

# The Legal Classification of Bitcoin and other Cryptocurrencies

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## Abstract

Cryptocurrencies are digital assets designed to work as a medium of exchange that uses cryptography to secure its transactions, to control the creation of additional units, and to verify the transfer of assets. In the past few years there is a growing number of cryptocurrencies like Bitcoin, Ethereum, Ripple, etc. In my paper and presentation I would like to present the difficulties of the legal classification of cryptocurrencies. Countries all over the world have different solutions to this question. It is not written in stone whether cryptocurrencies should be considered a currency, a commodity, or an investment. In my study I examine each of these possibilities.

## Keywords

Bitcoin; cryptocurrencies; blockchain

## 1 Introduction: What is Bitcoin and Blockchain?

Bitcoin is a cryptocurrency, which means it is a digital or virtual currency that uses cryptography for security. Bitcoin uses the so-called blockchain technology, which is a peer-to-peer protocol, a network to which anyone can join, can initiate transactions and authenticate them by creating so-called blocks (De Filippi and Wright, 2018: 13–14). The purpose of creating Bitcoin was to create a virtual currency which functions like real money, with the difference that in case of Bitcoin there is no need for an intermediary institution (e.g. bank) for the execution of transactions. The system thus provides direct (peer-to-peer), faster, cheaper and safer financial transactions. The traditional bank transfer is slow (especially if we want to transfer money to a foreign bank account)

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and comes with a lot of administrative tasks. In addition, the contribution of a third party's financial institution is necessary, who monitors and executes the transfers, which will incur additional costs. The banking system is vulnerable to fraud and cyberattacks, and the possibility of human error cannot be excluded. Bitcoin addresses these problems with the introduction of the blockchain technology, which many consider to be the most important innovation of Bitcoin (Tapscott and Tapscott, 2016: 55–59).

Blockchain is essentially a distributed or decentralised ledger, which is public and due to cryptographic procedures, it proves the transactions that have been carried out without any intermediary. Blockchain systems would not work without consensus mechanisms. The essence of each blockchain system is to create a consensus between the nodes when registering transactions (creating a new block), so that the new block attached to the blockchain is the only true and verified version of the transaction (De Filippi and Wright, 2018: 13–14).

There are several methods for achieving this consensus. Because of the limited length of the paper, I only introduce the Proof of Work method, which is used by Bitcoin. In this system, when a transaction is made, we find the information about it included in a block to be accepted (Mukhopadhyay, 2018: 15–18). This block is protected by cryptographic methods. The block is then sent to the so-called miners who use the computing powers of their computers, and compete to solve a complex mathematical puzzle in order to verify the details of the transaction (e.g. whether the money in question is actually available) included in the block (Drescher, 2017: 23). The miner who first solves the puzzle receives Bitcoins as a payment in return for their computer capacity being available. This process is called “mining” in the internet slang and this is the way to get Bitcoin without real money (Hayes, 2015: 2). (Nowadays you can buy Bitcoin for real money in a way similar to currency exchange. In addition, Bitcoin and other cryptocurrencies are also listed on the stock market [Chiu and Koepl 2017: 1–5].)

The verified new block will be proof of work. The thus-authenticated block is then provided with a time stamp and then added to the blockchain's previous blocks in a chronological order. The blockchain therefore contains all transactions that have ever been executed by using it. The entire blockchain is constantly updated, and it can be found on all participating computers. Thus, all computers are capable of proving that a certain transaction is completed, and who is the current and former owner of a particular product or money (Kakavand et al., 2016: 4–5).

Blockchain technology can be used to manage and administer asset movements, contracts, and their fulfilments, and other data using cryptographic methods (Tapscott and Tapscott, 2016: 55–59). All this allows us to trust in third parties who we do not know and therefore do not have any information about them. Earlier, in order for this trust to exist, we needed an intermediary in which both parties were entrusted, and thus we were sure the other party would not deceive us. For example, financial institutions were needed to verify, that the other party had the money necessary for the transaction. Blockchain systems allow you to skip the third party with which you can save time and

money, plus transaction operations through the blockchain network can be accessed and verified by everyone.

