ICEMIT
1st International Scientific Conference on Economy, Management and Information Technologies – ICEMIT 2023

Risks related to cryptocurrencies

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Article info

Professional paper

DOI:
https://doi.org/10.46793/ICEMIT23.245V

UDC/ UDK:
330.131.7:[336.7:004

Abstract

Investors and service providers in the cryptocurrency market are exposed to significant risks. High volatility, technological characteristics and anonymity create: investor risk, risk associated with money laundering and financing of terrorism and systemic risk. The market is full of fraudsters and there are too few adequate rules to protect investors and prevent market manipulation and insider trading. Also, the value of cryptocurrencies is very volatile, and their prices change from day to day. Investors in cryptocurrencies are exposed to higher risks of loss than investors in other assets. Cryptocurrencies can potentially be used for money laundering and financing of terrorism. Negative consequences can be reflected through economic as well as overall social disruptions that manifest themselves through disruption of the monetary system, economic and social stability, transparency and efficiency of the financial system, etc.

Keywords: *risks, cryptocurrencies, investors, markets*

1. Introduction

Cryptocurrencies represent a global phenomenon whose impact, in terms of volume and speed, on the existing financial system cannot be ignored. Although a relatively new phenomenon, cryptocurrencies are very widespread and occupy the attention of curious investors and regulators around the world. They represent digital or virtual currencies protected by cryptography, which makes counterfeiting and double spending "impossible" (Frankenfield, 2023). For the most part, they are not regulated by states, they are considered alternative currencies, means of financial exchange beyond national monetary policies. They are decentralized, without intermediaries in transactions. No central bank is responsible for their value and issuance, which consequently makes their value volatile and prone to manipulation.

Although the idea of digital decentralized money existed long before, it was not realized until 2009 with the advent of Bitcoin. By the end of 2013, over 50 cryptocurrencies were developed, and that number increased tenfold by the end of the following year, and is increasing day by day. As of December 2021, there were 8,688 active cryptocurrencies, with a market capitalization of $2.25 trillion and a daily trade of $87 billion. According to data from CoinMarketCap, on which more than 2,300 are listed, the total number of cryptocurrencies has grown to more than **20,200** (financa.ba). Since the launch of bitcoin (BTC) in 2009 and ether (ETH) in 2015, the cryptocurrency market has expanded to more than **9,000** different coins and tokens in 2021 (finca.ba). Figures vary by data source.

Very high volatility together with technological features and anonymity, contrary to initial intentions, create several significant risks not only for investors, but also for service providers related to cryptocurrencies. This motivates regulators to act to preserve financial stability, provide legal certainty and protection to users and, above all, protect investors. These goals are not easy to achieve without simultaneously stifling innovation.
That is why it is of utmost importance to improve the existing one, or to develop a completely new regulatory framework, although many believers of the new finance would disagree with this statement. A careful and gradual approach is necessary if one does not want to resort to a total ban, as 9 countries have done, including China.

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2. The most significant risks

Some authors refer to cryptocurrencies as the Wild West. The market is full of fraudsters and there are too few proper rules to protect investors and prevent market manipulation and insider trading. Also, the value of cryptocurrencies is very volatile.

