

Legal Regulations of Blockchain and Cryptocurrency in Ukraine

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Abstract. This study develops a review of Blockchain legal regulations in Ukraine. The authors analyze use of Blockchain technology in administration and provision of public services in modern Ukraine. It is stressed that the illegal status of Blockchain and cryptocurrency in Ukraine is a barrier to the full use of these instruments in all spheres of modern life in Ukraine. The caselaw in the field of cryptocurrency use is analyzed.

Keywords: Blockchain, cryptocurrency, technology, Big Data, cadastre

1. INTRODUCTION

The information revolution began at the end of the 20th century, and it ‘has become so expansive in the life and professional activities of people that one cannot imagine the daily life without information technologies.’¹ In Ukraine, as in the whole world, there is a total digitalization of society, both on the private legal and public legal levels.

On December 9, 2014, The Digital 5 (D5), the union of leading digital states (Estonia, Israel, New Zealand, South Korea, Great Britain), was formed in London for the development of the digital economy. The governments of these countries have pledged to transform the government’s relationship with technologies through support for the application of open standards and open source software, as well as increasing the efficiency of the digital government. The Digital 5 participants determined the basic principles of digital development: user needs; open standards; source code; open markets; open government (transparency); connection possibilities; teaching children for programming; availability of digital services and the duty to share and study.² These principles can be supplemented and improved in the light of the new challenges and opportunities of information technologies

The widespread application of the latest innovative approaches and technologies has led to the transformation of the forms and methods of the subjects’ of legal relations activities, in order to increase their functional capabilities, for data protection and cost reduction. There is annual increase in the number of public and private law entities. To increase their efficiency and results, they use modern information and telecommunication technologies (ICTs), namely: Internet of Things, Cloud Technology, Blockchain, Mobile ID and Big Data.

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¹ Bolesta (2016) 48.

² D5 Charter link 6.

The purpose of the article is to analyze the legal problems of use and prospects of application of Blockchain technology in both private and public legal relations in Ukraine.

2. BLOCKCHAIN TECHNOLOGY AND NEW CHALLENGES

In February 2018, the United Nations Global Compact initiative published the Global Opportunity Report 2018, which stated that ‘Blockchain technology and artificial intelligence are the foundation of two of the four best opportunities of the year’.³ In addition, the report of the IBM Institute for Business Value⁴ ‘Building trust in government’ states that ‘nine of the ten government leaders are going to invest in the development of Blockchain technology in 2018 in the areas of financial transactions, asset management, contract management and compliance with regulatory requirements.’⁵

Implementation of the best international e-governance practices allowed Ukraine⁶ to reach the list of 14 countries of the world in January 2018 (Australia, Brazil, United Kingdom, Georgia, Estonia, Israel, Canada, China, Germany, United Arab Emirates, United States of America, Ukraine, France, Sweden),⁷ which are recognized leaders in the implementation of Blockchain technology.

Blockchain technology is used predominantly in the banking, finance and insurance sectors. However, its potential impact and use in the field of public and private legal relations has not yet been thoroughly investigated. In particular, the position of the National Bank of Ukraine (the NBU) and other public authorities in Ukraine regarding the cryptocurrency creation and the legal status of mining require a separate legal assessment. That is why we try to consider the peculiarities of the ICTs use in Ukraine in the field of public and private law on the example of Blockchain technology.

Ukrainian scientific studies of the legal aspects of Blockchain use in the field of public and private relations in Ukraine are almost absent. This issue is partly considered in the scientific works of Dovgan, Dorodin,⁸ Simson,⁹ Stefanchuk,¹⁰ Chernolutsky¹¹ and others.

Blockchain technology is a decentralized or distributed electronic register of reliable and unchanged data¹² based on cryptographic algorithms that fixes information about all transactions in the digital space by creating blocks¹³. Blockchain, being an open, distributed public registry, contains a database of all previously executed transactions and allows the

³ Global Opportunity Report (2018) link 15.

⁴ The IBM Institute for Business Value is a business research organization focused on the managerial and economic challenges faced by companies and governments around the world.

⁵ Building Trust in Government Exploring the Potential of Blockchain (2018), link 2.

⁶ The Cabinet of Ministers of Ukraine in the Concept for the Development of the Digital Economy and Society for 2018–2020 determined that the implementation of initiatives on the digitization of state institutions should take place taking into account the following technological concepts: ‘digital workplace’, ‘multi-channel information and citizen engagement’, ‘open data’, ‘Internet of Things’, ‘digital state platforms’, and ‘Blockchain’. See link 29.

