CRYPTOCURRENCIES AS A GENERIC OBJECT OF CRIME IN POLISH CRIMINAL LAW

Abstract
The presented study is devoted to the possibility of recognizing cryptocurrencies as the object of an offense under Polish criminal law. The Author of the study firstly explained what the object of the crime is under Polish criminal law. Then - focused on the issues of defining cryptocurrencies in the criminal law doctrine, as well as in legal acts that apply to the issue of virtual currency. The study also contains considerations regarding the possibility of including cryptocurrencies in the generic object of crimes penalized in particular chapters of the Polish Penal Code of 1997. The aim of the study is not to identify specific crimes whose cryptocurrencies may be the subject, but to show the issues related to determining what cryptocurrencies are and with which types of crimes they may be related to, as well as emphasizing the problem of the lack of definition of cryptocurrencies in Polish criminal law and the consequences of this lack for the possibility of proper application of the provisions with regard to cryptocurrencies. Several solutions to the abovementioned problems have also been proposed.

Keywords: cryptocurrencies, generic object of crime, virtual currency

Introduction
The concept on the functioning of cryptocurrencies in general was first introduced to the world in the document called Manifesto [Nakamoto 2009, pp. 1-3], according to which: "A full-fledged version of electronic money based on a peer-to-peer network communication model would allow sending online payments directly from one entity to another without the need for transaction flow by financial institutions". For both doctrine and case law, the question of the definition of a virtual currency is extremely important.

The references in which the concept of cryptocurrencies is mentioned can be found in the European Parliament's Resolution of 26 May 2016 on virtual currencies. This act treats cryptocurrencies as a form of "digital cash". It describes the meaning of cryptocurrencies as digital determinants of values that are not related to fiduciary currency and are accepted by entities that use them as a means of payment. In the mentioned Resolution, it was also noted that cryptocurrencies may be transferred, sold or stored electronically.

A slightly older definition of virtual currency can also be found in the publication from 2015 titled "Virtual Currency Schemes - and further analysis". The author of the publication is the European Central Bank. In this publication, virtual currency is understood as a digital representation of a value not issued by a central bank, credit institution or electronic money institution, which may, in certain circumstances, be used as an alternative to money. This study aims to get answers to two extensive questions. First of all, what is the state of defining the concept of cryptocurrencies on the basis of legal acts and the doctrine of Polish criminal law? Secondly, can cryptocurrencies be a generic object of crime in Polish criminal law, and if so, what types of crime are they the subject of?
The object of crime in Polish criminal law

This part of considerations should start with explaining the fundamental issue - what is the object of the crime according to Polish law and what are its types. The object of crime is a legal good subject to simultaneous protection by criminal provisions (the so-called subject of protection), as well as an attack by the perpetrator of the coup (the so-called subject of the coup). In the case of the subject of protection, the protective function of the criminal law provision is emphasized. In the case of the object of the coup, the offender or the threat of legal good from the perpetrator is emphasized [Błaszczyk, Zientara 2015, p. 45].

L. Gardocki [2019, pp. 90-93] distinguishes the following meanings of the subject of the offense: general (all values subject to legal protection), as a generic subject (value subject to protection under certain sets of regulations (determines the taxonomy of the special part of criminal law), as a direct (value subject to protection under a specific provision of the Act).

Contemporary science of criminal law, despite constant attempts in this direction, failed to create one definition, as transparent as the definition of legal good, and thus reach agreement as to its actual usefulness, as a determinant of the content and limits of lawful regulations [Gruszecka 2008, pp. 140-143]. A legal good is a term used in jurisprudence signifying material or non-material good, which is positively socially valued and therefore protected by law. The legal goods will be, among others: objects (e.g. public buildings, infrastructure serving a local community or at least a part of it), values (e.g. freedom, which is one of the highest esteemed values in the Western civilization), ideas (e.g. idea of a democratic state of law that is guaranteed in many countries by their highest rights (constitutions, statutes)) and social relations (e.g. patriarchalism) [Gardocki 2019, pp. 90-93].

