

# Cryptocurrency Market: Problems and Development Prospects in Ukraine

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## ABSTRACT

The article investigated the history of the emergence and development of cryptocurrency, its main features, technology of use and types are considered. The bitcoin exchange rate against the US dollar has been studied in dynamics over the past 5 years and at a specific date (February 9, 2020). A rating of cryptocurrencies by price in USD and volume of capitalization according to the data at the beginning of 2020 was constructed. The main advantages and disadvantages of using cryptocurrency are highlighted. A study of the global cryptocurrency market and the features of its development in Ukraine with a separation into the primary and secondary market was carried out. It was revealed that Ukraine is among the five countries in the number of users of various Bitcoin wallets and cryptocurrency services have been available for payment since October 2015. The legislation of Ukraine in the field of cryptocurrency market regulation is considered. It is revealed that legislative acts in this sphere are at the stage of formation. Problems of development of the cryptocurrency market in Ukraine have been identified, among them the lack of a certain legal status of bitcoin and other cryptocurrencies, which is the main factor limiting their active distribution and development of the relevant infrastructure. Order to ensure reliable state control over the "gray" market, which actually operates in Ukraine, the necessary measures are proposed aimed at its legalization and regulation, in particular: amendments to the current legislation in the field of banking and money circulation, namely: Laws of Ukraine "On National Bank of Ukraine", "On Banks and Banking", "On Payment Systems and Transfer of Funds in Ukraine", etc.

**Keywords:** *cryptocurrency, blockchain technology, bitcoin, cryptocurrency market, government regulation*

## 1. INTRODUCTION

### 1.1. Cryptocurrency history

Throughout their development, money has passed several stages from the appearance, when their functions were performed by random goods, to the gradual displacement of cash from circulation. The development of new forms of money was due to the intensification and deepening of the information sphere and the information society.

The rapid development of information technology in the XXI century causes the appearance of unusual monetary symbols, namely the so-called "digital (crypto) money". The first ideas for creating cryptocurrencies began to emerge at the moment of the most revolutionary period in the world of the latest technologies, in the late 90-ies of the last century. It was then that the Internet became widespread for the first time, and computer technology became personal. At this time, the first, still blurred and unprocessed, concepts of virtual currencies appeared, the operation of which was based on cryptography - the science of methods of information encryption.

Cryptocurrency is an internet-based medium of exchange which uses cryptographic functions to conduct financial transactions. Cryptocurrencies leverage blockchain technology to gain decentralization, transparency, and immutability [1].

Firstly, cryptocurrency ideologists sought to ensure the full independence of the new currency from the state, which would guarantee the cryptocurrency transaction participants the desired anonymity and invulnerability. Despite the fact that this idea has been developing slowly, it has not been ten years since the world saw the first full-fledged cryptocurrency, called Bitcoin. It happened in 2008, when Japanese Satoshi Nakamoto (there is also a version that is not one person but a group of scientists under a pseudonym) came up with his own concept of a cryptocurrency system led by Bitcoin (BTC). The main idea of bitcoin is to create a currency that will work transparently, spread freely, and not depreciate. In the history of finance, a similar phenomenon is encountered for the first time.

The Bitcoin address looks like 1DSrfJdB2AnWaFNgsbv3MzC2m74996JafV. It consists of the rank of letters and numbers beginning with "1" (number one). There is no need to create centralized data warehouses to operate the system. Their functions are

provided by client programs that connect to the chain and form a self-sufficient node. Bitcoin is public and anonymous at the same time.

All agreements between users do not require intermediation, although this option is available, transactions are irreversible [20]. According to the data, as of February 9, 2020, the value of one bitcoin exceeded 10,000USD [8]. The dynamics of the Bitcoin exchange rate against the US dollar from 2015 to the beginning of 2020 can be seen in Fig. 1. However, the price of this cryptocurrency, like many others, does not differ in constancy.



Figure 1 BTC exchange rate graph against the USD for 2015-2020

Cryptocurrencies are transferred using blockchain technology (Fig. 2), according to which each transaction must be confirmed by at least five other clients of the system [9]. Confirmation happens for a small fee.

