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Abstract: Virtual currencies have recently become one of the most popular topics in the media. This paper focuses on economic aspects of Bitcoin, being an attempt to answer the question if Bitcoin can be considered money in the light of economic theories of money. On the basis of the reports published by the European Central Bank and the Financial Action Task Force, as well as the available Internet and primary sources, there have been presented the types, history and functioning of virtual currencies. The knowledge of virtual currencies makes it possible to foresee the problems arising from their existence, such as possible threats to international security, difficulties with taxation etc. The growing popularity of virtual currencies and cryptocurrencies is linked with the increase of importance of non-cash payments on global scale. Thus, Bitcoin may be considered next step in the evolution of digital money.

Introduction

In 2013 the media all over the world got interested in Bitcoin as its owners earned substantial profit due to the increase of its value. All of a sudden more and more businesses started to accept Bitcoin payments, and people became more eager to pay with this currency. This was the starting point for the discussion about virtual currencies. There appeared many questions that required satisfactory answers. Thus, it has been necessary to study in detail the ways in which virtual currencies function. This study is devoted to the most popular of them – Bitcoin.

Another reason for learning about cryptocurrencies is the limited number of available literature and sources on the Polish and international market. It seems that researchers treat cryptocurrencies as a passing fashion or an experiment, not as an actually functioning medium of payment that may revolutionise our view of money. It is worth noticing that Bitcoin has been gaining in popularity among our citizens – suffice it to say that Poland has not only effectively working BTC stock exchanges, but also its own cryptocurrencies, which are competitive with Bitcoin.

The aim of this article is to analyze the way in which Bitcoin and other virtual currencies function in the contemporary world. It attempts at answering the question if Bitcoin is an innovation of our times or a return to the original features of money, and if Bitcoin can be considered as money regarding the existing economic and non-economic theories of money.

The study begins with the theoretical part, concerning money and its functions from historical, sociological and economic perspectives. In order to achieve the research purpose it is also essential to learn about the typology of virtual currencies and the way in which Bitcoin works, including its acceptability as means of payment. Moreover, such cryptocurrencies as Bitcoin should be regulated by law, e.g. regarding tax matters. Therefore, this study presents information about the solutions to the above mentioned problem that have been adopted in some countries. These issues are the basis for the analysis that aims at finding if Bitcoin meets the criteria for being regarded as money.

Methodology of the research

The text is based on scientific books, articles and experts' opinion as well as reliable Internet sources. The reports prepared by The Financial Action Task Force and European Central Bank were used in order to show types of

virtual currencies. As Bitcoin and other cryptocurrencies are new phenomenon there was put an emphasis on using as recent sources as possible.

Money in historical perspective

The prehistoric man who lived in times of natural closed economy did not need to have money. Peoples that occupied themselves with hunting and gathering probably did not exchange goods. It was the settled lifestyle that forced tribes to initiate the primal form of trade – the barter trade. Tribes that did not move could not get some goods which were available on the territory of their neighbours (Cywiński 1986, pp. 6-12). Consequently, they had to gather oversupply, which was needed by neighbours, and exchange it for goods in demand.

Man quickly noticed that transport of goods, counting their value and remembering how it translates into an adequate quantity of other goods are really onerous tasks. That is why widely demanded and accepted goods began to have the role of money, or, to be more precise, commodity money, in a form other than banknotes or coins (Encyklopedia PWN 2014). Grains were the most popular as it was easy to measure them out. However, the transport of heavy sacks of grain turned out to be problematic. The ancient Egyptians found an easy solution to this: grain was placed in granaries and distributed on the basis of bearer document (Cywiński 1986, pp. 6-12).

What is more, animals, shells or honey also served the role of money in ancient societies (even Latin *pecunia* standing for money is derived from *pecus* – cattle) (Kubiak et al. 1999, pp. 161). The Slavs used tightly woven pieces of linen. The Chinese produced bars of salt in various sizes that were marked with emperor's stamp. All these types of commodity money had one common disadvantage: low durability, which limited the number of transactions in which they could be used. It is difficult to imagine that a sick animal, damaged bar of salt or chipped shell could effectively be used as money. Therefore, people started to use precious metals as they are much more durable and easy to work with. Next step was to mint coins which we use nowadays (Cywiński 1986, pp. 6-12).

One of the definitions of money says that it is a widely accepted good with which it is possible to pay for supplied goods or meet existing liabilities (Begg et al. 2007, pp. 544). Taking into consideration the history of money, we can enumerate its desirable features (Hoffman 2014):

- durability,
- divisibility,
- ease of use,

- stability,
- determined value
- limited supply,
- general acceptability.

Richard Russel from Dow Theory Letters underlines that only precious metals – gold and silver – have all the previously mentioned features (Hoffman 2014).

All in all, the main function of ancient money was to facilitate trade, which resulted in quick development of civilization. People began to gather goods which could be easily exchanged for another ones. Consequently, they owned more of them than it was actually needed, regarding the value in use of a certain good. The ownership of such „liquid" goods made it possible to purchase other necessary goods in short time (Menger 2014).

The Keynesian theory of money

It should be emphasized that J. M. Keynes was changing his views over the time. The theory of money presented in *A Treatise on Money* is different from that in *The General Theory of Employment, Interest and Money* (Knakiewicz (ed.) 2011, pp. 173). Keynes introduced the term „liquidity" and claimed that money is an asset with its highest level. He pointed out the matter of liquidity preference, which is the extent to which one prefers keeping the most liquid assets that can be used at any moment, and the extent to which one wants to keep less liquid assets. The reward for taking the last option is an interest rate. So, people choose the way they keep their savings according to the interest rate (Knakiewicz (ed.) 2011, pp. 227-233).

Keynes set out the three motives of keeping money (Drabowski 1987, pp. 36):

- the transactions motive, based on the need of having money to buy or sell goods. This motive is linked to the medium of exchange function;
- the precautionary motive, which emerges from not knowing the future;
- the speculative motive, based on running for profit, linked to the current and predicted interest rate.

The speculative motive is also linked to the term „liquidity trap". An occurrence of a very low interest rate causes that people anticipate its growth, which results in an uptick in the demand for money (Guzdek 2010). The liquidity trap makes monetary policy ineffective, but it must be

said that even Keynes believed that the appearance of such a situation is unlikely (Drabowski 1987, pp. 38).

Keynes thought that money supply depends on interest rate and net national income. A change in money supply creates changes in the level of prices only in equilibrium; otherwise, it leads to the growth of involvement of production factors until equilibrium is reached (Drabowski 1987, pp. 41).

