

G.Zh. Azretbergenova
A.O. Syzdykova

Khoja Akhmet Yassawi International Kazakh-Turkish University, Turkestan, Kazakhstan
(E-mail: gulmira.azretbergenova@ayu.edu.kz)

Assessing the global impact of cryptocurrencies

Abstract. *Interest in cryptocurrencies is increasing day by day. Cryptocurrencies are increasingly known around the world as a mathematical-based encrypted digital and virtual currency that cannot be controlled by a state, company or authority, and uses the science of decentralized monetary system and cryptology. In an environment where a new crypto currency is announced every day, there are 7471 types of cryptocurrencies as of 21 October 2020. Although it has a history of only eleven years, it is important to investigate and discuss this issue, considering the transaction size, prevalence and diversity of this technological innovation. Cryptocurrencies are used in daily life and commercial activities as a means of payment for purchases of real or virtual goods and services. They are accepted by many international companies, and are traded in hundreds of clearing and exchange centers. In addition, considering that they have bidirectional convertibility with the currencies of many countries in circulation and they have reached a market size that grows up to 375 billion USD in total, the nature and importance of the business is evident. The study discusses the current state of the crypto money market, countries' attitudes towards cryptocurrencies and the global effects of crypto currencies.*

Bitcoin has set a new record for value on the exchange. According to the trading data, on February 9, 2021, the price of cryptocurrency exceeded \$ 48 thousand. The reason for the new jump in the rate was the news of a large investment by Tesla: Elon Musk's company bought bitcoins for \$ 1.5 billion. In the future, Tesla plans to accept bitcoin as a form of payment for goods and services.

The publication of a financial report for the US Securities and Exchange Commission (SEC) instantly increased the value of cryptocurrency in the market by more than 10%. At its peak, Bitcoin has shown a 40% increase over the past week.

Keywords: *cryptocurrency, bitcoin, altcoin, block chain, reserve money, global impact.*

DOI: <https://doi.org/10.32523/2789-4320-2021-3-150-163>

Introduction

Cryptocurrency was first launched in 2009 in Japan. Satoshi Nakamoto introduced bitcoin as the first crypto currency, to the world. Over time,

the diversity in cryptocurrencies has increased and reached a widespread use area. Cryptocurrencies have especially attracted the attention of investors due to the advantages they provide. However, as it cannot be controlled by the state, it causes

investors to behave cautiously. In some countries that use crypto currencies, the national currency depreciated and these countries banned the use of cryptocurrency. In some countries, the use of crypto money is not preferred due to religious beliefs. For these reasons, the development of the crypto currency has been adversely affected. On the other hand, active use of cryptocurrencies in trade has been achieved in many countries around the world by using crypto money ATMs. In this case, it contributed to the development of the crypto currency. Cryptocurrencies are gradually being adopted as a new payment method around the world. With the exclusion of third parties, blockchain technology allows transactions to be performed faster and reduce transaction costs compared to traditional methods. This offers a great opportunity to innovate payment systems[1]. Although there are many studies on the operation, advantages and disadvantages of cryptocurrency in foreign literature, there is a large gap in this area in the national literature. For this reason, the main purpose of the study is to contribute to the national literature by comprehensively examining the global effects of cryptocurrencies.

Methodology

There were used summarizing and analytical methods to achieve the objectives of the study. There were discussed articles and seasonal publications on cryptocurrencies currently published abroad. In addition, there were analyzed official statistics and importance of cryptocurrencies in the global financial sector. the conclusions were made on the basis of the opportunities and threats of cryptocurrency based on the works of foreign scientists and reports of international organizations.

History. Cryptocurrencies that can only be created in digital environment do not exist in real life, but are used in the digital environment. Cryptocurrencies are money that do not rely on government authority and whose value is not determined by any institution. Cryptocurrency is shaped by the respective cryptocurrency community. There is no support center or legal

quality behind them. It is not valid globally. It is accepted in a certain society. The first crypto currency introduced to the market is bitcoin. It means coin.

The emergence of cryptocurrencies begins with the announcement of the Bitcoin system. Satoshi Nakamoto's article explaining the Bitcoin system was published in the cryptography e-mail group on the website metzdowd.com in October 2008. Nakamoto opened the system to the general user segment on the internet on January 3, 2009, and he himself performed the first Bitcoin mining and became the owner of the first bitcoins. As the first decentralized currency, bitcoin quickly became popular, attracting the attention of investors looking for a new monetary value measure. While its value in 2010 was approximately equal to 0.30 USD, it increased to 19,890 USD in December 2017 [3].

