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Cryptocurrencies as a New Form of Money: Prospects for Use and Impact on the Financial System in the Future

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Abstract: In today's environment, modern economic technologies are rapidly developing. This process and its impact on the financial system require all the details of practical consideration. Given that cryptocurrencies are highly dynamic, the article proposes prospects for further use of the new currency. Accordingly, the purpose of the research was to provide a comprehensive analysis of

cryptocurrencies as digital currencies in the Ukrainian economic market, as well as trends and prospects for their introduction. This study employed a qualitative approach consisting of a literature review. Academic publications were searched using Google Scholar, Scopus, Web of Science, JSTOR, and ResearchGate databases. The search engines revealed 74 relevant works on the issue of cryptocurrencies. During the study, 28 in-depth studies from 2013 to 2023 were selected. The results provided a strategy for the impact and transformation of cryptocurrencies on the general reform of the economic sector. It has been established that introducing cryptocurrency into the Ukrainian economy will facilitate its digitalisation. Based on the analysis of market denominations, crypto exchanges and cryptocurrencies worldwide are aimed at people, management, savings, and services. The research analysed the concept of the content of “cryptocurrency”, its features, advantages and disadvantages, and its relationship with the economic world. The international cryptocurrency market, the general state, development factors, and dynamics of adaptation in Ukraine were studied. The main conclusions were reflected in a comprehensive study of cryptocurrencies and their rapid growth as major technological innovations in the global and Ukrainian economy.

Keywords: blockchain technologies, financial monitoring, legal regulation of cryptocurrencies, prospects for implementation, virtual assets.

Introduction

At the beginning of the 20th century, the world economic system entered a qualitatively new phase of transformation. The digitization of the world economy and the intensive development of the ICT sector led to the emergence of digital currencies and related operations. Digital currencies are electronic money used as an alternative or additional currency, often linked by their value to national currencies and able to serve as a base of exchange. This type of electronic money gave a new impetus to technological ways of managing business. Under the influence of currency trends in the market, new buying groups are formed that contribute to the more dynamic development of international trade due to the leveling of taxes and fees, the free circulation of currencies and the convenience of transactions. In this regard, the study of the development of international cryptocurrency markets in the modern information environment is relevant.

Research Problem

For the effective functioning and development of the economy in the future, it is necessary to regulate in detail the procedure for introducing cryptocurrencies as innovative block-chain technologies both at the legislative level in Ukraine and in practice. Particularly, important components are the direct implementation of this mechanism, the list and content of the main stages of application, features, and types, the use of the dynamics of growth indicators, and the adoption of international experience.

Research Focus

The study focused on the peculiarities of using the modern innovative tool of cryptocurrency, which is a digital analogue of funds in the financial system, the specifics of its use, and the impact on the economy as a whole. The use of block-chain technologies in the context of digitalisation has positive results in the international market and requires implementation and use on a legal basis in Ukraine.

Research Aim and Research Questions

The purpose of this study is to identify the practical and theoretical foundations of cryptocurrencies as a basis for the innovation world and improve the financial sphere of the future.

The main objectives of the article were as follows:

- 1.To analyse the content of the concept of “cryptocurrency”, to assess the current state, features, advantages, and disadvantages as an innovative economic block-chain technology;
- 2.To compare the functioning of virtual assets in the international and Ukrainian markets;
- 3.To find out and analyse the prospects for the implementation of cryptocurrencies and their impact on the financial system as a whole.

Literature Review

The scientific review of the literature based on the study showed that cryptocurrency was a digital innovative currency, and its use was considered as a requirement for improving the modern economic system. More and more researchers are interested in the significance and impact of cryptocurrencies on the future economic sphere and are often defined as a separate area of research.

The introduction of cryptocurrencies is undoubtedly important for the formation of new stages and stages of economic development (Shamsul et al., 2022), as blockchain technologies can achieve a positive financial result. Over the past ten years, cryptocurrencies have become one of the main subjects of research in the global economy, as they are characterised by two important features: complete decentralisation and differences from other forms of currency that exist in the world today.

Obviously, cryptocurrencies are a state-of-the-art means of payment and an innovative tool that is only becoming more popular every year in the use of individuals and legal entities.

Cryptocurrencies have every chance of changing the way global markets interact (Manjula et al., 2022). In other words, the issue of introducing cryptocurrencies into numerous resources has attracted the interest of financiers. In addition, an important aspect is the forecasting of cryptocurrency prices (Ren et al., 2022). The rapid price growth encourages cryptocurrency miners to participate in production. Particularly, they become investors and this leads to an increase in the value of cryptocurrencies (Zheng et al., 2023).

The Bitcoin, as a cryptocurrency, has a great technical potential and attracts large-scale investments around the world. In addition, it drives global efficiency, the nature of data-intensive in the process of global digitalisation (Mehta et al., 2022). There are tokenised cryptocurrencies, such as stable-coins, and software cryptocurrencies, such as bitcoin and Ethereum (Thanh et al., 2023). Another important aspect is that all other types of cryptocurrencies are based on Bitcoin, have no distinctive characteristics, and are derivative instruments in the economy.