It is also safe because the transactions are practically unchangeable and unhackable after being added to the blockchain. In order for a hacker to change a transaction, it is necessary to modify not only the block of the transaction in question, but also the data of the preceding and subsequent blocks, as they are all linked together. In addition, they need to hack all of (up to millions) the nodes of the computers, because all of them store the whole blockchain. Due to consensus models, nodes benefit more if they are involved in the operation of the system, in maintaining its safety and reliability, than hacking the blockchain (Wurfel, 2018).

## 2 The Legal Classification of Bitcoin

But what is the legal classification of Bitcoin? Is it money, or investment, or commodity? Or all three at once? It would also be important that all states reach the same conclusion, otherwise it would give space to the so-called forum shopping phenomenon, which means that the parties would choose an application of the law of the state which provides them with more favourable rules (Ec.europa.eu, 2010). However, examining the practice of several countries, it is not possible to answer this question clearly. Because they categorise Bitcoin and other cryptocurrencies in a variety of ways, e.g. commodity in Australia, virtual currency in Croatia, service in Singapore, property in France (Cryptocompare.com, 2018). It also happens that different authorities in a given state interpret cryptocurrencies differently. For instance, in the United States, the guidelines of the Internal Revenue Service (IRS) state, that cryptocurrencies are considered to be property in case of tax law (Cpapracticeadvisor.com, 2017), but that does not mean that it must be considered the same way when other acts are applied to them. For example, in 2014 Ross Ulbricht in the criminal proceedings against him brought as a defence that his transactions in Bitcoin are not considered to be money laundering, because Bitcoin is property according to the IRS, and not money. However, in its judgment, the court rejected the defence on the ground that, the IRS's guideline only applies to tax related cases, and not to all types of cases (Mandjee, 2015: 172–178).

In the following I will examine three classification options: currency, commodity and investment.

### 2.1 Bitcoin as currency

In the economic sense, money has the following three functions: a) a store of value; b) a means of exchange; and c) a unit of account.

The store of value function is met if the thing can reliably keep its purchasing power for a long period of time. Some authors say that due to frequent changes in the value

of Bitcoin compared to other currencies, it is unable to function as a store of value. However, according to the European Central Bank, the frequent and significant changes in value does not affect the ability to preserve the value, since all legal tenders are subject to such changes (Madeira, 2015).

The medium of exchange function is fulfilled if something that “passes freely from hand to hand throughout the community in final discharge of debts and full payment of commodities, being accepted equally without reference to the character or credit of the person who offers it and without the intention of the person who receives it to consume it or apply it to any other use than in turn to tender it to others in discharge or debts or payment for commodities” (Krohn-Grimberghe, 2013). Bitcoin complies with this condition, since it was originally created for this purpose, plus they are actually being accepted as counterparties for various transactions in increasing numbers (Luther and White, 2014: 1–6).

The unit of account function means that the value of goods and services can be expressed in the subject matter. This may actually be true of anything as is shown in history (e.g. gold, shells, etc. were used as money). Bitcoin is in principle capable of fulfilling this function, but most of the time we see that the price of products is determined in dollars, euros or other currencies in addition to Bitcoin (Lo and Wang, 2014: 3–4).

Bitcoin meets the requirements to be considered money in the economic sense. In a legal sense, however, we can only speak of legal tender, if the money was issued by a central bank or other monetary authority of a State (Ametrano, 2016), so it is necessary to have a state issuer responsible for its operation. However, in case of Bitcoin, we do not see a central bank of a state behind it, it is not issued by a state, but is essentially created by individuals (the miners) (Luther and White, 2014: 1–6). Therefore, it cannot be considered electronic money in the EU either. According to Directive 2009/110 /EC of the European Parliament and of the Council, electronic money “means electronically, including magnetically, stored monetary value as represented by a claim on the issuer which is issued on receipt of funds for the purpose of making payment transactions [...] and which is accepted by a natural or legal person other than the electronic money issuer”. (Directive 2009/110/EC) Although Bitcoin has electronically stored monetary value, however, as has just been mentioned, there is no specific issuer.

