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CRYPTOCURRENCY HOLDERS' RIGHTS UNDER TURKISH PRIVATE LAW: DO WE NEED NEW LAWS OR REGULATIONS?

Abstract

The cryptocurrency technology, which the cryptographers created more than a decade ago, is closely monitored by the governments. The governments focus more on imposing prohibitions, obligations, or liabilities, such as taxing the cryptocurrency holders' earnings on cryptocurrency transactions or prohibiting using cryptocurrencies as a payment instrument, though they mostly disregard the cryptocurrency holders' rights. In this context, this article aims to determine the cryptocurrency holders' rights under Turkish private law and whether we need new laws or regulations to provide legal protection to the cryptocurrency holders. In this respect, we briefly inform the reader that we cannot apply the current property law to cryptocurrencies; thus, we cannot protect the cryptocurrency holders under the terms of the property law. We then analyze why we cannot categorize cryptocurrencies as money, bills of exchange, or securities, and thus cryptocurrencies do not provide their holders with the rights granted to the owners of these instruments. Moreover, we briefly confer the cryptocurrency holders' rights to wills and testaments and matrimonial assets regimes. Then, we discuss the cryptocurrency holders' rights issue in terms of the contractual rights and determine that digital transactions and initial coin offerings pose some legal problems. In contrast, electronic transactions grant certain rights to cryptocurrency holders as per the electronic commerce law. Lastly, we conclude that cryptocurrency holders have limited rights, so we need new laws backed by international treaties in the long term, and we need to strengthen the electronic commerce law in the short term.

Annotasiya

Kriptoqrafların on il bundan əvvəl yaratdığı kriptovalyuta texnologiyası hökumətlər tərəfindən yaxından izlənilir. Əksərən kriptovalyuta sahiblərinin hüquqlarını göz ardı etsə də, hökumətlər onların kriptovalyuta əməliyyatlarından əldə etdikləri gəlirlər üzərində vergi qoymaq və ya kriptovalyutaların ödəniş vasitəsi qismində istifadəsini qadağan etmək kimi öhdəliklər və ya qadağalar qoymağa daha çox diqqət yetirir. Bu xüsusda, məqalə kriptovalyuta sahiblərinin Türkiyə xüsusi hüququ çərçivəsində hüquqlarını və onlara hüquqi mühafizə təmin etmək üçün yeni qanunlara və ya qaydalara ehtiyacımızın olub-olmadığını müəyyənləşdirməyi hədəfləyir. Bu baxımdan, oxucuya mövcud mülkiyyət hüququnu kriptovalyutalara tətbiq edə bilməyəcəyimizi qısaca bildiririk; belə ki, kriptovalyuta sahiblərini mülkiyyət hüququnun şərtlərinə görə qoruya bilmərik. Daha sonra kriptovalyutaları niyə pul, veksəl və ya qiymətli kağızlar kimi təsnif edə bilmədiyimizi və bu səbəbdən, kriptovalyuta sahiblərinə bu vasitələrin sahiblərinə verilən hüquqların verilmədiyini təhlil edirik. Bundan əlavə, kriptovalyuta sahiblərinin vəsiyyətnamə və nikah aktivləri rejimlərinə aid hüquqlarından qısaca bəhs edirik. Ardından, müqavilə hüququ baxımından kriptovalyuta sahiblərinin hüquqları məsələsini müzakirə edirik və rəqəmsal

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əməliyyatların və ilkin sikkə təkliflərinin bəzi hüquqi problemlər yaratdığını müəyyən edirik. Bunun əksinə, elektron əməliyyatlar kriptovalyuta sahiblərinə elektron ticarət qanununa uyğun olaraq müəyyən hüquqlar verir. Nəhayət, kriptovalyuta sahiblərinin məhdud hüquqlara sahib olduqları qənaətinə gəlirik, bu səbəbdən uzun müddətdə beynəlxalq müqavilələrə əsaslanan yeni qanunlara ehtiyacımız var və qısa müddətdə isə elektron ticarət qanunlarını gücləndirməliyik.

