

**Marcin Majewski**

Wroclaw University of Economics, Wroclaw, Poland  
e-mail: 160213@ue.wroc.pl  
ORCID: 0000-0003-3116-9020

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## CRYPTOCURRENCIES AS A TOOL ACCELERATING THE PROCESS OF GLOBALISATION

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### KRYPTOWALUTY JAKO NARZĘDZIE PRZYSPESZAJĄCE PROCES GLOBALIZACJI

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**Summary:** This article is about the process of globalisation supported by cryptocurrencies. It discusses the influence of cryptocurrencies on three major aspects: the political, economic and social spheres. The section on the political sphere highlights the way the authorities of some countries react towards cryptocurrencies. The evolving legal status of cryptocurrency in different regions is described. The section on the economic sphere enumerates examples of cryptocurrencies used on the financial markets. It shows how cryptocurrency might be used by the business sector. The social sphere section illustrates the major kinds of internet societies which are created around cryptocurrencies and what tools are facilitating cryptocurrency transfers. Many examples of important cryptocurrencies are used. The analysis of statistical data and literature have been used in order to evaluate the topic. The study provides additional evidence proving that cryptocurrencies have a significant impact on the process of globalisation.

**Keywords:** bitcoin, cryptocurrency, globalisation.

**Streszczenie:** Niniejszy artykuł jest poświęcony procesowi globalizacji wspieranemu przez kryptowaluty. Omawiany jest wpływ kryptowalut na trzy najważniejsze aspekty: sferę polityczną, ekonomiczną oraz socjalną. W sferze politycznej podkreślono sposób, w jaki władze niektórych krajów reagują na kryptowaluty. Opisano również ewoluujący status prawny kryptowalut w różnych regionach. W sferze ekonomicznej wymieniono przykłady kryptowalut używanych na rynkach finansowych. Pokazano, jak kryptowaluty mogą być wykorzystane w sektorze biznesowym. W części tekstu poświęconej sferze socjalnej zilustrowano główne rodzaje społeczeństw internetowych powstających wokół kryptowalut oraz narzędzi, które ułatwiają ich transfery. Użyto wielu przykładów istotnych kryptowalut. W celu omówienia tematu wykorzystano analizę danych i literatury. Artykuł dostarcza dowodów na to, że kryptowaluty mają znaczny wpływ na proces globalizacji.

**Słowa kluczowe:** bitcoin, kryptowaluty, globalizacja.

## 1. Introduction

Scientists have always seen globalisation as a complex economic and social phenomenon. The most common definition of globalisation is the one provided by Ronald Robertson. It considers globalisation as “the compression of the world and the intensification of consciousness of the world as a whole” [Robertson 1991, p. 8]. The leading conclusion from his definition is that scientists should focus on the world as a global system rather than on its components. The process of globalisation is a progressing process due to many factors, such as cryptocurrencies which emerged just after the global financial crisis in 2008 [Michalczyk 2018, p. 43]. This crisis totally changed public opinion about economic institutions regulated by government. It led to a major transformation in the world’s economy which started to be based on individuals rather than on the economies of countries.

The factors found to be influencing the process of globalisation have been explored in several definitions, each of them referring to a particular field. When it comes to that of social life, globalisation is described as a rapidly developing network of interconnections and interdependences that characterise modern social life [Tomilson 1999, p. 5]. Applying this definition to the role of cryptocurrencies, one can see that cryptocurrencies create internet societies, connect programmers, thus removing all the major obstacles. The second definition of globalisation is connected with politics. Globalisation leads to liberalisation [Micał, 2008, p. 151], and as a consequence governments play a secondary role in shaping the global system. Cryptocurrencies help to avoid sanctions, facilitate online trade and create an additional source of income from tax. Most of the studies of globalisation focus on its economic impact on the global economy. In the aspect of economics, globalisation can be defined as “the inexorable integration of markets, nation-states and technologies” [Friedman 2000, p. 9]. Cryptocurrencies are identified as a tool in creating a global market of exchange in a virtual currency. What is more, new technologies allow to overcome problems with online payments, which leads to the intensification of worldwide trade.

Cryptocurrencies should be considered as one of the factors driving the process of globalisation because they meet the conditions of the globalisation of the economy [Winiarski 2006, p. 144] which are:

- development of technological means of communication,
- liberalisation of international trade,
- reduction of barriers of the movement of goods and capital.