Results and discussion

The emergence of cryptocurrencies and the current situation. It can be said that the Bitcoin system is decentralized. It can be an alternative to the real currencies of the real world. It provides system security by using cryptographic methods in the supply and interpersonal transfer of money, and realizes the idea of digital currency. The success of the Bitcoin system has encouraged other cryptocurrency developers to realize their thinking. These crypto currency systems built on the Bitcoin infrastructure are generally called alternative coin/altcoin. The first altcoin was announced in April 2011 as Namecoin to implement the decentralized DNS system [4]. Litecoin followed in October of the same year, using scrypt instead of the SHA-256 hash function. Then, in 2012, Peercoin was announced using Proof of Stake, a hybrid proof of proof-of-work model. Systems have also emerged, called Metacoins, some of which use the Bitcoin blockchain structure and some of them have their own structures called ledgers. These systems are cryptocurrencies and offer new applications such as digital assets and digital contracts. For example, Ripple, announced in 2012, is both a digital currency and operates as a financial electronic

network. Ethereum, which was proposed in 2013 and started operating in 2015, is a system that has its own blockchain and enables smart contracts to be created [5]. To date, 7471 cryptocurrencies and 31725 market announcements related to them have been made. The total volume of these markets is 375.172.676.580 USD and 60.6% of the crypto money market is bitcoin (Coinmarketcap, Electronic 21.09.2020). Prices, volumes and capitalization of the largest cryptocurrencies in the markets as of October 21, 2020 are given in the table below (Table 1).

The high volatility in cryptocurrencies makes it difficult for investors to take the right position and develop investment strategies. Investments in crypto money markets involve high risks. The foremost of these risks are operational risks and security (cyber risk) risks. On the other hand, it seems that today investors still seriously believe in the rumors and speculation about cryptocurrencies. There are studies in the literature that say that Bitcoin and other crypto currencies should be seen as «speculative» assets. Early research on the price dynamics of Bitcoin indicates that Bitcoin has an extraordinarily speculative structure [6].

With the recent growth of crypto money markets, some have claimed that cryptocurrencies can be seen as a new type of investment tool. When it comes to seeing cryptocurrencies as a new investment tool or as an alternative asset,

two issues that investors should take into account come to the fore. The first is the risks specific to investments, the second is the relationship of crypto coins with other assets, more importantly, the diversification benefits and hedging capabilities of cryptocurrencies [7]. Removing digital assets from investment alternatives will be at least as restrictive as removing all other assets. The convertibility of cryptocurrencies into fiat currency means that these coins can be included in any portfolio and can be seen as another asset class, although a clear legal definition has not yet been established [8].

Countries' attitudes towards cryptocurrencies. International efforts have focused on consensus on the potential benefits and risks of cryptocurrencies. A number of international organizations around the world contribute to the discussions on issues related to cryptocurrency systems with reports, handbooks and guides they have prepared and shared from the perspective of their field of expertise. However, since cryptocurrencies are used as an investment or speculation tool rather than a payment tool due to the risks and uncertainties they carry, they suggest cautious approach by the governments of various countries. On the other hand, bitcoin and other cryptocurrencies are generally welcomed in many parts of the world. However, some countries have banned cryptocurrencies and their use. Countries are cautious due to the

Table 1

Current value and capitalization of top-10 cryptocurrencies (US dollars)

№	Name	Symbol	Price (USD)	Market Cap (USD)	Circulating Supply
1	Bitcoin	BTC	11 770,39	218,013,711,494	18,522,218 BTC
2	Ethereum	ETH	368,05	41,620,239,981	113,082,466 ETH
3	Tether	USDT	1,00	15,866,882,792	15,857,387,815 USDT
4	XRP	XRP	0,242956	10,993,279,311	45,248,061,374 XRP
5	Bitcoin Cash	BCH	244,08	4,527,664,873	18,549,744 BCH
6	Binance Coin	BNB	29,24	4,222,202,091	144,406,561 BNB
7	Chainlink	LINK	10,39	4,037,862,958	388,509,556 LINK
8	Polkadot	DOT	4,04	3,446,199,080	852,647,705 DOT
9	Cardano	ADA	0,102402	3,185,972,142	31,112,484,646 ADA
10	Litecoin	LTC	47,20	3,101,325,644	65,707,203 LTC

Source: <https://coinmarketcap.com/> available at: 20.01.2020

decentralized nature of cryptocurrencies, the perception of threats to their current financial systems, and their connection with illegal activities such as drug trafficking and money laundering. Although prohibitions have been imposed in some countries as appropriate regulations have not yet been approved, in some countries cryptocurrencies have been legally accepted (Table 2).

According to the table, some countries have officially banned cryptocurrencies, some are still debating, and others are legally allowed to use these coins. Although many countries around the

world are positive about bitcoin, they warn their citizens about price volatility, the lack of central government, and the lack of any physical assets.

Bitcoin is widely used in countries such as Japan, Canada, the United States, France, England and Germany. The world's first bitcoin ATM is in Canada. The United States is the world leader in bitcoin trading. Many countries are waiting for the results of the US approach and approach to the legal regulation and regulation of cryptocurrencies[9].