The correct definition of the subject of protection of a prohibited act is important for the interpretation of the signs of a given offense. There is no criminal provision that has not been established to protect the legal good [Tyburcy 2017, pp. 93-95].

Legal goods are non-criminal references in criminal law, the protection of which justifies state interventions (in the form of public law norms and the state apparatus that enforce it) in social relations. At the same time, legal goods perform a delimiting function (delimiting the border) of state interference [Citowicz 2006, p.19]. Therefore, it results from the fact that the state may interfere, in the form of criminal laws, only in places where legal goods are in danger.

The legal definition of cryptocurrencies in Polish criminal law

According to G. Sobiecki [2015, pp. 155-157], although Bitcoin (and other cryptocurrencies) is a category unprecedented, it seems that the existing Polish law is largely prepared for the adoption of this new phenomenon. At the beginning of this part of considerations, it should be noted, however, that the Polish legislator quite recently decided to define what virtual currencies are. Such a definition can be found in article 2 point 26 of the Act on Counteracting Money Laundering and Terrorist Financing of 1 March 2018 (this act came into force on 13 July 2018). This definition is structured in an interesting way.

In the first place, cryptocurrencies are defined there as a digital representation of values. Then, in this definition, it is mentioned in the points that this “mapping of values” is not. At the end of the definition, it is indicated that the virtual currency is dealt with when this “mapping of values”, which is not one of the enumerations mentioned in the definition of things - is exchangeable in the course of trade for legal means of payment and accepted as a medium of exchange, and it can also be electronically stored or transferred or it can be subject to e-commerce. However, it should be emphasized that the virtual currency on the basis of the aforementioned Act is not:

- legal tender issued by the NBP, foreign central banks or other public administration bodies,
- an international settlement unit established by an international organization and accepted by individual countries belonging to or co-operating with this organization,
- electronic money within the meaning of the Act of 19 August 2011 on Payment Services [article 2-point 10a],
- a financial instrument within the meaning of the Act of 29 July 2005 on Trading in Financial Instruments [article 2 paragraph 1],
- bill of exchange or check.

The Polish legislator here decided to introduce a rather extensive and interesting in construction definition of the virtual currency. However, it should be noted that the abovementioned legal definition can be found in the text of a specific act and this act only. It was not placed by
the legislator in other criminal law acts, and in particular there is no such definition in article 115 of the currently binding Penal Code of 1997.

The following conclusion results from the above considerations - the existing definition of virtual currencies is a legal definition. The legal definition is in the case when the legislator gives a specific meaning to the words or their groups used in a given normative act. They apply in the interpretation of this act before other definitions. However, they do not gain widespread significance and are subject to general rules of assessment outside the scope of a given normative act [Smoktunowicz 2005, p. 120]. Therefore, when analyzing the provisions of the particular Penal Code with reference to cryptocurrencies as a possible genetic item of crimes, it should be stated that there is a significant interpretation problem due to the lack of such definition.

Despite this, we can also at least partially answer, at this stage, one of the questions asked in the introduction. Cryptocurrencies can certainly become the object of an offense under Polish criminal law. Literally, they have been listed and defined in the Act on Counteracting Money Laundering and Terrorism Financing. The question then remains whether this is the only crime in the Polish criminal law, which cryptocurrencies may be the object of. Looking literally, it would seem that yes, since no other statute penalizing forbidden acts mentions crypts in the description of particular crimes. However, it would also be an exaggerated simplification of legal reality.

**Cryptocurrencies in the definitions of the doctrine of Polish criminal law**

It is obvious that when interpreting legal norms, doctrine and jurisprudence try to overcome any definitional gaps, and so the doctrinal definitions of cryptocurrencies exist in legal reality as much as possible.

