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Bitcoin: Bubble or Anti-Bubble?

Key Messages

Attractions: Bitcoin offers a number of attractions to investors, including impressive returns since creation, absence of any central controlling entity, & a potential store of value against severe inflation or currency depreciation.

Drawbacks: Extreme volatility, small overall market size, dominance of supply by a small number of bitcoin “whales”, pseudonymous nature makes proper Know Your Client and other financial regulation difficult to comply with, risk of permanent loss from loss of passwords or from exchange hacks; heightened regulatory risk from central banks, financial regulators, potential state-sponsored competition from new national “stablecoin” digital currencies.

Diversification in institutional funds: There may be a place for bitcoin as a very small, volatility-weighted allocation in a long-term, institutional pension fund. A number of institutional fund managers have thus incorporated bitcoin exposure into certain of their institutional funds.

No UCITS funds or ETFs available: while certain Europe- and Canada-listed bitcoin ETFs/ETCs exist, no UCITs funds are available with EU retail investor protections.

Regulatory warnings: US and UK financial regulators have recently issued clear warnings regarding retail investor investment in cryptocurrencies and related derivatives.

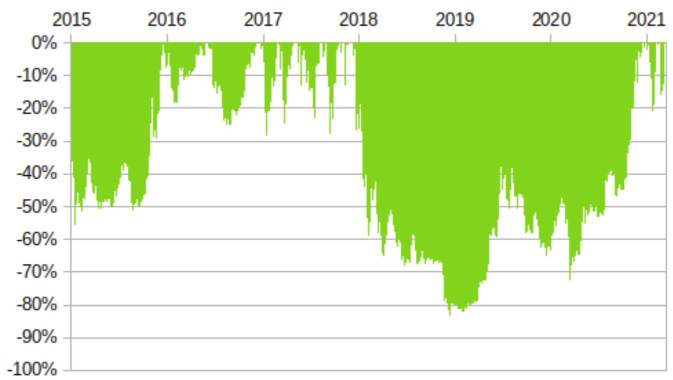
Focus instead on the “picks and shovels”: we believe that investors would do better to focus on industries and companies that can benefit from the emerging cryptocurrency and block chain ecosystem – including semiconductors, cybersecurity and fintech/e-payments.

Bitcoin’s Buyer Beware

BNP Paribas’s group chief economist William De Vijlder penned an editorial on the subject of bitcoin in his EcoWeek publication dated 15 March 2021, entitled “Bitcoin’s Buyer Beware”. A key argument made by Mr. De Vijlder is this:

"The extent of the change in the bitcoin price suggests that speculative waves are at work, driven by momentum buying and extrapolative expectations of price appreciation. When the fundamental value of an instrument like a cryptocurrency is very hard if not impossible to determine and when short-term price changes are a multiple of those observed in equity markets, ***caution should prevail when building and managing an exposure.****"*

BITCOIN DRAWDOWNS HAVE BEEN HUGE



Source: Yahoo Finance, BNP Paribas Wealth Management

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Can't Avoid the Crypto Question

Online financial literature has been full of the pros and cons of cryptocurrencies in general, and specifically Bitcoin in recent months. Rarely have we seen such trenchant, bitterly divided views on a financial instrument.

In this paper, we cannot do justice to the volumes that have been written both favouring and condemning Bitcoin and other cryptocurrencies. Instead, we seek to examine some of the key arguments both for and against Bitcoin as a potential investable asset for our wealth management clients.

Below, we list what we consider to be the key attractions and criticisms/risks of Bitcoin, which is by far the largest and best-established of current cryptocurrencies, with a total market capitalisation of just over USD1 trillion (on the basis of about 18.6 million Bitcoins currently in existence, at the USD56,600 Bitcoin price as of 15 March 2021).