The global effects of cryptocurrencies. Cryptocurrencies cause some global effects in

Table 2

Legal Status of Crypto Currencies

Officially Banned Countries	Countries with restricted use of Bitcoin. (It cannot be transacted with Bitcoin or used for payment).	Legally permitted countries	«Unstable» countries
Afghanistan	China	Japan	Albania
Pakistan	India	USA	Andorra
Algeria	Ecuador	Malta	Argentina
Bolivia	Indonesia	Ukraine	Barbados
Bangladesh	Morocco	Netherlands	Colombia
Macedonia	Zambia	Lithuania	French guiana
Saudi Arabia	Egypt	Estonia	Gabon
Vanuatu	American Samoa	United Kingdom	Jamaica
Vietnamese	Qatar	Germany	Jordan
Nepal		Bermuda	Kazakhstan
		Slovenia	Kenya
		Singapore	Kosovo
		Georgia	Malaysia
		Belarus	Maldives
		Hong Kong	Mauritius
		Kyrgyzstan	Nigeria
		Uzbekistan	Panama
		Turkey	Paraguay
		Spain	Peru
		Italy	Tunisia
			UAE
			Tanzania
			Uruguay

Source: <https://is.gd/dFEHCU> available at: 12.10.2020

usage. These affect the economy, political and financial sector. In addition, cryptocurrencies have become a debated issue in terms of taxes.

Impact on the economy. The first of the two important functions that should be enlightened in terms of the future of crypto currencies is whether the money will fulfill its functions and the second is the approach that international organizations, governments and central banks will adopt against crypto currencies within the framework of their global effects. It is stated that crypto money has the features that a currency should have such as divisibility, being a medium of exchange, not being imitated, value storage, transferability and homogeneity. However, it is not a monetary policy tool because it is not controlled by a central bank and is not printed material (Dabrowski, Janikowski, 2018). The maximum number of BTC is limited to 21 million. 80% of this number is completed and the remaining 20% is estimated to be completed in 2140 [10]. No person or authority can supply money to the Bitcoin system from outside, so inflation does not occur. The money supply is in the form of rewards given to miners who successfully block. The increasing widespread use of cryptocurrencies has a great impact on the seigniorage income provided by central banks in the monopoly of money printing. The difference between the cost of money printed by the central bank and the price printed on the coin is to form the seigniorage income. As cryptocurrencies become widespread and are increasingly used for transaction purposes, serious declines will occur in the seigniorage income of central banks. However, the widespread use of cryptocurrencies may seriously damage the «reserve money» status of global major currencies.

Political effects. The most important political effect of crypto money is that it cannot be controlled and intervened by any government, independent institution or central bank. This means that bitcoin cannot be manipulated by the authorities. It continues through a system whose supply has been determined during the establishment phase and that everyone can use and produce. It does not have any legal infrastructure. Therefore, there is no institution

to deal with in the face of an error or a crime in the crypto market. While cryptocurrencies do not have a legal status and cannot be regulated by an official authority, they are defined as a stateless currency, making it attractive for use for illegal businesses and underground activities. The active use for illegal activities in the deep and dark parts of the internet, which is defined as the «deep web» for governments, causes concern. As a matter of fact, the European Central Bank (ECB) emphasized that Bitcoin should be regulated. It was emphasized that the European Union (EU) will introduce strict rules to prevent terrorism and money laundering on online exchange platforms where virtual currencies are used, and this practice will ensure transparency that will prevent money laundering and terrorist financing[11].

In addition, although the widespread use of cryptocurrencies is considered as the currency of the future, it seems difficult to replace bitcoin and others with legal equivalent currencies in the short term due to the lack of legal infrastructure. Despite this, it is seen as an alternative to money today and it is spreading rapidly with the development of technology.

Financial effects. Since the use of cryptocurrencies, opportunities such as the absence of an intermediary institution in money transfer, no transfer fee, low cost and rapid transmission, and no tax payment are an important challenge to the banking system. In addition, the destructive effect of crypto currencies triggers a great change in terms of virtualization of money in the banking sector. In this respect, it can be predicted that the banking sector and the financial world will not remain silent and adapt to the cryptocurrency concept in the medium term.

Considering that Bitcoin's biggest promise is to facilitate money transfer, the interest in Bitcoin, which has started trading on Forex, is of great interest and is seen by many as an investment tool. However, even if Bitcoin is an investment tool, it is considered to be risky due to speculation. The biggest criticism came from the traditional financial institutions and banks it threatened the most; The decentralized crypto

money is actually not guaranteed, it will burst like a bubble. It is compared to the Tulip mania in Dutch history, a kind of ponzi game[12]. On the other hand, it should not be forgotten that there are economists who defend and support Bitcoin and express that they expect it to have significant effects on the market in the future.

The global impact of cryptocurrencies on the world

In 2021, interest in cryptocurrencies in the global financial markets has skyrocketed, and the global impact of cryptocurrencies is the buying and selling of cryptocurrencies by the world's largest companies.

In 2021, we can see increasing interest in the bitcoin cryptocurrency in the financial markets. Tesla, MicroStrategy, Square, The Motley Fool, and others have all invested in cryptocurrencies. In addition, not only U.S. companies, but other companies are starting to invest in digital assets, as evidenced by the April 2021 sale of Bitcoin by Hong Kong tech giant Meitu for as much as \$100 million. The amount of investment. Bridgewater Associates also said it was ready to invest in bitcoin. Interest in major cryptocurrencies is currently surging following a drop in volatility and an increase in liquidity.

