



NZ Funds Digital

Submission to the Finance and Expenditure
Committee's Inquiry into the current and future
nature, impact and risks of cryptocurrencies

New Zealand Funds Management Limited

NZFunds

1.

Letter to the Finance and Expenditure Committee

Inquiry into the current and future nature, impact and risks of cryptocurrencies.

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30 August 2021

Committee Secretariat
Finance and Expenditure Committee
Parliament Buildings
Wellington
New Zealand

Via email

Dear Committee Secretariat,

Re: Inquiry into the current and future nature, impact and risks of cryptocurrencies

We welcome the appointment of a Select Committee to review crypto assets, given their importance to our community, country and planet.

About NZ Funds

We are a New Zealand owned and operated fund manager and financial advice provider. We look after the savings of 25,000 New Zealand individuals, families and trusts. We partner with and support over 600 financial advisers throughout New Zealand.

We invest in managed funds, hedge funds, shares, bonds, currencies, commodities, futures, options and crypto assets, such as Bitcoin and Ethereum. We invest in this diversified mix of assets to maximise future growth and minimise the risk of a permanent loss of capital.

Our focus is on creating, growing and managing wealth, to enable our clients to meet the financial challenges that each stage of life presents. We invest for all New Zealanders. Our vision is to be able to deliver financial wellbeing for life.



Comment on terms of reference

We were disappointed to see the language used in the terms of reference. In particular, the use of the word “risks” without equal consideration and emphasis on “benefits”. Furthermore, there is a focus on the use of “crypto-currencies by criminal organisations” without appropriate emphasis on the benefits to “law abiding citizens” and especially the benefits to everyday citizens, including the disadvantaged and vulnerable.

By way of example, one of the many uses of crypto assets is decentralised banking. This has the potential to provide banking services to a significant portion of the world’s population who are unbanked and, in doing so, will help relieve poverty, protect personal information, and work to prevent fraud and reduce crime.

Importance of crypto assets for use by investment professionals

Crypto assets, such as Bitcoin and Ethereum, can be valuable investment tools that, when appropriately used, add significant value to New Zealanders’ investments, including their KiwiSaver accounts.

We have attached a short paper jointly prepared by New York-based Galaxy Digital, which is one of the leading global investment banks in the crypto asset sector, and NZ Funds. It articulates the merit of holding the crypto asset Bitcoin in a diversified portfolio.

As the Committee will be aware, crypto assets are now widely used in investment portfolios around the world, including by individuals, families and trusts whose savings are managed by JP Morgan Chase, Morgan Stanley, Goldman Sachs, Standard Chartered, Barclays, BNY Mellon, Citibank, UBS, BNP Paribas, ING, Nomura and Wells Fargo among others.

We believe there is considerable merit, as professional investors and financial advisers, in enabling New Zealanders to access crypto assets as long-term investments by using appropriately qualified and regulated local asset managers. Put simply, if access to crypto assets were unduly restricted as an investment, it would place New Zealand investors at a severe disadvantage to their global peers.

