

CIO Vantage Point



Cryptocurrencies.

Revolutionary Technology

Blockchain technology – a shared, tamper-proof ledger of transactions holds the promise of reshaping businesses in the “sharing economy” and other distributed marketplaces

Broadening Adoption

The list of companies that accept cryptocurrencies as a means of payment continues to grow, with Tesla, PayPal, AT&T, Starbucks, Home Depot, Etsy, and Coca-Cola ranking among the largest names

Avenue for Diversification

Bitcoin exhibits low correlations to other traditional asset classes, although their role in portfolios is still widely debated

Millennial and Gen Z Appeal

The next generation is accustomed to seeing value stored in digital assets – having purchased in-game items, in-app rewards, and more recently, non-fungible tokens (NFTs)

INTRODUCTION

Boom or Bust

Dear valued clients,

Similar to how change is a fact of life, fast-moving financial markets inevitably undergo periods of shake-up. In the past year, we witnessed a multitude of events, many of which were unprecedented. These days, markets are rife with buzz on novel investment ideas, many a time controversial, in search of the “Next Big Thing”.

Against this backdrop, I present to you CIO Vantage Point, a new investment publication to highlight potentially transformational themes. In this first edition, we discuss a topic now nearly impossible to avoid when approaching the subject of investing – Bitcoin.

One of the many digital assets under the umbrella term known as cryptocurrency, Bitcoin has become history’s most polarising asset after the tulip in the mania of the 1630s. In terms of market capitalisation, Bitcoin would rank among the top 10 largest behind the likes of Apple, Microsoft, and Amazon. Closer to home, DBS’s digital exchange has seen rapid volume growth in cryptocurrency trading.

While it is tempting to try to board the accelerating Bitcoin rocket, one should first labour to determine what Bitcoin truly is – and what it is not.

In this report, we seek to demystify the cryptocurrency by deconstructing it into the opportunities it may bring, as well as the possible roadblocks to widespread adoption.

As with how there is always more than meets the eye, there are two sides to every (Bit)coin. I encourage you to consider our various deliberations for both bulls and bears of Bitcoin, while keeping in mind the boundless realm of possible outcomes.

I hope you enjoy the read.



Hou Wey Fook, CFA
Chief Investment Officer

Demystifying the enigmatic cryptocurrency

BITCOIN

The last decade was one for the risk takers. Investing in the S&P 500 would have netted a 284% return, while the tech-heavy Nasdaq Composite Index gained 444%. Yet none of these come close to the staggering 15,000x profits achieved with Bitcoin. Is this just another manic bubble, or the start of a new monetary revolution? We dig into both pros and cons, and run through valuation frameworks to find an answer.

BITCOIN

A brief summary

Introduction

The stratospheric rise in the prices of Bitcoin makes terms such as “fringe” and “alternative” seem no longer applicable, especially in comparison to its trillion-dollar valuations. Love it or hate it, it is now nearly impossible to avoid talking about Bitcoin when approaching the topic of investing.

As with most new technologies, investor enthusiasm can drive fanaticism, although this does not mean that the underlying technologies do not have value – for every “pets.com” that faded into oblivion, there were also the “Amazons” that survived and thrived to become dominant disruptive forces in the 21st century. With Bitcoin, investors stand to lose it all; yet the sky is also the limit – as with most early adopters of new technology. Fortune, as they say, always favours the bold.

Opportunity

+ Decentralisation

Bitcoin functions as a “monetary democracy” – executive decisions are made by the entire body of users of the payment system

+ Supply Limitation

Bitcoin stock is fixed at 21m in total. Mining rewards are halved roughly once every four years, decreasing the rate of inflation in the monetary base of Bitcoin over time

+ High value density

Theoretically, all the world’s private keys can be stored on a USB drive – valued at c.USD1t. No other physical commodity can rival this portability of wealth

Opposition

– Scalability

The Bitcoin blockchain can guarantee only around 4.6 transactions per second, vs more than 1,700 per second that Visa contends to accomplish on average

– Volatility

Large price volatility in the last three years alone – ranging USD3k to USD63k per BTC – makes it a poor substitute for money as a unit of account for goods and services

– Regulatory risk

Authorities unlikely to allow Bitcoin to threaten their monopolistic control over currency, with actions related to heavy taxation and delegitimation a potential scenario

Bitcoin: The people's currency.

Daryl Ho, CFA
Strategist

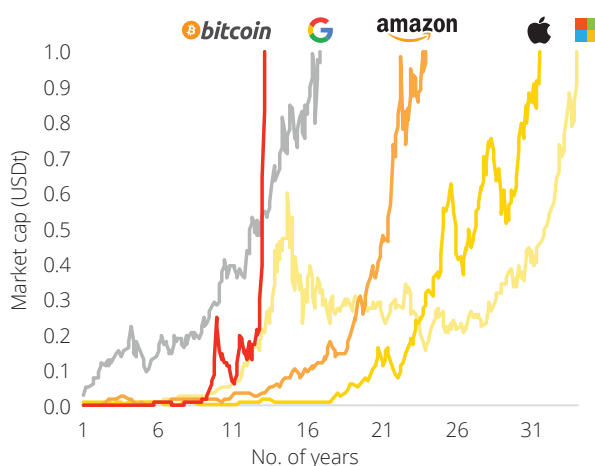
Benjamin Goh
Analyst

The trillion-dollar club. Terms such as “fringe”, “alternative”, and “experimental” tend to no longer apply when the assets they used to describe reach trillion-dollar valuations. The stratospheric rise in the prices of Bitcoin and other alternative currencies have left traditional investors scratching their heads; some indignant at the fact that a group of ragtag idealists have been minted multimillionaires overnight, while others more receptive of monetary transition are left wondering if they had already missed the boat. No matter which camp one finds themselves, it is now nearly impossible to avoid talking about Bitcoin when approaching the topic of investing.

Bitcoin – The Definition

Before we deconstruct, we define. Bitcoin is just one of the many digital “assets” assembled under the umbrella term known as cryptocurrency. Cryptocurrencies are decentralised; operating under peer-to-peer networking systems without the need for a central authority such as a government, central bank, or organisation to make executive decisions. The asset is a digital token which exists on a shared ledger known as a blockchain, where individual transactions are publicly available while individual identities are masked behind a public key – a random string of alphanumeric cryptographic code that functions like an “email address” in sending/receiving cryptocurrency.

