Global Economic Policy Lab

Cryptocurrency as a Speculative Asset
Regulatory Risks for Financial Stability

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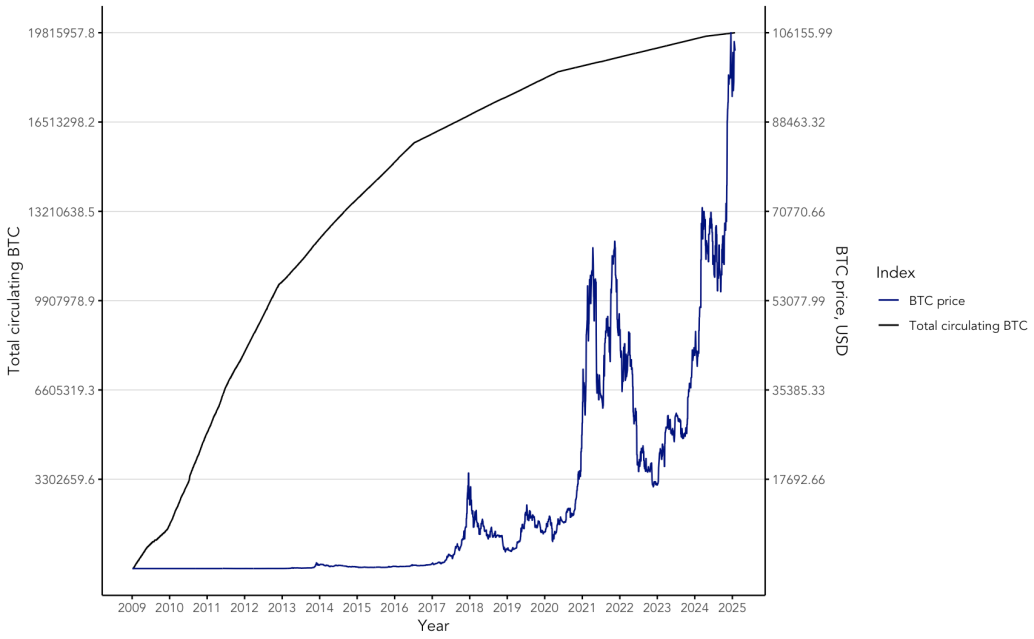
Overview
Introduction to Cryptocurrency Trading

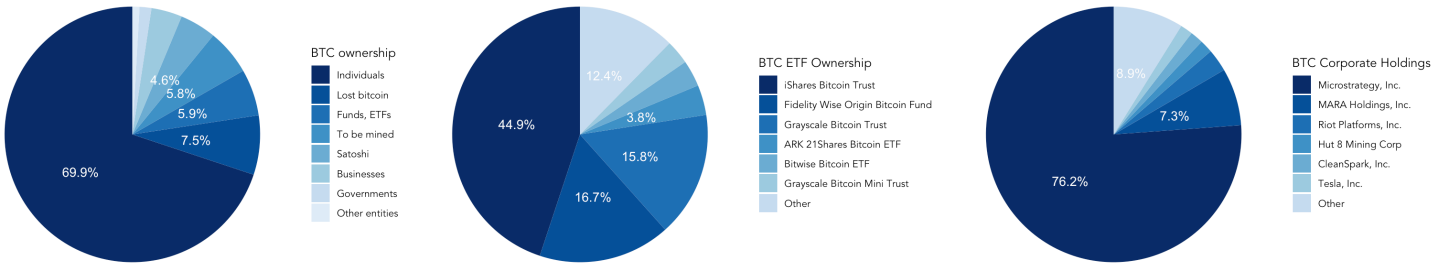
Cryptocurrencies and blockchain revolutionized the 21st century fintech, known for their transparency, free entry, security, and decentralization. Between December 2023 and December 2024, Bitcoin surged 145%, soaring from $43,300 to $106,160 and marking the greatest rally to date (Figure 1).

Figure 1. Bitcoin price and total circulation. Source: Blockchain.com.



