

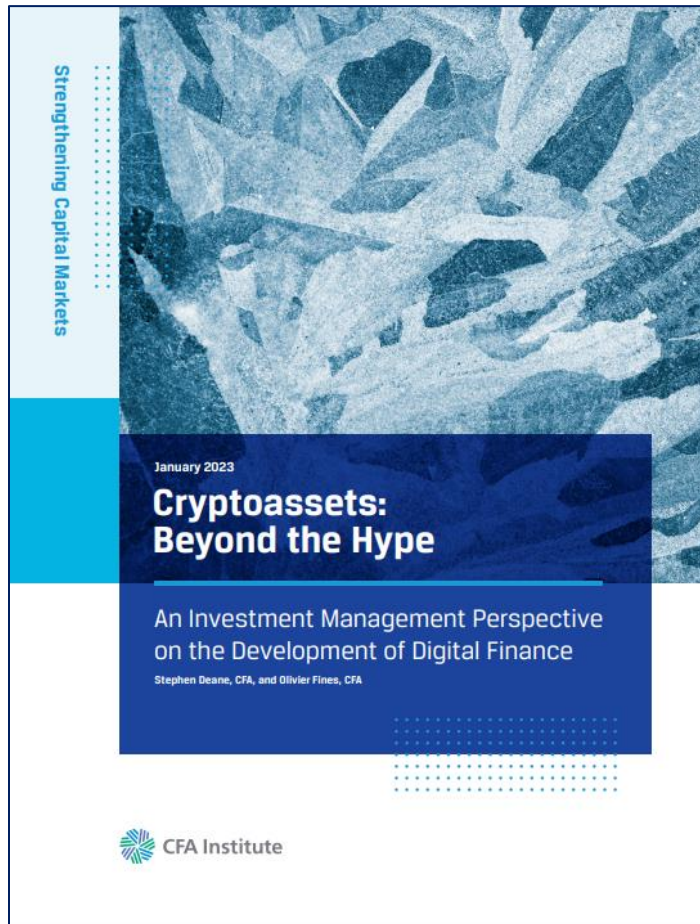
Cryptoassets: Beyond the Hype

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EMEA

Hosted by CFA Society of Luxembourg

15 June 2023

Our latest research on cryptoassets



- Pacify the analysis of cryptoassets and digital finance
- Discuss the three main problems we see at the moment, for investors:
 - Valuation
 - Fiduciary duty
 - Custody
- Provide recommendations to
 - Investors and fiduciaries
 - Regulators

A bit of economics history



Could crypto development be rooted in classical liberalism?

- **Adam Smith (1723-1790)**

1776 – The Wealth of Nations

Wealth creation has nothing to do with hoarding gold or currency (or Bitcoin?). Gold is just a commodity. Wealth creation is rather the quantity of goods and services that is made possible to produce and exchange thanks to the circulation of currency in a free market economy.

- **Irving Fisher (1867-1947)**

1911 – The Purchasing Power of Money (The Quantity Theory of Money) → $MV = PQ$

1928 – The Money Illusion

People tend to ignore the effects of inflation over time as a distortion of wealth accumulation.

- **F.A. Hayek (1899-1992)**

1976 – The Denationalisation of Money

Governments abuse their monopoly over money through inflation. Money should be privatised and become a competitive market where providers propose stable currencies.

A bit of economics history



... up to **Satoshi Nakamoto**

2008 – White paper on Bitcoin

The current financial system creates important frictions, resulting in high costs and delays. This is because it is based on trust, which has to be supported by intermediaries who centralised and validate transactions.

His idea was:

A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution.



A system no longer based on trust,
but rather on peer-to-peer cryptographically-verified exchanges.

However...

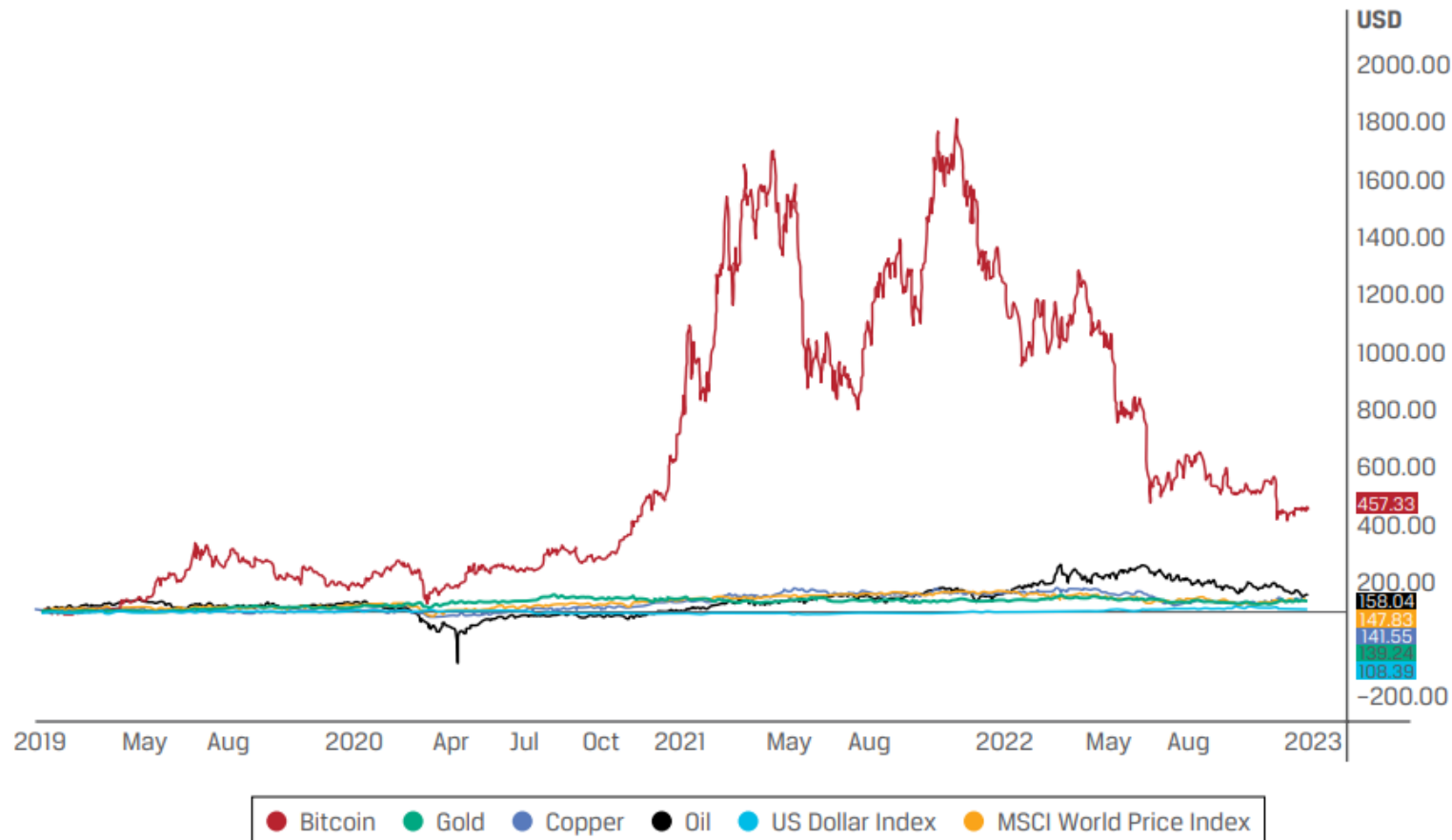


- Money has traditionally had three fundamental characteristics:
 - A medium of exchange
 - A unit of account
 - A store of value
- The problem is Bitcoin fails on at least one or two of these characteristics.