Speeding into the trillion-dollar club



Source: blockchain.com, Bloomberg, DBS

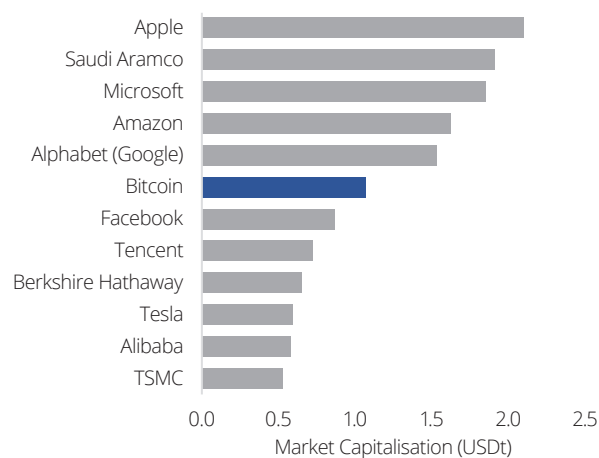
Bitcoin's prominence and longevity are owed in part to robustness in its conceptual proof-of-work, where its existing blockchain has had the longest history in resisting fraud, hacking, and other forms of risks that serve to undermine its legitimacy. The “Lindy effect” is exemplified here with Bitcoin – a concept which states that the longer something has survived, the longer it is likely to also survive in the future.

Central banks provided the rocket fuel. While technological adoption, an increasingly digitalised economy, and institutional acceptance are all narratives that have fuelled the surge in Bitcoin, undergirding it all is the longstanding trend of monetary debasement that has plagued not just the US, but various other major economies around the world as well.

Indeed, the exponential rise in Bitcoin prices are rivalled only by the meteoric expansion in the balance sheets of the largest global central banks around the world – the US Federal Reserve, the European Central Bank (ECB), the Bank of Japan (BOJ), as well as the People's Bank of China (PBOC). Such trends would unequivocally drive demand for alternative currencies, even unorthodox digital forms that would potentially represent a store of value more faithfully than physical dollars would.

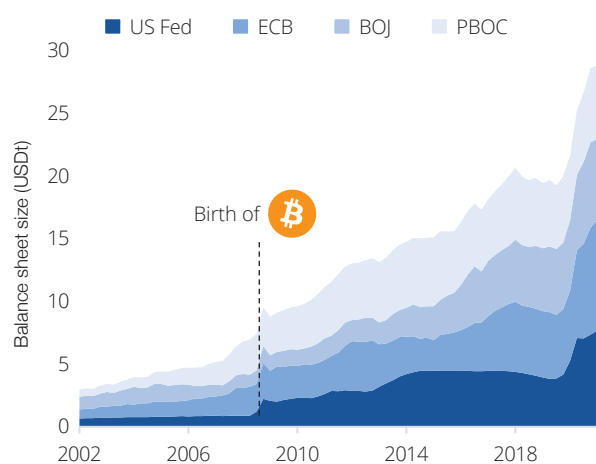
It is perhaps serendipitous then that Bitcoin was created in January 2009, just months after the US embarked on QE1 following the Global Financial

Who's the biggest of them all?



Source: Bloomberg DBS

Born amid crisis



Source: Bloomberg DBS

Crisis (GFC). Incidentally – almost resembling a warning to the incumbent fiat currency – the genesis block of Bitcoin had embedded within it the following text: “The Times 03/Jan/2009 Chancellor on brink of second bailout for banks”.

Is Bitcoin the true monetary messiah? While it is tempting to try to board the accelerating rocket that is Bitcoin away from the grounds of the debasement of traditional currencies, one should first labour to determine what Bitcoin truly is – and what it is not – in order to better gauge the opportunities and obstacles in having exposure to such a novel asset class.

We seek to first (i) investigate the many opportunities that Bitcoin brings, following which we (ii) expound on the various views in opposition, in order to bring various considerations for both bulls and bears of Bitcoin to engage in constructive dialogue around cryptocurrencies today.

Bitcoin – The Opportunity

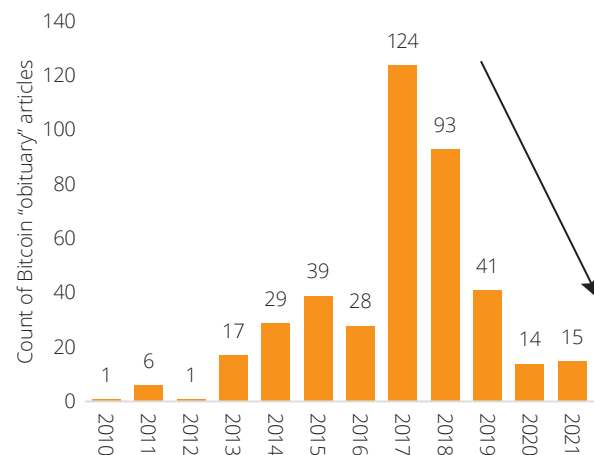
(+) Decentralisation – Power to the people

In most payment systems that empower a third party with executive decision-making authority, there lies an inherent conundrum: The objectives of the key decision maker can diverge from the goals of the users of the payment system. For example, users of a paper currency would prefer that the currency not be inflated to retain its real value, but the government issuing the currency might welcome inflation as a measure of health in the economy – a situation not dissimilar to what we observe across most countries today.

Bitcoin circumvents this conundrum as executive decisions are made by the entire body of users of the payment system, reducing the ability of any one group in discretionarily change the rules of the game. It functions on open source software, meaning that decisions to maintain or improve the system are transparent and must be agreed on by a large enough consensus of users – a “monetary democracy”, if you will. In a way, the success of democratic systems over autocratic systems in the political arena over the last century is perhaps seeing a parallel revolution occur in the monetary arena through the form of cryptocurrencies.