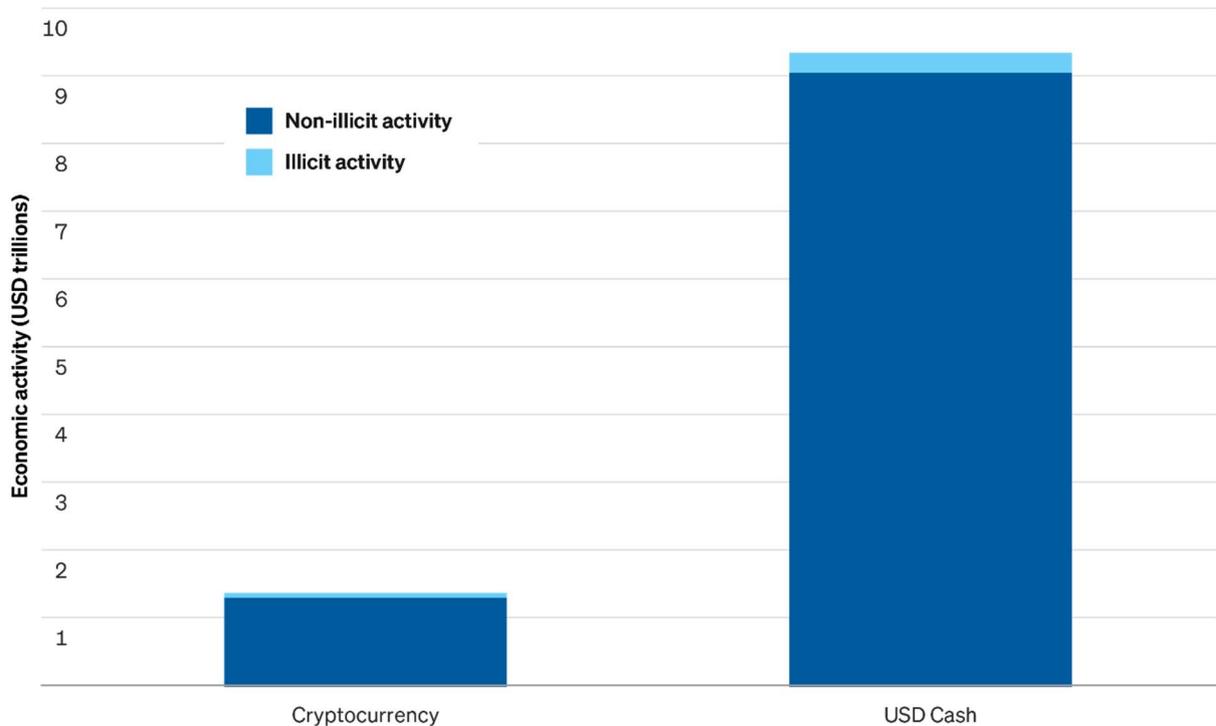


Information on criminal activity and environmental impact

As socially responsible investors, in each portfolio we manage, we consider both the issues of crime and environmental impacts extensively. We have found that, with respect to crypto assets, there is a misconception and a lack of fact and evidence surrounding both. The crypto asset environment is fast moving as evidenced by Ethereum’s recent hard fork work to evolve from proof-of-work to proof-of-stake. We trust the Committee’s findings will be based on rigorous analysis and verifiable facts and not misconceptions.

To substantiate our point, we wish to share two charts with Committee members. Neither chart challenges the headline claims such as Bitcoin is used by criminals (it is) or that Bitcoin negatively impacts the environment (to the extent that carbon-based electricity is used for mining, it does), but the charts help put crypto assets in context:

Chart 1: Illicit Activity Facilitated by USD Cash vs. Cryptocurrencies

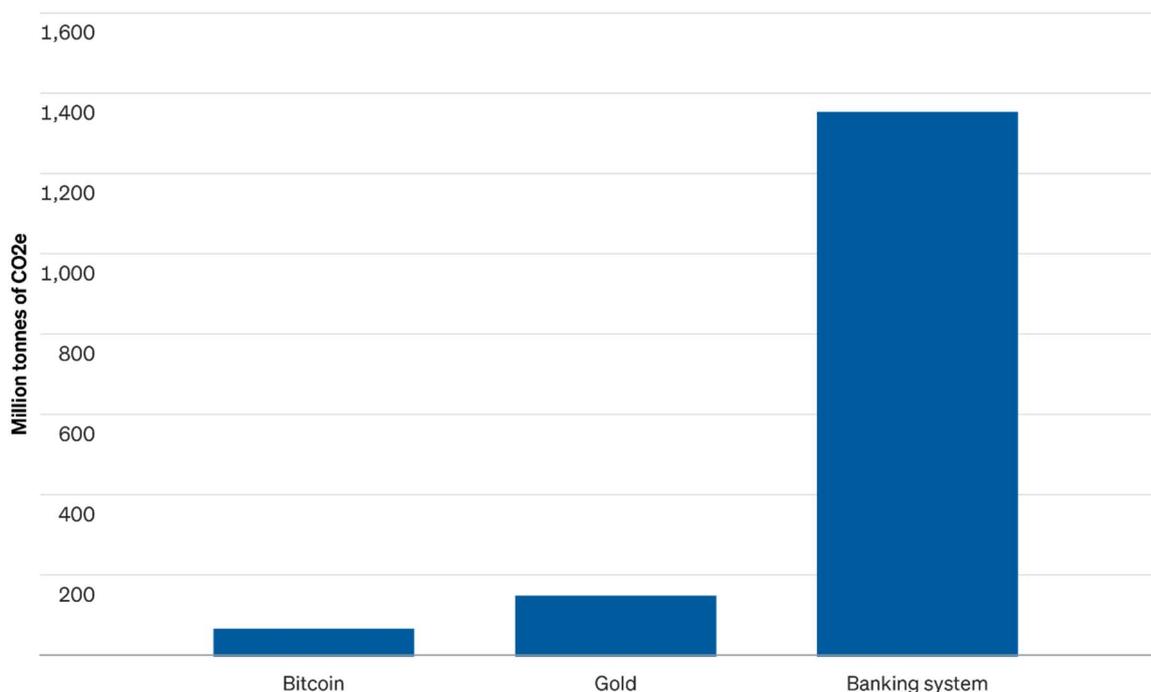




“It appears that only a small percentage of Bitcoin transactions are for illicit purposes. According to Chainalysis, the number of Bitcoin transactions linked to illicit activities remains below 1%, perhaps a tribute to Bitcoin’s transparency. Any user can view the complete history of transactions on the network, suggesting that physical cash is the better medium for illicit activity.”

Source: ARK Investment Management LLC, Debunking Common Bitcoin Myths, 29 June 2021. <https://ark-invest.com/articles/analyst-research/bitcoin-myths/>

Chart 2: Annual Greenhouse Gas Emissions (Mtoe CO₂e)



Contrary to consensus thinking, ARK Investments and NZ Funds believe the environmental impact of Bitcoin mining is de minimis. Renewables, particularly hydroelectric power, account for a large percentage of Bitcoin’s energy mix and this percentage is growing following China’s recent ban on crypto mining.

“As Castle Island Ventures partner, Nic Carter, has noted in their search for the cheapest form of electricity, miners will continue to flock to regions offering a glut of renewable electricity, unlocking stranded energy assets as ‘electricity buyer[s] of last resort, creating a highly mobile base-demand for any electricity sources



able to produce at prices below current producers, regardless of location.’ As a result, from a climate perspective, Bitcoin mining could be a net positive.”

Source: ARK Investment Management LLC, Debunking Common Bitcoin Myths, 29 June 2021. <https://ark-invest.com/articles/analyst-research/bitcoin-myths/>

Conclusions

We believe there is considerable merit in enabling professional investors and financial advisers in New Zealand to access crypto assets as long-term investments, as set out in our research paper.

We sincerely hope crypto assets’ complexity and their status as a unique emerging technology and asset class do not prevent the Committee from conducting in-depth analysis and making findings based on balanced consideration of the facts.

We, together with Galaxy Digital, would welcome the opportunity to address the Committee in person. In the meantime, please do not hesitate to contact me for further information.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M. J. Lang', followed by a horizontal line extending to the right.

Michael Lang
Chief Executive

2.

Digital diversification

NZ Funds x Galaxy Digital Bitcoin's role in the modern portfolio

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Bitcoin: A New Asset

Bitcoin has become a force of innovation since its invention in the aftermath of the 2008 financial crisis. The utility of its underlying blockchain technology has driven the value of the native digital asset that rides on top of it – bitcoin with a lowercase 'b' – to be the world's best performing investment of the last decade.¹

Originally conceived as a peer-to-peer electronic cash for the internet, bitcoin has become a next generation store of value, governed by the mathematical principles of its open source code. It is built on a long history of technological advancements in computer science, cryptography, and digital scarcity, and its disinflationary nature is designed to facilitate peer-to-peer transactions without a central intermediary in a highly secure and transparent way.

