

2024 Crypto ETP Report

Primer

Table of Contents

1. Executive Summary	2
2. Introduction	3
3. Market Overview	8
4. Regulatory Landscape	15
5. Technological Developments	18
6. Future Outlook	20
7. Conclusion	22
8. Disclaimer	22

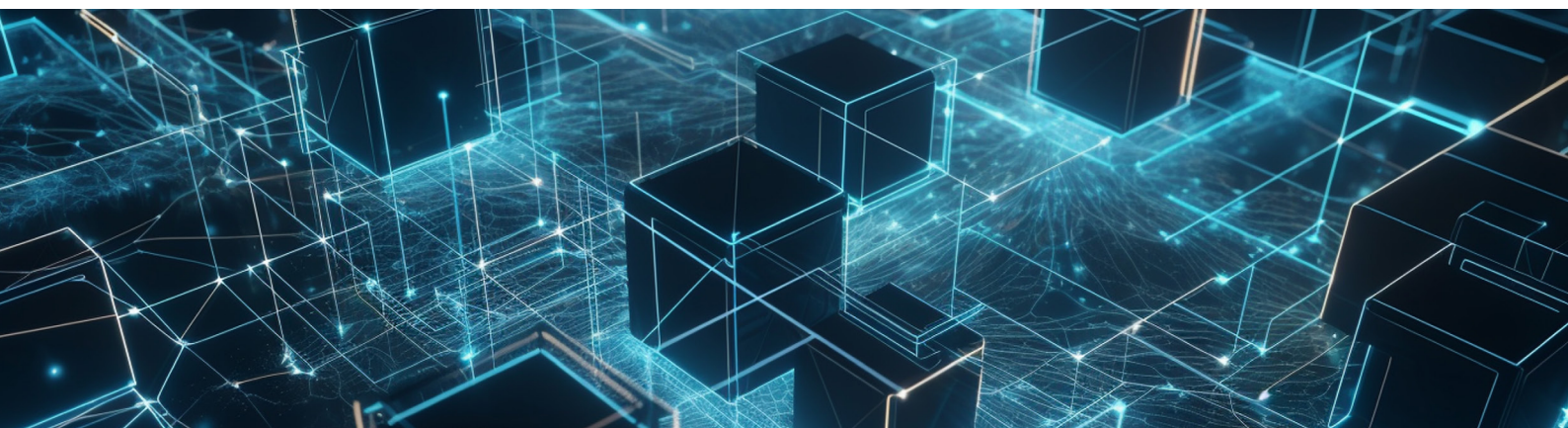
1. Executive Summary

This report takes a closer look at the transformative year in cryptocurrency Exchange Traded Products (ETPs), highlighted by unprecedented growth and structural shifts. Following the historic approval of U.S. spot Bitcoin Exchange Traded Funds (ETFs) in January 2024, global crypto ETP assets under management (AUM) surged to \$134.5 billion by November 2024, representing a 950% increase year-over-year.

Key developments include BlackRock's iShares Bitcoin Trust ETF (IBIT) becoming the fastest ETF to reach \$10 billion in AUM, achieving this milestone in just 51 days. The U.S. market's entry dramatically shifted the global landscape, reducing EMEA's traditional dominance from over 50% to 12.8% of global ETP AUM.

Trading volumes have shown similar growth, reaching \$87.5 billion by November 2024, an 817% increase from the previous year. This surge in activity reflects accelerated integration with the traditional financial system and improved market accessibility through regulated investment vehicles.

Finally, the report investigates the structural evolution of crypto ETPs, their role in bridging traditional and crypto ecosystems, and key considerations for investors. It also examines regional dynamics, product innovations, and the global regulatory landscape shaping the future of crypto products.



2. Introduction

As we conclude an exceptionally eventful year in crypto, we think it's a good time to reflect on the crypto ETP landscape and its unprecedented growth. With digital assets increasingly integrating into mainstream finance, crypto ETPs have become a crucial bridge between traditional investment solutions and the expanding cryptocurrency ecosystem.

As a global multi-asset market maker in both traditional finance (TradFi) and crypto assets, we strive to enhance market efficiency. In the crypto space particularly, we provide vital liquidity that drives a positive feedback loop of improved price discovery, enhanced user experience, and increased capital inflow. This influx of capital fuels innovation and experimentation, attracting more users and further investment. The past year's developments have been highly consequential for the industry, opening floodgates for capital and bridging TradFi and crypto.

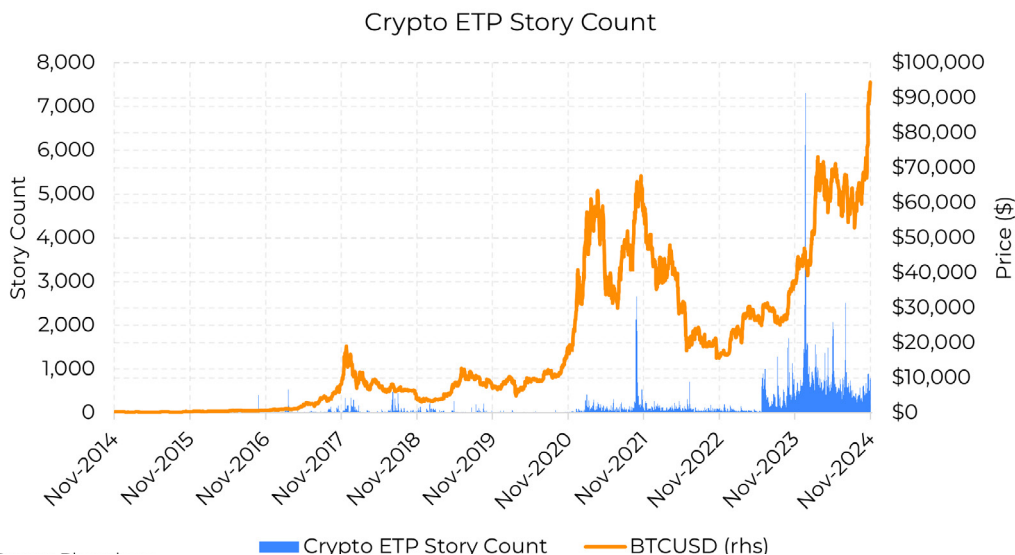
Looking ahead, we expect this trend to accelerate. The continued evolution of crypto ETPs is likely to further blur the lines between traditional and crypto market, potentially leading to more sophisticated products and increased institutional participation. As regulatory frameworks mature and market infrastructure improves, we also expect to see a new wave of innovation in crypto-based financial products that achieve mass adoption. This evolution will allow us to bring the best of both worlds to facilitate the co-evolution of these ecosystems, and to reshape the global financial landscape in the coming years.

After eight months of range-bound price action, with the global crypto market capitalization fluctuating between \$2 trillion and \$2.9 trillion, the crypto market, led by Bitcoin (BTC), finally broke out of this range following President-elect Donald Trump's re-election in the U.S. Year-over-year, the market capitalization of all cryptocurrencies has reached \$3.18 trillion, a 140% increase, exceeding the 2021 all-time high, according to data from Coingecko.

As of the drafting date, year-to-date, BTC has increased 130% and Solana (SOL) has climbed 124%. Ethereum (ETH), however, has underperformed other majors, up 43%.

Several major themes have dominated the crypto landscape this year: President-elect Trump's victory in the U.S. elections and the potential impact this will have on global crypto adoption and policy, the growing intersection of crypto and artificial intelligence, the ongoing institutional adoption driving market maturity, and the proliferation of meme coins. This report explores how 2024 has, in many ways, become the year of the crypto ETP.

Prior to the summer of 2023, news and headline interest in crypto ETPs were relatively limited. Market interest was highly correlated with the slew of listings that appeared during 2021 market cycle. However, this pales in comparison to what has occurred since BlackRock filed for a spot Bitcoin ETF in June 2023. Since then, crypto ETPs, especially spot ETFs listed and traded on U.S. venues, have taken center stage in the market.



Timeline leading up to the launch of U.S. Bitcoin spot ETFs:

■ **May 2023:**

21Shares and ARK Investments file for a spot Bitcoin ETF.

■ **June 2023:**

BlackRock, the world's largest asset manager, files for a spot Bitcoin ETF, reigniting interest in the possibility of such products being approved in the U.S.

■ **July 2023:**

A federal judge in New York rules in favor of Ripple in its case against the Securities and Exchange Commission (SEC), determining that Ripple Labs did not violate the law by selling its tokens on exchanges.

■ **August 2023:**

A U.S. federal appeals court in Washington D.C. rules in favor of Grayscale, stating that the SEC did not adequately justify its rejection of Grayscale's spot ETF proposal. The court requires the regulator to reexamine the application.

■ **October 2023:**

The SEC decides not to appeal the court's ruling in the Grayscale case and is required to reexamine the application.

■ **January 9 2024:**

The SEC's X account is compromised, falsely announcing the approval of Bitcoin ETFs.

■ **January 10 2024:**

The SEC officially approves 11 spot Bitcoin ETF applications.

What are ETPs?

