

Unlicensed Gambling: Bitcoin in Monetary Perspective

The cryptocurrency Bitcoin has been marketed as revolutionary new money and an attractive investment. But closer examination suggests that Bitcoin works poorly as money and does not qualify as an asset based on user value. Instead, almost all Bitcoin trading has purely speculative purposes.

By Roger Svensson



Photo: Pixabay.

In the past decade, thousands of private cryptocurrencies have emerged. Like Bitcoin, they have been widely marketed. As of November 29, 2021, the 30 largest cryptocurrencies had a market capitalization of almost 2,300 billion USD, with Bitcoin leading with a total value of just over 1,000 billion USD.

Like other cryptocurrencies, Bitcoin builds on blockchain technology, allowing financial intermediaries and their fees to be bypassed. In the Bitcoin system, nothing is actually transferred, either physically or digitally. Digital transactions take place on different wallets, which are recorded chronologically in a huge decentralized ledger, visible to all. A specific feature of a Bitcoin wallet is that the owner is anonymous, so long as no

transaction is made between the wallet and an account on a crypto exchange or within the traditional financial system. Blockchain protects the public ledger of accounts from being manipulated, since transactions in the ledger are validated by a large number of computers in the network under the control of different firms and individuals.

These computers are known as miners, have powerful computing capacity, and compete in a lottery based on random trial and error to create new blocks in the blockchain. Between 500–1,500 transactions are lumped together when the miners compete in the lottery. After around 10 minutes of computing, the winning miner is awarded 6.25 newly mined Bitcoin

and all transaction fees (currently USD 2–5 per transaction is deducted from the bitcoin being transferred). A new block in the blockchain is then created. Losing miners do not receive anything.

This process means that there actually is an intermediary (the decentralized network) that verifies the transactions, and there are transaction fees and huge costs (electricity and computer capacity) to maintain the system.

Bad money

According to economic theory, “money” is an item that is generally accepted as payment for goods, services or assets, as payment of debts, or as a unit of account in a socio-economic context. Jevons (1875) identified four functions that money could have: 1) a medium of exchange; 2) a unit of account; 3) a store of value; and 4) a standard of deferred payments. The purpose of money is to reduce the transaction costs for payments, valuations and loans. This requires, however, that an item used as money has a stable value.

Historically, many different items have been used as commodity money, but precious metals have the preferred characteristics. The best example in this regard is gold, which is non-corroding, exists in limited volumes, is well-known, difficult to counterfeit, and is a soft metal that is easy to process. These characteristics made gold suitable for fulfilling the four functions. When standardized money in the form of coins was introduced, transaction costs were further reduced. But this required that an authority guaranteed the coins with a hallmark and monitored the system by determining weight standards and denominations, enforcing legal tender laws and curbing counterfeits (Von Reden, 2010).

Since 1971, the world has had a pure fiat money system, where the value of coins and notes depends on people trusting that the issuing countries can meet their financial obligations. Central banks are responsible for maintaining a stable value of the currencies and providing liquidity to the financial system. The four main functions of money are as valid today as they were in Antiquity and the Middle Ages.

The network characteristics of money imply that, historically, a specific currency has often dominated in international trade (e.g. the Roman denarius, the Byzantine solidus, Venetian and Dutch ducats, the British pound and the US dollar). To serve this role, a currency must be issued in very large volumes, in addition to the other requirements for money (Eichengreen, 2020).

Bitcoin fits the above criteria poorly. The volatility of Bitcoin is four times higher than the S&P 500, five times higher than gold, and more than 10 times higher than the US 10-year government bond (Goldman Sachs, 2021). The highly unpredictable value of Bitcoin implies that it can neither function as a store of value, a unit of account, nor a standard of deferred payments. Thus, Bitcoin does not even fulfill the main purpose of money – to reduce the transaction costs for payments, loans and valuations. Its unpredictable value, small volume and high transaction costs also disqualify Bitcoin as an international currency (Svensson, 2021; Seeman and Svensson, 2021).

Statistics show that almost all transactions with Bitcoin are speculative trades. Furthermore, illicit activities account for ca 0.34 % of all transactions (Chainalysis, 2021). The popularity of Bitcoin among criminals and money launderers is linked to the anonymity of the wallets and the increased ability to bypass anti-money laundering checks in the financial system. However, even then, in many cases governments can trace Bitcoin transactions to the person owning the wallet. In summary, Bitcoin does not function as regular money.

