



CYBER-CORRUPTION: NEW TYPES OF CORRUPTION OFFENCES IN THE DIGITAL WORLD AND THEIR IMPACT ON CRIMINAL LIABILITY

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ABSTRACT

In our modern world, digital technologies have become an integral part of human life, and their development is so rapid that the law does not always have time to respond "promptly" to the emergence of new items, technological solutions, or virtual currencies. Both in theory and in practice, several questions have arisen regarding the criminal legal qualification of acts related to corruption in the digital environment, including in the field of cryptocurrencies. Difficulties arise primarily because in Ukraine, as in many other countries, the legal status of this phenomenon is not defined at the legislative level. By the chosen goal and to solve the tasks set out in this paper, the author used a combination of general scientific, research, and special methods of modern science, namely: formal logic, analysis, synthesis, deduction, induction, abstraction, hypothesis, and analogy. The purpose of the article is to analyze new types of corruption offenses in the digital world, in particular those related to the use of cryptocurrency for corrupt purposes, and to analyze the prospects for legislative regulation to overcome this negative phenomenon.





Keywords: corruption; cyber-corruption; cryptocurrency; corruption offences; criminal liability.

1 INTRODUCTION

Corruption is a phenomenon of objective reality that has unfortunately accompanied humanity throughout the history of social life. At all times, corruption has been assessed as a negative phenomenon that has always been fought with the most advanced legal means. There is an unequivocal opinion in society that modern corruption is a widespread social, economic, and political problem worldwide. The origins of the term "corruption" are difficult to determine, so this issue is controversial and remains debatable among researchers. Corruption, as a complex multifaceted phenomenon, is constantly changing the sources of offenses. In the last decade of the twentieth century, factors emerged that led to the institutionalization of corruption.

The institutionalization of corruption is manifested in the fact that corruption relations are so closely intertwined with political, economic, and legal relations that they have begun to perform a regulatory function and have appropriated some of the functions of legal social institutions. Due to the diversity of forms of corruption, the problem of corruption-related crime remains one of the factors that undermine the values of modern societies, leading to impressive problems and consequences, and the destruction of economic ties.

In today's world, digital technologies have become an integral part of human life, and their development is so rapid that the law does not always have time to react "quickly" to the emergence of new items, technological solutions, or virtual currencies. Both in theory and in practice, several questions have arisen regarding the criminal law qualification of acts related to the digitalization of society and cryptocurrency circulation in particular. In modern conditions, cryptocurrencies are increasingly used, on the one hand, as a means or object of committing criminal offenses, including corruption offenses, and, on the other hand, due to their peculiarities, as a factor of crime.

Cryptocurrencies in Ukraine are beginning to attract more and more new users who see them as a tool of the future, namely a means of storing their assets or regulating





certain mechanisms of their business. Some people use cryptocurrencies as a way to make money or invest, others as a hedge against inflation. But some people have found cryptocurrency a long-awaited tool that supports their illegal activities. As a result, cryptocurrencies have evolved from a niche innovation to one of the hottest topics requiring the intervention of international or national regulators. Due to the growth dynamics of corruption offenses related to cryptocurrencies, this global phenomenon can no longer be ignored, which in turn requires a thorough analysis of the existing list of anti-corruption measures.

The main factors that influence the growth of this trend are the lack of legal status of virtual currencies in Ukraine, the absence of both external and internal administration, as well as control centers (full decentralization, which makes it impossible to stop operations and impose arrests), the anonymity of payments, etc. Modern cryptocurrency crime demonstrates a negative qualitative and quantitative transformation against the backdrop of an obvious need to legislate and define the legal status of cryptocurrencies and other digital blockchain products in Ukraine, as well as to develop uniform standards for the prevention of this type of crime. These arguments determine the relevance of the chosen topic. The purpose of this article is to analyze new types of corruption offenses in the digital world, in particular those related to the use of cryptocurrencies for corrupt purposes, and to analyze the prospects for legislative regulation to overcome this negative phenomenon.

