



UDC: 336.743



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Current trends, concerns and peculiarities of the turnover of cryptocurrency

Abstract. Sponsorship of international terrorism and transnational criminal activity poses a significant threat to the financial system, and due to the rapid expansion of payment opportunities in the Internet, risks have increased significantly, which requires a study of foreign legal experience and the development of a law enforcement strategy to control the circulation of the cryptocurrency.

The authors have come to the following conclusions. The use of cryptocurrencies is a promising way to maintain economic development by applying modern accounting and information technologies. International experience clearly demonstrates the importance and role of cryptocurrencies in the activities of transnational criminal groups relating to the financing of terrorism and human trafficking. In the context of globalisation and implementation of the European integration in Ukraine, the turnover of cryptocurrencies needs to be regulated at the legislative level. Thus, it is necessary to accelerate the approval of the Draft Law «On the turnover of cryptocurrency in Ukraine» No. 7183 as of 06 October 2017. It is advisable to introduce a system of registration (licencing) of crypto-currency exchange and exchangers at the national level. At the same time, it is necessary to impose an obligation on cryptoexchangers to collect information about customers. Also, it is necessary to regulate activities of companies that sell goods and services to customers for cryptocurrency, as it is accepted by PayPal, Braintree and other payment systems.

Keywords: Electronic Money; Cryptocurrency; Virtual Currency; Bitcoin; Miners

JEL Classification: F30; K30; O10

DOI: <https://doi.org/10.21003/ea.V168-14>

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Сучасні тенденції, проблемні питання та особливості обігу криптовалюти

Анотація. Спонсорство міжнародного тероризму та транснаціональної злочинної діяльності складають суттєву загрозу фінансовій системі, а внаслідок стрімкого розширення платіжних можливостей у мережі Інтернет пов'язані із цим ризики істотно збільшилися, у зв'язку з чим необхідним є вивчення зарубіжного правового досвіду та розробка стратегії правоохоронної діяльності для забезпечення контролю за обігом криптовалюти. В результаті здійсненого дослідження автори дійшли до таких висновків:

1. Використання криптовалюти є перспективним кроком економічного розвитку з застосуванням сучасних розрахункових та інформаційних технологій. Специфічною особливістю обігу біткоїна є відсутність посередників (третьох осіб) – користувачі взаємодіють безпосередньо між собою, що гарантує інвесторам феноменальне зростання прибутків.

2. Вивчений міжнародний досвід наглядно демонструє значення та ролі криптовалюти в діяльності транснаціональних злочинних угруповань для фінансування тероризму й торгівлі людьми.

3. В умовах глобалізації та реалізації курсу євроінтеграції обіг криптовалюти в Україні потребує врегулювання на законодавчому рівні, у зв'язку з чим необхідним є прискорення схвалення законопроекту «Про обіг криптовалюти в Україні» № 7183 від 06.10.2017.

4. В Україні майнери активно використовують криптовалюти як платіжний засіб. Вони проводять обмінні операції на електронні гроші офіційних платіжних систем, а отриману «валюту» конвертують і переказують на банківські рахунки підприємств із ознаками фіктивності. Потім ця валюта перераховується на карткові рахунки, стаючи готівкою, а отже, використовується тіньова схема за аналогією конвертаційних центрів.

Ключові слова: електронні гроші; криптовалюта; віртуальна валюта; Bitcoin; майнери.

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Современные тенденции, проблемные вопросы и особенности обращения криптовалют

Аннотация. Спонсорство международного терроризма и транснациональной преступной деятельности составляют существенную угрозу финансовой системе, а вследствие стремительного расширения платежных возможностей в сети Интернет сопутствующие риски существенно увеличились, в связи, с чем необходимы изучение зарубежного правового опыта и разработка стратегии правоохранительной деятельности для обеспечения контроля над оборотом криптовалют. В результате проведенного исследования авторы пришли к следующим выводам:

1. Использование криптовалют является перспективным шагом экономического развития с применением современных расчетных и информационных технологий. Специфической особенностью обращения биткоина является отсутствие посредников (третьих лиц) - пользователи взаимодействуют непосредственно между собой, что гарантирует инвесторам феноменальный рост доходов.
2. Изученный международный опыт наглядно демонстрирует значение и роль криптовалют в деятельности транснациональных преступных группировок для финансирования терроризма и торговли людьми.
3. В условиях глобализации и реализации курса евроинтеграции оборот криптовалют в Украине нуждается в урегулировании на законодательном уровне, в связи с чем необходимо ускорение принятия законопроекта «Об обращении криптовалют в Украине» № 7183 от 06.10.2017.
4. В Украине майнеры активно используют криптовалюты в качестве платежного средства. Они проводят обменные операции на электронные деньги официальных платежных систем, а полученную «валюту» конвертируют и переводят на банковские счета предприятий с признаками фиктивности. Затем эта валюта перечисляется на карточные счета, становясь наличными, а следовательно, используется теневая схема по аналогии конвертационных центров.