According to M. Kusaj [2016, p. 4], cryptocurrency is a modern electronic means of payment that uses cryptography to secure transactions and create new units. Its popularity is increasing day by day, and trading on digital currency exchanges is about 25 million dollars per day. This author also indicates the basic differences between cryptocurrencies and traditional currencies, such as: lack of a central issuer, the fact that cryptocurrencies are “extracted” and arise as a result of network activity using a mathematical script based on the so-called proof of performed activities or anonymity of transactions made with the help of cryptocurrency. No one except the owner has access to such transactions. The lack of central administration is also characteristic there [www.mfiles.pl/pl/index.php/Kryptowaluta (access 25.03.2019)].

Cryptocurrencies are also defined as contractual units of participation in a distributed accounting system based on cryptography which “without a centralized issuer or an institution controlling their turnover and independent consumer value constitute a contractual measure between parties to a given legal relationship of liabilities of such value as they are ready to give entities accepting the possibility of cessation of liabilities by cryptocurrencies. Thus, the only function of cryptocurrencies is the function of a conventional medium for the exchange of monetary value” [Judgment of TS of 22/10/2015, C-264/14, Legalis]. As G. Sobiecki argues [2015, p. 156], it is not necessary to define a new crime specific to bitcoins. Although it cannot be classified as a crime against trading in money and securities, unlawful acts relating to bitcoin fall into the group of crimes against property. However, J. Czarnecki [2015, pp. 144-163], draws attention to the imbalance between the protection of traditional money user and bitcoin user protection, since bitcoins are often used in a similar economic function as traditional money and are a carrier of value.

**Cryptocurrencies as a generic object of offenses from the special part of the Penal Code of 6 June 1997**

At the outset of this part of the article, it should be noted again that the Polish Penal Code of 1997 lacks the legal definition of cryptocurrency. However, due to definitions given in the doctrine, it is worth considering which types of crimes cryptocurrencies may become. Considering the foregoing considerations, it is undisputed that cryptocurrencies may become the subject of an offense under Polish criminal law.

The current Penal Code of 1997 distinguishes the following types of crimes:

- crimes against peace, humanity and war crimes (Chapter XVI),
- crimes against the Republic of Poland (Chapter XVII),
- crimes against defense (Chapter XVIII),
- crimes against life and health (Chapter XIX),
- crimes against general security (Chapter XX),
- crimes against communication security (Chapter XXI),
- environmental crime (Chapter XXII),
- crimes against freedom (Chapter XXIII),
- crimes against the freedom of conscience and religion (Chapter XXIV),
- crimes against sexual freedom and decency (Chapter XXV),
- crimes against family and care (Chapter XXVI),
- crimes against honor and physical integrity (Chapter XXVII),
- crimes against the rights of persons engaged in gainful employment (Chapter XXVIII),
- offenses against the activities of state institutions and local self-government (Chapter XXIX),
- crimes against the administration of justice (Chapter XXX),
- crimes against elections and a referendum (Chapter XXXI),
- crimes against public order (Chapter XXXII),
- crimes against protection of information (Chapter XXXIII),
- offenses against the credibility of documents (Chapter XXXIV),
- crimes against property (Chapter XXXV),
- crimes against economic turnover (Chapter XXXVI),
- crimes against trading in money and securities (Chapter XXXVII).

First of all, it should be noted that the cursory analysis of the titles of individual chapters of the Special Part of the Penal Code of 1997 allows the elimination of those groups of crimes in which cryptocurrencies can certainly not be subject to protection or assault. I am talking here primarily about crimes against life and health, family and care, or crimes against defense or security in communication, elections and referendum or justice.

In the above list of types of crimes penalized in the currently valid Penal Code, regular font indicates the types of crimes, for which it can undoubtedly be concluded that cryptocurrencies are not their subject. The font in bold shows the types of crimes which, in the opinion of the Author of this study, raise the most doubts in the doctrine. Therefore, the issues related to these crimes are discussed below. Due to the need to maintain the appropriate size of this study - the issues are discussed in the most condensed form considering the most important issues.

