Board of Retirement Regular Meeting

Sacramento County Employees' Retirement System

Agenda Item 17

MEETING DATE: October 16, 2024

SUBJECT: Education: Cryptocurrency

SUBMITTED FOR: ___ Consent ___ Deliberation and Action __X__ Receive and File

RECOMMENDATION

Receive and file presentation regarding cryptocurrency, as presented by Verus.

PURPOSE

This item supports the upcoming 2024 Annual Investment Plan to provide investment education to Board members.

DISCUSSION

SCERS' general investment consultant, Verus, will lead an educational presentation covering cryptocurrency and considerations for the institutional investor community. While cryptocurrency is not prevalent within most institutional investors' asset allocations, both Verus and staff believe it is important to provide the Board with education on the topic as it is an evolving segment of the investable universe.

ATTACHMENTS

- Board Order
- Verus Blockchain Technology and Cryptocurrency presentation

Prepared by:

/s/

Steve Davis
Chief Investment Officer

Reviewed by:

/s/

Eric Stern
Chief Executive Officer

Retirement Board Order

Sacramento County Employees' Retirement System

Before the Board of Retirement
October 16, 2024

AGENDA ITEM:

Education: Cryptocurrency

THE BOARD OF RETIREMENT hereby accepts the recommendation of staff to receive and file presentation regarding cryptocurrency, as presented by Verus.

I HEREBY CERTIFY that the above order was passed and adopted on October 16, 2024 by the following vote of the Board of Retirement, to wit:

AYES:

NOES:

ABSENT:

ABSTAIN:

ALTERNATES:
(Present but not voting)

_____
James Diepenbrock
Board President

_____
Eric Stern
Chief Executive Officer and
Board Secretary

Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

OCTOBER 2024

Blockchain Technology and Cryptocurrency

Sacramento County Employees' Retirement System

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Verus®

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Blockchain value proposition

The Byzantine Generals Problem

Several generals are besieging Byzantium. They have surrounded the city, but they must collectively decide when to attack. If all generals attack at the same time, they will win, but if they attack at different times, they will lose. The generals have no secure communication channels with one another because any messages they send or receive may have been intercepted or deceptively sent by Byzantium's defenders. How can the generals organize to attack at the same time?

The Byzantine Generals Problem describes the difficulty decentralized parties have in arriving at consensus without relying on a trusted central party or intermediary. In a network where no member can verify the identity of other members, how can members collectively agree on a certain truth?

Historically, the solution to The Byzantine Generals Problem has been one of INTERMEDIATION, but the infrastructure required for intermediation comes with high cost and slow transaction time.

The blockchain solution:
Reliable disintermediation

Types of intermediaries

— Banks
— Credit card companies
— Insurance companies
— Title companies
— Stock exchanges
— Governments

Benefits of disintermediation

— Lower cost
— Higher speed

Sample use cases

Decentralized Finance

BANKING
Faster money transfers, lower fees, better KYC procedures

ASSET MANAGEMENT
Unified digital paperless system that is verifiable and trustable

REAL ESTATE
Less paperwork, fractional ownership, no mediator

CLAIMS PROCESSING
Unified digital paperless system that is verifiable and trustable

Supply Chain Management

SUPPLY CHAIN MONITORING
Removes fraud, improves efficiency, reduces cost

PHARMACEUTICALS
No counterfeit drugs, immutable supply chain, cost effective

CHARITY
More transparency, no mediator cut, global reach

ENTERTAINMENT
Distribution management, copyright management, royalty protection

Identity Verification & Security

DIGITAL IDENTITY
Unified digital paperless system that is verifiable and trustable