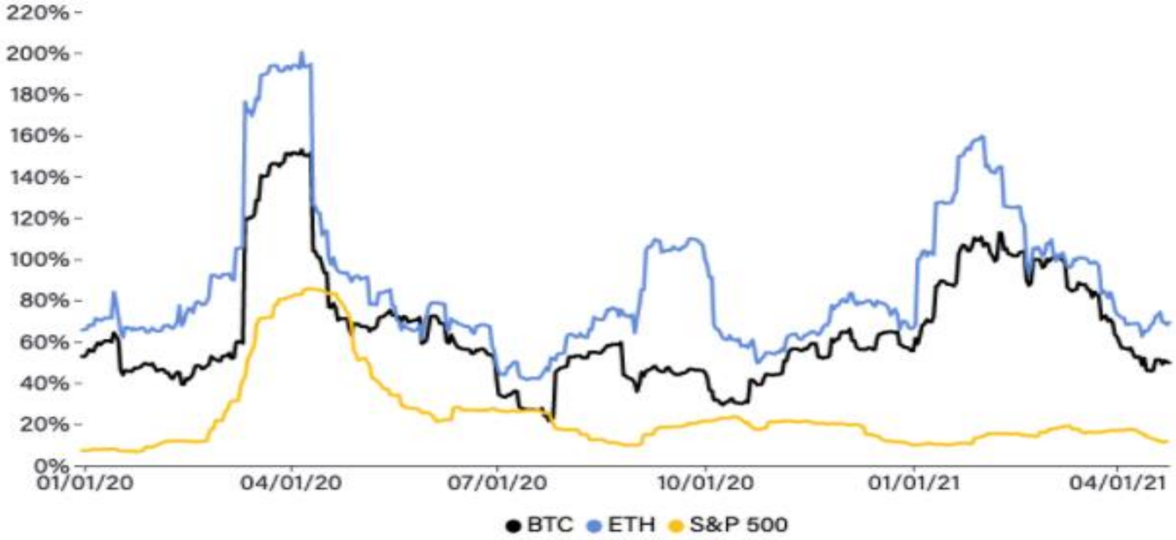
2.1. Investor risk

Investors in cryptocurrencies are exposed to higher risks of loss than investors in some other asset. Some of the investor risks include:

Operational and cyber risk of wallet service providers and cryptocurrency trading platforms

In previous years, providers of wallet services and cryptocurrency trading platforms have been exposed to cyber-attacks, and users' funds have been stolen. Some of the trading platforms have gone bankrupt. Even in cases where the attacks were avoided, or the consequences removed, investors were unable to access their funds for months.

Graph 1. Volatility of bitcoin, ethereum and S&P 500 index



Source: CoinGecko

One of the ways of mitigating the aforementioned risk, which some service providers and trading platforms resort to, is to contract some kind of insurance against cyber-attacks or to create separate compensation funds, but for now there is no public safety net, such as a deposit insurance agency or one of the liquidity instruments of central banks.

Market, credit and issuer default risk

The value of cryptocurrencies is very volatile, so investors and cryptocurrency trading platforms are exposed to significant market risks. Also, they are exposed to the risk that cryptocurrency issuers will not be able to pay their obligations. A large proportion of this default can be attributed to fraud or theft. From 2011 to the first half of 2018, 2.3 million dollars in cryptocurrencies were lost due to fraud and cyber-attacks.

Mixing with service provider assets

Due to the bankruptcy of service providers related to cryptocurrencies, the investor's assets may be mixed with the remaining assets of the service provider, due to the lack of adequate regulation.

Liquidity risk of cryptocurrency issuers and cryptocurrency trading platforms

Cryptocurrency issuers generally allow investors to convert cryptocurrencies into other currencies or assets. In order not to jeopardize their reputation, although there is no legal obligation, cryptocurrency issuers generally carry out these conversions. They often lead to the sale of collateral by cryptocurrency issuers and cryptocurrency trading platforms, which can have negative consequences for the broader financial sector.

Market integrity risk

Unlike stablecoins, cryptocurrencies are not backed by tangible assets or other forms of property (securities, for example), so they have no clear intrinsic value. The function of market formation of prices almost does not work, so cryptocurrencies are at a significant risk of market manipulation. Some of the larger cryptocurrency trading platforms allow investors to buy and sell the same asset at the same time, misleading the market. This problem is difficult to eliminate through regulation, given the nature of cryptocurrencies, i.e., their anonymity and decentralization.

Risk of deception in the offer of cryptocurrencies

Due to insufficiently understandable information about products, their overly complicated technology and insufficient education of investors regarding cryptocurrencies, there is a chance that they are broadcast solely for the purpose of fraud.

2.2. Risk of money laundering and financing of terrorism

Money laundering and terrorist financing are crimes with economic consequences. As global problems, their negative consequences can be multiple: disruption of the stability, transparency and efficiency of the financial system, economic disruptions, jeopardizing the implementation of reforms, reduction of foreign investments and loss of the country's international reputation (Narodna Banka Srbije, n.d.).