⁷ The list is based on the report “The Networked Hotbeds of Blockchain,” which identifies key trends in technology development. The Blockchain Research Institute is the author of the report.

⁸ Dovgan, Dorodin (2017) link 13.

⁹ Simson (2018).

¹⁰ Stefanchuk (2018).

¹¹ Chernolutsky (2017) link 3.

¹² ‘Cryptocurrency: Collect crypts’ (2017) link 5.

¹³ Stefanchuk (2018) 41–42.

efficient performance and promptly real-time operations between two parties, where all transactions are verified and supported by a decentralized computer network. It is important that the records are stored in an encrypted form at the same time for all participants in the system, and are automatically updated with each change. Users act as a collective notary, which confirms the truthfulness of the information in the database, and provide protection against manipulations and abuses. Blockchain technology enables each contract, process, task, and payment to have a digital record that can be identified, verified, stored and shared.

Taking into account the current and potential technological aspects of Blockchain, British researcher Melanie Swan in 'Blockchain: A Blueprint for a New Economy',¹⁴ highlights the following stages of the technology evolution: *Blockchain 1.0* is a currency. Cryptocurrency is used for digital transfers and payments. The most common modern electronic currency is Bitcoin, the concept of which was outlined in 2008 by Satoshi Nakamoto in the article 'Bitcoin: A Peer-to-Peer Electronic Cash System';¹⁵ *Blockchain 2.0* foresee the possibility of dealing with various types of financial transactions, including transactions with securities, shares of companies, crowdfunding instruments, debt instruments, pension funds and derivative financial instruments; *Blockchain 3.0* goes beyond the economic and financial spheres and extends to public administration, health, science, education, culture and art.¹⁶

In the ideal model, according to Simson, 'when the Blockchain technology is introduced into the legal field, then the control of banks, state bodies, auditors and other subjects of the financial market become unnecessary, and there is no need in lawyers, notaries and guarantors for the performance.'¹⁷ However, modern states and large corporations are only trying to actively use Blockchain to improve the efficiency of services provision, control and data protection in such areas as: digital currency/payments, registration of land ownership, election, HR, supply tracking, health care, proxy voting, corporate management, taxation, accounting data management.

The use of the Blockchain technology has its advantages and disadvantages. The advantages include providing highly effective mechanisms for protecting the integrity and availability of information; the creation of a fully decentralized system; the resistance of the system to the unauthorized interference and changing the information stored in the registry; savings in comparison with storing information in paper form and using traditional technologies for storing data on information carriers;¹⁸ impossibility of making changes to the data register by the previous date; increase of the level of state databases protection from unauthorized interference, in particular from cyberattacks; reducing fraud, since each record will be uniquely encoded and tied to an intellectual key that is known only to the owner of the property; the use of smart contracts,¹⁹ which are programmed contracts and are performed on their own, obeying to certain conditions.

¹⁴ Swan (2015) link 37.

¹⁵ Satoshi Nakamoto (2018), link 34.

¹⁶ Swan (2015) link 37.

¹⁷ Simson (2018) 57.

¹⁸ Doronin (2017) link 12.

¹⁹ Nick Szabo introduced this concept in 1994 and identified a smart contract as 'a computerized transaction protocol that executes the terms of a contract' [52]. Szabo proposed to transform contractual provisions into code and implement them in hardware or software that can enforce them [53] to minimize the need for intermediaries between participants in a transaction and the presence of harmful or random exceptions. Thus, a smart contract is a computer algorithm designed for the conclusion and maintenance of commercial contracts in Blockchain technology. See link 39. and 40.

At the same time, there are certain risks connected with the use of Blockchain technology including the disclosure of personal data and confidential information; low bandwidth and speed of the database; the level of security and decentralization of the system directly depends on the number of participants and computing power; ability to enter inaccurate data; human factor in managing access to registries; identification of database users; global synchronization (database synchronization); protection of the system in the network infrastructure, etc.²⁰

The absence of a single administrator, besides the benefits, creates risks not only for the functioning of the system, but also legal issues with the definition of jurisdiction to resolve disputes related to the operation of the Blockchain technology. Thus, in the banking sector, irrespective of the mechanism and location of the transaction, one can sue the bank, and define the jurisdiction established in the relevant agreement between the bank and the individual / legal entity. On the other hand, in a decentralized environment difficulties may occur in defining jurisdiction, since in Blockchain each transaction can take place in different jurisdictions, regardless of the location of each node in the network.

