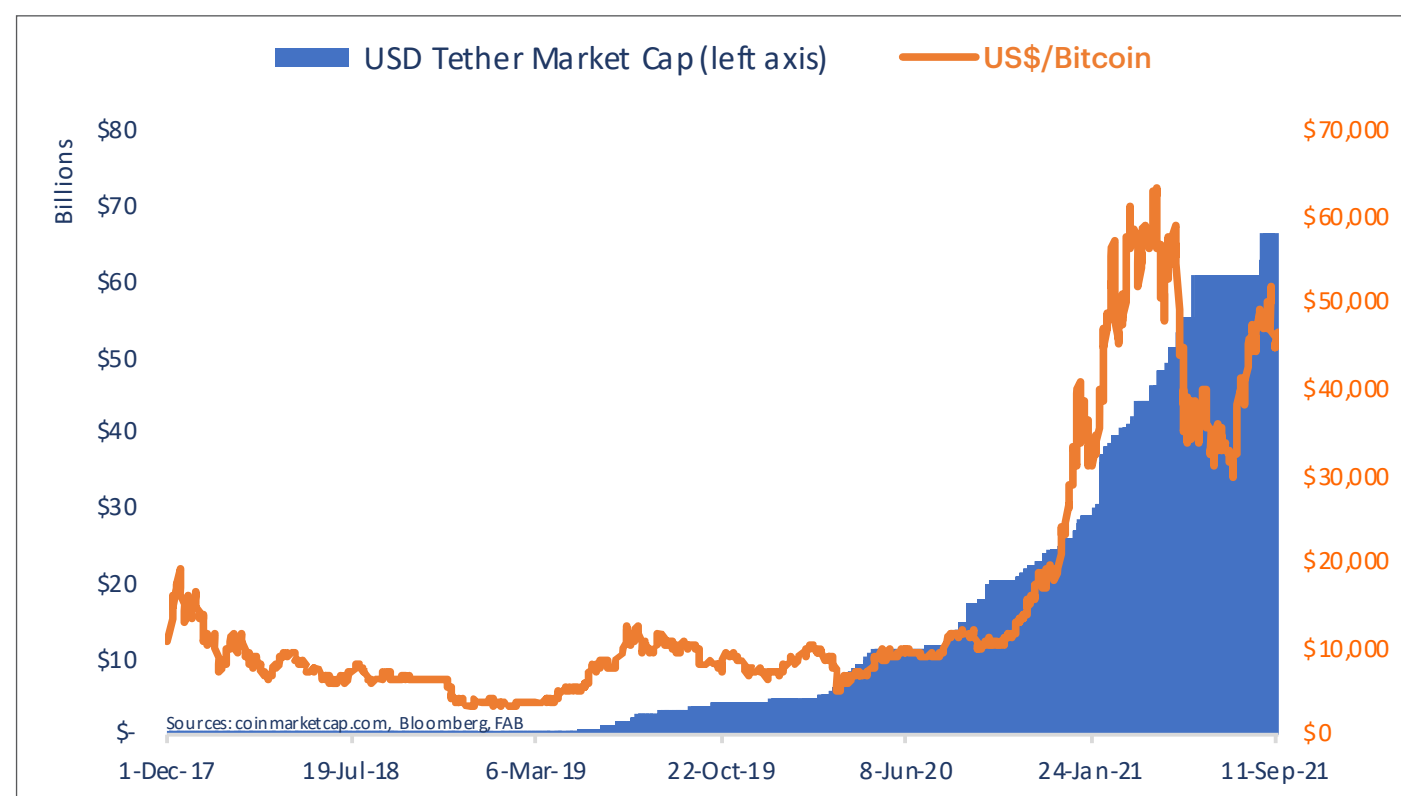# CRYPTOCURRENCIES,
WHAT YOU NEED TO KNOW

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Cryptocurrencies have attracted a lot of attention lately. That is partly because the price of bitcoin, the grandmother of them all, increased more than seven-fold or 612%, to US$65,868 from US$9,239 in the 18 months leading up to November 15th, 2021.

The move has seen several large corporations and even a nation embrace it (El Salvador made it legal tender in early September, 2021). This sort of movement has created a lot of hype around cryptocurrencies. Though the news flow has increased, very few people understand what cryptocurrencies are.

Sources: coinmarketcap.com, Bloomberg, FAB

Legend: USD Tether Market Cap (left axis), US$/Bitcoin

What is it?

A cryptocurrency is a piece of code, an entry in a distributed ledger. A couple of things make it unique: the entry happens through a cryptographic operation and it cannot be changed.