Bitcoin volatility



Exhibit 1. Bitcoin Price vs. Gold, USD Index, MSCI World, Copper, and Oil, January 2019–December 2022 (all denominated in USD; rebased 100)



How finance is divided



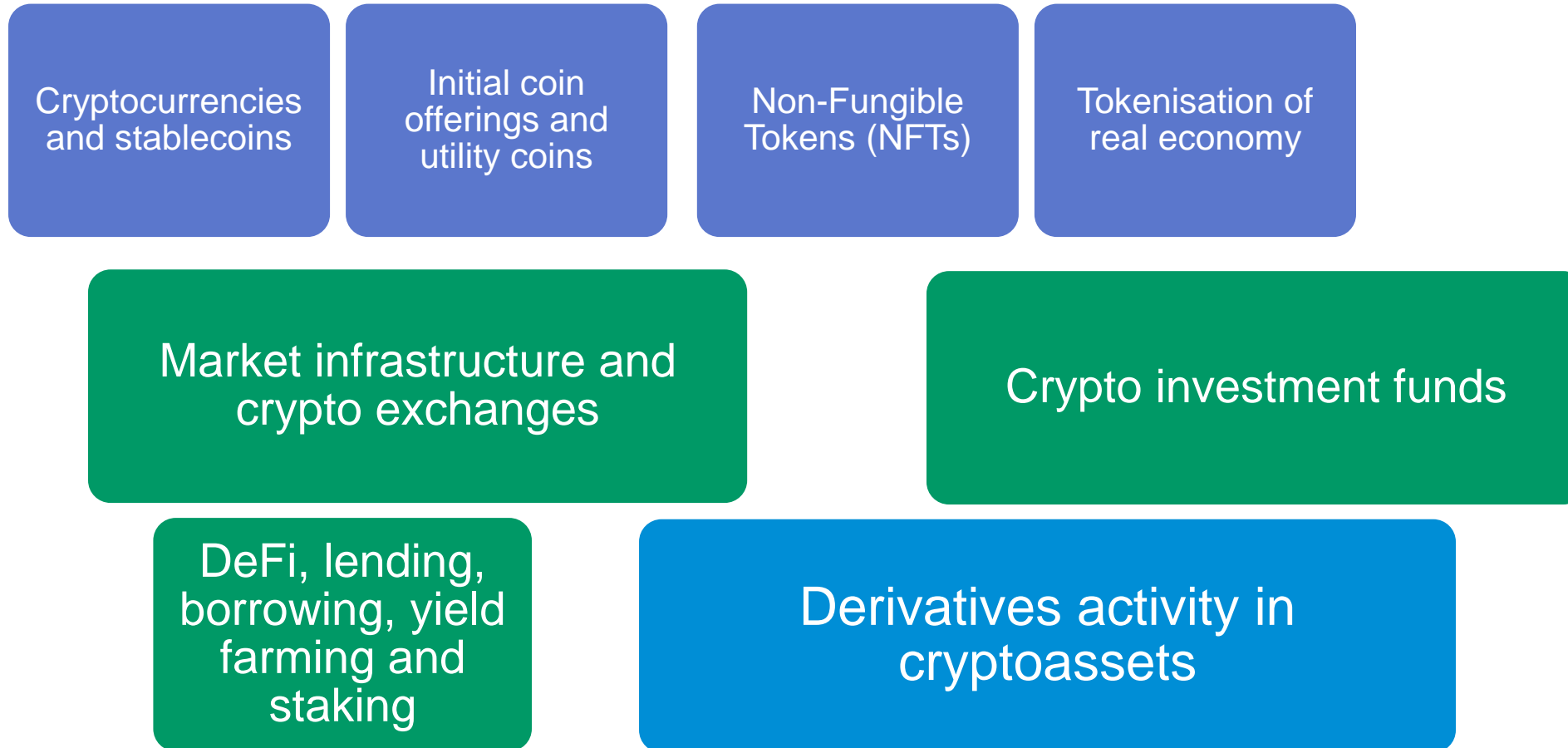
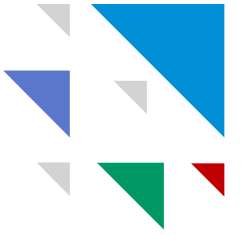
Traditional finance

- **Intermediated by financial institutions**
- Uses fiat money as means of exchange and unit of account
- Improved through financial technology
- You own shares or portions of financial or physical assets.
- Government enforces property rights

Digital finance

- **Assets are represented on the blockchain (DLT)**
- Vast and heterogeneous universe
- Decentralised
- But varying degree of decentralization
- You own blocks on a distributed ledger not centrally administered
- Property rights unclear

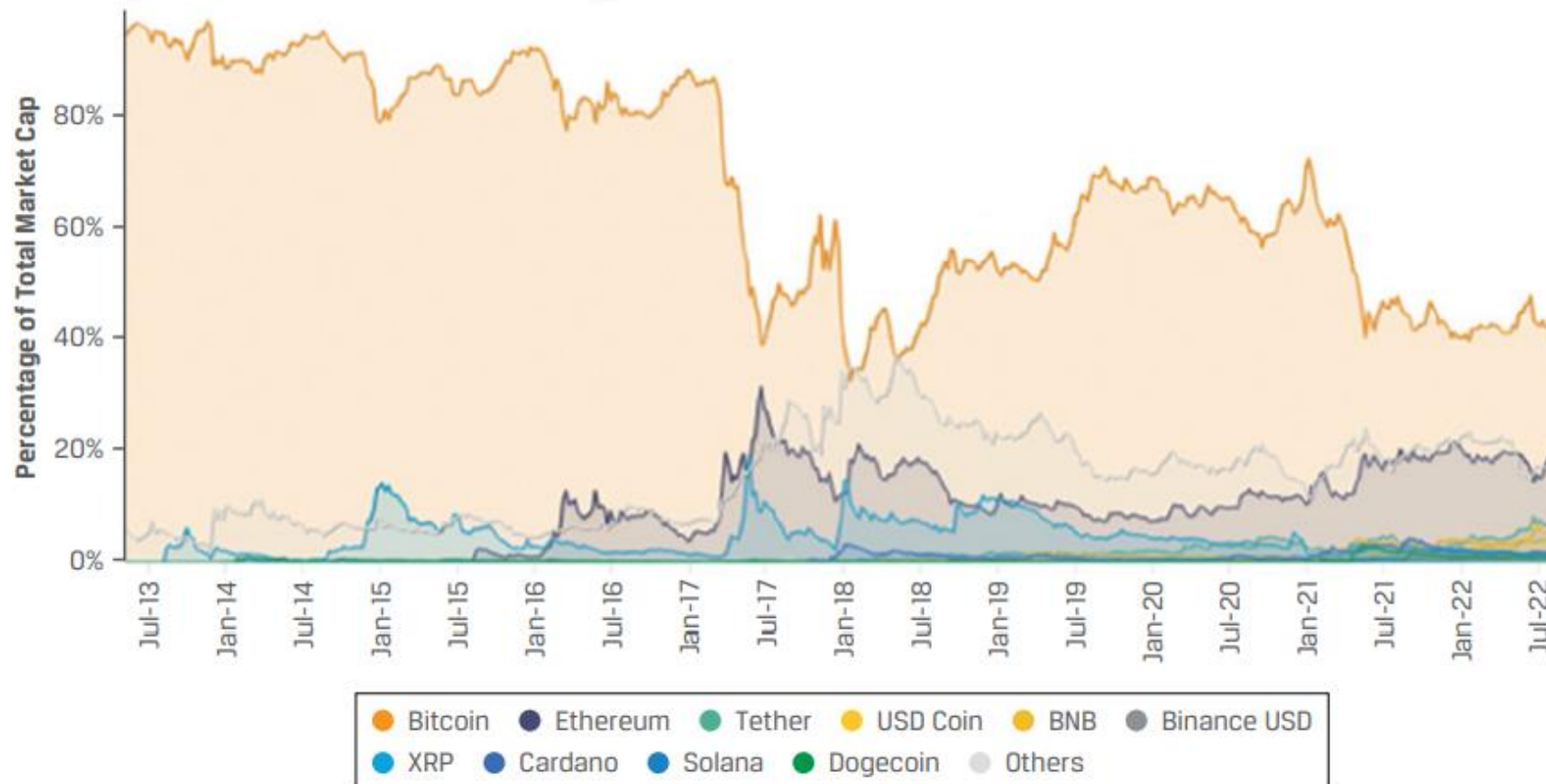
A complex and heterogeneous digital finance ecosystem



