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Can cryptocurrencies be included in a sensible investor's portfolio?

Synopsis
While we're talking of cryptocurrencies in general, much of the background material is on Bitcoin, simply because that is the one digital token that has been there for the longest time and has a history, if you may!

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Shankar Sharma heads the global strategy group at First Global. Referred to as 'The Alchemist of Dalal Street' by Forbes magazine, he is known for rightly predicting the 2000 dotcom bust, the 2008 market crash, the Indian market bull run since 2009, the oil price crash in 2008 and the oil bull market in 2016. A Dean's List alumni from Asian Institute of Management, Manila, Sharma had a successful stint with Citibank, before founding his own venture, First Global (www.firstglobalsec.com) in 1990. He is very active on social media and can be followed at Twitter (https://bit.ly/3fIPN68), Facebook (https://bit.ly/3kkHQYf), LinkedIn (https://bit.ly/3fFwt9A), Instagram (https://bit.ly/3gO1klC) and Youtube (https://bit.ly/3ih1z9h). Devina Mehra, Co-founder and Chairperson of First Global, is an IIM-A gold medalist. She, too, had a seven-year-long stint at Citibank before launching India's leading institutional brokerage firm. She spearheaded First Global's globalisation over two

"Should I buy **Bitcoin**?"

"What do you think of cryptocurrencies?"

These are now popular questions on the party circuit, even if the party is only a virtual one on Zoom.

The question is: should cryptocurrencies be included in a sensible investor's portfolio? And here's an attempt to answer it in a structured manner.

But before addressing this question, here's some background to cryptocurrency: how it started, what's been its history and, the most important question that many are fuzzy about: what is a **cryptocurrency** anyway?

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decades ago, making First Global the first Asian (ex-Japan) firm to become a member of the London Stock Exchange and then the NASD. Some of her major calls were identifying the cashflow turnaround in Amazon at a price of $11 and highlighting the accounting shenanigans in Worldcom and Enron well ahead of the scandals. Her twitter handle is @devinamehra. Both of them have been quoted widely on Global as well as Indian markets by global financial media like Wall Street Journal, Barron's, Business Week, Fortune, Forbes, CNBC, Financial Times etc

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Is Bitcoin Digital Gold?

- **First off, what is Bitcoin?**

It is a digital asset, of course. The unique thing about it is that it was started using **blockchain** technology. Later, the same technology was used in other cryptocurrencies like Ether (Ethereum), Tether, Binance Coin, Dogecoin, et al.

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Now, what's blockchain technology? Most normal databases, such as an SQL, have someone in charge. This entity which is 'in charge' can, therefore, change the entries – even give themselves extra currency, for example.

Blockchain is different, because nobody is in charge. A blockchain is essentially a digital ledger of transactions that is duplicated and distributed across the entire network of computer systems on the blockchain. This makes it difficult, almost impossible, to change, hack or cheat the system; as essentially all user systems have a copy of the ledger. As more users come on, the system becomes even more secure.

This was the reason why Bitcoin (BTC) succeeded, whereas many other forms of digital money schemes failed in the past. It solved the problem of trust. Bitcoins can't be faked, hacked or double-spent; so people that own this money can trust that it has some value.

There are a total of 21 million Bitcoins that can be mined. Of this, 18.7 million have already been mined.

- **How have Bitcoin prices moved in the past?**

Now, what's the history of this value or price of Bitcoin? It has seen some strong gyrations, to put it mildly!

The first Bitcoin was mined in 2009 and the first 'value' established was 0.076 cents. Yes, you read that right! Back then, you could buy over 1,300 bitcoins for a dollar.

In May 2010, a developer and early adopter, Laszlo, offered 10,000 BTC for two large pizzas on bitcointalk.org. Someone took him up on that offer and ordered the two pizzas. At a cost of around $25, these pizzas set the first 'real-life' value for BTC at $0.0025. This was a significant milestone in Bitcoin's history and has since been celebrated in the ecosystem as 'Bitcoin Pizza Day'.

In 2011, Bitcoin reached $1, then $10, then almost $32, only to crash to $10 in a matter of four days. It wouldn't be the last parabolic movement in Bitcoin prices.

In April 2013, Bitcoin price surpassed the $100 mark for the first time, while the market-cap broke the $1 billion threshold just a few days earlier. Bitcoin reached $266, before crashing again to around $100, after another exchange hack. It broke the $1,000 barrier in November that year. But a ban from China and the bankruptcy of Mt Gox, both in a span of a couple of months, drove the price down again, and Bitcoin wouldn't reach that psychological barrier again until January 2017.

Calendar 2017 turned out to be a very interesting year for Bitcoin, and the ecosystem in general. The cryptocurrency rallied from around the $1,000 mark to almost $19,000 by December 2017.