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Introduction

Cryptocurrencies¹ are *virtual* or *digital* currencies.² A decentralized system generates cryptocurrencies, and no central administrative

¹ This article bases the discussions on cryptocurrencies on Bitcoin technology and accordingly use the *cryptocurrency* word for this “electronic cash system”, except for the cases where referenced material uses other terms. See Satoshi Nakamoto, Bitcoin: A Peer-to-Peer Electronic Cash System (2008), <https://bitcoin.org/bitcoin.pdf> (last visited May 1, 2021). As to this terminology, there are different suggestions in the international literature, such as the terms *crypto-asset* or *DLT (decentralized ledger technology) asset*. E.g., Rosa María Lastra, Jason Grant Allen, Virtual Currencies in the Eurosystem: Challenges Ahead, 8 (2018). Available at:

https://www.europarl.europa.eu/cmsdata/150541/DIW_FINAL%20publication.pdf (last visited May 1, 2021); Tessa Schembri, The Legal Status of Cryptocurrencies in the European Union, 64 (2018). Available at:

https://www.researchgate.net/publication/328498024_The_Legal_Status_of_Cryptocurrencies_in_the_European_Union (last visited May 1, 2021); Dirk Bullmann et al., Crypto-Assets: Implications for Financial Stability, Monetary Policy, and Payments and Market Infrastructures, 7-9 (2019). Available at: <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op223~3ce14e986c.en.pdf?a31360223fb32f0e50a82ce649a8b7fc> (last visited May 1, 2021).

² See Hilary J. Allen, *€=Euro=Bitcoin?*, 76 Md. L. Rev. 877, 885-886 (2017); Jake Frankenfield, Virtual Currency (2020), <https://www.investopedia.com/terms/v/virtual-currency.asp> (last visited May 1, 2021); K. Berk Kapanç, *Özel Hukuk Penceresinden Blokzincir: “Sanal Para” Değerleri ve “Akıllı Sözleşmeler” Üzerine Değerlendirmeler*, *Gelişen Teknolojiler ve Hukuk I: Blokzincir* 113, 116-119 (2020).

authority governs or oversees this system.³ What ensures the security of the system is cryptography.⁴

In this system, cryptocurrency transactions occur in a peer-to-peer (hereinafter P2P) network.⁵ The P2P network is a medium where the parties can make transactions directly with each other, and a trusted third party's intermediation, e.g., like a bank, is not needed for a transaction to be implemented.⁶ In this network, parties connect their computer⁷ systems over the internet and exchange data directly, without a central server.⁸ Parties should download special software to their computers to connect to such a network.⁹

In this network, as parties implement transactions without a trusted third party's intermediation, a mechanism is needed to prevent double transactions.¹⁰ This mechanism is called *blockchain*,¹¹ a decentralized ledger broadly distributing the transaction records from one end of the user network to the other end and where the entire transaction history is public.¹²

There are thousands of computers on the network that store this ledger in data blocks.¹³ Each block that creates the blockchain "contains a timestamp and a link to a previous block", thus keeping the transactions' "chronological record".¹⁴ A transaction that will modify the blockchain is first distributed

³ Paul Anning et al., *The Law of Bitcoin*, 4 (2015); Erdal Durdu, *Kripto Para Birimi olarak Bitcoin ve Ceza Hukuku*, 26 (2018). Available at: <https://tez.yok.gov.tr/UlusalTezMerkezi/> (last visited May 1, 2021).

⁴ Anning et al., *supra* note 3, 4-5; Allen, *supra* note 2, 884; Durdu, *supra* note 3, 21.

⁵ Anning et al., *supra* note 3, 4-5; Abdurrahman Çarkacıoğlu, *Kripto-Para Bitcoin*, [v] (2016). Available at: <https://www.spk.gov.tr/SiteApps/Yayin/YayinGoster/1130> (last visited May 1, 2021); Durdu, *supra* note 3, 26.

⁶ Nakamoto, *supra* note 1, 1.

⁷ In this article, the author uses the word computer within the meaning of "an electronic tool or brain that performs and concludes a work consisting of many arithmetical or logical operations according to a pre-defined program", to cover the electronic devices having computer features, such as a mobile phone or a tablet as well. *See* Türk Dil Kurumu Sözlükleri, *Güncel Türkçe Sözlük*. Available at: <https://sozluk.gov.tr/> (last visited May 1, 2021).