To better understand the significance of crypto ETPs and their impact on the financial landscape, it's essential to first grasp the fundamentals of ETPs and their key characteristics.

ETPs are financial instruments that track underlying assets or indices and trade on stock exchanges like stocks. They include ETFs, Exchange-Traded Notes (ETNs), and Exchange-Traded Commodities (ETCs), offering investors exposure to various asset classes and strategies in a single, tradable vehicle.

What are the differences between ETFs, ETNs, and ETCs?

ETFs, ETNs, and ETCs are all types of ETPs with different structures and risk profiles. ETFs invest in a basket of securities, offering direct ownership and transparency. ETNs and ETCs can be secured or unsecured debt securities promising returns based on an index's performance. ETCs are designed for commodity investments, often physically backed. In the case of both ETNs and ETCs, issuer risk is a key consideration.

What are the structural components of ETPs and how do they work together?

ETPs function through key structural components that work together to provide regulated exposure to various asset classes, including cryptocurrencies. The main components are:

1. *Underlying assets/index*: What the ETP tracks (e.g., stocks, bonds, cryptocurrencies) and forms the basis for calculating the product's net asset value (NAV)
2. *Issuer*: Develops, issues, and manages the ETP
3. *Authorized Participants (APs)*: A financial institution which is authorized to create and redeem shares
4. *Custodian*: Securely stores and manages the underlying cryptocurrency assets, if the ETP is backed by in-kind assets
5. *Creation/redemption mechanism*: Allows authorized participants to provide liquidity, maintain price alignment with the product's NAV, and enables tracking with the underlying index
6. *Secondary market*: Where investors trade ETP shares, and market makers provide liquidity

These components interact to allow investors easy access to underlying assets without direct ownership. APs create or redeem shares based on demand, helping align ETP prices with their NAV and providing accurate market exposure.

What are crypto ETPs?

Having briefly explored the key characteristics of ETPs, we now turn our attention to the crypto variant. These innovative financial instruments have emerged as a bridge between traditional finance and the cryptocurrency ecosystem, offering investors a familiar and regulated way to gain exposure to digital assets.

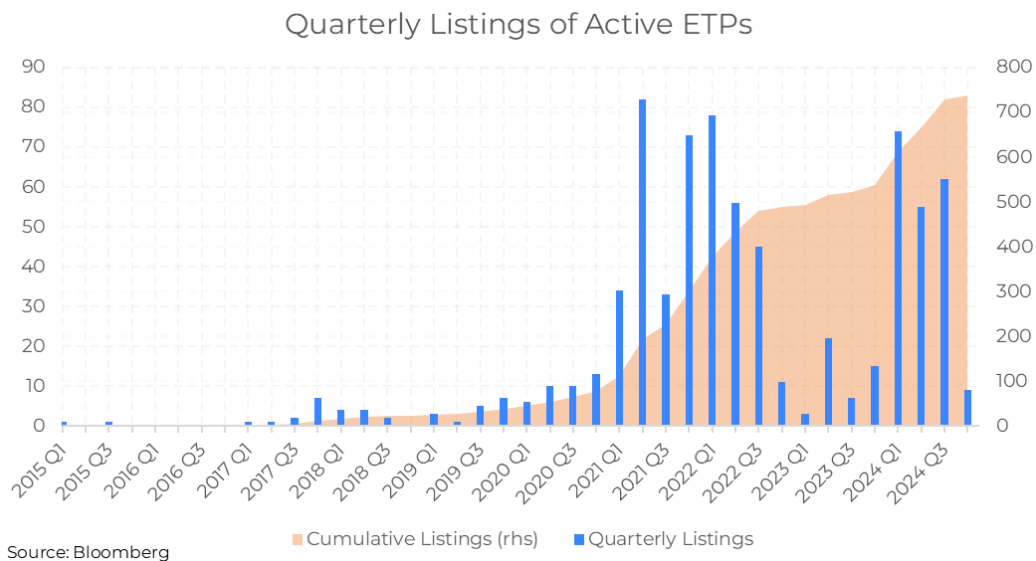
Building upon the previous sections, crypto ETPs are therefore financial instruments that track the performance of one or more cryptocurrencies and trade on traditional stock exchanges, allowing investors to gain exposure to digital assets without directly owning or managing them. These products can take the form of ETFs, ETNs, or ETCs, depending on their structure and regulatory environment, and they provide a regulated, accessible, and generally cost-efficient way for both retail and institutional investors to participate in the cryptocurrency market through their existing brokerage accounts and relationships.

While crypto ETFs have become the most popular vehicle, ETCs and ETNs were among the earliest accessible ways for investors to gain exposure to cryptocurrency price movements on traditional exchanges. Today, approximately 65 crypto ETCs with \$10.7 billion in AUM and 32 crypto ETNs with \$4.5 billion in AUM are actively traded on various exchanges. While these figures are relatively small compared to the global crypto ETP AUM of over \$100 billion, they highlight the foundational role these early products played in bridging traditional markets and cryptocurrencies.

How have ETPs evolved to include crypto-based products?

The evolution of ETPs to include crypto-based products has been a gradual process, marked by significant milestones and regulatory developments. This expansion reflects the growing acceptance of cryptocurrencies as an innovative asset class and the increasing demand from both retail and institutional investors for regulated exposures.

Over the past decade, ETPs have significantly expanded to include crypto-based offerings, evolving from traditional asset classes to encompass all manners of alternative investments, including cryptocurrencies. This evolution began with the launch of the first crypto ETP, the CoinShares XBT Bitcoin Tracker One in Sweden in 2015, and has since grown to include a diverse range of products tracking various tokens and indices, with over 730 active listings globally by the end of October 2024, reflecting the increasing mainstream acceptance and regulatory adaptation to digital assets in the financial markets.



What makes crypto ETPs different?

Unlike conventional ETPs that track established asset classes, cryptocurrency ETPs are based on underlying assets which are known for their high volatility and 24/7 trading. This necessitates specialized custody solutions and creates distinct challenges in pricing and liquidity management. The regulatory environment for crypto ETPs is also still evolving, varying across jurisdictions and often requiring new product structures to comply with existing frameworks while providing crypto exposure.

Furthermore, crypto ETPs introduce novel risk factors such as smart contract risk and network outages. However, they also offer unique opportunities, including the potential for additional returns through methods like staking or lending of the underlying crypto assets.

Ultimately, crypto ETPs play a crucial role in providing regulated market access for traditional investors, allowing them to gain exposure without directly handling wallets or engaging with crypto exchanges. This bridge between traditional finance and the crypto ecosystem makes crypto ETPs a distinct and evolving category within the broader ETP landscape.



How do crypto ETPs address some of the challenges associated with direct cryptocurrency investment or exposure?

Crypto ETPs have emerged as an innovative solution for investors seeking exposure to cryptocurrencies. They provide several key advantages, including enhanced liquidity, seamless trading, and the benefit of regulatory oversight. Investors can trade these products during regular market hours through their existing brokerage accounts, benefiting from the established infrastructure of stock exchanges. This structure also facilitates portfolio diversification, with some ETPs offering exposure to multiple cryptocurrencies or specific themes within the crypto ecosystem.

Furthermore, crypto ETPs are subject to regulatory standards and compliance requirements, which may enhance investor protection and transparency. In major markets like the U.S. and EU, these products must adhere to strict regulations, including regular disclosures and robust risk management and governance protocols. Many jurisdictions also require institutional-grade custody, asset segregation, and regular audits. This regulated framework makes crypto ETPs a consideration for a wide range of investors, including those who may face restrictions on directly holding cryptocurrencies. As the crypto ETP market continues to evolve, it represents an important development in the integration of digital assets into traditional financial systems.

What are the key considerations for investors when evaluating crypto ETPs (e.g., expense ratios, tracking error, liquidity)?