Cryptocurrencies can potentially be used for money laundering and terrorist financing. Considering that cryptocurrencies are digital currencies without a single financial authority that function according to the principles of anonymity, criminals are increasingly turning to them instead of physical money laundering. Some of the reasons are that transactions are difficult to trace, precisely because of the anonymity and decentralized system, lack of regulation, low transaction costs, lack of a financial intermediary, ease of use of cryptocurrencies, etc. With the advent of blockchain technology, a completely new payment system has been created. Traditional financial systems imply a central bank as a regulator, while with cryptocurrencies there is no central authority or any control.

Before the advent of cryptocurrencies, traditional currencies and financial systems required criminals to have a bank account and a myriad of bank procedures and identifications before transferring illicit funds. Such activities are strictly regulated by central banks.

Cryptocurrency transactions require much less identification measures, and even more to the advantage of crime, there is no centralized authority. Transactions only need the wallet address of the sender and receiver to complete the transfer. Such transfers are not monitored, marked or reviewed by a third-party intermediary or bank. Also, there is no paper trail of these transactions other than a digital record in the blockchain.

Initially, these transactions were monetized, that is, converted into traditional money. However, due to the tightening of supervision and anti-money laundering rules, they had to come up with alternative ways to round off the process of illegal transactions. Now they use unlicensed exchanges, many of which operate out of foreign jurisdictions, with little or no anti-money laundering rules. This has progressed so much that criminals have further complicated law enforcement by mixing illegal cryptocurrencies with legitimate coins of other users. Therefore, all advantages and attractiveness for regular users are also potential objects of abuse.

In response to the contemporary threats of the cryptocurrency market, in October 2021, the FATF (Financial Action Task Force) published updated Guidelines for an approach based on the assessment of the risk of money laundering and terrorist financing, and for the purpose of regulating and supervising cryptocurrencies and service providers related to cryptocurrencies. This updated Guidance aims to help national authorities understand and develop regulations related to digital assets, including amending national laws where possible, to address these risks (FTAF, 2021).

The intention is not to regulate the technology used, but only the activities of natural or legal persons. The guidance clarifies the definition of digital assets and providers of services related to digital assets, advising that they are broadly defined.

In short, the "travel rule" is being introduced, i.e., the obligation of providers of services related to digital assets to introduce procedures for identifying users of transactions, something similar to procedures in banks. They would imply that as part of the transaction, the user's personal data is shared, as well as in the banks. Also, preventive measures of providers of services related to digital assets are introduced, among other things to collect data on the volume and type of transaction, frequency, size of the business of the person making the transaction, its members, keeping records of all transactions, international cooperation, etc. Finally, supervisory authorities are motivated to exchange information with foreign countries.

2.3. Systemic risk

Systemic risk is most often defined as the risk of disruption in the provision of financial services (1) which is caused by a problem in the entire financial system or its component and (2) which has the potential to leave serious negative consequences on the real sector (Narodna Banka Srbije, n.d.). Both elements must be satisfied for the risk to be considered systemic.

Initial assessments by regulatory bodies did not indicate threats that the financial sector would be exposed to systemic risk due to the development of cryptocurrencies, but the rapid growth in the application and development of the technology may lead to a change in the situation. Cryptocurrency issuers are increasingly intertwined with traditional financial institutions, generating not only the systemic risk, but also the need for a reasonable response by the regulator to emerging threats to the same. This risk will become greater if the size of the risk exposure continues to grow in the future, and if this risk is not properly managed.