One of the most common areas of Blockchain use is the maintenance of land registries. Thus, in 2017–2018, the number of states increased [Bermuda,²¹ Honduras,²² Georgia,²³ Rwanda,²⁴ Brazil,²⁵ Sweden,²⁶ state of Andhra Pradesh, India,²⁷ South Burlington in Chittenden, Vermont (USA),²⁸ Japan,²⁹ Dubai in the UAE³⁰], are working on implementing Blockchain in land and property rights registration systems. However, it should still be taken into account that all cases of registries based on Blockchain technology are still functioning as pilot projects. Government officials are introducing this technology to improve the process of registration of property rights, reducing the time for the conclusion and registration of agreements on ownership of land plots, the impossibility of committing frauds and mistakes during the process of relevant rights registration.

According to Doronin, in the modern world, the idea of using the Blockchain technology for state registers is popular in modern society primarily due to a general lack of confidence in the activities of state bodies that must keep such registers, protect the rights of owners and keep information unchangeable.³¹

²⁰ Zheltukhin (2017) link 46.

²¹ Neil (2018) link 25.

²² Forbes (2018) link 42.

²³ The Bitfury Group and Government of Republic of Georgia Expand Historic Blockchain Land-Titling Project (2018), link 23. and 41.

²⁴ Rwanda Government's Blockchain Project Gains Momentum (2018) link 33.

²⁵ Ubitquity Used to Test Pilot Blockchain Land Registry in Brazil. See link 43.

²⁶ Sweden Officially Started Using the Blockchain for Land and Real Estate Registration (2018), link 38.

²⁷ Bhunia (2018) link 1.

²⁸ De (2018) link 7.

²⁹ Japan to Tidy up Scattered Property Records (2017) link 18.

³⁰ Hochstein (2017) link 17.

³¹ Doronin (2017) link 12.

3. BLOCKCHAIN TECHNOLOGY AND UKRAINE

The first pilot projects in Ukraine using Blockchain³² are electronic land auctions, the work of the State Land Cadastre,³³ the State Register of Property Rights to Real Estate, and System of Electronic Trading in Arrested Property (SETAM).

On May 27, 2017, the Cabinet of Ministers of Ukraine agreed to the proposal of the Ministry of Justice and the State Agency for e-Government on the implementation of measures aimed at implementing Blockchain's data storage and protection system in the work of the State Register of Property Rights on Real Estate and SETAM. On May 27, 2017, the Cabinet of Ministers of Ukraine agreed on the common proposal by the Ministry of Justice of Ukraine and the State Agency for E-Governance on the measures of Blockchain data storage and protection system implementation in the work of the State Register of Property Rights on Real Estate and SETAM.³⁴ On June 16, 2017, the Ministry of Justice of Ukraine, the Ministry of Agrarian Policy and Food of Ukraine, the State Agency for E-Governance of Ukraine, the public organization Transparency International Ukraine, and the BitFuri Holding BV signed a Memorandum of Understanding and Cooperation (hereinafter referred to as the Memorandum), in order to form and manage the land cadastre and other state registers on the basis of the Blockchain technology.³⁵ The signing of the Memorandum is conditioned by the necessity of introducing this technology as a mechanism for preventing corruption, promoting transparency of state information resources, creating an enabling environment for information development in Ukraine, improving the dialogue between business, citizens and authorities, improving the investment climate for the development and maintenance of innovative technologies, and increasing confidence to public services in Ukraine.

For practical implementation of the Memorandum and the introduction of digital transformations in Ukraine, the following provisions are envisaged:

- use of the Blockchain technology for the formation and maintenance of priority state electronic information resources, in particular, state registers and state land cadastre, in order to provide protection from manipulation both from the inside and outside;
- introduction of electronic services to citizens and businesses using the Blockchain technology;
- introduction of electronic auctions on the basis of this technology in order to ensure a high level of transparency and confidence in the realization of public and private assets;
- formation of an open and transparent architecture of state electronic information resources and state land cadaster on the basis of Blockchain technology;
- elaboration of the methodology of the Blockchain development index in the public sector.³⁶

³² In 2016, two memorandums on the use of Blockchain technology in the field of public-legal relations in Ukraine were signed: 1) electronic voting system “e-Vox”. Scope: primaries and other political processes; electronic petitions, plebiscites, referendums; electronic elections or any other contests for office; election of local representatives and parliamentarians; election of any communities and other purposes; 2) the system of decentralized online auctions in the public sector at the municipal and central levels “E-Auction 3.0”. Scope: privatization and lease of state property. See link 21. and 22.