Monetarist theory of money

The starting point for monetarism is the Quantity Theory of Money and Irving Fisher's equation of exchange. According to I. Fisher, the velocity of money and the index of the real value of aggregate transactions are constant. The equation of exchange can be used only to explain the influence of money supply on price level, but it does not show the causal links between variables (Drabowski 1987, pp. 12).

Monetarism is not a rigid theory. Its representatives have different views and the theory itself is more the way of analyzing economic phenomena. According to the well-known representative of monetarism – Milton Fridmann – money is "something widely acceptable and convertible to goods and services"(Knakiewicz (ed.) 2011, pp. 113-115).

Friedman wrote that money is one of the assets in which wealth is kept. He also claimed that real money demand depends on:

- the value of money,
- the real rate of return,
- people's preferences (Knakiewicz (ed.) 2011, pp. 117).

Monetarists do not consider interest rate as having high influence on money, which sets them in opposition to Keynesians (Drabowski 1987, pp. 98-104).

Friedman pointed out that money supply is exogenous and depends on monetary policy. Money supply consists of high-powered money and commercial banks reserves. In short term, a growth in money supply may have an impact on real quantities, yet in long term it causes nothing but price growth (neutrality of money) (Drabowski 1987, pp. 104-114).

Keeping the adequate supply of money is important. Friedman noticed that when money supply grows faster than production it causes inflation, which generates costs for individuals and inflation tax. To reduce inflation Friedman proposed the k-percent rule, which means keeping the constant growth rate of money supply (Knakiewicz (ed.) 2011, pp. 126-138).

Regression theorem

According to the regression theorem value of yesterday's money is transferred to money today's value and money today's value is transferred to money tomorrow's value. It means that today's demand for money depends on its purchasing power yesterday. The first value of money may be equated with the value of a certain good, which was used as money for the first time. It can be said that demand and supply for money are affected by the previous value of money. These two forces will create the value until they reach equilibrium. Ludwig von Mises says that a good cannot be used as money if at the moment when it started to be used as one it did not have the exchange value based on an application other than money (von Mises 1954, pp. 108-114). According to this concept it should be possible to trace the value of money until a certain good begins to be used as such; that is, until a certain good can be used as money and not as money.

Institutional perspective on money

Assuming that an institution is a set of formal and informal principles that determine people's actions (Kuder 2014), it may be stated that money is an institution. The principles are following: X is taken for Y in C context (Chrobak 2014). At the basis of money there are constitutive principles: they themselves create situations, without which the existence of these principles would be impossible (Chrobak 2014). If a certain rule did not say that it is possible to buy a certain stated amount of goods and services with a given banknote, this banknote would not be money. Thus, the existence of money depends on the existence of a certain group of humans who perceive a given object as money and use it in this way. It could be stated that the fact that a given object is money depends on the observers and participants of the institution of money (Searle 2014).

. In order to become money, a given object must fulfil certain functions, so-called statutory functions. These functions allocate (or not) certain deontic rights (which regulate interpersonal behaviours) to given objects (people, events) (Chrobak 2014). It could be said that the statutory functions of money will be the ones known from economics, in which money:

- as a medium of exchange it is present in the exchange of goods and services done by households and businesses, facilitating trade and eliminating the drawbacks of barter economy;
- as the unit of account makes it possible to express prices and operate accounts;

- as a store of value (thesaurization) enables us to complete sales/ purchase transactions in the future, and to accumulate wealth, but due to inflation its value decreases;
- as a standard of deferred payment lets us make settlements in a longer period of time, e.g. a loan repayment or a payment for delivered goods at a later date (Begg et al. 2007, pp. 104-105).

We can also talk about money which plays its role, but simultaneously is not material. That is, something performs statutory functions, yet it is not a material object to which such functions could be assigned. An example could be e-money or virtual money. According to John R. Searle, statutory functions are linked with deontic rights. A material object is only a token proving that a given person who uses it has certain deontic rights, e.g. the right to make a sales/purchase transaction for a certain amount (Searle 2014).

Sociological perspective on money

Money plays a vital role in a society; therefore, sociologists also do research on it. In their view money which stops serving its functions, stops being money. However, it can serve them only in so-called „normal circumstances". In times of peace people accept fiat money, but in difficult periods of war they return to commodity money. Cigarettes, for instance, fulfilled the function of money in POW camps during World War II, and now they have this function in penal institutions (Borcuch 2010, pp. 95-96).

The well-known sociologist Georg Simmel in his work *The Philosophy of Money* enlisted the basic characteristics of money:

- instrumentality – money is a tool which makes it possible to buy other goods, and it is not primarily an end in itself;
- impersonality – money is a social phenomenon which cannot be dependent on an individual. It functions because it is accepted by people participating in the exchange process. It shapes and limits an individual to a much lesser extent than other owned goods;
- abstract nature – the value of money is counted on the basis of goods for which it can be exchanged;
- potentiality – money does not determine the ways in which it could be used; it enables us to do what we like and want;
- circulation and functionality – a good becomes money only if it is used as money and serves money's functions (Borcuch 2010, pp. 97-98).

Another important issue from the sociological point of view concerning money is the problem of trust. Money would not exist if people did not

believe that they can exchange it for a certain amount of goods or services. Sociologists claim that confidence reduces transactional costs and enables market economy to function. The trust in market economy includes:

- confidence in the operation of market – e.g. the efficiency of market mechanisms, the transparent nature of market;
- trust in market participants – honest intentions of market participants;
- trust in regulations and institutions supervising the market – they are supposed to guarantee transaction security and prevent fraud (Borcuch 2010, pp. 105-106).

Apart from the economic functions that have already been mentioned, money serves also many social functions. Sociologists distinguish the following (Bylok et al. 2005, pp.99-120):

- behavioral function – money determines not only consumers' behaviours, but also other human behaviours. It is important for people as it can be used to purchase essential goods. It regulates our lifestyles, is an object of desire and a motive for committing crime. Prostitution and gambling are the most obvious examples of money's impact on human behaviour.
- motivational function – man works to earn money and in order to find a job they decide on an appropriate educational path. Nevertheless, there are also unfair and immoral ways of earning money (contract killings, drug trafficking, organ trafficking)
- information function – its production technique, symbols that it bears inform us about the culture of a given society. The value of money and purchasing power notify us of the economic situation of a certain country. F. A. von Hayek underlines the information function of salary, whose amount may be an incentive to retraining or changing business activity (Godłów-Legiędź 1992, pp. 107);
- disintegrating function – money subordinates other values to itself, which may result in the breakdown of existing social structures and the creation of new ones. For example, politicians who take bribes pursue aims of certain social groups and make decisions which may not be beneficial to the general public. Money can also be a tool of exploitation. The desire for money at any cost leads to illegal activities, and then the obtained funds are laundered.
- Integrating and institutional function – money gives rise to various institutions that are connected with it, e.g. banks or stock exchanges.