**Cryptocurrencies as a generic object of crimes against the credibility of documents**

In this thread of considerations, reference should be made to the legal definition of a document contained in article 115 § 14 of the Polish Penal Code. It states that a document is any object or other recorded medium of information with which a certain right is associated, or which, because of the content included therein, is evidence of law, legal relationship or circumstances having legal significance.

The basic seems to be the statement that cryptocurrencies are not objects because of their immaterial and intangible size. As J. Libeardzki rightly pointed out [2018, p. 11]: “Bitcoin cannot be regarded as a carrier of information, because Bitcoin is information itself”. This statement can therefore be applied to cryptocurrencies in general and on this basis the only possible conclusion can be drawn that cryptocurrencies are not documents pursuant to the Penal Code. Thus, it should be concluded that cryptocurrencies cannot be a generic object of crimes against the credibility of documents.

According to P. Opitek [2017, pp. 47-48], however, in the case of contact with a data carrier containing a record of digital values concerning cryptocurrency - this carrier could in turn be considered as a document according to the above mentioned legal definition.

**Cryptocurrencies as a generic object of crimes against trading in money and securities**

In this part of considerations, the starting point should be to present the definition of money and security in order to verify whether they coincide with the definition of the concept of cryptocurrencies.

It is true that the Penal Code in Article 115 does not provide the legal definition of money. This may result from the difficulty of formulating its unambiguous definition due to the complexity of this concept, both in legal and economic terms [Nowak-Far 2011, p. 33]. Money, however, is undoubtedly the means by which all kinds of transactions can be made. And so, the means of payment. Economists distinguish at least three basic functions of money: the means of circulation, the means of thesaurisation and the measure of value [https://www.nbportal.
According to A. Marek [2010, pp. 660-661] under the Polish Penal Code money should be understood as money (banknotes, coins) in the legal tender and withdrawn from circulation, but subject to exchange. Money is also foreign currency, electronic money and non-cash money. On the basis of definitional considerations on the subject of cryptocurrencies, it should also be noted that the notion of electronic money and virtual money must not be equated [Chrabonszczewska 2013, p. 56]. Electronic money, according to the EU Directive of 2009, is a "monetary value representing in accordance with the intention of the issuer: the possibility of electronic storage, issued on the basis of the inflow of funds in an amount not less than the value of the currency issued and accepted as a means of payment by entities other than the issuer “[Art. 2 point 2 of Directive 2009/110 / EC of the European Parliament and of the Council of 16 September 2009 on the taking up and pursuit of electronic money institutions and prudential supervision over their activities, amending Directives 2005/60 / EC and 2006/48 / EC and repealing Directive 2000/46 / EC]. The basic differences are presented in Table 1.

| Specification                  | Electronic money | Virtual money         |
|--------------------------------|------------------|-----------------------|
| Form of money                  | digital          | digital               |
| Value measure                  | traditional currency with a legal status (euro, dollar, pound) | new currencies (BTC, Linden Dollar) without legal status |
| Acceptance                     | by other entities that the issuer | usually through virtual community |
| Legal status                   | regulated        | unregulated           |
| Issuer                         | legally established financial electronic institution | non-financial private company |
| Money supply                   | specified        | it is not fixed (depends on the decision of issuers) |
| The opportunity to buy back funds | guaranteed    | non-guaranteed         |
| Supervision                    | yes              | no                    |
| Type of risk                   | mainly operational | legal, credit and liquidity and operational |

Source: Virtual Currency Schemes, European Central Bank. Eurosystem [online], www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemesen.pdf, access as of 25 March 2019.

It distinguishes cryptocurrencies from the traditional currency mainly due to the lack of a central issuer and a body supervising the course of this "currency". In the network of users of the network, virtual currencies are treated as money, because they basically meet all its features. First of all, they fulfill the payment function. In addition, they are a means of exchange and a measure of value, and to a much greater extent than money - a function of storing value and transferring risk [Gruszecki 2004, p. 70 and Dąbrowska 2017, pp. 54-55].