2 MATERIALS AND METHODS

The research methodology employed in this study was determined based on the established goals and objectives, taking into account the subject matter and scope of the work. The study relies on the contemporary theory of scientific knowledge concerning social phenomena, encompassing a range of theoretical methods. To address the defined goals and tasks effectively, a combination of general scientific, research, and specialized methods were utilized:





Formal logic: Throughout the study, various methods of formal logic, such as analysis, synthesis, deduction, induction, abstraction, hypothesis, and analogy, were applied. These methods allowed for a more comprehensive understanding of the research tasks and facilitated a detailed exploration of their content.

Structural and functional analysis: This method was employed to examine the regulatory framework about the prevention of corruption offenses and crimes in the realm of cryptocurrency. It enabled the researcher to develop a holistic understanding of corruption as a complex, multidimensional phenomenon with diverse manifestations. By utilizing this method, the study identified the social factors influencing corruption, analyzed patterns and trends in its development, and explored its impact on various social processes.

Analysis and synthesis: These methods were employed to study legislative regulations and assess the current state of affairs in the field of cryptocurrency in Ukraine. The analysis method was used to examine the existing legal framework and its application, while the synthesis method allowed for the consolidation and summarization of measures aimed at preventing and combating corruption and cryptocurrency-related crimes. Furthermore, the comparative method was employed to study the experiences of other countries in tackling similar issues.

Hermeneutic method: This method played a crucial role in interpreting and understanding scientific articles, textbooks, monographs, and regulatory documents relevant to the study. Through the application of the hermeneutic method, the researcher gained insights into the texts, identified deficiencies in legislation and its practical implementation, and formulated proposals for improvement. Additionally, the formal legal method was used to analyze the content, structure, and classification of legal norms related to the subject matter under investigation, ensuring compliance with established principles of legislative technique.

Statistical analysis and sociological methods: These methods were extensively utilized, particularly in the examination of bribery cases, corruption offenses, and official statistical data related to various categories of corruption. By employing these methods, the study established a solid empirical foundation, ensuring the representativeness and reliability of the findings across different regions of Ukraine.





Overall, the research methods employed in this study encompassed a diverse range of approaches, enabling a comprehensive exploration of the subject matter and facilitating the achievement of the study's objectives.

3 RESULTS AND DISCUSSION

3.1 GENERAL PROVISIONS ON CORRUPTION IN THE DIGITAL ENVIRONMENT ON THE EXAMPLE OF CRYPTOCURRENCY

Cryptocurrency is becoming a previously unknown type of corruption. The word "cryptocurrency" comes from the encryption methods used to secure a network. "Crypto" refers to the various encryption algorithms and cryptographic techniques that protect these records, such as elliptic curve encryption, public/private key pairs, and hashing functions. Blockchains, which are organizational methods for ensuring the integrity of transactional data, are also an important component of many cryptocurrencies.

Cryptocurrencies are defined as digital tokens that are used to transfer money instantly and anonymously between individuals in a decentralized peer-to-peer network with minimal transaction fees. In 2009, the Genesis blockchain was invented and the first Bitcoin transactions were made, and the first cryptocurrency was launched (Erinsyah et al., 2019). The cryptocurrency is neither centralized nor controlled, and its viability is supported by a community of users. All transactions are carried out in a decentralized peer-to-peer network using encryption algorithms and cryptographic methods that protect transactions. Cryptocurrencies have the potential to change the financial system globally as their market capitalization is constantly growing.

Today, there are more than 12,000 different cryptocurrency blockchains with more than 300 million users worldwide and more than 83 million users of cryptocurrency blockchain wallets with different features and characteristics. More than 18,000 companies accept payments in cryptocurrency (Kulikova & Zhmurko, 2020). The features of cryptocurrency as an object of a corruption criminal offense are physical, economic, and legal. The physical feature characterizes the technical aspects of cryptocurrency





functioning, the economic feature is determined by the price that interested parties can pay for it and the legal feature is established based on a consistent analysis of the types of civil rights objects provided for by the current legislation.