Comparison of Bitcoin to other virtual currencies

The increasing popularity of virtual currencies poses challenges to countries and international economic organizations. One of these is an appropriate classification in order to adopt laws regulating taxation and functioning of virtual currencies. This chapter presents the suggestions on such classification put forward by the Financial Action Task Force (the international organization consisting of 35 members which focuses on i.a. the prevention of money laundering and financing terrorism (Encyklopedia Zarządzania 2014)) and the European Central Bank.

Furthermore, there is shown the history of virtual currencies, which is much longer than that of Bitcoin. The emergence of the Internet was the starting point for thinking about the creation of a virtual currency. The major efforts to create virtual money were made in the 1990s (Cox 2013). David Chaum is believed to be the inventor of protected virtual currencies, who in 1982 published a study on blind signatures, thanks to which it is possible to send information (and money too) without revealing its sender (Chaum 2015). This brilliant programmer and cryptologist soon used his idea to set up a quite well-run but short-lived business, becoming a pioneer in the field of virtual currencies.

Knowing the history of Bitcoin prototypes it is easier to assess if it has any chance to survive and revolutionise our way of thinking about money. Next part of the chapter introduces a detailed description of functioning and popularity of Bitcoin.

Types of virtual currencies

According to FATF's definition, "virtual currency is a digital representation of value that can be digitally traded and functions as (1) a medium of exchange; and/or (2) a unit of account; and/or (3) a store of value, but does not have legal tender status". Virtual currency should be distinguished from e-money, defined as "a digital representation of fiat currency". The term "digital currency", often used interchangeably with the term "virtual currency" is a bit wider term and includes e-money as well as virtual currency (FATF 2015, pp. 4).

In October 2012 the European Central Bank delivered a report on virtual currencies, which attemps at classifying them as money and making their systematical division.

According to the EBC, virtual currencies are characterised as having digital form and unregulated legal status. The report enlists also the basic differences between virtual currencies and e-money. E-money is legally

regulated, based on an existing, traditional currency and is its unit of account, is widely accepted, its supply is fixed, is controlled, and the user takes mainly an operational risk. On the other hand, virtual currency is completely new, unregulated, accepted by a narrow virtual community, its supply is either not fixed or depends on issuer's decisions, there is no control over it, and the user runs the operational, legal, credit and liquidity risk. (EBC 2015, pp. 16).

The classifications suggested by the EBC and FATF are quite similar. According to the EBC, virtual currencies can be divided into (EBC 2015, pp. 13-15):

- closed virtual currency schemes – there is no connection with the real world. They cannot be exchanged for real currency and usually function in computer games, in which they are earned on the basis of user's performance. They can be spent on certain goods and services offered in a game.
- virtual currency schemes with unidirectional flow –virtual currency can be purchased for real currency, but cannot be exchanged back to real currency. This type of virtual currency may be used to buy both real and virtual goods and services. An example here could be point-based customer loyalty programs.
- virtual currency schemes with bidirectional flow – this type of virtual currency may be purchased for real money and exchanged for real money. It is used to buy both real and virtual goods and services.

FATF divides virtual currencies into the convertible (open; other name for EBC's "virtual currency schemes with bidirectional flow"), which have their equivalent in real currency and can be exchanged back-and-forth , and the non-convertible (other name for EBC's "closed virtual currency schemes"). Moreover, convertible virtual currencies can be divided into (FATF 2015, pp. 4-5):

- centralised – controlled by an administrator. The administrator issues the currency, establishes the rules for its use and may withdraw it from circulation at any time.
- decentralised (cryptocurrencies) – have no administrator. They are open-source, math-based, exchanged on P2P basis. They are protected by cryptography and rely on the algorithm based on public and private keys pairs.

Both reports highlight the difficulty in classification, division and definition of virtual currencies. It is associated with the variety of virtual currencies and their newness. The necessity to create such a classification does not arise only from researcher's curiosity, but is essential to create

legal regulations of virtual currencies since they evade both legal and taxation systems.

Bitcoin prototypes

Since the end of the 1980s there have been created various digital currencies which attempted at achieving the status of Internet money. The most important precedents of Bitcoin are DigiCash and E-gold. In accordance with FATF classification they are not cryptocurrencies, but centralised, open virtual currencies.

But for the invention of blind signatures by D. Chaum, Bitcoin would not exist today. At the turn of the 1980s and 1990s, Chaum set up an American-Dutch company DigiCash and decided to earn money thanks to his invention. The user could exchange cash held in a bank for virtual currency by the means of special software (if the bank allowed for such an operation). The so-called DigiCash Mint authenticated digitally each unit of virtual currency. Money created in this way could be sent to another user, or exchanged back and put in the bank account. Such transactions could be conducted via *DigiCash wallet* software. The system ensured the anonymity of its users (Garfinkel et al. 2002, pp. 623-625). The company failed in November 1998 and was taken over by eCash Technologies due to the insufficient interest of potential users and difficulties in establishing cooperation with banks and companies providing financial services (e.g. VISA) (Pitta 2015), which was related to Chaum's impulsiveness. Perhaps, if DigiCash had started its operations a few years later, when the Internet and online transactions became more popular, it would have had more chances to achieve success.

The idea of creating virtual money did not disappear with the bankruptcy of its pioneer. In 1996 Gold & Silver Reserve company, founded by oncologist Douglas Jackson and Barry K. Downey, introduced the E-gold system. In contrast to Digicash, E-gold was based on precious metals: gold, silver, platinum and palladium. On the basis of the reserves of these metals the company issued its own Internet currency (E-gold 2015). The system enjoyed huge popularity, having over 5 M users in 2009. (Forrester et al. 2013, pp. 27). However, after signing the USA Patriot Act, which states that it is necessary to have a special licence to run a business dealing with financial transactions (USA PATRIOT ACT 2015), Gold & Silver Reserve faced serious problems. Its founders were accused of i.a. money laundering and the dynamic growth of the E-gold system was actually stopped (Forrester et al. 2013, pp. 27).

E-gold and DigiCash did not win the title of Internet currency, as well as Beenz, Rand and many others. In 2007 there appeared a new virtual

currency called Ven. Primarily used only by the users of Hub Culture social network, it has been available for any owner of an e-mail address since 2008 (Hub Culture 2015a). The Ven exchange rate is based on a basket containing other currencies, goods and future contracts for coal. The issuer assures that this makes it stable currency, but with a floating exchange rate (Hub Culture 2015b).