Attractions of Bitcoin

1. Impressive price appreciation since creation
2. No central bank or government to control or manipulate the value or supply of Bitcoin
3. Store of value versus depreciating "fiat" currencies due to limited supply
4. Potential diversification away from classic stock and bond allocations
5. Ability to move Bitcoin as a digital asset cross-border with little difficulty
6. Use of Bitcoin as a financial asset to hedge against severe inflation or currency depreciation.

Risks or Uncertainties relating to Bitcoin

1. Extreme price volatility
2. Relatively small size of total Bitcoin market value, and dominance of supply by relatively few Bitcoin "whales", exacerbated by accumulation in treasury of Bitcoin by several US corporates
3. Anonymous nature of the protocol, making proper Know Your Client and application of other client-based financial compliance very difficult
4. Use of Bitcoin as a "blackmail" currency for hackers in ransomware attacks, or for other "black economy" transactions. This points (at the very least) to severe reputational risk
5. Risk of permanent loss of access to Bitcoin wallet either through loss of password or from digital theft from cryptocurrency exchange, e.g. Mt. Gox
6. Potential for competition from government- or central bank-sponsored "stablecoins"
7. Energy consumption from Bitcoin mining reportedly as large as Argentina's entire energy consumption, thus very environmentally wasteful
8. Lack of regulated UCITS funds or US-listed ETFs to invest in Bitcoin or other cryptocurrencies.
9. Continued regulatory risk to cryptocurrencies and cryptocurrency exchanges/platforms from governments, financial regulators (see below).

Proposed Regulatory Changes, Warnings

US: In December 2020, the U.S. Financial Crimes Enforcement Network (FinCEN), proposed rules affecting banks and money services companies as well as crypto exchanges. Under these rules, exchanges would have to collect names and home addresses for the owners of private crypto wallets receiving more than USD3,000 in cryptocurrencies in aggregate in one day. Such rules, could put a big chill on those holding cryptocurrencies on exchanges.

India: The Indian government has recently proposed a new law, which will result in fines for anyone who trades or even holds crypto assets countrywide. If the new bill is enacted it would make cryptocurrencies illegal and make possession illegal. Under this proposed law, investors would have six months to liquidate their crypto assets before a penalty is imposed.

UK: the Financial Conduct Authority (FCA) has warned that consumers should be prepared to lose all their money if they invest in schemes promising high returns from digital currencies such as Bitcoin. The FCA has urged consumers to understand what they are investing in and the financial risks involved, given they are unlikely to be protected by UK schemes in case of corporate bankruptcy.

What **really** attracts investors to Bitcoin?

Impressive performance

Clearly, the number 1 reason that Bitcoin (or other cryptocurrencies for that matter) has appeared on the radar screen of both retail and professional investors is its impressive price performance.

ANNUAL PERFORMANCE OF BITCOIN (IN USD)

Year	Annual return %
2017	1318%
2018	-73%
2019	87%
2020	303%
2021 ytd	96%
CAGR (2017 - Mar 2021)	**158%**

Note: 2021 as at 18 March with XBTUSD = USD56,600
Source: Yahoo Finance, BNP Paribas Wealth Management

Easy to move large monetary values cross-border

Transferring large amounts of traditional currency across national borders can be difficult, time-consuming and expensive, while Bitcoin does not suffer from these problems when going from one country to another, as it is global and decentralised by nature, and thus not tied by national boundaries in the first place.

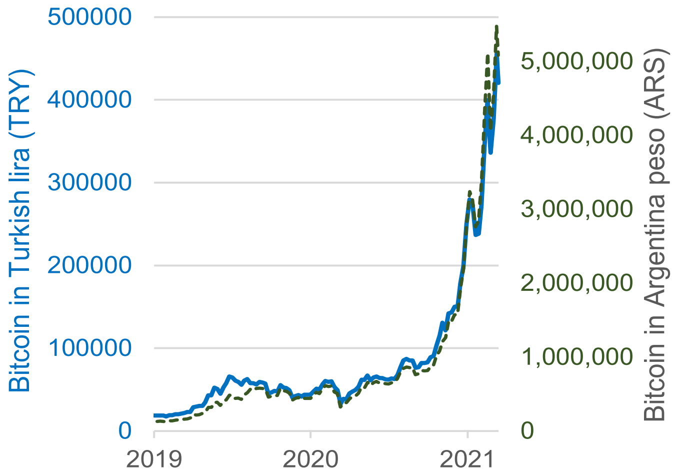
Protection against high inflation or currency devaluation