⁸ Per Christensson, *P2P Definition* (2006), <https://techterms.com/definition/p2p> (last visited May 1, 2021).

⁹ *Ibid*; *See e.g.*, Bisq, <https://bisq.network/> (last visited May 1, 2021).

¹⁰ Nakamoto, *supra* note 1, 2.

¹¹ Each cryptocurrency has a separate blockchain, e.g., Bitcoin blockchain, Ethereum blockchain. *See* Benito Arruñada, *Blockchain's Struggle to Deliver Impersonal Exchange*, 19 *Minn. J. L. Sci. & Tech.* 55, 83 *fn.* 99 (2018); Nareg Essaghoolian, *Initial Coin Offerings: Emerging Technology's Fundraising Innovation*, 66 *UCLA L. Rev.* 294, 302 (2019).

¹² Arruñada, *supra* note 11, 58-59; *See* Anning et al., *supra* note 3, 7; *See generally* Gülçin Büyükközkcan Feyzioğlu, *Teknolojide Yeni Çağın Başlangıcı: Blokzincir*, *Gelişen Teknolojiler ve Hukuk I: Blokzincir*, 1-22 (2020) (discussing the blockchain technology and its application areas); *See generally* Osman Gazi Güçlütürk, *Blokzincir ve Regüle Edilebilirlik*, *Gelişen Teknolojiler ve Hukuk I: Blokzincir*, 23-72 (2020) (discussing the regulatability of blockchain); *See generally* Fülürya Yusufoğlu Bilgin, *Blokzincir Teknolojisinin Bitcoin Dışında Bazı Uygulama Alanları*, *Gelişen Teknolojiler ve Hukuk I: Blokzincir*, 73-112 (2020) (conferring on the primary application areas of the blockchain other than Bitcoin).

¹³ Essaghoolian, *supra* note 11, 302.

¹⁴ Arruñada, *supra* note 11, 60; Essaghoolian, *supra* note 11, 302.

through the network for users to check it against the ledger,¹⁵ and users should solve a “complex cryptographic puzzle”, which requires high processor power, to check a transaction.¹⁶ Miners or groups called *miners’ pools*,¹⁷ who allocate resources such as the processor power, electricity, time, and computer programming skills for this purpose, solve such puzzles.¹⁸ When a miner solves a puzzle, other miners’ majority should verify this solution so that the system can add a new block containing the latest transaction record to the blockchain.¹⁹ Then, in exchange for newly added blocks, miners earn “newly created” cryptocurrencies.²⁰ So, in this system, cryptocurrencies are “transaction records” on the blockchain.²¹

Therefore, P2P networks, blockchain, and miners are the core elements enabling cryptocurrency transactions. However, not all cryptocurrency enthusiasts are technically sophisticated enough to perform these transactions directly. So, there are interfaces like cryptocurrency exchanges²² or cryptocurrency ATMs²³ where one can *buy-sell* cryptocurrencies or initial coin offerings (hereinafter ICOs) *selling* tokens of newly issued cryptocurrencies²⁴ for these cryptocurrency enthusiasts.

Transacting with these cryptocurrencies requires a public key and a private key.²⁵ The public key resembles an electronic mail address²⁶ or a bank account number,²⁷ and the private key is like a password²⁸ used to enter that electronic mail address or bank account. The private key also acts as a digital signature for cryptocurrency transactions.²⁹ Cryptocurrency holders can store these

¹⁵ Arruñada, *supra* note 11, 59.

¹⁶ *Ibid*; See Anning et al., *supra* note 3, 9; Essaghoolian, *supra* note 11, 302.

¹⁷ Çarkacıoğlu, *supra* note 5, 50; Durdu, *supra* note 3, 75.

¹⁸ Anning et al., *supra* note 3, 9; Arruñada, *supra* note 11, 59.

¹⁹ Arruñada, *supra* note 11, 60; See Essaghoolian, *supra* note 11, 302.

²⁰ Anning et al., *supra* note 3, 9; Arruñada, *supra* note 11, 59-60; See Essaghoolian, *supra* note 11, 302-303.