Not even an asset

Tangible and intangible assets have cash flow or utility that produce positive economic value to the owner. The present value of the cash flow or utility can be used to calculate the fundamental value of the asset. This principle applies for most assets: shares provide dividends, real estate provides rental income or housing services, bonds have coupons, loans deliver interest payments, while intellectual property can give a competitive edge in the market. Bitcoin provides neither cash flow nor utility. Thus, no fundamental value can be estimated for Bitcoin. Bitcoin simply lacks an intrinsic value. Nor does it have a collector’s or affection value such as art, coins or antiques. The absence of cash flow is likely to contribute significantly to its volatility.

An asset that is negatively correlated with assets such as real estate and shares can help to diversify investment portfolios. Gold has had this role historically. It is regarded as among the safest investments in a crisis and is also an excellent inflation hedge (Klein et al., 2018). Although gold does not generate any cash flow, it has other desirable features as a hedge and a store of value (see above).

The claim that Bitcoin is “the digital gold” and will replace gold as a portfolio diversifier (NDTV, 2021) seems implausible due to its high price volatility and pro-cyclical price movements. Another common claim is that a maximum of 21 million units of Bitcoins can

ever be created, and that this scarcity will give it value (Investopedia, 2021). However, scarcity as such does not give Bitcoin a value, in particular when there are at least 6,000 other cryptocurrencies and there is a constant flow of new ones. Furthermore, there is no responsible issuer. So if the Bitcoin system breaks down technically or for other reasons, holders have nobody from whom to claim compensation.

Yet another common argument is that Bitcoin is a hedge against depreciation of fiat currencies. Even if one is critical of the expansion of money supply by many central banks over the last 15 years, this does not imply that cryptocurrencies are the alternative. The 50 percent depreciations of Bitcoin in 2018 and 2021 are unmatched by any of the main fiat currencies in the past 50 years.

Marketing, manipulation, and illegal activity

To date, Bitcoin's promoters have been very successful at increasing its value, despite the fact that it has a poor function as money, is not an asset, and is not a hedge against anything. This is partly due to massive marketing of the Bitcoin brand, with its symbol depicting a physical coin containing a "B" that overlaps a dollar sign. The visual illusion of glittering coins gives the impression that bitcoin is something valuable and tangible. Furthermore, the concept of "mining" strongly suggests that something is actually mined, by extracting, generating, or otherwise creating something valuable, like gold, and that the cost of creating Bitcoin therefore justifies its value. Another strategy is to direct attention towards how Bitcoin is created via blockchain technology, thereby avoiding a discussion of more fundamental attributes, such as the functions that Bitcoin does or does not have.

The markets for buying and selling Bitcoin are easy to manipulate for two reasons. First, many crypto exchanges are still neither regulated nor supervised by any government agency. Second, the ownership of Bitcoin is highly concentrated, with a few owners – known as "whales" – controlling 88 % of all the Bitcoin. The behavior of the whales has a large impact on prices and trade. A variety of techniques exists for price manipulation:

- Wash trading/churning means that traders buy and sell items that feed the market with misleading information;
- Overestimating the trade volumes;
- Spoofing implies entering fake orders to alter other people's trading behavior;
- Pump and dump occurs when somebody buys an asset, disseminates false information about it to encourage others to buy, and finally sells.

While these phenomena are not unique to Bitcoin, they

are more common due to the concentration of ownership and lack of regulatory supervision. Cases of manipulation have already resulted in securities commission penalties and settlement agreements with governments in countries where some regulations are in place (Seeman and Svensson 2021).

The widespread use of Bitcoin in illegal activities is a major downside to its use for legitimate transactions, causing significant legal and regulatory risk. Bitcoin is used for money laundering, tax evasion and terrorist financing, which are facilitated by the anonymity of wallets. In September 2021, all trade with and mining of Bitcoin was banned in China, at least officially due to concerns about gambling fraud and money laundering. New regulations are coming in around the world, including in the United States, and this will likely increase. This could become sufficiently severe as to cripple the Bitcoin network.