This new electronic means of payment not only affects the economy but also the political, social and cultural spheres which are described in this article. It investigates how cryptocurrencies impact on the process of globalisation based on the above spheres. The analysis of literature and statistical data was used in order to evaluate this topic.

## 2. Political sphere

When it comes to the political sphere of both cryptocurrencies and globalisation, various approaches have been put forward. As the world is now usually described as a “global village” [Rymarczyk 2006, p. 416], some countries try to step back from this inevitable process. In contrast others see a great opportunity in globalisation and try to reap its benefits. The same attitude might be observed in the approach of governments towards cryptocurrencies. Currently the legal status of cryptocurrencies is changing rapidly. The authorities of countries seem to struggle with these topics, particularly in recent years.

The first and most obvious reason for this reluctance of some authorities to these subjects is the lack of control over them. The leader among cryptocurrencies is Bitcoin created with some features which help users to apply it without anyone else’s knowledge. If the user is aware of the Internet structure and its possible dangers they are able to stay anonymous. However, most of the users stay pseudo-anonymous due to the fact of linking information [Martin 2014, p. 55]. This feature creates a great environment for the growing black markets, grey markets and tax evasion. The untracked flow of funds may also lead to financing terrorism, trafficking illegal goods and money laundering [Brito, Castillo, 2013, p. 25]. Illegal marketplaces drew attention to these disadvantages of Bitcoin. The most famous ones were Silk Road, Black Market reloaded, Sheep Market and Silk Road 2.0. These marketplaces were shut down a few times yet they appear again with better technologies and more users. This example is a good illustration of governments’ helplessness in this situation.

Every country has a different attitude towards cryptocurrencies. Most countries have been trying to tax cryptocurrency because they see an additional source of income in it. In this article, Poland is used as an example of a country with a hostile attitude towards cryptocurrencies. The legal status of cryptocurrency in Poland has remained unspecified for ten years. The 13<sup>th</sup> of July 2018 brought the biggest change when the Polish Parliament passed a law regulating cryptocurrency. According to the new law, the tax rate for trade and income made from cryptocurrencies is 19% [mfw.gov.pl 2018]. This regulation makes trade really unsatisfactory and inconvenient for users. Moreover, the Polish authorities took action against all users of such means of payment. Banks close accounts when they notice activities connected with the trade of Bitcoin [Śmiłowicz 2017]. The National Polish Bank (NBP) and the Financial Supervision Committee (KNF) launched a campaign in order to warn citizens about the dangers connected with the usage of Bitcoin [uwazajnakryptowaluty.pl 2019]. This action might be perceived as a positive move because it prevents unaware private investors from losing money. However, Bitcoin investors argue that materials prepared by authorities focus only on the negative aspects of Bitcoin [Bitcoin.pl 2018].

Cryptocurrencies are often considered as a new form of global money. The co-founder of Apple, Steve Wozniak, supports Bitcoin and says that it “should be

a single global currency” [independent.co.uk 2018]. This vision becomes more probable as some countries started using cryptocurrencies instead of money for international transactions. One of the reasons for that shift are sanctions, which are the main tool of the United States. During the last century, barter was used in order to avoid transactions in US dollars and it is done now in the same way with cryptocurrencies. The most famous example was Iran which was using barter trade in order to bypass trade sanctions imposed by the United States [Katusa 2015, p. 204]. Iran used an oil-for-goods system of payment. In this way it inspired other countries to use their goods as a substitute for US dollars. This method suffers from a number of disadvantages. The biggest weakness of this barter method of payment was the fact that these deals were bilateral and regional. It is totally dependent on the double coincidence of wants [Humphrey 1995, p. 5]. A global, independent system of cryptocurrencies solves these shortcomings. The most recent example of a country rebelling against the United States’ policy and repeatedly violating regulations is North Korea. The US National Security Agency estimated that North Korea cryptocurrency transfers were worth about 200 million US dollars [telegraph.co.uk 2018]. This money is probably spent on nuclear weapons and oil. It is supposed that the 11,000 Bitcoins which North Korea owned were obtained through cyber-attacks, hacking and mining of Bitcoin. The regime has been accused of many cyber-crimes:

- The WannaCry attack causing multi-million losses around the world due to damages of computers and loss of data [reuters.com 2017].
- Plundering the Bank of Bangladesh and earning 81 million US dollars.
- Hacking the South Korean cryptocurrency exchange and getting cryptocurrencies worth 7 million US dollars.