Come March 2020, Bitcoin was no exception to the 'dash for cash,' considering it tanked more than 50% to $4,800 at the height of the Covid-19 crisis. However, the rebound was as fierce, with the BTC hitting an all-time high of $64,000 on April 14, 2021. The recent top coincidentally was reached on the same day we witnessed the bumper listing of Coinbase (COIN) on Nasdaq at an eye-popping valuation of $100 billion. Of course, Bitcoin has had another crash since then.

- **Bitcoin vs Gold: Right match?**

Bitcoin is largely being touted as 'digital gold' or as a store of value. Remember, to become what it is now and to be in all these bank vaults around the world, gold itself survived the end of gold coinage, the rise of paper money, the end of the gold standard and so on. It fended off many challenges to become what it is today.

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- **Is the volatility in a new asset class natural?**

It is only natural to expect that we will witness volatility in this novel asset class/ payment system. Here, the idea of antifragility could be applicable i.e. the more it survives, the more reputable it becomes. And it definitely makes sense for the new generation as a liquid, mobile store of value. After all, whether it is gold or diamond, the value in them is inherently what the buyer is willing to pay.

One view is that Bitcoin is to the millennials what gold was to us a generation ago. It's liquid, mobile, hedges against inflation and gives growth. The current generation associates with Bitcoin all the attributes that we grew up associating with gold.

- **What about safety?**

The safety aspect depends on the investor's definition of what is 'safe'. Let's consider two simple ways of figuring this out: price volatility and the maximum drawdown (the maximum decline from the peak point to a pullback low).

If we look at volatility, Bitcoin is five times more volatile than gold and 10 times as volatile as the US Dollar (DXY). Meanwhile, the maximum drawdown of BTC has seen is a whopping 83%, compared with 20% for gold and 14% for the US dollar. Another empirical evidence of BTC's notorious risk profile can be encapsulated by looking at the maximum one-day loss registered: it was 27%! (March 12, 2020).

- **It doesn't look like a store of value; does it?**

Another possible risk is the complete loss of principal. By storing your Bitcoins on an exchange wallet ('hot wallet' or 'online wallet'), you are taking on counter-party risk (hack, default, etc). A 'cold wallet' can come in handy here. A 'cold wallet' is a wallet that is not connected to the Internet and, therefore, stands a far lower risk of being compromised.

Now, on to the core question that we set out to answer:

Should Bitcoin/cryptocurrency be part of a sensible investor's portfolio?

Does this volatility mean that crypto should not be a part of your investment portfolio? Not quite.

The thing is, rather than assess it only on a standalone basis, it is important to look at any investment as part of a portfolio to assess whether it adds any value, in terms of risk-adjusted return, to your original portfolio.

On this front, BTC comes out much better than expected.

The real question to be addressed is: Should you ever add a volatile asset to your portfolio?

The answer may be yes, if the asset's returns are uncorrelated/negatively correlated with the rest of what you hold. In such a case, adding a small sliver of a volatile asset may improve the performance of your portfolio.

The empirically low correlation that Bitcoin enjoys with other asset classes justifies an evaluation of its potential role within an investment portfolio. We have used Bitcoins for this analysis, as that is the only crypto asset with long enough history for a meaningful analysis.

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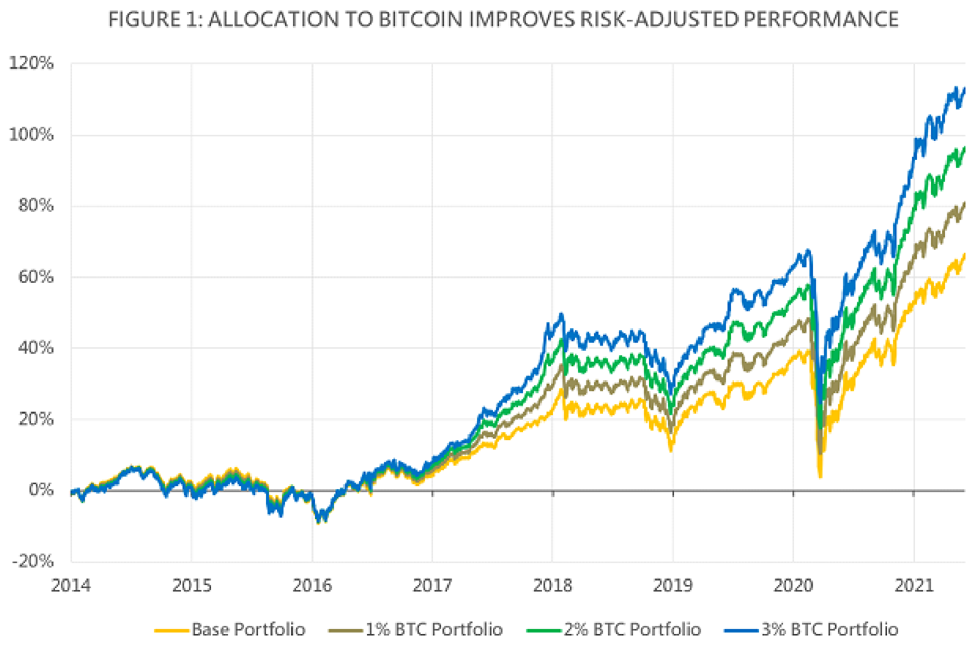
Let's consider a simple yet diversified base portfolio consisting of 60% global equities, 30% global bonds, 5% commodities and 5% global REITs. We will compare this portfolio with its variants where 1%, 2%, and finally 3% capital is allocated to