The history of virtual currencies does not provide any basis to expect that the similar innovations will have permanent existence. The majority of them came to an end due to the insufficient interest of potential users or because of the fact that national authorities are not likely to accept alternative currencies which are anonymously transferred, perceiving them only as a threat. Thus, if an issuer of virtual currency reveals their identity, they risk being prosecuted. That is why decentralised cryptocurrencies have more chances to survive than centralised virtual currencies.

Bitcoin

Bitcoin was established in 2009 (Nowakowski 2015, pp. 58-62), however, it does not have a single definition so far. The analysis of available literature and Internet sources leads to the conclusion that the majority of authors concentrate on how Bitcoin works, omitting such an important issue as what exactly it is (Nogacki et al. 2015a). Undoubtedly, Bitcoin is an innovation, but not so new as it is sometimes thought. Thus, giving the appropriate definition seems to be difficult, yet possible. Definitely, Bitcoin (according to the presented classification) belongs to open, decentralised virtual currencies with bidirectional flow (i.e. cryptocurrency). The name Bitcoin refers not only to a unit of money, but also to software and the P2P network (Nowakowski 2015, pp. 58-62).

There is also a problem with establishing the name of Bitcoin's inventor (inventors?). We know only a nickname: Satoshi Nakamoto. The author himself defines Bitcoin as „an electronic money system operating within the Peer-to-Peer system" (Satoshi Nakamoto 2015). No wonder that the author of the Bitcoin system carefully conceals his identity if we recall the fate that awaited the inventors of previous virtual currencies.

How to get Bitcoins?

Bitcoins can be obtained in a few ways: by exchanging your own financial resources, receive them from another user, or mine them themselves. Although the first two ways do not raise any doubt, the last one may be unclear.

So-called Bitcoins' mining consists in running special software on one's computer. A computer uses its computing powers to solve a cryptographic task. If it solves the task as the first one, the user (often named as a „miner") wins currently the „prize" of 25 BTC (Marczuk et al. 2013, pp. 37-38), but every four years it will be reduced by half (in 2017 it will amount to 12,5 BTC) (Kapiszewski 2015). The more computing power the computer has (precisely, the higher is the proportion of the power it contributes to the mining pool), the stronger the chance of overtaking other competitors (Nowakowski 2015, pp. 62). Having been verified by the mathematic system *„Proof of work"*, new Bitcoins are collected in a database. They cannot be mined more often than once every 10 minutes (Nowakowski 2015, pp. 62). Over time Bitcoins' mining has been more and more difficult and requires using better hardware. That is why the so-called mining pools are increasingly popular: these are the computer networks that facilitate mining this cryptocurrency (Marczuk 2014, pp. 54) However, Bitcoins cannot be mined indefinitely. Their supply is fixed up to 21 M, and the last Bitcoin is supposed to be mined in 2136 (Nowakowski 2015, pp. 62). The increasing "difficulty" does not allow for a sudden increase of Bitcoin on the market (Szymankiewicz 2014, pp. 65), which in January 2015 amounted to over 14 M (Blockchain.info 2015a).

Bitcoins can be purchased in so-called stock exchanges, currency exchanges or directly from another user, e.g. via Internet forums and special websites (Bitcoin.pl 2015a). Another interesting method of earning a small amount of BTCs is to complete tasks on websites, such as watching advertisements on special platforms (Szymankiewicz 2014, pp. 65). Earned currency is kept in so-called wallets (Nowakowski 2015, pp. 59).

Wallets and the transaction mechanism

Bitcoin is not a physical object. That is why there appears a problem how to keep it. The user can do the following:

- use special „wallet" software (Forrester et al. 2013, pp. 38) – this is the most practical solution, but exposed to cyberattacks. A Bitcoin wallet generates public keys (Bitcoin addresses), which indicates the place of payment, and private keys, which are used to authorize it (Nowakowski 2015, pp. 60-61);
- write down the private and public keys generated by the wallet on a piece of paper or save them in a word processor (Clark 2013, pp. 8). This method helps to avoid the risk of cyberattack and Bitcoin theft, but is not very practical. The piece of paper may be easily

lost, whereas the file can be accidentally deleted or lost in any other way.

- materialize the owned currency, i.e. ask a professional company (e.g. Casascius Coin) to produce an object similar to a coin, usually using precious metals, with the Bitcoin symbol. The other side of such a coin bears a hologram with the private key (Szymankiewicz 2014, pp. 76). Nevertheless, this solution is very expensive and little practical;

Regardless of the ways in which the user plans to use generated keys, they must begin with choosing the appropriate type of wallet. These are just some of them (Bitcoin.pl 2015b):

- software wallets – can be used only on devices on which they have been installed;
- offline wallets;
- browser-based wallets – do not require installation, you just have to log into an online service;
- instant wallets – to get them you do not need to register in the service;
- mobile wallets – dedicated to mobile devices;
- wallets on flash drives – e.g. USB drives.

Offline wallets are believed to be the safest as they do not have to connect to the Internet and therefore are the least vulnerable to hacker attacks. Browser-based wallets are the least safe, especially the instant. This is associated with the necessity of choosing a trusted service provider that will not suddenly disappear from the Internet, taking the database with users' keys. That is why it is advised to keep there only a small amount of BTCs, especially the one that will be soon transferred to another user.

Wallets show the information about the available funds and enable us to carry out transactions, just as online bank accounts. In order to ensure safety and anonymity, a Bitcoin user should use another pair of keys during each transaction. The use of the same public key facilitates tracing transactions. Next way of securing one's Bitcoins is the diversification of resources, that is, the division of possessed Bitcoins into various types of wallets. Another methods are to encrypt the wallet or update of antivirus software.

In order to send Bitcoins to another user one needs to type their password (the public key) in the appropriate place in the wallet and choose the number of Bitcoins to be transferred (Clark 2013, pp. 10) Bitcoin can be divided into (Szymankiewicz 2014, pp. 39):

- 100 bitcents (cBTC),
- 1 000 mbits (mBTC),

- 1 000 000 ubits
- 100 000 000 satoshi.

The price of Bitcoin varies in stock exchanges and currency exchanges. Between 2013-2014 it was characterised by a high volatility. At the end of 2013 the price increased more than tenfold, which generated lively interest in this virtual currency. In December 2015 the price of Bitcoin was ca. 360 USD and it seems that it has been stabilising. (Blockchain.info 2015b).