The use of cryptocurrencies carries certain risks from an investment perspective because:

1. Unlike traditional money, cryptocurrencies are not tied to the central banking system;
2. Cryptocurrencies can fluctuate in value;
3. Some technical features of cryptocurrency - hashing (Pakhnenko, 2022).

A number of foreign scholars have studied cryptocurrencies as a new form of money, the prospects for their use, and the impact on the financial system in the future.

According to Morgan (2023), the global economy is currently adopting digital technologies. Particularly, the use of a new form of money, cryptocurrency, gives rise to future opportunities. The researcher notes that virtual payment technologies can minimise problems associated with economic and social disruptions, bank policies, payment system security, and banking business models. The effectiveness and efficiency of such an economic mechanism as cryptocurrency is confirmed by the fact that “the new form prompts discussion of its implications for the nature of money, and this leads to questions of philosophical or social interest” (Morgan, 2023).

Despite the factors behind the use and popularisation of cryptocurrencies, there is still no precise definition of this concept, but it has been proven that cryptocurrency is a new global economic phenomenon with a complex structure that has no analogues.

Beerbaum (2023) notes cryptocurrency as the currency of the future market. According to the scientist, cryptocurrencies currently do not provide a standard unit for the direct exchange of goods by people. In his study, the researcher emphasises that cryptocurrencies have both advantages and disadvantages.

On the one hand, the cryptocurrency market is growing and developing every day. On the other hand, cryptocurrency assets are quite risky for macroeconomic stability and, accordingly, cannot be a means of exchanging goods and services in the economy today.

According to Kabaklarh (2021), economies and central banks are actively exploring decentralised technologies such as cryptocurrencies. In addition, the main requirements of modern banks are to increase the speed of operations and reduce costs. Obviously, this is why most companies and financial institutions are now implementing cryptocurrencies as an effective alternative to the SWIFT system. Cryptocurrencies can provide financial services to users who are not interested in banking services. This makes it possible to offer the economic benefits of using cryptocurrencies, but there are considerations about the risks that need to be taken into account when using this currency to increase financial inclusion and preserve the financial stability of any country (Ozili, 2023).

Cryptocurrencies are a completely new economic phenomenon that significantly differs from traditional money. Today, they can be bought, mined, exchanged, and donated. Cryptocurrency differs from real money in that it is issued online.

According to Gayathri & Pugalendhi (2023), currency assets have undergone a transformation to date, which has become a prerequisite for the rise of digitalisation in the economy. Cryptocurrency is a new paradigm of money that aims to modernise the entire economic model and decentralise the monetary system.

Dugue (2020) points out the important role of the development of cryptocurrencies and their underlying technologies based on global economies. Cryptocurrencies can be legal tender and a store of value if the technology is used properly.

Based on the above opinions, cryptocurrencies are being used more actively around the world every day and therefore have all the guarantees and prospects to become a modern digital currency in the economy.

In general, the cryptocurrency market is actively growing, with new companies and emerging infrastructure projects. And the fact that legal institutions and software development services are trying to assess the impact of Bitcoin and other digital currencies on economic development is a positive signal. (Lytvynenko & Sytnikov, 2021).

Research Methodology

This study is a literature review evaluating the prospects of cryptocurrency use in financial systems.

Search Strategy

The source search used several academic and public databases, such as Google Scholar, Scopus, Web of Science, JSTOR, and ResearchGate. This approach allowed for the inclusion of a wide range of peer-reviewed articles, books, reports, and conference materials. To ensure the relevance of the data, the focus was on studies published in the last 10 years (2013–2023).

The following keywords and their combinations were used for the literature search: cryptocurrencies, bitcoin, digital currencies, blockchain technology, decentralised finance, financial system impact, future of money, cryptocurrency adoption, monetary policy, and digital assets. The search was performed using logical operators AND, OR, and NOT to combine the keywords. For example: "Cryptocurrencies AND financial system" or "Blockchain OR digital currencies."

The review included the following categories of sources:

- Peer-reviewed articles and journals that describe the mechanisms of cryptocurrency functioning, their legal regulation, and economic impact.
- Books and monographs that explain the concepts of blockchain and digital currencies.
- Reports from international financial organisations on cryptocurrencies and their impact on the global economic system.
- Articles analysing the potential use of cryptocurrencies in various sectors of the economy.
- Conference papers containing up-to-date research on possible future scenarios for cryptocurrency use.

As a result of applying the above criteria, 74 academic works were selected, fully meeting the requirements.

Data Analysis

All relevant sources were analysed in two stages. In the preliminary analysis stage, the abstracts were read to evaluate their relevance to the topic, leading to the exclusion of 46 works.

The texts of the remaining 28 works were thoroughly analysed to identify critical aspects of cryptocurrencies and their impact on the financial system. Additionally, the sources were systematised and classified by topic to structure the literature review. This methodological approach enabled the creation of a well-founded and current review of the prospects for cryptocurrency use and its influence on the future of the financial system.