When evaluating crypto ETPs, investors should consider several key factors:

Factor	Best Practices
Issuer Expertise	Assessment of the issuer's knowledge and experience in crypto and asset management
Cost of Ownership	Direct fees, bid-ask spreads, and tracking error
Transparency	Daily asset disclosures and independent audits
Asset Protection	Custodianship relationship and asset segregation practices
Custodian Model	Single or multi-custodial, regulatory status, insurance
Type of Exposure	Understanding if the ETP provides exposure to single or multiple cryptocurrencies
Product Structure	Direct physical holdings or synthetic replication
Liquidity	Trading volume and market depth
Regulatory Oversight	Applicable regulatory frameworks and adherence to compliance
Potential Returns	Additional earnings mechanisms like staking
Unique Risks	Outlier factors like volatility

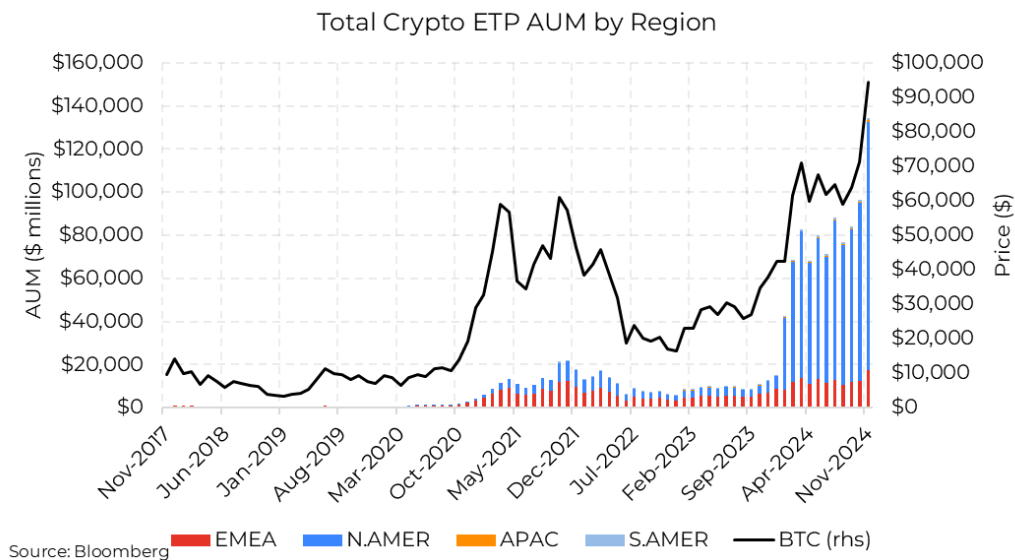
3. Market Overview

Turning our attention towards the market, 2024 has been a year of unprecedented growth and transformation, with ETPs emerging as a key driver of institutional adoption and market accessibility. This section provides a comprehensive overview of the current state of the crypto ETP market, highlighting key trends, as well as regional and product dynamics.

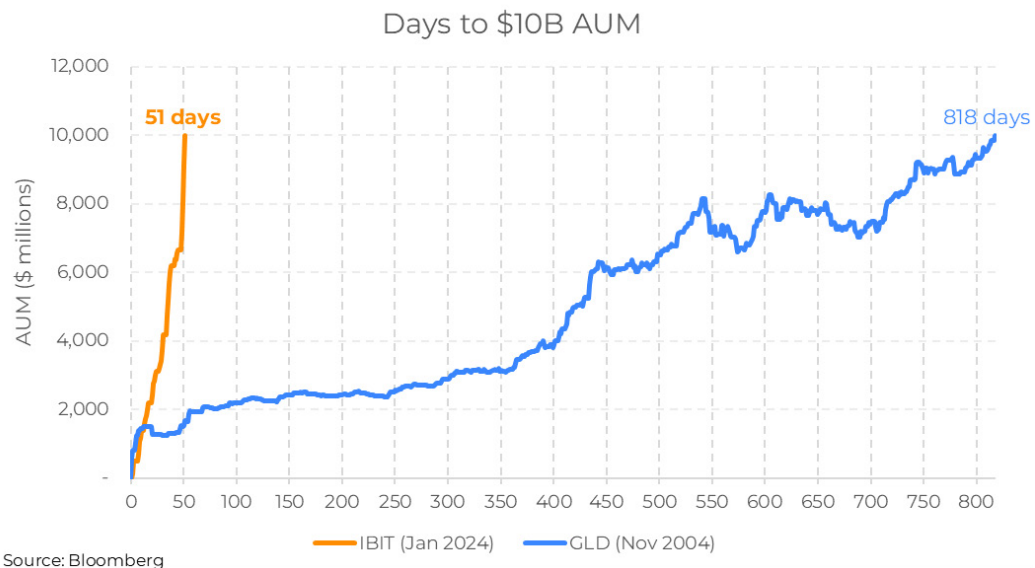
As we delve into the data, we'll explore how the introduction of spot Bitcoin ETFs in the U.S. has reshaped the global landscape, shifting the balance of power in terms of AUM and trading volume across regions. We'll also examine the distribution of assets across different underlying asset types.

Assets Under Management

Global AUM totaled approximately \$134.5 billion in November 2024, up 950% from a year ago. Much of this surge has been driven by the introduction of spot ETFs in the U.S. after the SEC's approval on January 10, 2024, a milestone that followed years of anticipation. Prior to this landmark event, the U.S. market featured alternative structures such as synthetic BTC ETFs, closed-end funds, and trust vehicles like Grayscale. These earlier products laid the groundwork for the rapid adoption and scaling of spot ETFs, also underscoring the maturity and resilience of the crypto ETP ecosystem. It's worth mentioning that this was a development that was years in the making, with synthetic BTC ETFs, closed-end funds, trust structures like Grayscale, these have already existed in the U.S. market for some time.



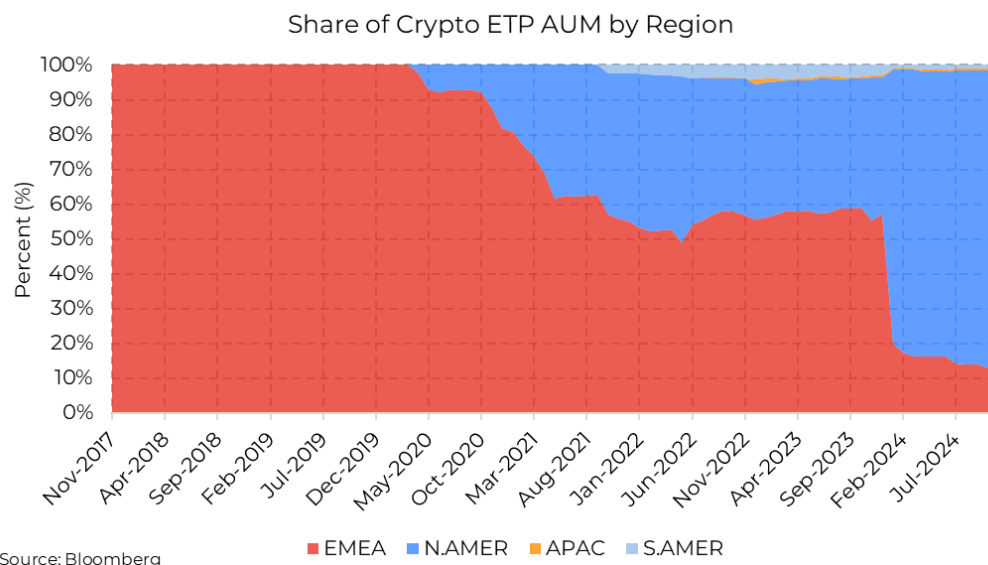
To put the early days of the launch into perspective, BlackRock's iShares Bitcoin Trust ETF (IBIT) became the fastest ETF to reach \$10 billion in AUM, achieving this milestone in just 51 days. In contrast, the SPDR Gold Shares ETF (GLD) took 818 days to reach the same benchmark. It should be noted that the global money supply (M2) was significantly lower when GLD was launched. Nevertheless, the launch certainly exceeded expectations and demonstrates the popularity, efficiency, and investor preference of ETFs.



Before the launch of U.S. spot ETFs, though, the EMEA region dominated the crypto ETP market, accounting for 70–100% of AUM in the pre-COVID era and 50–60% between 2021 and 2023. APAC and South America-based products maintained a relatively minor share of global AUM throughout the nine years since the first crypto ETP’s introduction in 2015.

However, the landscape changed dramatically with the launch of U.S. spot ETFs. The regional share of global AUM shifted drastically, with EMEA’s portion plummeting to 12.8% and continuing a steady decline. To illustrate this shift:

- The global crypto ETP AUM in December 2023 was around \$15.2 billion
- By the end of January 2024, after just three weeks of U.S. spot ETF trading, global AUM jumped 178% month-over-month to \$42.3 billion
- By the end of Q1 2024, global AUM had skyrocketed to \$82.9 billion, a staggering 445% increase from the start of 2024

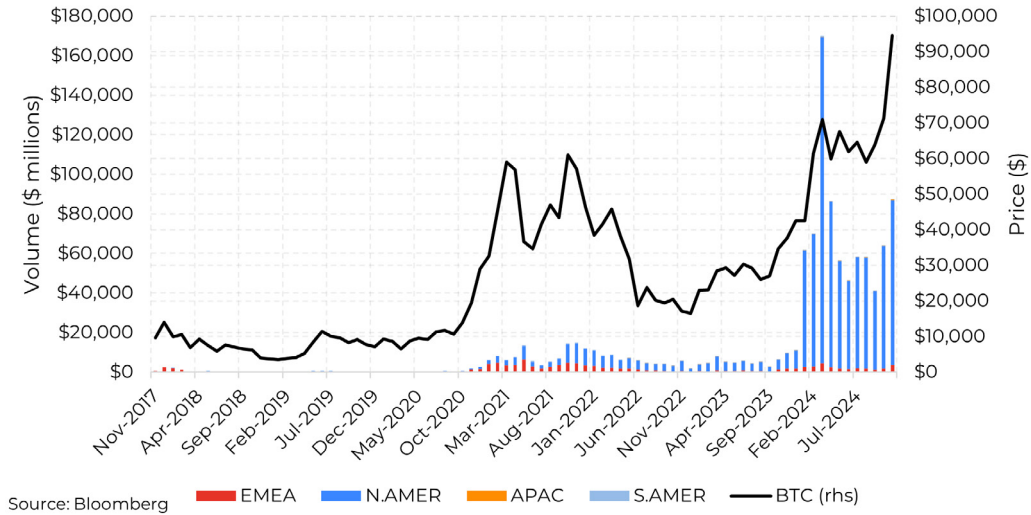


Volume

Global volume as of October 2024 reached \$57.2 billion, posting a remarkable 790% increase year-over-year. This volume growth mirrors, and perhaps even surpasses, the dramatic narrative of AUM growth and market share shifts.