³³ Order of the Cabinet of Ministers of Ukraine as of June 21, 2017 No. 688.

³⁴ Order of the Cabinet of Ministers of Ukraine as of May 24, 2017 No. 353.

³⁵ Memorandum of Understanding and Cooperation (2017).

³⁶ Memorandum of Understanding and Cooperation (2017).

On September 6, 2017, in the System of Electronic Trading in Arrested Property, the first electronic trades with the use of Blockchain technology were performed.³⁷ In general, from September 2017 to February 2018, with the use of distributed data processing technologies, 24 202 auctions were conducted, with 4471 successful ones. The total sales amounted to UAH 692 million. All auctions were hashed and saved.³⁸

The introduction of Blockchain for the provision of public services clearly indicates a positive attitude of the state towards this technology, otherwise the government would not use it. At the same time, the services of a private company Bitfury were used.³⁹ Bitfury is an international company (with Ukrainian roots).⁴⁰ The peculiarity of Blockchain technology is that it can be monitored and verified in real time and that is a guarantee of its stability and noninterference. The mechanism of this technology lies in the following: the information that comes to the system is stored on several servers and on a public server. Thus, everyone can observe the trading process in real time without the risk of data loss. You can check information on each step of the trading by copying the transaction hash code and inserting it in the appropriate field at www.blockchain.gov.ua. Then the system issues a complete list of rates: volume, size, date (when a bid was made).

The State Land Cadaster became the second project in the public sector in Ukraine, where the Blockchain technology has been applied since September 2017.⁴¹ Information on each transaction that was performed in the cadaster, enters the chain of blocks according to the given algorithm. From now on, every land title document is backed up by a QR code, which encrypts all the data about the location, size, and owner of a particular land plot. Using the code, one can identify the authenticity of a particular document and simply verify the information in the registry. Authorized experts can make changes in the cadaster. An electronic signature or bank ID is used to identify persons who may change information about land plots in the cadaster.

At the initial stage of the Blockchain technology use in the field of land registration, there is a probability of problems with the initial identification of land owners, since the information contained in the Blockchain registers is not reliable by itself. Blockchain guarantees the immutability of the data, and not their truth, as this system can be used only to check or take the extracts whether it is a fake. However, it is impossible to check the authenticity of the data presented in such an extract.⁴²

Therefore, it is important to develop a legally verified and highly controlled mechanism for transferring offline data to the state registers in order to move the state system to Blockchain technology. Effective work depends primarily on the accuracy of filling the registers, of citizens, real estate, companies. The fact is that neither the maintenance of data integrity in the situation of accidental crashes or attacks, nor the prevention of manipulations with already entered data are not the main challenges for public IT systems. The real danger

³⁷ SETAM Switched to Blockchain Data Storage Technology and Changed Its Name to "Openmarket", – the Ministry of Justice (2017) link 35.

³⁸ Openmarket (SETAM) has conducted 24 thousand auctions using Blockchain technology for almost 700 million UAH (2018). See link 30.

³⁹ SETAM Switched to Blockchain Data Storage Technology and Changed Its Name to "Openmarket", – the Ministry of Justice (2017) link 35.

⁴⁰ Yarovaya (2017a) link 44.

⁴¹ State Land Cadastre switched to Blockchain technology (2017) link 36.

⁴² Zheltukhin (2017) link 46.

is the practice of entering into registers of the information known to be false. Obviously, here the Blockchain service is powerless. It is just an instrument.⁴³

Taking into account the level of corruption in Ukraine and the long process of property rights registration, J. Michael Graglia and Christopher Mellon in 'Blockchain and Property in 2018: at the End of the Beginning' noted that '[i]f the representatives of the domestic government expect that Blockchain – or any other technology – will become a panacea, it may well be disappointed.'⁴⁴ Nevertheless, analysts point out 'reasons for cautious optimism that this project will work efficiently':

- the implementation of the Blockchain technology in Ukraine is carried out by Bitfury,⁴⁵ that already has the relevant practice (in the field of land rights registration in Georgia);

- Ukraine has just recently introduced a land cadaster, and its data needs to be arranged and placed in the register through Blockchain;

- there are many programmers in Ukraine that can help to improve the government's work in the e-government system;

- Ukrainian government plans to introduce the Blockchain technology in various spheres of social relations.⁴⁶

In addition to the above-discussed practices of distributed data technology use in the field of public-legal relations, in Ukraine it is planned to introduce the automation of administrative processes using the Internet of things and technologies for the processing of large volumes (Big Data) in the following areas:

- *health*: The creation of basic medical registers, for example, of medical workers, of drugs, of institutions; introduction of electronic medical card and electronic recipes; the development of integrated medical information systems for automation of the basic processes in work of health facilities, including doctors, laboratories, diagnostics, reporting, management, financing.