With power in the hands of the people, some form of the “Tinkerbell effect” is also at play here – an effect

Silencing the haters



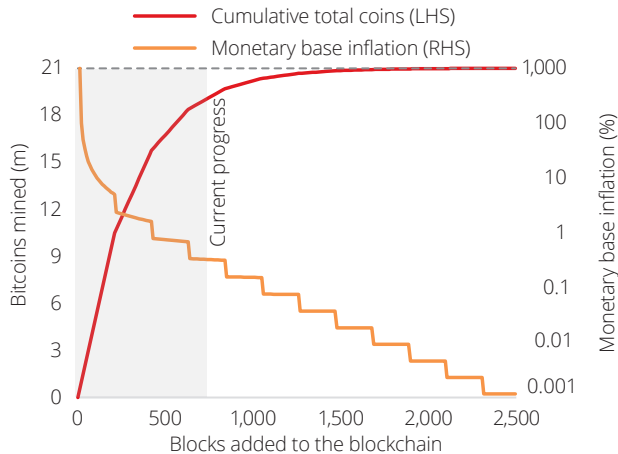
Source: 99bitcoins.com, DBS

that describes things that will continue to exist if people continue to believe in them. With Bitcoin, its discontinuation will only occur when its participants no longer believe it to be a viable medium of exchange. As it stands, this outcome is increasingly remote, with choruses of doubters continuing to fall by the wayside.

(+) Limited supply – Effective store of value

Bitcoin is governed by an underlying algorithm that fixes the maximum quantity of tokens to ever come into existence at 21m in total. At present, approximately 18.7m have been mined, while the full amount is expected to be mined by around the year 2140. Mining Bitcoin involves the adding of individual blocks of transactions to the blockchain by solving a complex mathematical problem akin to a trial-and-error process; successful addition to the blockchain (in effect approving a string of transactions) then rewards miners with coins.

Becoming rarer than gold



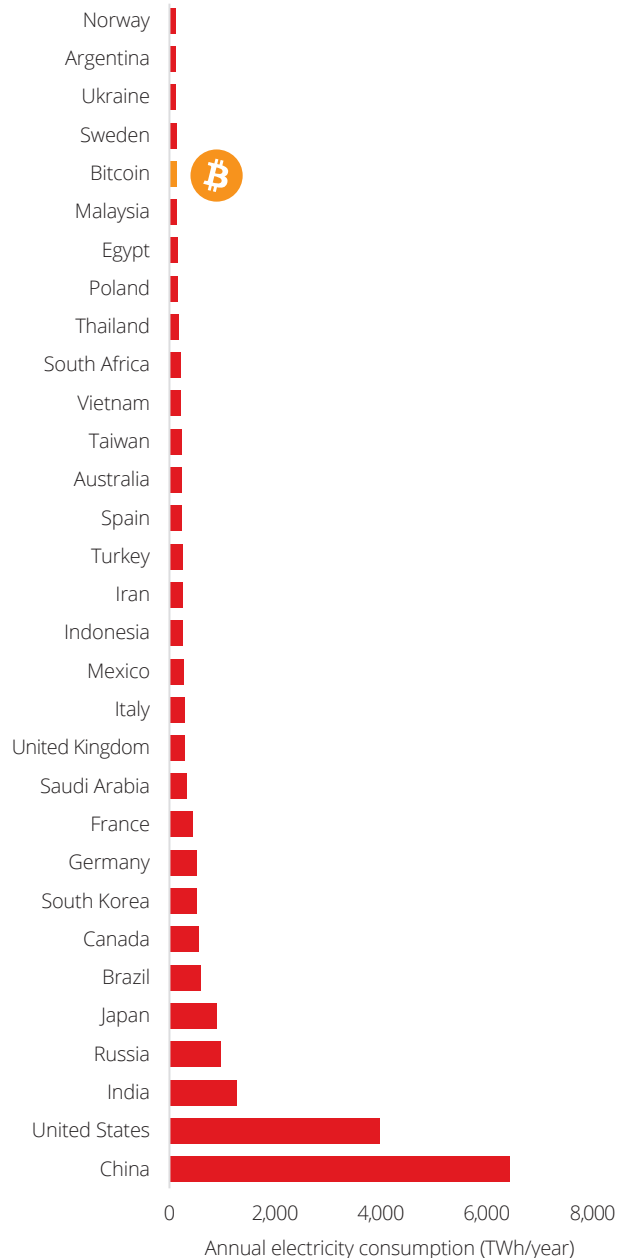
Source: DBS

When Bitcoin was first launched in 2009, miners were rewarded with 50 bitcoins (BTCs) per processed block. Since then, the reward has halved roughly once every four years, with the latest reward of 6.25 BTCs per added block coming into effect from 11 May 2020. The worldwide mining process itself requires tremendous amounts of energy; currently rivalling the electricity consumption of the nation of Sweden and ranking it among the top 30 highest power-consuming countries in the world.

This effect of both the (a) limited absolute stock, (b) decreasing rate of mining production, and (c) high energy production requirement serves to constrict supply of Bitcoin with the passage of time. Coupling this with an elevated demand through familiarity and adoption sees Bitcoin increasingly stabilising at higher valuations. Conceptually, Bitcoin is birthed through a huge expense of energy, produced in limited reserve – running in direct contrast to an endless supply of fiat currencies that can be seemingly printed to existence on a whim.

It is only causal then, to observe the latter being devalued against the former.

Bitcoin is power hungry



Source: US Energy Information Administration, University of Cambridge Bitcoin Electricity Consumption index, DBS

(+) More Crypto-commodity than Crypto-currency – High value density increases ease of portability

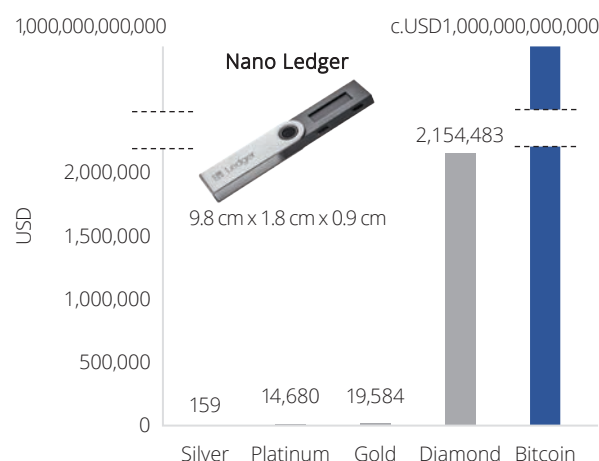
Despite being called a cryptocurrency, Bitcoin – by virtue of its limited supply characteristics described above and its ability to be “mined” – sees a more appropriate designation as a “crypto-commodity”. Securities such as equities, bonds, and currencies are in fact claims or liabilities; equities being entitlements to future earnings of a company, bonds to future interest/principal payments, and currencies to future tax revenues from their government issuers.