Ключевые слова: электронные деньги; криптовалюта; виртуальная валюта; Bitcoin; майнеры.

1. Introduction

Current changes are leading to the emergence of new definitions in the 21st century. Financial systems of individual countries are being improved in the context of the development of IT technologies and the general computerisation of the economy. There appear new financial institutions, tools and forms of interaction between people. This has led to analog currencies, which is cryptocurrency. Today, there exist about 1,600 types of cryptocurrency (Bitcoin, Litecoin, Ethereum, Peercoin), but the best known is Bitcoin due to its rapid development.

A cryptocurrency (or virtual currency) is a digital resource intended for work as an exchange tool that uses cryptography to secure its transactions, control the creation of additional units, and test the transfer of assets [1]. The functioning of the system is decentralised in a distributed computer network [2].

An economic nature of cryptocurrencies is actively explored by world scientists. Special attention should be paid to Matthew Ponsford's article «Comparative analysis of Bitcoin and other decentralized virtual currencies: legal regulation in the People's Republic of Korea, Canada and the United States» [3], in which the author considers diametrically opposed approaches to the circulation and regulation of cryptocurrencies. A group of Polish scholars conducted a study called «Fluctuations in prices and the use of Bitcoin», which clearly highlighted all the functionalities of the new form of money, their features and price formation [4].

2. Brief Literature Review

The problems of circulation of cryptocurrencies were investigated by domestic scientists, in particular S. V. Vasilchak, M. V. Kynytska-Iliash, M. P. Dubina, S. V. Shapochka, A. V. Koldovskiy, K. V. Chernega, E. Y. Molchanova, Y. M. Solodkovskiy and others. At the same time, the issues of economic analysis of the use of cryptocurrencies by criminal groups with the purpose of legalisation (laundering) of funds and other property obtained by criminal means, as well as the use of electronic payments in human trafficking and drugtrafficking has not yet been sufficiently highlighted.

3. The purpose of the article is to disclose the economic essence of cryptocurrencies, to consider the legal foreign experience of the cryptocurrency turnover and to formulate theoretical provisions regarding the consideration of some issues of the use of cryptocurrencies by transnational criminal groups, using the example of Bitcoin, as well as ways to minimise the corresponding negative consequences for Ukraine.

4. Results

Bitcoin first appeared in 2009 and became a decentralised convertible currency and the first cryptocurrency [5]. Decentralised virtual currencies are distributed, based on mathematical principles, convertible virtual currencies with a source code, the use of which does not involve the presence of a «trusted third party» for verifying operations and maintaining (reconciling) the registry of operations. Bitcoin became the first cryptographic protocol for cryptocurrency, creating the world first payment mechanism in a decentralised virtual currency [6].

On 1 September 2017, the world market volume of cryptocurrency exceeded 160 billion dollars. On 1 August 2017, due to the discrepancies in software, Bitcoin was split into two separate currencies: Bitcoin (Original) and Bitcoin Cash [7]. H. Kalstrom from the Norwegian University of Science and Technology defines the following common features of the Bitcoin:

- 1) control over the money supply is carried out with the help of open algorithm and does not depend on the monetary policy of the central bank;
- 2) verification of all transactions is decentralised and public;
- 3) electronic wallet is not directly related to identifying information about their owners (users are completely anonymous) [8].

On 22 October 2015, Court of Justice of the European Union (CJEU) made Bitcoin free from tax, which, in fact, was a recognition of the fact that Bitcoin is a full monetary unit. The relevant decision was made in the case of «Skatteverket vs. David Hedqvist (C-264/14)». The court clarified that cases of purchasing the virtual cryptocurrencies should be governed by the European Union VAT Directive (VAT Directive), which provides for taxation exemption of transactions involving currency, banknotes and coins used as a legal tender in payment. In other words, the European jurisprudence essentially equated Bitcoin to a legal means of payment and the exchange of money on Bitcoin to «currency exchange transaction».

At the current stage of the world economy development, the use of cryptographic funds as a means of payment is significantly expanding. For instance, the UK with its over 30 Bitcoin ATMs is the most progressive country on the use of the cryptocurrency. Denmark has openly stated its desire to eliminate paper money as quickly as possible, so cashless payments and the digital currency in this country are fairly widespread.