According to crypto.com, there were over 106 million cryptocurrency users globally in February 2021.

The rate of inflation in the U.S. is very low compared with many other countries worldwide. The chief strategy officer for the Human Rights Foundation, Alex Gladstein, has highlighted this issue. Gladstein is also a Bitcoin proponent and has been an evangelist for the leading crypto asset for quite some time.

"*Many might think that extreme inflation is a rare occurrence in today's modern world,*" Gladstein said to his 27,000 Twitter followers on 15 March 2021 "*That's simply not the case. There are 1.2 billion people currently living in countries experiencing double or triple-digit inflation,*" Gladstein insisted.

BITCOIN HAS BEEN A POPULAR HEDGE AGAINST DEPRECIATING TURKISH LIRA



Source: investing.com, BNP Paribas Wealth Management

In a number of countries where inflation is running in the double digits, and depreciation of the national currency against the US dollar and euro has been significant and prolonged, the number of cryptocurrency accounts is typically high, particularly among the well-educated 20- to 40-year olds. This underlines how middle class earners in these countries are increasingly using digital currencies as a means to avoid the damaging effects of inflation and currency depreciation on their effective purchasing power.

A potential diversification versus stocks and bonds

The correlation of Bitcoin against sovereign bond markets or global stock markets has been relatively low, suggesting a role for Bitcoin as a diversifying financial asset within a diversified portfolio. Since 2016, Bitcoin's correlation with (US) stocks has been 24%, and 20% with (US) bonds over the same period. So not a zero correlation with either asset class, but still potentially a useful diversifier, particularly considering Bitcoin's outstanding historical performance.

The Main Risks, Uncertainties of Bitcoin for Investors

Investors have to stomach frequent and extreme drawdowns

Bitcoin's volatility has been extreme, to say the least. When Bitcoin's price is increasing, investors are less concerned about volatility. However, when Bitcoin suffers one of its periodic substantial drawdown phases, then its volatility can result in heightened stress for any buy-and-hold investor (a "HODLer" in the Bitcoin parlance).

There have been frequent occasions when Bitcoin has fallen by 50% to 80% from peak, notably in 2015, 2018-19 and in 2020.

Back in January 2018, the total crypto market cap had climbed to an all-time high of USD762 billion before its collapse to just USD91 billion by December 2018.

So while the returns to a long-term holder of Bitcoin to date have been very impressive, this would only have been achieved by an investor with the robust constitution required to resist these repeated collapses in the value of Bitcoin.

Bitcoin is still small compared with traditional asset classes

Even after a meteoric rise since December 2018 (USD3,000 then to over USD56,000 at the time of writing), the total outstanding market capitalisation of all existing Bitcoins is just over USD1 trillion.

Even adding all 4,589 cryptocurrencies tracked by *investing.com*, the total capitalisation of the cryptocurrency universe amounts to USD1.7 trillion.