Thus, in the context of criminal law regulation, cryptocurrency is electronic data that has a price and is the subject of the right to information. The attractiveness of cryptocurrencies for the criminal world is because bitcoin and other cryptocurrencies are based on the principle of decentralization and the blockchain system: electronic money is not tied to or controlled by any financial authority of any country, users of the system remain anonymous and have equal statuses. Cryptocurrency, the main advantage is its anonymity, in addition, the personal data of the owner of the electronic wallet is kept secret and it is only a set of characters that cannot be used to identify the owner, so it is impossible to recognize the name or address of such a user, and the transaction history is public information. Transactions related to cryptocurrencies are also anonymous, and they are irreversible (Hrebeniuk & Lukianchuk, 2017).

These unique features of cryptocurrencies make them an attractive environment for a new form of corruption with a new way of criminal activity for money laundering, tax evasion, and terrorist financing. Criminals are usually among the first to use new technologies to commit old crimes. The existence of cryptocurrencies has also been linked to corruption cases and other criminal activities, among others:

- Silk Road: in 2013, the FBI arrested Ross Ulbricht, the former operator of the Silk Road darknet, also known as the "Terrible Pirate Roberts". Ulbricht was accused of participating in a conspiracy to commit money laundering and drug trafficking, as well as computer hacking. The indictment states that more than 9.5 million bitcoins in sales revenue and more than 600 thousand bitcoins in commissions for its owner were received;

- "The Crypto Queen": in June 2016, 36-year-old businesswoman Ruzha Ignatova took the stage at the Wembley Arena in London in front of thousands of fans. She told the cheering crowd that OneCoin was on its way to becoming the world's largest cryptocurrency and that anyone could make payments. People around the world began investing their savings in OneCoin, hoping to be part of this new evolution. From August 2014 to March 2017, more than €4 billion was invested from dozens of countries. In 2017, the "crypto queen" disappeared along with all these investments;





- BitConnect: in 2018, the Indian police arrested Divyesh Darji, the owner of BitConnect, who was accused of siphoning off \$12.6 billion (INR 880 billion) from investors in India through the Ponzi scheme;

- Bitclup Network: in 2019, U.S. Attorney Craig Carpenito of the District of New Jersey announced the arrest of three men in connection with a cryptocurrency mining scheme that defrauded investors of \$722 million. Defendants Getche, Balachi and Weeks, and others are accused of conspiracy to commit fraud in connection with their role in the BitClub network. Between April 2014 and December 2019, the BitClub Network was a fraudulent scheme that solicited money from investors in exchange for shares in purported cryptocurrency mining pools and rewarded investors for recruiting new investors to the UNODC scheme (Gonzalvez-Gallego & Perez-Carceles, 2021).

Recently, there has been a trend towards the popularisation of the use of virtual currencies in illegal financial schemes aimed at legalizing the proceeds of crime, the vast majority of which are received in cash. In particular, cryptocurrencies are used by organized criminal groups as a tool for illegal activities related to fraudulent activities in the field of IT technologies, the so-called "pyramid schemes".

The most common criminal offenses committed in the field of cryptocurrency circulation can also be identified: illegal sale of psychoactive substances (narcotic drugs, psychotropic substances, etc.), other prohibited goods, content, or services; laundering of property obtained through the illegal use of new digital currency; fraud, seizure of other people's property, including cryptocurrency itself; human trafficking; corruption-related criminal offenses, etc. Thus, it should be emphasized that there is a negative trend of growth in the number and types of criminal offenses committed with the use of cryptocurrency or aimed at the illegal acquisition of cryptocurrency itself (Koziy, 2019).