The crypto ETP market's evolution is striking when viewed across distinct eras. In the pre-2021 period, monthly ETP volumes averaged a relatively modest \$472 million. In comparison, spot crypto markets were already turning over \$645 billion in December 2020. ETP volume eventually surged to an average of \$6.8 billion between 2021 and 2023. Year-to-date, however, monthly crypto ETP volumes have skyrocketed to an average of \$72 billion, which is more than tenfold the monthly average throughout the entire 2021-2023 boom-bust cycle.

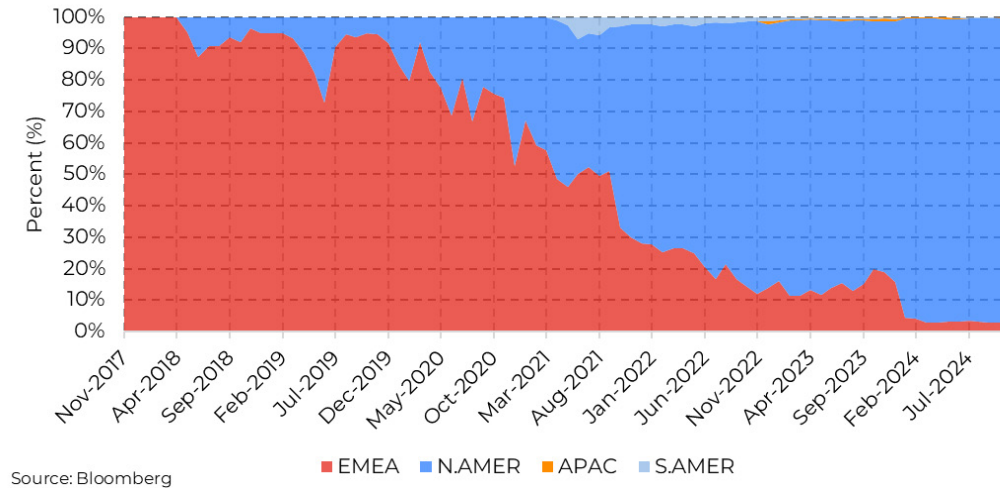
Total Crypto ETP Volume by Region



The regional distribution of volumes has undergone a seismic shift. Initially, EMEA dominated, but its lead had already dwindled to 30-40% at the 2021 bull market's peak.

The launch of U.S. spot Bitcoin ETFs triggered a dramatic realignment. Now, the U.S. commands an overwhelming 95.2% of global volume. EMEA's share has plummeted to 4.1%, while APAC and South America trail with 1.0% and 0.3% respectively.

Share of Crypto ETP Volume by Region

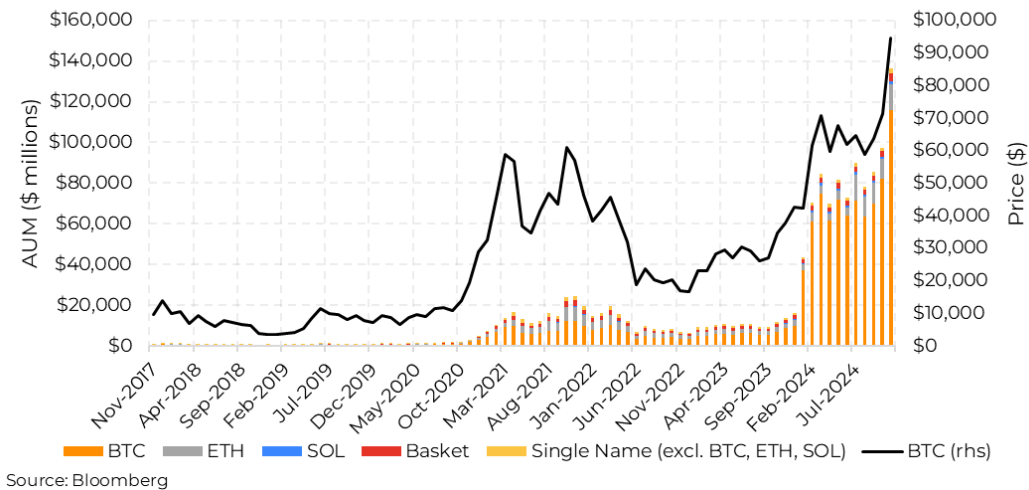


Underlying

Next, let's examine how ETPs with various underlying assets fared across AUM and volume. Here, we will focus on products across five categories: Bitcoin (BTC), Ether (ETH), Solana (SOL), Baskets, and Single Names (excluding BTC, ETH, and SOL).

In terms of AUM, BTC clearly dominates, representing over \$82 billion in total assets, or 84.4% of global AUM. ETH follows with 10.5%, accounting for just over \$10 billion. SOL makes up 1.2% with \$1.1 billion, while Baskets comprise 3.1% at \$2.9 billion. Single-name products (excluding BTC, ETH, and SOL) account for the remaining 1.8%, or \$1.7B of AUM.

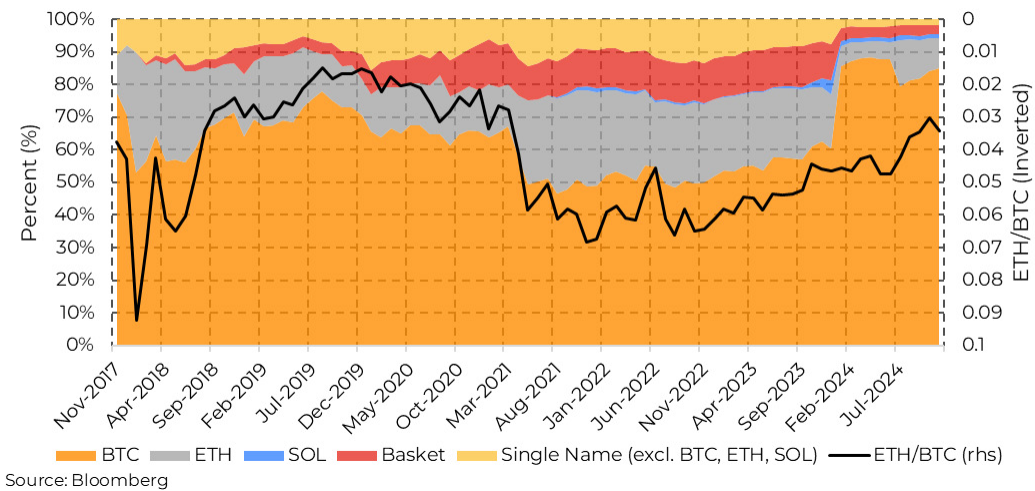
Total Crypto AUM by Underlying Asset



Examining the historical share of AUM across different underlying assets over the past 7 years reveals greater diversity, despite Bitcoin typically maintaining the majority of AUM.

We also note a strong negative correlation ($r=-0.61$) between Bitcoin's share of AUM and the ETH/BTC ratio. Interestingly, since 2021, there have been two key divergences between BTC's AUM dominance and ETH/BTC, where BTC's AUM dominance suggested further strength or weakness for the ETH/BTC ratio. The first divergence occurred in May 2021, and the second in January 2024.

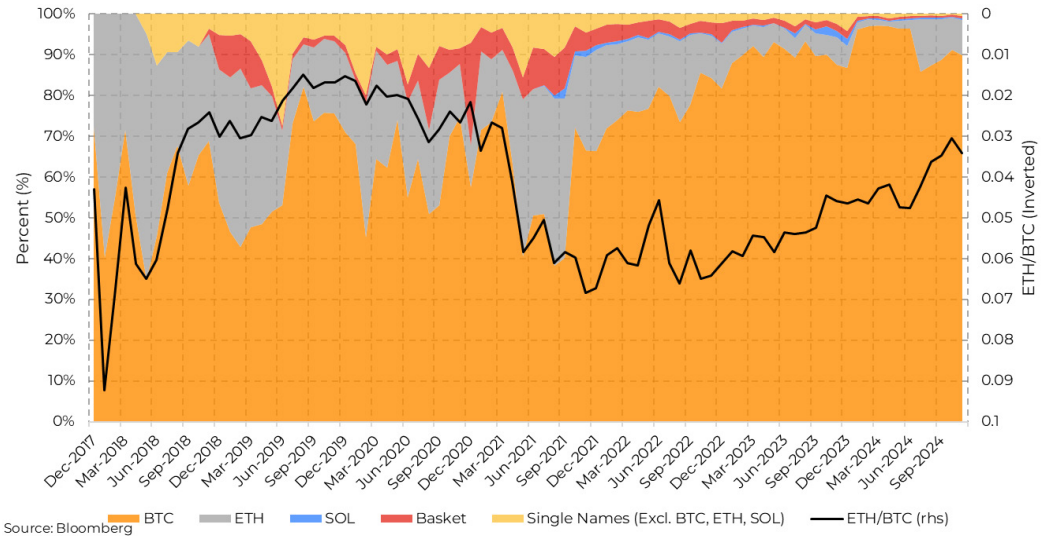
Share of Global Crypto AUM by Underlying Asset



While several explanations are possible, one plausible explanation is that as crypto becomes more integrated into the traditional financial system and price discovery incorporates more institutional players, traditional markets are increasingly driving markets for the largest crypto assets.