Bitcoin (see Exhibit 1).



Source: First Global, Bloomberg. From 31st December 2013 to 4th June 2021. The start date was selected based on when Bitcoins became relatively liquid. Base portfolio defined as Equities -- MSCI ACWI Index (60%); Bonds -- Bloomberg Multiverse Index (30%); Commodities -- S&P GSCI Index (5%); REITs -- S&P Global REIT Index (5%). All asset classes are priced in USD.

Let's look at the results:

- Even a small 1% allocation to Bitcoin (BTC) led to an outperformance of 1.2% per annum compared with the Base Portfolio, with almost no additional volatility.
- Risk-adjusted return (CAGR/Volatility) boosted to 0.86 for the 1% BTC portfolio compared with 0.73 for the Base Portfolio.

There is, thus, a case to be made for adding a small sliver of cryptocurrency in a diversified portfolio.

- **Can crypto be used as currency for transactions?**

Can there be a future world operating on digital currencies?

As we learn in Economics 101, one of the primary functions of a currency is as a medium of exchange. For this to happen, two things are required: One, the value of the currency should be fairly stable over time. Two, the infrastructure surrounding it should have the ability to process sizable transactions relatively quickly.

On the first, obviously with its wild gyrations in price, the digital currency value is unstable, which makes it not so great an option to set the value of other goods and services.

Even on the speed of transactions, Bitcoin can't come even close to competing with the legacy payment systems. With a capacity of just seven transactions per second and confirmation time of 10 minutes on an average, it's far behind Visa's maximum capacity of 65,000 transactions per second and nearly instant payments.

Furthermore, because only so many transactions can fit in a block when the network is congested, fees can skyrocket in a bidding war between users to get their transactions in the next block. However, there are certain upgrades in line, which may solve all these problems, such as a 'Lightning Network'.

- **Elephant in the room: The Ecological cost**

Cryptocurrency transaction confirmation would depend on a 'proof-of-work' mechanism. That mechanism requires miners to solve computationally expensive and complex cryptographic puzzles. Miners receive compensation in the form of digital currency for the same. However, this exercise requires significant energy consumption.

Currently, Bitcoin alone accounts for 0.62% of the world's total electricity consumption i.e. if Bitcoin were a country, it would rank 27th in annual electricity consumption! The ecological burden of Bitcoins is real and huge, even if Elon Musk appears to have heard of it only recently!

According to a recent report by Cambridge University, on an average 39% of proof-of-work mining is powered by renewable energy, primarily hydroelectric energy. China is the biggest player here. However, considerable commercial energy continues to be used.

- **Transaction costs, aka the 'Coinbase' Loot**

Coinbase, the much feted company that did its IPO recently, charges a whopping 1.49% variable fee if the Bitcoin transaction amount is greater than $100. For example, if you're buying Bitcoin worth $1,000 through your bank account, you'll end up with approximately $985 worth of the digital token. They also charge a spread of 0.50% on cryptocurrency transactions (some users say it goes as high as 3% sometimes), over the actual price. Of course, in one of the most liquid exchanges, Binance, the transaction fee is just 0.10%.

Basically, there is still a lot of inefficiency in transaction costs. However, this is not an insurmountable problem and we expect this to align to more reasonable levels over time, as has happened with many new technologies – from solar power to electric vehicles.

- **Going the ETF way**

For investors intrigued by the promise of the new-crypto economy, besides buying the currencies themselves, there are liquid, exchange-traded funds (ETFs) available. These invest in companies across the globe that are either actively using, investing in, developing, or have products that are poised to benefit from blockchain technology.

These ETFs provide a relatively less volatile option of taking exposure to the crypto space. Some of the well-known as well as newly launched ETFs in this space include Amplify Transformational Data Sharing ETF (BLOK), Bitwise Crypto Industry Innovators ETF (BITQ), Siren ETF Trust Siren Nasdaq NexGen Economy ETF (BLCN), First Trust Index Innovative Transaction & Process ETF (LEGR) and VanEck Vectors Digital Transformation ETF (DAPP).

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