Based on the experience of recent years, Bitcoin meets economic requirements of money, since they are increasingly accepted in commerce as payment, and determine the price of products in it, in addition, the number of people who keep their money in Bitcoin is growing. However, according to the law, these will not make Bitcoin a legal tender.

## 2.2 Bitcoin as investment

Some say that Bitcoin does not meet the requirements of currencies; because of its constant and large changes in its value it cannot fulfil the store of value, and unit of

account functions. Changes in the exchange rate of Bitcoin are not related to the changes in the value of real currencies, it is not suitable for the management of risks. Moreover, it is highly probable that the whole cryptocurrency hype is just a bubble that can collapse any time. Consequently, it is more like a speculative investment instrument, especially if we add that there are some who just buy Bitcoin in order to later sell it, and thus gain profit. However, high volatility can easily discourage investors (Mandjee, 2015: 172–178).

Here I have to mention the so-called ICOs, which is essentially a form of fund raising, when we create a new cryptocurrency, and the amount of money needed to set up the system associated with it is offered to us by others usually in other cryptocurrencies like Bitcoin or Ether. In this respect, it is similar to the Initial Public Offering (IPO). The question is whether this way of financing can be considered a security? According to the U.S. Securities and Exchange Commission (SEC): “The federal securities laws apply to those who offer and sell securities in the United States, regardless whether the issuing entity is a traditional company or a decentralized autonomous organization, regardless whether those securities are purchased using U.S. dollars or virtual currencies, and regardless whether they are distributed in certificated form or through distributed ledger technology” (SEC, 2017).

The SEC based its decision on the Howey test, according to which a contract is qualified as investment contract, if there is an investment of money, there is an expectation of profits from the investment, the investment of money is in a common enterprise, and any profit comes from the efforts of a promoter or third party (SEC, 2017). If someone buys cryptocurrency for the purpose of gaining profit later on by selling them, then the first two conditions are fulfilled (however it is still a question whether somebody bought the Bitcoin in order to sell them later). The joint venture element is also accomplished as the transaction executed through the blockchain network contributes to the investor’s growth, and the position of investors is affected by the appreciation or depreciation of the cryptocurrency. The last condition is also met if miners are considered to be third parties or promoters and the investor’s profit is a consequence of the miners’ activity (Mandjee, 2015: 172–178). Interestingly, according to the same statement of the SEC, Ether is not qualified as an ICO, but as virtual currency, from which it follows that the authority makes a distinction between investment-like cryptocurrencies and money-like cryptocurrencies. Therefore, if a cryptocurrency can prove that when at least one of the conditions is not met, then it will not qualify as a security (SEC, 2017). However, it should be noted that not all cryptocurrencies are based on mining (e.g. the ones that use the Proof of Stake consensus method).

Bitcoin can therefore be seen as an investment, and many people are mining or receiving Bitcoin for that purpose, but it is important to see that cryptocurrencies work differently, and so maybe not all of them can be considered an investment. Plus, Bitcoin has other uses, and not everyone wants to buy them for investing purposes. That is why the classification as an investment can also be problematic.

### 2.3 Bitcoin as commodity

Bitcoin, on the one hand, can be regarded as a commodity, because – as has been mentioned earlier – its value is not stable. Secondly, because it resembles gold in many respects: both have infinite supply, none of them is supervised by a single government, and the value of both are determined by demand and supply, which is the reason of its high volatility. The protocol currently used by Bitcoin allows the mining of 21 million Bitcoin in total (Faggart, 2015), and according to some calculations they will be all mined by 2040 (Faggart, 2015), others say that by 2100, unless they change the protocol. (It should be noted here that this only applies to Bitcoin, since there are some other cryptocurrencies, from which unlimited quantities can be mined [e.g. Dogecoin], or those that already have a predetermined amount available since the beginning and you cannot create more [e.g. Ether].) The less available from the given cryptocurrency, the more expensive it will be (although, of course, other factors also influence the price of cryptocurrencies, which may interfere with this relation) (Bitnewstoday.com, 2017).