Major cryptoassets by market cap



Exhibit 3. Major Cryptocurrencies by Percentage of Total Market Capitalization



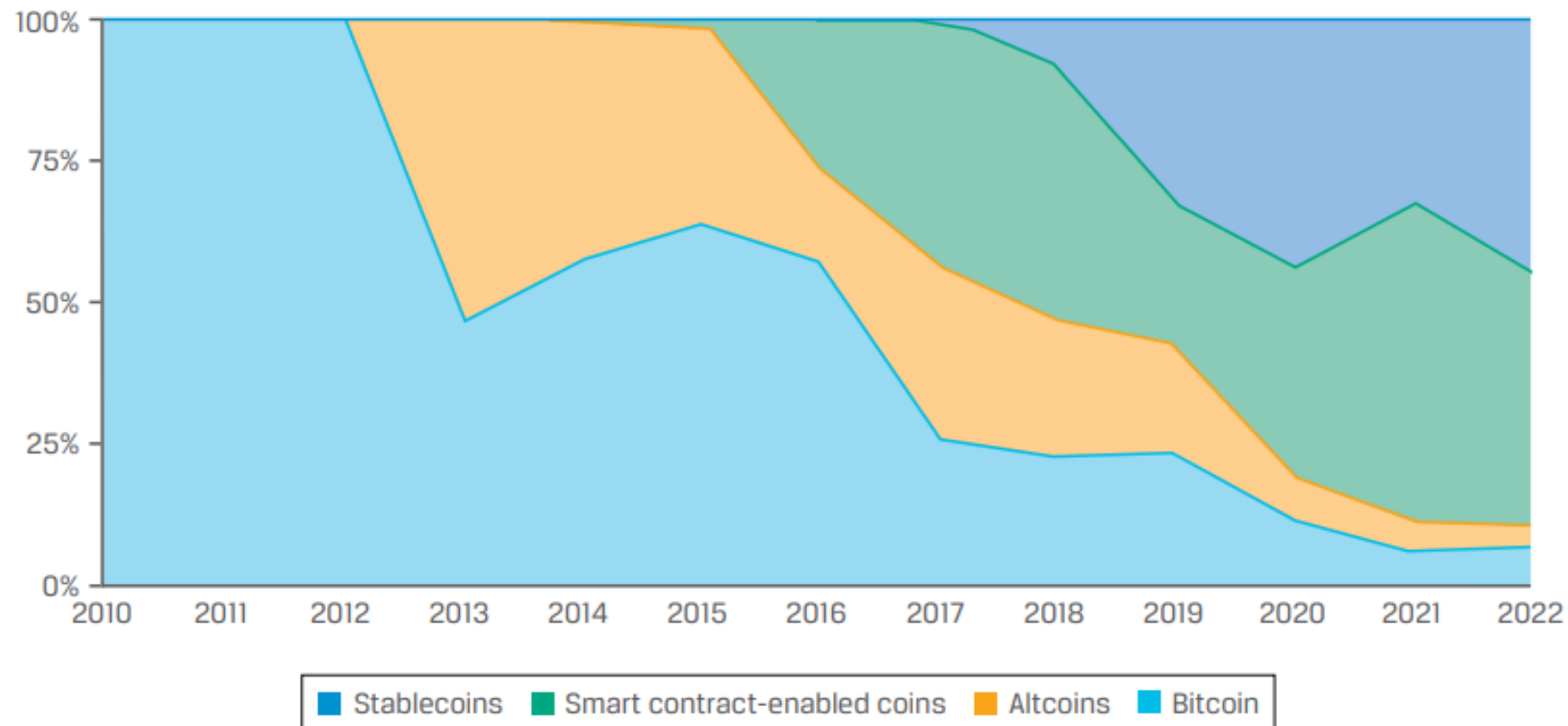
Note: The key is ordered from top to bottom, with Bitcoin at the top.

Source: CoinMarketCap (<https://coinmarketcap.com>).

Share of total transaction volumes



Exhibit 4. Share of Total Transaction Volume by Instrument Type, 2010–2022



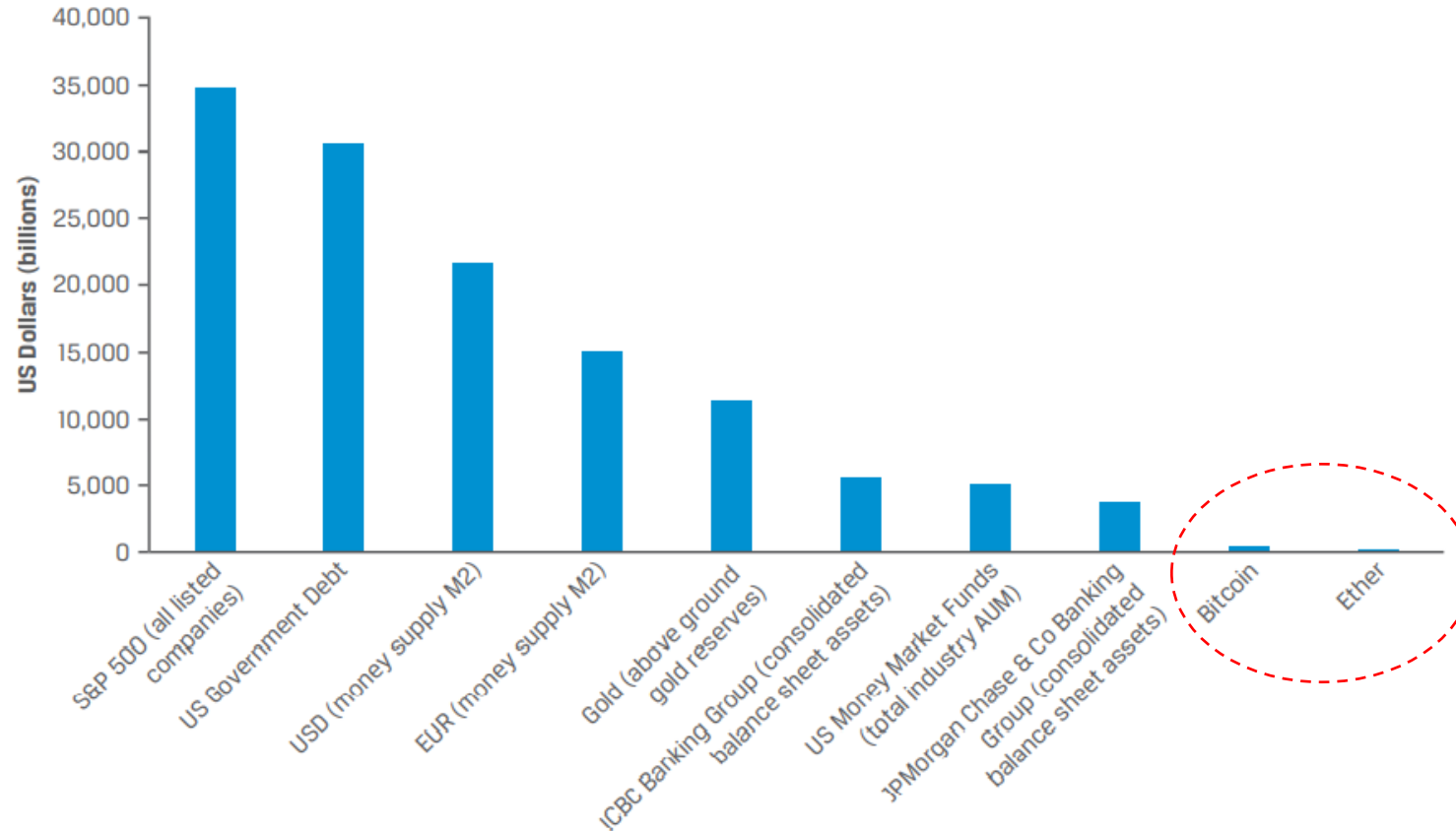
Note: In general, altcoins are defined as all cryptocurrencies other than bitcoin.

Source: Chainalysis (www.chainalysis.com).

A comparison with traditional finance



Exhibit 5. Cryptocurrencies Compared with the Size of Other Markets, 24 August 2022 (USD billions)



Sources: World Gold Council (www.gold.org); Compare Forex Brokers (www.compareforexbrokers.com/forex-trading/statistics/); CoinMarketCap (<https://coinmarketcap.com>); Statista (www.statista.com); Office of Financial Research (www.financialresearch.gov/money-market-funds/us-mmfs-investments-by-fund-category/); ICBC (<https://www.icbc.com.cn/ICBC/en/default.htm>); J.P. Morgan (www.jpmorgan.com).

A comparison with traditional finance



Exhibit 6. Average Daily Trading Volume, 24 August 2022
(USD billions)