The data reveals that while retail investors still hold the majority of Bitcoin (69.9%), institutional investment is growing as big players get involved in the current Bitcoin rally. BlackRock's iShares Bitcoin Trust (44.9%) leads the ETF market and MicroStrategy, Inc. (76.2%) dominates corporate holdings, signaling crypto mainstreaming (Figure 2).

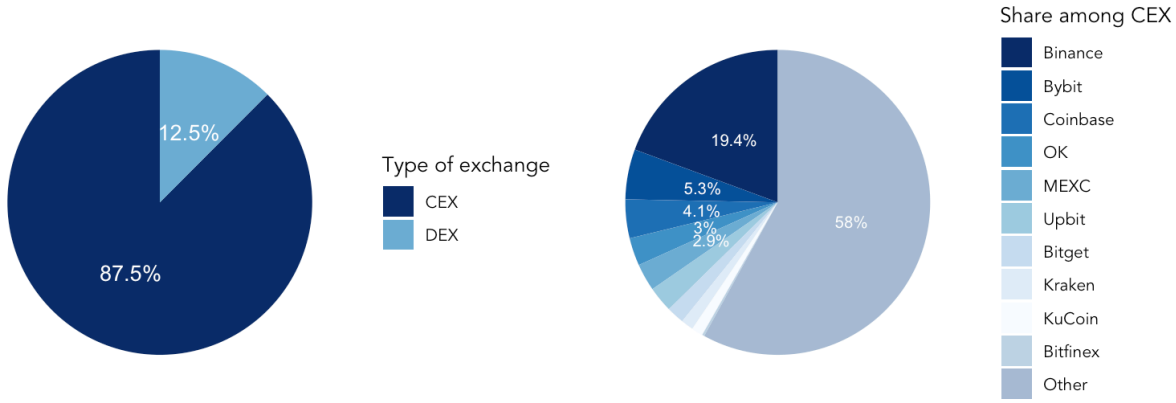
Figure 2. Bitcoin ownership. Source: BitcoinTreasuries, authors' calculations.



Despite the decentralization ethos, centralized exchanges (CEX) dominate the spot trading market, capturing 87.5% of total trading volume, with Binance alone holding 19.4% among CEX

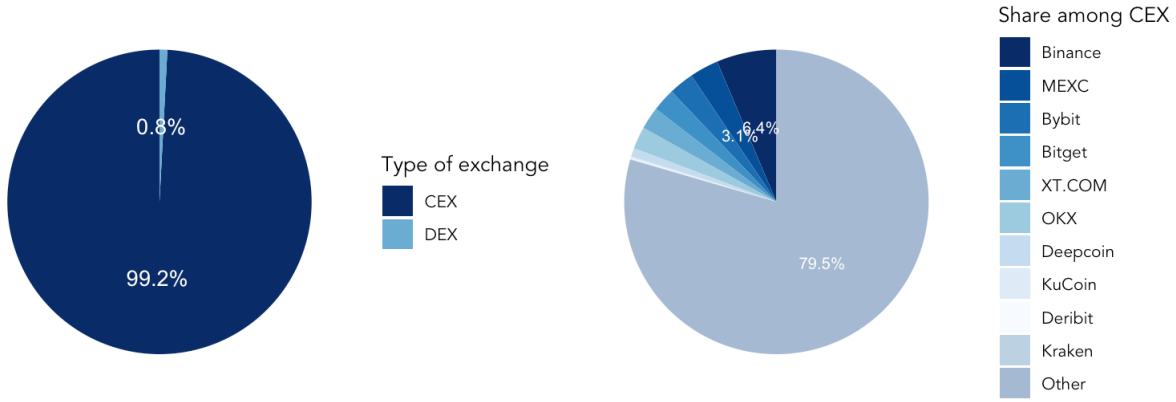
(Figure 3). This is the key paradox: while decentralized exchanges (DEX) exist as an alternative, traders still rely on CEX for liquidity and personal security.

Figure 3. Crypto spot market: top 50 CEX vs. top 50 DEX and distribution among the former. Source: CoinMarketCap, authors' calculations.