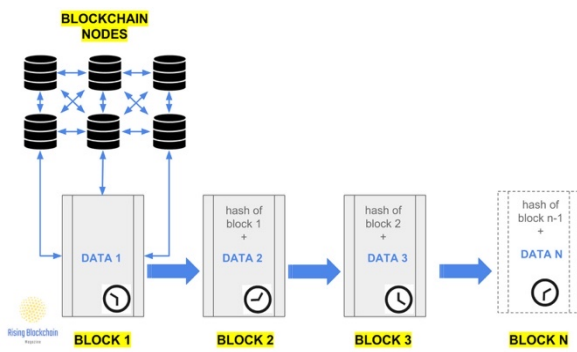


Figure 2 Blockchain technology work scheme [9]

Through blockchain, you can track all transactions of any wallet with others, that is, track the movement of money. But it is very difficult to track the owner's connection with the wallet, which determines the high anonymity of cryptocurrencies. Blockchain technology also provides complete decentralization of data storage, since the common transaction database is shared across all nodes in

the system. This ensures high security of information from external influences and force majeure.

There are two ways to get cryptocurrency - to buy it with cash or to earn it online yourself. In order to acquire new coins or to mine Bitcoin, you need to provide your computer with computing power for complex calculations taken as a base in cryptocurrency systems. In a simplified way, the essence of a miner's job is to search out millions of possible combinations of one single correct code, called a hash, and get rewards [17]. Also, mining requires special software, which can usually be obtained from official cryptocurrency websites or from other open sources [18].

## 1.2. Types of Cryptocurrencies

The list of all cryptocurrencies is not limited to bitcoin, although it is the most popular cryptocurrency in the world and has the most developed network infrastructure. Given that the first cryptocurrency is open source, it was started to be used to create alternative currency. In the 5 years since the birth of bitcoin, more than 2000 varieties of cryptocurrencies have appeared on the market. Most of them, despite the flashy names, are just fork.

The Namecoin (NMC). The basis for the creation of such currencies was the Bitcoin code. In the cryptocurrency system, Namecoin became one of the first forks. NMC was released in April 2011 based on the bitcoin code, which has undergone minor changes. The maximum coin limit is 21 million units. The NMC price demonstrates relative stability at 30-50 cents for one Namecoin. The exception was July 2014, when the price of NMC e-cash jumped to 10 USD.

The blocks are calculated using standard mining equipment. The use of Merged Mining technology allows the miner to produce both BTC and NMC at the same time without reducing the efficiency of the calculations.

Litecoin (LTC). This type of cryptocurrency is created without centralized administration and is also a bitcoin fork. By volume of capitalization, LTC is consistently among the top ten cryptocurrency currencies. In the early years of its existence, Litecoin code was virtually indistinguishable from Bitcoin, except that the SHA-256 encryption algorithm was replaced with Scrypt, which initially allowed cryptocurrency to be "ASICstate" and miners to use central and GPUs to participate in mining. It also quadrupled emissions (up to LTC 84 million) and reduced the time to create a new unit (up to 2.5 minutes). This made Litecoin blockchain faster. Therefore, given the large size of capitalization in the cryptocurrency rating, Litecoin always takes the leading places.

Ethereum (ETH) is a blockchain-based open source platform that allows developers to create and deploy decentralized applications. The main advantage of Ethereum over Bitcoin is that the former provides support for various types of decentralized applications.

Ethereum ranks second after bitcoin in terms of market capitalization. For example, over the past year alone, the value of the Ethereum platform has increased by 230%.

Bitcoin transaction data does not just give you the right to own coins. For example, a recent change allows you to send blocked coins over a period of time. The set of possible instructions is known as the Bitcoin scripting language, and it is deliberately limited to processing transactions.

The first novelty of Ethereum was the extension of this set of instructions in a full-featured programming language such as JavaScript, similar to the Ethereum programming language [21, 22].

Cryptocurrency rating you can see in the Table 1. The total capitalization of the cryptocurrency market now is the 274.75 billion USD [8]. The Bitcoin rate for January 25, 2020 is 10093,01 USD / BTC. Ethereum - 229.61 USD / ETH. Bitcoin Cash - 455.04 USD / BCH. Litecoin - 77.74 USD / LTC.