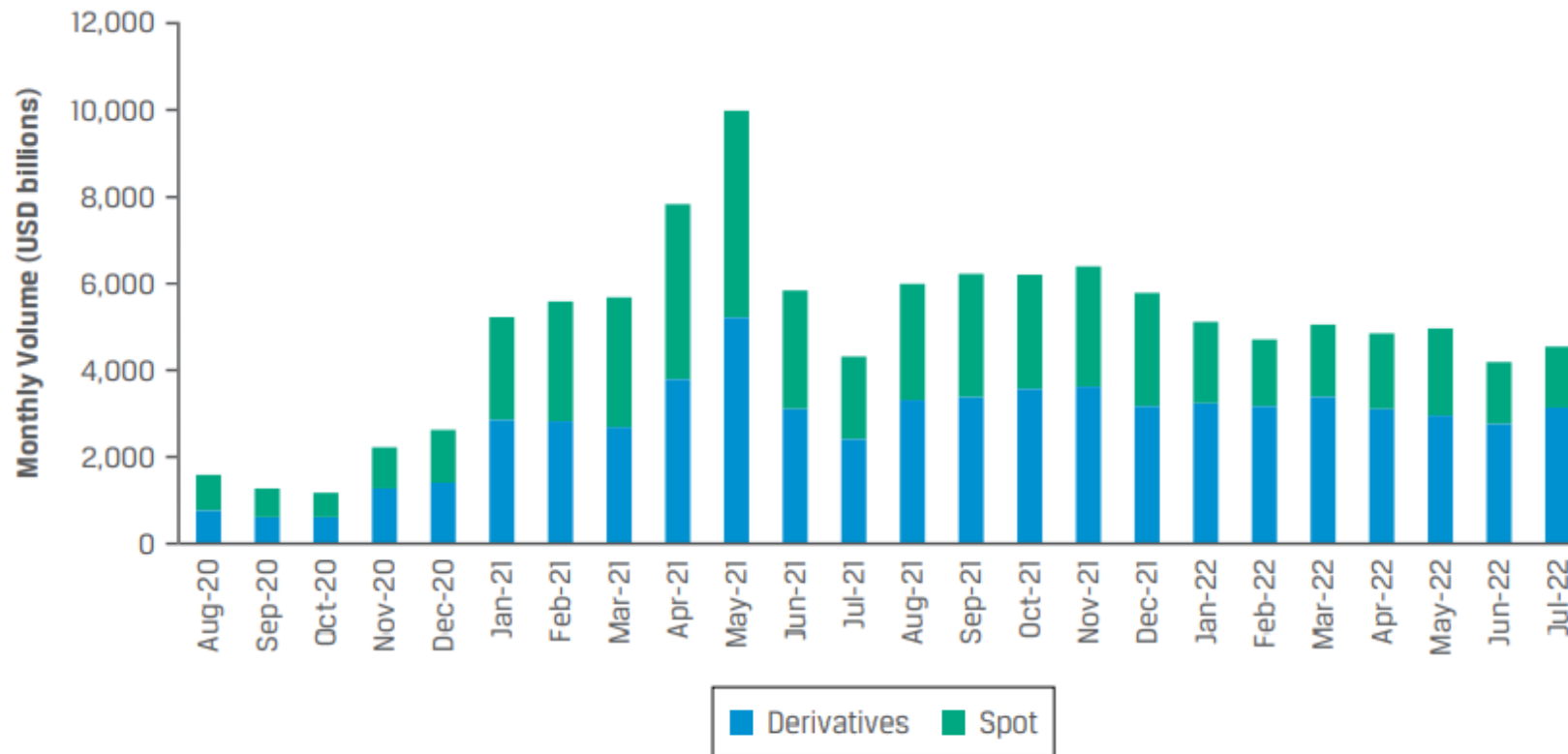
Asset Class or Instrument	Average Daily Trading Volumes (USD billions)
Global foreign exchange transactions	6,600.00
S&P 500 (constituent issuers)	694.00
US Treasury debt	550.00
Gold	130.90
Bitcoin	29.81
Ether	17.96

Sources: Bloomberg; World Gold Council (www.gold.org); Compare Forex Brokers (www.compareforexbrokers.com/forex-trading/statistics/); CoinMarketCap (<https://coinmarketcap.com>); Statista (www.statista.com); Office of Financial Research (www.financialresearch.gov/money-market-funds/us-mmfs-investments-by-fund-category/).

Spot vs derivatives activity in cryptoassets



Exhibit 11. Monthly Spot vs. Derivatives Trading Volumes in Crypto Assets, August 2020–July 2022 (USD billions)

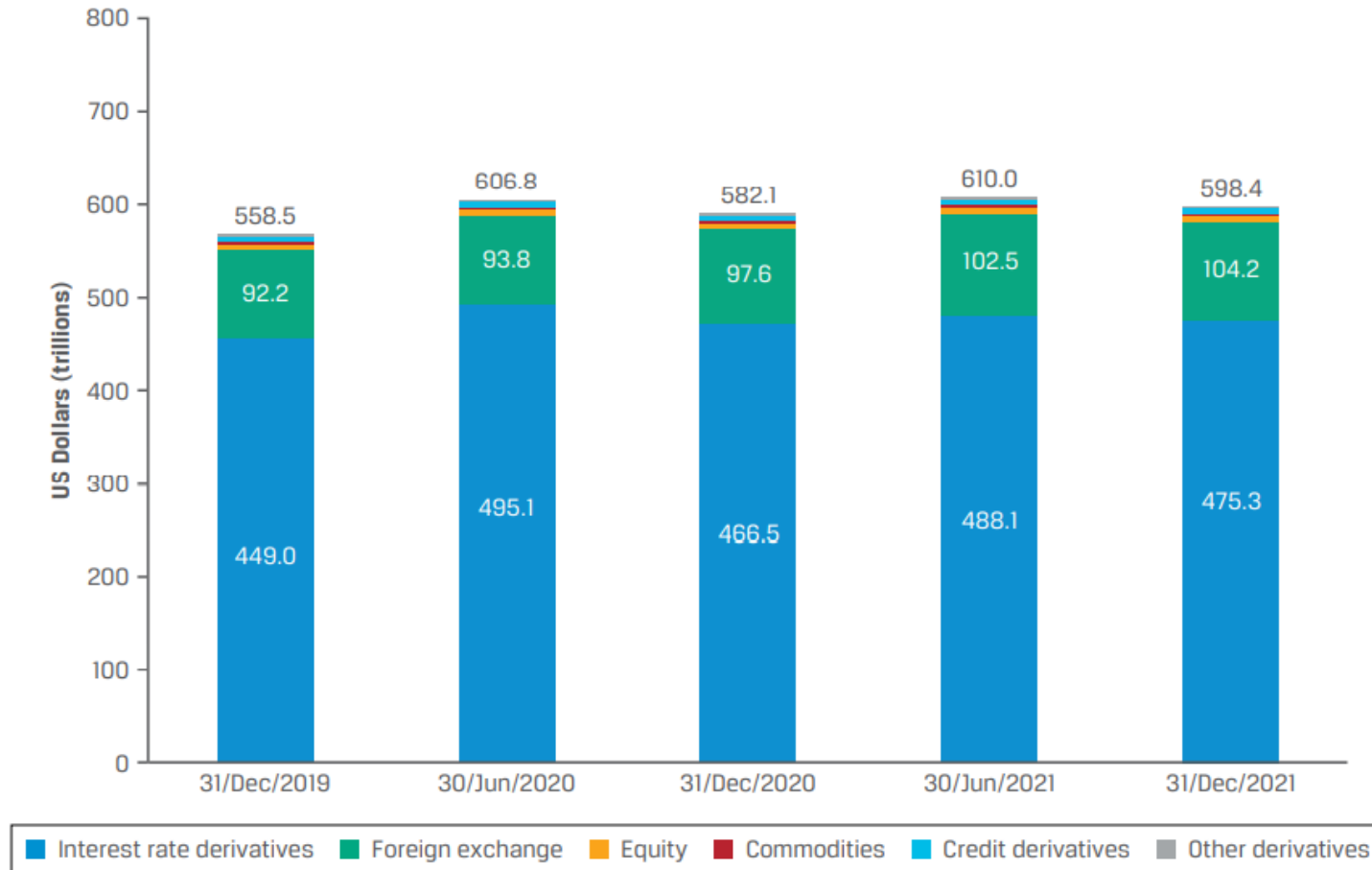


Source: CryptoCompare.

A comparison with traditional derivatives markets



Exhibit 13. Global OTC Derivatives Notional Outstanding (USD trillions)



The crypto conundrum for investors and regulators



- Regulation is still unclear
- **Are cryptoassets securities, commodities or currencies?**
- What are the risks for investors?
- If it is decentralized, who is responsible?
- Who is driving demand? Retail? Why?
- What is the real economic benefit crypto is proposing to offer?
- What are the use cases that could support the value of cryptoassets?
- Application of property rights unclear
- Could crypto cause financial instability?
- What is the investment case for crypto?

“Are cryptoassets securities, commodities or currencies?”



The SEC and the Howey Test – Recent events in the US

US Supreme Court (1946): an investment contract exists if there is an "*investment of money in a common enterprise with a reasonable expectation of profits to be derived from the efforts of others.*"

If yes, then a transaction is considered a security and subject to disclosure and registration requirements under the Securities Act of 1933 and the Securities Exchange Act of 1934.

On 5 June 2023, the SEC confirmed so much by suing Binance and Coinbase (FT.com)



A regulatory landscape that is still divided



EU

- **MiCA**, launched in 2023
- Regulation and authorization of Cryptoassets Service Providers (CASPs)
- Focused on utility tokens (ICOs) and stablecoins – DeFi not covered
- Unclear how bitcoin and ether are covered
- The problem of the issuing entity is not resolved

US

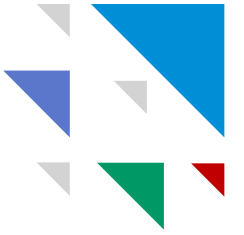
- Framework for cryptoassets still lingering between legislator and regulators
- So far, approach has been to enforce SEC and CFTC rules through litigation
- Congress proposed the **Digital Asset Market Structure Discussion Draft** in June 2023
- Notion of decentralization key to determining SEC or CFTC jurisdiction
- Issuing entity defined as the entity responsible for the code – DeFi also not covered

UK

- Treasury has proposed a **Regulatory Regime for Cryptoassets** in January 2023
- Simplest approach as brings all cryptoassets within existing financial regulation
- Issuing entity would be the exchange listing the token if decentralised

**Different
approaches
on definitions
and scope**

3 main issues for investors and fiduciaries



- What is the intrinsic value of cryptoassets?
- How to justify cryptoassets from a fiduciary perspective?
- How to address the problem related to the custody and safekeeping of client assets?