The CEX concentration is even more dramatic in derivatives, with centralized exchanges controlling 99.2% of total trading volume, leaving DEX with 0.8% (Figure 4). However, the distribution among CEX is more spread out, as Binance holds only 6.4%, compared to its dominant 19.4% share in the spot market. Smaller exchanges account for almost 80%.

Figure 4. Crypto derivatives market: CEX vs. DEX, shares among CEX. Source: CoinMarketCap, authors' calculations.



Although cryptocurrency trading is increasingly centralized, it retains its speculative reputation as a hedge against traditional assets. The following sections explore these characteristics and regulations addressing risks for financial stability.

Section 1:
Hedging and Speculation with Crypto Assets

While investment giants like BlackRock promote Bitcoin as a "unique diversifier," there is mixed evidence on crypto's hedging capacities. Cryptocurrencies are highly speculative due to their price swings, reliance on market sentiment, and limited reliance on traditional valuation metrics. Average daily volatility of major cryptocurrencies can be multiple times higher than that of established assets like gold or stock indices like the S&P 500, making them prone to rapid gains and losses within short periods.

Valuation of Cryptocurrency

Cryptocurrencies do not produce income, dividends, or coupons like securities. The conventional "intrinsic value" framework is typically inapplicable to crypto. Instead, its valuation depends on trust in the crypto ecosystem, like how fiat money relies on confidence in national economies, along with perceived value and market sentiment.

Instead of confidence in national economies, trust in cryptocurrencies is considerably connected with specifications and cybersecurity of blockchain technology. In particular, the current Bitcoin frenzy is strongly associated with the diminishing supply, which is capped at roughly 21 million (Figure 1). The blockchain's technical rigor inspired influential "supercycle" and "plumbing" theses, envisioning Bitcoin's perpetual appreciation and its mission in "fixing" inefficiencies in the global financial system.

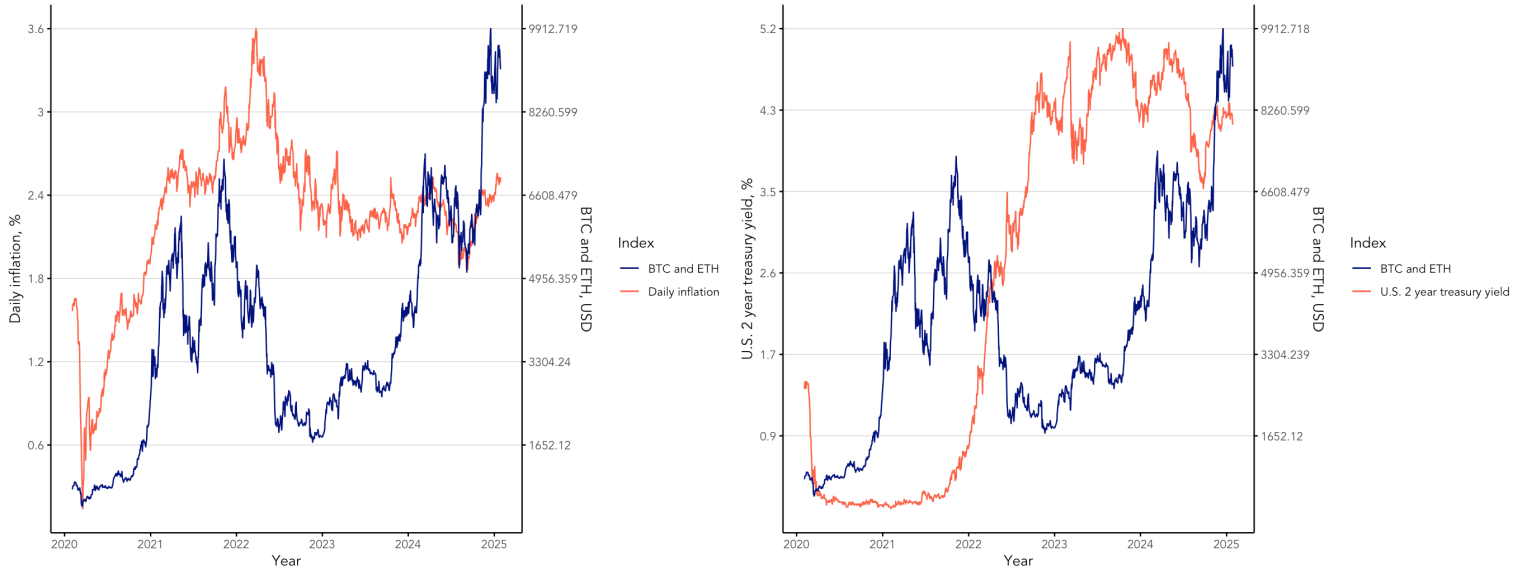
A notable exception to these animal spirits is stablecoins—cryptocurrencies that operate on similar blockchain technologies for ledger but are pegged to a reference asset or commodity.