A look at the history of commercial cryptography may offer a better way to understand a cryptocurrency. Modern commercial cryptography, the kind still used

in computers to protect everything from messages to servers and systems, was initially born from the efforts of two American scholars, Diffie Whitefield and Martin Hellman. In the 1970s, they created mathematical ways to ensure a message between two points could only be read by the sender and the receiver.

In the 1980s, such techniques started to be used to validate tolls in automated toll road charging machines in Europe, perhaps the first form of digital

money. In 2008, a paper written by a person using the pseudonym Satoshi Nakamoto established a mathematical way to generate transaction entries, validated in a decentralised manner.

Whitefield, Hellman and Hal Finney (who was one of the early promoters of bitcoin and who, some have suggested, may have been the real Satoshi Nakamoto), have been called 'cyber anarchists' given their work to avoid government intervention in messaging and financial transactions. As for Satoshi Nakamoto, no one knows who he really was.

The decentralised, encrypted ledger system that Nakamoto created became known as blockchain and originated Bitcoin, the first cryptocurrency. It is called blockchain because each transaction is part of a block, and each block has references to the previous block so that all the transactions can be traced to their origin.

In fact, this is one of the great misunderstandings about most cryptocurrencies, with very few exceptions. While the ledger entries are all pseudonymous (they do not include the personal information of the person who made them), they are all public. Anyone can trace a bitcoin back to the first transaction in the chain, and if anyone had the information related to the 'wallets' involved in

the transaction, they would be able to establish who received or sent that bitcoin.

Because of this, many countries have established special taskforces that specialise in tracing illegal money that is transferred or transported using cryptocurrencies. Police in countries such as Denmark, Germany or the US can prosecute cryptocurrency exchanges to force them to provide information about wallets used in suspicious transactions.

How much is a cryptocurrency worth?

Only as much as the next person is willing to pay. While bitcoin transacted for US$65,868 in mid-November, 2021, this value was established by transactions in the open market over large cryptocurrency exchanges such as Gemini, Binance and Coinbase. The only reason it has this value is because users of these exchanges are willing to pay this amount in either cash or another cryptocurrency. Unlike a stock, which has future dividends, or a bond, which carries a promise to pay interest or principal, cryptocurrencies usually have no inherent value.

There are now thousands of cryptocurrencies and anyone can create a new one in minutes for a few dollars. If it will have value or not will depend on whether a large exchange lists and trades it and how much visibility it attracts.

Bitcoin and Ethereum have become widely accepted, and hundreds of exchanges across the world have pools of cash that trade in them, making the two an easy way to move money across borders. While regulators once paid little attention to such movements, they often monitor them nowadays.

Another cryptocurrency that has been widely used is USD Tether and its stablecoin peers. This one, however, has become the subject of a lot of controversy lately.

The stablecoin with the largest market cap and trading depth, USD Tether was created by the founders of exchange Bitfinex in 2014, but it really took off after the exchange had trouble honouring some withdrawal requests.

Between May, and December 17th of 2017, bitcoin prices rose to US$19,045 from US$1,439 at the same time as the market cap (the amount of coins circulating) of USD Tether increased to US$1.13 billion from US$55 million.

Its market cap was at US$73.89 billion in mid-November. USD Tether is now one of the top three most traded cryptocurrencies, and it is widely used to buy bitcoin and ethereum on exchanges.

According to USD Tether's white paper, every dollar of market capitalisation of USD Tether was meant to be backed by a dollar in a bank. However, following a suit from the New York Attorney General's Office, the company that manages the cryptocurrency admitted that it may not have exactly a dollar for every USD Tether outstanding. This is key, because the company that issues the USD Tether can 'print' as many as it wants. Some researchers have suggested it could, in theory, print USD Tethers that do not have dollars to back them and use these to pump the value of other cryptocurrencies.