Agencies around the world

News of large companies buying and using cryptocurrencies usually happens in the context of cryptocurrency growth, which can be called a good way to advertise, and such news generates a lot of comments and discussion on social networks, which is useful to anyone and companies, big and small. But on the other hand, as experts have pointed out, cryptocurrencies are becoming a common asset in modern investor portfolios.

Some companies hold stocks or bonds on their balance sheets, while others can invest in bitcoin and other cryptocurrencies because they can show high returns.

Tesla CEO Elon Musk's \$1.5 billion purchase of bitcoin could be a gamble. But Elon Musk explained that Tesla's actions do not directly reflect his views, but that Bitcoin is «a more liquid digital currency, not a saver.»

Business activities and development

For example, companies can use cryptocurrencies to pay for their goods and services, explained Michael Rose-Johnson, CEO of the Chatex cryptocurrency peer-to-peer platform. For example, in March 2021, Tesla increased the opportunity to buy electric cars with bitcoin. Elon Musk later said the company would not convert cryptocurrencies into fiat currency.

Another reason companies are interested in digital assets is the adaptation of new technologies to production processes. Instead, the use of cryptocurrencies in corporate activities is seen as an initiative of managers and owners who believe in new technologies and a new fair financial system for the future. They have been so successful within the company that they have turned to buy cryptocurrencies on behalf of the company, which has helped their organization grow.

Inflation protection

In today's world-class financial exchanges, cryptocurrency has become a good tool for companies to diversify their risk. This is especially important when the world's largest country is adding printing plants to support global trade and economy, traditional markets will be hit in the future, and the best solution for business is expected to be cryptocurrency-based assets. The percentage of large companies that use only digital assets is growing.

Continuation of the trend

Big companies will continue to be interested in digital assets and will be able to invest in them. In this case, it all depends on Bitcoin's social distribution index -- it will become popular among the richest people in the world, owners of the most famous companies in the world, and increase liquidity by investing free money.

In addition to continuing to buy bitcoin with large companies, another trend is the creation of individual corporate cryptocurrencies. Unlike 99% of all cryptocurrencies, such tools rely on real business support,

Big companies are trying to create their own cryptocurrencies to integrate into their ecosystems, especially using existing

cryptocurrencies to diversify their portfolios according to the Tesla model, which is listed in the TOP 10.

We explain the global impact of cryptocurrencies by creating a cryptocurrency index. We have access to 1,800 cryptocurrencies in all caps and do not index them. All cryptocurrencies are represented not only as Bitcoin or Ethereum, but as assets in the same class as the market. Capitalization of all cryptocurrencies to \$1 million. A fall.

Today, since 2018, the available data has improved significantly and its availability and reliability have increased to a level comparable to that of conventional assets. Today, everyone has access to high-quality data and analysis.

The table below shows how the cryptocurrency market has performed compared to Bitcoin. The chart is simple and shows how much money you would have made in 2014 if you had invested \$1 in the corresponding asset. The blue line is the cryptocurrency market (1800 Currency Index) and the red line is Bitcoin. You can see that the index moves in a similar way to Bitcoin, but

with differences. If you look closely, you can see this. The cryptocurrency market is not just bitcoin, it's much broader than 5, 10 or more large cryptocurrencies, even more so.

In addition, due to the sluggish global economy during the 201-2020 global pandemic, many of the world's largest companies and investors have invested in cryptocurrencies as the most reliable way to protect their assets during a pandemic. At this stage in the world market

Cryptocurrencies act as protectors.

The second major development in cryptocurrency development was the emergence of e-gold, the first internet-based payment system. E-Gold is a digital online payment system based on gold. The aim of the system was to create a private and international currency to circulate outside the control of the State. E-gold is an alternative digital currency, not an additional currency. Unlike bank currency trading, electronic gold trading is irrevocably accurate. Another feature of the system is that it allows customers to register under false names, which makes identification difficult.