The Bitcoin market

The analysis of the Bitcoin market shows its main users that are i.a.

- natural persons (irrespective of the reasons for possessing BTCs),
- businesses (e.g. vendors who accept payments in BTCs).
- BTC stock exchanges,
- BTC currency exchanges,
- operators of BTC cash machines.

Despite the fact that BTC's supply is continuously increasing as well as the interest in this form of payment, the research has shown that over 78% of the whole BTC supply does not circulate in the system (Ron et al. 2015, pp. 7). This is the money which is located in wallets and is treated as an investment (also BTCs that were forgotten by their owners and were the effect of the experiment with this currency before its value went up). These Bitcoins have not been used in any transaction since they were obtained by their present owners.

Bitcoin is a part of an international tendency towards the increasing importance of cashless payments. In 2005 this share amounted to 34.6% in Poland (EU 67.8%), in 2010 – 54.5% (EU 75%) (NBP 2015, pp. 27). The popularity of making payments via online bank accounts has also been growing. In 2009 46% of the owners of a bank account in Poland accessed them online. In 2013 this percentage went up to 58%, and 79% of users made payments online very often (2009 r. – 73%) (Maison 2015, pp. 17-18). Taking into consideration the growing interest in online and cashless payments it could be stated that Bitcoin is another stage in the development of the online payment market. Wallet software usually resembles online bank accounts in its interface and options.

One of the most popular and most often recommended method of getting cryptocurrencies are stock exchanges. The most popular and having a significant proportion of total transaction volume are (Bitcoincharts 2015a):

- BTC China – 52%;
- BitFinex – 20%;

- BTC-E – 6%;
- BitStamp – 6%.

Bitcoin stock exchanges are popular all over the world. It is demonstrated by the fact that there we can exchange Bitcoins for ca. 29 currencies (Bitcoincharts.com 2015b). The most often exchanged currency through BTC stock exchanges is the Chinese yuan (59% share in all the transactions), the second one is the US dollar (37%), the eleventh one is the Polish zloty (Bitcoincharts.com 2015a).

The most known BTC stock exchanges where it is possible to carry out transactions with the Polish currency are (Bitcoin.pl 2015c)

- BitCurex with the office in Łódź – Bitcoin quoted only;
- BitMarket.pl with the office in Cyprus – Bitcoin, Litecoin, Peercoin, Dogecoin;
- BitBay with the office in Katowice – Bitcoin, Litecoin;
- BITMASZYNA with the office in Włocławek – Bitcoin, Litecoin;
- Bitstar with the office in Warsaw – Bitcoin, Litecoin;
- Nevbit with the office in Gdynia – Bitcoin;
- Bitorado with the office in Poznań – Bitcoin, Litecoin, Dogecoin, Namecoin, Feathercoin, Peercoin, Darkcoin, Vericoin, Vertcoin, Polcoin;
- Autovaluta with the office in the Republic of the Marshall Islands– 18 virtual currencies, including the 3 generated in Poland: PCC (PolishCoin), PLNc (PLNcoin), PLC (Polcoin).

BTC stock exchanges are not only places where one can purchase or sell Bitcoin. Some of them offer their users another services, such as funds storage or the access to the statistical data on virtual currencies.

BTC cash machines are another entities on the Bitcoin market that are worth attention. They make it possible to buy (seldom both sale and purchase) Bitcoins owned by a user (Chip.pl 2015). The procedure of BTC purchase is following (Franco 2015, pp. 48):

- One inserts money to a cash machine after choosing an appropriate option;
- The device scans the QR code generated by wallet software which contains user's encrypted public key;
- The cash machine transfers BTC at the given address.

What is interesting and not much in accordance with the idea of Bitcoin's inventor – anonymity, the majority of cash machines require that the user verifies their identity before starting the procedure, usually by scanning an ID card or a hand (Franco 2015 pp. 48).

The use of BTC cash machines is especially useful for people arriving to another country who want to buy local currency (Franco 2015 pp. 48).

Banks usually charge for using traditional cash machines abroad, let alone currency-conversion fees. BTC cash machines do not make additional charges, and the commissions taken by the companies that run them are small, especially if a tourist decides to visit a country that is not a member of the EU.

Data indicates (Wong 2015) that the largest proportion of BTC cash machines is located in the USA and in Canada. It is not surprising as the first BTC cash machine was used in Canada (CBCNews 2015). In 2014 there were four cash machines in Poland, but there will be more of them, thanks to the Bitcoinmat project. The commission taken by their cash machines is just 5% (Chip.pl 2015). BTC cash machines are present not only in highly developed countries, but also in developing and those most exotic. Bitcoin does not recognise borders like the Internet. Since 2013 the number of BTC cash machines in Canada has increased to over 300 (Wong 2015).

The popularity of BTC is also proven by the fact that nearly 6.5 thousand places in the world accept payments in this currency. The majority of such places can be found in Europe and South America, but actually it is possible to pay in Bitcoin on any continent (except Antarctica) (Coinmap 2015). You can pay tuition fees in Bitcoin at the University of Nicosia (a cheaper method for many students from Africa), as well as make donations (e.g. for WikiLeaks) (Szymankiewicz 2014, pp. 29). The growing number of businesses and organizations interested in the introduction of payment in cryptocurrencies indicates that they notice its increasing popularity. In the past, payment by telephone or payment card was a completely new concept. Nowadays many consumers cannot imagine that it is impossible to make payment with a payment card. A similar situation may take place in the future with payments in cryptocurrencies.

A Bitcoin user: the statistical profile

In October 2013 Tyler Durden presented the results of an Internet survey which aimed at creating the statistical profile of a Bitcoin user. According to this survey, the statistical Bitcoin user is an unbelieving man aged ca. 32 with the anarchic and capitalist views (Durden 2015).

When it comes to the ways of using Bitcoin, 55% of users made donations in this currency or gave it as a gift, 38% paid for IT services, 35% used it in gambling, and 16% purchased drugs and other illegal goods. What is interesting, 39% of respondents lead a healthy lifestyle (they do not smoke, drink alcohol and take drugs). 82% of respondents describe themselves as Bitcoin users, 60% treat BTC as an investment, and 42% are Bitcoin miners (Durden 2015).