Bitcoin by nature is not a liability, with its value intrinsic as with most other physical commodities. It is no wonder then that it has been coined “digital gold”;

Bitcoin’s pseudonymous creator Satoshi Nakamoto himself stating that the “constant of amount of new coins is analogous to gold miners expending resources to add gold to circulation” – as voiced in his famed white paper titled “Bitcoin: A Peer-to-Peer Electronic Cash System”.

Yet for all its commodity-like merits, Bitcoin’s digital nature has imbued it with its own unique properties. Physically, Bitcoin (and other cryptocurrencies) have the highest value density of all known assets – theoretically all the world’s private keys can be stored in a nano ledger (like a USB drive) measuring 9.8 cm x 1.8 cm x 0.9 cm weighing all of 34 g, with a valuation presently north of USD1t. By comparison, we have charted the valuations of other high value commodities that one can fit within similar dimensions, and noted that even the best quality diamonds would not hold a candle to Bitcoin’s portability of value.

Carry USD1t in your pocket



Source: PolishedPrices.com, Bloomberg, DBS
Diamond prices are estimated using the price per carat of the highest grade.

This in effect makes Bitcoin a one-of-a-kind asset that anyone can conceal and transport without unduly alerting regional authorities or attracting criminal intent, giving the holder the attractive option of asset mobility unrivalled by any other currency or commodity. While this characteristic presents a more immediate solution for citizens in (a) unstable political jurisdictions, (b) facing hyperinflating currencies, or (c) unreliable banking systems, it nonetheless gives citizens around the globe an attractive choice of a portable store of wealth, hedging against the unpredictable nature of geopolitical tensions that the world increasingly faces today.

The option to uproot oneself from one jurisdiction to reside in another at a moment’s notice – with one’s wealth intact – is a luxury that hardly any other asset can offer at this juncture.

Lower correlation, better diversification

	S&P	Gold	US Real Estate	Corporate Bonds	Treasuries	Crude Oil	Bitcoin 
S&P	1.00						
Gold	0.08	1.00					
US Real Estate	0.71	0.18	1.00				
Corporate Bonds	0.55	0.48	0.68	1.00			
Treasuries	0.07	0.65	0.31	0.71	1.00		
Crude Oil	0.54	0.11	0.33	0.44	0.08	1.00	
Bitcoin 	0.16	-0.08	0.01	0.10	-0.01	0.08	1.00

Source: Bloomberg, DBS
Correlation of monthly rolling returns

(+) Low correlation with other assets – diversification benefits

Moving into a portfolio perspective, Bitcoin has exhibited generically low correlations with a broad range of asset classes – assets that formulate the core of most investment portfolios across the globe. As such, despite seeing extreme bouts of volatility from time to time, modern portfolio theory dictates that allocating even a small portion of the portfolio into Bitcoin would augment the risk-return profile of an investors' holdings.



Bitcoin – The Opposition

(-) Low transaction speeds – a scalability problem

Bitcoin is coded in such a way that the maximum memory size of each transaction block is one megabyte large, while each block can only be added to the blockchain once every 10 minutes or so. This is independent of the total number of miners in existence; as the number of miners increase, the complexity of the mathematical puzzle increases as such to ensure that the average time it takes to solve and add a block to the blockchain remains consistent at around 10 minutes.

As such, the Bitcoin blockchain can guarantee only around 4.6 transactions per second, a far cry from the more than 1,700 per second that Visa contends to accomplish on average. Bitcoin, functioning as a currency, appears to run up against a currency “impossible trinity” of being (a) a unit of account, (b) a means of transaction, and (c) a store of value (any currency at best only embodies two out of three); even as it could improve as a store of value vs other fiat currencies, it currently pales in comparison as a means of transaction.

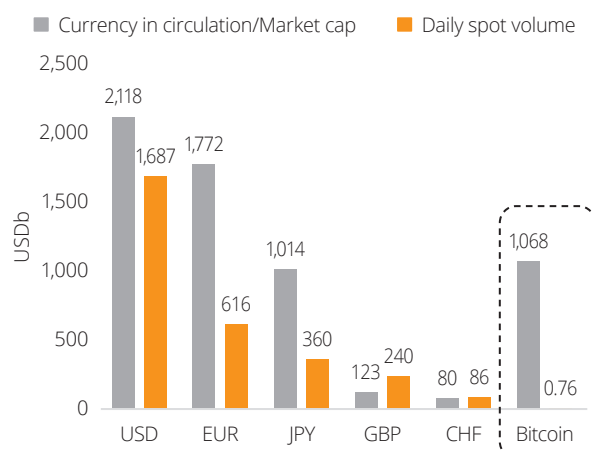
Comparing the daily spot volumes to currency in circulation of the G-3 currencies, we note that spot transactions make up 80%/35%/36% of the currency in circulation for USD/EUR/JPY, respectively. Conversely, Bitcoin daily transactions as a fraction of its market capitalisation stands at a minute 0.07% - hardly supportive of its sky high valuations as a transactional currency alone.

At present, users have means of getting around the problem by migrating to other blockchains such as Ripple, or to transition some of their holdings of BTC onto a Lightning Network – taking tokens off the blockchain to transact with another party via private networks, the mechanics of which are beyond the scope of this discussion.

(-) High price volatility – a poor unit of account

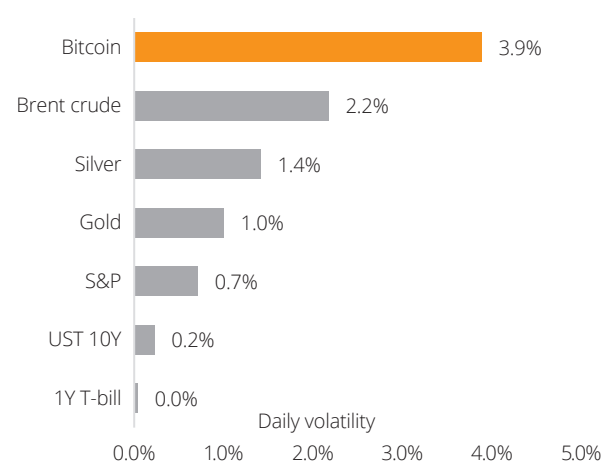
While Bitcoin's limited supply makes it desirable as an inflation hedge or a store of value, this is ultimately a double-edged sword, as an inelastic supply is unable to adjust to elastic demand, making them vulnerable to large price volatility. Observing the price movement of Bitcoin in the last three years alone – a range of USD3k to USD63k per BTC – would be sufficient to conclude that it would be a poor substitute for money as a unit of account for goods and services.

