

Conference Paper

Cryptocurrency: Financial Revolution or a Threat to the Financial System

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Abstract

The article provides an analytical overview of cryptocurrencies, the dynamics of bitcoin from the origin to the present time. The specific risks of the virtual currencies use were identified.

Keywords: bitcoin, cryptocurrency, risks, electronic money; financial technology.

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1. Introduction

Decentralized digital currencies, cryptocurrencies, in particular bitcoin, has attracted special attention from the public, business and Government structures. Electronic payments were integrated into our everyday life, they are used extensively both in business, in the calculation of the population and at the state level. E-payment systems development occurs through the development and introduction of new technologies. Internet technologies have their own development. The Internet today is the main source of information and means of communication, the entire advanced society communicates with innovative Internet-based technologies, as well as it is a channel for digital media payments. In the modern financial system there are new tools, virtual forms, cryptocurrencies. In this regard, we can say that cryptocurrencies are a new stage for the development of payment and settlement systems. cryptocurrencies can be a powerful tool for the development of the modern financial system.

The problem of terminology, opportunities, risks and threats associated with the appearance and circulation of the "cryptocurrency" becomes particularly relevant in view of the advanced development of financial technologies compared to the tools of the state regulation. This raises a question of cryptocurrencies as a new revolutionary technology and as a threat to the traditional fiat system.

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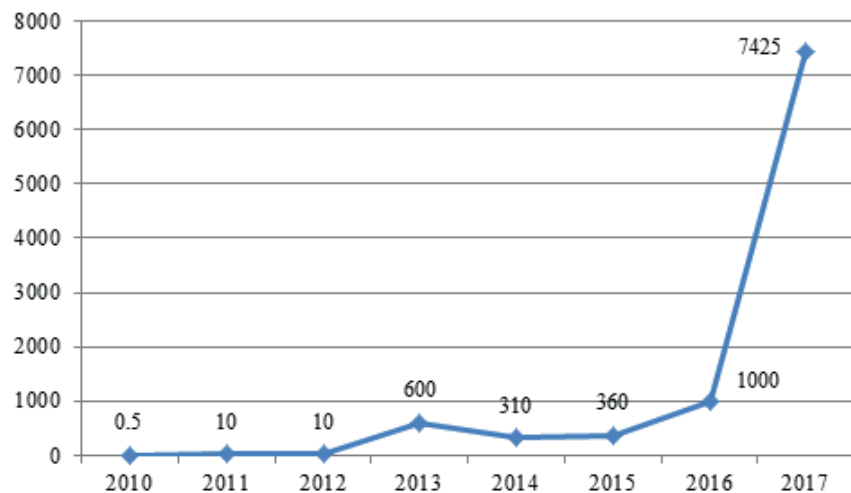


Figure 1: The dynamics of the bitcoin rate in United States dollars [4].

Unlike traditional funds, e-currency has no single emission structure, does not have a central supervisory authority to regulate the virtual currency exchange rate. The basis for the cryptocurrency system is the process of its creation, which determines its initial cost. At the initial stage an initial unit of virtual money price is equal to the cost of work spent on its implementation [1].

The first cryptocurrency in the financial market has become bitcoin. The dynamics of the bitcoin rate for the period July 18, 2010 – November 6, 2017 is illustrated in Figure 1.

The bitcoin rate for the whole period of its existence had differently directed dynamics. An uneven growth of the bitcoin rate was observed in the period up to the year 2013, in the next two years it was reduced almost twice and in the year 2017 there was a significant jump of the rate in 7, 5 times, that was due to the increase in demand for this cryptocurrency, in a view of the creation of the competing technologies and development of the equipment capacity. However, during this period over 1000 new types of cryptocurrencies arose. An analytical review of cryptocurrencies in circulation, are listed in Table 1.

TABLE 1: The characteristics analysis of cryptocurrencies [1.4].

Types	Date of appearance	Rate of one currency in dollars in October 2017	Country which permits use of currency	Risks	Prospects of token
Bitcoin	2009	7425	United States, Japan, Germany, The Philippines, Denmark, Estonia, Canada, United Kingdom	anonymity; decentralized nature; the possibility of laundering of crime proceeds through risk investment	1. quick transaction 2. attracting investors 3. Exchange for other types of cryptocurrencies 4. capitalization growth
Litecoin Namecoin SwiftCoin	2011	55.35 1.37 1.09		decentralized nature; anonymity a possible price hike in electricity prices	
Peercoin	2012	1.40		A huge amount of energy supply monitoring; Replacement transaction histories	
Emercoin Primecoin Gridcoin	2013	0.5352 0.1551 0.0406		The decentralized nature of The risk of data loss	
BlackCoin Dash Monero	2014	0.2175 296.39 100.94		The anonymity of the transactions. In the case of implementation of large-scale cooperation projects with payment services, initial issue coins may not be enough; Identify users and their operations. Incompatibility with modern algorithm specialized devices for mining	

Types	Date of appearance	Rate of one currency in dollars in October 2017	Country which permits use of currency	Risks	Prospects of token
Ethereum	2015	299.98		Fraud; Deliberate error code that allows you to withdraw all the money	
WavesPlatform Zcash Decred	2016	3.60 242.85 29.00		Decentralized nature; The anonymity of the transactions; Tax evasion	
BitcoinCash Ubiq	2017	617.79		The anonymity of the transactions; Loss of control over private keys	