²¹ Durdu, *supra* note 3, 65; See Çarkacıoğlu, *supra* note 5, 29.

²² E.g., Coinbase, <https://www.coinbase.com/> (last visited May 1, 2021).

²³ See Coin Atm Radar, <https://coinatmradar.com/> (last visited May 1, 2021); See also Stephanos Bacchus, *Ultimate Guide to Starting a Bitcoin ATM Business* (2021), <https://bitcolumnist.com/guides/bitcoin-atm-guide/> (last visited May 1, 2021).

²⁴ See Çarkacıoğlu, *supra* note 5, 30-34.

²⁵ See Nakamoto, *supra* note 1, 2.

²⁶ Carla L. Reyes, *Moving beyond Bitcoin to an Endogenous Theory of Decentralized Ledger Technology Regulation: An Initial Proposal*, 61 Vill. L. Rev. 191, 200 (2016); Essaghoolian, *supra* note 11, 305.

²⁷ Reyes, *supra* note 26, 200; Kelvin F. K. Low, Ernie G. S. Teo, *Bitcoins and Other Cryptocurrencies as Property?*, 9 Law, Innovation and Technology 235, 238 (2017).

²⁸ Reyes, *supra* note 26, 200; Essaghoolian, *supra* note 11, 305; cf. Low, Teo, *supra* note 27, 238 (“[T]he private cryptographic key is mathematically linked to the public address so that it is not possible to change the private key, unlike a conventional password”).

²⁹ Essaghoolian, *supra* note 11, 305. During a cryptocurrency transfer, each cryptocurrency holder digitally signs an encrypted message called a *hash* of the previous transaction and the next cryptocurrency holder’s public key and adds them to the cryptocurrency. See Nakamoto, *supra* note 1, 2; Anning et al., *supra* note 3, 5; Armağan Ebru Bozkurt Yüksel, *Elektronik Para, Sanal Para, Bitcoin ve Linden Doları’na Hukuki Bir Bakış*, 73 İstanbul Üniversitesi Hukuk Fakültesi Mecmuası 173, 200-201 (2015); See also Per Christensson, *Cryptography Definition* (2015),

public keys and private keys on a cryptocurrency exchange, an independent *wallet* service, a *wallet* software, a paper *wallet*, or a hardware *wallet*.³⁰

Eventually, all the above information on cryptocurrencies represents a thoroughly operating system that has set forth its own rules and outlaws government intervention. However, mainly the governments' tax, banking, and capital markets authorities are interested in the taxation,³¹ money laundering,³² or other criminal aspects of this system to avoid the shadow economy.³³ On the other hand, the governments do not consider the private law implications of such a system; thus, the rights of cryptocurrency holders and whether and how the government should provide legal protection in this respect.³⁴

Hence, this article analyzes the cryptocurrency holders' rights under Turkish private law³⁵ and proposes solutions where these rights are not sufficient for adequate legal protection.

<https://techterms.com/definition/cryptography> (last visited May 1, 2021); Per Christensson, Hash Definition (2018), <https://techterms.com/definition/hash> (last visited May 1, 2021).

³⁰ See Çarkacıoğlu, *supra* note 5, 28-30; Reyes, *supra* note 26, 200; Low, Teo, *supra* note 27, 250; See Essaghoolian, *supra* note 11, 305; Jonathan L. Marcus et al., Digital and Digitized Assets: Federal and State Jurisdictional Issues, 20 (2019). Available at:

https://www.americanbar.org/content/dam/aba/administrative/business_law/buslaw/committees/CL620000pub/digital_assets.pdf (last visited May 1, 2021). There are instances where holograms keep the public key and the private key on commemorative coin-like objects made of gold, silver, or bronze. See Bozkurt Yüksel, *supra* note 29, 200 *fn.* 158; Çarkacıoğlu, *supra* note 5, 34.

³¹ *E.g.*, Anning et al., *supra* note 3, 76 (the Canada Revenue Agency's characterization of Bitcoin as "commodity"); *Id.*, 211 (the Internal Revenue Service of the US' characterization of Bitcoin as "property"); See Essaghoolian, *supra* note 11, 322-323 (mentioning the proposals made in the US for "treating virtual currencies as a foreign currency rather than property" for taxation purposes).