3.2 INTERNATIONAL EXPERIENCE OF LEGAL REGULATION OF CRIMINAL ACTIONS IN THE FIELD OF CRYPTOCURRENCY

The complexity of cryptocurrency fraud in the modern world is leading to increased opportunities for corruption. The United Nations Office on Drugs and Crime has introduced training programs to combat criminal activities related to cryptocurrencies. Recognizing





the common interest in combating this phenomenon, international organizations have recognized the Blockchain Alliance as a public-private forum to optimize the fight against criminal activity in the blockchain. However, the effective fight against criminal activity within the framework of (cyber) corruption with the help of cryptocurrency requires much more attention.

The transfer of bribes in cash involves the risk of a personal meeting, the use of marked bills for bribes, and the easy identification of both the payer and the beneficiary in bank transfers. The use of cryptocurrencies allows parties to a corrupt contract to transfer bribes to corrupt agents in a highly anonymous manner, without creating a risk of identification and exposure of corrupt behavior (Wawrosz & Lánský, 2021).

Bitcoin is difficult to trace, and because it can be easily and repeatedly converted into another cryptocurrency, all actions are not recorded by any central authority, as no such authority exists. The lack of legal regulation also makes it difficult to prosecute bribery in Bitcoin. The absence of a proper legal framework for cryptocurrencies creates uncertainty for both users and governments around the world. The European Commission has also recognized the importance of legal certainty and a clear regulatory regime in the areas of blockchain-based applications (Jimenez, 2019).

The European Union has already begun to address these issues by seeking to adopt proper cryptocurrency legislation. The European Union (EU) has adopted a comprehensive package of legislative proposals to regulate and update certain financial market rules for crypto assets and to establish a legal framework for financial supervisory authorities in the EU. One of the proposed key regulations is proposal No 2020/0265 (COD)-COM 593, Brussels, 24.09.2020. The Market in Crypto-Assets Regulation (MiCA) is a new part of the EU's wide-ranging legislation designed to regulate crypto-related activities carried out in the EU. MiCA covers several key areas, including transparency, disclosure, authorization, and transaction supervision. The Regulation applies to natural and legal persons and other entities engaged in the issuance, public offering, and admission to trading of crypto assets or providing crypto-related services in the European Union (Hrebeniuk & Lukianchuk, 2017).

The MiCA uses its definition of "crypto asset", which means "a digital representation of value or right that can be transferred and stored electronically using distributed ledger





technology or similar technology". Mica has passed all stages of the EU legislative process, except for approval by the European Parliament. The European Parliament is expected to approve it by the end of 2022. If this happens, the MiCA will enter into force in 2024.

Unfortunately, many countries do not yet have cryptocurrency legislation. Since cryptocurrencies are very attractive targets for criminal activity, they should be subject not only to civil and financial law but also to criminal law. There is a need for active mobilization for the adoption of appropriate legislation by states in domestic criminal law and by international organizations in international criminal law. This can be beneficial for the financial world, but it can also be seen as a challenge for perpetrators of corruption or other criminal activities (Teichmann & Falker, 2021).

If we talk about the attitude of states towards cryptocurrencies, we can note that countries are divided into three groups. Those that do not approve of cryptocurrency use, as China has done. In countries such as Algeria, Vietnam, Indonesia, Morocco, and Vietnam, cryptocurrencies are banned. China is attempting to block all websites related to cryptocurrency trading, including foreign platforms, but users are still engaging in this activity through virtual private networks and using foreign platforms (Kholiq & Gunarto, 2021). Those countries have created a legal framework that allows the use of crypto money in parallel with regular money. These are primarily the United States, Israel, the UAE, Japan, South Korea, Canada, Denmark, the Czech Republic, and Germany, where cryptocurrencies are legalized and official. One of the first countries to legalize cryptocurrencies was Japan, where cryptocurrencies have been allowed as a payment currency since 1 April 2017.

Exchanges are required to register with the Japan Financial Services Agency, and legal entities using cryptocurrencies must pay a license fee, keep a USD 100 reserve, and undergo regular audits. Cryptocurrencies are not accepted as monetary resources, but as transitional assets that can be used as payment. Conversions to fiat currencies are not subject to value-added tax, but the theft of a €58 million cryptocurrency reserve from a Tokyo-based virtual currency exchange has drawn attention to the need for strict supervision (Albrecht et al., 2019).