Research Results

Cryptocurrencies are digital coins that are protected against counterfeiting and can be stored in electronic wallets and transferred between them (Sytnyk, 2023).

Every year, the latest technologies and innovations are more and more actively developing, global economic processes are undergoing dynamic transformations, and money markets are growing. The virtual economy is developing, based on the circulation of digital currency, which exists in two forms. These include electronic money (a digital representation of real money, and its circulation is used for transactions from one bank account to another in the real economy) and cryptocurrencies (a virtual currency that is freely used in the digital world).

There are many types of cryptocurrencies available today. The Bitcoin is the most popular and most traded cryptocurrency. However, there are alternative cryptocurrencies to bitcoin, known as "altcoins", which have unique characteristics such as transaction speed, distribution methods, or hashing algorithms (Cagli, 2019).

Cryptocurrencies and the block-chain are changing the traditional financial system. They enable fast and secure transactions, reduce the cost of transactions, and allow for more efficient management of financial resources (Karnaushenko & Klymenko, 2023).

In order to ensure the confidentiality of payments, cryptography was introduced in 1990. After the emergence of cryptocurrency, the problem of anonymity was solved (Dvulit et al., 2019). Initially, most developers, including Nakamoto (2008), used the term "electronic cash" (digital cash or virtual

cash). However, it was only after the financial crisis (2008-2009) that the term “cryptocurrency” became widespread. Cryptocurrencies are digital money that is protected and encrypted using special algorithms that operate independently of the central bank. The main difference between cryptocurrencies and other electronic money is their absolute decentralisation and anonymous use. The emergence of cryptocurrencies has also solved the problem of double costs when using financial instruments. This is because financial market participants have access to their own virtual wallets (analogues of bank accounts), which serve as the basis for transforming real funds into cryptocurrencies (Savchenko et al., 2019). The owner's virtual wallet is hosted on a specific trading platform offered by virtual system brokers. Accordingly, a virtual wallet person independently generates a digital code that reproduces his or her virtual account number. This code also serves as the basis for further transactions in the future.

Based on the data on cryptocurrencies, their common features were identified :

- global (the cryptocurrency is available to all users with access to the Internet);
- reliability (the use of cryptography to minimise fraud and ensure the security of transactions);
- anonymity (information about any transactions is protected and encrypted, so it remains confidential and private);
- limited quantity (most of these currencies have a certain maximum number of units that can be created, which ultimately prevents inflation);
- decentralisation (cryptocurrencies are not under the control of central authorities or the government but are created on a distributed network of computers that verify and support transactions) (Morgan, 2023).

Cryptocurrencies are a relatively new type of currency, with certain advantages and disadvantages. The data is summarised in Table 1, and it is clear that the use of cryptocurrencies has positive aspects, but there are still involved risks.

Table 1*Advantages and disadvantages of cryptocurrencies in the economies of the world*

| <i>Advantages</i> | <i>Disadvantages</i> |
|--|---|
| The ability to use cryptocurrency as a means of payment and as an investment instrument. | Difficulty in controlling and preventing financial fraud with cryptocurrencies. |
| Unlimited quantities in financial transactions with cryptocurrencies. | Occasional hacker attacks, which discourage investors from investing in digital assets. |
| Protection against inflation of cryptocurrency values. | Due to the unlimited transactions, there is a high probability of money laundering. |
| The ability to manage accounts independently by users. | Losing a password or access to an electronic wallet leads to a complete loss of cryptocurrency. |
| The anonymity of the personal data of each e-wallet owner protects against data theft. | The value of cryptocurrencies depends on limited supply and high demand. |
| The possibility to obtain and send cryptocurrencies and anywhere in the world. | There is no legislative regulation of cryptocurrency circulation and status. |
| Transparency of transaction history, so in case of financial fraud, the user will have access to the transaction data. | User distrust. |
| A significant opportunity to make money for exchange investors. | It is difficult to return the currency in case of an erroneous transfer. |
| Equal conditions for every user. | The volatility of the cryptocurrency exchange rate. |
| Data is protected from external threats. | Use of cryptocurrencies on the black market or for tax evasion. |

Source: compiled by the authors based on data from Mamunenکو & Zhmai, (2019)