Bitcoin can best be thought of as distributed software that allows for the transfer of value via its native digital asset, bitcoin, without relying on trusted third parties. Its store of value characteristics are forged from its public, predictable, and unchangeable monetary policy that allows protection from unexpected inflation. Bitcoin has created a new asset class that may become the biggest technological development since the internet. As its open-source software evolves, bitcoin will continue to differentiate itself further from traditional asset classes.

Bitcoin has created a new asset class that may become the biggest technological development since the internet

 <p>Immutability</p> <p>Hard-coded software designs user rules.</p> <p>All transactions between users are permanently recorded.</p> <p>Auditable transaction verification and history.</p>	 <p>Non-Sovereign Status</p> <p>No single point of failure or control.</p> <p>Supply issuance resistant to macro or government influence.</p> <p>Democratised digital money.</p>	 <p>Limited Supply</p> <p>Bitcoin offers one of the only verifiably scarce, immutable, and capped supply assets in the world.</p> <p>Only 21 million bitcoin will ever be issued.</p>	 <p>Security</p> <p>Cryptographically secured and validated transactions.</p> <p>Security lies in the asymmetry of the costs of performing the 'proof-of-work'.</p> <p>The bitcoin blockchain has never been hacked.²</p>
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¹ <https://www.bloomberg.com/news/articles/2019-12-31/bitcoin-s-9-000-000-rise-this-decade-leaves-the-skeptics-aghast>.

² While custodians and exchanges that hold bitcoin have been hacked, the Bitcoin blockchain itself has never been hacked.

Source: Galaxy Digital Research, Federal Reserve Bank of St. Louis, Bitcoin.

Digital Gold for a Digital World

Historically, society has sought the time-tested reliability of gold as a safe, durable store of value. Investors look to gold in times of market stress as a 'flight to safety' to preserve wealth and protect against inflation in the financial system. Gold has also played a central role in physical trade for thousands of years, but we now live in a digital world.

Bitcoin shares many of the same attractive properties of gold that have made it a great store of value for centuries. Both gold and bitcoin are borderless and have no centralised power or government that controls their supply. Both are globally recognised, easily verifiable, and have limited supplies.

Yet, bitcoin has modernised and improved properties that position it as an attractive alternative to gold. Unlike gold, bitcoin is easily divisible into smaller units. While gold requires large and expensive storage facilities and is extremely difficult to physically transport, bitcoin does not require high storage costs and is weightless. Bitcoin can travel across borders in the same frictionless way that information is shared across the internet.

Bitcoin provides global investors a digital store of value

	Bitcoin	Gold
Limited supply	✓	✓
Borderless	✓	✓
Decentralised	✓	✓
Easily verifiable	✓	✓
Fast value transfer	✓	
Weightless	✓	
Protection against counterfeiting	✓	
Easily divisible	✓	
Low cost storage and transfer	✓	
Censorship resistant	✓	

