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Bitcoin is not my lover

The Digital Investor

Redefining Finance for the New Economy

Table of Contents

Authors

Yves Longchamp
Head of Research
SEBA Bank AG

Saurabh Deshpande
Research Analyst
B&B Analytics Private Limited

Kunal Goel
Research Analyst
B&B Analytics Private Limited

Contact

research@seba.swiss

Abstract

Gold 2.0 or tokenised thin air? Critics say it is not money, slow, costly, energy-intensive and for criminals. Believers say bitcoin is the future. Bitcoin polarises view.

One thing is sure; everyone agrees there is growing interest in bitcoin, and it is unavoidable. Legends of traditional finance are entering the crypto space. Banks are proposing investment solutions, and corporates diversify their treasury in bitcoins.

“When facts change, I change my mind. What do you do, Sir?” reportedly said John Maynard Keynes.

Let’s look at facts and let’s make our mind after that.

1.
Bitcoin is not money

Money is elusive as there is no single definition of what money is. The International Monetary Fund (IMF) does not define it; it only lists the four essential functions of money:

a. Medium of exchange – a means for acquiring goods, services and assets

b. Store of value – a means of holding wealth and purchasing power

c. Unit of account – a standard for denominating the prices of goods, services and assets

d. Standard of deferred payment – a means for settling liabilities, relating current and future values in financial contracts.

As money has these four functions, the breach of one of them is sufficient to declare “anything” as not money. Since bitcoin is not a unit of account, bitcoin is not money. This is the same for gold. Vegetables’ price tags are not expressed in gold. More interesting, the US dollar, the euro and the Swiss franc, to name a few, are not money either as they are not stores of value. With a 2% inflation target, their purchasing power shrinks by a third every 20 years.

Money does not exist.

2.
Bitcoin is not gold

Bitcoin shares many similarities with precious metals. Metals and bitcoin are costly to produce, they have limited supply, they are the liability of no one, they are fungible, they are divisible, they are censorship-resistant, they are not replicable, and they do not provide yields or cash flows. They are also both appreciated for their use case and for their speculative aspects. Precious metals are used in industrial processes, jewellery and kept as bullions or coins for speculative purposes. Bitcoin is used as a settlement platform to transfer value securely and in a permissionless fashion or for speculative purposes.

They are also used as an international medium of exchange in an environment with little or no trust. Germany made World War I reparation payments in gold marks. Bitcoin offers a digital payment system and a unit of account that is acceptable internationally with its trustless and decentralised architecture. Because of these similarities, precious metals (silver, gold) and bitcoin are considered store of values as they are examples of outside money, a type of money that exists by itself, which is the liability of no one. There are many differences, nonetheless. Precious metals have a track record longer than 5,000 years compared to bitcoin and other cryptocurrencies, with at best a bit more than a decade of existence. Cryptocurrencies have no physical representations and have no intrinsic values. But bitcoin is fully transportable as it in the blockchain, accessible 24/7 from everywhere and can be sent at low cost worldwide.

Finally, a wide variety of precious metals with different properties and different psychological and social attributes exist. Similarly, there exists a wide variety of cryptocurrencies with different properties and attributes. This is why, sometimes, bitcoin is associated with gold and litecoin with silver.

3.
Bitcoin is not ESG compliant

ESG stands for Environment, Social and Governance. These three letters are getting increasingly important in finance as investors value ethical assets and customers value conscious consumption.

Environment

With its energy-intensive consensus mechanism proof-of-work (PoW), Bitcoin is often criticised for using as much energy as some countries. According to Digiconomist, the current electrical energy consumed by this blockchain is equivalent to Finland.

By any measure, bitcoin energy consumption is significant. Such consumption is justified only if it is beneficial for the society. Still, according to Digiconomist, the energy expenditure of a single bitcoin transaction is equivalent to almost 60,000 hours of watching YouTube or about 800,000 VISA transactions.

More than one billion hours of YouTube video are consumed every day, an energetic expenditure of about 17,000 bitcoin transactions. (Note that the Bitcoin network executes circa 310,000 transactions every day.) YouTube is more fun and consumes less energy than Bitcoin. According to Wikipedia, the most-viewed YouTube video is Baby Shark Dance; a 2.16-minute video viewed more than 8.2 bn times. The energy spent is close to 5,000 bitcoin transactions. Whether it is worth the energy spending is a matter of preference.

The real question one has to ask is whether the energy consumed is worth the purpose? Is flying to the next city for a weekend worth the energy spent? Is driving a car to buy bread at the next-door bakery worth the energy spent? Are the 41.9 minutes spent daily on YouTube worth the energy spent?