Value may be related to use cases



The problem with the fundamental value of cryptoassets is that there are no real cash flows to speak of.

- We can use the theory of the network to value cryptoassets
- So, value may in fact have to relate to a series of current or future use cases:
 - A store of value
 - Alternate forms of money or currency
 - A source of funding for illicit activities
 - Investment and speculation
 - Tokenisation of the economy and processes
 - Smart contracts
 - DeFi, lending and borrowing

Is Bitcoin really a store of value?

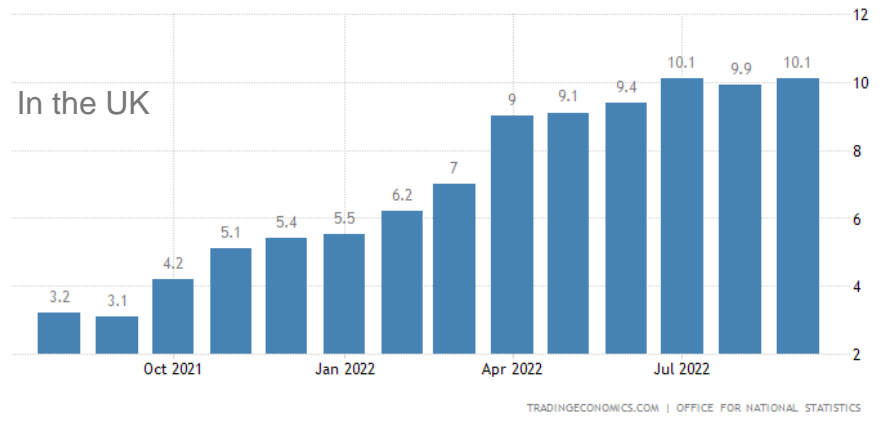
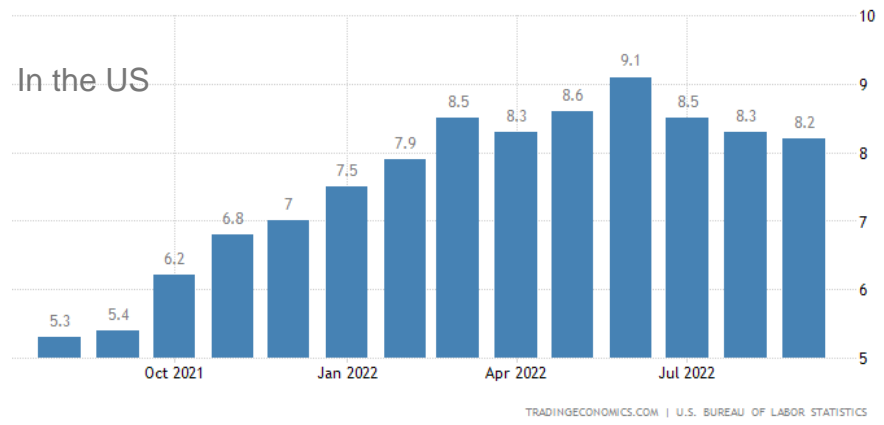


Exhibit 16. Relative Performance of Gold (XAU), Bitcoin (BTC), and the U.S. Dollar Index over a One-Year Rolling Period, as of 5 September 2022



Source: Refinitiv, an LSEG business (www.refinitiv.com/en).

While inflation was behaving like below (annual rates) over the same period:



What is really driving the market price of crypto?



The role of crypto whales – E.g. 5 Feb 2023 market moves

Crypto trading volume rises by 25.9% due to whale moves

February 6, 2023 at 11:18 am by [Samuel Mbaki Wanjiku](#)

ALTCOINS

Bitcoin: Net Transfer Volume from/to Exchanges Breakdown by Size [USD] - Gate.io



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JUST IN: Over \$120,000,000 worth of [#Bitcoin](#) has been withdrawn out of [Gate.io](#) exchange by a single entity, the second largest in its history.

11:39 pm · 5 Feb 2023 · 193.8K Views

153 Retweets · 20 Quote Tweets · 707 Likes

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XRP Snaki... @XrpS... · 5 Feb
Replying to @WhaleWire
Please tell me, is this a true story?

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Mr. W... @Whale... · 5 Feb
Replying to @XrpSnakie
Yes! Very true. Looks like some big whales moving their Bitcoin!

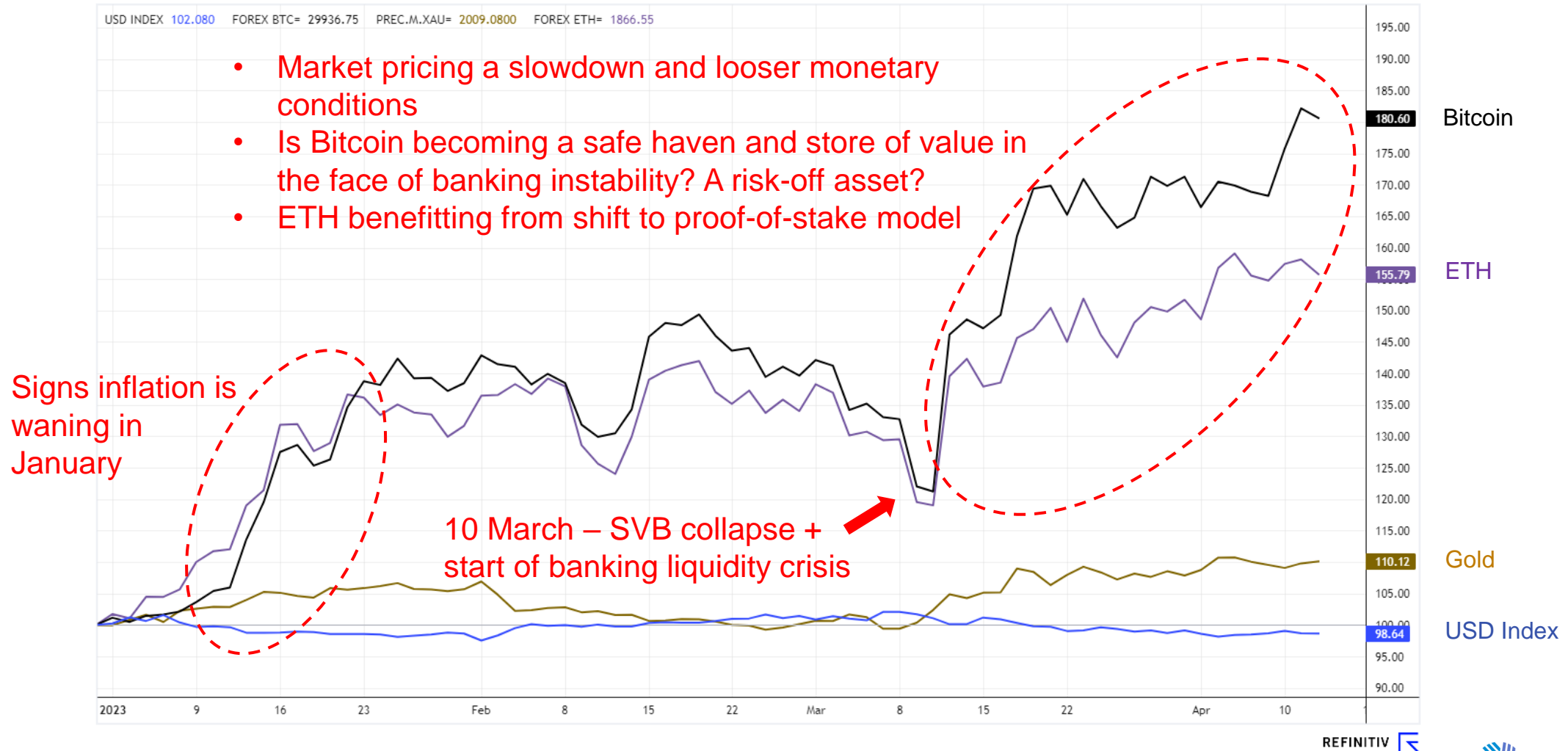
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Show replies

Faisal ... @babu... · 6 Feb

What happened YTD in 2023?

Are there contradictory signals?