South Korea has also enacted legislation allowing cryptocurrency trading using accounts registered in real names. The six Korean banks have focused on opening accounts, making deposits, withdrawals, and transfers between duly registered bank accounts and corresponding cryptocurrency accounts within the same bank. The South Korean government also plans to collect corporate and income tax at a collective rate of 24.2 percent from local exchanges (Shamsutdinov, 2020).

The state of California in the United States was the first to allow the use of cryptocurrencies, having passed Assembly Bill 129, which allows any company, association, or individual to participate in the circulation of money other than legal payment systems. In its judgment of 22.10.2015, the European Court of Justice determined that Bitcoin should be considered a currency (means of payment) rather than a commodity because there were certain difficulties with the taxation of cryptocurrency, and the relevant decision established that all transactions related to the exchange of bitcoins will be taxed in the same way as transactions with traditional currencies (Fakunmoju et al.,2022).

European case law has essentially equated cryptocurrency as legal tender and the exchange of funds as a "currency exchange transaction". However, under current EU legislation, digital currency is considered a commodity and is subject to the regulation of the Civil Law and the EU PFM Directive a commodity, and a cryptocurrency sale and purchase agreement is a contract for the sale of goods. The most common and most expensive cryptocurrency is Bitcoin, which was created in 2008.

It is also worth noting that on 30 May 2018, Directive (EU) 2018/843 of the European Parliament and of the Council amending Directive (EU) 2015/849 on the prevention of the use of the financial system for money laundering or the financing of terrorism and amending Directives 2009/138/EC and 2013/36/EU aimed at combating crime in the field of the cryptocurrency market and covering all potential uses of cryptocurrencies. It should be noted that participants in the virtual asset market should be able to use banking services, pay taxes on their income and receive legal protection in courts in case of violation of their rights.

The third are those who are waiting. The authorities are trying to explain the essence of Bitcoin and its analogs, but the question of its legal nature is still unresolved.





Among them are Ukraine, Chile, Brazil, Denmark, Malaysia, and others (Bhimani et al., 2022).

3.3 THE CURRENT STATE AND PROSPECTS OF LEGISLATIVE REGULATION OF CORRUPTION IN THE FIELD OF CRYPTOCURRENCY

According to the analysis, the full functioning and further development of the cryptocurrency market in Ukraine is currently hampered by several unresolved problems, including a lack of legal regulation of relations arising in the field of cryptocurrency circulation; lack of mechanisms for taxation of income received from cryptocurrency transactions; lack of legal guarantees for the protection of property rights of cryptocurrency market participants; lack of mechanisms for controlling the circulation of cryptocurrencies that can be used to legalize (launder) the proceeds of crime.

In its typological studies, the State Financial Monitoring Service of Ukraine also notes that in recent years, financial intelligence units and law enforcement agencies have paid special attention to the study of complex money laundering schemes involving cryptocurrencies. The peculiarities of conducting financial investigations involving the use of cryptocurrencies for money laundering have been studied. Experts emphasize that the speed of transactions using cryptocurrencies is extremely high, and the identification of participants is almost impossible, especially in the context of the unregulated financial services market, which poses one of the biggest risks. This means that funds can be withdrawn or converted much faster than through more traditional channels. This speed of the transaction makes it more difficult to monitor and makes it more difficult to freeze funds (Logoida, 2021).

According to the Global Cryptocurrency Adoption Index, the Ukrainian market is one of the fastest growing in terms of development, but it is still outside the scope of legal regulation. However, operations with cryptocurrencies have long been carried out without any legislative regulation of such activities. For the first time, it was proposed to regulate the Ukrainian cryptocurrency market by adopting Draft Law No. 3637 of 11 June 2020. However, the need to harmonize the draft law with other anti-money laundering legislation





and the need to legalize crypto assets already created or acquired and to implement currency supervision led to the veto of Draft Law No. 3637 by the President of Ukraine.