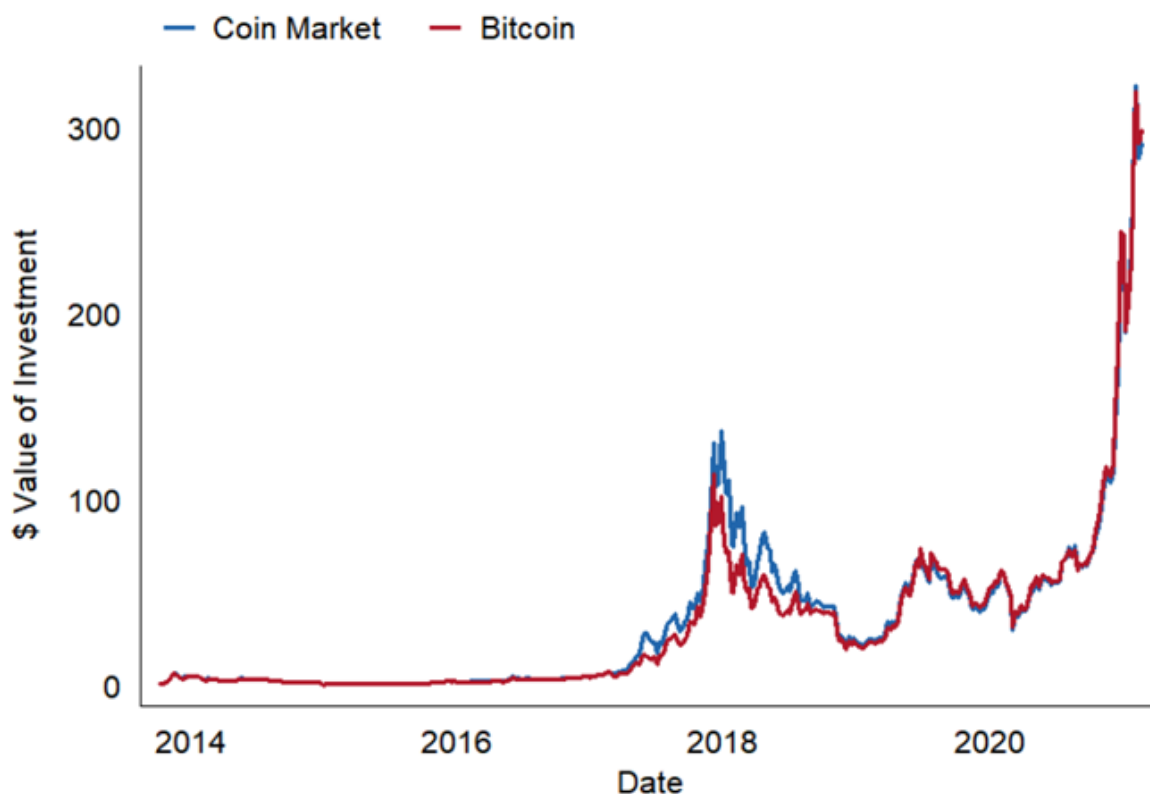


Table 3 – The cryptocurrency market compared to Bitcoin

Table 4

The pros and cons of cryptocurrencies

Advantages	Disadvantages
Low risk of inflation	Unable to control
Simple and safe	It is difficult to buy and sell, ie low liquidity
Easy to transport	Lack of information and uncertainty
Freedom of payment (payment is made at any time)	If payments are made, it is not possible to refuse or demand a refund.
Neutrality (not controlled by the government or banks)	This places a great responsibility on its users in terms of security and control.
Anonymous (anonymous and cannot be identified by third parties)	There is no password deletion or account termination in a hacker attack.
Source: Compiled by the authors	

As shown in Table 4, cryptocurrencies have many advantages and disadvantages. For example, cryptocurrency accounts that benefit taxpayers and depositors in the tax process cannot benefit from any support and follow-up services because they cannot be tracked when passwords are stolen and accounts seized by hackers. Because of these advantages and disadvantages, there is always uncertainty and uncertainty, as it is not clear how cryptocurrencies will perform in the future.

Perspectives of international organizations

While the European Union monitors changes to cryptocurrencies, no formal decisions have been made on their legality, adoption or regulation. That's why some EU countries have developed their own positions on cryptocurrencies: In Finland, the central tax office classifies bitcoin as a financial activity and exempts it from VAT. In Finland, Bitcoin is a product, not a currency. Belgium's federal public service fund also exempts bitcoin from VAT. Bitcoin is not controlled or regulated in Cyprus. The UK's Financial Conduct Authority (FCA) backs bitcoin and has asked regulators to back digital currencies, which are protected by certain tax rules in the UK. Bulgaria's National Revenue Agency (NRA) supports Bitcoin in accordance with applicable laws. In Germany, bitcoin is legally accepted but subject to different taxes depending on the interests of the stock market authorities, miners, businesses or users.

The Financial Action Task Force (FATF), one of the international organizations working on cryptocurrencies, published a report in June 2014 describing cryptocurrencies as an online payment system that provides a conceptual framework for virtual currencies and money laundering and money laundering using virtual currencies. Terrorist financing. Classify risks in terms of prevention.

Opportunities and threats created by bitcoin for national currency systems. The widespread use of Bitcoin as a new currency in the future can lead to a limitation in the amount of printed currencies, causing deflationary pressures in the economy. This can be felt more in economies where economic agents are willing to save rather than spend bitcoins. The most dangerous scenario is that instabilities become permanent as a result of the harmonic decrease in the general level of prices[13].

The absence of an institution issuing bitcoin creates insecurity in people who do not know the working principle of the system. Therefore, in order not to be negatively affected by fluctuations, investors are generally advised not to keep all their savings in bitcoin. However, as more and more people show interest in cryptocurrencies, some states and globally recognized companies have officially started issuing virtual currencies. It is also argued that with the widespread use of this trend in the coming years, the monopoly of the central banks in printing money, and thus seigniorage revenues will decrease.

