activity	Developer Community
Bitcoin (BTC)	Cryptocurrency	✓	✓	✓	✓	✓
Ethereum (ETH)	General Purpose Smart Contract Platform	✓	✓	✓	✓	✓
Ripple (XRP)	Cryptocurrency	✓	✓	–	✓	✓
Cardano (ADA)	General Purpose Smart Contract Platform	✓	✓	✓	✓	–
TRON (TRX)	General Purpose Smart Contract Platform	✓	✓	–	✓	✓
Polygon (MATIC)	General Purpose Smart Contract Platform	–	✓	✓	✓	✓
Chainlink (LINK)	Utility	✓	✓	✓	✓	✓
Cosmos (ATOM)	General Purpose Smart Contract Platform	✓	✓	–	✓	✓
Aave (AAVE)	Decentralized Finance	✓	✓	✓	–	✓
Maker (MKR)	Decentralized Finance	✓	✓	–	✓	✓

Source: STOXX.

6. Index performance

The recent history of digital assets has been littered with bullish and bearish spikes, ultimately leading to high volatility and returns that are strongly determined by the lookback timeframe. The STOXX Digital Asset Blue Chip Index is exposed to these shocks and rallies, but the ultimate goal is to create a strategy that reflects the nature of the market. Traditionally, the blue-chip index philosophy aims to provide steady returns in tandem with lower volatility risk, and this philosophy is shared by the Blue Chip Index. Figure 2 shows that the annualized return of the Blue Chip Index in the period from March 22, 2021, to January 29, 2024 was –8.63%, with the overall return being –22.78%. The average annualized return of the index constituents was –6.26%, and with the index being closest to this value, it proves to be a true representation of the blue-chip market segment. This return is highly favorable when compared to the entire eligible asset universe, for which the average annualized return was –22.08%. This not only highlights the strong performance of the Blue Chip Index compared to the overall market, but also demonstrates the effective systematic selection of quality blue-chip assets.

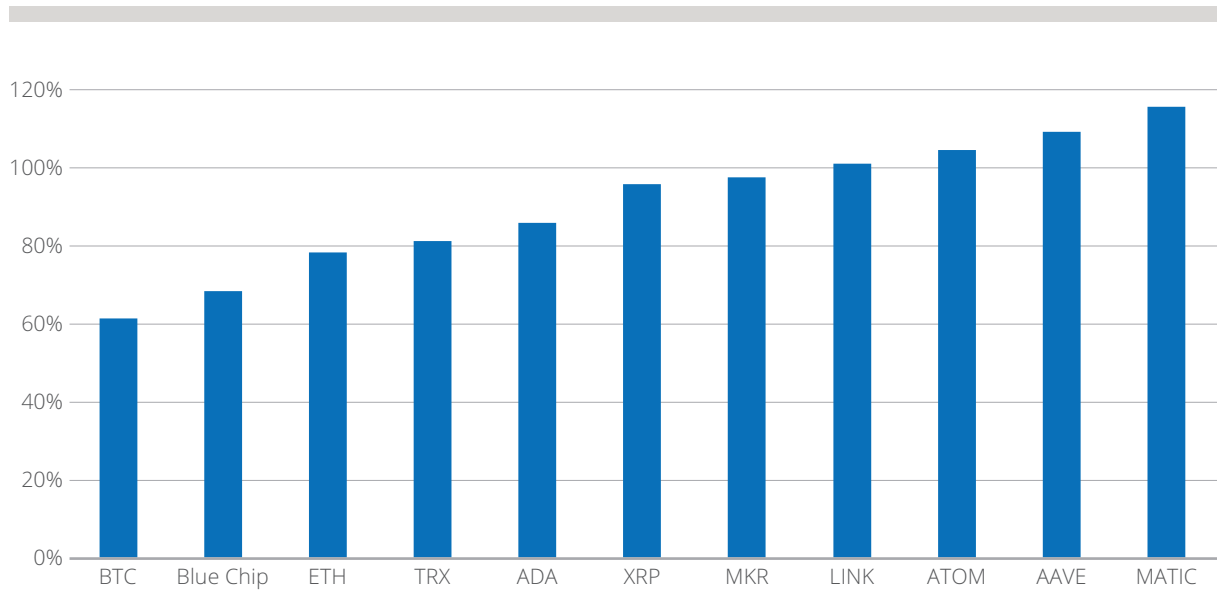
Figure 2: Annualized returns from March 22, 2021, to January 29, 2024.