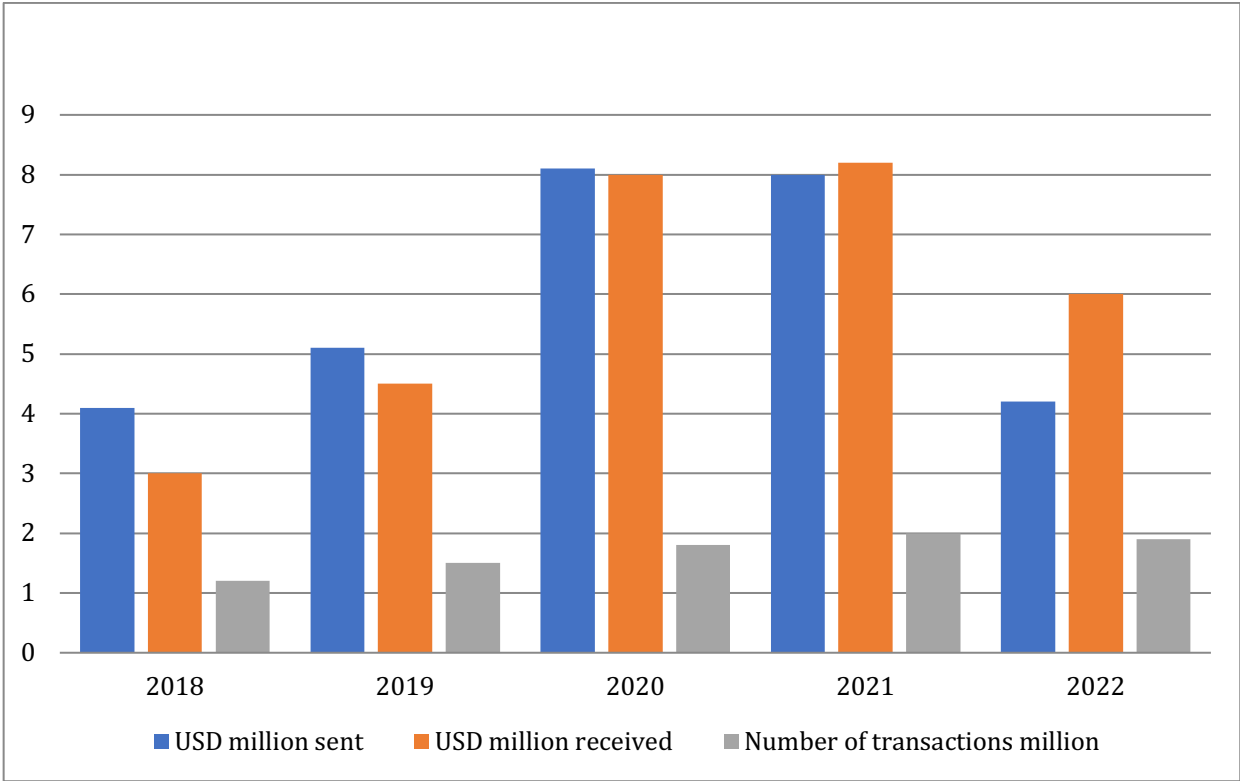
In addition to the above-mentioned positive and negative aspects of cryptocurrencies, their legal regulation is also important. Approaches to the use, government regulation, and taxation of cryptocurrencies differ from country to country. In Ukraine, the first attempt to introduce regulation was the draft law No. 7183 of 06.10.2017. It stated that the cryptocurrency is a software code consisting of a set of numbers, symbols, and letters and is an object of property rights. This code can be a mine, the information about which is recorded and stored in the Block-chain system as accounting units of the current system in the form of data (program code). In September 2021, the Verkhovna Rada adopted draft law No. 3637 On Virtual Assets. It was supposed to introduce basic regulation for various virtual assets. It is important to note that this law has not yet entered into force. However, after the outbreak of a full-scale war, Ukraine received over \$100 million in cryptocurrency donations to support its defence. As for the taxation of cryptocurrencies in Ukraine, legal entities, when purchasing cryptocurrencies from individuals who are not entrepreneurs, must act as tax agents and receive 18% of the personal income tax and 1.5% of the military fee from the purchase amount.

However, the classification, legal status of cryptocurrencies, and the process of taxation of transactions involving them were becoming increasingly important as digital asset markets continued to develop (Stefashyn, 2022).

In early December 2020, the Verkhovna Rada adopted draft law No. 3637 on virtual assets, which provided for the legalisation of cryptocurrencies in Ukraine. On 17 February 2022, this bill was adopted by the Verkhovna Rada. On 15 March 2022, a law was passed that finally legalised cryptocurrencies in Ukraine and designated the National Bank of Ukraine and the National Securities Commission as the main regulators (Verkhovna Rada of Ukraine, 2022, February).

Figure 1

Adaptation of cryptocurrency indicators in Ukraine at the beginning of each year from 2018 to 2022.



Source: compiled based on Cryptocurrency across the world data (2022).

In 2016, the European Commission proposed to introduce additional regulation for cryptocurrency exchanges and companies providing cryptocurrency wallets to users. Particularly, it was about the mandatory registration or licensing of cryptocurrency exchanges that exchange cryptocurrency for fiat money and companies that provide cryptocurrency wallets to users (Kaznacheeva & Dorosh, 2020).

EU Directive 2015/8493 replaces the term “cryptocurrency” (in the modern world, there are more than a thousand of them: Bitcoin, Litecoin, Ripple, etc.), the term “virtual currency” is used. In addition, it is considered as a means of payment. This approach has been criticised by the European Central Bank. This body defines the cryptocurrency not as a means of payment, but as a means of exchange (Opinion of the Central Bank, 2023).