Speculative and Hedging Efficacy

The hedging effects of digital assets are mostly short-term and activate during expectations of economic policy uncertainty. Crypto markets were reported to be highly sensitive to adjustments to monetary policy, with lower interest rates of two-year U.S. treasuries fueling price surges by increasing liquidity and risk appetite, while higher rates reduce investor demands. Additionally, M2 expansion boosted crypto prices by providing excess liquidity, whereas contractions in M2 coincided with downturns. Bitcoin was proven to appreciate in response to inflation shocks.

Our calculations show that the 2024 crypto rally has broken some of these patterns. Between January 2020 and December 2023, there remained minor but negative relationship between the S&P Cryptocurrency MegaCap Index, which tracks the performance of Bitcoin (BTC) and Ethereum (ETH), and two-year U.S. treasuries. However, since 2024, the correlation cultivated a positive value (0.28, $p < 0.01$). In turn, the inflation hedge has persisted through 2024: correlation stood at 0.53 ($p < 0.01$).

Figure 3. Performance of BTC and ETH in USD, U.S. inflation, and two-year U.S. treasuries. Sources: S&P, Federal Reserve Bank, Federal Reserve Board, authors' calculations.



Another angle to conditional hedging and speculation is a two-stage dynamic that occurs during the internal crypto crises (e.g., FTX exchange collapse, regulatory crackdowns on CEOs, or extreme volatility). At that point, a flight-to-cryptosafety occurs, where investors rush from volatile cryptocurrencies into stablecoins—USD-pegged cryptocurrencies like Tether (USDT) and USDC—seeking refuge while still staying within the crypto ecosystem.

Some researchers also noted that crypto does not hedge against stocks and positively correlates with Big Tech stocks. Indeed, the S&P Cryptocurrency MegaCap Index moves in tandem with the Magnificent Seven's total returns (Figure 4). The correlation between them is remarkably strong and statistically significant, standing at 0.86 ($p < 0.01$). In other words, on every $1 increase in the Magnificent Seven's stocks, two largest cryptocurrencies rise by $0.86. However, the percentage changes terms indicated a moderate correlation of 0.38 ($p < 0.01$), where a 10% increase in Magnificent Seven performance leads to a 3.8% surge in Bitcoin and Ethereum. These findings show that crypto may happen to appear in the portfolios of the same speculative investors.

Figure 4. Performance of BTC, ETH, and M7 stocks in USD. Sources: S&P, Bloomberg Terminal, authors' calculations.

Section 2:
Financial Instruments of Speculation: Crypto-Derivatives, Debt, and ETFs

Given the speculative nature of cryptocurrency, investors can partially shield themselves from volatility by gaining indirect exposure through crypto derivatives, debt instruments, and exchange-traded funds (ETFs).

Crypto Derivatives

Crypto futures hedge against price volatility. For instance, Bitcoin futures (with contract units of 5 BTC) trade 24/7 and offer price discovery. Cash-settled futures also allow traders to profit from price differences without holding Bitcoin, while physically settled contracts require actual asset delivery.