Source: STOXX.

The annualized volatility of the Blue Chip Index and constituents can be seen in Figure 3. The annualized volatility of 68.29% was very low compared to other assets, and second only to Bitcoin in the lookback period. The relative maturity and widespread adoption of Bitcoin compared to other assets largely contributed to its lower volatility. The volatility of the index was markedly lower than that of Ethereum, with smaller assets (by market capitalization) commonly having volatilities around 100%. As a result, the constituent average was 93.15%. Focusing further on the most recent one-year period reveals that the Blue Chip Index had the lowest volatility at 46.45%, compared to Bitcoin and Ethereum at 48.56% and 48.87% respectively.

Figure 3: Annualized volatility from March 22, 2021, to January 29, 2024.



Source: STOXX; an annualization factor of 260 was used.

The return and volatility characteristics of the index demonstrate that the Blue Chip Index shows a risk-return profile in line with the expectations of a conventional blue-chip strategy. Although a negative return was seen, this must be considered in relation to the overall market behavior, with digital assets broadly suffering a considerable downturn after the bullish, sentiment-driven behavior that was seen in the early stages of the COVID-19 pandemic. Therefore, a middling to strong return, combined with a very low level of volatility, indicates that the index acted in a manner associated with a traditional blue-chip index in a defensive market regime.

7. Index analysis

Further investigation was conducted into the performance of the STOXX Digital Asset Blue Chip Index. Namely, this focused on comparisons with Bitcoin and Ethereum – the most well-established digital assets in terms of investment, adoption, and market influence.

An expanded risk-return overview can be found in Table 4. As previously stated, the Blue Chip Index outperforms Bitcoin but underperforms compared to Ethereum. All assets capitalized on the bullish market conditions in the previous year, showing very strong one-year performance. This is also the case for the volatility statistics. The one-year volatility shows improvement compared to the full period, with the Blue Chip Index volatility the lowest. This might suggest that the digital asset market is starting to mature, and that its well-documented volatile nature is showing signs of stabilizing.

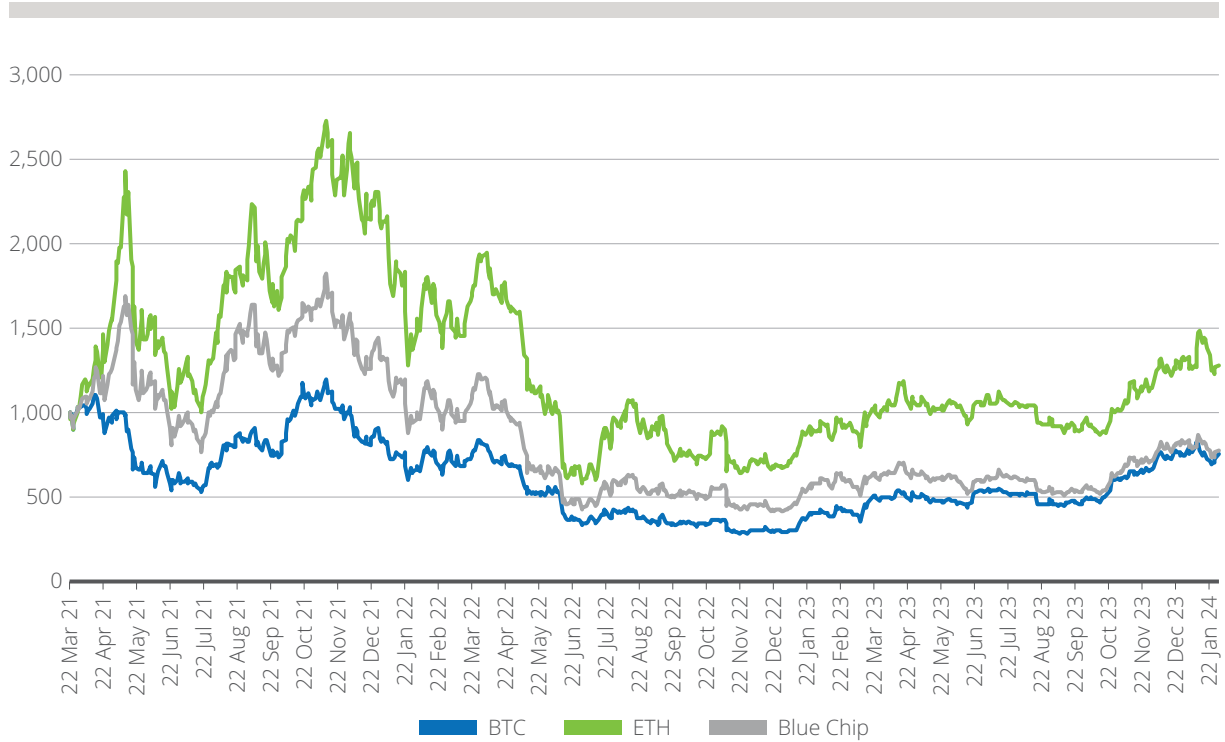
Table 4: Risk-return overview of the Blue Chip Index, BTC, and ETH from March 22, 2021, to January 29, 2024.