DIGITAL VOTING
Full transparency, hassle-free, universal

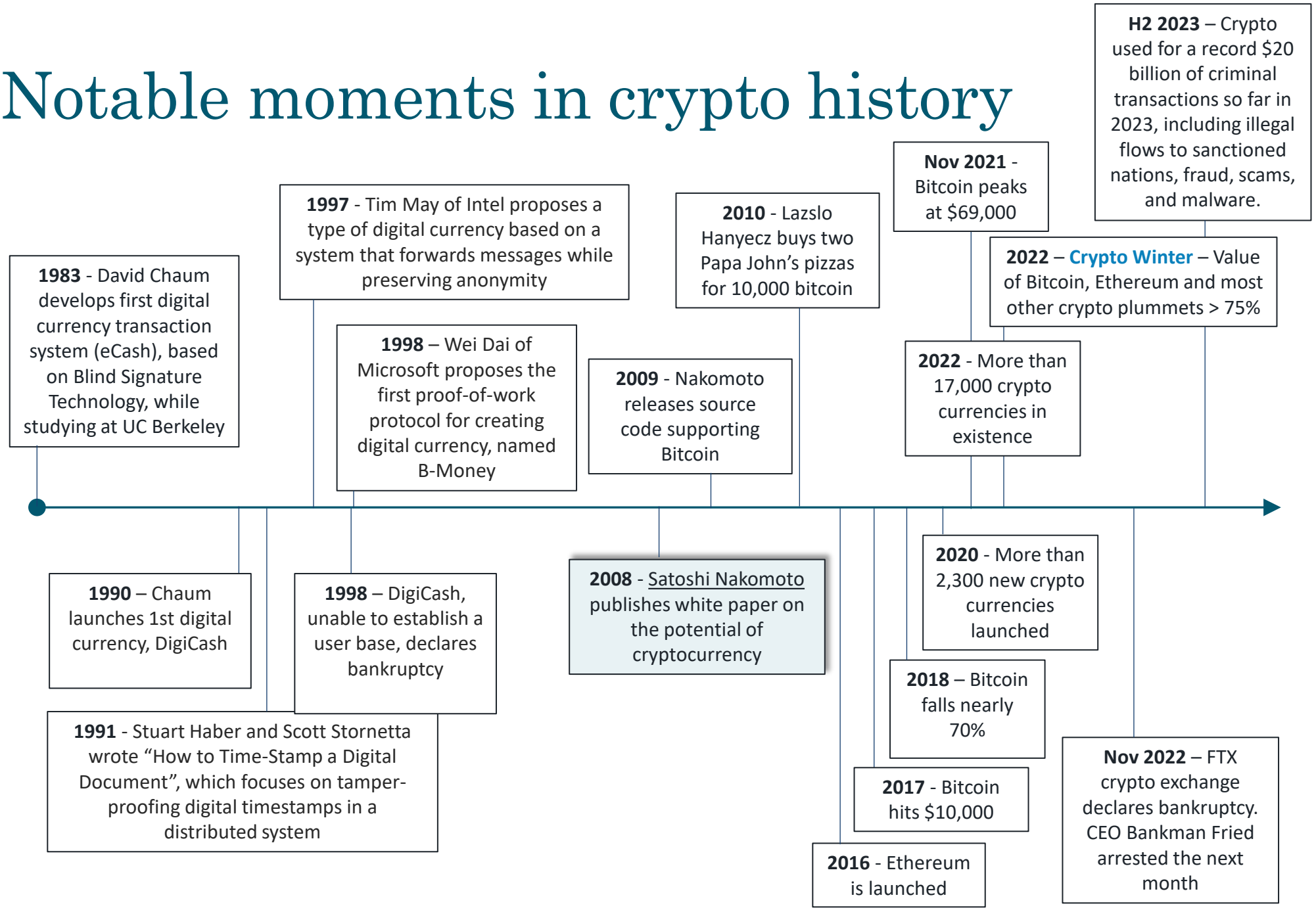
CERTIFICATE VERIFICATION
Unified digital paperless system that is verifiable and trustable

MEDICAL RECORDKEEPING
Unified digital paperless system that is verifiable and trustable

Source: 15+ Practical Blockchain Use Cases in 2022 - 101 Blockchains

What is cryptocurrency?

Notable moments in crypto history



Cryptocurrency is…

"At its core, cryptocurrency is **typically decentralized digital money designed to be used over the internet**. Bitcoin and other cryptocurrencies like Ethereum have grown as digital alternatives to money issued by governments."

coinbase

"Cryptocurrency is a form of payment that can be exchanged online for goods and services. Many companies have issued their own currencies, often called tokens, and these can be traded specifically for the good or service that the company provides. **Think of them as you would arcade tokens or casino chips. You'll need to exchange real currency for the cryptocurrency to access the good or service.**"

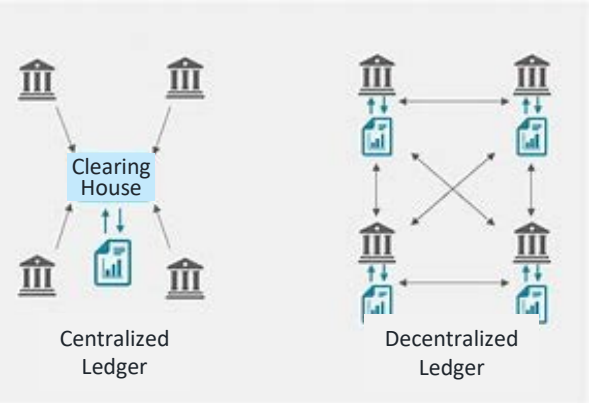
nerdwallet

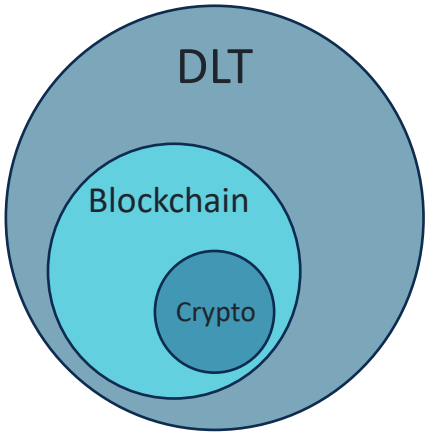
"A cryptocurrency is a digital or virtual currency that is secured by cryptography, which makes it nearly impossible to counterfeit or double-spend. **A defining feature of cryptocurrencies is that they are generally not issued by any central bank authority, rendering them theoretically immune to government interference or manipulation.**"