Pioneered by BitMEX and Binance Futures, perpetual swaps have no expiration and use a funding rate to maintain alignment with spot prices, allowing traders to hedge positions indefinitely without rollovers.

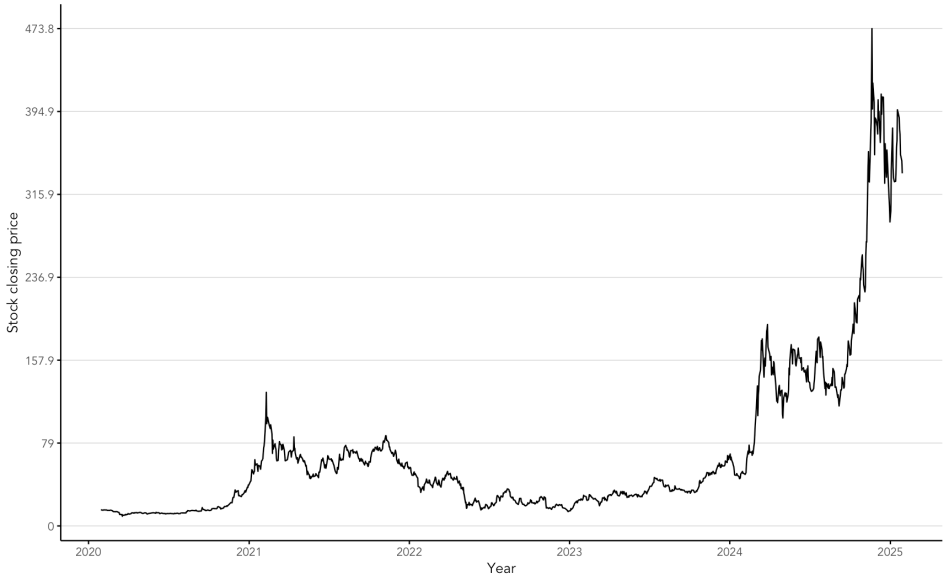
Crypto options allow traders to hedge volatility with protective puts or generate income through covered calls. High implied volatility leads to elevated premiums, offering hedging opportunities and potential profits for experienced individual and institutional investors.

The maturing interest in cryptocurrencies invites more investors to engage in crypto derivatives for indirect exposure to speculative capacities of crypto. According to a PwC survey, at least half of crypto hedge funds saw increased interest from institutional investors in 2024, as market preferences shifted from crypto spot trading—declining from 69% in 2023 to 25% in 2024—to derivatives, which surged from 38% to 58% over the same period.

Crypto Bonds: MicroStrategy and Others

Another emerging investment avenue is crypto bonds (not to be confused with smart bonds that utilize blockchain technology). Crypto bonds, as some observers define them, refer to convertible bonds that can be exchanged for shares in companies heavily invested in cryptocurrency or engaged in crypto mining. One of the greatest examples is MicroStrategy whose stock essentially became a proxy of trust in bitcoin.

Figure 5. MicroStrategy's stock closing price, USD. Source: NASDAQ.



Investors are buying MicroStrategy's zero-coupon, unsecured bonds due to their strong performance, potential stock conversion benefits, and the company's exposure to Bitcoin's surge. With Bitcoin prices up 145% since December 2023 and MicroStrategy shares soaring 450%, the stock trades at twice the value of its Bitcoin holdings. The company has funded Bitcoin purchases by issuing a record $6.2 billion in convertible debt in 2023, attracting investors who desires to speculate on its stock volatility and are ready to accept the risk given no collateral.