- *ecology and natural resources*: The implementation of ecological monitoring system; implementation of the electronic integrated permit in the field of ecology and natural resources; the implementation of the electronic system of water balance of Ukraine.

- *social protection*: The introduction of a unified state register of social sphere and integration of existing disparate databases; introduction of electronic sick leaves; the implementation of automatic data verification when appointing different types of social assistance; implementation of electronic labor contracts.

- *elections*: the development and implementation of an electoral process information system in electronic form⁴⁷.

However, it is not known yet when these e-government tools will be put into practice.

To implement distributed data processing technologies in the abovementioned public-legal relations, a number of legal issues should be resolved, in particular: the state's responsibility for the functioning of the system e.g., in the case of classical Blockchain technologies, nobody controls the entire system; incentives for support the operation of the

⁴³ Chernolutsky (2017) link 3.

⁴⁴ Graglia, Mellon (2018) link 16.

⁴⁵ Bitfury is a multi-profile Blockchain company, the largest non-Chinese industrial miner, software and hardware developer for working with Bitcoin.

⁴⁶ Graglia, Mellon (2018) link 16.

⁴⁷ On Approval of the Concept of E-Government Development in Ukraine (2017).

system by users; the protection of information from loss and misstatement and the provision of long-term storage in an open-to-use condition.⁴⁸

In Ukraine, there are attempts to legally draw up already existing legal relations in the field of Blockchain use. Thus, on October 6, 2017, a draft law ‘On the Circulation of Cryptocurrency in Ukraine’ was registered in the Parliament, the purpose of which is to regulate legal relations regarding the circulation, storage, possession, use and transactions through cryptocurrency in Ukraine. In this draft law, the first attempt was made at the legislative level to define the concept of Blockchain, namely: the term ‘Blockchain system’ is defined as a decentralized public register of all cryptocurrency transactions carried out by the subject of cryptocurrency transactions; ‘user of Blockchain system’ is any individual, an private entrepreneur or a legal entity that, with its own and/or leased technical equipment, maintains the efficiency of the Blockchain system, carries out cryptocurrency transactions and protection of the Blockchain system.⁴⁹ However, this draft law contains only terminological definitions and superficially defines the status and procedure of conducting an operation with cryptocurrencies, but does not regulate use of Blockchain. In the draft law ‘On the Development of the Digital Economy’,⁵⁰ legislators use the term ‘Blockchain’ and ‘register of transaction blocks’ and define it as ‘a sequence of blocks with information on perfect operations in such a system, built on the basis of given algorithms in a distributed decentralized information system using cryptographic information security methods.’⁵¹ In other domestic legislative initiatives on the legal status of cryptocurrency,⁵² the Blockchain issue is not defined at all.

The author believes that in the legislative regulation of relations related to the operation of the Blockchain, mining, cryptocurrency, smart contracts, it is important to define the notions in accordance with their essence. Thus, analyzing the meaning of the terms ‘Blockchain’ in the legal acts of certain US states, A. Walch observes that legislators ‘do not fully understand this technology’ and apply different approaches to defining the notion in the same law.⁵³ The lack of understanding by state regulators of modern information technologies complicates the identification and evaluation of the benefits and risks associated with the use of the technology, as well as may lead to wrong decisions in the field of legal regulation of Blockchain, cryptocurrency, and smart contracts.⁵⁴

Thus, the Ukrainian government is using the technology of Blockchain in administration and provision of public services quite intensively but at the same time, the situation in the private-law sector is diametrically opposed. Most miners, companies working in this area are perceived almost as criminals and are automatically suspected of

⁴⁸ Dovgan, Doronin (2017) link 13.

⁴⁹ On Cryptocurrency Circulation in Ukraine, the draft law (2017) link 27.