As the use of crypto money becomes widespread, the need for monetary policies implemented by central banks will gradually decrease. In this case, monetary transmission channels may become ineffective. Central banks may not be able to influence variables such as production, employment and national income. Another important risk is that blockchains provide information about monetary indicators such as the number of transactions and the amount of nominal values, but do not address the issue of what value is actually achieved. This has raised the criticism that digital currencies are used by terrorist organizations in laundering earnings obtained through illegal methods such as drugs, weapons and human trafficking[14]. The opportunities and threats posed by bitcoin for the financial system can be collected as follows[15].

Opportunities

- Can be produced and put on the market without the need for a central bank
- Enabling all transactions to be performed without the need for intermediary institutions, thanks to the infrastructure based on a strong algorithm
- The accounts are completely confidential and there is no obligation to comply with the rules set by third parties.
- Due to the blockchain technology and a special encryption method, account theft incidents are limited.
- Providing users with the opportunity to secure their accounts and move them to other country exchanges against practices such as seizing bank accounts, limiting the amount of daily withdrawals.

Threats

- The fact that the real identities of the users are not known, mediates their use in illegal activities such as drug trafficking, illegal weapon sales and corruption.
- The fact that the total amount to be produced is determined at the establishment of the system increases the risk of economic recession.
- The fact that it is not a physical entity, only a computer software and code, and the

absence of a state guarantee behind it makes it difficult to audit.

- The complex transactions of blockchains make it difficult to account for.
- The irreversible nature of the transactions leads to operational errors.
- Systemic vulnerabilities such as hacker attacks, fraud cases, and stock market crashes.

Due to the threats posed by Bitcoin, it seems unlikely that it will be used as an alternative to national monetary systems in the near future. The efforts of countries to control and limit cryptocurrencies with taxation and other financial procedures draw attention in this regard. It is obvious that central banks, in particular, do not sympathize with digital assets, which will lead to a decrease in seigniorage revenues and reduce the effectiveness of monetary policies.

Assess the impact of cryptocurrencies on financial markets

One of the interesting aspects of financial markets is the mechanism by which cryptocurrencies affect equity financial markets. Now the capitalization of cryptocurrencies has reached an impressive scale, but it is no longer considered such an impact. The modern market for bitcoin and crypto assets is narrow and mature enough to integrate into global financial markets. The mechanism of cryptocurrency's impact on financial stock markets allows you to interpret and predict stock market trends. Therefore, developing such tools is relevant.

First, it is necessary to highlight the mechanisms of such influence.

1. As a part of the stock market, the cryptocurrency market has attracted the investment of some participants. Although it is not necessary to say that cryptocurrency can replace the US dollar now, the influence of the cryptocurrency market taking away a part of the fiat currency market through this mechanism will only grow in the future. The assumption is that over time, the cryptocurrency market will only grow, grow, take up more and more share and importance [16].

From an economic perspective, the concept of cryptocurrency is an information environment that provides users with an alternative to fiat

money and can require them to have a place in the financial market.

Stock markets are reflective and somehow reflect events from public life, other markets, including cryptocurrency markets.

One example of the reaction was the 2,000% jump in shares of Longfin Corp. after it announced it was buying a blockchain company specializing in microfinance solutions.

Many experts believe that until recently, the ups and downs of cryptocurrency circles did not affect financial markets or the real economy. However, things have changed, and now one cannot fail to notice the significant impact of the crypto market on the global economy. They conquered their place in the sun and began to positively influence the real world.

So statistics show that about 10 percent of 18 - to 34-year-olds would rather invest \$1,000 in bitcoin than in government stocks and bonds. It also claims that 42% of millennials (those aged 38-18) have heard of bitcoin, compared to only 10% of those over 65.

Interest in virtual currencies is high in Kazakhstan. 18% of cryptocurrency holders believe they are an interesting part of the information and crypto industry. Sixteen percent of the subjects admitted it was an extra source of income. Cryptocurrencies account for up to 30% of total portfolio positions for 17% of investors.

Cryptocurrencies are one of the most novel and controversial inventions of our time. Some see them as a future alternative to all the money and banking systems that have been in use for years, and some skeptics call them a new «bubble» that can hit hard those who have invested in various systems. Others believe they will replace the modern banking system and open up new ways of conducting economic life.

Currently, many states are not taking cryptocurrencies and their impact seriously. In principle, no more than 0.3% of cryptocurrencies are in circulation within a country. In addition, the possibility of an increase in this indicator in the future cannot be ruled out, i.e. the number of digital currencies in circulation could increase sharply due to changes in exchange rates.

If we consider that the volume of transactions involving digital currencies is concentrated on

the scale of a developing country, then this will seriously affect the value of the national currency.