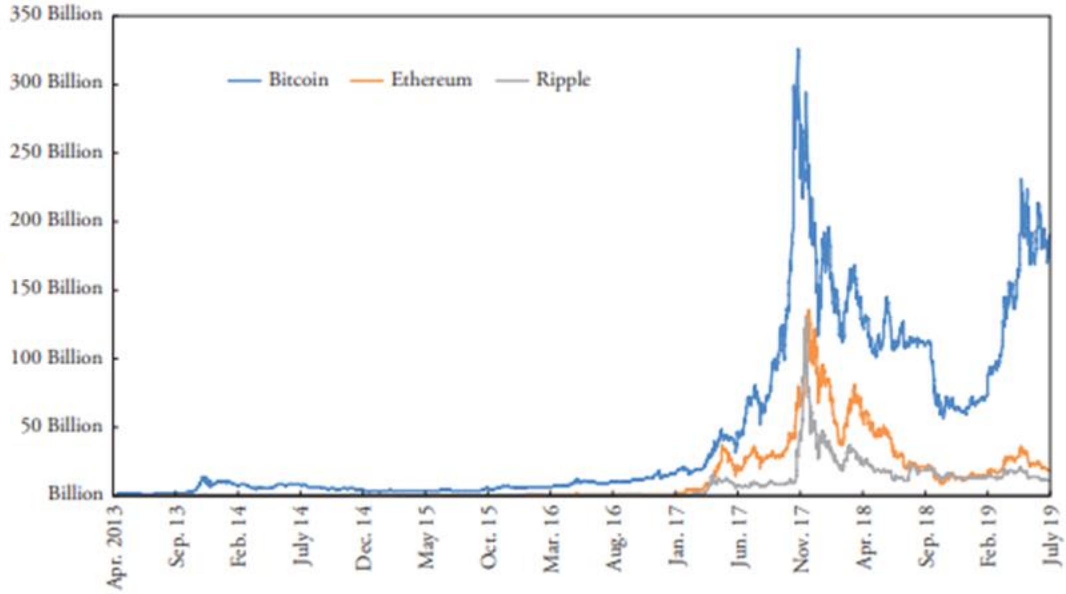
If there would be a growth in the use of stablecoins, the intertwining of the cryptocurrency market and the traditional financial system will be even greater. Due to the lack of regulation, some of the participants in the traditional financial system would create their own stablecoins in order to remain competitive. Further growth in the application of technology used by cryptocurrencies would potentially significantly threaten the stability of the financial sector. A potential regulatory solution would be to establish liquidity rules that would require stablecoin issuers to maintain a certain level of the most stable currencies such as the euro and the dollar.

In the case of bitcoin, a big problem is the fact that most of the coins are held by a small number of users, so it is sensitive to systemic risk. The top 10,000 owners hold 27% of the bitcoins in circulation, out of a total of 18.6 million bitcoins in circulation. Also, 10% of miners control 90% of the mining capacity, and only 0.1% control 50% of the mining capacity. This concentration of control, as well as the high variability of the price, makes Bitcoin very sensitive to systemic risk.

3. The need for regulation

Cryptocurrencies are created as decentralized systems that do not rely on banks or any other financial institutions as intermediaries in transactions. They are direct between users, and their validity is confirmed by all participants in the network. The value of cryptocurrencies is determined by supply and demand, without the influence of central banks. Therefore, cryptocurrencies are seen as a threat to the stability of monetary systems of countries, so it is not surprising that central banks were among the first to react and warn of potential threats from the emergence of cryptocurrencies.

Graph 2. Rapid growth of cryptocurrencies: Market capitalization of three largest cryptocurrencies over time



Source: CoinGecko

The rapid growth of cryptocurrencies has also raised numerous questions regarding the ability of the current regulatory system to respond to such dynamic changes (Graph 2). If regulators were to resort to banning cryptocurrencies, they would significantly demotivate future innovation. It is necessary to find an adequate approach so that this does not happen, while at the same time neutralizing the risks related to cryptocurrencies. Effective regulation would be one that promotes long-term economic stability and minimizes social costs.

There are numerous problems plaguing regulators around the world. One of the biggest problems related to the regulation of cryptocurrencies lies in the fact that both users and providers of services related to cryptocurrencies perform operations across borders. In these transactions, borders are neither a problem nor an obstacle, which significantly complicates the work of supervision. A big problem for regulators is the fact that cryptocurrencies eliminate intermediaries in transactions, key players in the traditional financial system. The lack of intermediaries represents a special challenge for the regulation of cryptocurrencies if it is applied in a traditional way. Existing regulation is mainly based on direct supervision of transactions, users and instruments or on the regulation of intermediaries. However, cryptocurrencies have created various forms of new types of intermediaries, which provide an opportunity for regulators to focus on them when formulating regulations. If the transactions themselves and the individuals who perform them cannot be regulated, the focus falls on service providers related to cryptocurrencies.

It is not enough for each country to issue the conditions and ways of functioning of the cryptocurrency market. State governments should establish fast and timely information exchange channels. International cooperation is necessary. A global framework containing standards for the regulation of cryptocurrencies needs to be developed.