Compare this to the total valuations of the following asset classes:

- Global real estate: USD281 trillion
- Global debt: USD253 trillion
- Global stock markets: USD128 trillion
- Gold: USD11 trillion

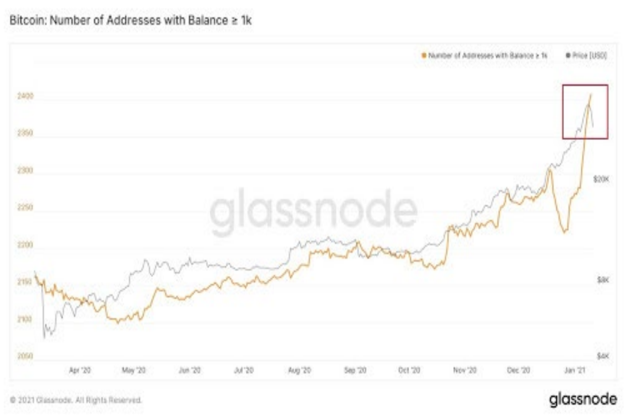
Source: visualcapitalist.com

The bottom line is that it is difficult to see Bitcoin as a mainstream rival to any of the above asset classes, given the gulf in capitalisation between Bitcoin and their respective markets.

Dominance of Bitcoin supply by Bitcoin "whales"

According to Business Insider (27 February 2021), there are around 1,000 individuals, known as "whales", who own 40% of the total outstanding supply of Bitcoin, i.e. around USD400 billion, that is to say, USD400 million each on average. This includes the anonymous founder of the Bitcoin protocol, known by his/her pseudonym Satoshi Nakamoto, who reportedly possesses 5.9% of the outstanding Bitcoin supply.

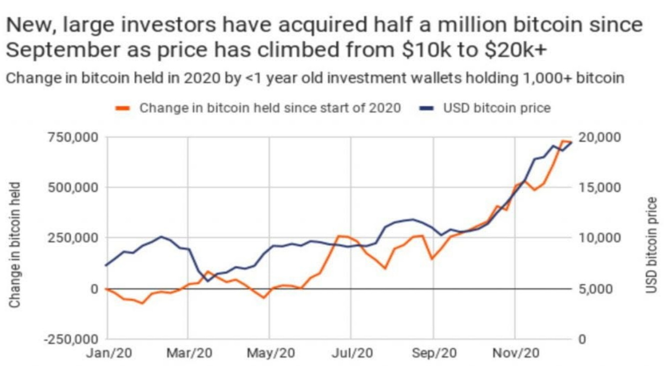
ESTIMATED HOLDERS OF > 1000 BITCOIN HITS A NEW HIGH AT 2500



Source: Glassnode

If anything, this concentration of the outstanding supply of Bitcoin in a few Bitcoin "whale" accounts has increased over the last few months, coincident with the sharp rise in the price of Bitcoin.

NEW LARGE INVESTORS HAVE DOMINATED BITCOIN BUYING OF LATE



Source: Chainalysis

Bitcoin whales worth USD20 million and above have collectively accumulated 500,000 Bitcoin since September 2020. At the current Bitcoin price, this is worth around USD28 billion and explains why Bitcoin's value has risen sharply since September 2020.

Risks from crypto exchange cyberattacks

Two of the most famous Bitcoin exchange hack attacks were on the Japan-based Mt. Gox and the Hong Kong-based Bitfinex crypto exchanges. In 2016, Bitfinex announced that 119,756 Bitcoin had been stolen from Bitcoin accounts on its exchange by hackers, worth then USD72 million, but now estimated at around USD6.8 billion.

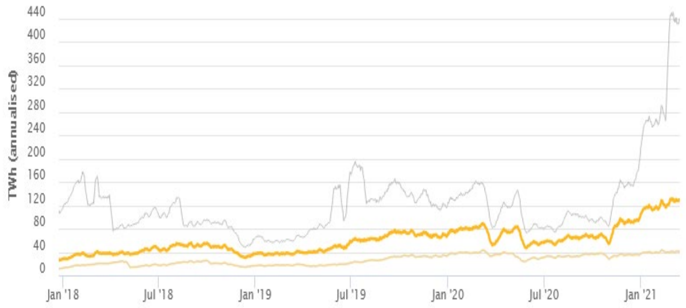
To soften the blow on the affected customer accounts, Bitfinex spread the losses across all the company's clients and assets. Customers saw a generalised loss of c. 36% in all.