³² With a recent amendment in the legislation, the "crypto-asset service providers" are included among the institutions obliged to make the know your customer checks, suspicious transactions reporting, and other reporting in terms of preventing money laundering and the financing of terrorism. Amendment to the Regulation on Measures to Prevent Money Laundering and the Financing of Terrorism, O. J., May 1, 2021, art. 1, amending the Regulation on Measures to Prevent Money Laundering and the Financing of Terrorism No. 2007/13012, O. J., Jan. 9, 2008, art. 4(1); *accord e.g.*, Anning et al., *supra* note 3, 24 (the Financial Transactions and Reports Analysis Centre of Canada's characterization of Bitcoins as "goods" in terms of the legislation preventing money laundering and financing of terrorism); *Id.*, 198 (the Financial Crimes Enforcement Network of the US Treasury imposing obligations on "person[s] engaged as a business in the exchange of [B]itcoin for real currency, funds, or other virtual currency" for compliance with the legislation preventing money laundering).

³³ See generally Regulation of Cryptocurrency Around the World (2018). Available at:

<https://www.loc.gov/law/help/cryptocurrency/cryptocurrency-world-survey.pdf> (last visited May 1, 2021); See also Marcus et al., *supra* note 30, [A-1]-[A-43].

³⁴ See Anning et al., *supra* note 3, 179; Low, Teo, *supra* note 27, 235-236.

³⁵ Turkish law is a civil law system. Under this system, private law refers to the legal matters between persons (including legal entities), and public law refers to the legal matters between persons (including legal entities) and government authorities. In this context, the author considered the relevant legislation in force on May 1, 2021, in the Republic of Turkey and translated the legislation names referred to herein, quotes from such legislation, Turkish government authorities, and Turkish authors from Turkish to English.

I. Cryptocurrency holders' rights in general

A. Property rights³⁶

The Constitution guarantees³⁷ and the Turkish Civil Code regulates³⁸ the property rights that apply to the objects categorized as immovables or movables.³⁹

Whether cryptocurrencies fit under those categories is a straightforward question to answer. Namely, cryptocurrencies are not immovable because the state does not register them to the land registry as immovable,⁴⁰ nor are they movable because only tangible objects and natural powers such as electric energy are considered movables. Cryptocurrencies, on the other hand, are intangible assets that are not among natural powers.⁴¹

Thus, cryptocurrency holders do not have property rights and cannot enjoy legal protection in this respect.

B. Rights related to similar legal concepts

Cryptocurrencies resemble money, bills of exchange, and securities, as we use both for payment and investment purposes, and both are human creations. However, they are indeed different, and below, we examine such differences.

1. Money

As a legal concept, we can categorize money as (a) legal tender, (b) electronic money, and (c) foreign currency:

³⁶ The author does not discuss the intellectual property perspective of the issue in this article because it is related to the source code, the software, or the algorithms that facilitate the creation of cryptocurrencies and the transactions thereof. *See e.g.*, Anning et al., *supra* note 3, 116 (Under German law, “Only the source code and software of a cryptocurrency might be protected by the copyright law, but not the currency unit . . . evolving out of the source code”); *Id.*, 142 (Under the UK law, “Since the principles and fundamental components of the system . . . were published as an article rather than a patent, those principles are now in the public domain and cannot themselves be the subject of a patent application anywhere in the world since, in order to be patentable, an invention must be novel”).

³⁷ Constitution of the Republic of Turkey [hereinafter T. Const.], art. 35.

³⁸ Turkish Civil Code [hereinafter T. Civ. C.], art. 683 *et seq.*

³⁹ *Id.*, art. 704 *et seq.*; *Id.*, art. 762 *et seq.*

⁴⁰ *Id.*, art. 704, 998.