In any case, stablecoins have become such a big part of the market that the US Treasury and other US regulators are now debating what risks they pose, and regulation that would allow only licenced financial institutions to issue such cryptocurrency.
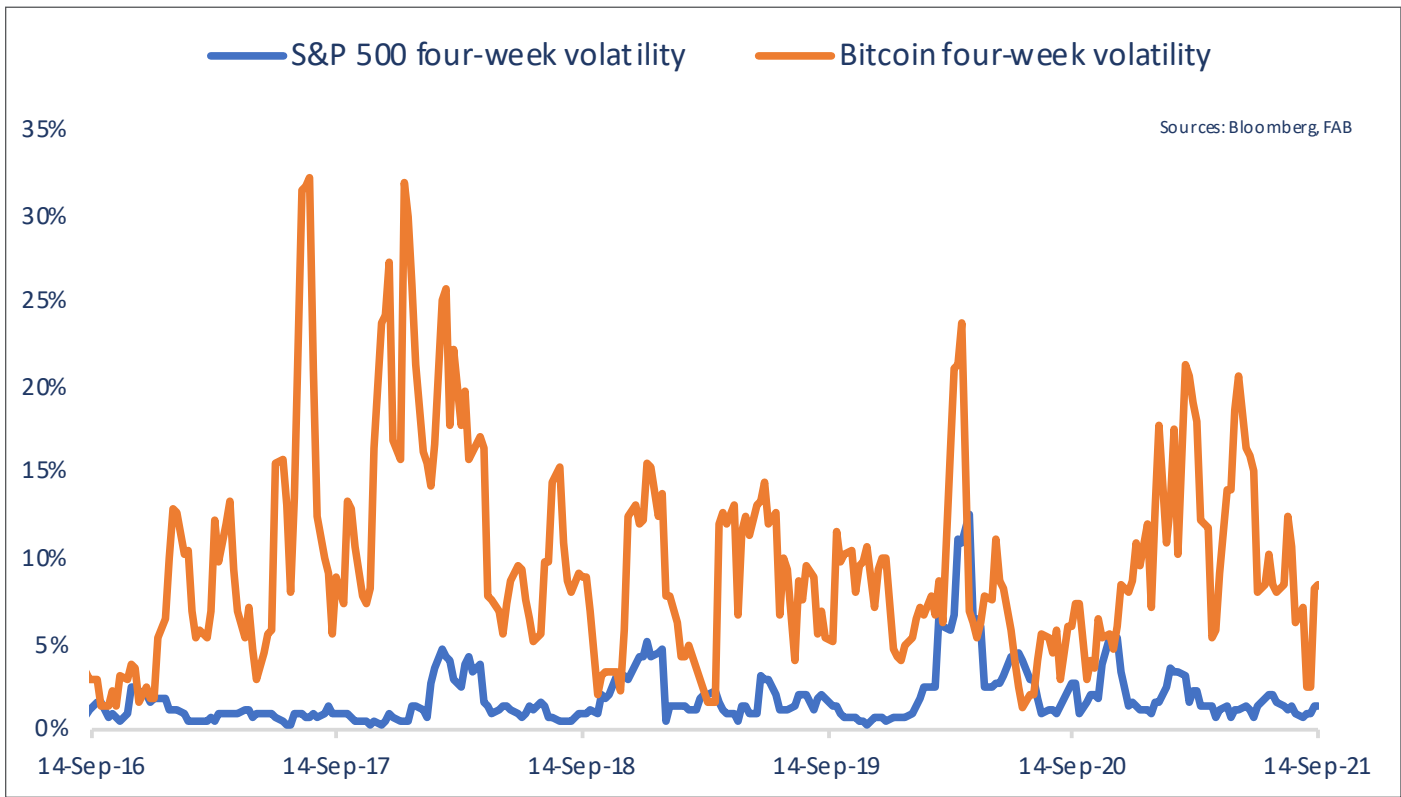
One of the problems with cryptocurrencies is that there is hardly any regulation related to them, which means that if something goes wrong, there is no one to whom people can complain. Short of cases of outright fraud, law enforcers have little jurisdiction over cryptocurrencies. While that is exactly what the anarchists who created it wanted, it also poses a conundrum for the common investor. If an investor is unlucky to end up buying a fraudulent cryptocurrency or losing money on a traditional cryptocurrency, it is hard to determine to whom they can even complain.

And though famous investors such as Ray Dalio have said recently that they hold some cryptocurrency, the truth is that Bitcoin, for one, is extremely volatile. Based on its history over the past five years, there is a 95% chance that it will move 23% up or down in any given week. That means that if someone invests US$100 today, there is a good chance that next week the person will have only US$77 – or US$123.

Over the past five years, there were seven weeks in which bitcoin fell more than 20%. Its worst week was in March, 2020 when the cryptocurrency dropped 36%. The opposite is also true. Bitcoin has logged fifteen weeks of gains of more than 20% in the past five years too, with its best one in July 2017, when the cryptocurrency rallied 49.3% in five days.

Finally, even if an investor is lucky to make a lot of money with cryptocurrencies, withdrawal into the real world carries high fees (up to 5% on some exchanges) and can be troublesome. Banks are often averse to anything that has originated from a cryptocurrency transaction and many will not accept a deposit if the client claims he got the money that way. Even cryptocurrency exchanges constantly change the banks they use as a result of the same aversion. It is not for the faint-hearted.

*Click **here** for the disclaimer.*