Investopedia

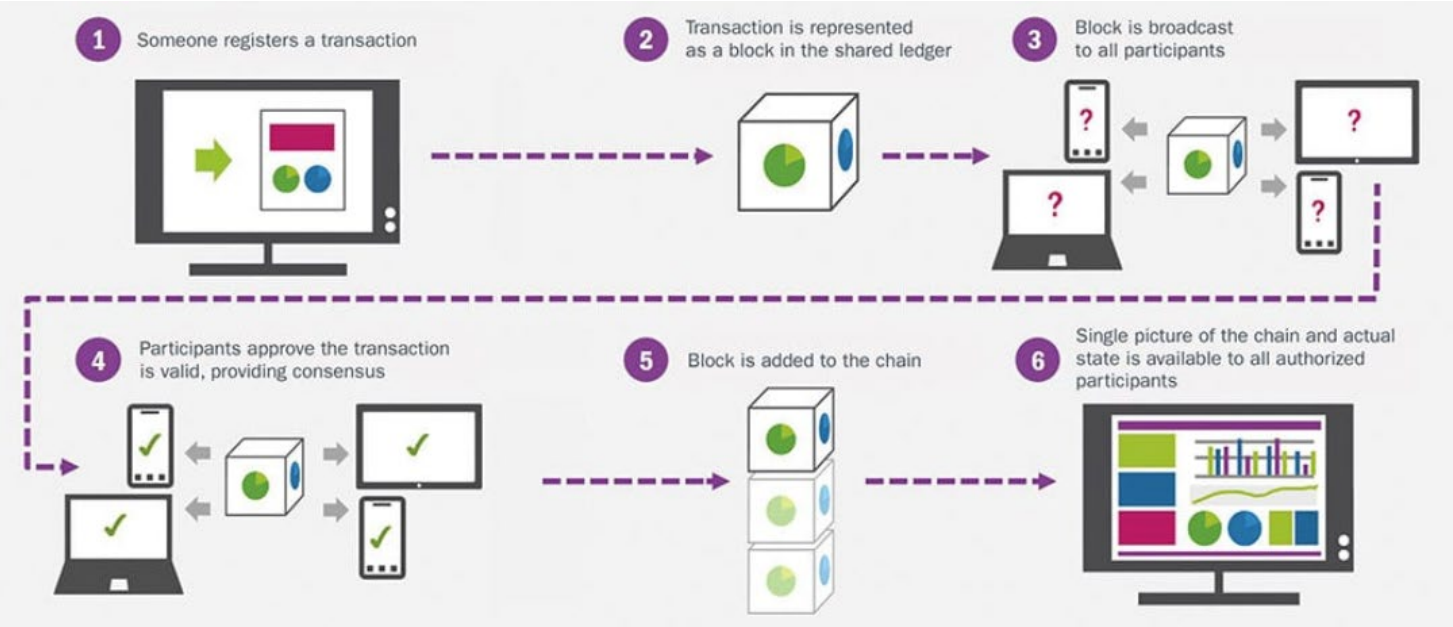
The nuts and bolts of cryptocurrency

1 - Distributed Ledger Technology





2 - Blockchain Technology



3 - Cryptocurrency

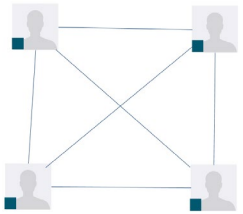
Key terms

Node:

A device connected to the blockchain which communicates with other nodes within the network to transfer information about transactions and new pieces of information.

Distributed ledger:

A consensus of replicated, shared, and synchronized digital data, which is geographically spread across multiple sites, countries, or institutions.