⁵⁰ Analyzing this draft law, experts of the Chief Scientific and Expert Department of the Supreme Rada of Ukraine note that “most of the provisions of the project are just a translation (without proper editorial work) of the Decree of the President of the Republic of Belarus on December 21, 2017 No. 8 “On the Development of the Digital Economy”. That was one of the reasons why the draft law was not adopted in the proposed form by the Supreme Rada of Ukraine [4].

⁵¹ On the Development of the Digital Economy, the draft law (2018) link 29.

⁵² On Amendments to the Tax Code of Ukraine (regarding the stimulation of cryptocurrency and its derivatives market in Ukraine): draft law № 7246 (2017). On Stimulation of Cryptocurrency and Its Derivatives Market in Ukraine, draft law (2017) link 26. and 28.

⁵³ Walch (2017b).

⁵⁴ Legal issues caused by terminological definitions of Blockchain technology are analyzed in the article by A. Walch, The Path of the Blockchain Lexicon (and the Law).

committing crimes. Thus, a search in the state-owned enterprise ‘Therapeutic and Wellness Institute of Electric Welding named after Yevhen Paton’ was only the beginning of the ‘struggle’ against miners.⁵⁵ What is the ‘illegality’ of mining? In the abovementioned case, the law-enforcers had a double charge – in the illegality of premises renting and in tax evasion. With regard to the first charge it may well be meaningful, but concerning tax evasion it is obvious that such qualification was aimed to ‘legalize’ the actions of law-enforcement officers regarding the illegality of mining and the creation of cryptocurrency. The Svyatoshynskiy court of Kyiv supported this position of the law-enforcers in the judgement: ‘[t]he Investigating Judge found that during the pre-trial investigation it was established that the suspect in conspiracy with individuals not identified by pre-trial investigation, pursuing personal vested interest for the production and issue of cash surrogates of Bitcoin the cryptocurrency, the issue and circulation of which is prohibited within the territory of Ukraine, in accordance with part 2 of art. 32 of the Law of Ukraine ‘On the National Bank of Ukraine’, violating the requirements of the Laws of Ukraine ‘On the National Bank of Ukraine’, ‘On Banks and Banking Activities’, article 9 of the Law of Ukraine ‘On Payment Systems and Transfer of Funds in Ukraine’, under which payment organizations of payment systems, participants of payment systems and payment service providers have the right to conduct activities in Ukraine only after their registration by entering information about them in the Register. The procedure of such registration is determined by the Regulation on the Procedure of Payment Systems Registration, Payment System Participants and Payment Service Providers, approved by the Resolution of the Board of the National Bank of Ukraine No. 43 on February 4, 2014, as well as regulatory documents of the National Bank of Ukraine, decided to commit forgery of bank documents.’⁵⁶ Thus, the court and law-enforcement bodies in this case essentially outlaw any mining.

However, there is no unified position on cryptocurrency and Blockchain technology in the private law sector in government agencies. For example, in its letter dated 08/12/2014 No. 29–208 / 72889,⁵⁷ the NBU states that ‘Bitcoin is a monetary surrogate that does not provide real value. The present study considers the sale of Bitcoin for US dollars or other foreign currency to have signs of the functioning of the so-called ‘financial pyramids’, and such activity may indicate a potential involvement into the suspicious transactions in accordance with the legislation on counteraction to legalization (laundering) of unlawfully obtained money and financing of terrorism’. That means, by definition, the technology of cryptocurrency emission on the basis of Blockchain is considered by the NBU to be risky and fraud. At the same time, even Ukrainian banks are not encouraged to count money from the sale of cryptocurrency: ‘Taking into account the abovementioned, we believe that authorized banks have no legal basis for enrolling foreign currency received from the sale of Bitcoin abroad’.⁵⁸

In a joint statement of the National Bank of Ukraine, the National Commission on Securities and Stock Market, and the National Commission for Regulation of Financial Services Markets on November 30, 2017 regarding the status of cryptocurrency in Ukraine, it is indicated that the complex legal nature of cryptocurrency does not allow them to be recognized neither money, nor the currency and means of payment of another country, nor

⁵⁵ Polyakova (2017) link 31.

⁵⁶ Decision of the Svyatoshynskiy district court of Kyiv 1-ks / 759/2651/17 (2017) link 11.

⁵⁷ Letter of the NBU on December 8, 2014 No. 29–208 / 72889 has a recommendatory character.