As for trading on cryptocurrency exchanges, it would certainly affect the reduction in demand for real money. This leads to changes in the money supply, which directly affects the velocity of money circulation. Due to the widespread use of digital capital, there are:

1) A decline in central bank balance sheets;

2) Reduce the effectiveness of the government's interest rate policy. Moreover, replacing currencies with cryptocurrencies makes the assessment of monetary aggregates very complicated, which is an obstacle to keeping them in line with expected inflation.

Despite the negativity about cryptocurrencies and their negative impact on the financial system, some positive points can be cited:

1) If the crypto ruble (a state-controlled cryptocurrency) is put into circulation, it is likely to create new institutional conditions for the development and operation of the country's financial markets.

2) The possibility of creating some new financial instruments to stimulate the growth of national economy.

A derivative index of cryptocurrency turnover can be used to assess the impact of cryptocurrency markets. The new cryptocurrency turnover index is based on the PERSONAL turnover Index, where P is the cryptocurrency exchange rate, Q is capitalization, and I is the cryptocurrency turnover index. Calculation formula: $I = \frac{\sum p_1 q_1}{\sum p_0 q_0}$.

According to the study, China accounted for less than half (46%) of the electricity used for bitcoin mining by April 2021. In September 2019, the country's share of the global mining industry was 75.5%, or a 29.5% decline.

At the same time, Kazakhstan's share increased almost sixfold, from 1.4% to 8.2%. Kazakhstan has become the third largest player in cryptocurrency mining. The SHARE of the United States also increased from 4.1 percent to 16.8 percent, ranking second in the world. Russia and Iran are the fourth and fifth largest countries, respectively, when it comes to bitcoin mining.

In June 2021, China cracked down on cryptocurrency miners. Much of China's mining

industry relies heavily on coal-fired energy, which is the most environmentally damaging energy source. Even before the persecution of the cryptocurrency industry began, miners began moving from China to Kazakhstan ahead of time.

Kazakhstan has more than 22 gigawatts of electricity, most of which comes from coal and gas plants. Such data are provided by Bloomberg[17].

Bitcoin mining is typically an energy-intensive process, with complex computing operations requiring energy capacity during which cryptocurrency transactions are conducted and new units are produced.

Conclusion

Cryptocurrencies are an opportunity for reasons such as ease of payment and free money transfer. However, the lack of administration/control by any institution or center involves some security risks. It is possible to see news in many positive or negative communication tools related to Bitcoin. This news either causes the system to be used more actively or to act cautiously.

The role of central banks in implementing monetary policy in the medium and long term in cryptocurrency systems is not yet clear. Although its use as an alternative currency is discussed, it can be said that crypto coins are a challenge to the monopoly of coinage, one of the most important powers of the nation state. However, the inability to fully penetrate the payment systems and rather

the speculative asset tool outlook strengthens the view that the short-term effect of influencing and limiting monetary policies will be weak.

It does not seem easy to create a structure that will perform an activity similar to the last credit authority duty of Central Banks in crypto money systems. The 2008 global crisis once again demonstrated the importance of institutions that can provide emergency liquidity. Even with flexible supply, it is highly unlikely that virtual currencies will be able to provide liquidity during a financial crisis. The need for the public authority to provide problems and coordination in such situations still continues. After all, discussions on whether Bitcoin and similar currencies are a bubble or a commodity, currency or financial investment tool are still ongoing and uncertainty continues on national and international platforms.

As a matter of fact, authorities in most countries of the world view the Bitcoin network as a suitable environment for illegal operations and tax evasion organizations and therefore avoid the use of Bitcoin and other digital currencies, which makes it difficult to exchange with other traditional currencies. In Kazakhstan, the use of cryptocurrency is possible, in our opinion, to prevent the emergence of cryptocurrency pyramid investment programs, to increase the digital and financial literacy level of the population and to tighten the legislation in this field.

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Г.Ж. Азретбергенова, А.О. Сыздыкова

Кожа Ахмет Ясауи атындағы Халықаралық қазақ-түрік университеті, Түркістан, Қазақстан

Криптовалюталардың әлемдік әсерін бағалау

Аннотация. Қазіргі таңда әлемде виртуалды ақшаға деген қызығушылық артуда. Дүние жүзінде қаржылық салада криптовалюта қолдану үрдісі белең алып келеді. Криптовалюталар бүкіл әлемде мемлекет, компания немесе билік басқара алмайтын, орталықтандырылмаған ақша жүйесі мен криптология ғылымын қолданатын математикалық негізделген шифрланған цифрлық және виртуалды валюта ретінде танымал бола бастады. Күн сайын жаңа криптовалюта жарияланатын ортада 2020 жылдың 21 қазанындағы мәліметтерге сүйенсек, әлемде қазіргі кезеңде қолданыста 7471 криптовалютаның түрі бар. Оның он бір жылдық тарихы болса да, транзакция көлемін ескере отырып, осы мәселені зерттеу және талқылау өте маңызды, себебі әлемде технологиялық процестер мен инновацияның таралуы арқылы электронды ақша өмірге келіп, қолданыла басталды. Криптовалюталар күнделікті өмірде және коммерциялық қызметте нақты немесе виртуалды тауарлар мен қызметтерді сатып алу үшін төлем құралы ретінде қолданылады. Көптеген халықаралық компаниялар қабылдайды және жүздеген клиринг және айырбас орталықтарында саудаланады.