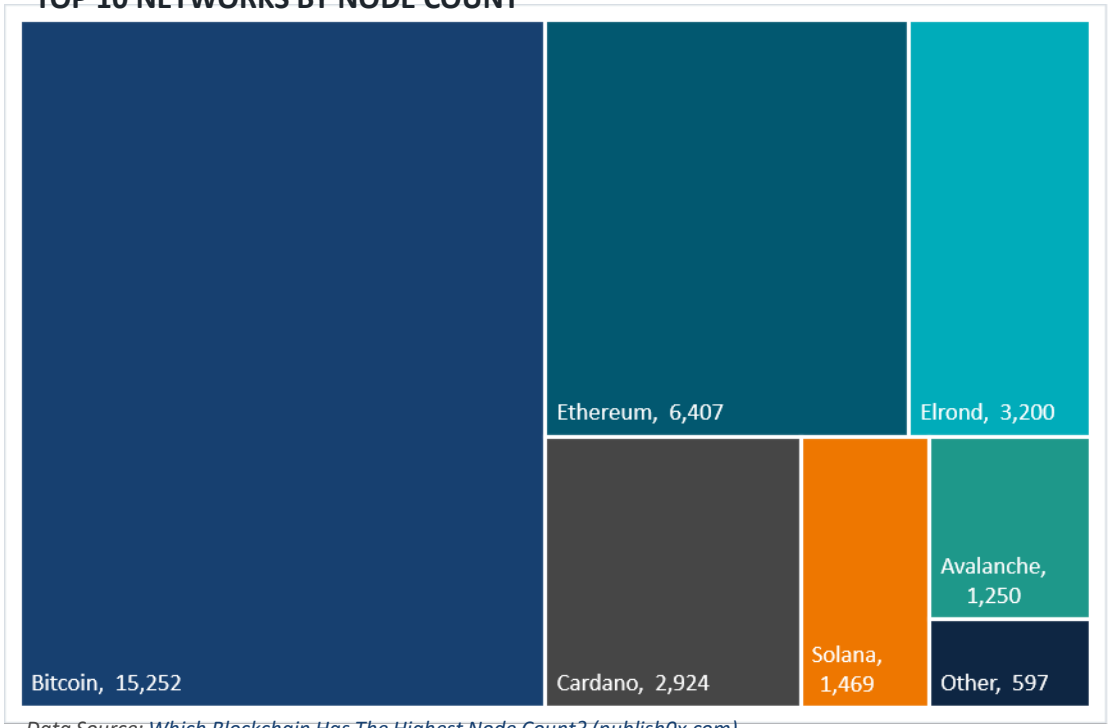
Mining and miners:

In the context of Blockchain, mining is the process of adding new transactions to the distributed ledger of existing transactions. Mining involves creating a code for a block of transactions that cannot be easily forged, which protects the data on the distributed ledger. Miners can create these codes using the computing power of their devices, and are paid for doing this work, called *proof-of-work*, with a token, like Bitcoin.

Robust, global blockchain networks have already been established

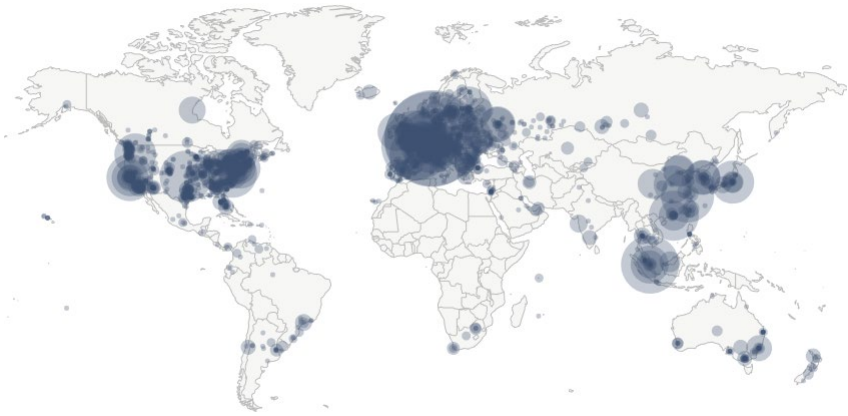
A blockchain node is a networked computer that performs essential functions such as validating and authenticating a transaction. Blockchain nodes distributed around the world are essential to support secure cryptocurrency transactions.

TOP 10 NETWORKS BY NODE COUNT



Data Source: Which Blockchain Has The Highest Node Count? (publish0x.com)

BITCOIN NODES ACROSS THE GLOBE



Source: Coindataflow.com as of March 2022

Market size

The market capitalization of the total cryptocurrency market peaked at nearly $3.0 trillion on November 8, 2021, but has since fallen to around $2.16 trillion as of August 30, 2024.

Source: CoinGecko, as of 8/30/2024

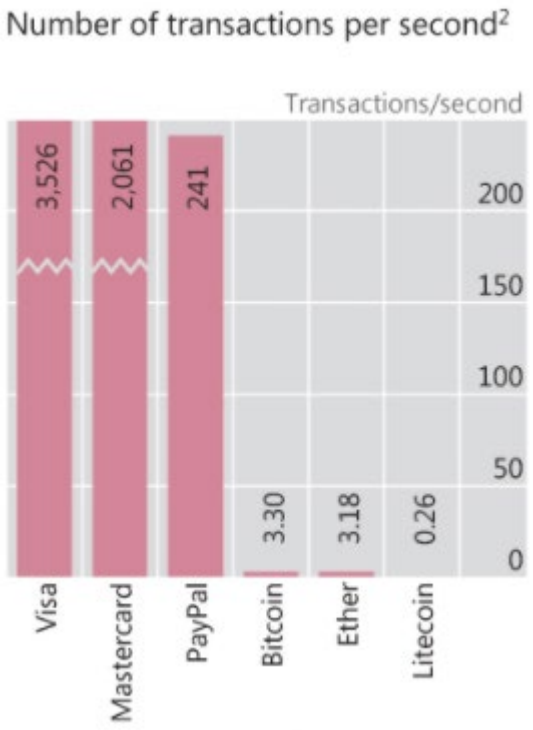
Investment case

Fiat currency replacement

Some investors have allocated to the cryptocurrency space because they believe cryptocurrencies could replace traditional fiat currencies as a preferred medium of exchange.