Digiconomist claims that each bitcoin transaction energy cost is equivalent to about 800,000 VISA transactions – this is correct and misleading at the same time. According to VISA Corporate Responsibility & Sustainability Report, electricity spending covers the so-called Scope 1 and 2 activities, including direct and indirect activity costs. What is missing in the calculation is Scope 3 emissions that consist of “other indirect” energy spending, mostly non-electrical, such as the daily commute of the 20,000 employees across the world and business trips, for instance.

In the same report, VISA total carbon footprint (including scopes 1, 2 and 3) is 586,366 metric tonnes of carbon dioxide equivalent (MTCO2e). Notice that scope 3 emissions represent 89% (!) of these emissions (Scope 1 and scope 2: 2% and 9%, respectively). In comparison, Bitcoin annualised carbon footprint is 41.4 MTCO2e, according to Digiconomist, making Bitcoin 14,000 times more environmentally friendly than VISA according to this logic.

Bitcoin has a higher carbon footprint per transaction than VISA, resulting from the Bitcoin scalability problem. Remember, bitcoin performs about 5 transactions per second (TPS) compared to 4,400 for VISA (VISA recorded 138.3 bn transactions in 2019).

Looking at all this metric, is Bitcoin worse, as good as or better than VISA?

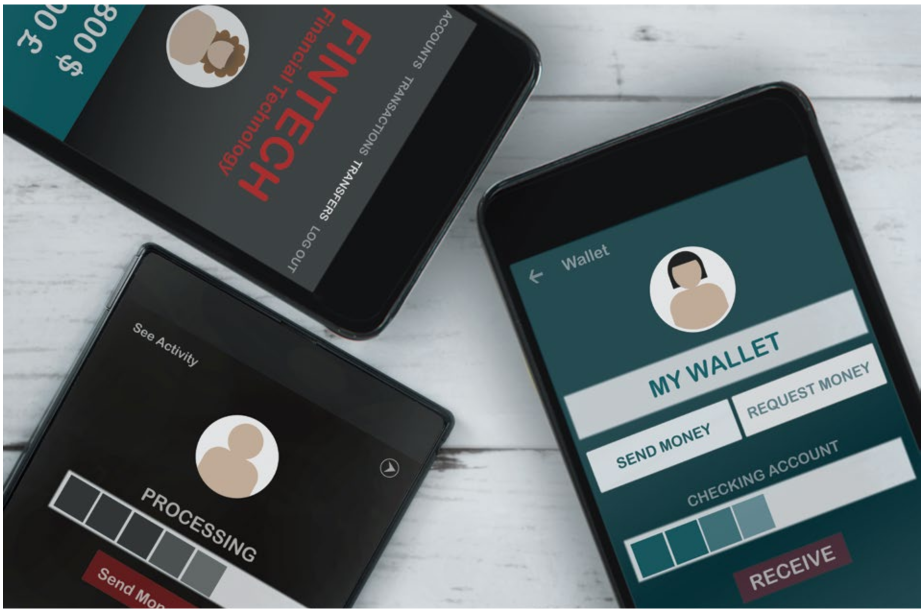
As we discuss energy consumption, be aware that not all blockchains consume a considerable load of energy. Ethereum, the second-largest cryptocurrency by market capitalisation and the platform on which most of the top 50 cryptocurrencies by market capitalisation are running, uses about 1/12th of Bitcoin energy, according to Digiconomist.

Ethereum and Bitcoin both use PoW consensus but their protocols are different. The former uses the hashing algorithm Ethash and the latter SHA256. To make things comparable, we look at the energy spending per unit of security measured in hashrates. The result is that Bitcoin hashrate is 100,000 times more efficient than an Ethererum hashrate. This means that for each unit of energy spent, Bitcoin has the highest efficiency and, besides, offer the highest security of all blockchains.

Ethereum is transitioning towards Ethereum 2.0 that will substantially increase TPS from 20 to 100,000 and reduce energy consumption massively as it moves towards a Proof-of-Stake consensus. In plain text, it means Ethereum 2.0 is set to increase its speed by a factor of 5000 and to reduce the energy consumption by 99%.

Proof-of-Stake (PoS) consensus is becoming a standard in the crypto universe. New and promising blockchain projects use PoS, making Bitcoin’s energy consumption an exception rather than the rule.

Social



Next to the environment, social issues are growing in importance. According to the CFA institute, in this category, we find customer satisfaction, data protection and privacy, gender and diversity, employee engagement, community relations, human rights, and labour standards.