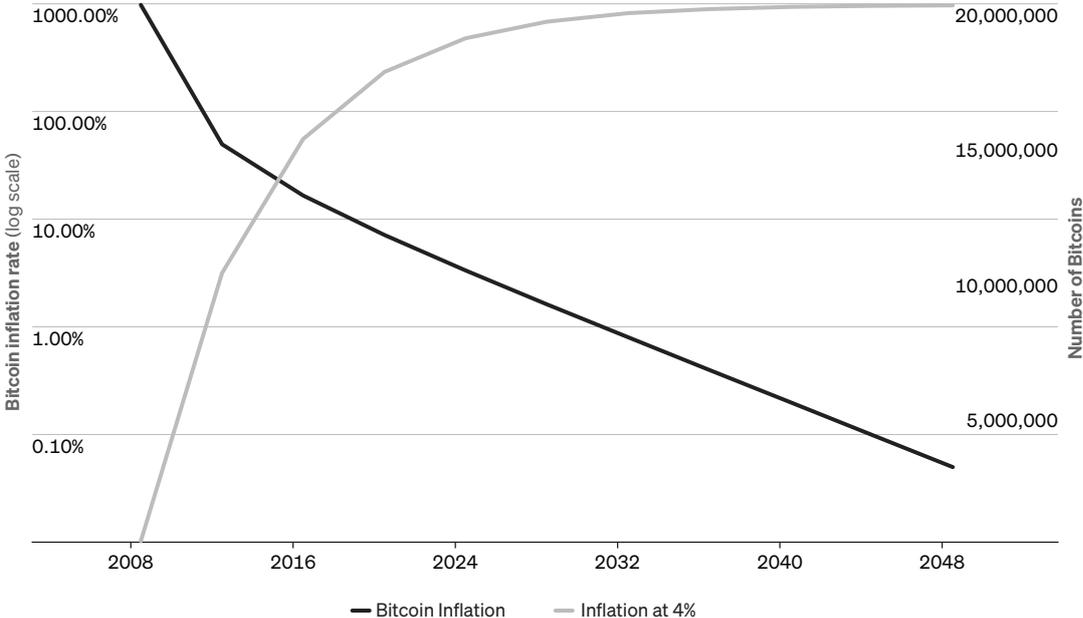
Fixed Supply

Bitcoin is one of the only verifiably scarce, fixed supply assets in the world. Bitcoin's underlying code controls how much new bitcoin is created and limits the maximum amount of bitcoin that will ever exist to 21 million. Bitcoin has a price-inelastic supply, meaning that a change in price cannot change its supply issuance. Said differently, bitcoin's supply is transparent and unchangeable; it is strictly bound and algorithmically hard-coded. An increase in the value of bitcoin does not affect its supply, and does not affect bitcoin's issuance schedule.

As of today, just over 18 million of that total supply has been issued as block rewards to the miners securing and validating Bitcoin's network. Approximately every four years, the supply of bitcoin issued as mining rewards gets cut in half until eventually no more supply will be issued. The next bitcoin supply reduction is set to occur in early June 2024, when the supply issuance will be reduced from 6.25 bitcoin per block to 3.125 bitcoin per block. This 'block reward' for miners will continue to be cut on a fixed schedule until it approaches zero around 2140.

Unlike most global currencies or commodities, bitcoin's transparent and immutable fixed supply properties make it a truly unique investable asset. Investors favour the fact that bitcoin's supply cannot be expanded, thereby allowing its inflation schedule to be predictable.

Bitcoin is one of the only verifiably scarce, fixed supply assets in the world



Source: NZ Funds calculations, https://en.bitcoin.it/wiki/Controlled_supply

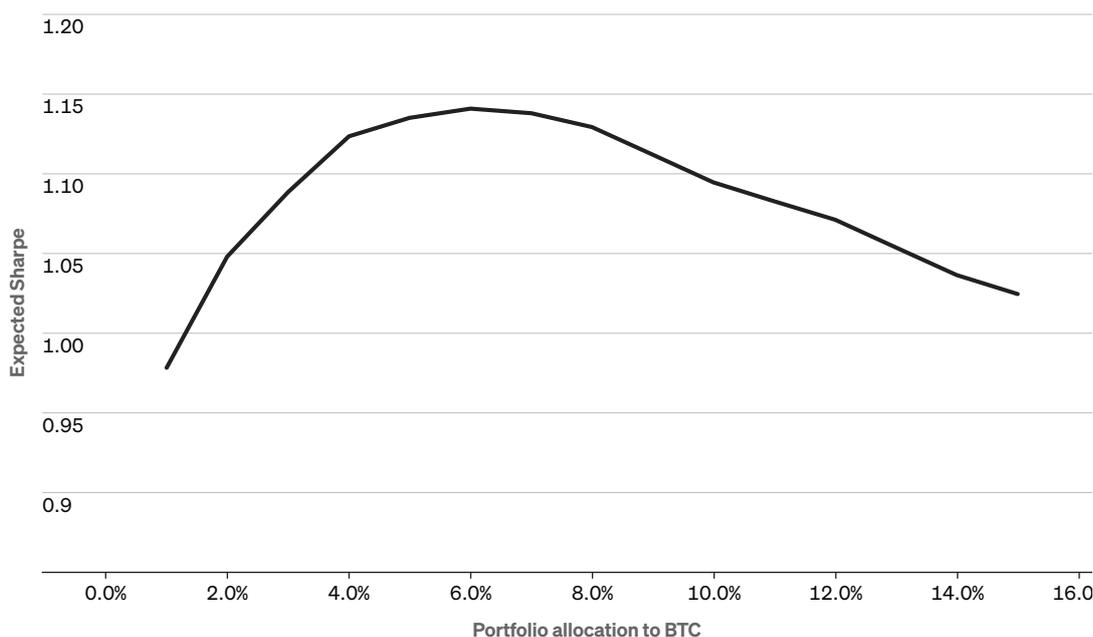
Modern Portfolio Theory in the Digital Age