These allegations have not confirmed, but North Korea is accused of using cryptocurrencies in order to trade with Libya and Iran. These actions are possible because of a group known as Bureau 121. They are the most talented students of the Pyongyang University of Science and Technology who attended a special cryptocurrency course. The wealth of nations should not be built on crime, but the above example of North Korea shows that cryptocurrencies might replace the US dollar in international transactions and become an interesting alternative.

The recent developments in the field of cryptocurrencies have led to many interesting projects which show a totally different approach than Bitcoin. Scotcoin is a national Scottish cryptocurrency which was devised as the currency independent of the Pound Sterling. This new cryptocurrency is also based on blockchain, but its rules of usage and assumptions are different [scotcoinproject.com 2019]. First of all there is no anonymity. All participants are identified and regulated. In this way illegal activities connected with cryptocurrencies might be eliminated. The main reason for this solution is the purpose of Scotcoin intends to be a support for the Scottish economy, individuals and businesses. Interestingly, Scotcoin is used not only in Scotland, but also among thousands of Internet users from more than 50 countries worldwide [yahoo.com 2018]. Users from all over the world can support

the project and take part in charity events created within the Scotcoin community. The similarities between fiat money and Scotcoin are undeniable.

Taken together, these examples show that cryptocurrencies play a major role in the political aspects of globalisation. Not only do they replace barter deals between countries but also help to avoid sanctions by creating a fair access to funds not limited by any dominating country. What is more, the cryptocurrency trade might constitute an additional source of income.

### 3. Economic sphere

There have been a number of studies involving Bitcoin proving that it meets a lot of obstacles on the way of becoming a global currency. The main problems are: stability, regulations, spread and security [Michalczyk 2018]. These barriers seem to stop Bitcoin from becoming a global and common way of payment. It is worth mentioning that Bitcoin is sometimes perceived as an obsolete cryptocurrency [bithub.pl 2018]. Specialists have noticed that the more users make a payment at the same time, the longer the transaction takes. The infrastructure is really expensive and source-intensive. The other aspect is the multi-tasking of Bitcoin. It is the first and most famous cryptocurrency so it is used as a means of payment, speculation asset, investment and as an experiment. The mixture of these functions makes it unable to be sustainable in every field. In recent years a significant expansion of variety of cryptocurrencies has been notable. They perform various functions so they specialise in particular areas of economic activities.

One of the most specialised cryptocurrency is Ripple. Ripple was created in 2012 by Ripple Labs [Derousseau 2019]. This startup had one clear goal – to facilitate the liquidity of payments around the world. It is designed to be used by both individuals and entrepreneurs. This company has more than 150 financial customers globally. In many ways this cryptocurrency is more innovative than Bitcoin. First of all, ripple coins do not require a mining process which is a subject of controversy due to its source consuming nature. Its developers prove that the Ripple Transaction Protocol is scalable and can handle over 1,000 transactions per second [Michelson 2017]. The company controls the distribution of virtual coins so it is not out of control like many other cryptocurrencies. They also keep a 5-year track record of all payments, however its software is based on open source code so everyone can modify it to fit with their own needs. Critics have argued that not only cryptocurrency should be commercial free but they should also be decentralised. With these aspects in mind, one can begin a discussion whether XRP should be treated as a cryptocurrency or a hybrid between traditional banking and modern blockchain solutions. For instance, some call it “Digital Fiat” [express.co.uk 2018]. This highly centralised cryptocurrency does not meet the expectations of deep web users and those who are used to anonymity and freedom. In contrast, this cryptocurrency is very useful for financial institutions and users who are afraid of using Bitcoin. Yet it is worth

mentioning that Ripple has a much lower value than Bitcoin so it is too early to consider it as a success, however their innovative solutions may revolutionise online banking. Moreover, Ripple may help to improve liquidity in money transfers and in this way accelerate globalisation. Analysing the relationship between solutions like PayPal, Money Brokers or Western Union and Ripple, it is obvious that these traditional transfer methods are more complicated due to the required adaptation to local law [PayPal.com 2019]. Ripple works equally in every country around the globe and does not cost anything for a transfer. In comparison, a single transfer on PayPal may cost as much as 19.99 PLN not including the transfer fee and conversion fee. Reading the reviews of this platform there is only one conclusion – customers are not satisfied with the provided service but there is no other option of payment to choose. This company scores below 1 star out of a 5-star maximum score on Trustpilot [trustpilot.com 2019]. Thanks to solutions like Ripple this situation might hopefully change in upcoming years.