Back in June 2021, a report from the Bank for International Settlements called cryptocurrencies "speculative assets rather than money", and cited an associated risk of money laundering, ransomware attacks, and other financial crimes.

"Bitcoin in particular has few redeeming public interest attributes when also considering its wasteful energy footprint" – BIS, June 2021



Source: https://www.bis.org/publ/arpdf/ar2018e5.htm

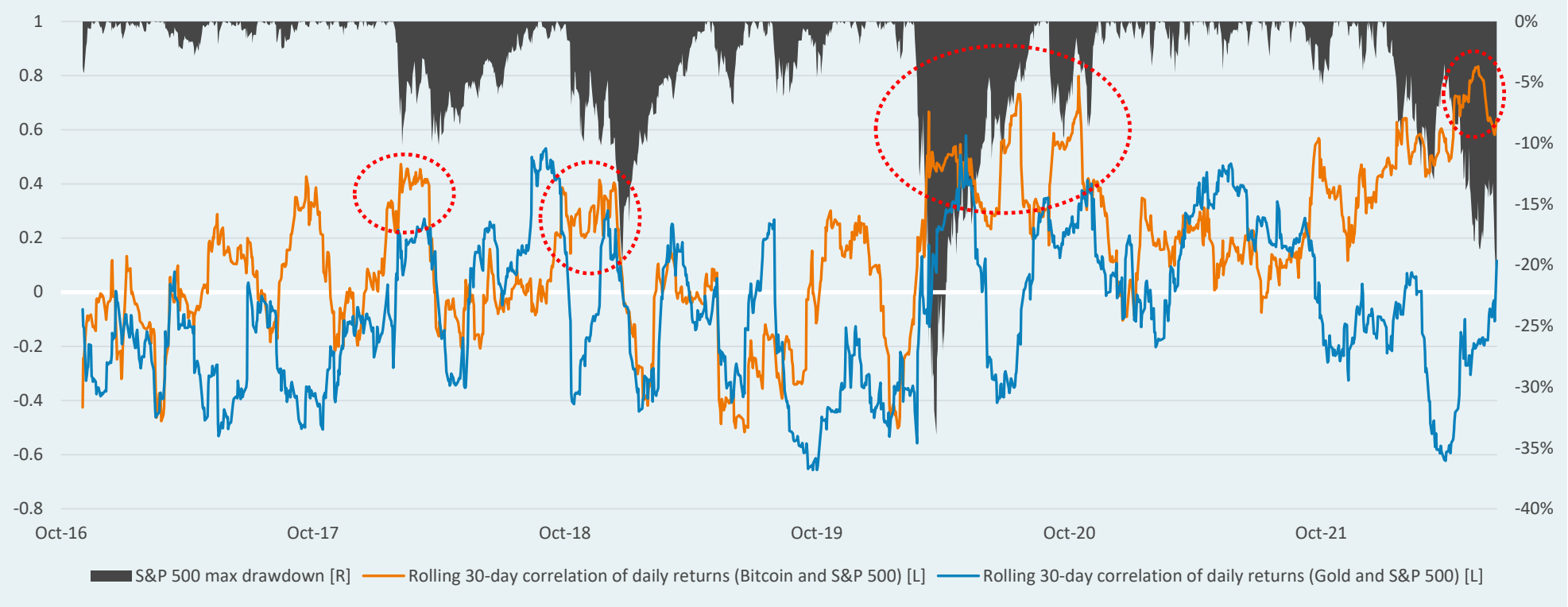
[2] 2017 data, as of November 2021, Bitcoin was up to 7; Ethereum was up to 25; Litecoin was up to 56 transactions per second. Updated data for Visa, Mastercard and PayPal not found.

Disaster hedge

Some investors have allocated to the cryptocurrency space because they believe the properties of cryptocurrency might make it a strong disaster hedge.

"There is a really good chance we have something better than gold… it's like a Credit Default Swap against fiscal and monetary policy irresponsibility" – *Travis Kling, CIO, Ikigai Asset Management*