Once all Bitcoin is mined, it basically terminates the motivation of the miners to make their computer capacity available to the system, since they would no longer receive new Bitcoins in return for their activity. Of course, you can introduce a new method, where in return for making their computing power available, the miners receive a part of the transaction fees, but some sceptics say this is a less profitable method and therefore the number of nodes will drop, which may even lead to the collapse of the system. Here, I would like to add that cryptocurrencies, that use the Proof of Stake consensus method already work this way. The only question is for how long there will be enough transactions made through the system, in order to make it worth for the users to give their computer capacity to maintain the cryptocurrency.

Returning to the gold comparison, as long as the value of money was calculated based on the gold standard, and the value of money was backed up with real gold, the banks were limited in issuing money, since at any point the banks could be forced to redeem the money in gold. Theoretically, Bitcoin can do the same, in addition to being more reliable than gold, since it cannot be manipulated (such as the gold content of a gold bullion). Furthermore, it is not possible for the bank to issue bigger amounts of fiduciary media than their Bitcoin reserve would allow, because there is no need for paper money to be issued in the first place, as Bitcoin is accessible for anyone, anywhere through the internet. Moreover, with Bitcoin being digital, it is much cheaper to store compared to gold (Danielstrading.com, 2017). In time of the instability of the market, it is often heard that we should return to the gold standard. Can the Bitcoin standard be the new gold standard? History, however, shows that the gold standard was only suitable for maintaining financial stability only during the period of peace and prosperity, but it was not able to cope with the outbreak of world wars, the indebtedness of states and the onset of globalisation. The core of the gold standard was to avoid inflation and deflation, but excessive insistence to it may even lead to a crisis (Investopedia.com, 2018). That is why this is probably not the right path for Bitcoin and cryptocurrencies.

### 3 Conclusion

In my opinion there are two preliminary questions that need to be clarified before we can categorise cryptocurrencies.

1. Can we list every cryptocurrency into the same category? As we saw earlier, Bitcoin is considered a commodity because it resembles gold, because each is finite in number, and demand and supply affect their value. However, this argument is not true for all cryptocurrencies, since, as I have already mentioned, some of them have unlimited amounts available, and there are those that already have a limited amount in the system from the beginning.

2. Can we list a single cryptocurrency, e.g. Bitcoin into only one category? As I already mentioned above, Bitcoin can be used as money, as an investment, and as a commodity as well. But if that is the case, then legal acts for all the three categories should be applied, which can very easily lead to over-regulation, which would hinder the development and use of cryptocurrencies, although it is an extremely useful and versatile invention.

It is likely that in the near future Bitcoin and other cryptocurrencies will not be accepted as legal tenders by most countries, because – among other reasons – it would jeopardise the money-issuing monopoly of states. Moreover, their interpretation as an investment and a commodity is also not certain, as it was explained above. The legal consequences (such as taxation, consumer protection, etc.) are based on the classification, so it should be the priority of legislation to answer this question. Bitcoin and other cryptocurrencies cannot remain unregulated due to their growing importance, therefore, it is much more likely that states will regulate them in some way. The question is merely this: what regulation will it be. In my view, the most important thing to do is to create a uniform regulation. This would be extremely beneficial because Bitcoin is a virtual asset that is available through the internet anywhere and anytime around the world, and it can be exchanged regardless of borders. In my opinion, the process launched by Bitcoin and other cryptocurrencies is irreversible. That is why it would be necessary to agree whether Bitcoin is a money, a means of payment, a commodity or an investment, since a single regulation would ensure that we can take advantage of the economic opportunities inherent in Bitcoin much more easily.

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