A deeper understanding of the process of applying cryptocurrencies to the global economy helps to realize that cryptocurrencies are no longer a tool just for private users, but also for global financial markets. The rapid growth of the cryptocurrency market cannot remain unnoticed by the mainstream banks. Goldman Sachs, JP Morgan Chase, and Standard Chartered Bank have already included Bitcoin into their global asset allocations. There exist contradictions between the financial investors. The head of JP Morgan, Jamie Diamon, “claims cryptocurrency is only fit for use by drug dealers, murderers and people living in North Korea” [theguardian.com 2019]. Although his words seem to be totally preposterous they caused a 6% fall in the value in 2017.

Comparing the traditional financial market to cryptocurrencies, it is clear that the traditional market is much bigger. Bitcoin market’s value is about 200 billion US dollars, whereas the whole cryptocurrency market is worth only a trillion US dollars. The value of the global stock market is about 70 trillion US dollars [Wong 2018]. Most of the institutions have a negative attitude towards cryptocurrencies, yet it should be mentioned that in 2000 Warren Buffet did not include internet technology companies in his investment portfolio. Looking at this situation from the time perspective this was obviously a big mistake which was corrected later. A similar situation was repeated by technology giants, to name just a few of them: Dell, Microsoft, Reddit and PayPal announced that they would accept Bitcoin as a regular payment method. Sadly this solution turned out to be a part of a marketing campaign. In fact these companies use third-party companies like Coinbase and Bitpay [money.com 2015]. After receiving Bitcoins they are immediately converted into US dollars and accounted for as a regular US dollar payment. The main reason for this precaution is the lack of trust in the store of the value of currency and the ease in accounting revenue in US dollars instead of Bitcoins, which still remain unregulated in the law of some countries. On the other hand Jeremy Lew, who is one of the first investors of Snapchat, believes that by 2030 Bitcoins’ value will

reach half a million US dollars [Popkova 2019, p. 172]. The most obvious finding to emerge from this study is that the financial market, banks and even the technology giants remain rather sceptical about cryptocurrencies, yet they clearly notice that cryptocurrencies are popular among their customers and arouse their interest.

#### **4. Social and cultural sphere**

Bitcoin appeared in mysterious circumstances. Firstly, it was popular among the cypherpunk Internet society [Pagliery 2014, p. 9]. They created a whole myth about Satoshi Nakamoto, who is the founder of Bitcoin. No-one knows who he really is, as he used encryption to remain anonymous. After three years he disappeared completely leaving the project [Casey, Vigna 2005, p. 71]. Nowadays Bitcoin has spread all over the Internet and is used by many users that it would be incorrect to associate it with only one cypherpunk society. In the meantime new cryptocurrencies have been presented. Usually the main reason is the existence of some forum which brings together a particular community. These communities most often use Ethereum or Bitcoin but if they are developed enough they try to start their own cryptocurrency which fits their needs. All these forums have one thing in common: their users come from all over the world. In this way these communities show signs of increasing integrity and interdependence enabling the further expansion of globalisation.

Initial Coin Offering is an equivalent of traditional crowdfunding in the cryptocurrency world. It is worth mentioning that ICO is not regulated by any law. The process of raising funds is often unclear and even fraudulent. On the other hand, traditional capital market transactions are heavily regulated by regulations, contracts and commercial norms which may discourage private investors [Hoffman 2018, p. 2]. Most of the time an organisation sells digital tokens which later become the medium of exchange on the particular platform [Li, Mann 2018, p. 2]. ICOs are based on smart contracts which enable users to make an automated contract without any human governance. The computer code checks if contract conditions are being respected. The advantage for investors is that they can invest their money without revealing their identity. In contrast investors cannot check if the project which they are financing is legal or not. Initial Coin Offerings have proved to be both technological and financial tools. Since 2017 Initial Coin Offerings have raised over 7 billion US Dollars and the trend is rapidly growing [Catalini, Boslego, Zhang 2017, p. 10]. Nearly one-third of ICO funding went to programmers from the United States. However, investors come from all over the world. ICOs are innovative tools which can improve money liquidity between international investors and cryptocurrency developers.