In the Proposals of the President of Ukraine to the Law "On Virtual Assets" (Verkhovna Rada of Ukraine, 2022a), the President of Ukraine noted that the adopted Law cannot be signed in the proposed version, expressed his comments on its provisions, and proposed to revise it. The provisions of the Law do not create the complete legal mechanisms necessary for its implementation and do not meet the constitutional requirements for legal certainty as part of the rule of law, as well as do not provide clear and transparent conditions for virtual asset market participants and investors, which will not contribute to the proper protection of their rights. The relevant draft law No. 7150 was registered in the Verkhovna Rada on 13.03.2022, according to which the legalization of cryptocurrencies in Ukraine was planned for 1 October 2022.

Currently, the virtual asset market in Ukraine is already established and has existed for about five years, but is completely outside the legal framework of the state. It is quite obvious that market participants do not have the opportunity to receive legal protection, and the state receives almost no tax revenues from the functioning of the relevant industry. In addition, under such conditions, it is extremely difficult for the state and primary financial monitoring entities to effectively implement measures to combat money laundering, terrorist financing, and the proliferation of weapons of mass destruction (Mandrik et al., 2019).

As a candidate for membership in the European Union, Ukraine has obligations to harmonize its legislation with the European one in terms of regulating the taxation of virtual assets. Currently, the EU has a strong demand for regulation of virtual assets and unified taxation rules - the text of the new MiCA Regulation is being negotiated. The adoption of Draft Law No. 7150 dated 13.03.2022 "On Amendments to the Tax Code of Ukraine on Taxation of Transactions with Virtual Assets" will facilitate the legalization of proceeds of crime, strengthen the fight against terrorist financing and the proliferation of weapons of mass destruction, which will allow Ukraine to properly and timely fulfill its international obligations in this area.

On 20 June 2022, the Verkhovna Rada of Ukraine adopted the Anti-Corruption Strategy of Ukraine for 2021-2025 (Verkhovna Rada of Ukraine, 2022b). Accordingly, all





actions and systemic tactical measures for the early detection of corruption crimes involving cryptocurrency should be subordinated to the goal of overcoming corruption, which poses a huge threat to the proper functioning of the state, its institutions, and citizens, and therefore is a challenge to the loss of reputation of the international community (Vasylieva, 2019).

At present, Ukraine is beginning to face problems related to the receipt of unlawful benefits in the form of cryptocurrency by public officials. An example is the case of the detention by the Security Service of Ukraine of a cyber police officer in Zhytomyr who was extorting a bribe in cryptocurrencies, namely bitcoin. The most commonly used tokens for bribery are Bitcoin and Ethereum. This is because these tokens are the least volatile, and thus allow for a more stable income.

The motives for using cryptocurrencies instead of conventional financial instruments stem from their attractive characteristics, which are manifested in the fact that the official does not have to cover high transaction costs associated with currency exchange or international transfers, as well as their anonymous nature, which allows the official to more effectively conceal the fact of receiving an unlawful benefit.

Currently, there is no sufficient legal framework regulating the mechanism for investigating offenses related to cryptocurrency circulation, and many legal issues arise. Although there is significant potential for blockchain to be used in the fight against corruption, it may take several more years before this practice becomes widespread (Duban, 2021).

The following practical tips for addressing the problem of the spread of corruption offenses related to the use of cryptocurrencies in Ukraine are worth highlighting. Enshrine at the legislative level, namely in the provisions of the Law of Ukraine "On Prevention of Corruption" (Verkhovna Rada of Ukraine, 2014), is the legal definition of cryptocurrency as an object of unlawful benefit. Carry out organizational measures to provide expert advice to law enforcement practitioners on the specifics of documenting and collecting evidence in the investigation of offenses related to illicit trafficking in assets, namely cryptocurrencies. Establishment of specially authorized units within the National Agency of Ukraine for Finding, Tracing, and Management of Assets Derived from Corruption and Other Crimes to search for assets involving cryptocurrencies.