In turn, a valuable document is a document with which a property right is related so closely that its implementation can only take place by presenting or issuing this document. The essence of a security is marketability. Thanks to the direct connection of property law with the document, the transfer of the right takes place with the transfer of paper [https://www.nbportal.pl/wiedza/artykuly/pl/wiedza/artykuly/pieniadz/pieniadz-i-jego-znaczenia (access 01.04.2019)].

However, it is worth recalling the verdict of the Supreme Administrative Court of March 6, 2018 [II FSK 488/16] referring to considerations regarding the understanding of bitcoin (and, more broadly, cryptocurrencies in general) as money. In the justification the Supreme Administrative Court stated: “pursuant to art. 227 par. 1 of the Constitution of the Republic of Poland the exclusive right to issue money is vested in the National Bank of Poland. In turn, art. 31 and art. 32 of the Act on the NBP stipulates that the Polish banknotes are banknotes and coins for zlotys and pennies. In contrast, payment marks issued by the NBP are legal means of payment in the territory of the Republic.
of Poland. There is no doubt that the central bank, which is the NBP in the Republic of Poland, has a statutory monopoly on money issuance. Bitcoin also does not meet the conditions to be considered electronic money within the meaning of the Payment Services Act. Bitcoin is therefore not a common form of money, as it is not entitled to legal tender in the light of the current legal order. The legislator does not send the right to release everyone, and therefore "erga omnes", from any obligations. Thus, a cryptocurrency may be a measure of value other than money, a means of accumulation and savings, or a means of circulation or payment.

**Cryptocurrencies as a generic object of crimes against property**

In the Penal Code of 1997, there is no definition of a legal concept of property, which is the object of protection in the case of crimes punishable in Chapter XXXV of the same Code. Property defined as property and other property rights is based on the Polish Civil Code (Article 44). The Penal Code operates with the concept of 'property of great and substantial value'. In the case of certain torts committed on such property, the punishment is tightened (Articles 115 § 5 and 6). Therefore, it should be stated that in the case of crimes against property, the legislator seeks to protect the possession and, above all, ownership of property and other property rights. Thus, in order to be able to determine whether cryptocurrencies may be the object of this group of crimes, an attempt should be made to determine whether cryptocurrencies can be considered as a property or property right.

It should be noted here, of course, that the possible fact of finding that cryptocurrencies may be subject to offenses against property can absolutely not be regarded as tantamount to stating that cryptocurrencies may be subject to any crime of this kind. Only an in-depth analysis of the features of a given offense leads to the conclusion that a law that penalizes certain behavior is or is not applicable to acts committed in the virtual world [Jagiello 2014, p. 86] in connection with cryptocurrencies. Therefore, it is necessary to make the analysis with particular diligence [Czaplicki 2017, p. 42]. The solution could be to extend the scope of the regulations. However, it is primarily the will of the legislator that would involve a possible amendment of a given regulation.

The concept of things is defined in Article 115 § 9 of the Penal Code. A movable or subject-matter under this provision is also Polish or foreign currency or other means of payment, a cash credited to the invoice and a document entitling to receive a sum of money or including an obligation to pay principal, interest, share in profits or declare participation in the company.

Cryptograms, as it was mentioned earlier in this study, are indicated as part of cyberspace and have no material form that, for example, could be touched. Also, in the earlier part of the study, definitional problems appearing in the case of determining whether cryptocurrencies can be treated as money or documents have already been indicated. Inasmuch as in the case of documents it can be stated that cryptocurrencies are not documents themselves, the matter of understanding them as a means of payment, money or a measure of values raises controversies both in doctrine and jurisprudence and remains a contentious issue [Liberadzki 2018, pp. 11-12].

However, it is worth recalling the verdict of the Supreme Administrative Court of 6th March 2018 [II FSK 488/16] referring to considerations regarding the understanding of bitcoin (and, more broadly, cryptocurrency in general) as property rights. In the justification of the verdict, the Supreme Administrative Court stated the following: “In the practice of civil law relations, bitcoin is a type of property within the meaning of art. 45 Civil Code." Thus, it leads to the conclusion that cryptocurrencies may be an element of property, and thus could be the object of some crimes under Section XXXV of the Penal Code of 1997.