Modern portfolio theory (MPT) is a trusted analysis often used by investors to model scenarios of optimal portfolio allocations to various assets. Investors assessing the role of bitcoin in their portfolios are encouraged to utilise the same MPT approach for a quantitative-based analysis of bitcoin.

MPT demonstrates that bitcoin's history of positive returns and uncorrelated nature make it an attractive addition to traditional portfolios. Despite its volatility, adding a small portfolio allocation to bitcoin generally increases the overall expected return and improves the portfolio's expected risk-adjusted returns. It also potentially diversifies some of the systemic risk that exists in modern portfolios.

Most modern portfolios present a fair degree of inherent systemic risk in the financial system. Adding bitcoin to an investment portfolio diversifies away some of this systemic risk and offers additional portfolio benefits. Our study shows that a hypothetical portfolio's Sharpe ratio is optimised somewhere near a 6% allocation to bitcoin. However, the strongest marginal improvement to a portfolio's Sharpe ratio occurs in the 0.5% to 2.5% range. This demonstrates that even a small percentage allocation to bitcoin in a portfolio can have a major impact.

A small allocation to bitcoin increases expected portfolio returns and optimises Sharpe



Source: Galaxy Digital Research: Modern Portfolio Theory and Bitcoin, November 2019.

A Macro Hedge Against Global Uncertainty

Historically, bitcoin's correlation among established macro assets typically hovers within ± 0.25 around a zero correlation. Bitcoin maintains its uncorrelated nature during periods of significant market moves better than gold, fixed income, and the Yen.

Many believe that bitcoin can be used as a hedge against macroeconomic uncertainty. With global debt hitting record peaks, bitcoin can serve as a hedge against weak or harmful government institutions. This is especially true of many developing market economies prone to high inflation (e.g. Argentina, Venezuela). Bitcoin offers anyone with internet access the ability to transact and store wealth in a vehicle that operates separately and distinctively from local fiscal and monetary policies.

Global markets will continue to be impacted by increasing uncertainty due to significant shifts in trade, tariff, and tax policies, as well as monetary and fiscal policies at the national level. Financial cycles are becoming increasingly severe and further quantitative easing threatens to swell central bank balance sheets, devaluing investors' purchasing power in the process. Bitcoin offers investors a potential hedge against this global uncertainty.

In times of stress, when it matters, bitcoin has been uncorrelated. Over its 11 year history, bitcoin has demonstrated a low correlation to most major global asset classes including the S&P 500, Euro Stoxx 600, Nikkei 225, MSCI Index, Global Agg Bond Index, Crude WTI, Gold, the DXY, EUR, and the New Zealand dollar.