⁵⁸ Letter of the National Bank of Ukraine No. 29–208 / 72889 (2014).

monetary value, nor electronic money, nor a security, nor a money surrogate.⁵⁹ Thus, the financial regulators reported what cryptocurrency is not, and left a ‘free field’ for discussions and interpretations by law-enforcement bodies. Ukrainian miners may be prosecuted for the following items:

1. smuggling of equipment for mining;
2. unlawful connection to the electricity grids;
3. fictitious entrepreneurship;
4. tax evasion;⁶⁰
5. use of cryptocurrency for illegal purposes (drug, weapons, pornography, etc.).

Undoubtedly, offenses determined in items 1–2 may take place and should, in our opinion, be prosecuted by law. In our opinion, there are no legal grounds for legal responsibility for fictitious entrepreneurship, since Article 205 of the Criminal Code of Ukraine⁶¹ provides: ‘the creation or acquisition of business entities (legal entities) in order to cover illegal activities or activities that are prohibited’. There is no direct prohibition of legislation concerning mining, hence it follows that all that is not prohibited by law is allowed. Tax evasion is not a problem only for Ukraine. In many countries, cryptocurrency technologies are used for a variety of illegal purposes (financial pyramids, darknet, the circulation of drugs, weapons, pornography, etc., various fraudulent schemes, scammers, etc.), including accounting and taxation issues. Some pay attention to the ruling of the European Court of Justice in Case C-264/14, under which the tax authorities of all the EU Member States were obliged to treat the lawful nature of Bitcoin in the same manner as good or service, but a tender.⁶²

In our opinion, regardless of the field of financial or business activity, one should separate the payment of taxes from the actual activity, and the tax evasion by one entity cannot automatically throw the shadow over the entire industry. On the one hand, the problem of tax evasion is typical for the Blockchain sphere, but on the other hand, most countries in the world solve this issue not by prohibiting mining or cryptocurrency transactions but by encouraging payment or disclosure of potential payers’ data e.g., in the USA, the court has ordered one of the largest digital currency platform Coinbase to disclose users data.⁶³ However, in Ukraine, the issue of taxation of cryptocurrency transactions remains unregulated, since according to the State Fiscal Service of Ukraine, ‘today, cryptocurrency does not have a definite legal status in Ukraine because of the lack of a consolidated approach to its classification, and regulation of cryptocurrency transactions is not set by the tax legislation’.⁶⁴

At the same time, in the Unified Register of Court Decisions of Ukraine, most of court decisions (and sentences) are connected with the use of cryptocurrencies for criminal operations:

⁵⁹ Joint Statement of Financial Regulators on the Status of Cryptocurrency in Ukraine (2017) link 19.

⁶⁰ Yarovaya (2017b) link 45.

⁶¹ Criminal Code of Ukraine (2001) link 4.

⁶² Likhachev (2018) link 20.

⁶³ Garnik (2017) link 14.

⁶⁴ Response of the State Fiscal Service of Ukraine as of February 26, 2018 No. 2777/p/99-99-15-01-01-14 to the request of author (2018) link 32.

1. Decision No. 754/1786/18 on February 2, 2018 of Desniansky District Court of Kyiv⁶⁵ concerning the use of cryptocurrency for illegal purposes related to drug trafficking;
2. Decision No. 523/1495/15-k on June 16, 2015 of Suvorovsky District Court of Odessa concerning the use of Bitcoin as a currency for narcotic substances;⁶⁶
3. Decision No. 760/4138/17-k on May 4, 2017 of Solomiansky District Court of Kyiv concerning the cryptocurrency as payment for narcotic substances.

Obviously, the anonymity of such payments makes it easier to use technologies for criminal purposes of Darkweb.⁶⁷ This should not, however, unequivocally entail the government's position on any miners or companies that work with the Blockchain.

Case-law regarding the use of cryptocurrency as a mean of payment is also ambiguous. Thus, in the decision of Darnytsky District Court No. 753/599/16-ts⁶⁸ the court dismissed a software developer's claim, who, according to the contract, had to receive Bitcoin in the equivalent of UAH 10 000 for his services: '[t]he court, taking into account the general provisions on the ways of protecting the violated rights and on court decisions, cannot oblige the defendant to convey to the plaintiff things that have no signs of the material world. Thus, the plaintiff has incorrectly chosen the way of protecting his violated right.'