The German Ministry of Finance officially recognised Bitcoin as a financial instrument and made appropriate changes to the Banking Code. Finland considers Bitcoin not as a «currency» but as a «tradable commodity». Estonia refuses to work with Bitcoin, so does the largest Scandinavian «SEB Bank». In the USA, Bitcoin is seen as a means of payment in electronic commerce. In Vienna (Austria) the world's first «Bitcoin bank» which specialises in the purchase and sale of the cryptocurrency was opened in Vienna (Austria). There are special ATMs that allow exchange of Bitcoin to the euro and vice versa in this bank. Japan has adopted a law according to which, from April 2017, Bitcoin and other cryptocurrencies have been considered as legal means of payment. In November 2017, the Office of Financial Control and Supervision in New Zealand equated operations with digital currencies to operations with the securities. In Australia, a law that regulates the activities of swap criminals has come into force.

Thus, cryptocurrencies have become a complete payment instrument and an investment asset in most countries of the world. The interest in using cryptocurrencies contributes to the investment attractiveness of payment infrastructures. However, Bitcoin and other digital currencies are adapted for use by organised criminal groups, since they are widely used in the international circulation and provide the necessary level of anonymity.

It is possible to define two main trends in using a cryptocurrency for criminal purposes: its use as an instrument of criminal offence (use of virtual currency in the Darknet or the so called «dark» Internet as a monetary means in the purchase of weapons, drugs, legalisation of criminal incomes, etc., and consideration of a cryptocurrency as an object of criminal offences (embezzlement of cryptocurrencies from accounts, internet fraud, etc.).

The spread of virtual currencies favours the emergence of an increasing number of independent criminal entrepreneurs working on the principle of criminal provision of services, without any need to resort to complex criminal infrastructure.

A striking example of using a cryptocurrency as an instrument for committing crimes is the activity of illegal cryptomarkets. The analytical report of Europol as of 30 September 2015 known as «Evaluation of the threat of organized Internet crimes» reviews the activity of Silk Road, Silk Road 2.0, Evolution, etc., with the annual income of each exceeding USD 20 million. The Report also notes that currently the daily turnover of markets using virtual currency is from USD 300,000 to USD 500,000.

As an example, we can cite the operation of law enforcement agencies to combat the use of cryptocurrencies in the criminal activities of the organisation «Operation Shrouded Horizon». The investigation led by the US authorities united 20 countries, including Australia, Canada, Cyprus, Nigeria and the United Kingdom, and led to the arrest of 300 people. With the Tor network, criminals created a Darkode forum, popular among people interested in sale, purchase and exchange of malware, botnets, identity thefts, bank card numbers, information from hacked servers and other data. Soon after the series of arrests, Darkode started again using the so called «Blockchain» to confirm the identity of participants and the virtual currency for calculations, which made it much more difficult to identify and investigate crimes.

As the researches have shown, three models of the use of cryptocurrencies aimed at legalising income obtained by criminal means and terrorism financing are possible.

- Scheme 1. The proceeds of crime are exchanged at stock exchanges; funds are received by a credit union; later they are transferred to offshore accounts.
- Scheme 2. A cryptocurrency is obtained as a result of illegal network trade and exchanged at commodity exchanges. Further, it is transferred to prepaid cards with a prepayment with a possibility to be withdrawn at ATMs.
- Scheme 3. An E-wallet is used, which enables an unfamiliar person to transfer virtual money, then an equal number of Bitcoins is returned to the sender. The connection between the delinquent and criminal money is thus broken. However, it would be a mistake to believe that such schemes are

applicable only to cryptocurrencies. In 40% of cases, they are used in traditional non-cash transfers.

Summing up, it should be noted that control over the turnover of cryptocurrencies does not meet the hidden threats and the scale of their spread and introduction into all spheres of public life. The state needs systemic control over the turnover of virtual currencies, supported by fundamental scientific research, close interaction in the international arena and improvement of the legal basis regulating this sphere of life. According to Interpol and Europol, the popularity of Bitcoin and other cryptocurrencies among criminals is rapidly growing, and in a few years it will be recognised as the main payment instrument in the criminal world. The specificity of the virtual currency makes it popular in the Internet environment, however it significantly reduces its criminogenic potential in the transfer system «from hand to hand», namely among those individuals who want to launder illicit proceeds and sponsor terrorism.

In order to prevent any forms of terrorist financing by using cryptocurrency, American law enforcement agencies interact with specialised Bitcoin companies in order to detect an illicit activity on blockchain platforms. According to the Australian Government, Bitcoins promote organised crime, as they are widely used in online casinos and potentially can be used for human trafficking [6]. However, the report by the National Treasury of the United Kingdom «National Risk Assessment of Money Laundering and Terrorist Financing 2017 (NRA)» as of 26 October 2017 defines that the financing of terrorism through cryptocurrencies is limited by the lack of widespread use of digital assets. Therefore, in the future, the scholars predict there will not be a problem of large-scale using of cryptocurrencies for the purpose of terrorist financing [11].