⁴¹ *Accord e.g.*, Anning et al., *supra* note 3, 115 (stating that “cryptocurrencies cannot qualify as things” under German law); *See* T. Civ. C., *supra* note 38, art. 762; M. Kemal Oğuzman et al., *Eşya Hukuku* 739-741 (21st ed. 2018); Kapancı, *supra* note 2, 119; *cf.* Przemysław Pałka, *Virtual Property: Towards a General Theory*, 18, 154 (2017). Available at: <https://cadmus.eui.eu/handle/1814/49664> (last visited May 1, 2021) (stating that virtual assets are not intangible, but “digital”); Fatih Bilgili, M. Fatih Cengil, *Bitcoin Özelinde Kripto Paraların Eşya Niteliği Sorunu*, 21 (2019). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3432713 (last visited May 1, 2021) (arguing that a judge should apply the rules governing movables to Bitcoin by way of analogy, as per their authority to create rules under the Article 1 of the Turkish Civil Code); Asuman Turanboy, *Kripto Paraların Ortaya Çıkmaları ve Hukukî Nitelikleri*, 35 *Banka ve Ticaret Hukuku Dergisi* 47, 57 (2019) (stating that tangible existence is not essential, a digital asset is a thing, and with a legal rule it can become a thing in legal terms as well).

Legal tender

Under the Law on the Legal Tender, Turkey's legal tender is Turkish Lira⁴² (TL), and the Central Bank of the Republic of Turkey (hereinafter CBRT) has the sole authority and privilege to issue TL banknotes under the Central Bank Law,⁴³ and the treasury has the power to issue coins under the Law on Minor and Commemorative Coins.⁴⁴ Therefore, cryptocurrencies are not legal tender in Turkey.⁴⁵

Electronic money

The Law on Payment and Securities Reconciliation Systems, Payment Services, and Electronic Money Institutions⁴⁶ regulates electronic money. As per this law, we can summarize the characteristics of electronic money and compare it to cryptocurrencies as follows:⁴⁷

Electronic money	Cryptocurrencies ⁴⁸
Issued by authorized electronic money institutions ⁴⁹	Not issued by any authority; are mined
Issued against funds comprising of banknotes, coins, bank deposit, or electronic money	Earned in exchange for newly created blocks through solving complicated cryptographic puzzles
Stored electronically	They cannot be stored; they are transaction records on the blockchain
Used for payment transactions of deposit, transfer, or withdrawal of funds through authorized payment services providers	Not used for payment transactions of funds; can be transferred through P2P networks, cryptocurrency exchanges, or cryptocurrency ATMs
Recognized as a payment instrument by natural persons or legal entities other than the electronic money institution	Recognized as a payment instrument by natural persons or legal entities ⁵⁰

⁴² Law No. 5083, O. J., Jan. 31, 2004, art. 1; Decree No. 2007/11963, O. J., May 5, 2007, art. 1-4.

⁴³ Law No. 1211, O. J., Jan. 26, 1970, art. 4 (II)(a).

⁴⁴ Law No. 1264, O. J., June 6, 1970, art. 1.

⁴⁵ *Accord e.g.*, Anning et al., *supra* note 3, 37-39 (same conclusion under Canadian law); *Id.*, 115 (same conclusion under German law); *Id.*, 185 (same conclusion under the US law); Katie Szilagyi, *A Bundle of Blockchains - Digitally Disrupting Property Law*, 48 *Cumb. L. Rev.* 9, 14-15 (2017) (same conclusion under the UK law). *But cf.* Anning et al., *supra* note 3, 115 (stating a different opinion as "cryptocurrencies are private money" under German law); Schembri, *supra* note 1, 24 (stating that one may use cryptocurrencies as "a form of private money" in the EU).

⁴⁶ Law No. 6493, O. J., June 27, 2013.

⁴⁷ *Id.*, art. 3, 13, 14, 18.

⁴⁸ *See infra* Introduction.

⁴⁹ *See* Ali Önal, *Banka Vasıtalı Ödeme Araçlarını Dışlayan Bir Sistem Olarak Kripto Sanal Para Bitcoin ve Hukuki Niteliği*, 5 *Banka ve Finans Hukuku Dergisi* 165, 176-177 (2016) (stating that, considering the conditions imposed on the institutions for getting authorization for issuing electronic money, such as being incorporated as a joint-stock corporation or the required capital, it is not possible to establish a "[B]itcoin operating system" under this law).