The international experience of taxation and state regulation of cryptocurrencies in Canada, the United States, Israel, China, Singapore, Malta, Italy, Germany, Estonia, and Japan is shown in Table 2.

Table 2*Characteristics of taxation and state regulation of cryptocurrencies in different countries of the world*

| <i>State</i> | <i>Taxation and government regulation</i> |
|--------------|--|
| China | Cryptocurrency is treated by the regulator as a commodity. There is a taxation that is carried out in accordance with the standard for any commodity. Transactions with cryptocurrency are subject to income tax, profit tax, and capital gains tax. Sales of cryptocurrencies are subject to VAT. |
| Canada | Payment for services or goods with digital money is subject to taxation and is considered a barter transaction. Cryptocurrency sales are also subject to income, capital, or income tax. |
| Israel | This currency is considered an “asset”. Income from its sales is defined as capital gains. They are taxed as capital gains tax at a rate of 47% for legal entities and 25% for individuals. Legal entities are subject to 17% VAT on sales of cryptocurrencies as a result of the corresponding transactions. Individuals, except miners, are exempt from VAT. |
| USA | Cryptocurrency is considered property, commodities, and money. At the state level, cryptocurrency companies are subject to licensing, and at the federal level, they must be registered with the Financial Crimes Enforcement Network as money transfer operators. All cryptocurrency-related transactions are taxable. There is a federal tax that depends on the amount of profit (from 15% to 35%). |
| Singapore | Income from the sale of goods in this currency is determined by the market prices of the goods on the relevant date of sale and expenses as well. There is no withholding tax on the sale of cryptocurrency to non-Singaporean buyers. Also, income from capital gains is not taxed. Only the supply of cryptocurrency is subject to VAT. |
| Japan | Since 2017, it has been officially recognised as a means of payment. Profits from the sale of currency and the exchange of one cryptocurrency for another are taxed. The tax rate ranges from 15% to 55%. |
| Malta | The income tax rate is 35%, and there are options for refunding taxes paid. The general VAT rate is 18%, and the sale of currency for cash is not taxed. The purchase of goods for cryptocurrency is also tax-free for the buyer. |
| Estonia | It became the first country to introduce an electronic currency (estcoin). The use of the Money Laundering and Terrorist Financing Prevention Act to regulate operations with exchanges and cryptocurrencies. Cryptocurrency exchanges and other service providers are required to register and follow procedures to combat terrorist financing and money laundering. |
| Germany | The most favourable conditions have been created for the purchase of services and goods for cryptocurrencies. This currency is recognised as a legal tender, and users are fully exempt from taxation. |
| Italy | Transactions with cryptocurrency are allowed, but the country does not recognise it as a legal tender. Starting in 2023, the tax on capital gains from virtual assets will be increased to 26% (income over €2,000). The possibility of declaring cryptocurrency has also been proposed, but the tax is 14%. |

Source: compiled by the authors based on Kaznacheeva & Dorosh (2020), Klochko & Chervinska (2023)

Today, there are a large number of types of cryptocurrencies, but the Bitcoin is considered the first among others in the virtual market.

Table 3

Top 10 cryptocurrencies by market capitalisation as of 2023 (5 August)

| | <i>Currency</i> | <i>Symbol</i> | <i>Market capitalisation</i> | <i>Price</i> | <i>Currency value</i> |
|----|--------------------|---------------|------------------------------|--------------|-----------------------|
| 1 | <i>Bitcoin</i> | BTC | \$564,825,982 | \$29041,87 | 19,448,675 BTC |
| 2 | <i>Ethereum</i> | ETH | \$219,852,087,737 | \$1829,30 | 120,165,838 ETH |
| 3 | <i>Tether USDt</i> | USDT | \$83,801,782,385 | \$0,9989 | 83,902,576,267 USDT |
| 4 | <i>BNB</i> | BNB | \$37,231,146,505 | \$241,90 | 153,854,471 BNB |
| 5 | <i>XRP</i> | XRP | \$32,794,461,336 | \$0,6218 | 52,741,286,353 XRP |
| 6 | <i>USD Coin</i> | USDC | \$26,044,176,013 | \$0,9999 | 26,044,735,228 USDC |
| 7 | <i>Dogecoin</i> | DOGE | \$10,585,647,373 | \$0,07533 | 140,467,566,384 DOGE |
| 8 | <i>Cardano</i> | ADA | \$10,194,994,938 | \$0,2911 | 36,045,784,123 ADA |
| 9 | <i>SOLANA</i> | SOL | \$9,104,066,914 | \$22,47 | 554,224,222 SOL |
| 10 | <i>TRON</i> | TRX | \$6,918,665,093 | \$0,07725 | 89,559,955,138 TRX |

Source: compiled by the authors based on data from Top 100 Cryptocurrencies by Market Capitalisation (2023)

Experts from Triple-A (2023), one of the leading e-commerce companies in Europe and aimed at achieving economic success in the world, conducted an analysis on the topic “Cryptocurrency ownership data. Cryptocurrencies around the world”. As of 2023, Triple-A (2023) estimated cryptocurrency ownership in the world. Based on this, more than 420 million users of this currency were identified. Asia is the leader with 260 million users, followed by North America with 54 million, Africa with 38 million, South America with 33 million, Europe with 31 million, and Australia with 1.5 million. Men predominate among cryptocurrency owners, accounting for 63%, while women make up 37%. 72% of users are under

the age of 34, and 71% have a bachelor's degree or higher. The average cryptocurrency holder has an annual income of USD 25 thousand.