In our view, one effective way to prevent the misuse of cryptocurrencies would be to require service providers to collect and, if necessary, disclose information about their users and transactions that appear suspicious or exceed a certain amount. Financial exchanges could also be required to register users only with real identifying information to deter corrupt payments or money laundering through cryptocurrencies. While it is technically possible to deduce from blockchain ledgers what transaction was made by such a user, requiring the collection and disclosure of user and transaction information would be more direct. In addition, the activities of service providers may be limited to more favorable forms of cryptocurrencies whose anonymity is different due to the technology they use (Sinaga et al.,2020).

The first way to counteract this trend is to take advantage of a criminal mistake. For example, bitcoin is not as anonymous as it is commonly believed to be, given that it uses a blockchain system that serves as a virtual record of all transactions on the network. The blockchain is publicly accessible, meaning that anyone with a sufficient level of computer literacy can track the digital footprints of anonymous traders. Due to this, bitcoin is often used on the Darknet together with the anonymization software The Onion Router (Tor) to increase security and anonymity.

The second option is better regulation. For example, in 2017, the United States government proposed that the Department of Homeland Security study the link between Bitcoin and terrorism, as the anonymity offered by digital currencies provides terrorists with the privacy they seek. The UK Treasury has also sought to increase regulation by requiring digital currency users to disclose their identity. The governments of these countries are taking steps to bring digital currencies into line with existing anti-money laundering and counter-terrorism legislation. Together, we can disrupt financial flows to criminal and terrorist groups online (Suhariyanto et al.,2021).

In addition, we believe that the use of blockchain technology is that it is adaptable, and in the future, it will be possible to put systems in place to ensure that Bitcoin and other cryptocurrencies can deploy anti-bribery measures to help clean up their appearance and help with cryptocurrency adoption.

Through our research into the Bitcoin system, we have found that by using appropriate active network analysis tools, law enforcement can monitor user activity,





provided that the interested party can potentially deploy "tagged bitcoins" to reveal even more information. We have also found that large centralized services such as exchange and wallet services can identify and track a significant portion of user activity. Therefore, it is likely that through the registration and coordination of these service providers with law enforcement agencies, it is possible to establish the movement of cryptocurrencies. The ability to trace these cryptocurrencies would allow law enforcement to track the transactions of users whose IP addresses are attached to their transactions.

We believe that the legal, including criminal law, the significance of cryptocurrency is determined not by its physical and technical properties, but primarily by the economic significance of this social phenomenon, the function that cryptocurrency is assigned to participants in economic turnover, and its role in the system of civilian objects. A second-order factor that affects the legal assessment of cryptocurrencies is the legitimization of this financial instrument as a legal tender in the country. Based on these criteria, the legal assessment of cryptocurrencies as a subject of unlawful encroachments, primarily property, and corruption, under the current legal regulation cannot be unambiguous (Kholiq & Gunarto, 2021).

That is why the issue of recognizing cryptocurrencies as the subject of criminal offenses against property is relevant at the present stage. It should be noted that the subject matter of criminal offenses against property is traditionally characterized by certain features, including economic (value), physical (materiality), and legal (belonging to another person). As for the economic feature, we believe that it is inherent in cryptocurrencies, because there is a certain exchange rate against the official currency, and cryptocurrencies can now be used as a means of payment for ordinary goods or services. For example, Subway, Amazon, eBay, and several other organizations accept bitcoins as payment. Cryptocurrencies also have a legal characteristic, as, despite the anonymity of wallets, they belong to someone, and if a particular wallet does not belong to a certain person, it is someone else's.

The issue of physical property is more complicated. The object of criminal offenses against property must be materially defined in space (i.e., it must be in a solid, liquid, or gaseous state, be animate or inanimate). However, modern criminal law literature is increasingly raising the issue that the objects of property rights in the modern information





society do not necessarily have to be material since intangible goods are also subject to property relations in the legal and economic sense.