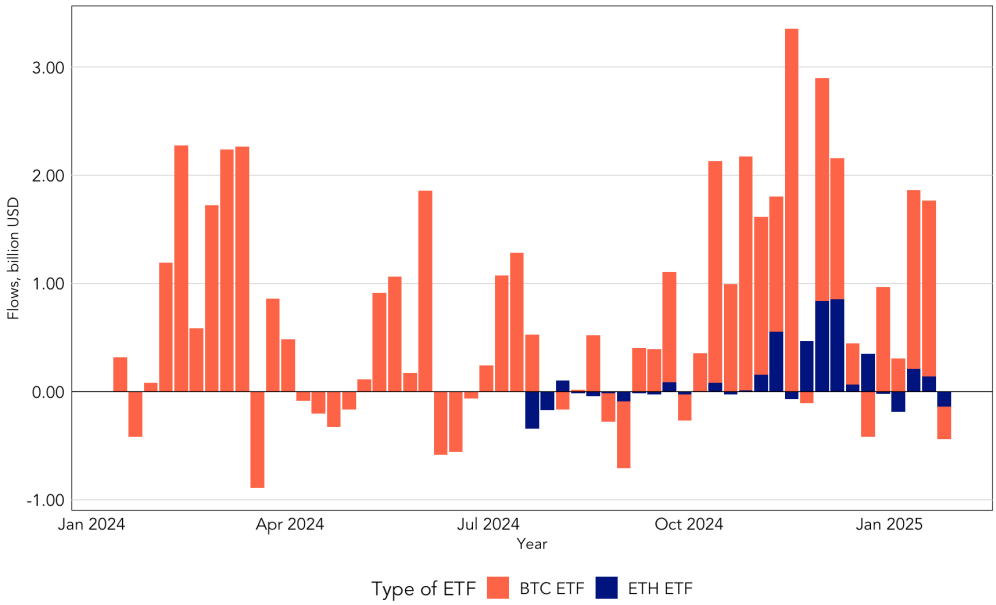
The model is becoming more and more popular, so some investors like Strive Asset Management have applied to create a special ETF that would trade crypto bonds akin to MicroStrategy's.

ETFs: A Gradual Expansion

A crypto ETF tracks the price of cryptocurrencies, allowing investors to gain exposure to digital assets without directly holding them. The first attempts involved indirect exposure through blockchain-related stocks and futures-based ETFs, such as the 2021 approval of Bitcoin futures ETFs in the U.S. The first spot Bitcoin ETFs was founded by BlackRock in 2024, allowing direct investment in Bitcoin itself.

This financial instrument becomes more accepted, accounting for 7.5% of all Bitcoin supply. Bitcoin ETFs enjoyed dominant inflows with periodic volatility, while Ethereum ETFs had smaller but increasingly visible movements, especially through late 2024. This suggests institutional interest in ETH, though BTC remains the preferred asset. The total assets under management of crypto ETFs are $131.5 billion as of January 2025.

Figure 6. BTC and ETH ETFs: weekly net inflows and outflows. Source: CoinMarketCap.



ETFs have had a positive effect on Bitcoin's speculative properties. The launch of the first crypto-futures ETF led to a temporary decline in Bitcoin futures' price efficiency due to shifts in investor composition by introducing institutional players but had no lasting impact on market efficiency or volatility. However, it improved market liquidity and increased concentration among participants, positively influencing short-term speculation by expanding trading activity.

Section 3:
Current Regulations and Risks: U.S. Case

The Second Trump Administration in the U.S. ushers in a wave of pro-crypto policies, including the rollback of SAB 121 (revoked with bipartisan support in 2024), the creation of a Presidential Working Group on digital asset markets led by David Sacks, and a potential commitment to strategic Bitcoin reserves. This swift policy shift is driving global policy diffusion, solidifying the U.S. as a frontrunner in crypto reform. Given its emerging role, we examine the U.S. case in this section.

Current State

The regulatory landscape for cryptocurrencies in the U.S. remains fractured, largely due to jurisdictional conflicts between the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC). The SEC claims that cryptocurrencies are securities which fall under its authority. Accordingly, crypto firms must register with the SEC before offering tokens to investors, comply with investor protection rules (transparency, financial reporting, and anti-fraud measures), and only be traded on SEC-regulated platforms. Unregistered cryptocurrencies will lead to lawsuits, substantial fines, and even bans from operating in the U.S. Firms like Ripple and Coinbase have faced legal battles over alleged securities violations.