Table 4

Data on cryptocurrency ownership in the world

| Country | Population | Property rights | Percentage of ownership |
|----------------|---------------|-----------------|-------------------------|
| USA | 339 996 563 | 48 820 972 | 14,36% |
| India | 1 428 627 663 | 93 537 015 | 6,55% |
| China | 1 425 671 352 | 59 134 683 | 4,15% |
| Pakistan | 240 485 658 | 15 879 216 | 6,60% |
| Brazil | 216,422,446 | 15 585 940 | 7,20% |
| Canada | 38 781 291 | 1 656 474 | 4.27% |
| Vietnam | 98 858 950 | 20 945 706 | 21,19% |
| Philippines | 117 337 368 | 15 761 549 | 13,43% |
| United Kingdom | 67 736 802 | 3 888 092 | 5,74% |
| Ukraine | 36 744 634 | 3 885 037 | 10,57% |

Source: compiled on the basis of Triple-A data (2023)

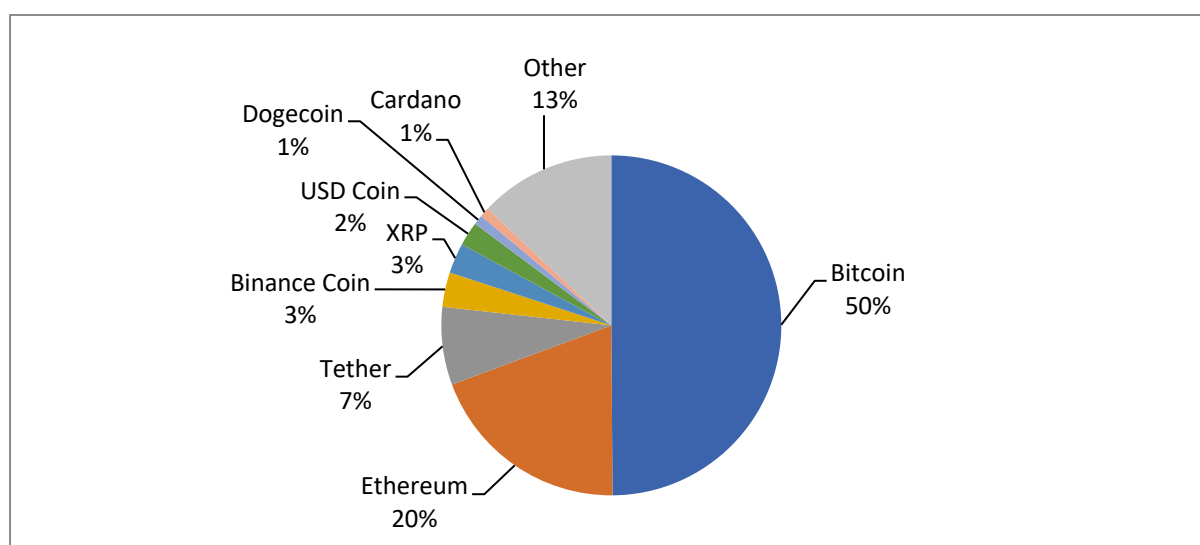
The market capitalisation of a cryptocurrency is an important factor in the financial system. It allows investors to estimate the value of the cryptocurrency by comparing its total value with other cryptocurrencies to make the right decisions. An analysis of the cryptocurrency market capitalisation from 2011 to 2023 is presented in Table 5.

Table 5*Market capitalisation of cryptocurrencies, USD million USD 2011-2023*

| <i>At the beginning of the year</i> | <i>Market capitalisation</i> |
|-------------------------------------|------------------------------|
| 2011 | 1.51 |
| 2012 | 42.28 |
| 2013 | 140.37 |
| 2014 | 9195.33 |
| 2015 | 4294.51 |
| 2016 | 6437.58 |
| 2017 | 16011.99 |
| 2018 | 225415.30 |
| 2019 | 67053.93 |
| 2020 | 130517.30 |
| 2021 | 545634.60 |
| 2022 | 900850.10 |
| 2023 | 895684.24 |

Source: compiled on the basis of Glassnode Studio data (2023)

It is worth noting that the cryptocurrency market is prone to sharp fluctuations in exchange rates, and digital money is becoming increasingly popular in the world of digital finance, it is necessary to understand how cryptocurrencies affect socio-economic processes in the world (Ohinok & Yanko, 2023). In Fig. 2 shows market capitalisation data by type of cryptocurrency as of 2023.