Additionally, it can be noted that the Bitcoin network wastes huge amounts of electricity and computer capacity. The main reasons are that the system has a decentralized and costly ledger to secure, and that all miners who compete to solve the mathematical puzzle must operate their mining computers. Today, the Bitcoin system requires around half the annual electricity consumption of a small country, such as Sweden or Austria. As the mathematical puzzles become more complex, more computer capacity and electricity are needed.

Gambling

In general, an activity is gambling if it meets the following criteria: a game of chance where luck/chance rather than skill determines the outcome; financial gain is sought; and money changes hands. Casino games such as blackjack, poker and roulette, as well as lotteries and betting on horse races, all meet these criteria. They are also met by Bitcoin, since there is no method of determining its future value. The large ups and downs in the Bitcoin price depend upon speculative gambling and rely on the "greater fool theory", i.e. one makes money by buying overvalued items and selling them later for a profit. In the Bitcoin game, new players simply redeem those who entered earlier.

Many governments around the world regulate and levy special taxes on gambling, such as taxes based on monthly gross gambling revenues. No jurisdiction in the world has yet revealed if it has investigated any entity involved in operating the Bitcoin ecosystem for compliance with gambling regulations. Bitcoin trading therefore remains unlicensed and un-taxed gambling.

Conclusions

The fact that Bitcoin fails to function as money or as an asset does not mean that blockchain technology has no alternative uses. Already today, blockchain is used to verify authenticity and ownership of digital artistic works (a share of the transactions with the cryptocurrency Ethereum has this function, for example). There might also be other applications. Blockchain could be used to verify the ownership of physical assets, for example, which could be useful in countries where corruption is a problem. Other possible applications are control and ownership of personal data, international inter-bank clearing, and financial contracts written in code on the blockchain.

Bitcoin itself, however, does not function as regular money, lacks any intrinsic value as an asset, and is vulnerable to fraud. Trading in the cryptocurrency amounts to little more than unlicensed and tax-free gambling.



About the author

Roger Svensson is a IFN Senior Research Fellow. He received his PhD in Economics at Uppsala University, in 1996 and was appointed Associate Professor of Innovations and International Technology Transfer at Mälardalen University, in 2003.

References

Chainalysis (2021). "Crypto Crime Summarized: Scams and Darknet Markets Dominated 2020 by Revenue, But Ransomware Is the Bigger Story". Blog post. January 19.
<https://blog.chainalysis.com/reports/2021-crypto-crime-report-intro-ransomware-scams-darknet-markets/>

Eichengreen, Barry (2020). "International Currencies in the Lens of History". In Stefano Battilossi, Youssef Cassis and Kazuhiko Yago (Eds.), *Handbook of the History of Money and Currency* (335–359). Singapore: Springer.

Goldman Sachs (2021). "Crypto: A New Class of Asset?". Global Macro Research (98).
<https://www.goldmansachs.com/insights/pages/crypto-a-new-asset-class-f/report.pdf>

Kelleher, John P. (2021). "Why Do Bitcoins have a Value?". Web page. Investopedia.
<https://www.investopedia.com/ask/answers/100314/why-do-bitcoins-have-value.asp>

Jevons, W. Stanley (1875). *Money and the Mechanism of Exchange*. New York: D. Appleton & Co.

Klein, Tony, Hien Pham Thu and Thomas Walther (2018). "Bitcoin Is not the New Gold – A Comparison of Volatility, Correlation, and Portfolio Performance". *International Review of Financial Analysis* 59(October), 105–116.
<https://doi.org/10.1016/j.irfa.2018.07.010>

NDTV (2021). "Bitcoin As 'Digital Gold': Find Out If the Comparison Is Even Fair". Web page.
<https://www.ndtv.com/business/is-bitcoin-really-digital-gold-or-just-a-passing-fancy-2508607>

Reden, Sitta von (2010). *Money in Classic Antiquity*. Cambridge: Cambridge University Press.
<https://doi.org/10.1017/CBO9780511763069>

Seeman, Bob and Roger Svensson (2021). *Bitcoin: Unlicensed Gambling*. Vancouver: CyberCurb.
https://www.researchgate.net/publication/353037708_Bitcoin_Unlicensed_Gambling

Svensson, Roger (2021). "Bitcoin Lacks a Solid Foundation as an International Currency". *Financial Times*, June 8.
https://www.researchgate.net/publication/352285086_Bitcoin_lacks_a_solid_foundation_as_an_international_currency

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