	Bitcoin (BTC)	Ethereum (ETH)	Blue Chip
Overall return (annualized)	-9.69%	8.97%	-8.63%
1Y return (actual)	83.91%	43.64%	33.58%
Overall return (actual)	-25.33%	27.90%	-22.78%
1Y volatility (annualized)	48.56%	48.87%	46.45%
Overall volatility (annualized)	61.52%	78.12%	68.29%
Maximum drawdown	76.44%	78.84%	77.42%

Source: STOXX; an annualization factor of 260 was used.

It is possible to draw further comparisons from Figure 4. We can see that the performance characteristics vary in magnitude but that behavior is comparable. While the overall return of the Blue Chip Index is very similar to that of Bitcoin, the overall behavior is more in line with Ethereum. To explain the differences in return magnitudes, especially at the beginning of the period, between the Blue Chip Index and Ethereum one can look at the performance of Bitcoin at this point. This underperformance, and the 30% index weight that it corresponds to, dampens the magnitude of the Blue Chip returns.

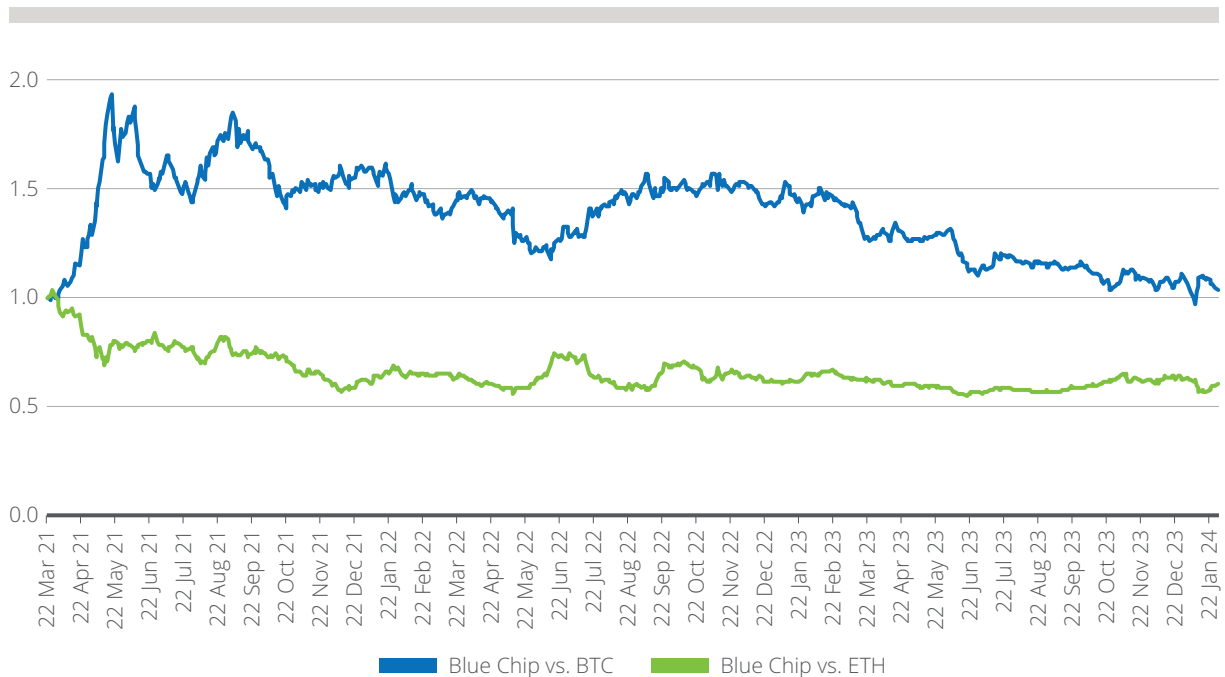
Figure 4: Performance comparison for the Blue Chip Index, BTC, and ETH.