Bitcoin may serve as a global hedge on the existing financial system

Bitcoin	1.00														
MSCI World	0.20	1.00													
S&P 500	0.14	0.97	1.00												
Nasdaq 100	0.14	0.88	0.92	1.00											
Nikkei 225	0.19	0.83	0.74	0.62	1.00										
Eurostoxx 600	0.26	0.85	0.76	0.62	0.79	1.00									
Global Bonds	-0.01	0.20	0.17	0.16	0.13	0.06	1.00								
US Dollar index	-0.14	-0.54	-0.46	-0.35	-0.45	-0.34	-0.44	1.00							
Euro	0.11	0.47	0.40	0.28	0.41	0.28	0.34	-0.97	1.00						
Japanese Yen	-0.04	0.00	0.03	0.02	0.08	0.20	-0.66	0.56	-0.48	1.00					
NZ Dollar	0.07	0.68	0.61	0.48	0.57	0.53	0.27	-0.75	0.70	-0.27	1.00				
Gold	0.13	0.37	0.32	0.27	0.26	0.21	0.57	-0.57	0.50	-0.48	0.40	1.00			
Oil	0.20	0.40	0.37	0.34	0.25	0.37	0.07	-0.17	0.08	0.06	0.23	0.07	1.00		
	Bitcoin	MSCI World	S&P 500	Nasdaq 100	Nikkei 225	Eurostoxx 600	Global Bonds	US Dollar index	Euro	Japanese Yen	NZ Dollar	Gold	Oil		

Source: NZ Funds calculation, Bloomberg. Correlations based on data for the period August 2018 to August 2021.

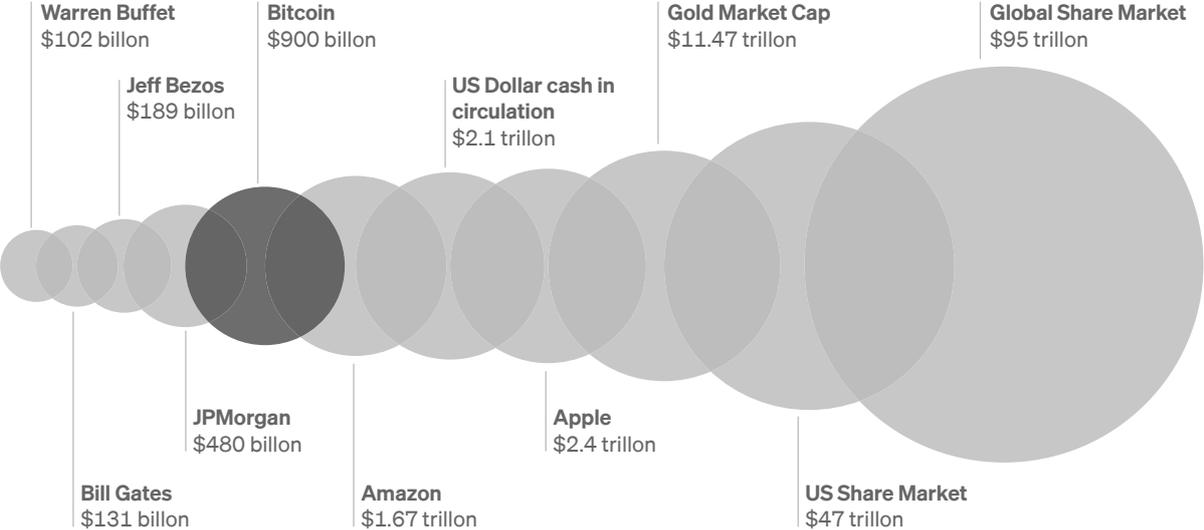
Early Lifecycle Growth

Bitcoin may seem like it has quickly exploded onto the scene, but it has steadily and consistently been making gains in adoption, usage, and awareness since its inception over 11 years ago. Its growth has been quite impressive and has provided investors with stellar absolute returns, far exceeding those of any other asset class in a similar time period.