The 2014 Mt. Gox exchange hack was far worse, resulting in the theft of 744,408 Bitcoin, then worth USD350m, which would have a value of USD42 billion today. The anonymity of Bitcoin accounts and the untraceability of Bitcoin transactions work in this case against the interests of investors, but in favour of these cryptocurrency exchange hackers.

Environmental concerns over energy usage

Bitcoin mining consumes vast amounts of electricity. According to *Business Insider*, some of the biggest Bitcoin mining companies are based in China, where most power comes from dirty coal plants, and asthma-inducing smog routinely makes even low-key outdoor activity unsafe for healthy adults.

DRAMATIC RISE IN GLOBAL ENERGY CONSUMPTION OF BITCOIN MINING



Source: University of Cambridge Judge Business School

"Mining" for the cryptocurrency is power-hungry, involving heavy computer calculations to verify transactions. University of Cambridge researchers say it consumes around 121.36 terawatt hours (TWh) a year. If Bitcoin were a country, it would be in the top 30 energy users worldwide.

According to this Cambridge analysis, the total amount of electricity consumed globally in mining Bitcoin currently is estimated to be more than the total electricity consumption of Argentina. For investors who wish to invest according to positive Environmental, Social and Governance (ESG) principles, this then poses a clear problem in terms of a high environmental cost for questionable economic benefit.

Conclusions

The current speculative hype surrounding Bitcoin and other cryptocurrencies in the retail investment arena lead us, at BNP Paribas Wealth Management, to remain prudent at the current time, and at the very least to reserve judgment on Bitcoin as potentially a suitable financial asset for our clients.

Any consideration of an investment in, or linked to, Bitcoin or other cryptocurrencies could only ever be available to investors classified as professional, given the complexity and novelty of the instrument and its underlying algorithm and risk metrics.

Note that at the present time, there are no Bitcoin-based UCITS funds or ETFs available. Furtrhermore, the explicit risk warnings issued lately by national financial regulators, such as the FINRA in the US, and the FCA in the UK, highlight the multiple risks associated with cryptocurrency-based or linked investments to retail investors.

Warren Buffett's mantra becomes all the more relevant in this case:

"Buy a stock [or any investment] the way you would buy a house. Understand and like it such that you'd be content to own it in the absence of any market."

We cannot say with any degree of certainty that Bitcoin and other cryptocurrencies are not in an investment bubble at present, given the vertiginous rise in cryptocurrency prices since 2019. It seems to act as a classic speculative asset for now, as per the six criteria for an investment bubble laid out in the Appendix.

For those investors who wish to have exposure to the growing cryptocurrency movement, we advocate a focus on the "**picks and shovels**" associated with the cryptocurrency ecosystem.

A pick-and-shovel play is an investment strategy that invests in the underlying technology needed to produce a good or service instead of in the final output. It is a way to invest in an industry without having to endure the risks of the market for the final product. The investment strategy is named after the tools needed to take part in the 1848-1855 California Gold Rush.

In short, we believe that investors would do better to focus on industries and companies that can benefit from, and leverage on, growth in the emerging cryptocurrency and block chain ecosystem – including **semiconductors, cybersecurity** and **fintech and e-payments.**

Appendix: Signs of a bubble

What are the signs of a speculative bubble (and do they apply potentially to Bitcoin)?