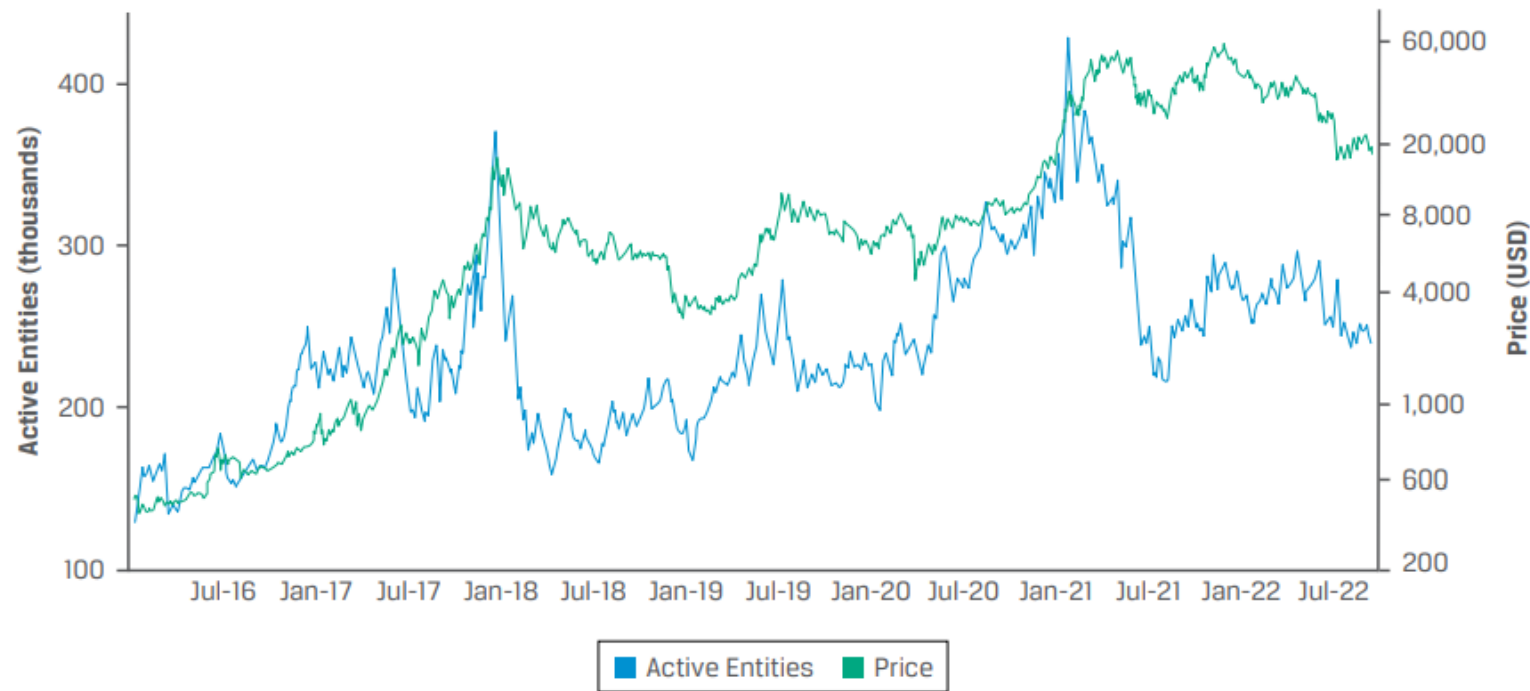


Bitcoin: number of active entities vs price



Is there an underlying relationship based on momentum rather than fundamentals?

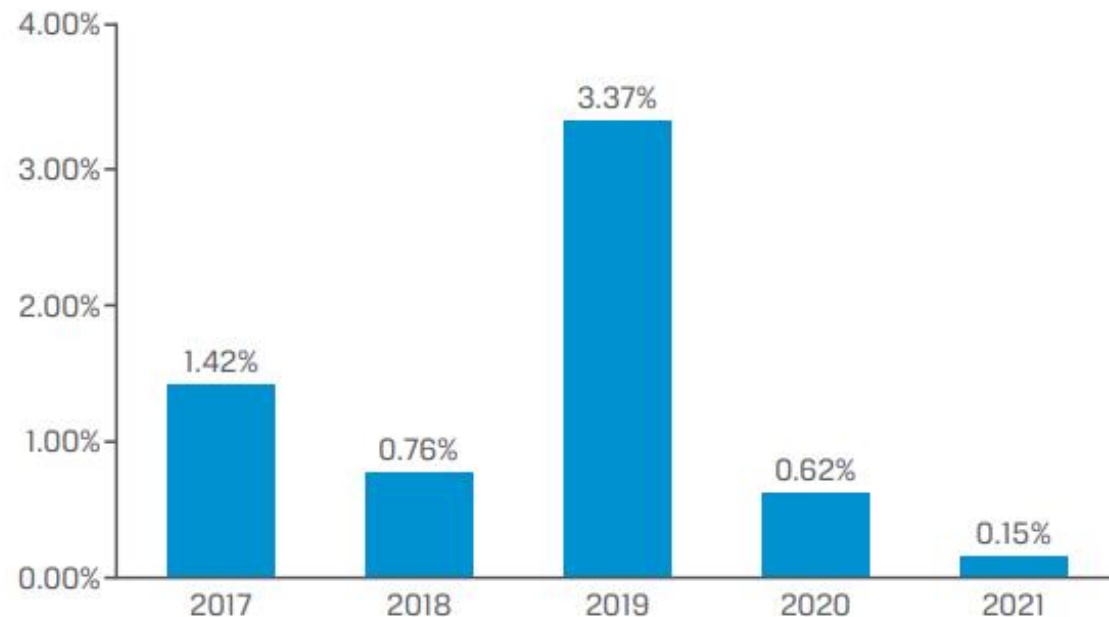
Exhibit 17. Bitcoin: Number of Active Entities (seven-day moving average), 2015–2022



Illicit activity possibly overestimated



Exhibit 18. Illicit Share of All Cryptocurrency Transaction Volume, 2017–2021



Data focused on cyberactivity specifically related to crime or identified as such.

However, we believe authorities should also consider grey areas of cyberactivity used to evade taxes, capital controls, or regulation. They are more difficult to measure.

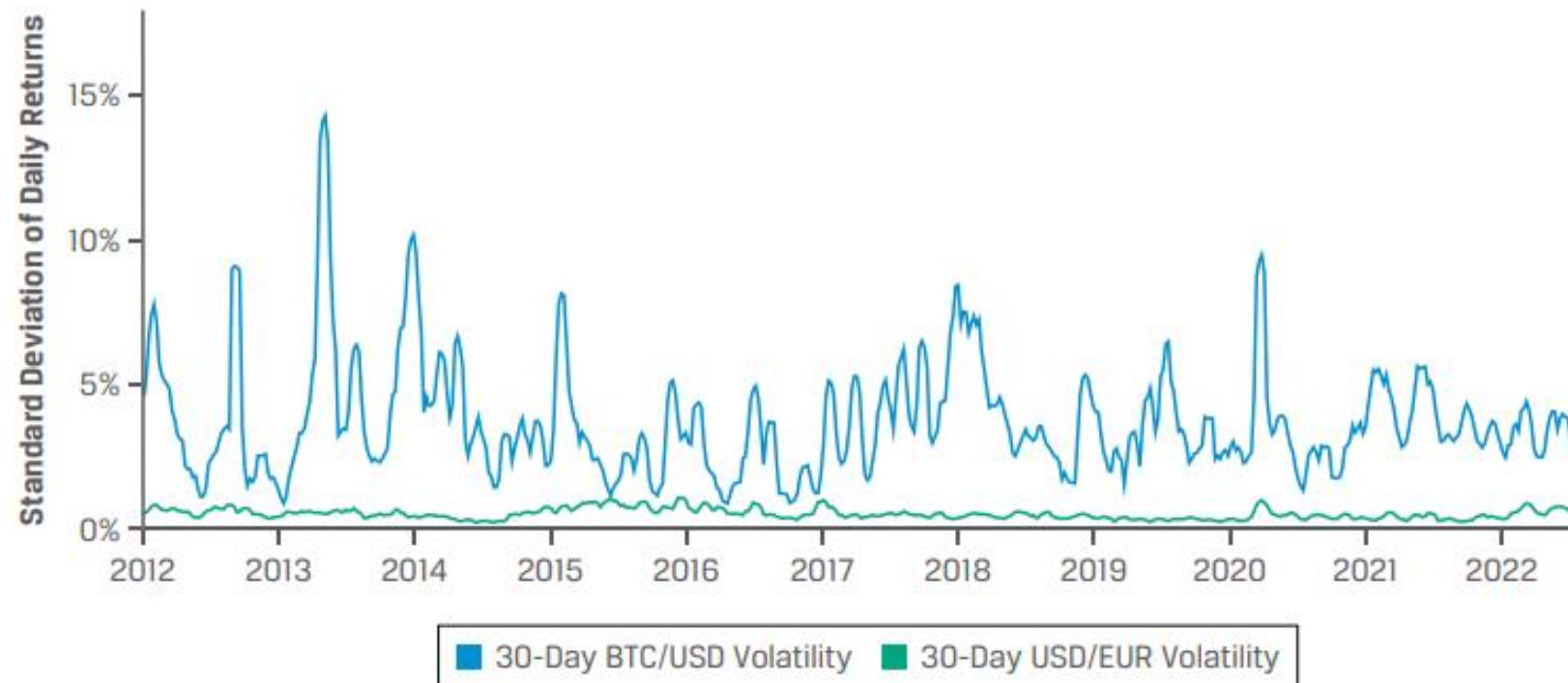
Source: Chainalysis (www.chainalysis.com).