**Conclusions**

The issue of cryptocurrencies as an object of crime is extremely complicated. The Author of this paper, while working on it, faced many difficulties related to the systematization of doctrinal positions regarding the understanding and definition of cryptocurrencies. Due to the requirement to maintain an appropriate volume of the study, many detailed issues have not been fully discussed. Observing the number of positions of the representatives of the doctrine, analyzing the jurisprudence and arguments of practitioners and theoreticians of law - the first conclusion seems to be that such a situation should not continue. Of course, it is not easy for legislators - not only Polish but also legislators from other countries - to incorporate the rapidly changing world and technologies that are speeding ahead into the legal framework. This does not mean that due to the difficulties, the problem should
be left with the quiet hope that the doctrine will manage it one day.

According to the Author of this study, it is worth considering an attempt to statutorily define cryptocurrency. The Author of the study has several ideas for solving this situation. First of all - to create a definition of cryptocurrencies, which would not stand only for the purposes of a specific law, but a definition of a codex rank, to which other criminal laws would refer through the provisions contained there. The Author here means the introduction of a legal definition of cryptocurrency to the content of Article 115 of the Penal Code of 1997.

Another solution could be to create a separate act regulating the definition of cryptocurrencies and other issues related to them, which would constitute a 'lex specialis' in relation to other laws (including the definition of cryptocurrencies). The last solution, which the Author of this paper still sees, could be the change of a part of the regulations in the Special Part of the 1997 Penal Code, namely the introduction of a literal record that in the case of a given offense may also involve cryptocurrencies.

The use of the proposed solutions would certainly result in reducing doubts regarding the issue under discussion. The Author of this study is aware of the difficulties associated with the definition of cryptocurrencies, their multitude and the difficulty of creating a unified exact definition, but is also convinced that even a more general definition would already improve the interpretation of the phenomenon.

The best solution in the opinion of the Author of the study would be the last of the presented solutions, although it could be considered as an ad hoc operation, “treatment of symptoms”. The most difficult solution, according to the Author, would be to take the second solution - to create a comprehensive act on cryptocurrencies, but it would undoubtedly be the best solution in the long run.

Bibliography

Bitcoin: A Peer-to-Peer Electronic Cash System, [online], https://bitcoin.org/bitcoin.pdf, access as of 25 March 2019.

Błaszczyk M., Zientara A. (2015), Prawo karne, LEX, Warszawa.

Budyn-Kulik M., Kozłowska-Kalisz P., Kulik M., Mozgawa M. (2017), Komentarz aktualizowany do art. 115 k.k., [in:] Mozgawa M. (red), Kodeks Karny. Komentarz aktualizowany, Wolters Kluwer, Warszawa.

Chrabonszczewska E. (2013), Bitcoin – nowa wirtualna globalna waluta? “International Journal of Management and Economics” no. 40.

Citowicz R. (2006), Prawnikarne aspekty ochrony życia człowieka a prawo do godnej śmierci, Wydawnictwo Kodeks, Warszawa.

Czaplicki P. (2017), Wybrane przestępstwa gospodarcze związane z obrotem walutą Bitcoin w prawie polskim, Unii Europejskiej oraz Stanów Zjednoczonych, “Studenckie Zeszyty Naukowe” vol. XX, no. 32.

Czarnecki J. (2015), Wybrane zagadnienia prawnokarne związane z bitcoinem, “Problemy Zarządzania” vol. 13, no. 3 (54).

Dąbrowska J. (2017), Charakter prawn y bitcoin, “Człowiek w cyberprzestrzeni” no. 1.

Gardocki L. (2019), Prawo karne, C.H. Beck, Warszawa.

Gruszeczi T. (2004), Teoria pieniądza i polityka pieniężna. Rys historyczny i praktyka gospodarcza, Oficyna Edukacyjna, Kraków.