Figure 2*Cryptocurrencies by market capitalisation*

Source: Cryptocurrencies by Market Cap (2023)

In the United States, more than 85% of merchants consider that enabling cryptocurrency payments is an important task today. Triple-A's analysis (2023) found that merchants who accepted cryptocurrency payments received a 40% increase in the number of new customers. And an average return on investment of 327%. Also, cryptocurrency users spend about \$250 more per transaction on average than the average customer. In 2022, 25.1% of cryptocurrency users used it for purchases for online gaming or gambling. And 48.6% of cryptocurrency holders intend to spend cryptocurrency on gambling or online games in the future.

Digital remittances are projected to grow year on year, increasing from USD 295 billion in 2021 to USD 428 billion in 2025. 15.8% of users are already using cryptocurrency for essential money transfers, as it is 388 times faster than traditional methods of transfer.

The cryptocurrency market has a significant impact on the international financial market. This primarily applies to indicators and trade volumes, capitalisation, prices, and other economic indicators. In particular, if there is a clear and rigid market environment and trading volumes increase in general, this will lead to a decrease in cryptocurrency trading volumes. An important aspect is that cryptocurrency is an investment asset that can increase or decrease depending on the degree of trust market participants have in it and the issue of legitimacy. In addition, regulation may have an impact on cryptocurrency price fluctuations. For example, strict regulation may lead to a drop in cryptocurrency prices, as regulators may restrict access to them and reduce demand for them. On the other hand, less stringent regulation may lead to an increase in demand for cryptocurrencies, which may increase their price.

Finally, regulation may have an impact on other economic indicators, such as exchange rate stability, inflation, and financial stability. For example, regulation can help reduce the risk of financial fraud associated with cryptocurrencies and increase their credibility as an investment asset (Humeniuk, 2023).

Based on the analysis, the main features and opportunities for using cryptocurrencies can be identified as follows:

- can be exchanged for services or goods;
- exchange for another currency;
- pay for services or goods;
- the least possibility of theft;
- direct and quick payments are made;
- availability of an investment asset;
- the ability to develop a cryptocurrency business.

In the future, the regulation of cryptocurrencies and their legalisation will come and have a positive impact on the economy as a whole, as the block-chain technology is quite resistant to external opposition. In addition, the issue of legal regulation is currently being actively developed in four main areas: determining the legal status of cryptocurrencies, the place of cryptocurrencies in the settlement system, licensing of cryptocurrency transactions, and control over cryptocurrencies.

Discussion

The debate on cryptocurrencies is based on the question of their use in the present and future. There are statements about both positive and negative aspects of cryptocurrencies in the international market. It is worth noting that the cryptocurrency market is prone to sharp fluctuations in exchange rates, and digital money is becoming increasingly popular in the world of digital finance, it is necessary

to understand how cryptocurrencies affect socio-economic processes in the world (Ohinok & Yanko, 2023).

This study confirmed that such a currency as the cryptocurrency is currently only growing, establishing itself, and has all the prospects to change the economic model in the future, allowing investors and companies to make money.

The most popular unit among cryptocurrencies is the Bitcoin, which is a consequence of changes in information and communication technologies. Based on the study, the future development of cryptocurrencies is confirmed by their active use in the world by both large companies and individuals. The Cryptocurrencies by Market Cap (2023), Top 100 Cryptocurrencies by Market Capitalisation (2023), and Triple-A (2023) research presents accurate data and evidence of the significant impact of cryptocurrencies on the international financial system, both in the current environment and with future forecasts. The analysed market capitalisation and ownership of cryptocurrencies in the world reflect the positive dynamics of development, which was the main objective of the study.

Interestingly, although some of the findings of this study coincide with previous studies, there are also some minor differences between them.

The Chaplyan (2018) study clearly shows that cryptocurrencies are designed to be used as a means of payment and, by their characteristics, are quite capable of performing the basic functions of money. Splinnyk & Yaroshuk (2020) confirm this view and add that cryptocurrencies have a remarkable ability to develop the economy as a whole. This potential, it is important to create all the necessary conditions in the economic environment, namely, to stimulate the growth, to increase the accessibility and the level of trust of market participants, and effectively scale business and interact with the relevant authorities. The researchers also assure that without appropriate legislative regulation of the circulation and determination of the legal status of cryptocurrencies, it is impossible to resolve practical and theoretical issues of accounting and taxation.

Ovcharenko (2020) continues the previous opinion on the legal status of cryptocurrencies, pointing out that this currency, as one of the types of virtual assets, is inherently autonomous, cross-border, decentralised, but not tied to a specific law and a specific legal or natural person (issuer) that regulates the rules and relations of private and public law. In contrast to the above-mentioned opinions of researchers is the statement of Syrota, Loktionova, Umanska (2021) about the free possibilities of cryptocurrency, where the issuance or circulation of central monetary authorities (NBU) is not involved, and the importance of this process is not indicated.