Ethereum is an example of a cryptocurrency made for a particular platform called the Ethereum network. Interestingly, Vitalik Buterin – a Russian programmer, was a part of Bitcoin Magazine [Harrod 2017, p. 87]. He drew attention to the problem of the lack of a scripting language which is necessary for the development of new

applications based on Bitcoin. When he noticed that his idea was not appreciated in the community he decided to start his own platform. The whole enterprise was registered as a non-profit foundation and financed by public crowdsale. Buterin's idea turned out to be a success as Ethereum is now the second largest cryptocurrency after Bitcoin. These positive results are caused by the existence of the Ethereum network which allows programmers from all around the world to create and use smart contracts. This tool is a computer programme which can convey the terms of a contract. The conditions set in the contracts must be met so the process happens automatically [Venegas 2017]. What is more, the Ethereum network allows other cryptocurrencies inside the network, which are called tokens. This platform is Open Source so every user can develop, trade and modify the code. This system is more than just a currency. The platform is based on the work of programmers from all around the world making it a global community. This is the main reason why specialists perceive this platform as one of the most promising in the field.

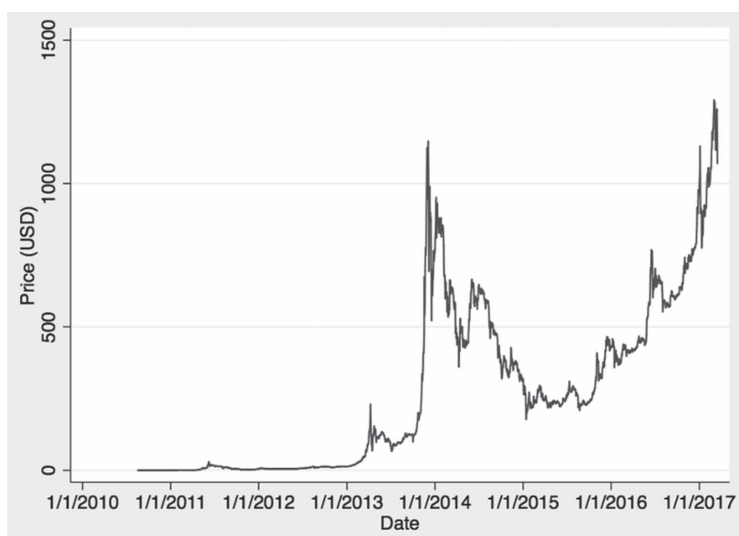
Finally, a number of important limitations need to be considered. First, smart contracts are considered to be really hard to program. Companies are currently working on templates which could simplify these contracts. Secondly, Ethereum needs to be mined with Graphics Processing Units. This comparison between the efficiency of Bitcoin and Ethereum has shown that these two cryptocurrencies both need comparable amount of sources which is argued to be a waste [Ullrich 2018, p. 194]. Thirdly, Ethereum in the same way as Bitcoin uses Proof of Work protocol which takes a lot of time. However, it is said to will be replaced by Proof of Stake instead.

Talking about global communities it is worth mentioning the cryptocurrency forums. In general these forums are internet communities which focus on all topics connected with cryptocurrency, and in contrast with Silk Road they are totally legal. They help new users to learn how the cryptocurrencies work and there are even some local sub-forums which enable discussion with people from the same country. One of the most important aspects of cryptocurrency forums are stocks of exchange. Users of forums have accounts which score reputation and they become trusted in the community. They exchange cryptocurrencies or pay for some services and in this way they are able to bypass the costs of transactions which are quite high on traditional stocks of exchange.

## **5. Limitations**

Cryptocurrencies appeared in 2008 and since then they have undergone an evolution. Bitcoin as a pioneer had a number of drawbacks, one of the biggest being the lack of stability. Most of the cryptocurrencies are not centralised so there is no institution to prevent the negative consequences of a massive price drop which usually causes panic on the market. This situation is not desirable and causes a lack of trust on the part of users. Moreover, drastic price changes make trade in these cryptocurrencies really difficult as prices need to be updated frequently.