Based on the Table 1 it can be concluded that bitcoin occupies a dominant position due to its greatest period of mining and circulation. At the moment there are several countries where the use of cryptocurrencies is permitted. For example, in some European countries it is possible to pay for training at the master’s degree in digital currency, in the state of Kentucky the pay was allowed to be in bitcoins [6]. However, there are disadvantages in the use of these financial instruments, for example, virtual currencies are sometimes the only means of payment when buying and selling commodities such as stolen credit card numbers, personal credentials for authentication when accessing the online accounts, such as PayPal and eBay. Trade in controlled goods, such as firearms, also goes for virtual currency, because the nature of such currencies does not only complicate the control of arms trafficking, but also does not allow tracing the link between the arms and the culprit in the case of using of a firearm [5].

Any technological innovation has not only new opportunities for the economy, but also has implications, in particular infrastructure changes, including financial support. The rapid spread of bitcoins and other cryptocurrencies testifies great potential of technology of distributed registries. However, the use of them poses certain risks in terms of money laundering and terrorist financing. The primary risk in the expert community is called anonymity. Anonymity could contribute to fraud, the acquisition of weapons, drugs, and the financing of terrorism. Another risk is the decentralized nature, which means that there is no single center for manufacturing, but also for the

circulation supervision of this currency that could oversee, affect the rate of emission and block suspicious accounts or transactions [2].

Because cryptocurrencies are virtual and do not have a central repository, digital cryptocurrency balance can be destroyed in case of infected data, or for any failure of your computer. Cryptocurrencies are not protected from the threat of hacking. However, it is believed that cryptocurrency is an attractive financial instrument for calculation that has several advantages over traditional payment instruments. A cryptocurrency saves cost, facilitates the exchange, is transferred in more volumes, and is beyond the reach of the central banks and governments [2].

At the same time proceeding from the risks and threats of these financial instruments the state regulatory agencies suppose that cryptocurrencies pose a threat to a fiat monetary system and traditional payment systems. Some experts see a positive trend in the development prospects of independent, easy and economical payment system [3].

Much in the long term depends on how soon a wide range of users will be able to generally use a new financial innovative technology. The realization of digital money mechanism will take the next few years, given the ambiguous attitudes and opinions have divided themselves into "for/against" any changes and innovations in the financial statement. During the period of financial evolution the majority of people can refuse from the government-issued money, and take cryptocurrency as a tool to achieve financial growth and freedom.

Probably, it is wrong to believe that cryptocurrencies will replace the fiat monetary system completely monetary system, because money present in circulation, are issued by the Central Bank. It is a risk for governments to permit large-scale anonymous payments, because anonymity in the criminal and financial activity implies the possibility of money-laundering, the proceeds of tax evasion, as well as the financing of terrorism.

Cryptocurrencies can lose their anonymity, and possibly demand for this financial instrument will be reduced, due to the loss of basic characteristics and main factors in demand growth. However, distributed technology based on the cryptocurrency registry has a great perspective. Perhaps, some bitcoin users are betting that anyway the state will allow using or making anonymous transactions with virtual currencies or the most advanced state entities, perhaps, such as Japan, will legitimately allow using cryptocurrencies.

Whether the bitcoin rate will be declining if governments can regulate, as well as oversee the virtual transactions? Perhaps it will not. Despite the fact that transactions

with virtual currencies require a certain amount of electricity, with some improvements, bitcoin can take the leading position among large banks transactions for credit and debit cards. However, until the number of entities that use cryptocurrencies is small, an incentive for others to use them remains limited.

2. Conclusion

In conclusion it can be said that the development of innovative financial instruments had a positive impact on the economic development of individual countries and globally. Modern technologies in financial circulation open new opportunities both for business and for society itself. Cryptocurrencies are an innovation for the future, and perhaps they may soon become a full-value means of payment and even an investment tool, especially for small and medium-sized businesses. Cryptocurrencies with their properties are capable, to some extent, of replacing, or even completely replacing the traditional money. But with central banks treat with caution to a rapid development of cryptocurrencies, being afraid of uncontrolled emissions and other possible abuses. Cryptocurrencies do not protect a user, and there are risks of exchange rate volatility, as well as cyber threats. Bitcoin is often associated with illegal activities such as money-laundering and trafficking in illegal goods, because the transactions can be conducted anonymously. Operations with cryptocurrencies have problems in the sphere of execution of tax law, because the law does not define the status of this financial instrument. The currency is unstable, and investment may not be suitable for most investors. Businesses involved in the turnover of cryptocurrency are beyond the legitimate fields, increasing the risks of the activity. One of the important problems is not how fast and how can be regulated, but how to properly control by the state a new developing financial technology, including combating the legalization of incomes obtained by criminal means. Along with unfavourable factors there exist the benefits of cryptocurrencies, for example, their value is not set by the state. The cryptocurrency price is determined by market supply and demand only. The lack of financial censorship, that is, the absence of a ban on the transfer of virtual funds, or receive them from anyone. Thus, the new financial technology for creating and circulation of decentralized currency certainly is a revolutionary technology that opens new perspectives in both payment and settlement organizations and bears threats and risks to the financial systems and economies because of their unique characteristics of decentralization and anonymity.

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