**Table 1 Cryptocurrency rating as of January 25, 2020**

R	Cryptocurrency	Price, USD	Market capitalization, USD	24 hours, %	7 days, %
1	Bitcoin	10 093.01	183 771 400 806	3.32	7.86
2	Ethereum	229.61	25 171 236 467	3.23	23.17
3	XRP	0.28	12 402 825 628	2.51	15.95
4	Bitcoin Cash	455.04	8 313 125 273	1.92	20.05
5	Bitcoin SV	360.43	6 583 703 083	7.81	28.91
6	Litecoin	77.74	4 978 537 554	3.78	10.2
7	EOS	4.99	4 748 197 087	5.78	18.94
8	Tether	1.00	4 658 715 011	0.32	0.24
9	Binance Coin	23.07	3 588 179 781	5.3	26.28
10	Tezos	2.42	1 676 566 194	14.44	40.1

### ***1.3. Basic properties, advantages and disadvantages of cryptocurrency***

Cryptocurrency is not provided with gold and other precious metals and is not dependent on the country's GDP but has a limited amount of emission. For example, the maximum amount of Bitcoin should not exceed 21 million. As of early 2020, most of this cryptocurrency has already been generated.

The cost of cryptocurrencies is determined by the need for people to exchange them for other goods. And based on the theory of the value of money in time, cryptocurrency is also inherent to increase its value due to various factors over time.

On the basis of the analysis [1-3; 9-10; 17; 26] the following key features of the cryptocurrency were identified:

- 1) exchange for goods or services;
- 2) exchange for classic currency;

- 3) payment for goods and services;
- 4) the minimum level of theft;
- 5) payments, fast and direct transactions;
- 6) investment asset;
- 7) cryptocurrency business development.

The popularity of cryptocurrencies can be explained by the following advantages of their use [10]:

- high prevalence. It's easy to start a cryptocurrency using any computer or smartphone;
- the ability of users to make payments on their own by verifying their authenticity with a cryptographic signature;
- accessibility. The transfer fee is not fixed and market-determined. Today it is less than 1 USD;
- simplicity and openness of operations. The complete history of incoming and outgoing transactions is stored without time limits;
- each node in the cryptocurrency generation system is equal. There is no single center, and this eliminates the possibility of blocking wallets, canceling and controlling payments;
- Bitcoin and other virtual currencies ensure transaction anonymity because email addresses do not contain information about their owners;
- cryptocurrency owners are not tied to any geographical point or country. Despite pegging the course to ordinary money, digital money has value in itself.

But there are a number of disadvantages:

- data security. If you lose the password from your wallet or steal it, all your crypto assets will be lost permanently;
- high volatility. By changing the cryptocurrency exchange rate, you can both earn and get losses. Often, fluctuations in the exchange rate are high, and the safety of funds depends on the chosen strategy: to make a profit on the difference in exchange rate for short periods of time or to accumulate, expecting long-term growth;
- risks of state regulation. Central banks of all countries without exception strive to control the money supply, therefore it is possible to introduce laws that restrict or completely prohibit the use of cryptocurrencies;
- a folding process is included in the system, which is based on the knowledge of the necessary knowledge, the technical skills of a significant part of the population.

Nevertheless, cryptocurrencies remain a popular investment tool because of the possibility of large earnings - primarily because of the rapid change in the rate.

### ***1.4. Our Contribution***

The history of the emergence of cryptocurrency and the development of this market in Ukraine was investigated. Using the methods of comparison and grouping, the main advantages and disadvantages of using cryptocurrencies were identified. Using the graphical method, the dynamics of the bitcoin exchange rate relative to the dollar and the

hryvnia over a period of years is presented. Using the analysis and synthesis methods, the cryptocurrency market is assessed, the legislation in this area is analyzed and identified problems for the development of the cryptocurrency market in Ukraine. A number of measures are proposed for the regulation and development of the cryptocurrency market in Ukraine.

### **1.5. Paper Structure**

The rest of the test is organized as follows. Section 2.1 contains an analysis of the cryptocurrency market in the world and the features of its functioning in Ukraine, considers the primary and secondary cryptocurrencies market. Section 2.2 analyzes the current legislation in the field of cryptocurrency regulation in Ukraine, and the main problems and long-term prospects for its development are formed.