For comparison purposes, the United Nations estimates the amount of money laundered globally on a yearly basis ranges from 2% to 5% of global GDP, or between USD800 billion and USD2 trillion in volume.

Bitcoin volatility can be difficult to explain



Exhibit 19. Bitcoin Volatility Time Series, 2012–2022



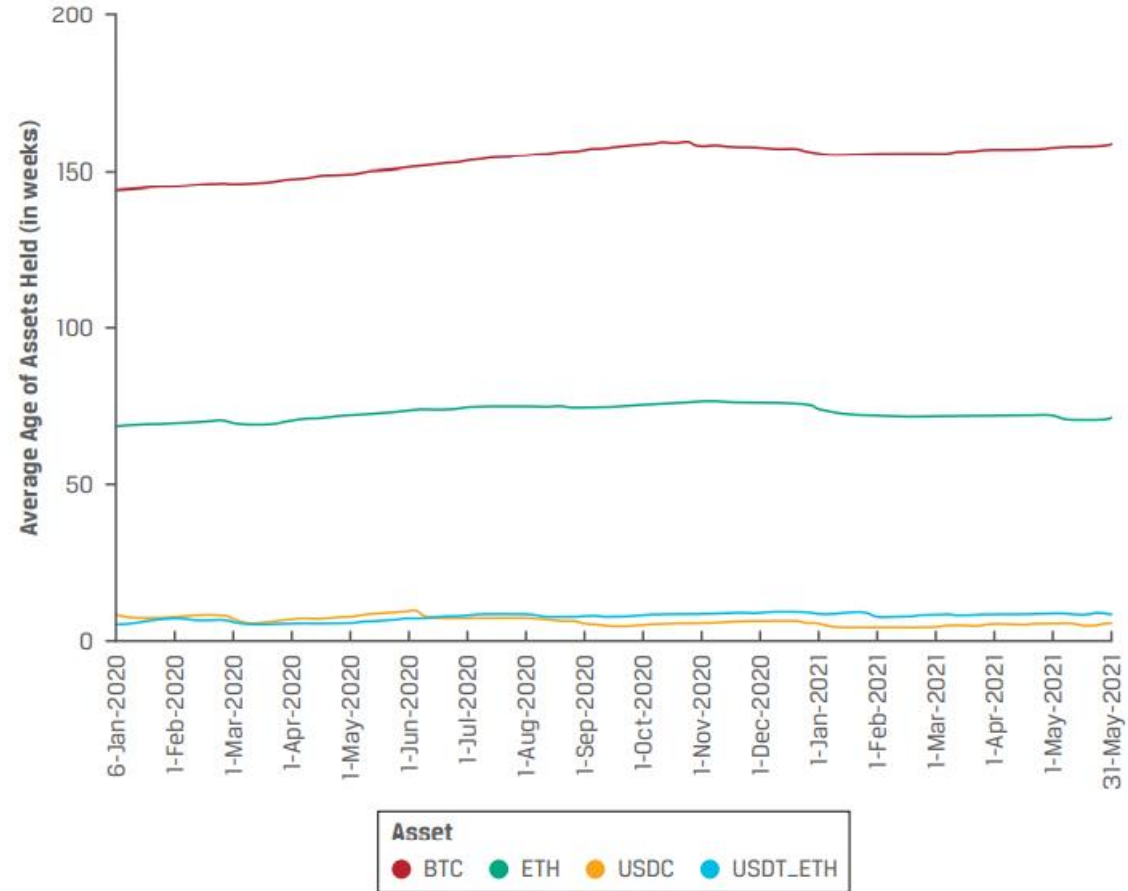
Note: See Buy Bitcoin Worldwide's Bitcoin Volatility Index at <https://buybitcoinworldwide.com/volatility-index/>.

Sources: Buy Bitcoin Worldwide (www.buybitcoinworldwide.com); CoinDesk (www.coindesk.com).

Different coins with different investment benefits



Exhibit 20. Average Age of Assets Held

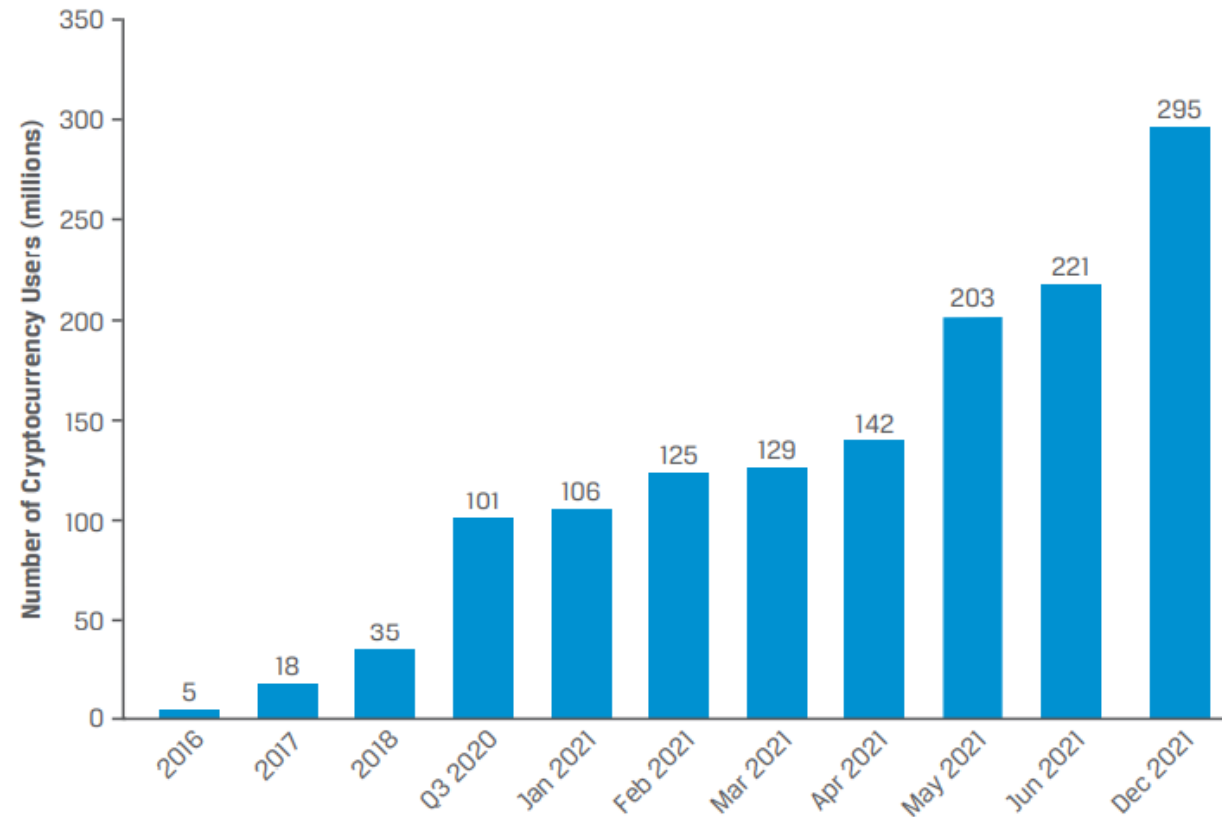


Source: Chainalysis, "Cryptocurrency Ecosystem Comparison: Bitcoin vs. Ethereum vs. Stablecoins" (1 July 2021). <https://blog.chainalysis.com/reports/cryptocurrency-ecosystem-bitcoin-ethereum-stablecoins/>.

Global number of crypto users

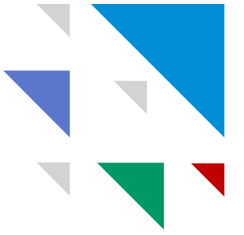


Exhibit 15. Number of Identity-Verified Cryptoasset Users, 2016–December 2021 (in millions)



Source: Statista (www.statista.com).