Examining the share of global volume reveals an even more striking narrative. ETP market volumes signaled a sharp shift towards BTC dominance in September 2021, with the ETH/BTC ratio subsequently adjusting to reflect this clear shift.

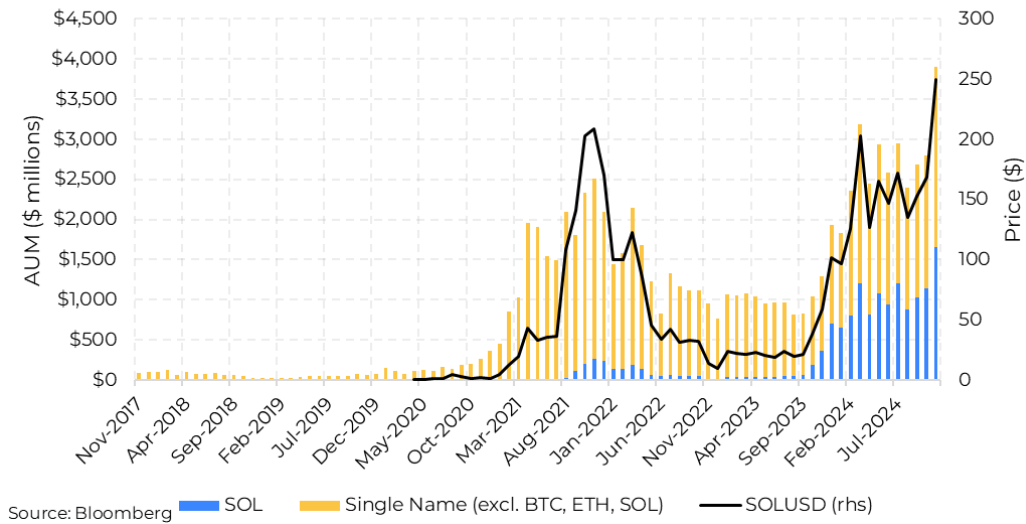
Share of Global ETP Volume by Underlying Asset



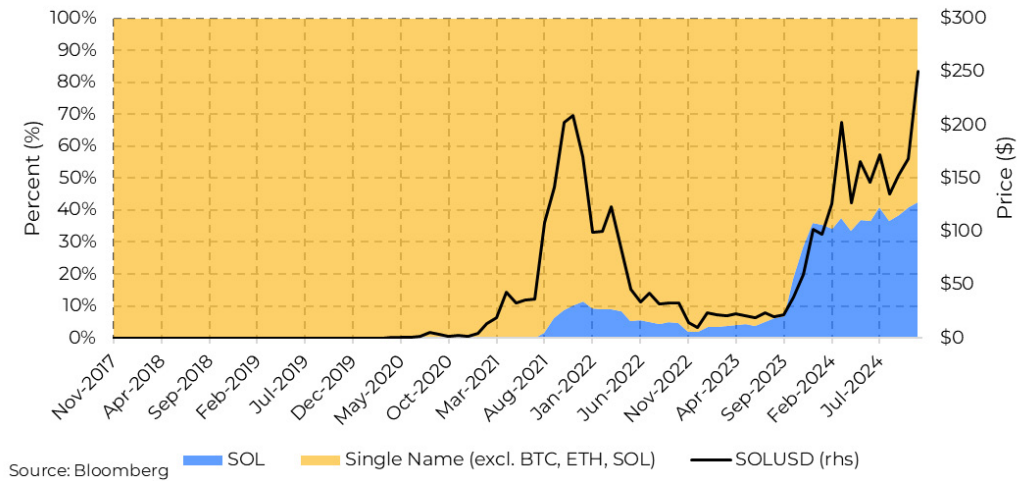
Given the emergence and popularity of SOL in the current market cycle, it's worth diving a bit deeper to see how AUM and volumes evolved.

One interesting observation is that during the 2021 cycle peak, SOL ETP AUM reached its high of \$239 million, representing 11% of Single Name ETPs (excluding BTC, ETH, and SOL). At that time, SOL was trading above \$250. Fast forward to today, with SOL trading at around \$250 again and SOL AUM has surged to \$1.16B, a 485% increase, and now commands over 40% of Single Name AUM (excluding BTC, ETH, and SOL). This growth is particularly noteworthy given the absence of a spot SOL ETF approved for trading in the U.S.

Solana & Single Name Total AUM

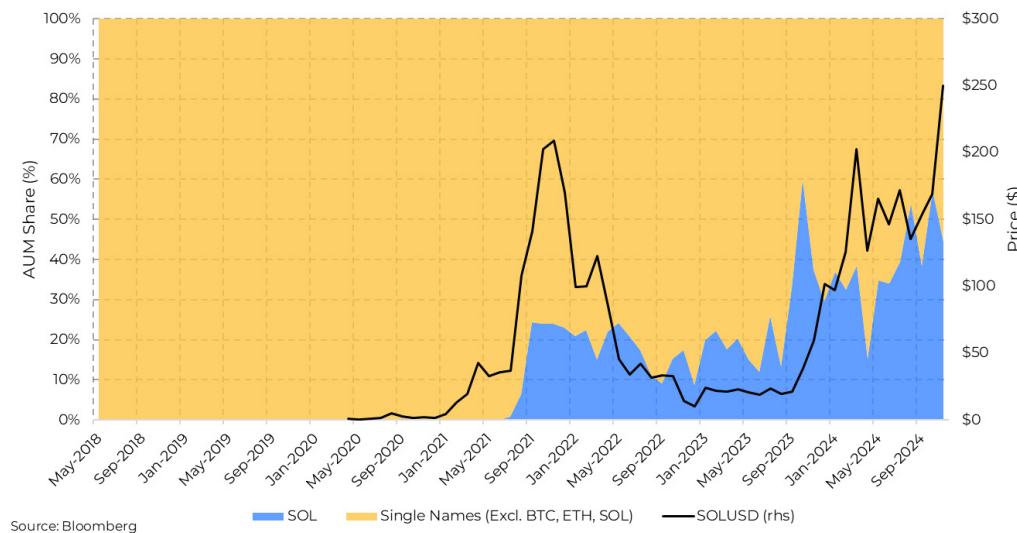


Solana Share of Single Name AUM



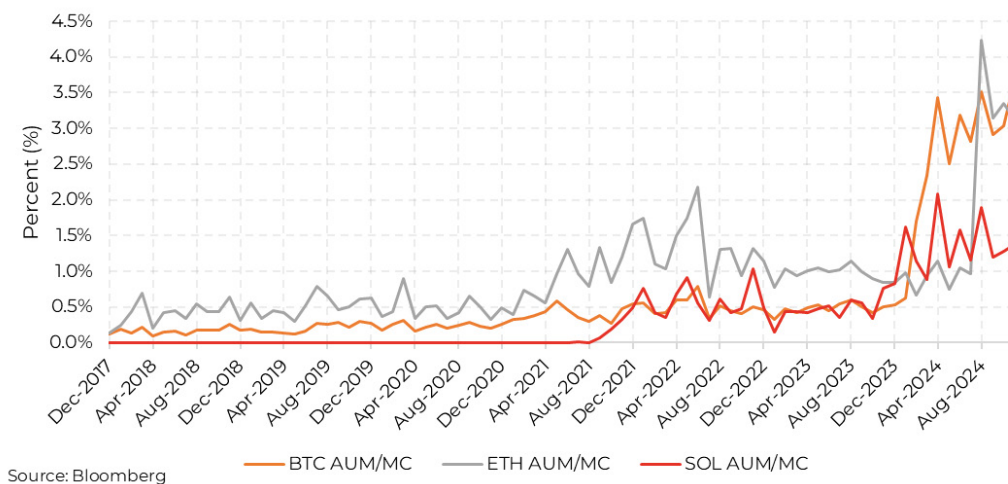
In terms of SOL’s share of Single Name volume, we observe that SOL already accounts for 44% of Single Name volume, even reaching as high as 60% in October 2023. This trend mirrors what we saw with BTC’s ETP volume dominance preceding a correction in the ETH/BTC ratio. Similarly, here we notice that the spike in Solana volume dominance preceded both the Q4 2023 and Q1 2024 rise in SOL price.