Finally, Section 3 concludes and presents a direction for future research.

## **2. RESULTS**

### **2.1. Cryptocurrency Market Development in Ukraine**

According to scientists, the market is an economic mechanism through which the interests of sellers and buyers are harmonized. Issuers, miners, exchanges and exchangers are the sellers of the cryptocurrency market.

The cryptocurrency market is advantageous for large companies, because the possession of significant capital in different countries of the world, which is not pegged to local currencies, causes the interest of the virtual money market [12].

The cryptocurrency generation market during 2018 has been split as follows: China - 60%, USA and Canada - 16%, Georgia - 6%, Europe - 5%, Iceland - 4%, India - 3%, Russia - 2%, Australia - 2%, South America - 2%. Digital exchange of cryptocurrencies is carried out on such global exchanges as Bitfinex, Poloniex, Kraken, Shapeshift, Changelly, CHBTC, Bitsquare, Bittrex, BitMEX, BTER, Yobit, CoinExchange, LiteBit, Btc Markets, etc. [13].

The status of the cryptocurrency in Ukraine, notably the bitcoin, NBU was clarified in 2014. It was basically as follows [11]:

- hryvnia is the only legal tender in Ukraine, one of the functions of the NBU is the monopoly on the issue of national currency issues and the organization of monetary circulation;
- the issuance and circulation of other monetary units in the territory of Ukraine and the use of money surrogates as a means of payment are prohibited;
- the NBU views Bitcoin's "virtual currency / cryptocurrency" as a monetary surrogate that has no real value and cannot be used by individuals and legal entities

in Ukraine as a means of payment, as it is contrary to the current legislation;

- when using "virtual currency / cryptocurrency", Bitcoin is an increased risk factor associated with this service, transaction or supply channel, including the anonymity and decentralization of the transaction;

- the international distribution of such payments makes this category of services attractive for illegal activities, including money laundering or terrorist financing;

- all risks for use in "virtual currency / cryptocurrency" calculations Bitcoin is borne by the participant in their calculations; the NBU, as a regulator, is not responsible for the possible risks and losses.

However, despite the clear position of the NBU and the negative feedback on the system, it is not worth denying Bitcoin's international experience and development in the practice of international currency payments. Just as one should not abandon the use of electronic money because of its potential threat [5].

Of course, the use of cryptocurrencies in Ukraine has not reached the level of the United States, Western Europe or Southeast Asia.

However, despite the fact that the general public still knows little about cryptocurrencies, including Bitcoin, today Ukraine is among the top 5 countries in terms of the number of users of different Bitcoin wallets. The fact is that Bitcoin is very popular with Ukrainian IT professionals, who are very active in investing real money in virtual currency [14].

Cryptocurrency services have been available for payment since October 2015. BTC exchange rate against the UAH for 2013- January 2020 you can see in the table 2. 2016 saw the highest number of searches with the word Bitcoin were received from Kharkov, in the second place - Dnipro, in the third - Lviv, in the fourth - Odesa. Kyiv closes five cities.

Since December 2017, the Ukrainian Stock Exchange has started trading futures contracts on the Bitcoin index. The contract specification is registered in NCSSMC. It is actually the first regulated market in the world to offer Bitcoin futures.

The cryptocurrency market can be divided into primary and secondary. Cryptocurrency mining is taking place in the primary market. In March 2018, the CMU instructed to supplement the Classifier of Economic Activities with a clause on mining as an activity to support the functioning of a distributed database, ensure their integrity, consistency and consistency by performing computing operations with electronic computers [15]. There is also a formulation of mining as a service to support and ensure the functioning of distributed data registers, including for the inclusion in NACE 63.11. using blockchain technology, data processing and start-up contracts in distributed blockchain registers [16]. However, the process is not yet complete.