Bitcoin and the history of money

Bearing in mind the previous analysis concerning the history of money it could be said that Bitcoin has most of the essential features of money (Hoffman 2014):

- durability – BTC is digitally stored, is not damaged when used as money;
- divisibility – 1 BTC can be divided into 100 000 000 units, called satoshi (Szymankiewicz 2014, pp 39) (traditional money can be usually divided only into 100 units);
- portability – in order to fully enjoy the functionality of BTC, one has to install wallet software on a mobile device;
- stability – the value of BTC is subject to large fluctuations, but depends on the law of supply and demand, as was the case with the first commodity money;
- determined value – the current value (December 2015 r.) of 1 BTC equals to ca. 360 USD (Blockchain.info 2015);
- limited supply –BTC target supply is fixed and amounts to 21 M (Nowakowski 2015, pp. 62), and the parameter „difficulty" prevents the sudden increase of the BTC supply on the market (Szymankiewicz 2014, pp. 65);
- general acceptability – the first objects used as money were accepted by inhabitants of a certain territory, and BTC is accepted by the Internet community and the growing number of online and traditional shops.

Thus, the idea of using a certain good as money is not new. If in the past parts of linen, shells, grain and animals were treated as money, today this can be an IT-cryptographic creation. The users of the Internet agreed that Bitcoin is money, as did people centuries ago with e.g. the fur of a wild animal. Although Bitcoin does not have all the previously mentioned features of money, it is thought that only precious metals can have all of them (Hoffman 2014).

Bitcoin and the sociology of money

G. Simmel enlisted the features money according to which Bitcoin is analysed below.

- instrumentality – Bitcoin allows for the purchase of virtual and real goods and services, not being an end in itself (i.e. people want to

have BTC so as to exchange it for goods, services, other currencies; it is not just a part of their wallets);
- impersonality – Bitcoin is more and more often accepted as a means of exchange among the Internet users. It cannot be ascribed to an individual;
- abstract nature – the value of BTC is shaped by the law of supply and demand. If we could not buy anything for it, it would be valueless (it would have only collection or sentimental value);
- potentiality – thanks to Bitcoin one can satisfy their needs, purchasing goods and services;
- circulation and functionality – Bitcoin is used as money and fulfils its functions (is a means of exchange, of accumulation, unit of account, measurement of delayed payments). These are statutory functions of money, which grant its users deontic rights to carry out purchase – sale transactions.

All things considered, it could be said that Bitcoin is money. However, in the case of Bitcoin, the problem of trust is much serious than in the case of traditional money. Nobody and nothing controls the value of Bitcoin and the safety of its users. In the event of BTC theft it is difficult to stand up for one's rights, especially if Bitcoin is illegal in a given country. The user must have trust in Bitcoin exchange platforms and in other users.

Bitcoin, like traditional money, serves also social functions. The behavioral function of is fulfilled because the use of Bitcoin encourages people to learn more about cryptocurrencies. Durden's survey reveals that 70% of respondents broadened their knowledge of finances and cryptography thanks to Bitcoin, whereas 42% learned more about laws and regulations (Durden 2015). The motivational function is fulfilled by the popularity of Bitcoin mining – many miners use this method to earn money. The fact that Bitcoin is used by criminals and the growing number of stock exchanges and forums are the examples of the disintegrating, integrating and institutional functions. Nevertheless, it is difficult to say how the information function of Bitcoin is served, as it is not material and is not linked with the economy of any specific country.

Bitcoin and economic theories of money

When Bitcoin caught much interest in the media, it was often repeated that this currency would revolutionise our view of money. In this part of study, Bitcoin is analysed from the perspective of above mentioned theories of money in order to find out if it does not violate the rules referring to money.

According to J.M. Keynes, money is characterised by the high level of liquidity. People choose the form of keeping their savings on the basis of the level of interest rate (Knakiewicz (ed) 2011, pp. 227-233). In the case of Bitcoin there is neither an interest rate nor any reward for keeping one's savings in this currency. Bitcoin owners believe that the value of their savings will increase due to the interplay between supply and demand. Another important issue is Bitcoin's liquidity. Keynes highlighted that money should be easily exchanged for other assets. Meanwhile, few shops and service points accept Bitcoin as a legal tender. On the other hand, if the user finds such a place, transaction proceeds smoothly. Moreover, thanks to BTC stock exchanges and currency exchanges cryptocurrency may be easily exchanged for real money or other virtual currency. Thus it could be said that Bitcoin has high liquidity in the virtual world, while in the real world this liquidity is much lower. Here we should note the so-called „network economy": acc. to M. Chlebuś the virtual network, creating its own reality, may violate old theories and laws, including economic ones. (Chlebuś 2015, pp. 4). If economy changes (the subject of research), so should science. The economy of virtual reality consists of all the actions taken by Internet users and the results of them are often real goods and services (Chlebuś 2015, pp. 9). Yet the most important feature of the network economy is the fact that it functions without institutions known from the real world (Chlebuś 2015, pp. 18). Bitcoin and other virtual currencies perfectly fit into it. Considering the character of the network economy, the fact that Bitcoin's liquidity varies in the real and virtual worlds does not contradict Keynes' views on money. The next important issue are the motives behind keeping money. Having analysed the Bitcoin market it may be said that here the speculative motive is the most important as the interest in Bitcoin increased considerably when its value went up and its current owners earned huge profits. The precautionary motive does not perform here an important role as it is uncertain if Bitcoin is another speculative bubble. It is also the case with the transactions motive since the greater part of the BTC supply is not present in the system (Ron et al. 2015, pp. 7).

Monetarists believe that the increase in money supply must be followed by inflation (Drabowski 1987, pp. 98-104). It is generally thought that Bitcoin, whose supply is fixed, will be deflationary because of its nature. Moreover, the fixed supply does not pose the risk of a sudden shortage of BTC on the market because Bitcoin as a digital creation may be divided into very small units (*satoshi*) (Cawrey 2015). However, there appear opinions that deflationary nature of Bitcoin will destroy it as people will stop making transactions. Nevertheless, it is worth noticing that Bitcoin is

kept in speculative purposes, and the transactions that are carried out in this currency refer mainly to goods and services which are hardly available (or it is safer not to purchase them) in traditional currency (Weisenthal 2015). The wisdom of the above mentioned statements is still under dispute and it seems that it will not end... Some researchers claim that Bitcoin is money just for a small group of people. The supporters of this belief underline also the vital importance of the speculative motive of keeping money in comparison with the lesser importance of the transactions motive. If we add to this the fact that the use of virtual currencies is still not very popular, it could be said that deflationary nature of Bitcoin will not influence the real economy (Ali 2014, pp. 276). In order to remedy the deflationary character of Bitcoin (and its unpredictable consequences) the rate for increased supply of this cryptocurrency should be set up in time, and there should be no fixed supply (Ali 2014, pp. 282). However it should be noticed that Bitcoin's supply is growing in time and this will happen until the level of 21 M has been reached. Another problem mentioned within the context of fixed supply is the fluctuation of Bitcoin value caused by the fact that the money supply cannot react to the changes in demand (Ali 2014, pp. 283). To sum up, it could be stated that Bitcoin has a deflationary nature, but it will not influence the real economy until Bitcoin becomes a widely used unit of account. Taking into consideration the fact that Bitcoin users keep it in speculative, not transactional purposes, the deflationary nature of Bitcoin seems to have marginal importance.