Bitcoin is highly correlated with U.S. equity, especially during stress periods



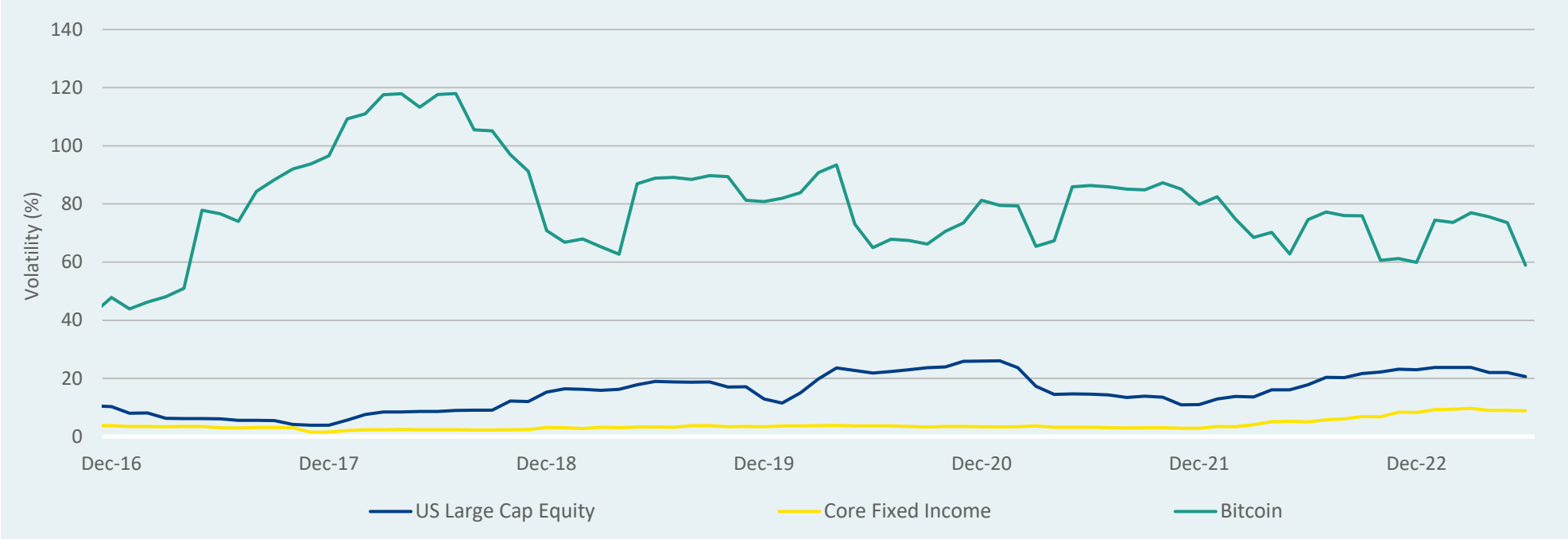
Source: Verus, Bloomberg, as of 6/13/22

Store of value

Some investors have allocated to the cryptocurrency space because they believe in Bitcoin's ability to provide a store of value, sheltering its owners from the erosive impact of inflation which impacts the value of fiat currencies over time.

Unfortunately, bitcoin has exhibited massive levels of volatility, which undermines this argument to some extent.

ROLLING 1-YEAR VOLATILITY

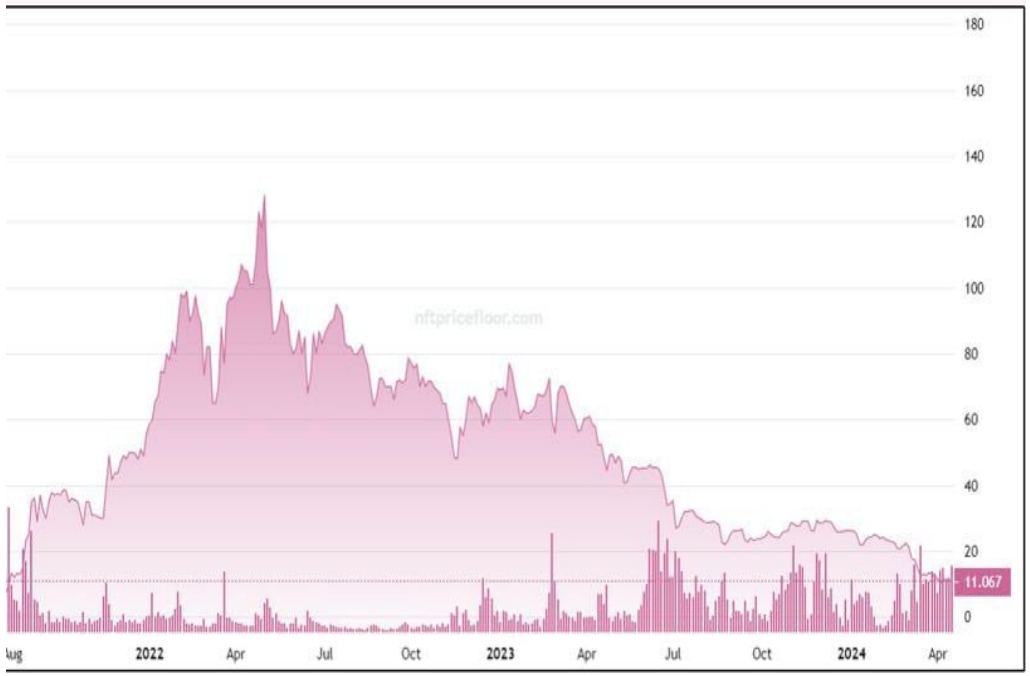


Source: Verus, Bloomberg, as of 6/30/23

Remember NFTs?