Perhaps, another reason for such a negative attitude is that the Blockchain technology is used for many fraudulent projects. The technology of collecting money allows it act anonymously, without the possibility to sue and to compensate for losses or to bring the perpetrators to justice. Therefore, cryptocurrencies are often used for financial pyramids. As well, many ICOs⁶⁹ are also fraudulent. Thus, the US Securities and Exchange Commission (SEC) has published an explanation on how to identify a fraudulent ICO. Probably the same methods will work in Ukraine. So, fraud is characterized by the following features:

- emphasis on the sale of shares, and not on the sale of products;
- lack of real business activity (actively distributed penny stocks may in fact be the shares of dormant shell company), which is characterized by small profits and assets;
- issue of a large number of shares without further increase in assets;
- unreasonable increase in the volume of shares trading or their prices simultaneously with advertising activity;
- the above-mentioned suspension of activities initiated by the SEC in respect of any securities of the issuer;
- frequent changes in the company's name / types of activities, its management;
- press releases or statements announcing events that do not occur later (agreements, anonymous partnerships);

⁶⁵ Decision of Desniansky District Court of Kyiv in case No. 754/1786/18 (2018) link 8.

⁶⁶ See link 9.

⁶⁷ Dark web is an overlay network that can be accessed only with specific software, configurations, or authorization, often using non-standard communication protocols and ports. Dark webs are friend-to-friend networks (usually used for file sharing with a peer-to-peer connection) and privacy networks such as Tor.[8]

⁶⁸ Decision of the Darnytsky District Court of Kyiv in case No. 753/599/16 (2016) link 10.

⁶⁹ ICO (Initial Coin offering, primary placement of coins) is a form of investment in new technological projects and startups in the form of emission and sale of new cryptocurrencies to investors. It is also used in the format of the 'original token offer'.

- use of artistic speech, hyperbole, linguistic means to give expressiveness in the materials of the companies.⁷⁰

Usually, if the product is realistic and believable and the company looks like a real business (and not established a day ago), then the issue of tokens may be not fraudulent. In our opinion, the ICO should be treated with the same precision as IPO.⁷¹

It is logical that the state prosecute the use of cryptocurrency for criminal purposes, tax evasion, as well as illegal connection to the electricity grids or ‘farms’ smuggling. At the same time, it seems illogical to have a generally negative attitude towards cryptocurrency, mining and financial instruments on the Blockchain technology, when the state at the same time profits from it.

4. CONCLUSIONS

The practice of using Blockchain technology in the areas of registration, storage and processing of data demonstrates its significant advantages over traditional information technologies. Blockchain provides highly effective mechanisms for protecting the integrity and availability of information and allows for the creation of fully decentralized systems. The integration of solutions based on the Blockchain technology into the e-government system allows to transform, optimize and even automatize administrative procedures in the state and municipal sectors in such areas as the registration of property rights, the functioning of registers of documents (diplomas, certificates, licenses), migration control, personal identification and other e-government services.

However, at the present stage, legal regulation is required regarding the following issues: legal status of Blockchain technologies, storage, possession, use and conduct of operations with this technology, the legal status of responsible entities for its functioning, the order of access to information in the system, the relationship between the owners of information and the system owners (between the system owner and the user), the conditions for processing information in the system, providing information security in the system.

Further expansion of the sphere of Blockchain use in the field of public relations will help to reduce the number of civil servants, eliminate corruption-causing factors, de-bureaucratize the sphere of administrative services, create a favorable investment climate for the development and maintenance of innovative technologies, and improve the dialogue between business, citizens and authorities in Ukraine.

In private legal relations there are many threats with the use of technologies of Blockchain and cryptocurrency:

1. The use of cryptocurrency as a payment element for criminal purposes (drug trafficking, etc.);
2. tax evasion;
3. the construction of fraudulent schemes and financial pyramids with the use of Blockchain technology.

⁷⁰ Mityushina (2018) link 24.

⁷¹ Initial Public Offering (IPO) is the first public sale of shares in a private company, including in the form of sales of depositary receipts for shares. Sale of shares may be carried out either by placing an additional issue of shares through an open subscription, or by public sale of shares of an existing issue by private company shareholders. The main purpose of the IPO is to obtain a so-called “constituent profit” – the profit received by the founders of joint stock companies as a difference between the amount from the sale of issued shares and capital actually invested into a joint stock company.

The position of the Government of Ukraine regarding the possibility of using these technologies is rather conservative. At the same time, the state of social relations is such that, regardless of the state's position, the development and use of Blockchain and cryptocurrency in Ukraine is increasing day by day. The overall benefit of these technologies cannot be simply ignored because of their use for illegal purposes.

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