Another topic of an intense discussion is if Bitcoin complies with the regression theorem. The supporters of not complying with the regression theorem turn attention to the fact that Bitcoin was not a commodity the moment it started to function as a medium of exchange. Others say that Bitcoin does not violate or even complies with the regression theorem and they present many arguments supporting their thesis. These are some of them:

- Mises' regression theorem refers to barter economy and addresses the problem of measuring the purchasing power of a given commodity. It is possible to measure Bitcoin's purchasing value because of its exchangeability for other currencies (such as USD), which were exchanged for gold in the past (Sieroń 2013, pp. 42-44);
- the issue of regression theorem does not refer to Bitcoin because it is not money yet, but only a medium of exchange (it is not widely accepted) (Benedykt 2015);
- the non-monetary value of Bitcoin was created by the will of its inventors and first users of the system to participate in this

experiment. These intangible values got the exchange value, which made it possible to measure the purchasing power (Benedykt 2015);

The first mentioned argument is the most convincing. The only problem is how Bitcoin's exchange rate has been established. The author does not explain it clearly, noticing only that Bitcoin was created when monetary economy existed and the only problem of regression theorem is associated with barter economy (Sieroń 2013, pp. 43). The second argument seems to be the easiest solution, however the author of this view clearly avoids saying which side he takes. As it has been mentioned in this chapter, if we take into consideration the existence of Bitcoin users' community, in which it is generally accepted as a means of payment, it might be regarded as money. However, here the definition of „generality" is questionable. If money is regarded as a means of exchange accepted at a certain territory, then it is impossible to separate out such a territory where Bitcoin is used in the virtual world. If such a territory is extended to the whole world, then it is difficult to imagine that a customer pays in a Polish shop with a currency from a small country from the other side of the world without difficulty. Certainly, there are vendors who will convert the price of goods at the currently applicable exchange rates and will count the conversion costs. The last of the enlisted claims seems to be a clumsy attempt at finding a solution to the problem as it is unclear how the will to participate in the project became the medium of exchange. The question is if it is possible at all. Nevertheless, one may venture to modify this argument. The non-monetary value of Bitcoin would be then the innovative IT-cryptographic system: the technology that makes the existence of this cryptocurrency possible, and precisely, the possibility of sending data with it. This data would become money in a small community of Internet users. It could be stated that the issue „Bitcoin and the regression theorem" is important, taking into consideration the heated debates in Internet forums. But, on the other hand, should we really look for the solution now if there may appear completely new and more reliable data on the virtual currencies in the future?

Table 1. Bitcoin and traditional money

Feature	**Bitcoin**	**Traditional money**
Liquidity	Higher in the virtual world than in the real world	Very high
Acceptability	General (in virtual community of Bitcoin users)	General (but often in a limited area)

Motives for holding money	Rather the speculative than the transaction motive	Any
Supply	Fixed	May be changed
Inflation	No	Yes
Deflation	Yes, it has deflationary nature	Yes
Compliance with the regression theorem	Debatable, but it may be stated that it complies with the regression theorem.	Yes

Source: own work.

Table 1 contains the summary of the most relevant issues presented in this part of the chapter. Having analysed the position of Bitcoin regarding economic theories it could be said that it does not violate in any way the above mentioned theories of money. There are some debatable points, but they should not be considered as a confirmation or contradiction of these theories. As it has been said, if the subject of research changes, the possible modifications of its science are completely natural. Bitcoin does not bring about a revolution, but encourages to study deeply the issue of money, which has been constantly evolving.

Bitcoin's legality

Because of the criminal potential and the difficulties with Bitcoin's taxation, governments of many countries are considering how to regulate, legalise or delegalize this currency. The most vigorous actions have been taken by the USA. Since 2013 the companies that deal with the transfer of virtual currencies have been regarded as entities whose activity requires obtaining the license issued by the Financial Crimes Enforcement Network (FinCEN). In accordance with the American law such companies must also collect data on transactions (Böhme et al. 2015, pp. 231). In the same year the agency presented the project of a regulation that would introduce the obligation of registration for these Bitcoin users who hold it for commercial purposes (Louis 2015). On the other hand, a court in Texas acknowledged Bitcoin as a currency because it enables us to purchase goods and services (Siernat 2015). In 2014 it was précised which companies and individuals are subject to the regulations from 2013. It was deemed that regulations do not apply to: individuals and companies that 1) mine Bitcoin for their own internal use, 2) create or sell software for purchase and sale of virtual currencies, 3) purchase or sell a virtual currency so as to make an investment for their own use (Poindexter 2015). FinCEN introduces many regulations and proposals regarding virtual currencies, thus the USA may

be considered a country that is the most interested in regulating Bitcoin's legal status. However, not only the USA has noticed the risk posed by decentralised virtual currencies. Some countries (such as Russia (Pietkun 2015) and Thailand (Wyborcza.biz 2015)) have chosen easier way and instead of thinking how to regulate virtual currencies, they simply acknowledged them as illegal, solving all the problems. Table 2 shows the legal status of Bitcoin and other virtual currencies around the world.

Table 2. Bitcoin's legality in chosen countries

Country	**Legal status**
China	Legal for individuals, illegal for financial institutions
Finland	Legal (it is regarded as a commodity)
France	Legal (unregulated)
India	Legal (unregulated, but the Central Bank has warned citizens against virtual currencies)
Iceland	Ban on purchasing Bitcoin abroad and accepting Bitcoin payments (Raymaekers 2014, pp. 36)
Japan	Legal (no regulations) (tvn24bis.pl 2015)
Jordan	Illegal for banks, stock exchanges and other financial and clearing institutions
Canada	Legal (still working on its regulation)
Colombia	Considering whether to ban BTC
Germany	Legal (status of private money)
Poland	Legal (no regulations) (pb.pl 2015)
Russia	Illegal
Singapore	Legal (authorities do not interfere in accepting BTC payments) (Ah Kun Ca 2014, pp. 47)
Switzerland	Legal (consider treating virtual currencies as any other currency)
Thailand	Illegal
USA	Legal (many regulations)

Source: Wright (2014)

Despite the fact that Poland's Ministry of Finance has underlined the risks from Bitcoin, it is still unregulated and its use is legal (Ministerstwo Finansów 2015). In January 2015 there was a considerable dispute in the media over closing bank accounts of Bitcoin users, e.g. BPH bank blocked the account of a BTC stock exchange (BitMarket.pl). It was caused by the letter from the prosecutor's office stating that one of the bank accounts belonging to this stock exchange was used against the law (Money.pl 2015). Such incidents give one cause to wonder if some legal regulations should be introduced in Poland too, which would precise legal and illegal

use of virtual currencies. However, it is not the creation of the law, but its enforcement that poses a problem. The anonymity of the system, its international character and the lack of a managing authority make it impossible to enforce the created regulations. Therefore, the easiest way would be to ban BTC (like Russia and Thailand), but should the honest users of virtual currencies be punished for the fact that they may be used to finance criminal activities? It is similar to the ban on the production of knives just because one can kill with them.

