Introduction

Crypto currency has become the new buzzword in financial markets. At the forefront of this, with a value in excess of $60 billion, is bitcoin¹.

The popularity around bitcoin and other crypto currencies comes primarily from the impressive return profile it has achieved in a very short space of time. To put this into perspective, in five years an investment in bitcoin has been 200 times more profitable than if you had invested in the Apple IPO in 1980. And just this year, we have seen the crypto currency rise by almost 400% versus the US dollar.

This supernormal return profile alongside its low correlation to traditional asset classes has drawn investor interest. Due to the extreme return profile of bitcoin, even a 1% allocation can make a big difference to a multi-asset portfolio. Does it make sense to put it in our strategic asset allocation (SAA)?

Disciplined and structured approach to asset allocation

“Serious investing consists of buying things because the price is attractive relative to intrinsic value. Speculation, on the other hand, occurs when people buy something without any consideration of its underlying value or the appropriateness of its price, solely because they think others will pay more for it in the future”

Howard Marks, July 2017

A first observation is that we have a disciplined and structured approach to asset allocation. Investors need to compare asset classes on a like-for-like basis in order to understand relative attractiveness. For this, we apply our proprietary risk premia framework.

So we should think hard about where bitcoin sits within the opportunity set. But, can we build an expected return for bitcoin? And what is its intrinsic value?

It’s clear that historic returns have been phenomenal (five year annualised returns are above 200%). The challenge is that we have no way of knowing if this will continue. Crypto currencies have no valuation anchor.

There is no straightforward way of building an expected risk/return profile. Warren Buffet puts it clearly: “…the idea that it [bitcoin] has some huge intrinsic value is just a joke in my view”. And Buffett is not the only value-focused investor who reaches this conclusion².

Unlike other asset classes, crypto currencies do not generate cash flows so valuing them is challenging. We face a similar hurdle when we think about intrinsic value for commodities, like gold. But at least for gold, we do have significant historic data to observe its behaviour under different economic, monetary and market regimes. And it has a lengthy academic literature³.

One could argue that other, fiat currencies also suffer from an absence of intrinsic value. Should we treat bitcoin in the same way as we think about the euro or the US dollar?

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¹ This is a digital currency that isn’t issued or controlled by any official authority nor is it circulated through financial intermediaries. Instead it operates within a decentralised peer-to-peer payment network using block chain technology. https://bitcoin.org/bitcoin.pdf
² https://www.oaktreecapital.com/insights/howard-marks-memos
³ The debate over the value of gold is also an example of a Keynesian “beauty contest” which suggests that the price of gold is not determined by what you think gold is worth - what matters is what others think others think gold is worth. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2078535
⁴ There are other examples too. We can view Pokémon cards in the school playground or cigarettes in prison in a similar way.
Is bitcoin a new currency?

The right way to think about bitcoin maybe to view it as an alternative currency. Like fiat money, bitcoin also allows parties to exchange value. This is also a feature of airline miles or gift cards. Where bitcoin differs from these is that everything is done digitally, in a decentralised way, and there is no backing of an issuing authority (i.e. the central bank).

This is an important distinction. Understanding the price of the US dollar relative to the euro is already difficult. But economic concepts (the law of one price) and fundamental factors (interest rate differential) can help us rationalise movements (at least ex post). In the case of bitcoin, there is no “bitcoin economy” to help think about these fundamental drivers.

Analysts who have tried to identify a “fair price” for bitcoin based on exchange rate fundamentals tend to reach pessimistic conclusions.

Is this a fair conclusion? The use of bitcoin as a medium of exchange does seem to be growing both online and in real-world stores. But this is so far being done on limited items and is converted immediately to US dollars. Consequently, the apparent transactional use of bitcoin looks more like a novelty for the time being.

Figure 1 shows the growing divergence between the market price rise of bitcoin and the number of daily transactions. And when we compare total transactions against the number of bitcoin users the rise is less impressive. This gap between bitcoin value and its use as a proper currency leaves bitcoin looking more like a speculative investment than an alternative currency and medium of exchange.

What’s more, bitcoin volatility means it is a less stable store of value which further challenges its use as a functional currency. In addition to this, bitcoin offers no return to savers whilst the proliferation of competing digital currencies brings its durability into question. The key point here is that its path to becoming an alternative currency is still in its infancy and is by no means guaranteed.