In the secondary cryptocurrency market, there are transactions in buying, selling, exchanging or converting cryptocurrencies. There are exchanges in Ukraine: KUNA, Exmo, BTC TRADE UA. Exmo trades in USD, Euro, Russian Rubles and Polish Zloty, KUNA and BTC

TRADE UA offer UAH transactions. With regard to the activities of exchangers, the most popular for exchange are the cryptocurrencies Bitcoin, Ethereum and Litecoin [25]. Activity in the unregulated, spontaneous market, associated with significant risks, such as loss of money due to the cybers attacks, fraudulent intermediaries, fraud, lack of investment guarantees, high degree of volatility of the crypto currency market, lack of state regulation, lack of state regulation.

Today, participants in both the primary and secondary cryptocurrency markets seek to get out of the shadow

processes, that is, they need to be legalized, and in the absence of regulation they see the impediment of development. Domestic regulators are trying to resolve the legal status of cryptocurrencies and regulate transactions with them, based on the individual actions of regulators in other countries. However, world practice clearly illustrates that the process of legislative regulation of cryptocurrency is quite difficult to implement.

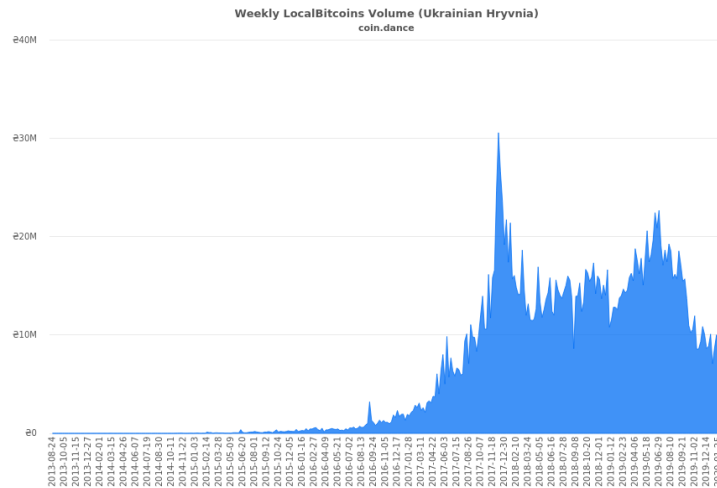


Figure 3 BTC exchange rate graph against the UAH for 2013- January 2020

## 2.2. Legislative Regulation of the Crypto currency Market in Ukraine

Today in Ukraine, as noted above, there is legal uncertainty regarding activities related to virtual currencies (cryptocurrencies), including their legal status, taxation of transactions with them, the possibility of entering into smart contracts (contract concluded through special computer algorithm and its execution is carried out in automatic mode).

As a result, the virtual currency market is developing “in the shadow” to a large extent, which leads to negative consequences for all stakeholders: lack of proper protection of the rights and interests of cryptocurrency consumers, difficulties of participants of the virtual currency market in matters of legal classification of their activity, use of banking services foreign investments, holding ICO / ITO as Ukrainian companies. The state, in turn, is underreporting taxes and foreign exchange earnings. It is unable to monitor financially in this area because of the lack of statistical information. As a result, foreign investment and opportunities to create new high-paying jobs are lost [6].

The need to regulate the legal status of cryptocurrency, which is very relevant today, which can be explained by the impossibility of a complete ban on this market.

According to experts, the most effective model of regulation is the integration, "embedding" of cryptocurrency in the current legislation of Ukraine [2].

The main legislative and regulatory acts in force in the field of cryptocurrency and blockchain technology are the Constitution of Ukraine (Article 99), the Civil Code of Ukraine (Article 192), the Economic Code of Ukraine, the Tax Code of Ukraine, the Law of Ukraine "On Information", regulations of the National Bank of Ukraine and other laws of Ukraine.

In 2017, two bills on the regulation of cryptocurrencies on the territory of the country were submitted to the Verkhovna Rada of Ukraine, namely “On the Circulation of Cryptocurrencies in Ukraine” and “On Stimulation of the Cryptocurrency Market and Their Derivatives in Ukraine”. The positive point is that Ukrainian lawmakers do not prohibit cryptocurrency, but both projects are significantly different from each other [3]. The main provisions of the bills are shown in Table 2.