**Figure 1.** Changes in Bitcoin prices

Source: [https://www.researchgate.net/profile/Vavrinec\\_Cermak/publication/316648330/figure/fig5/AS:489918918074372@1493817180881/Bitcoin-Price-Index.png](https://www.researchgate.net/profile/Vavrinec_Cermak/publication/316648330/figure/fig5/AS:489918918074372@1493817180881/Bitcoin-Price-Index.png).

The chart above shows the changes of Bitcoin prices from 2010 to 2017. Bitcoin's price has been slowly growing since 2008. The most rapid growth was visible in 2017 when BTC price started growing to historically highest levels. The highest price point was reached on 17 December 2017, and was 19,783.06 US Dollars for 1 BTC. Just five days later BTC was worth only 13,800 US Dollars. The other example of an extremely unstable cryptocurrency is Zcash (ZEC). After releasing this cryptocurrency at 28 December 2016 it was worth about 870 US Dollars. The next day the price skyrocketed to 4,833.51 US Dollars and then come back to the initial price. At the beginning of 2019 one ZEC was worth just about 50 US Dollars. At the beginning of 2018 all of the cryptocurrencies were growing rapidly and slowly decreasing for the rest of the year. It is clear that the cryptocurrency market is not stable and prone to drastic price changes.

The answer to this problem are stable coins. Stable coins are cryptocurrencies which are said to hold their value. Their stable price helps to serve cryptocurrency as an efficient medium of exchange [Balvers, McDonald 2017, p. 4]. As a consequence they are portable, homogenous, divisible and transaction costs are low. Most of these cryptocurrencies focus on the value of the US Dollar (SmartCoins, Nubits) or gold (The Digix Gold Token). There are also stable coins backed by exchange-traded commodities in a fixed ratio. The idea is pretty simple: investors buy a certain amount of cryptocurrency from the issuer, who orders an equivalent quantity of commodities. The audits are able to detect irregularities. If stable coins' total supply

does not reflect the value of commodities, the customer can obtain backing asset [medium.com 2019].

Stable coins seem to solve the biggest problem of cryptocurrencies but sadly this kind of solution creates even more problems. First of all, stable coins create the need for an issuer. Most of the users choose cryptocurrencies because they are decentralised. Centralisation requires trust and this is against the basic rules of cryptocurrencies. What is more, most stable coins have failed, for example Nubits lost nearly half of its value. The cryptocurrency market is not stable and the fixed value of tokens at the moment does not guarantee any stability.

## 6. Conclusion

The purpose of this study is to determine that cryptocurrencies are a tool which accelerates the process of globalisation. The emergence of cryptocurrencies has totally changed the way society sees online payments and obstacles in international transactions. Making anonymous transactions became possible for everyone with internet access. Bitcoin became the first truly global Internet means of payment. In this way the vision of the world as a “global village” became more apparent. Cryptocurrencies help countries to bypass restrictions. They have abolished the dollar’s monopoly on the international transactions market, and this situation makes funds more accessible for less developed countries. In the last century such countries were forced to use counter trade which needed double coincidence of needs.

Politicians have a hard task in regulating the law enforcement and trying to tax cryptocurrencies making this another source of income for countries. Cryptocurrencies show that governments play a secondary role in shaping the modern, global world. Although some authorities have banned the cryptocurrency trade, it is still possible to overcome these limitations. Economists struggle to find an answer to the question about the future of the world’s economy based on blockchain. Cryptocurrencies have proved to be a really important topic, as many banks include them in their investments portfolio. In recent years, projects such as Ripple have tried to facilitate a money flow between entrepreneurs and individuals. This is a major step in creating a global economy instead of a merely regional economy.

Cryptocurrencies have a global range but there are many barriers connected with their global development. First of all they are not totally decentralised. Most of the Bitcoins are mined in China. Other cryptocurrencies have emerged mostly in the United States, however the process of globalisation is not equal in every country. Secondly, cryptocurrencies are not stable. Their stability might be interfered with by government regulations and hacker attacks, and this can result in a lack of trust on the part of public opinion. What is more, some cryptocurrencies are totally commercial – which makes them more similar to the traditional banks.

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