Сонымен қатар, олардың көптеген елдердің айналымдағы валюталарымен екі бағытты конверсиялық қабілеті бар екенін және олардың жалпы көлемі 375 миллиард долларға дейін өсетін нарықтық деңгейге жеткенін ескерсек, бизнестің мәні мен маңыздылығы айқын көрінеді. Бұл зерттеуде крипто-ақша нарығының қазіргі жағдайы, елдердің криптовалютаға қатынасы және крипто-валюталардың әлемдік әсерлері талқыланды.

Сондай-ақ, әлемде 2021 жылдың 4 ақпанында яғни биткойн бағасының құны \$48 мыңды құрап, өте жоғарғы көрсеткішті көрсетті. Бұл криптовалютаның құнының өсуіне әсер етіп, әлемді дүр сілкіндірген оқиға Tesla компаниясының директоры Илон Масктың криптовалютаның осы түрін, яғни биткойнді \$1,5 миллиардқа сатып алғаны және өзінің өнімдерін криптовалютамен сататыны туралы мәлімде-

геннен кейін күрт өсім байқалды. АҚШ-тың бағалы қағаздар және биржалар жөніндегі комиссиясының (SEC) қаржылық есебінің мәлімет бойынша, 2021 жылдың 4-9 ақпан аралығында, нарықтағы криптовалютаның құнын бірден 10% -дан астам арттырып, Bitcoin 40% өсім көрсетті.

Түйін сөздер: криптобағамы, биткойн, альткойн, блокчейн, резервтік ақша, жаһандық әсер, қауіп, мүмкіндік, тәуекел, белгісіздік.

Г.Ж. Азретбергенова, А.О. Сыздыкова

Международный казахско-турецкий университет имени Ходжа Ахмеда Ясави, Туркестан, Казахстан

Оценка глобального воздействия криптовалют

Аннотация. Интерес к криптовалютам растет день ото дня. Криптовалюты становятся все более известными во всем мире как математически зашифрованная цифровая и виртуальная валюта, которая не может контролироваться государством, компанией или властью и использует науку о децентрализованной денежной системе и криптологии. В среде, где каждый день объявляется новая криптовалюта, по состоянию на 21 октября 2020 года существует 7471 тип криптовалют. Несмотря на то, что ее история насчитывает всего одиннадцать лет, важно исследовать и обсудить эту проблему, учитывая размер транзакции, распространенность и разнообразие этой технологической инновации. Криптовалюты используются в повседневной жизни и коммерческой деятельности как средство оплаты покупок реальных или виртуальных товаров и услуг, принимаются многими международными компаниями и применяются для торгов в сотнях клиринговых и обменных центрах. Учитывая, что они имеют двунаправленную конвертируемость с валютами многих стран в обращении и достигли размера рынка, который в целом вырастает до 375 миллиардов долларов, характер и важность бизнеса очевидны. В этом исследовании обсуждаются текущее состояние рынка криптовалют, отношение стран к криптовалютам и глобальные эффекты криптовалют.

Биткойн поставил новый рекорд по стоимости на бирже. Согласно данным торгов, 9 февраля 2021 года цена на криптовалюту перевалила за \$48 тыс. Причиной нового скачка курса стала новость о крупной инвестиции Tesla: компания Илона Маска купила биткойнов на \$1,5 млрд. В будущем Tesla планирует принимать биткойн в качестве формы оплаты за товары и услуги.

Публикация финансового отчета для Комиссии по ценным бумагам и биржам (SEC) США мгновенно увеличила стоимость криптовалюты на рынке более чем на 10%. На пиковых значениях биткойн показывал 40%-ный рост за последнюю неделю.

Ключевые слова: криптобиржа, биткойн, альткойн, блокчейн, резервные деньги, глобальное влияние.

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Information about authors:

Азретбергенова Г.Ж. – негізгі автор, экономика ғылымдарының кандидаты, қауымдастырылған профессор, Қожа Ахмет Ясауи атындағы Халықаралық қазақ-түрік университеті «Қаржы және бухгалтерлік есеп» бағдарламасы, Түркістан, Қазақстан.

Сыздықова А.О. – PhD, доцент міндетін атқарушы Қожа Ахмет Ясауи атындағы Халықаралық қазақ-түрік университеті «Қаржы және бухгалтерлік есеп» бағдарламасы, Түркістан, Қазақстан.

Azretbergenova G.Zh. – **The main author**, Candidate of Economical Sciences, Associate professor, Head of Department of Finance and Accounting, Khoja Akhmet Yassawi International Kazakh-Turkish University, Turkestan, Kazakhstan.

Syzdykova A.O. – Ph.D., Lecturer of Department of Finance and Accounting, Khoja Akhmet Yassawi International Kazakh-Turkish University, Turkestan, Kazakhstan.