In June 2017, law enforcement officers in Ukraine eliminated an international scheme of cybercrime and laundering of illicit proceedings with the use of cryptocurrency. The participants of the organised criminal group recruited impoverished inhabitants of Poltava region and sent them to work in Moscow (the Russian Federation), where they followed instructions from criminals to receive cash and distribute Bitcoins in the territory of the Russian Federation. Thus, the legalisation of various cryptocurrencies was carried out through the transfer of US dollars or Russian rubles. Later, the funds obtained from such an activity were redirected to Poltava, where they were distributed among the members of the criminal group [12].

In August 2017, the Security Service of Ukraine jointly with the National Police of Ukraine conducted a special operation, according to which 200 computers generating Bitcoin and violating the current legislation were discovered on the territory of the recreation complex of the Paton Electric Welding Institute of the National Academy of Sciences of Ukraine. The cryptocurrency was used as means of payment through exchange transactions for electronic money of an official payment system [13].

Issues relating the circulation of cryptocurrencies in Ukraine have been repeatedly raised at the national level. On 10 November 2014, on the website of the National Bank of Ukraine (NBU) there appeared an explanation concerning the legality of using the virtual currency/cryptocurrency Bitcoin in Ukraine [14]. Thus, according to the NBU's definition, the virtual currency Bitcoin is a monetary surrogate that is not provided with real value and cannot be used by individuals and legal entities on the territory of Ukraine as a means of payment, as this contradicts the norms of Ukrainian legislation.

According to the results of the meeting of the High Council of Experts under the NBU Council in October 2017, it is emphasised that the state bodies with the powers of control and regulation of financial markets have not yet decided on the framework for the functioning of the cryptocurrency market [15]. As a result, recommendations were formulated to minimise potential risks relating to a possible decrease in confidence in the national monetary unit, which is the only legal means of payment in Ukraine and the probability of using cryptocurrency in the shadow economy.

Given the relevance of this issue in our country, a Draft Law «On the Turnover of Cryptocurrencies in Ukraine» No. 7183 as of 06 October 2017 [16], which legalises bitcoin and creates a legal framework for its circulation as an official means of payment, was prepared. The Draft Law defines the conditions under which cryptocurrencies cannot be used, particularly in the case of its application against national security, incitement to overthrow the constitutional order, violation of territorial integrity of Ukraine, acts of terrorism, terrorism financing, money laundering, distribution of narcotic drugs and psychotropic substances, and other illegal acts.

5. Conclusions

1. The use of cryptocurrencies is a promising way to maintain economic development by applying modern accounting and information technologies. A specific feature of the circulation of Bitcoin is the absence of intermediaries (third parties): users interact directly with each other, which guarantees investors a phenomenal increase in profits. However, there exist challenges relating to criminal regulations regarding cryptocurrency transactions due to their scale.

2. International experience clearly demonstrates the importance and role of cryptocurrencies in the activities of transnational criminal groups relating to the financing of terrorism and human trafficking. Virtual currencies can be sold on the Internet anonymously, without any inking to a particular bank or financial institution while conducting transactions.

3. In the context of globalisation and implementation of the European integration in Ukraine, the turnover of cryptocurrencies needs to be regulated at the legislative level. Thus, it is necessary to accelerate the approval of the Draft Law «On the turnover of cryptocurrency in Ukraine» No. 7183 as of 06 October 2017.

4. In Ukraine, miners are actively using cryptocurrency as a means of payment. They carry out exchange transactions on

electronic money of official payment systems, and then the so-called currency is converted and transferred to bank accounts of enterprises with attributes of fictitiousness. Further, this currency is converted to card accounts, becoming cash, which is a shadow scheme used similarly to conversion centers. After detecting criminal miners, law enforcement agencies mostly accuse them of illegal connecting to electricity grids, false entrepreneurship and tax evasion. Under such circumstances, it is necessary to develop a strategy of joint law enforcement activities to ensure control over the turnover of cryptocurrencies, which will strengthen special security forces in their fight against money laundering, human trafficking and terrorist financing.

5. To effectively counter the criminal turnover of cryptocurrencies, the international community must develop a unified strategy implemented in the following key areas:

- determination of the legal nature of cryptocurrency;
- establishment of universal jurisdiction of states with regard to criminals carrying out money laundering, terrorism financing, trafficking in drugs and weapons by using cryptocurrency;
- creation of a register of audits that are mandatory for dealing with financial flows from countries with ineffective regimes to combat money laundering and terrorism financing;
- extension of information available to financial intelligence units by providing them with simplified access to information about committed actions.

6. It is advisable to introduce a system of registration (licensing) of crypto-currency exchange and exchangers at the national level. At the same time, it is necessary to impose an obligation on cryptoexchangers to collect information about customers. Also, it is necessary to regulate activities of companies that sell goods and services to customers for cryptocurrency, as it is accepted by PayPal, Braintree and other payment systems, etc.

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Received 11.11.2017

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