Low volume of Bitcoin transactions



Source: Bank of International Settlements, blockchain.com, Bloomberg, DBS

Not for the faint hearted



Source: Bloomberg, DBS

The daily price volatility of Bitcoin exceeds most Emerging Markets currencies, and exceeds even high beta commodities such as crude oil and silver. Ironically, given that Bitcoin has been described as “digital gold”, it was in fact the inability of the supply of gold to adjust to its fluctuating demand as a form of money that led to most nations abandoning it in favour of fiat currencies in the first place. Volatility would need to decline substantially either through (a) the progression of familiarity with time and/or (b) the emergence and acceptance of parallel cryptocurrencies with built-in adjustable supply, in order to see broader adoption.

(-) Regulatory uncertainty – Risk of unfavourable legislature

Although a touted benefit of decentralisation is that Bitcoin is not beholden to a central authority, few recognise that it is unlikely that these same central authorities would stand idly by without defending their monopolistic control over the various currencies that Bitcoin threatens to supplant. Although the possibility remains remote at present, the rapid trend of adoption implies that governments risk losing control of their monetary policy toolkits in the long term; should the majority of commerce and trade shift unchecked towards cryptocurrencies based on peer-to-peer networks.

It is no wonder then that much effort has been made in the development of several central bank digital currencies (CBDCs) around the world – central banks need to innovate to maintain control of their monetary sovereignty. Following the launch of the

“Sand Dollar” by the Bahamas in 2020, Sweden’s e-krona and China’s Digital Currency Electronic Payment (DCEP) are widely expected to be next in line. The US has exercised prudence, choosing to engage in further research and public consultation, although Fed chair Jerome Powell has noted that the USD status as the world’s reserve currency would give their CBDC a “first-mover advantage”.

While such central bank alternatives are at nascent stages, alternatives such as Bitcoin would remain relatively unscathed. History, however, suggests that government overreach is not without precedent. In 1933, President Franklin D. Roosevelt signed Executive Order 6102, one that forbade “the hoarding of gold coin, gold bullion, and gold certificates within the continental United States”. This was due to the judgement that the “hoarding” of gold exacerbated the effects of the Great Depression. If it could happen to gold, it would not be a stretch of the imagination for it to happen also to “digital gold” in the name of “crisis management”.

Extreme rulings aside, one other means by which governments can discourage the use of Bitcoin would be the imposition of burdensome taxes on capital gains, given that Bitcoin has already been classified as an asset similar to property by the US Internal Revenue Service. Therefore, even though Bitcoin may be a store of value vs fiat, this ensures that whatever valuation gains made would first be required as tribute to the state. With most government representatives voicing less than favourable opinions on Bitcoin, one would be naïve to not consider the possibilities of these “drastic” outcomes.

Bitcoin Soundbites

“I don’t think that Bitcoin – I’ve said this before – is widely used as a transaction mechanism. To the extent it’s used, I fear it’s often for illicit finance. It’s an extremely inefficient way of conducting transactions. And the amount of energy that’s consumed in processing those transactions is staggering. But it is a highly speculative asset, and I think people should beware.”

▶▶ **Janet Yellen,**
US Treasury

“They’re highly volatile, see Bitcoin, and therefore not really useful as a store of value. They’re more of an asset for speculation. So they’re also not particularly in use as a means of payment. It’s essentially a substitute for gold rather than for the dollar.”

Jerome Powell, ◀◀
US Federal Reserve

“For those who had assumed that it might turn into a currency: terribly sorry, but this is an asset and it’s a highly speculative asset which has conducted some funny business and some interesting and totally reprehensible money laundering activity.”

▶▶ **Christine Lagarde,**
European Central Bank

(-) Geopolitical considerations – More than meets the eye

While it is logical for most observers to assess Bitcoin via monetary and regulatory lens, much fewer would have considered a geopolitical lens in its evaluation. It was only recently that Peter Thiel, a self-professed “pro-crypto” and “pro-Bitcoin” venture capitalist, emerged with a dawning realisation. He quipped:

“I do wonder whether at this point, Bitcoin should also be thought [of] in part as a Chinese financial weapon against the US. It threatens fiat money, but it especially threatens the US dollar. [If] China’s long Bitcoin, perhaps from a geopolitical perspective, the US should be asking some tougher questions about exactly how that works.”

In terms of mining production, China is by far the leading exporter of Bitcoin, commanding c.65% of the world’s current production. Yet the US on the flipside remains the dominant buyer of Bitcoin – proving that trade imbalances between the two nations extend even into the realm of cryptocurrencies.

Whether they know it or not, China is presently the largest exporter of the asset that proponents tout to erode the reserve currency status of the USD. Concurrently, they are also developing the digital RMB that analysts opine has great potential to become the world’s next reserve currency. More than just an emerging new technology with its associated pros and cons, holders of Bitcoin would do just as well to be aware of the various political paradigms that have potential to drastically shape the trajectory of its future.

Leading producers of Bitcoin



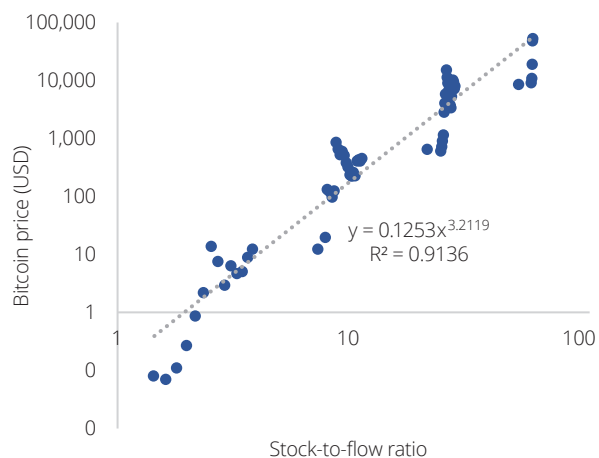
Source: University of Cambridge Bitcoin Electricity Consumption index, DBS