1. **Excessive and Unfounded Enthusiasm**: one of the most telling signs of a bubble is when market participants start ignoring the financial market's traditional rules. They are extremely optimistic about an asset class's future performance and disregard any vertical limitations in value growth. This is usually because of "revolutionary technologies." ✓ (*applies to Bitcoin/ crypto*)
2. **Entry of Speculators**: another sure indication of a bubble is when the market floods with speculators. These people have almost zero expertise in the technology or asset classes they are concerned with and are driven only by profit from short-term bets on price development. ✓
3. **Fast-Soaring Prices**: one thing about a bubble is that speculators shift from one asset class segment to another very quickly. ✓
4. **More Publicity**: excessive media coverage on an asset class. Once people stop discussing investing, a period of high returns has often simmered down. Professional investors who speculate early on price gains want to exit the asset class and are waiting for the bigger fool to purchase the assets at ridiculously high prices. With media frenzy, more inexperienced investors dive into the market. People get sucked into the market by alleged professionals who make overly positive market forecasts. ✓
5. **Low-Interest Rates Fuelling Speculation**: speculative bubbles flourish best when interest rates are low. After all, interest rates reflect the cost of money, and lower rates mean cheaper money. When the stock market is doing particularly well, professional and amateur investors alike begin to make "safe bets" using borrowed resources.✓
6. **Riding on Trends**: if you see market participants trusting that a drop in prices is unlikely to happen, you've got yourself a bubble. In this stage of the bubble, financial institutions take advantage of the thriving market using financial engineering. This involves creating derivative financial products on which people can bet, making it more likely that other markets will be affected when the bubble bursts.✓

Appendix: Other Bitcoin Risks, Uncertainties

Anonymity of users, making tracking of transactions impossible

Intense privacy protections are a key design feature of Bitcoin's source code. The system is designed to publicly record Bitcoin transactions and other relevant data (in the distributed blockchain) without revealing the identity of the individuals or groups involved. Instead, Bitcoin users are identified by public keys, or numerical codes that identify them to other users, and sometimes, pseudonymous handles or usernames. While this is clearly desirable to many users, it is unhelpful in enabling client-facing financial institutions to comply with the myriad of regulations that they are subject to, including Know Your Client, Anti-Money Laundering and Anti-Terrorism legislation to name but a few.

Association of Bitcoin with hackers and ransomware

Here is one example of the use of Bitcoin in extortion using ransomware: the Ryuk ransomware family has raked in USD150 million in Bitcoin, according to a joint report by cybersecurity firms Advanced Intel and Hyas (source: bitcoin.com).

"*The Ryuk family of ransomware has been particularly successful in economic terms as well as having a disruptive impact on many industries around the world,*" the report *authors described. Its targets tend to be high-profile organisations, including hospitals and newspapers. Apparently, "After tracing Bitcoin transactions for the known addresses attributable to Ryuk, the authors estimate that the criminal enterprise may be worth more than USD150 million.*"

Risk of permanent loss of access to Bitcoin wallet

One of the main ways Bitcoin is removed from circulation is by simply being lost. Every Bitcoin user has at least one private key (basically, a password), which is a whole number between 1 and 78 digits in length. Private keys confirm their owners' identities and allow them to spend or receive Bitcoin. Since Bitcoin owners need access to their private keys (password) or recovery phrase to transfer their Bitcoin, anybody that loses access to these will also lose the ability to spend their funds. In one notable incident, a user lost 7,500 Bitcoin (which today would be worth over USD420 million) after disposing of a hard drive containing his private Bitcoin key.

Bitcoin owners who have passed away account for some of the inaccessible Bitcoin. When the 30-year old founder of Canadian cryptocurrency exchange QuadrigaCX died, he also took with him the private keys to around USD190 million worth of various cryptocurrencies, including close to 1,000 Bitcoin.

If one were to consider any Bitcoin that hasn't moved for more than five years to be lost, then around 20% of all Bitcoin fits into this category. According to a June 2020 report by blockchain analytics firm Chainalysis, around 3.7 million Bitcoin have not been touched for at least 5 years — i.e. USD209 billion worth of Bitcoin that might never be moved again. Crypto data firm Glassnode estimates that about 3 million Bitcoin are lost forever, worth today around USD169 billion. In either case, this would suggest that the "true" value of all Bitcoin in circulation and not lost is more like USD880 billion maximum, rather than USD1.05 trillion.

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