Yet, bitcoin still has tremendous room to expand compared to other global markets. Bitcoin's current market cap stands at \$900 billion as of 31 August 2021. That is only slightly smaller than individual companies like Apple (\$2.4 trillion) or Amazon (\$1.67 trillion).¹

Further still, when compared to the size of the gold market (\$11.47 trillion), or United States share market (\$47 trillion), bitcoin has tremendous upside growth potential. The total value of gold is 12.6x the size of bitcoin and global share markets are nearly 105x the size of bitcoin.

Bitcoin provides global investors a digital store of value



Source: 1 Bloomberg.

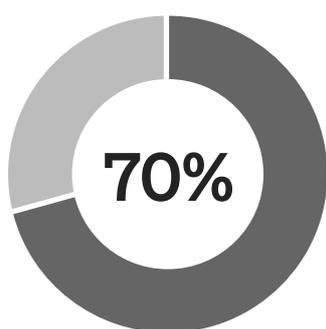
Institutional Adoption

Due to its open source ethos, bitcoin has traveled an unconventional growth path. Instead of being cultivated in the boardrooms or trading floors of large financial institutions like most transformative financial innovations, bitcoin first captured the hearts and minds of many retail, high net worth, and family office investors. Institutions took note and have started to embrace bitcoin as a part of their investment strategy given the transformative investment opportunity it presents.

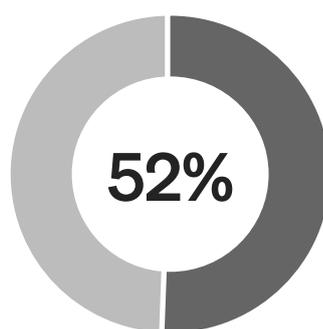
Billions of dollars of infrastructure investments have been made in the last few years to support bitcoin's robust ecosystem and enable institutional investors to have the tools and opportunity to invest, trade, and instantly transact with billions of dollars in daily liquidity. Progress on this front includes regulated custody, physically settled futures contracts, and regulated options contracts.

From Goldman Sachs to Fidelity, to IBM and the NYSE/ICE, major financial institutions have made and continue to make sizeable investments in the industry and verticals of bitcoin's value chain. This institutionalisation has enabled the growth of secure, regulatory compliant, institutional calibre financial products and services, further facilitating the flow of global investment into the space.

For sophisticated institutional investors, bitcoin can no longer be ignored



of institutional investors expect to buy or invest in digital assets in the future.¹



of institutional investors surveyed already own digital assets.¹

Source: ¹ <https://www.fidelitydigitalassets.com/articles/digital-asset-survey-2021>

The Future is Bright

In just over a decade, bitcoin has transformed from a relatively obscure innovation into a \$900 billion, globally recognisable institutional asset with room to grow. If bitcoin were an asset class, it would be the best performing one over a one-, three-, and ten-year period. For sophisticated investors, it can no longer be ignored.

Additionally, the institutionalisation bitcoin experienced in 2020/21 is expected to continue to accelerate. Bakkt, a subsidiary of ICE, launched in September 2019 to enable institutional, merchant, and consumer access to digital assets, with bitcoin as its primary focus. Demand for bitcoin-only private funds is expected to increase as a result of delayed approval of an official bitcoin ETF by the SEC.

Investors can observe these fundamental adoption trends taking hold by the growing number of people interacting with bitcoin. The number of unique bitcoin wallets created has already doubled over the last two years, from 21 million wallets at the beginning of 2018 to nearly 76 million today. Additionally, the next bitcoin supply reduction is set to occur in June 2024 when the supply issuance will be reduced from 6.25 bitcoin per block to 3.125 bitcoin per block. Thus, as mainstream awareness and participation grows, this increased demand combined with programmatic fixed supply contraction is expected to create a strong tailwind for bitcoin as an institutional asset.

More and more people are discovering and investing in bitcoin every day. Open to all, bitcoin's ability to settle immense value across borders, 24/7, is unprecedented in the history of money. Bitcoin is the world's first global asset that harnesses the power of computers—and humankind's innate need to innovate—to enable a worldwide decentralised store of value. 2022 is likely to see further increases in bitcoin adoption, innovation, and interest.

Disclaimer

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