Bitcoin – Valuation Frameworks

Ultimately, the million (or rather, trillion) dollar question on Bitcoin is whether there is an existing metric by which this new asset class can be accurately valued. Current attempts at valuation fall under five major categories:

1. **Disruptable markets.** Analysts review the potential for disruption of various currency and commodity markets and estimate how much market share Bitcoin will take from fiat (currently c.USD100t of global money supply) or gold (currently valued as a c.USD9t market). For example, estimating that Bitcoin would eventually gain the prominence of gold with a back-of-envelope calculation would see an estimated price of $(\text{USD9t} \div \text{c.18m BTC in existence}) = \text{USD500k per BTC}$.
2. **Costs of production.** This is a supply side consideration applicable to traditional commodities where the equilibrium price of Bitcoin is equivalent to the cost of the last miner to join in producing (in this case, the cost of electricity consumed in mining Bitcoin).
3. **Equation of Exchange ($MV = PT$).** An old macroeconomic equation to value money using the supply of money (M), velocity of money in a given time period (V), the price level (P) and the transaction volume in a given time period (T). With a relatively static M for Bitcoin, estimates of V and T would lead to an approximation for its price P .
4. **Metcalf's law.** This was originally applied to telecommunications networks where valuations are proportional to the square of users in the system (n^2). For Bitcoin, this implies that a liner increase in adoption would lead to an exponential increase in valuations.
5. **Stock-to-flow models.** The stock-to-flow ratio is used to evaluate the current stock of a commodity against the flow of new production. High ratios are indicative of store-of-value commodities, as production is stored more as a monetary hedge than consumed in industrial applications.

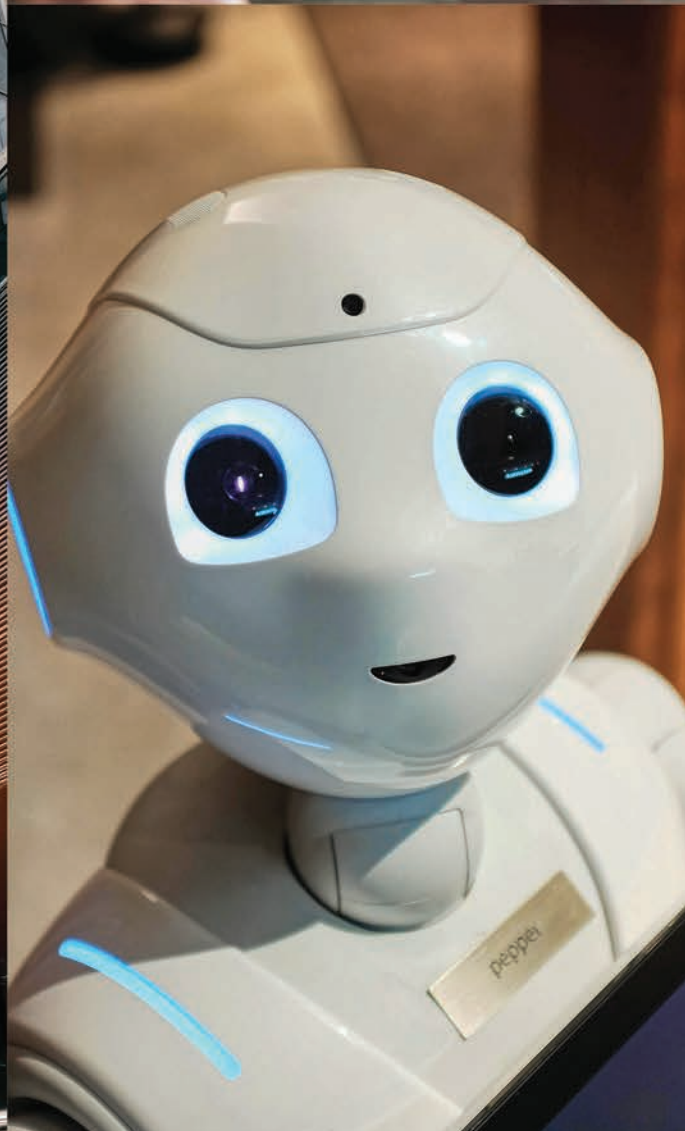
High correlation with stock-to-flow ratio



Source: Bloomberg, DBS

**Bitcoin
may become
history's
most
polarising asset**





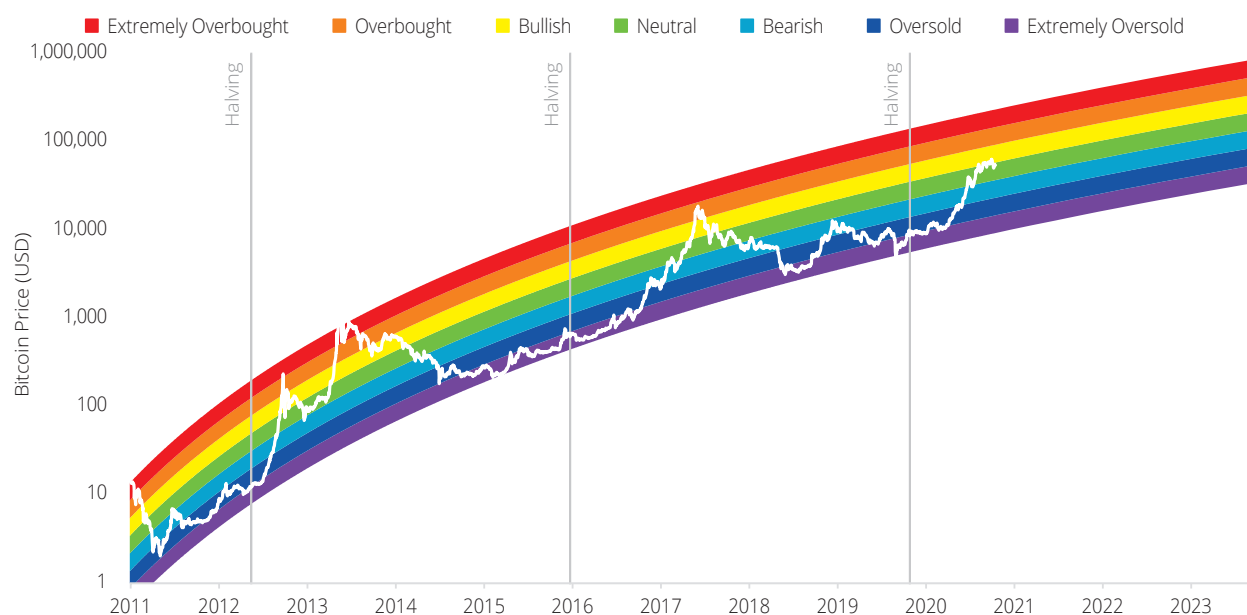
Finding a best fit for historical price trends. One alternative method to chart the trajectory of the price of Bitcoin would be to run a logarithmic regression of past price movements – given its penchant for extreme price fluctuations. Surprisingly, the price of Bitcoin oscillates about a logarithmic function relatively consistently over its history (as observed by user “trolololo” in the Bitcointalk forums in 2014). We consider the “neutral” price over time to be close to the green band on the Bitcoin “Rainbow”. From there, we augment the regression line upwards and downwards along a log scale to segment the past absolute ranges of Bitcoin prices into various coloured valuation bands. Some observations:

a. Valuations are “fair”. Despite the recent surge in price of Bitcoin, it is still within the “neutral” valuation based on its longer-term logarithmic trend.

b. Regularity of “boom-bust” cycles. Bitcoin halving cycles once every four years appear to trigger a “boom-bust” dynamic, where valuations start and end between halving cycles at extremely oversold levels while reaching overbought levels in the interim. This is congruous with a commodity supply shock, where an anticipated lower mining rate in traditional commodities can lead to erratic price surges. With Bitcoin, the supply shock comes once every four years with a halving of the reward for miners, as highlighted previously.

As with all regressions, we wish to qualify that projections based on past price trends are accurate till they are not. The coloured valuation bands are also arbitrarily divided without “scientific” basis. The rainbow chart is just a casual avenue to observe longer price trends instead of the daily volatility that appears to dominate the mindshare of market practitioners.

What’s at the end of the Rainbow?



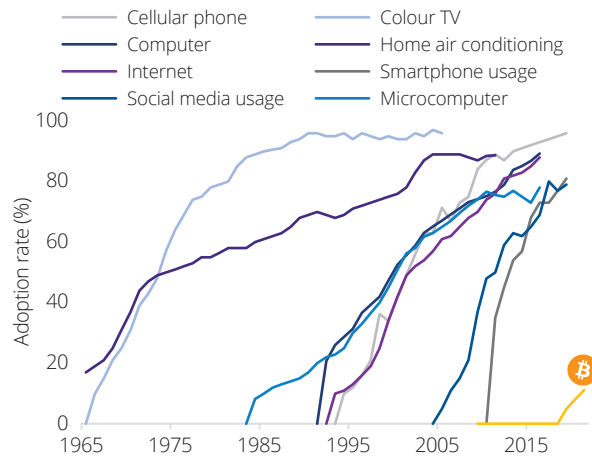
Source: Bitcointalk.org, DBS

Bitcoin – The Conclusion

History’s most polarising asset. One would be hard pressed to recall a comparable asset in financial history where valuation estimates were as vast as Bitcoin’s has been – ranging from nothing at all to the lofty millions of dollars. To the bears, it is worth considering that Bitcoin’s blockchain technology is indeed revolutionising finance as we speak, while characteristics of decentralisation, security, limited supply, and digital nature render it unique properties that are near impossible to find substitutes for. To the bulls, the future is still rife with uncertainty with Bitcoin’s scalability, volatility, regulatory, and geopolitical risks all serving as roadblocks to widespread adoption.

Letting history be our guide. As with most new technologies, investor enthusiasm can be a large factor in asset bubble formation, as the tech crisis at the turn of the new millennium has instructed. This certainly does not mean that the underlying technologies do not have value – for every “pets.com” that faded into oblivion, there were also the “Amazons” that survived and thrived to become dominant disruptive forces in the 21st century. What this highlights is that there is often a wide gap between (a) the value of an idea and (b) the investors’ ability to capture that value. While the idea of Bitcoin is revolutionary with a “first mover advantage”, one would also recall that the first web browser or search engine are no longer in existence.

Tech adoption takes time



Source: ourworldindata.org, DBS

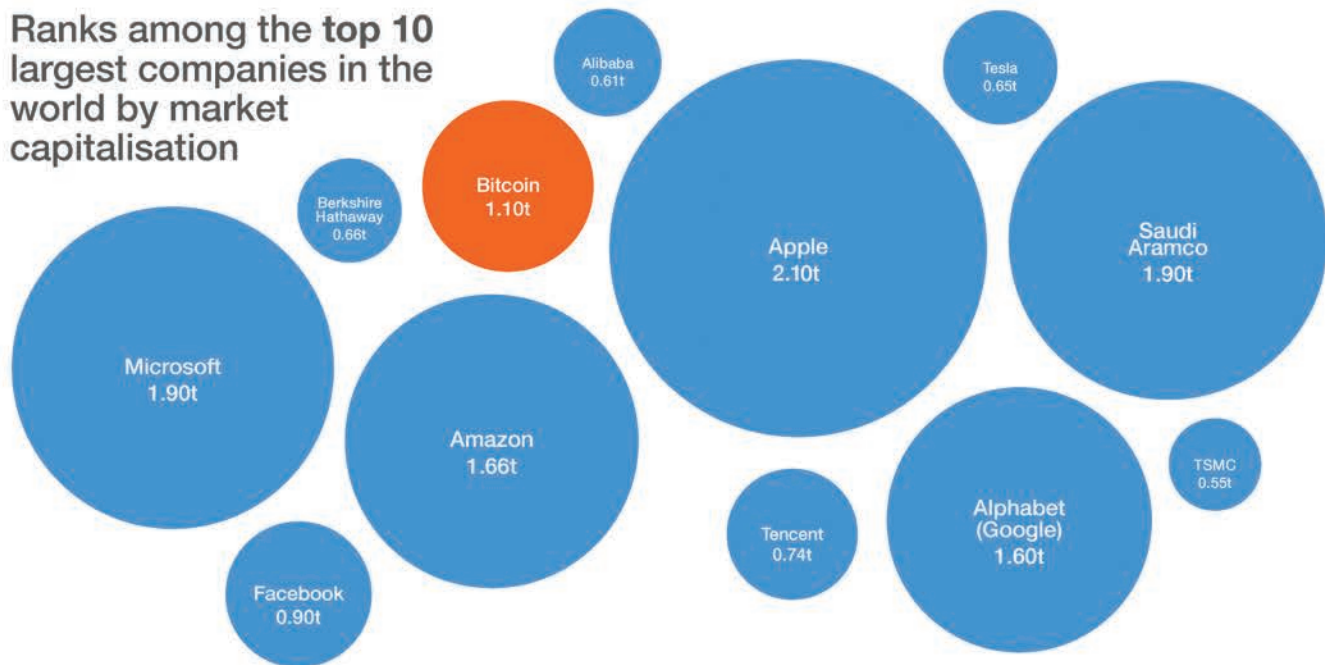
Standing on the precipice of change. As rational investors, it is consistent then from a standpoint of diversification to allocate funds to Bitcoin if the propositions above are indeed attractive, with full mental acceptance that losing these funds would be well within the realm of possible outcomes. Yet should valuations only rise skyward from here, the investor can stand with pride to say that they were right there when it began, playing their part in ushering in the dawn of the monetary revolution.