Jagiełło D. (2014), Przestępstwa popełniane w świecie wirtualnym (tzw. virtual crime) a problemy wynikające z przyjęcia odpowiedniej klasyfikacji prawnnej oraz możliwości dowodzenia ich znamion, “Wrocławskie Studia Sądowe” no. 4.

Kryptowaluta, Encyklopedia Zarządzania [online], www.mfiles.pl/pl/index.php/Kryptowaluta, access as of 25 March 2019.

Kryptowaluty w pigułce [online], www.bitco inwalutaprzyszlosci.pl/wp-content/uploads/2016/11/Kryptow aluty-w-pigulce.pdf, access as of 25 of March 2019.

Liberadzki J. (2018), Karnoprawne aspekty walut kryptograficznych (bitcoin jako przedmiot przestępstwa), “Czasopismo Prawa Karnego i Nauk Penalnych” no. 13.

Marek A. (2010), Komentarz do artykułu 310 k.k., [in] Marek A. (red.), Kodeks Karny. Komentarz. LEX, Warszawa.

Nowak-Far A. (2011), Finanse publiczne i prawo finansowe, C.H. BECK, Warszawa.

Opitek P. (2017), Kryptowaluty jako przedmiot zabezpieczeń i poręczenia majątkowego, „Prokuratura i Prawo” no. 6.

Papierzy wartościowe [online], www.nbportal.pl/wiedza/artykuly/na-poczatek/papiery_warosciowe, access as of 1 April 2019.

Pieniądz i jego znaczenia, [online], www nbportal.pl/wiedza/artykuly/pieniadz/ i-jego-znaczenia, access as of 1 April 2019.
Pojęcie dobra prawnego w prawie karnym, “Wrocławskie Studia Erazmińskie Zeszyty Studenckie” [online], www. www.bibliotekacyfrowa.pl/Content/29207/011.pdf, access as of 1 April 2019.
Smoktunowicz E., Hołyst B. (red.) (2005), Wielka Encyklopedia Prawa, Wydawnictwo Prawo i Praktyka Gospodarcza sp. z o.o, Warszawa.
Sobiecki G. (2015), Regulowanie kryptowalut w Polsce i na świecie na przykładzie Bitcoina: status prawný i interpretacja ekonomiczna, “Problemy Zarządzania” no. 13/3 (1).
Tyburcy T. (2017), Przedmiot ochrony przepisu typizującego czyn zabroniony, “Przegląd Prawniczy Uniwersytetu Warszawskiego” no. 1.
Virtual Currency Schemes – a further analysis [online], www.ecb.europa.eu/pub/pdf/other/virtualcurrency-schemesen.pdf, access as of 25 March 2019.
Wyrok Naczelnego Sądu Administracyjnego z 6 marca 2018 r., sygn. akt II FSK 488/16.
Wyrok TS z 22.10.2015 r. C-264/14, Legalis.

Legal acts
Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of electronic money institutions amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC (OJEU L 267/7).
European Parliament Resolution 26 May 2016 on Currencies (2016/2007(INI).
Act of 23 April 1964 Civil Code (Journal of Laws 2018.0.1025).
Act of 6 June 1997 Penal Code (Journal of Laws 1997, No. 88, item 553).
Act on Trading in Financial Instruments of July 29, 2005 (Journal of Laws 2005, No 183, item 1538).
Act of 19 August 2011 On Payment Services (Journal of Laws 2011, No. 199, item 1175).
Act of March 1, 2018 On the Prevention of Money Laundering and Financing of Terrorism (Journal of Laws 2018, item 723).

Author biography
Justyna Omeljaniuk – PhD student at the Department of Criminal Law and Criminology at the University of Białystok, an active member of the Financial Law Scientific Circle at the University of Białystok, and a member of the organizational committee of the Second Eastern European Conference on Cryptocurrencies, held at the Faculty of Law of the University in Białystok in March 2019. She is interested in criminology and the law of new technologies, as well as forensic aspects related to car crime and counterfeiting of money and documents.