The network approach to value cryptoassets



- From Hougan and Lawant (2021), cryptoassets can be valued as a **network**. Value may be calibrated through the number of active users. So value is related to the access cryptoassets provide to a network.
- Metcalfe's Law. From Shapiro and Varian (1998):

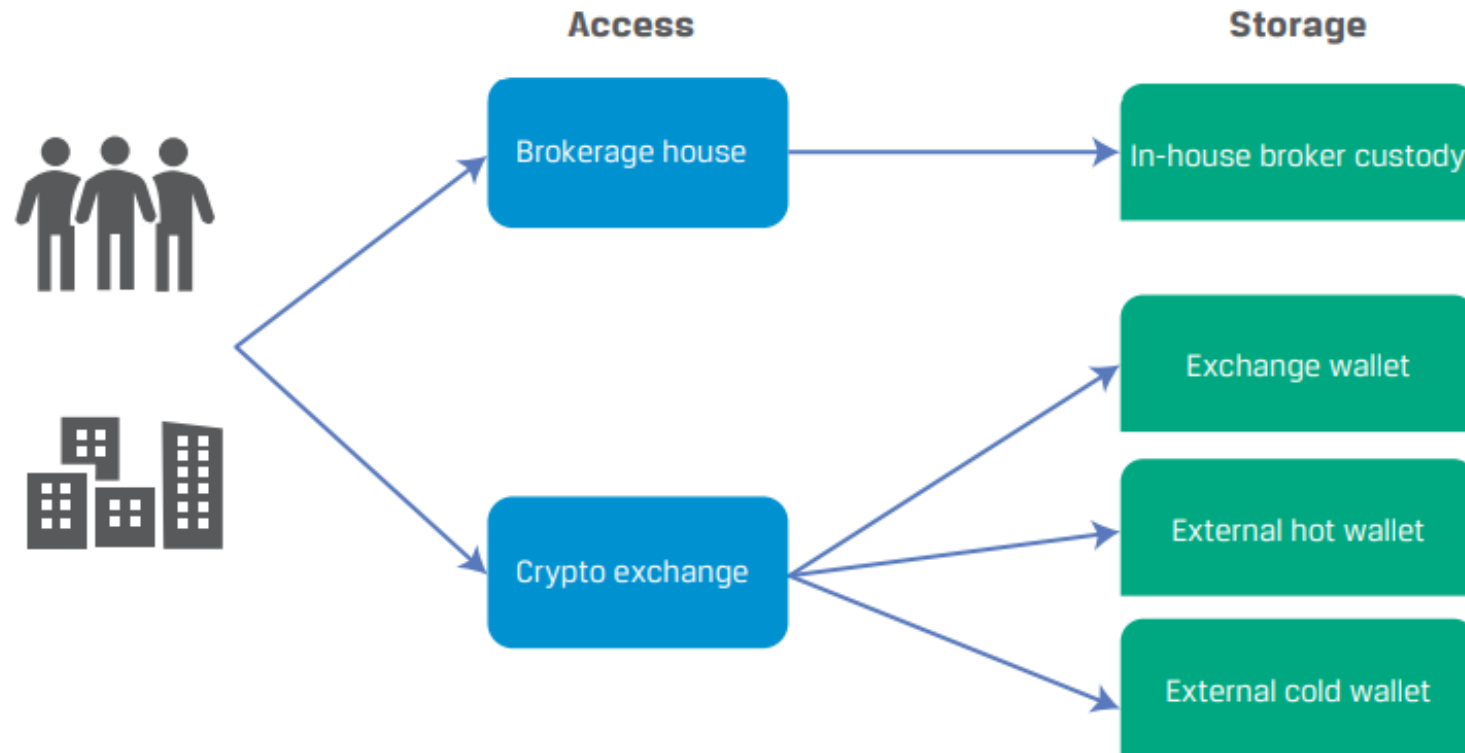
*The value of a network goes up
as the square of the number of users, or*

$$V = A(n^2)$$

The problem of custody



Exhibit 8. Architectural Logic of Investing in Cryptocurrencies, Considering Access and Storage



The problem of custody

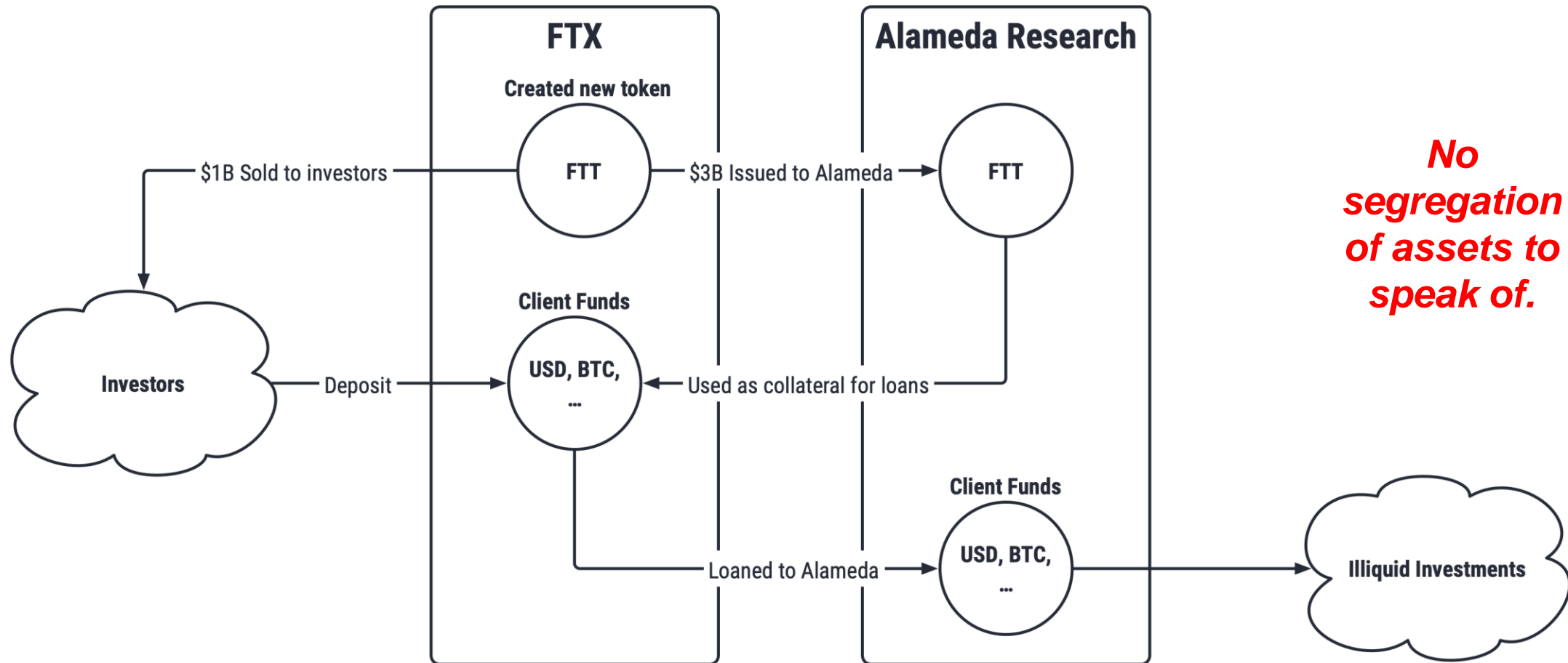


The current regulatory standard for finance in the US, EU, UK

- In financial services, the term custody broadly refers to a firm holding an asset on behalf of another.
- The principle:

Segregation of client assets requires firms that maintain custody of customer securities and safeguard customer cash to segregate these assets from the firm's proprietary business. (ref. FINRA)

How did this problem materialize with FTX?



**No
segregation
of assets to
speak of.**

<https://www.coindesk.com/business/2022/11/02/divisions-in-sam-bankman-frieds-crypto-empire-blur-on-his-trading-titan-alamedas-balance-sheet/>
<https://capital.com/alameda-fft-holdings-sbf-trading-collateral>
<https://cointelegraph.com/news/alameda-research-fft-token-transfer-from-september-fuels-wild-speculations>

How did this problem materialize with FTX?



FTX's new CEO on 17 November 2022:

*I have never seen
“such a complete failure of corporate control.”*

John Jay Ray III, bankruptcy filing, 2022/11/17

Why is a crypto a problem for fiduciaries?



- The core principle is:

Fiduciary agents should act solely in the best interests of their clients, beneficiaries or others who are owed the fiduciary duty. Fiduciaries must act prudently in their investment decisions and advice.

- Any investment in crypto, as with any other asset, must meet this standard of care.
- Why could this be a problem with crypto?
 - Do you understand the business case?
 - How is it valued?
 - What is the risk? Is it appropriate for non-sophisticated investors?

Our recommendations



For institutions and fiduciaries:

1. Not to use hype as the basis for an investment case.
2. The traditional rules of sound portfolio construction continue to apply.
3. Crypto requires an even stricter and careful analysis of the proposed business model, not to fall victim of false promises.
4. Make sure you understand the handling of custody and safekeeping of client assets. Asset segregation and the capacity to verify it is essential.

For regulators and policymakers:

1. The need for regulation to be harmonized at an international level to match the cross-jurisdictional nature of digital and decentralised finance.
2. The need to clarify the nature of the various cryptoassets, whether securities or something entirely new.
3. Regulation should be technology-neutral and focus on desired outcomes.
4. Custody rules in digital finance need to be ascertained and enforced to the same standard as traditional finance.
5. Regulators should put together the right tools to measure the build-up of risk in the system.