Solana Share of Single Name Volume



As we delve deeper into the landscape of crypto ETPs, it’s crucial to examine how the AUM of BTC, ETH, and SOL ETPs compared to their respective market capitalizations. This can provide some insight into the relative penetration of these cryptocurrencies in the ETP market and helps gauge institutional interest and adoption.

By comparing the AUM to market cap ratios, we can better understand the extent to which these digital assets are being accessed through regulated investment vehicles versus direct holdings or other means of exposure.



As shown in the graph, January 2024 marked a crucial inflection point for BTC, while July 2024 was significant for ETH, coinciding with the approval of their respective spot ETFs for U.S. trading. BTC's AUM/MC currently stands at 3.7% after spending most of this year remaining in a range between 2.5-3.5%.

Interestingly, before the SEC's approval, ETH ETP dominance consistently surpassed both BTC's and SOL's. Currently, ETH ETPs holds 3.1% of the total ETH market cap, a figure that could potentially re-rate higher if historical ratios mean-revert and ETH is able to catch one or more narrative tailwinds.

SOL ETP dominance currently sits at a modest 1.4% relative to its market capitalization. However, this is expected to change dramatically once SOL spot ETFs are approved for U.S. trading. Until then, Europe may serve as a model for potential developments. According to data on European crypto ETFs from 21Shares, as of October 2024, physical Solana ETP AUM has already surpassed physical Ethereum ETP AUM, reaching \$1.4 billion compared to Ethereum's slightly over \$1.0 billion.

Assuming current prices and SOL AUM/MC converges to that of BTC and ETH's, then we could expect SOL dominance to tack on another 2-2.5% of market cap, or an additional \$2.4-3.0 billion in net new assets.

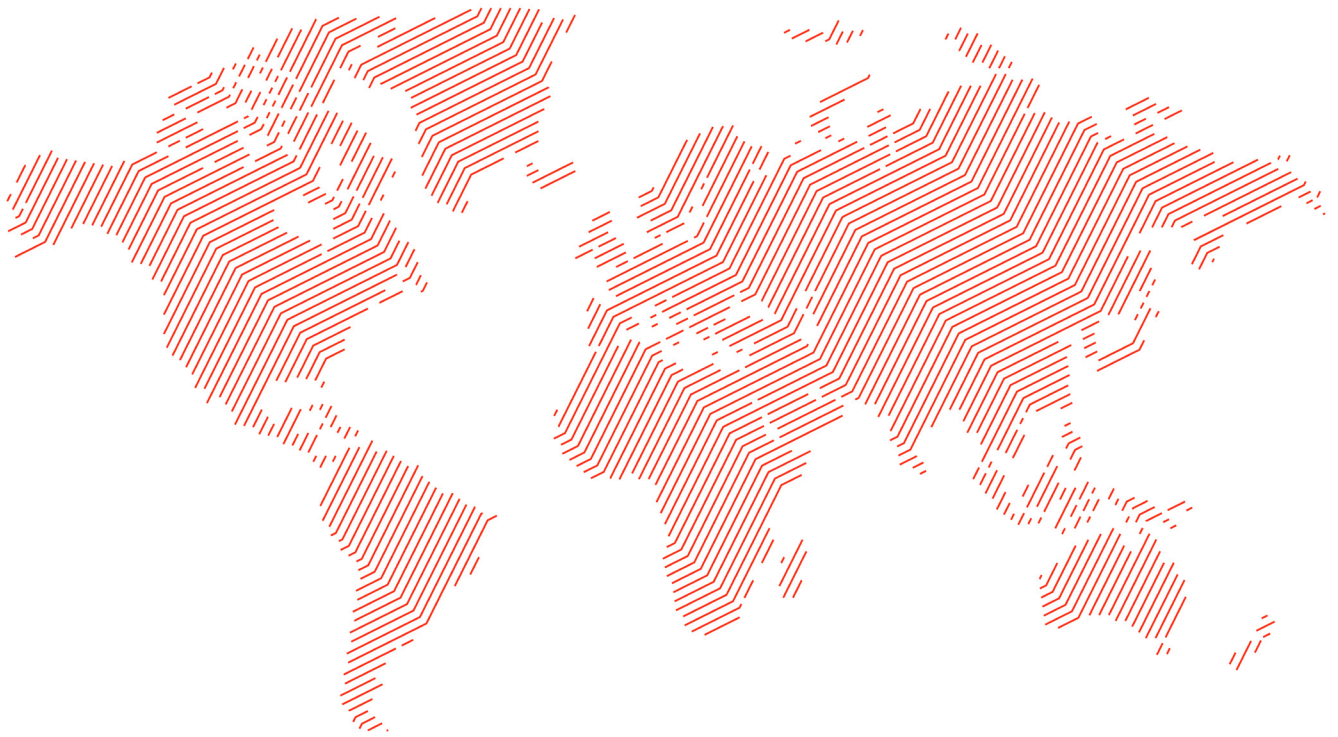
One lingering question is how much of crypto's market cap will be absorbed by ETPs. While we don't have a definitive answer, comparing it to gold suggests we are already in uncharted territory.

The U.S. Geological Survey reports that 244,000 metric tons of gold have been discovered to date. This includes 187,000 metric tons historically produced and 57,000 metric tons in current underground reserves.

As of November 2024, gold ETF AUM totaled \$130 billion. With a gold price of \$58.4 million per ton, the total value of all existing gold is approximately \$10.9 trillion. Consequently, gold ETFs represent only 1.2% of the value of all above-ground gold. From this perspective, Bitcoin ETPs' share of their total underlying mined market cap is already triple that of gold and likely headed higher.

4. Regulatory Landscape

Throughout 2024, the global regulatory landscape for crypto ETPs showed a two-speed development. While some jurisdictions embraced crypto ETPs and related innovations, others maintained a more cautious approach. Overall, the positive reception outweighed the hesitancy, enabling the seismic market changes discussed earlier. These developments have significantly enhanced the accessibility and inclusion of crypto investments, particularly in major financial markets.



4.1.1. United States

The U.S. crypto market witnessed a watershed moment on January 10, 2024, when the SEC approved the first spot Bitcoin ETFs. This landmark decision, following years of rejections, signalled a pivotal shift in crypto adoption within traditional finance. The SEC simultaneously approved 11 spot Bitcoin ETFs, including offerings from established issuers like BlackRock, Fidelity, and Grayscale. This move enabled direct investment in Bitcoin through regulated, exchange-traded vehicles, addressing long-standing concerns about market manipulation and custody. Despite the approval, SEC Chair Gary Gensler maintained a cautious stance, emphasizing that the SEC's decision did not constitute an endorsement of Bitcoin itself.

The impact of this regulatory shift was immediate and profound. The launch day saw unprecedented trading volumes, with nearly \$4.6 billion traded across all products. Moreover, this approval set the stage for further innovations in the crypto ETP space, culminating in the subsequent approval of Ethereum ETFs in the summer of 2024. This series of developments marked a new era in the integration of cryptocurrencies into mainstream financial markets.

Given a second Trump presidency and Republican-controlled Congress, we may be on the verge of a paradigm shift in the U.S. regulatory environment the likes of which we have never seen before. Trump has expressed a desire to make America “the crypto capital of the planet” suggesting a more favourable regulatory environment for digital assets. This stance, combined with current SEC Chair Gary Gensler's decision to step-down from the Commission effective on January 20, 2025, indicates a potential pivot away from the current “regulation by enforcement” approach.

Furthermore, a Republican Congress is seen as more likely to pass a comprehensive regulatory framework for cryptocurrencies, which the industry has been advocating for and was supported by Vice President-elect JD Vance. This could potentially include clearer guidelines for crypto

businesses, reduced regulatory uncertainty, and possibly clearer stances on securities classification. However, it's important to note that while this scenario suggests a more crypto-friendly regulatory landscape, the specifics of any new policies or legislation would still need to be developed and implemented, and the full impact on the crypto industry would likely unfold over time.

4.1.2. Europe

The European Union made significant strides in crypto regulation with the Markets in Crypto-Assets regulation (MiCAR), formally approved in April 2023 and fully-applicable by the end of 2024, notwithstanding potential delays in enforcement by regulators. MiCAR provides a comprehensive framework for crypto-assets, including provisions for market participants that are part of the crypto product value-chain like custodians, and tasked the European Securities and Markets Authority with developing technical standards and guidelines for implementation.

This regulation is meant to introduce a unified approach across the EU, replacing the previous patchwork of national regulations. We expect the impact on ETPs to be positive with increased regulatory clarity encouraging more traditional financial institutions, banks, and investment firms to enter the crypto ETP market, facilitating cross-border offerings within the EU, and enhancing investor protection measures and boosting overall confidence in crypto ETPs.