Bitcoin's taxation

Although the regulation of using and holding Bitcoin is difficult, its taxation seems to be even more problematic. The fact is that users that hold it earn profits, since the value of Bitcoin is increasing. The situation is similar to a man who keeps his money in a savings account. Every time interest is credited to his account, there is also paid a tax, called a tax on capital gains (Kafliński 2015). Governments of many countries are thinking if and how to tax virtual currencies.

In March 2014 the Internal Revenue Service in the USA (IRS) issued an opinion that such actions as trade in virtual currencies may generate profits which ought to be taxed (Böhme et al. 2015, pp. 231-232). This solution is based on acknowledging Bitcoin as a commodity (Blundell-Wignall 2014, pp. 13), and the profits made from such trade – as capital gains (Jacobsen 2014, pp. 42). Canada solved this problem in a similar way. Yet, the situation is a bit different in the case of „miners". The profits earned by them on mining Bitcoin are subject to taxation on the same basis as the self-employed. The similar case is with a person who obtained Bitcoins through the sale of goods and services. Nevertheless, if an enterprise pays its employees remuneration in Bitcoins, then it is subject to the same tax obligations as the remuneration paid in a traditional currency (Lane et al. 2015, pp. 12-13).

The Reserve Bank of Australia recognizes Bitcoin as an alternative currency for the national currency and as a payment system. The Australian Taxation Office (ATO) regards transactions conducted in Bitcoin as barter transactions, and Bitcoin trading is subject to the tax on capital gains. In New Zealand the basis for taxation is the market value of goods and services purchased with virtual currencies (Malkowic 2014, pp. 34).

In Poland, the Ministry of Finance regards the sale of Bitcoin and other virtual currencies as the chargeable transfer of property rights. The taxpayer can choose the tax with lump from registered income. Thus, it is necessary to consider the income from such transactions in the personal income tax

return form (księgowość.infor.pl 2015). The issue of VAT on Bitcoin has not been precisely regulated yet. It is still being considered if a transaction in Bitcoin is an electronic service (subject to VAT) or a financial service (not subject to VAT) (Nogacki et al. 2015b). The Tax Chamber in Katowice interprets the activity of enterprises that consists in virtual currencies trading as an activity which is subject to VAT if exceeds 150 000.00 PLN turnover (Szymankiewicz 2014, pp.77-78). One of the suggested solutions to the problem of VAT on Bitcoin is to exempt it from this tax; it is the easiest solution, but it is difficult to say if it is right (ksiegowosc.infor.pl 2015).

Table 3 presents how virtual currencies, including Bitcoin, are taxed in some countries that have not been mentioned before. On the basis of this information it could be said that each country approaches this matter in its own way. It will not be possible to introduce appropriate changes in the tax law until the virtual currencies have been fully examined and there appear international studies explicitly stating that these currencies are money or commodities. It is also necessary to learn more about the Bitcoin network infrastructure in order to find people who do not pay taxes. The above presented analysis reveals how many problems are generated by virtual currencies for governments if we take into consideration only legal and tax issues.

Table 3. Virtual currencies taxation around the world

Country	**Tax treatment**
Brazil	Capital tax on each transaction, but the exemption amounts to 16 000$
Denmark	Enterprises that trade in virtual currencies are subject to taxation
Finland	Bitcoin is not subject to VAT, but miners are subject to income tax and people trading in virtual currencies pay tax on capital gains
Norway	Virtual currencies are subject to wealth tax
Singapore	BTC stock exchanges pay tax on the value of sold currencies
Slovenia	Tax is paid by miners and trade companies which accept payments in virtual currencies
Great Britain	VAT on goods and services paid in Bitcoin

Source: Wright (2014).

Conclusions

„Could Bitcoin be regarded as money?" has been the most important research question at the beginning of this work. Having conducted necessary analyses it turns out that it is a very debatable issue, however, this article supports the thesis that Bitcoin is money. It is possible to say

that it does not coincide with the presented theories of money. The debatable points appear only in the case of economic theories of money, especially the regression theorem and general acceptability as a feature of money. It makes us aware that money as a phenomenon has been constantly evolving and it cannot be said that it has been exhaustively examined. If the subject of research is changing, the science should change too. Perhaps there will appear a new approach towards the theory of money and the issues that today are disputable will become clear and obvious.

Another question has been whether Bitcoin is an innovation. In this case the presented analysis does not leave any doubts: Bitcoin is an innovation in terms of used technology and IT solutions, but as the idea of „Internet money" is one of many followers, yet the first that has become so popular. Even in the primordial times people agreed that a certain good would become money. Consequently, in the 21st century such a good may be a creation of an IT system.

When it comes to the taxation and legal status of Bitcoin one should pay attention to the necessity of passing appropriate laws which regulate these issues. It is not only about the loss of state budget revenue from taxation, but also the international security. It seems that there should be established an organization that would control if virtual currencies are not used to fund criminal activities. On the other hand, the existence of such an organization would be incompatible with the idea of Bitcoin as it is defined by anonymity and the lack of managing authority.

Whether we want it or not, cryptocurrencies will be present in our life, at least in the near future. There have been presented the examples of companies that are interested in developing the technology that makes Bitcoin's existence possible. Even if virtual currencies end in complete failure, the IT infrastructure is worth being applied to other fields.

Bitcoin and other virtual currencies may be examined from various perspectives, not only economic. It may be treated as a sociological issue – the response of society to the increasing lack of trust in politicians and monetary authorities, caused by international financial crisis, or an IT issue – focusing on the technical aspects of its functioning. Bitcoin is an up-to-date topic that has not been examined in detail, thus it is worth more attention from researchers.

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