The CFTC classifies cryptocurrencies as commodities like oil and gold. Unlike securities, cryptocurrencies do not require registration with the CFTC for issuance or trading. Also, spot (cash) markets—where crypto is bought and sold—are unregulated by the CFTC unless fraud or market manipulation is involved. However, this also implies that the CFTC can investigate and prosecute firms on the market under these circumstances, even if it does not have direct enforcement power.

Enacted in 2024, FIT 21 aims to provide a clearer categorization of cryptocurrencies by delineating the roles of the SEC and the CFTC. Cryptos that are both functional and decentralized are classified as digital commodities, falling under the CFTC's jurisdiction, in which a blockchain is deemed decentralized if no single part has unilateral control and no affiliated party holds more than 20% of the asset or its voting power. Cryptos that are functional but not decentralized are categorized as securities, falling under the SEC's jurisdiction. While FIT 21 is a major step forward, it still poses regulation gaps where firms can bypass the SEC's regulations, reducing transparency and increasing the risk of fraud. Critics also argue that FIT 21 lacks sufficient protections for consumers and investors. The exclusion of stablecoins also raises concerns about the adequacy of oversight, which plays a significant role in the crypto markets.

The Consumer Financial Protection Bureau's (CFPB) proposal to regulate digital wallets symmetrically to bank accounts indicates that penetration of crypto is far from gaining institutional momentum. The next subsection presents 13 old and new risks in crypto's way forward.

Unresolved and Emerging Risks

Risks of crypto speculation could be grouped two ways: asset-specific risks and derivative and investment vehicle risks.

Table 1. Matrix of asset-specific risks in crypto markets.

Risk	Unpegged crypto	Stablecoins	ICOs
Misclassification	+	+	+
Default	+	+/–	+
Due dilligence	+	+/–	+
Consumer rights	+	+/–	+
End-to-end breach	+	+	+
Crypto inflation	+	+/–	+
Contagion	+	+/–	+

Default is most evident in leveraging and crypto-backed loans. BIS found that 40% of leveraged retail crypto accounts received margin calls due to extreme leverage (i.e., up to 125x on exchanges). The absence of standardized financial disclosures in crypto markets makes it difficult for investors to assess risks. From 2017 to 2018, over 70% of initial coin offerings (ICOs) failed or underperformed due to poor oversight and misleading marketing. Unlike traditional banks, crypto assets are often uninsured, leaving investors without resources in the event of exchange failures.

Regulatory disparities regarding fraud further complicate consumer protections. It is reported that around USD 4 billion were reported stolen from exchanges, wallets, and DeFi platforms in 2022. Along with major breaches like the $600 million Ronin Network hack, crypto exchanges carry considerable systemic vulnerabilities, particularly in private key management. Stablecoins risk losing their peg to underlying assets. The TerraUSD (UST) collapse in 2022 eased $40 billion in the market. Even asset-backed stablecoins face instability, risking systemic contagion in DeFi markets. A key issue in stablecoin oversight is the composition of their reserves, particularly the reliance on risky assets like commercial paper and bonds instead of the claimed reference asset or commodity. This concern prompted VanEck's CEO to liken stablecoins to hedge funds.

All the assets are also exposed to misclassification and contagion. As exemplified in SEC vs. CFTC legal debate, there is a regulatory risk of incorrect categorization (e.g., as securities, commodities, or currencies), causing compliance challenges and misled enforcement actions. In light of these issues, Coinbase CEO suggested coming back to a decentralization test framework where securities include assets tied to fundraising efforts by centralized entities that require investor protections and SEC registration, commodities include sufficiently decentralized assets like Bitcoin

where no central group controls the asset, and other categories such as non-fungible token (NFT) artwork and stablecoins require distinct regulations.

Blockchain markets are highly interconnected, with DeFi tokens and cryptocurrencies showing an especially strong proneness to risk spillovers in both normal and extreme market conditions. Even NFTs, which are not analyzed in this brief, serve as volatility transmitters into both DeFi tokens and cryptocurrencies, particularly when NFT markets face large corrections or speculative bubbles. It is less applicable to stablecoins that serve as a safe haven in crypto crises. Yet, these assets increase demand for safe assets (U.S. treasuries and stocks), reduce bond yields, and transmit market stress, influencing liquidity, risk sentiment, and portfolio allocation in *both* digital and traditional finance.