In a broad sense, cryptocurrencies can be seen as a means of committing a crime or as its object, if the latter means not only things of the material world, with certain properties of which the law associates the presence of signs of a crime but also other phenomena (these include, in addition to cryptocurrencies themselves, electricity or heat, information, etc.)

Although cryptocurrencies are a type of virtual financial instrument, they have all the features of the object of property crimes, namely: physical features are characterized by the ability to measure them in certain units, they can be traded on an electronic exchange, i.e. such an object can be seized; as for the socio-economic component, cryptocurrencies have a certain exchange and consumer value, and from the legal point of view, cryptocurrencies are property that is not owned by the perpetrator. In our opinion, the physical feature of cryptocurrency as an object of criminal offenses is its specific form - a digital code. Cryptocurrencies are the subject of criminal offenses and examples of court practice.

In 2018, the founders of the Internet platform Crypto-Worlds.com, which operates as an enterprise attracting investors from around the world for mining (production) of cryptocurrencies (electronic money) with subsequent payment of interest to the latter depending on their cash contribution, fraudulently seized a person's funds for USD 12,151. Thus, after registration, the investors transferred from their electronic account to the account of the website <https://crypto-worlds.org> in the amount of 30 (thirty) "ethers" (cryptocurrency "fir"), which according to the US dollar equivalent was 12 151 (twelve thousand one hundred and fifty-one dollars), but the specified amount of funds was not credited to the accounts created on the website <https://crypto-worlds.org> as of 08.08.2018. The defendants' actions were classified under Part 3 of Article 190 of the Criminal Code of Ukraine (Verkhovna Rada of Ukraine, 2001). Therefore, in our opinion, to counter criminal offenses involving cryptocurrency, as well as to provide a proper criminal law assessment of the offense, there is a practical need to recognize cryptocurrencies as the subject of criminal offenses, including those against a property (Wawrosz & Lánský, 2021).





4 CONCLUSION

In today's modern society, digital technologies have become an essential aspect of human life. However, the rapid pace of their development often surpasses the ability of the legal system to promptly respond to emerging items, technological advancements, and virtual currencies. This has given rise to various questions concerning the classification of acts related to the digitization of society and the circulation of cryptocurrencies within the realm of criminal law. Cryptocurrencies are increasingly being utilized both as tools or targets for criminal activities and as influential factors in criminal behavior due to their unique characteristics.

Regrettably, many countries lack specific legislation about cryptocurrencies. Considering that cryptocurrencies hold significant allure for criminal activities, they should not only fall under civil and financial regulations but also be subject to criminal law. It is crucial for nations to actively address this issue by enacting appropriate legislation within their domestic criminal law systems, and for international organizations to consider its implications in international criminal law. While this endeavor can bring benefits to the financial world, it also presents challenges for individuals involved in corruption and other illicit activities.

Corruption through cryptocurrencies poses an even greater challenge due to being a relatively new and understudied form of criminal activity. The traceability of cryptocurrency transactions is inherently complex. Moreover, cryptocurrencies can be easily and repeatedly converted into other forms, and their value can fluctuate dramatically within short periods. This inherent characteristic enables criminals to engage in money laundering, as transactions can be conducted with ease, and these actions remain unrecorded by any central authority, as no such authority exists. Hence, it is imperative for all countries, including Ukraine, to consider implementing appropriate legislation to tackle these problems and obstacles surrounding cryptocurrencies.

The evolving landscape of cryptocurrency-related crimes necessitates legislation and a clear definition of the legal status of cryptocurrencies and other digital blockchain products in Ukraine. It also requires the development of uniform standards for preventing





this type of crime. The question of where cryptocurrencies stand among the elements of a criminal offense remains unresolved from a criminal law perspective. Therefore, to combat criminal offenses involving cryptocurrencies effectively and to provide a sound legal assessment of such offenses, it is practical to recognize cryptocurrencies as subjects of criminal acts, including those against the property. This is especially important for Ukraine, as it is a candidate for membership in the European Union and must harmonize its legislation with that of the European Union, particularly in terms of regulating the taxation rules for virtual assets.

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