- NFTs (non-fungible tokens) are digital assets that represent ownership of a specific asset, like artwork. NFTs are recorded on a blockchain, often encoded using the same software as popular cryptocurrencies.
- The value of NFTs has declined by 95% since their peak in 2021, with most tokens being essentially worthless.
- Bored Ape NFTs were one of the more popular tokens being traded and are now worth a fraction of their peak value in 2022.
- ***Does this outcome invalidate crypto and blockchain as an investable technology? No, but it is a symptom of a greater problem with the crypto market ecosystem that carries with it a boom/bust behavior cycle.***

BORED APE YACHT CLUB NFT PRICE



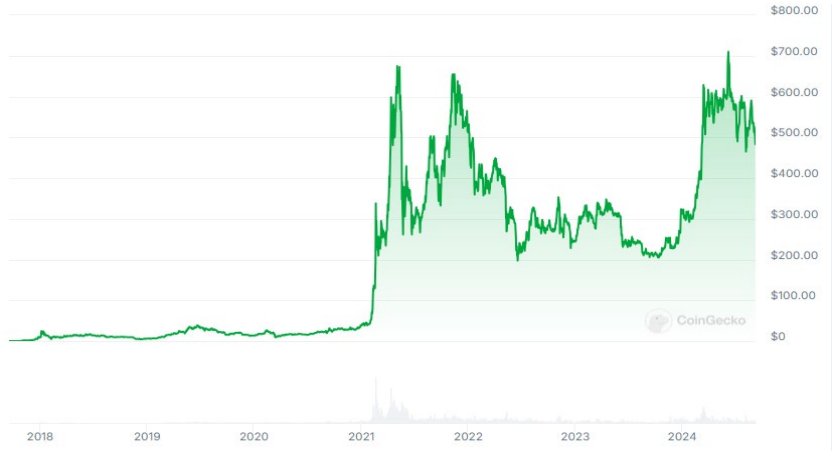
Price history of major cryptocurrencies

BITCOIN ($1,060 BILLION)

ETHEREUM ($266 BILLION)

Bitcoin has performed relatively well over the last year, now accounting for approximately 54% of the total market cap of cryptocurrencies

BINANCE ($70 BILLION)



SOLANA ($58 BILLION)

Source: CoinGecko, as of 8/30/2024

ETFs and cryptocurrencies

An exchange-traded fund (ETF) is a pooled investment security that can be bought and sold like an individual stock. ETFs can be structured to track almost anything, from the price of a commodity to a basket of securities.

— In January 2024, the SEC approved the first U.S. exchange-traded fund (ETF) that tracks the price of Bitcoin.

— In May 2024, the SEC approved applications for an Ethereum ETF.

— The ETF industry is now focused on launching a Solana ETF, but those applications have yet to be approved.

Prior to 2024, investing in cryptocurrencies was primarily limited to trading on a cryptocurrency exchange platform (i.e., Coinbase). This would require investors to open an account separate from a traditional brokerage account and understand the nuances of a cryptocurrency exchange.

The introduction of ETFs, which can be traded through traditional brokerage accounts, allows for ease of access and increases the potential investor base for the associated cryptocurrency.

The approval of the Bitcoin (and subsequently the Ethereum) ETF is thought to be a significant driver in the price appreciation experienced in 2024.

Regulatory outlook

The regulatory outlook for cryptocurrencies is evolving rapidly and can vary significantly depending on the region. Here's a general overview of the current trends and considerations:

1) **Increased Regulation**: Many countries are moving towards more comprehensive regulatory frameworks for cryptocurrencies. This includes defining what constitutes a digital asset, how it should be taxed, and what kind of reporting is required.

2) **Consumer Protection**: Regulators are increasingly concerned with protecting consumers from fraud, market manipulation, and other risks associated with cryptocurrencies. This often translates into stricter requirements for transparency and disclosures.

3) **Anti-Money Laundering (AML) and Know Your Customer (KYC) Regulations**: There is a growing emphasis on AML and KYC measures to prevent illicit activities. Many jurisdictions are requiring cryptocurrency exchanges and wallet providers to implement robust verification processes.

4) **Securities Regulations**: Some cryptocurrencies and tokens are classified as securities in certain jurisdictions. This means they are subject to regulations similar to those governing traditional securities, which can include registration requirements and compliance with disclosure obligations.

Regulatory outlook (cont.)

5) **Taxation**: Governments are looking at ways to address how cryptocurrencies are taxed. This often involves clarifying how gains should be reported and taxed, and how cryptocurrencies should be valued for tax purposes.

6) **Central Bank Digital Currencies (CBDCs)**: Many central banks are exploring or developing their own digital currencies, which could impact the regulatory environment for existing cryptocurrencies. CBDCs might offer a state-sanctioned alternative to decentralized digital assets.