However, these bills were rejected. The reason for the refusal was that, in the opinion of the regulator, the draft laws in some points require further elaboration [3]:

1) The use of the term "cryptocurrency" in legislation is unjustified, since the term actually mentioned is the result of financial engineering and is not a currency, and therefore the use of the term "cryptocurrency" is more appropriate.

2) It should be noted that the legal status of cryptocurrencies in developed countries varies, usually

cryptocurrency is seen as a financial instrument, an investment asset, and rarely a commodity. This is the definition we consider most appropriate.

3) We consider strict regulation proposed by the bills inappropriate, because at the present stage (global uncertainty regarding the regulation of the cryptocurrency

market), the regulation should be based on principles and consist in the introduction of a general legal legalization by the financial regulator of a specific cryptocurrency, given the nature and number of parties, carried out, accounting systems.

**Table 2 The basic provisions of the bills: governing the cryptocurrency market in Ukraine**

The name of the bill	Basic provisions
<p>“About cryptocurrency circulation in Ukraine” dated October 6, 2017, No 7183 [4]</p>	<ol style="list-style-type: none"> <li>1) Cryptocurrency is an exchange subject to which the general provisions of the exchange agreement apply. Public administration in the field of cryptocurrency management is carried out by the NBU. The NBU regulates the activity of cryptocurrency exchanges through which all operations should be conducted. The cryptocurrency is obliged to monitor all transactions, identify and personalize the cryptocurrency entity in accordance with the procedure established by the NBU. Individuals, in particular, have the right to own and mine cryptocurrencies. Both own and leased facilities can be used for mining. Hired cryptocurrency is taxable (size is not specified).</li> <li>2) Income received by the cryptocurrency exchange from transactions performed is taxable.</li> <li>3) Common rules apply to cryptocurrency as private property rights. The miner may dispose of it at its discretion, namely to change to other cryptocurrency, electronic money, securities, currency values, goods and services.</li> <li>4) Cryptocurrency cannot be used against the bases of national security of Ukraine, for calls for the overthrow of the constitutional order, violation of the territorial integrity of Ukraine, committing terrorist acts, financing of terrorism, legalization (laundering) of proceeds from crime, drug trafficking, their psychotropic substances. or precursors and other unlawful acts.</li> <li>5) Data on cryptocurrency transactions are stored in the blockchain system and are open. The cryptocurrency entity undertakes to keep records of all transactions for 5 years</li> </ol>
<p>“On stimulating the market cryptocurrency and their derivatives in Ukraine” dated October 10, 2017, No 7183-1 [5]</p>	<ol style="list-style-type: none"> <li>1) Cryptocurrency is considered a financial asset.</li> <li>2) Cryptocurrency is a legal entity having the status of a financial institution and providing all kinds of financial services in the cryptocurrency market. Only a legal entity or self employed can be involved in mining.</li> <li>3) Regulate the cryptocurrency market will be a regulator, that is, a specially created body for this purpose.</li> <li>4) The regulator will be in charge of issuing licenses for cryptocurrency and cryptocurrency transactions, ensuring control over their activities; prohibit or suspend the activities of financial institutions providing services in the cryptocurrency market; establish rules and standards for service delivery, prudential supervision of financial institutions, etc.</li> <li>5) The state encourages the activity of the miner and the development of the cryptocurrency market, in particular by financially supporting innovative projects in the field of mining, regulating electricity prices (preferential tariffs at night), preferential taxation and other forms in accordance with the legislation of Ukraine on innovative activity.</li> <li>6) Only a legal entity with a minimum authorized capital of UAH 5 million (exclusively cash, not borrowed, the origin of which can be proven) at the time of obtaining the license may be a cryptocurrency. At least 51% of the authorized capital must belong to the citizens of Ukraine, and the participants of the cryptocurrency may also include state and local self-government bodies, non-profit organizations and non-residents of Ukraine.</li> <li>7) The financial institution providing services in the cryptocurrency market must have a site in the top-level domain zone "ua", the name must match the registered trademark in the territory of Ukraine.</li> <li>8) Anonymous cryptocurrency accounts are prohibited.</li> <li>9) Cryptocurrency transactions can be carried out only through cryptocurrencies and cryptocurrency exchange points. They need to pay a pension insurance fee.</li> <li>10) Mining with the full or partial use of computing and other means belonging to third parties without the consent of third parties is prohibited.</li> </ol>

On October 18, 2019, the Law of Ukraine "On Amending Certain Legislative Acts of Ukraine Regarding Ensuring the Effectiveness of the Institutional Mechanism for the Prevention of Corruption" No. 140-IX came into a force. It makes amendments to the Law of Ukraine "On the Prevention of Corruption" and establishes the need to declare cryptocurrency as an intangible asset.