That, we suspect, is an opportunity that (fiat) money cannot buy.

Two sides to every (Bit)coin

As we demystify the enigmatic cryptocurrency, we take a look at the opportunities and opposition that surround it.

Ranks among the top 10 largest companies in the world by market capitalisation



Has low correlations with a broad range of assets

	S&P	Gold	US Real Estate	Corporate Treasuries	Crude Oil	Bitcoin
S&P	1.00					
Gold	0.08	1.00				
US Real Estate	0.71	0.18	1.00			
Corporate Treasuries	0.55	0.48	0.68	1.00		
Crude Oil	0.07	0.65	0.31	0.71	1.00	
Bitcoin	0.54	0.11	0.33	0.44	0.08	1.00

Correlation of monthly rolling returns

Is the fastest asset to reach a USD1t market cap

BITCOIN	12 years
GOOGLE	15 years
AMAZON	23 years
APPLE	28 years

Its daily volatility is not for the faint hearted



Bitcoin
3.9%



Brent crude
2.2%



Silver
1.4%



Gold
1.0%



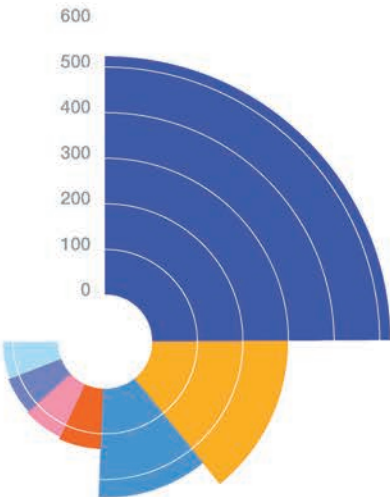
S&P
0.7%



UST10Y
0.2%

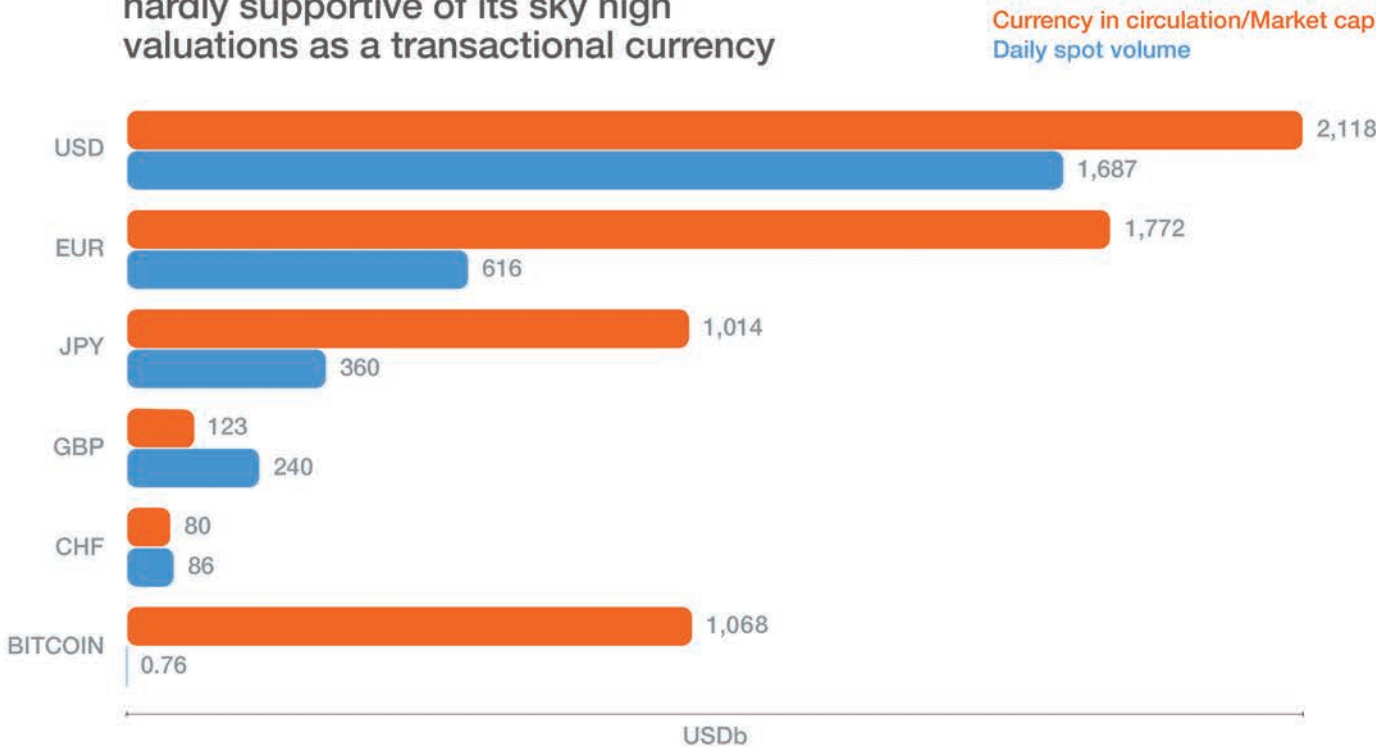
Mining consumes electricity in country-level magnitudes

Germany	524
UK	300
Australia	241
Bitcoin	134
Sweden	131
Argentina	125
Norway	124



Annual electricity consumption (TWh/year)

Bitcoin’s daily transactions are low, hardly supportive of its sky high valuations as a transactional currency



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