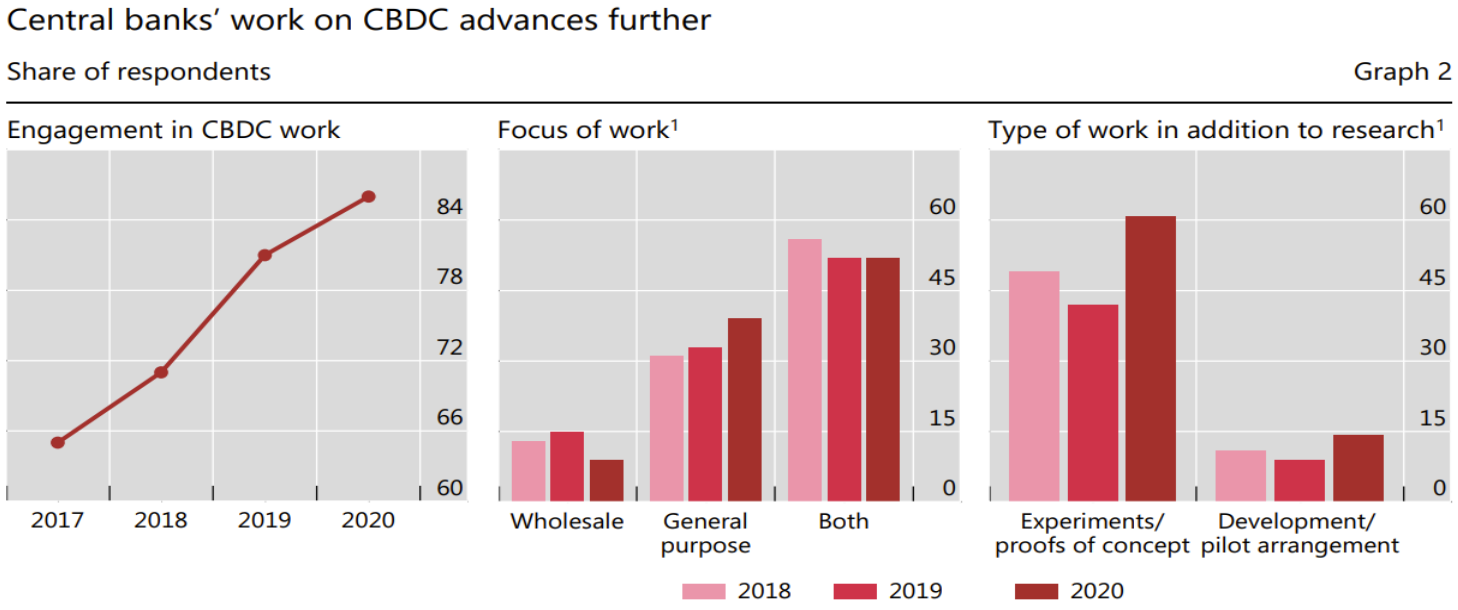
7) **International Coordination**: There's an increasing push for international regulatory coordination to address the global nature of cryptocurrencies. Organizations like the Financial Action Task Force (FATF) are working to create international standards for cryptocurrency regulation.

8) **Innovation vs. Regulation Balance**: Regulators are trying to strike a balance between fostering innovation in the crypto space and ensuring that regulatory measures do not stifle growth or drive innovation to less regulated jurisdictions.

In summary, while the regulatory landscape is becoming more defined, it remains dynamic and can be subject to rapid changes. Investors involved in cryptocurrencies need to stay informed about the latest developments in their specific regions.

Governments unlikely to cede control over money supply

According to a recent report from the Bank for International Settlements, central banks representing 20% of the global population will be developing their own central bank digital currencies (CBDCs) over the next three years.



Source: https://www.bis.org/publ/bppdf/bispap114.pdf

What we're optimistic about looking ahead

Cryptocurrency allows for decentralized storing and transferring of value over the internet

— Currencies are provably fair (in that anyone can audit their entire history), secure, globally accessible, and decentralized.

The value in blockchain technology is independent from the value of crypto assets as currency, because it allows for greater integration of the properties people appreciate about cryptocurrencies, into broader financial applications

— The cost-saving automation of a wide range of financial relationships enabled by smart contracts on the Ethereum blockchain.

— The potential for blockchain technology to enable more precise monetary policy

— Innovation in market functioning

Source: https://www.verusinvestments.com/wp-content/uploads/2021/09/Thinking-Differently.pdf

All things considered…

— Some institutional investors may already have some exposure, with small allocations to crypto-related investments included in hedge funds or venture funds. These investments, if made with high conviction by skilled active managers in the space, may make sense and may have the potential to add value to a diversified portfolio.

— Our view is that cryptocurrency does not make sense as an investable, institutional quality asset class. Investments in related technologies and use cases may make sense but should be limited and made through expert investment managers as part of diversified alternative investment allocations.

Public fund exposures

A handful of public plans have adopted cryptocurrency and blockchain exposures over the last few years. While most of these have been through venture funds or a similar vehicle, some more recently have adopted exposure to major cryptocurrencies such as Bitcoin or Ethereum. However, these are still the exception, and most public funds do not have direct cryptocurrency exposure.

Notices & disclosures

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