The goal should be to develop a comprehensive and coordinated approach to managing risks that threaten financial stability and the market, which could be applied consistently across jurisdictions, while minimizing the potential for regulatory arbitrage or relocating activities to jurisdictions with less rigorous regulations (Adrian et al., 2021). The position of the International Monetary Fund is that the global framework should contain 3 key elements:

- Cryptocurrency service providers should be licensed and approved by a regulatory body.
- Regulatory requirements should be adapted to the use. For example, if the subject of regulation is payments, the requirements should be similar to those for bank deposits.
- Requests should be clearly formulated and understandable to those to whom they apply.

If blockchain technology were to be regulated, it would contribute to the emergence of a wave of entrepreneurs who could implement its structure and develop new businesses. Also, since cryptocurrencies operate across national borders, blockchain regulation would facilitate financing for many emerging businesses.

A regulatory framework is needed to protect investors without simultaneously stifling the development of new technologies. The approach to regulation should be proactive, taking into account all potential risks associated with cryptocurrencies, with constant readiness for the emergence and escalation of new ones. The main focus should be investor protection, which would also include various types of educational programs.

In addition to the impact on the financial system, some of the reasons for regulating cryptocurrencies are:

- Prevention of market manipulation and protection of investors;
- The existence of thousands of different crypto-currencies about which insufficient information is available, so regulation would potentially enable the functioning of certain, but not all, crypto-currencies;
- Risks associated with the technology underlying cryptocurrencies;
- Hacking risks, online fraud, security risks;
- Money laundering and terrorist financing.

These reasons mainly focus on the protection of investors who may or may not be sufficiently informed and educated about the risks they may face. The technology used is too complicated, and significant prior knowledge is necessary in case of independent use. Also, there are numerous cryptocurrencies whose only intention is to deceive people, so information from the right sources is crucial when investing. If they were regulated, security would be at a higher level, and there would be some protection against fraud and potential bankruptcy.

In addition, the market is subject to a manipulation, which could be prevented by regulation. Influential people can significantly influence the value of cryptocurrencies, so there is a risk of volatility. One statement by Elon Musk on Twitter is enough for the value of bitcoin to change significantly. Many jokingly pointed out that Elon Musk himself should be regulated considering the influence he has on the cryptocurrency market.

However, not all authors agree that regulation is necessary. It is fundamentally opposed to the very spirit of cryptocurrencies. They were created as a response to the dissatisfaction of market participants. The decentralized system is designed to give an individual the opportunity to manage his money independently, without intermediaries.

It is also believed that regulation would stifle innovation. In this way, young companies have faster and easier access to the necessary sources of financing. It is also feared that the regulation would condition the relocation of companies dealing with cryptocurrencies to countries whose regulations are less strict or non-existent.

Because of this, individual states and entities have taken different positions regarding regulation. Some prohibit them completely, some issue warnings to the public, some try to pass laws and decisions that will provide security to investors, and at the same time prevent attacks on the functioning of the financial system.

The governments of some countries have completely banned operations with cryptocurrencies, emphasizing that cryptocurrencies represent a threat to their financial systems, as well as a good way for embezzlement. Some of the countries that have completely banned cryptocurrencies are China, Egypt, Iraq, Qatar, Oman, Morocco, Tunisia, etc. In addition, forty-two states have implicitly banned cryptocurrencies by restricting banks' ability to deal in them. Among them is Serbia, which prohibits banks and financial organizations that are subject to the supervision of the National Bank of Serbia from transactions with cryptocurrencies. Some other countries, such as Switzerland, have issued guidelines for the use of cryptocurrencies so that users are more informed and therefore less susceptible to fraud.

The assumption is that China resorted to the ban due to the sudden outflow of capital, but the main reason is probably the fact that China recognized the importance of blockchain technology and developed a version of its central bank's digital currency, the digital yuan. The digital yuan is not a cryptocurrency as it is controlled by a central bank, unlike real cryptocurrencies which are decentralized. Also, the digital yuan will be legal tender, which is not the case with cryptocurrencies. However, many authors have expressed privacy concerns, given that China is a world leader in monitoring the behavior of its citizens.