As a fully decentralised and permissionless system, bitcoin functioning is as close to direct democracy as can be. It provides a high degree of data protection and privacy while not being anonymous and does not judge any user in terms of gender, fostering diversity. Any person who has access to the internet can participate in the crypto and DeFi revolution, even if they are unbanked.

According to the social aspect of the ESG criteria, bitcoin and more broadly decentralised and permissionless blockchains offer an attractive investment environment.

Governance

Still, according to the CFA institute definition, governance summarises the standard for running a company. In the list, we find board composition, audit committee structure, bribery and corruption, executive compensation, lobbying, political contributions and whistleblower schemes.

On governance as well, Bitcoin gets a high grade. The "Bitcoin business model" is such that anyone is free to participate in the network or not on a personal basis. Every participant of the network benefits from the network's success via the increase in value of the crypto-currency attached to it. Executive compensation is not a topic, there is no need for audit, and there is no board. Finally, on bribery and corruption, or more broadly, bitcoins' illicit use, recent evidence shows that a mere 0.34% of the transactions are illicit, representing a fraction (about 1%) of global money laundering activities.

From an ESG point of view, bitcoin scores well on the Social and Governance aspects while it ranks low on the Environment. The question one needs to ask is whether the energy spent is worth the social and governance benefits.

"She was more like a beauty queen from a movie scene

I said don't mind, but what do you mean, I am the one

Who will dance on the floor in the round?

She said I am the one, who will dance on the floor in the round

She told me her name was Billie Jean, as she caused a scene

Then every head turned with eyes that dreamed of being the one

Who will dance on the floor in the round

People always told me be careful of what you do

And don't go around breaking young girls' hearts

And mother always told me be careful of who you love

And be careful of what you do 'cause the lie becomes the truth

Billie Jean is not my lover

..."

4. Bitcoin is slow and expensive

Five transactions per second are ridiculously slow. In blockchain parlance, this slow pace is commonly referred to as the scalability problem. Let's make it clear: the Bitcoin scalability problem is not an issue for two reasons.

First, investors see bitcoin as digital gold, a store of value and are thus not looking for a cheap and fast payment system. They are happy to buy, sell and transact 24/7, globally and with a finality settlement of about 1 hour. They may use other cryptocurrencies and probably centralised solutions such as VISA to make payments as they are convenient systems.

For each transaction, the bitcoin fee has hovered between USD 13 and USD 25 in the last month, depending on the network congestion, making it a poor payment system for daily spending. No one will buy a coffee with bitcoin if fees cost USD 13 or more! However, many are willing to send money across the globe for, say, USD 20. The fee associated with international money transfer is high. It is 6.5% on average, according to the world bank. For anyone wanting to send money internationally, bitcoin is cheaper for transaction value above USD 300.

Notice that On April 10, 2020, someone transferred 161,500 BTC, the equivalent of more than USD 1.1 bn at that time. The fee was a meagre USD 0.70, less than a coffee! How much will your bank charge you to wire USD 1 bn?

Second, for investors, speculators, or users looking for fast transaction, other blockchains offer this service. Bitcoin SV can handle 9,000 transactions per second (TPS) – it could host two VISA systems in parallel. Notice that Bitcoin SV is a fork of Bitcoin, meaning it is essentially bitcoin with some changed functionality. This shows that bitcoin slowness is a deliberate choice, not a fatality – it is a feature, not a bug.

New blockchain platforms such as Polkadot can theoretically manage 1,000,000 TPS, more realistically; real-world simulations indicate that 80,000 TPS is feasible. As TPS increases, it is reasonable transaction fees decline as there will be no congestion. Bitcoin chooses to be slow because it does one thing and does it better than any other crypto asset – to be an outside money with predictable and deterministic supply and strong settlement guarantees.

Bitcoin is slow and expensive, but it is not a fatality. It is a deliberate choice aligned with its purpose. New blockchains have improved on both these metrics as they aim to fill other gaps in the traditional financial system.

5. Bitcoin is not my lover

Bitcoin and cryptocurrencies are new. They raise enthusiasm, fear and misconceptions. They are challenging to grasp, they somehow look like other assets but are pretty different from them too. They attract and repulse. No one is indifferent. Every head turned with eyes that dreamed of being the one bitcoin billionaire. Be careful of what you do because the lie becomes the truth, and the truth the lie.

Bitcoin is not money? Bitcoin is not ESG compliant? Bitcoin is slow and expensive? Bitcoin is not my lover? Look at facts and make your mind.

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