Source: STOXX data.

This observation is echoed when we compare the relative performance of the Blue Chip Index to that of Bitcoin and Ethereum. If we exclude the initial period of Blue Chip underperformance, we can see from Figure 5 that the relative return of the Blue Chip to Ethereum is broadly similar.

Figure 5: Relative performance comparison.



Source: STOXX.

The relative performance of the Blue Chip Index to Bitcoin exhibits a greater degree of deviation. While the index contains a greater number of assets from the General Purpose Smart Contract Platform sector, the weights of General Purpose Smart Contract Platform assets and Cryptocurrency assets are comparable. It is clear that the index by composition is diversified and not dominated by the price of Bitcoin or Ethereum. This diversified index makeup contributes the blue-chip characteristics of the strategy.

Asset diversification is integral to the index design. Sector correlation provides another dimension with which to study an index portfolio. The correlation matrix is presented in Figure 6.

Figure 6: Sector correlation matrix.

	Cryptocurrency	General Smart Contract Platforms	Decentralized Finance	Utility	Culture
Cryptocurrency	-	0.885	0.801	0.832	0.664
General Smart Contract Platforms	0.885	-	0.856	0.894	0.739
Decentralized Finance	0.801	0.856	-	0.820	0.665
Utility	0.832	0.894	0.820	-	0.692
Culture	0.664	0.739	0.665	0.692	-

Source: STOXX.

It can be seen that sector correlation is very strong in most cases, ranging from 0.664 to 0.894. As perhaps the earliest in lifecycle, the Culture sector correlation coefficients are significantly lower than others. While on average the correlation coefficients are high, the sectors are not perfectly correlated and do not behave collectively as one, providing some opportunity for sector diversification.

8. Conclusion

Interest in the digital asset market is unlikely to subside. Whether looking through the lens of use-case utility, the power of decentralization, or portfolio diversification, it is abundantly clear that this asset class is of tangible importance now, and will increasingly be so in the future. Transparent and reliable data is therefore of vital importance. The space must be considered with the same respect as other asset classes, while still ensuring the intricacies are brought into the equation. An investment vehicle and market barometer in the shape of a blue-chip index allows this to happen. By incorporating metrics designed to measure the inherent quality of the assets, one can build an index to act as the benchmark; a yard-stick that can be used to measure the digital asset market against all others.

9. Glossary

Cryptoeconomic security: The underlying security infrastructure of a blockchain, provided by proof of work, proof of stake or another security mechanism.

Liquidity pool tokens: Tokens that represent a user's share of the total assets held in a liquidity pool (a collection of tokens locked in a smart contract to provide liquidity).

Liquid staked tokens: Tokenized representations of underlying stakeable crypto assets that are received in return for staking these underlying assets.

Oracle: On-chain application programming interfaces (APIs) between blockchains and the real world. Oracles can be queried to feed information, which can be anything from price information to weather reports, into smart contracts. They provide trusted off-chain data in on-chain environments.

Prediction market: A digital marketplace where users can stake digital assets on the outcome of future events ranging from real-world events (e.g., elections) to on-chain outcomes.

Smart contract: A program that is automatically executed when predetermined conditions are met.

Staking: Locking digital assets in order to support the cryptoeconomic security of a blockchain.

Token: A digital asset whose functional features are only limited by its implementation on top of a blockchain. Tokens are usually implemented by deploying smart contracts.

Wrapped token: A wrapped token represents the underlying value of another digital asset.

ZK-rollup: A type of scaling solution for blockchains that uses validity proofs (also known as zero-knowledge proofs) to validate transactions off-chain. Zk-rollups execute transactions off-chain and submit validity proofs.

10. Offices and contacts

Learn more about STOXX & DAX Indices on [stoxx.com](https://www.stoxx.com)

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