Until recently, the European Union applied a "wait and see" approach, which implies three key features, issuing warnings to the public, freedom for investors to use cryptocurrencies and bear potential risks if they are ready for them, and faith in market self-regulation. The national authorities were given the freedom to decide for themselves how to regulate this field, so for example Malta stood out as one of the most liberal countries, which, in response to Facebook's announcement of Libre, in 2018 passed a law regulating this area, the Law on virtual financial assets, making it the first country in the world to regulate digital assets.

Facebook's announcement of its intentions to create Libra (now Diem) had the biggest effect on regulators "starting" and approaching cryptocurrencies seriously. Additional extensive research was then carried out, which contributed to concerns about the influence of Libra on financial stability and monetary policy, but also on monetary sovereignty. For the first time, the need for a global approach and international cooperation was recognized. Thus, in September 2020, the European Commission published a proposal on the regulation of cryptocurrencies, the Regulation on Crypto Asset Markets, which should enter into force during this or the 2023. The harmonization of regulations at the level of the Union gives the European Union an advantage over the rest of the world, given that it controls 28 European countries. Also, the European Union is in an advanced stage of development of the Digital Euro, the digital currency of the European Central Bank.

In the US, cryptocurrencies are the main topic of debate at all levels of government, which fail to agree on neither the treatment nor the definition of cryptocurrencies. Events on the international market have contributed to the acceleration of the USA's actions, most notably the fact that China, the main economic and technological competitor of the USA, is in the final phase with the digital yuan. Thus, on March 9, 2022, President Joe Biden signed an executive order, ordering to find a way to regulate cryptocurrencies, to recognize their importance and potential for destabilizing the financial system. With this decree, the president also encouraged FED in further efforts in the research and implementation of the digital dollar project, which was started in 2021. It is necessary for the United States of America to remain competitive, considering that over 100 countries in the world are currently working on the digital currency project of their central banks.

In Serbia, the Law on Digital Property was adopted and entered into force on December 29, 2020. By adopting this Law, Serbia becomes one of the few countries that have adopted a legislative framework in this area, providing market participants with protection and legal certainty, while at the same time avoiding the stifling of innovation. The adoption of this Law is a good indicator that Serbia is moving in step with innovations and intends to provide support both to the business of the IT sector and to future innovations. The intention is, among other things, to attract foreign capital and send a message that investment in the IT sector of Serbia is promising and safe.

Conclusion

Cryptocurrencies are often seen as an alternative to “real” currencies. Like the real ones, they represent the means by which financial exchanges are carried out, but, and this is a key feature, beyond national monetary policies. They are not regulated by states. No central bank is responsible for their value and issuance. They are decentralized, without intermediaries in transactions, which makes their value very volatile and prone to manipulation.

Very high volatility together with technological features and anonymity, contrary to initial intentions, create several significant risks not only for investors, but also for service providers related to cryptocurrencies. This motivates regulators to act in order to preserve financial stability, provide legal certainty and protection to users and, above all, protect investors. Investors in cryptocurrencies are exposed to higher risks of loss than investors in some other asset.

The main concerns of the regulatory authorities are the risks that they carry with them, that is, the risk of investors, the risk of money laundering and terrorist financing, and systemic risk. With them as the main motivators for a serious approach to this financial phenomenon, began the efforts to create a legal framework that will protect investors by providing them with clearly defined guidelines for action, and give innovators enough space for further development of technology.

In order to understand the impact of regulation on the value of cryptocurrencies, it is necessary to understand the scope of the impact of regulation. It is very difficult to regulate a system that practically rests on currencies that are located in several places at the same time, and monitoring transactions is almost impossible, due to the security solutions that have been established, due to the cross-border nature of cryptocurrency. Therefore, the question arises as to whether government regulation can effectively limit blockchain payment systems. International cooperation is necessary, and so far, no adequate efforts have been made to establish it. Even if full cooperation were to be established at the international level, the question remains open.

There are other problems as well. Regulatory decisions affect the volatility of cryptocurrencies, for example. It decreases in case of greater favorability of the regulator. The assumption is that cryptocurrency prices will react positively if regulation that promotes innovation is established. It has been shown that the value of cryptocurrencies falls in cases of implementation of a more restrictive policy in regulation. Numerous questions related to the need and possibility of regulation still remain open.

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