In addition, there are differences in the way researchers formulate the advantages and disadvantages of cryptocurrencies in the current context. On the one hand, Mamunenکو and Zhmai (2019) consider that due to their economic, political, social, and legal advantages, cryptocurrencies are turning into innovative block-chain technology that can completely change many areas of the world community. And if this is realised, it will give people a full control over their own finances, the ability to choose the recipient of transfers at will, while paying a minimal fee. This result is in line with the previous expectation and is consistent with the findings of studies such as Makarchuk, Perchuk, Malyshko (2019), Tipanov et al. (2021), Almeida & Gonçalves (2023).

On the other hand, Yermolenko et al. (2019) evaluate that cryptocurrency is not a substitute for traditional money, as it lacks legal status and monetary equivalent. In fact, it is a specific virtual commodity that financial institutions are not allowed to accept and make payments. Internet services should take into account all the rules for combating money laundering. This result is in line with the findings of Tkalenko, Tipanov, Savchuk, Murashko, and Petukhova (2022) that central banks around the world are cautious about the Bitcoin as an uncontrolled and unpredictable form of currency. The mass adoption of cryptocurrencies is somewhat slow. The use of such financial instruments leads to changes

in the bank's current data on monetary transactions and affects the inability to track economic activity, and thus reduces control.

However, it is important recognising that James et al. (2022) emphasise in their study that the new form of money reduces transaction costs, which is an important improvement in the economy. The emergence and development of cryptocurrencies reduces the cost of transferring currency, avoids the need for a third party to intermediate funds, and provides anonymity. There are also negative opinions about cryptocurrencies. The study by Wątopek et al. (2023) showed that the dynamics of the cryptocurrency market is largely tied to traditional financial markets. In fact, the most popular cryptocurrencies, BTC and ETH, cannot serve as a hedge or a safe haven for stock market investments during difficult and turbulent periods in the global economy.

Conclusions and Implications

The analysis of the development of the international cryptocurrency market in the context of digitalization allowed drawing the following conclusions: The cryptocurrency market continues to steadily develop. Humanity is the witness of the Bitcoin revolution.

All cryptocurrencies are based on block-chain technology, which consists of ever-increasing blocks of data.

There are many types of cryptocurrencies, but the leader is the Bitcoin, which has the highest current market capitalisation and a significant increase in the number of active addresses.

Realistic corresponds to the current development trend of the international cryptocurrency market, providing average annual growth. Pessimism is possible as a result of the slowdown in the growth rate of the world economy and/or the onset of unforeseen and unforeseeable events that affect all participants in the international market. In the paper are cited the factors and specific issues affecting the current state of the international cryptocurrency market: the loss of confidence in digital currencies by market participants, money laundering and privacy, taxation in the cryptocurrency market, and mining of digital currencies. At the same time, in the conditions of digitalization of the bitcoin economy, it is carried out using environmentally friendly energy sources. Today, bitcoins are mined using ASIC miners equipped with special chips for faster and more efficient mining. In addition, Bitcoin mining stimulates investment in renewable energy infrastructure.

The significant growth in market capitalisation observed over the past decade demonstrates the significant economic value of key technological innovations such as block-chain in the digitalization of the global economy and may also reflect a valuation bubble.

Limitation of the Study

It is important to note certain difficulties that arose during the study of cryptocurrency analysis and its impact on the financial system. The following limitations arose: first, the constant fluctuation of the currency market capitalisation, which limited the construction of accurate statistics for the overall characterisation; second, the studied advantages and disadvantages contradict each other, which makes it difficult to study events and trends in the introduction of cryptocurrency and its future prospects; third, the data provided for time of Covid-19 and the war complicates the access to reliable information and research indicators, causing structural violations. Future research and study of cryptocurrencies as a new form of money, prospects for use, and the impact on the financial system in the future by searching for relevant data that will allow for a more detailed study of virtual assets as an innovative tool in the modern world economy.

Suggestion for Future Research

This study focused on analysing the statistics and comparative performance of individual companies, such as Cryptocurrencies by Market Cap (2023), Top 100 Cryptocurrencies by Market Capitalisation (2023), and Triple-A (2023). However, it is recommended that future researchers expand the scope of cryptocurrency analysis by considering the following aspects:

Some factors influencing the development of cryptocurrencies have been studied, but the Bitcoin volatility remains in question, as some analysts (including about 74% of Bank of America funds) say that it is a "bubble", while others make money from cryptocurrencies. The research shows that in the long term, the cryptocurrency market will grow and provide investors with opportunities for earning. Undoubtedly, this is a Bitcoin revolution, and there will be long debates about the problems that arise in connection with changes in the field of ICT. The future of Bitcoin becomes clearer after the establishment of the Global Block-chain Council under the leadership of the Government of Dubai to study and discuss the present and future of trading through block-chain platforms. The Council is the leading global body of the block-chain ecosystem with around 500 member organisations.

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Conflict of Interest

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