The corresponding norm entered into force on January 1, 2020. According to the law on corruption, when declaring intangible assets (and therefore cryptocurrencies), the declaration must include data on the type and characteristics of such assets, the value of the assets at the time the right of ownership arose, as well as the date the right to them arose. If the investor uses the services of a professional intermediary, including a bank, then such a professional trader is the tax agent of the tax payer.

However, this will not solve the issue of replenishing the state treasury from taxes on income derived from cryptocurrency transactions. According to Anatoly Zadniproian (a lawyer of the law company Borisenko& Partners) there are several options for taxation:

1. For individuals. According to the Tax Code, cryptocurrency can be considered an intangible asset. When selling cryptocurrency, an individual must pay income tax on individuals at a rate of 18% and a military fee of 1.5%. Since there is no specific taxation procedure, the entire amount received will be taxed without deducting the cost of acquiring a cryptocurrency.

2. For legal entities: In the case of the purchase of cryptocurrency by an enterprise, income may be taxed at a rate of 18%. In this case, the taxpayer will have a number of problems. Firstly, the primary documents confirming the purchase and sale of cryptocurrency have not been determined. Secondly, it is not clear whether this intangible asset is subject to depreciation, which is important for enterprise accounting. As a result, it can be

### 3. CONCLUSION

The study found that the cryptocurrency market in Ukraine is growing. Bitcoin and other cryptocurrencies do not yet have a defined legal status, which is a major factor limiting their active proliferation and development of relevant infrastructure. Although some steps have already been taken in this direction. Therefore, the main problem of development of both primary and secondary cryptocurrency market is the lack of proper state regulation. In order to ensure reliable state control over the "gray" market, which actually operates in Ukraine, the necessary measures are aimed at its legalization and regulation, in particular: at the Verkhovna Rada of Ukraine level - to amend the current legislation in the sphere of banking and monetary circulation, namely: Laws of Ukraine "On the National Bank of Ukraine", "On Banks and Banking", "On Payment Systems and Funds Transfer in Ukraine", etc.

difficult for a taxpayer to explain to fiscals what he spent the money on.

According to the Cabinet resolution # 856 adopted by the Cabinet, the Ministry of Digital Transformation is responsible for shaping and implementing state policy in the IT industry. One of the main tasks of the Ministry is the implementation of blockchain technology, its use in public administration and development of virtual assets. The Ministry is already working on an appropriate program.

Thus, in the next 2-3 years in Ukraine it is planned:

- introduce blockchain technology to state registers;
- legalize Mining and involve Ukraine in international cryptocurrency exchanges;
- to create a model of taxation in this area and to introduce the appropriate terminology in the Ukrainian legislation;
- to implement, by summer 2020, the recommendations of the International Anti-Money Laundering Group into Ukrainian law, and at the same time prevent the abuse of virtual assets in the market.

The main purpose of all these activities is to make Ukraine competitive in the global virtual assets market and to attract foreign companies and investors.

One of the Ministry's steps in this direction is the signing of a Memorandum of Understanding (MOU) between the Ministry of Digital Transformation and Binance International Company on November 6, 2019 and an agreement to work together to create a comfortable environment for the crypto industry in Ukraine[27]. As a result, the world's largest cryptocurrency exchange Binance opened an account with the Ukrainian IBOX BANK in January 2020 and, accordingly, will pay taxes on operations with crypto assets in Ukraine, and Ukrainians will be able to freely buy and sell virtual assets.

So, creating a proper economic-legal mechanism for regulating cryptocurrency circulation and activities of cryptocurrency's market will be the key to successful integration of Ukrainian economy in the international innovation ecosystem.

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