Low correlation is not enough

Yet some still advocate that an investment portfolio should have an allocation to bitcoin. To back their case, analysts point to studies that suggest holding this “alternative asset class” improves portfolio diversification because its returns are uncorrelated to traditional asset classes (see Figure 2).

This argument is weak. Crypto currencies do not have much history to assess their diversification properties and correlations can vary over time. Research shows that most of the benefits of adding bitcoins to a diversified portfolio are not preserved in an out-of-sample framework.

Just because bitcoin has performed strongly in the last few years and has a low correlation to equities and bonds, this does not make it an “alternative” asset class. Consider a simple example. There is an asset X that has more than has an annualized return of more than 90% with a correlation to the equity market of essentially zero (since 2014). Should X be considered a separate asset class? What if we told you that the return profile is not bitcoin, but is from a company that sells laundry and dry cleaning equipment? Is this a separate asset class from other listed global equities? Clearly not.

Figure 1 & 2: Bitcoin market cap per transactions and number of transactions versus unique users

5 "[bitcoin] is just a lucrative, but dangerous, pricing game with no good ending" http://aswathdamodaran.blogspot.co.uk/2017/08/the-crypto-currency-debate-future-of.html
8 https://macro-man.blogspot.co.uk/2017/09/bitcoin-is-it-currency-or-something-else.html
11 http://repositories.marquette.edu/cgi/viewcontent.cgi?article=1032&context=xl-econ_workingpapers
12 The company we are describing is Envirostar Inc

Source: Blockchain.info, Global Asset Management Investment Strategy, as at September 2017
We should not invest in bitcoins under the premise that it is an “alternative” asset class. An asset class is a segmented group that has similar economic sensitivities and financial market characteristics. As a consequence of this, it should also exhibit low correlation with other segmented groups. Low correlation is a consequence of properly defining an asset class, rather than a screening tool. The primary justification should be economic theory.

**The role of bitcoin in a multi-asset portfolio**

So where does this leave bitcoin?

We evaluate the impact of a 1% allocation to bitcoin in a multi-asset portfolio with a 60-40 mix in US equities and bonds (since 2010). Although the initial allocation to bitcoin is minimal, this grows to 99.7% when there is no rebalancing (Figure 4). In risk adjusted terms, this portfolio has a lower Sharpe ratio of 1.10 versus 1.25 in the initial 60-40 portfolio mix. If we are introducing bitcoin into our SAA, we can’t just “set it and forget it”.

To prevent bitcoin from dominating the entire portfolio, we need to rebalance frequently. Figures 5 and 6 show how the portfolio performs if we rebalance weekly. This results in similar levels of volatility as the traditional 60-40 portfolio, but with a higher average annualised return (11.6% versus 9.4%). Adding a weekly rebalancing frequency therefore prevents bitcoin from dominating the portfolio without giving up on return enhancement. Consequently, this portfolio has a higher Sharpe ratio (1.53 versus 1.25). However, importantly, this simple simulation does not factor in trading costs. These could be significant and mean that, net of fees, the story is much less compelling.

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12 The company we are describing is Envirostar Inc

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**Figure 3 & 4: Bitcoin correlation with traditional assets and buy and hold portfolio**

![3-year rolling correlation versus bitcoin](source: HSBC Global Asset Management, October 2017)

**Figure 5 & 6: Bitcoin correlation with traditional assets and buy and hold portfolio**

![Index](source: HSBC Global Asset Management, October 2017)
Conclusion

The impressive return profile of bitcoin has prompted us to wonder whether it should have a place in our investment portfolios. Whilst it can be argued that bitcoin is a currency (albeit not a very good one at present), it is not clear it can be regarded as a reliable diversifier for portfolios. Bitcoin lacks an intrinsic value, its price is driven by perceptions, narratives and emotions, rather than fundamentals. This prevents us from forming risk/return expectations to compare bitcoin against competing asset classes. And if we do include it in a portfolio, it requires frequent rebalancing and incurs significant trading costs. Taking these points together weakens the case for allocating to bitcoin as part of our strategic asset allocation.

But bitcoin is certainly hip and interesting. As investors, we need to continually re-evaluate our portfolio strategy and world view. That is the defining element of our dynamic asset allocation approach.

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