In a related development, ESMA issued a call for evidence in May 2024 on the review of the UCITS eligible assets directive. This initiative specifically addressed the potential harmonization of crypto asset exposure within the UCITS framework, aiming to assess whether and how crypto assets could be integrated into the UCITS structure, often regarded as the gold standard for retail investment funds in Europe. This review could potentially pave the way for more mainstream adoption of crypto assets in regulated investment products, making crypto products available to the \$13 trillion UCITS AUM. The consultation solicited responses from leading crypto issuers and institutions such as 21Shares, BlackRock, Coinbase, and CoinShares.

4.1.3. United Kingdom

The UK took a cautious stance on crypto ETPs in 2024. While maintaining its ban on crypto derivatives for retail investors, the Financial Conduct Authority (FCA) allowed crypto ETNs for professional investors only. This balanced approach aimed to foster innovation while protecting retail investors.

The FCA's decision enabled increased institutional participation in the UK crypto ETP market and positioned London competitively among European financial centers. This move reflected the UK's efforts to stay relevant in the digital asset landscape while prioritizing investor protection through sufficient controls and proper disclosures.

4.1.4. Hong Kong & China

In April 2024, Hong Kong's Securities and Futures Commission (SFC) approved spot Bitcoin and Ether ETFs, marking a first in Asia. Three Chinese issuers launched six ETFs on April 30, 2024, allowing retail investors exposure to Bitcoin and Ether prices without direct ownership. These ETFs feature an 'in-kind' subscription mechanism for direct crypto transactions.

This move aligns with Hong Kong's strategy to become a global virtual asset hub. By November 2024, Hong Kong's virtual asset spot ETFs reached HKD \$3.3 billion (\$430 million) in AUM. However, mainland Chinese investors can't access these ETFs due to China's crypto restrictions. Despite this limitation, the ETFs strengthen Hong Kong's position in the global crypto market and offer regulated access to digital assets.

4.1.5. United Arab Emirates

Dubai and the broader United Arab Emirates (UAE) have emerged as significant players in the crypto ETP landscape, with their proactive approach to digital asset regulation and ambition to become a global crypto hub. In 2022, the Dubai Financial Services Authority (DFSA) took a major

step by approving the listing and trading of a 21Shares' spot Bitcoin ETP on Nasdaq Dubai, marking a first for the region.

This move followed the establishment of the Virtual Assets Regulatory Authority (VARA) in Dubai, which has been critical in creating a comprehensive framework for crypto assets. The UAE's crypto-friendly stance has attracted major players in the industry, with exchanges like Binance and Kraken obtaining licenses to operate in the country.

Additionally, in August 2024, the Abu Dhabi Global Market (ADGM) introduced a regulatory framework for blockchain-based ETFs, paving the way for the launch of spot crypto ETFs in the UAE capital. This framework allows for the creation, listing, and trading of ETFs based on single cryptocurrencies and baskets of digital assets.

These developments have positioned the UAE as a key player in the global crypto ETP market, offering a regulated environment for both institutional and retail investors to gain exposure to digital assets. The country's approach is likely to influence regulatory trends in the broader Middle East region and potentially attract more international crypto businesses and investors.

4.1.6. Japan

Japan has made significant strides towards integrating crypto ETPs into its financial ecosystem. In July 2024, SBI Holdings and Franklin Templeton announced a partnership to establish a digital asset management company, positioning themselves to launch Bitcoin ETFs in Japan. Nevertheless, it remains unclear when the Financial Services Agency (FSA) will approve crypto ETFs and create further alignment in the country's regulatory framework for cryptocurrency products.

This move is part of Japan's broader strategy to attract high-net-worth clients and diversify its alternative asset investment products. Overall, these developments demonstrate Japan's commitment to embracing digital assets within its financial markets, potentially setting a precedent for other Asian countries to follow.

4.1.7. Transformative Year

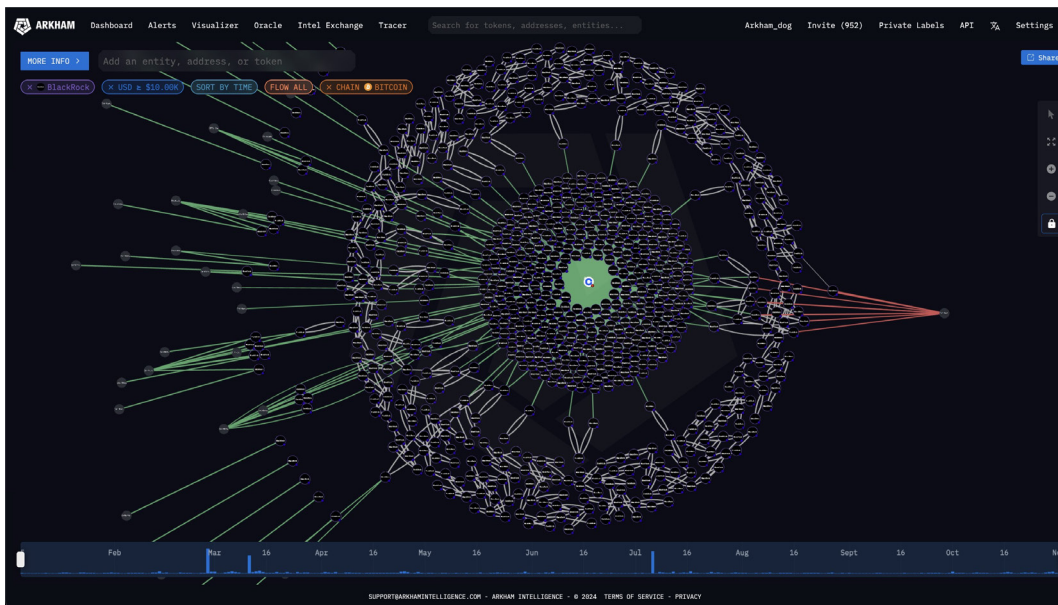
Overall, 2024 has been a transformative year for crypto ETPs globally, with significant regulatory developments across major financial markets. The U.S. led the charge with the approval of spot Bitcoin and Ethereum ETFs, marking a pivotal shift in crypto adoption within traditional finance. Europe's MiCAR provided a comprehensive framework, enhancing regulatory clarity and investor protection. The UK maintained a cautious approach, allowing crypto ETNs for professional investors while protecting retail investors. Hong Kong emerged as a pioneer in Asia by approving spot Bitcoin and Ether ETFs, strengthening its position as a virtual asset hub. Japan's progress towards integrating crypto ETPs signals a growing acceptance of digital assets in established financial markets.

These regulatory advancements collectively represent a global trend towards greater acceptance and accessibility of crypto investments, setting the stage for continued growth and innovation in the crypto ETP landscape.

5. Technological Developments

The emergence of crypto ETPs has brought about innovative approaches to transparency and trust-building, leveraging the unique properties of blockchain technology. One of the most significant innovations in this space is the integration of on-chain data and Proof of Reserves (PoR) systems, which provide unprecedented levels of transparency and verification for investors.

Proof of Reserves has become a critical feature for many crypto ETP issuers, allowing them to demonstrate in real-time that they hold sufficient assets to back their products. This system typically employs blockchain technology to publicly verify a crypto company's on-chain assets, using secure data structures like Merkle trees to aggregate total customer balances without exposing private information. For instance, in February 2024, 21Shares announced the integration of Chainlink Proof of Reserve for their Core Bitcoin ETF (ARKB) and in July for their Core Ethereum ETF (CETH), enabling clear visibility into the underlying BTC and ETH reserves. This move not only enhances transparency but also provides investors with increased assurances that the ETP is fully backed by the underlying cryptocurrency.



Source: Arkham Intelligence. A graphical representation of token flows between Coinbase and BlackRock addresses on the Bitcoin blockchain.

The use of on-chain data extends beyond simple asset verification. It enables automated near real-time on-chain tracking and programmatic utility. Investors can build automated logic based on updates to an ETP's underlying collateralization, as reflected by on-chain holdings. A clear example of this is how market participants can freely access on-chain data platforms like Arkham Intelligence to track an issuer's stock and flow of the underlying collateral for the ETF. In the screenshot above, we can see the daily inflows of BTC from a single Coinbase address to BlackRock's network of addresses.

This level of transparency was previously impossible with traditional financial products. Moreover, the decentralized nature of these systems eliminates central points of failure in delivering this on-chain data, always ensuring reliable updates regarding an ETP's collateralization. As the crypto ETP market continues to mature, these innovations in transparency and verification are likely to become industry standards, potentially influencing broader financial markets beyond the crypto space.

Finally, while not a technological development in and of itself, Grayscale's launch of spin-off ETFs for its BTC and ETH trusts in 2024 marked an unprecedented move in the ETP space. The creation of the Grayscale Bitcoin Mini Trust and Grayscale Ethereum Mini Trust as lower-cost alternatives to their flagship products, the Grayscale Bitcoin Trust (GBTC) and Grayscale Ethereum Trust (ETHE), represented a novel approach to product diversification in the crypto ETP space.

This strategy allowed Grayscale to offer investors a choice between products “on different parts of the spectrum,” as noted by Grayscale managing director John Hoffman. The spin-offs were structured using a 90-10% sharing formula, where existing shareholders of GBTC and ETHE received proportional shares in the new, lower-fee ETFs.