Lastly, the supply of cryptocurrencies remains largely unregulated, leading to a "crypto multiplier" effect. Issuers face no mandatory supply cap unless explicitly defined by their blockchain protocols. Ethereum, the second-largest cryptocurrency, is particularly vulnerable to this crypto inflation risk. The absence of oversight in this area has enabled malicious practices, especially among crypto exchanges. The infamous FTX crash stemmed from overissuing its native token, FTT, and retaining a large portion within the company and its affiliate, Alameda Research. This allowed FTX to inflate FTT's value and use it as collateral for risky loans. When FTT's price fell, FTX became insolvent, causing a crypto contagion.

Table 2. Matrix of derivative and investment vehicle risks in crypto markets.

Risk	Derivatives	Bonds	ETFs
Under-collateralization	+/–	+	+
Price decoupling/contango	+/–	+	+/–
Front-running	+/–	+	+
Liquidity traps	–	+	+
Overleverage	–	+	+/–
Custodian risk	+/–	+	+/–

Regarding crypto bonds, risks are closely related. MicroStrategy's 0% convertible bonds have zero collateral, meaning lenders cannot claim assets in case of default, but a breach of financial covenants could still trigger a recall. To manage this risk, the company continuously refinances its debt through Bitcoin and plans to raise $2 billion in preferred stock to avoid liquidity trap. So far, this strategy has brought about overperformance relative to Bitcoin—not the negative price decoupling people usually have in mind—but at the cost of the largest-ever convertible debt issued by one company. As a result, the emerging tax issues of the company may erode confidence and force a debt crisis. If forced now to sell Bitcoin to cover taxes on unrealized gains,

MicroStrategy's credit rating may decline, raising the cost of future crypto bond issuance forcing a contagion (MicroStrategy holds 2.24% of all BTC).

ETFs have been the safest way to gain indirect exposure to cryptocurrency, as risk ownership is attributed to asset managers. In general, digital asset funds inclined to answer that regulatory uncertainty (56%) was the most pressing challenge. However, other key concerns included custody (9%) and excessive leverage (7%), confirming our considerations. Crypto ETFs deal with price decoupling when deviations occur between an ETF's performance and its underlying assets due to futures contangos, fees, and rebalancing. Overleverage to compensate for these losses amplifies both gains and losses, making funds vulnerable to extreme downturns. Custodian risk is increasingly mitigated in crypto ETFs compared to direct crypto holdings, as these ETFs rely on regulated custodians that host crypto in cold, multi-signature wallets and provide insurance.

Crypto derivatives follow the same principles, except that crypto ETFs were declined in collateral. Instead, crypto derivatives are typically backed by stablecoins. However, the Depository Trust and Clearing Corporation (DTCC) has ruled that crypto ETFs cannot be used for inter-entity settlements, remaining vague regarding individual brokerage.

Conclusion

Regulations of cryptocurrency exuberance requires a balanced approach that mitigates systemic risks while retaining competitive edge in financial innovation. Policymakers should prioritize:

- *Clear asset classification* to prevent regulatory arbitrage and contain contagion, ensuring that crypto assets are accurately categorized as securities, commodities, or alternative financial instruments.
- *Investor protection measures*—via stricter disclosure requirements (know-your-customer), leverage limits, and risk warnings, particularly during excessive crypto issuance—to curb panic in a bear market and safeguarding retail investors.
- *Stablecoin oversight* to address peg stability and reserve transparency to prevent transmission of contagion from digital to traditional finance.
- *Capital adequacy requirements* for derivatives and ETF regulations to avoid excessive leverage and speculative bubbles.
- *Minimal cybersecurity benchmarks* for custody to spread the safe practices, such as cold wallets and multi-signature storage.
- *Monitoring of crypto-banking ties* to mitigate financial stability risks, ensuring that digital assets do not amplify liquidity traps.