This approach was unique in that it allowed Grayscale to maintain its established, higher-fee products while simultaneously introducing more competitive offerings to attract a broader range of investors. The spin-offs also demonstrated an innovative way to seed new ETFs, as the initial assets for BTC and ETH came from distributing 10% of the underlying assets from GBTC and ETHE, respectively. This move not only set a new precedent for product evolution in the crypto ETP market but also highlighted the growing sophistication and maturity of the sector, as asset managers began to employ strategies more commonly seen in traditional finance to cater to diverse investor needs.

6. Future Outlook

As we look towards the future of the crypto ETP landscape, several key trends and factors are poised to shape its evolution. The rapid growth and increasing sophistication of this market segment have set the stage for further developments across multiple fronts.

From product innovation and regulatory shifts to technological advancements and changing market dynamics, the crypto ETP sector is entering a new phase of maturity and integration with traditional finance. In this section, we'll explore the various aspects that are likely to define the future of crypto ETPs, touching on the opportunities and challenges that possibly lie ahead for investors, issuers, and regulators alike.

■ Product Innovation and Expansion

The crypto ETP market is rapidly evolving, with issuers constantly introducing new products to meet diverse investor needs. For instance, in October 2024, 21Shares launched the Future of Crypto Index ETP (FUTR) on Euronext Paris and Amsterdam, offering exposure to 6 key crypto megathemes. This trend of thematic and sector-specific crypto ETPs is likely to continue, providing investors with more targeted exposure to different segments of the crypto ecosystem.

Additionally, as regulators become more comfortable with crypto assets and adoption increases, particularly in the U.S., we may see the approval of ETPs based on emerging cryptocurrencies beyond Bitcoin and Ethereum, such as Solana and Wormhole, or even memecoins like Doge, Pepe, or Popcat, further expanding the investment landscape.

■ Regulatory Developments

The regulatory landscape for crypto ETPs continues to evolve globally, with significant implications for market growth and investor protection. The approval of spot Bitcoin ETFs in the U.S. in January 2024 was a watershed moment, followed by Ethereum ETF approvals later in the year.

Looking ahead, the re-election of Donald Trump in the 2024 U.S. presidential race, the Republican congressional landslide victory, and the rise of the crypto lobby portend a more crypto-friendly and constructive regulatory and business environment. The implementation of MiCAR in the EU is also set to provide a comprehensive framework for crypto assets, potentially influencing global standards.

■ Institutional Adoption and Market Integration

Q2 2024 13F filings revealed that advisors increased their market share of institutional AUM in Bitcoin ETFs from 27% in Q1 to 36%

in Q2. Major banks like Morgan Stanley and Goldman Sachs have also expanded their Bitcoin ETF holdings on behalf of clients, each disclosing positions exceeding \$100 million.

Furthermore, the entry of state pension funds, such as the State of Michigan Retirement System, into crypto ETPs signals growing mainstream acceptance. As more institutional investors allocate to crypto ETPs, we can expect increased liquidity, potentially lower volatility, and greater integration of crypto assets into traditional portfolio management strategies.

■ Technological Advancements

Technological innovations are enhancing the transparency, security, and functionality of crypto ETPs. For instance, in July 2024, 21Shares announced the integration of Chainlink Proof of Reserve for their Core Ethereum ETF (CETH), enabling real-time verification of the underlying ETH reserves. This trend towards on-chain verification is likely to continue, potentially becoming an industry standard. Additionally, advancements in custody solutions, such as multi-party computation (MPC) technology, are improving the security of crypto assets held by ETP issuers. Looking forward, we may see the integration of Decentralized Finance (DeFi) principles into ETP structures, such as yield-generating ETPs that participate in staking or lending protocols, offering new value propositions to investors.

■ Market Structure and Dynamics

The crypto ETP market is experiencing rapid changes in its competitive landscape and operational dynamics. The launch of spot Bitcoin ETFs in the U.S. has shifted the global balance of AUM and trading volumes, with the U.S. commanding 96.7% of global volume by October 2024.

Furthermore, the conversion of Grayscale's trusts to ETFs and the launch of their "mini" versions demonstrate the evolving product

strategies in response to market demand. As the market matures, we may see evolving fee structures and potentially the emergence of actively managed crypto ETPs, reshaping the competitive landscape.

■ **Macroeconomic Factors**

As cryptocurrencies have emerged from the developer forums and began integrating into the global financial system, macroeconomic factors have had a significant impact on the underlying assets and will continue to influence the crypto ETP market.

For instance, the anticipation of a more accommodative interest rate environment in 2025 could drive increased risk appetite and potentially boost demand for crypto ETPs. The impact of geopolitical events, such as regulatory crackdowns in certain countries or the adoption of crypto-friendly policies in others, can also significantly affect global crypto ETP flows.

Moreover, the potential launch of Central Bank Digital Currencies (CBDCs) in major economies could have far-reaching implications for the crypto ecosystem and, by extension, crypto ETPs. As these global factors evolve, they will continue to shape investor sentiment and capital flows in the crypto ETP market.

■ **Investor Education and Accessibility**

As crypto ETPs become more mainstream, there's an increasing focus on investor education and improving accessibility. For example, major asset managers like BlackRock and Fidelity have launched extensive educational initiatives alongside their crypto ETP offerings, helping investors understand the unique characteristics and risks of crypto assets.

Looking ahead, we may see the development of more user-friendly interfaces for crypto ETP trading, integration with robo-advisors, and simplified product structures aimed at mass-market adoption. The challenge of bridging the knowledge gap between traditional finance and the crypto world will remain crucial for the continued growth and adoption of crypto ETPs.

■ **Geopolitical Influences**

Geopolitical factors are playing an increasingly important role in shaping the global crypto ETP landscape. For instance, Hong Kong's approval of spot Bitcoin and Ethereum ETFs in April 2024 positioned it as a leader in Asia's crypto financial market, potentially influencing other countries in the region. The ongoing regulatory divergence between different

jurisdictions, such as the more crypto-friendly approach in countries like Switzerland, Dubai, and UAE, compared to stricter regulations in China, creates a complex global landscape for crypto ETP issuers and investors. As the world's largest financial market, the U.S. holds outsized influence, and the stance taken by the Trump administration will have ripple effects on other jurisdictions. This is especially true given the substantial investments crypto lobbies have made in his re-election campaign, highlighting the pivotal role of U.S. policy in defining the global crypto landscape.

Future geopolitical shifts, such as changes in government attitudes towards crypto in major economies or the use of crypto assets to circumvent international sanctions, could significantly impact the global distribution and adoption of crypto ETPs.

■ **Market Maturity and Liquidity**

As the crypto ETP market matures, we're seeing significant improvements in liquidity and price discovery mechanisms. By October 2024, global crypto ETP trading volumes reached \$57.2 billion, a 790% increase year-over-year. This increased liquidity is narrowing spreads and reducing trading costs for investors.

Adding to this market maturation, the launch of options on crypto spot ETFs in the U.S. represents another significant milestone. This development will introduce new hedging and trading strategies for institutional investors, potentially increasing market depth and sophistication. The introduction of options could also enhance price discovery mechanisms and provide additional tools for risk management in the crypto ETP ecosystem. As these options become available, we can expect further improvements in liquidity, more sophisticated market-making activities, and potentially the development of a robust derivatives market based on crypto ETPs. This evolution signifies the growing integration of crypto assets into traditional financial structures and the increasing maturity of the crypto ETP market.

Finally, with the new Trump administration and generally pro-crypto stance in Congress, we might see more traditional banks entering the space in an environment where the SEC's Staff Accounting Bulletin 121, which had previously discouraged banks from offering crypto custody services, may be revisited or repealed. This potential shift could lead to a more integrated and accessible crypto financial ecosystem, further expanding access of crypto ETPs to a broader investor base.

7. Conclusion

The 2024 crypto ETP landscape has witnessed unprecedented evolution, marked by significant regulatory breakthroughs, technological advancements, and institutional adoption. The approval of spot Bitcoin and Ethereum ETFs in the U.S. represented a pivotal moment, catalyzing a surge in global AUM and trading volumes. This milestone, coupled with innovative product launches and improved market infrastructure, has fundamentally transformed the accessibility and sophistication of crypto products.

The market's maturation is evident in several key developments: the integration of advanced transparency tools like on-chain verification systems, the emergence of diverse product offerings including thematic ETPs, and the growing participation of traditional financial institutions.

Looking ahead, the crypto ETP sector appears primed for further growth. The convergence of regulatory tailwinds and increasing institutional acceptance portends a future where crypto ETPs become an increasingly mainstream component of investment portfolios. However, this growth will likely be accompanied by new challenges, including the need for enhanced market infrastructure and improved investor education.

As the market continues to evolve, the success of crypto ETPs will depend on the industry's ability to maintain high standards of transparency, security, and compliance while innovating to meet evolving investor demands. In 2024, we saw the foundation being laid and the stage has been set for a more mature, accessible, and sophisticated crypto ETP ecosystem in the years ahead.

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