⁵⁰ *E.g.*, Christopher Tozzi, *Bitcoin Accepted as Payment Option by Major US Electronics Company* (2019), <https://bitcoinmagazine.com/articles/bitcoin-accepted-payment-option-major-us-electronics-company> (last visited May 1, 2021).

This comparison reveals how distinct electronic money and cryptocurrencies are. For instance, the issuance and payment transactions of electronic money are under the state's control, and the electronic money institutions issue electronic money as a representation of the already existing funds.⁵¹ Moreover, electronic money institutions and payment services providers are audited by the CBRT,⁵² whereas cryptocurrencies are not governed or overseen by any central administrative authority.⁵³ On the other hand, only a group of persons recognizing cryptocurrencies as a payment instrument, which alone is insufficient to regard cryptocurrencies as electronic money.⁵⁴

In line with this conclusion, the Banking Regulatory and Supervisory Agency (hereinafter BRSA) made a press statement in 2013 as follows: "Bitcoin, known as a virtual currency, not issued by any public or private institution and the provision of which is unsecured, is not considered as electronic money within the scope of the Law [on Payment and Securities Reconciliation Systems, Payment Services and Electronic Money Institutions] in terms of its current structure and functioning. Therefore, monitoring or auditing thereof does not seem possible within the framework of the Law mentioned above".⁵⁵

Accordingly, the CBRT has recently issued a regulation ensuring that electronic money has no potential connection to cryptocurrencies. As per the CBRT's Regulation on the Prohibition of Using Crypto-Assets⁵⁶ in Payments, payment services providers are prohibited from developing business models using crypto-assets directly or indirectly in providing payment services or electronic money issuance and prohibited to provide any services related to such business models.⁵⁷

⁵¹ See Adem Yelmen, *Bitcoinin Satış Sözleşmesinin Bedel Unsuru Açısından Değerlendirilmesi*, 28 Selçuk Üniversitesi Hukuk Fakültesi Dergisi 265, 270-282 (2020); Kapancı, *supra* note 2, 117.

⁵² Law No. 6493, *supra* note 46, art. 3, 21 (until the amendment made by Law No. 7192, O. J., Nov. 22, 2019, art. 12, electronic money institutions and payment services providers were being audited by the BRSA).

⁵³ See Kapancı, *supra* note 2, 117; Turanboy, *supra* note 41, 52.

⁵⁴ *Accord e.g.*, Anning et al., *supra* note 3, 88-89 (similar conclusion under German law); *Id.*, 152-153 (similar conclusion under the UK law); Bullmann et al., *supra* note 1, 8 (similar conclusion under the EU law); See Bozkurt Yüksel, *supra* note 29, 207; See also Kapancı, *supra* note 2, 117 (stating that the legal system acknowledged the electronic money, but not virtual currencies); Turanboy, *supra* note 41, 52 (stating that electronic money is a legal tender such as the Euro, Dollar, or TL). *But see* Önal, *supra* note 49, 184 (stating that we can categorize Bitcoin as electronic money because it has monetary value as a means of payment for natural persons and legal entities).

⁵⁵ Bankacılık Düzenleme ve Denetleme Kurumu (BDDK) Basın Açıklaması Sayı: 2013/32 (2013). Available at: https://www.bddk.org.tr/ContentBddk/dokuman/duyuru_0512_01.pdf (last visited May 1, 2021).

⁵⁶ "As per the purposes of this regulation, crypto-assets mean intangible assets that are created virtually using distributed ledger technology or similar technology and distributed over digital networks but are not qualified as fiat money, bank deposit, electronic money, payment instrument, security, or other capital markets instrument". See Regulation on the Prohibition of Using Crypto-Assets in Payments, O. J., Apr. 16, 2021, art. 3(1).

⁵⁷ *Id.*, art. 4(1).

Foreign currency

Foreign currency means banknotes, coins, or bank deposits, other than TL, which are exchanged by or transferred through authorized institutions, as per the Communiqué regarding the Decree on the Preservation of the Value of Turkish Currency.⁵⁸

Cryptocurrencies are neither banknotes nor coins, nor bank deposits. All these refer to other countries' legal tenders. Similarly, P2P networks, cryptocurrency exchanges, or cryptocurrency ATMs where cryptocurrency transactions occur are not among the authorized institutions under this communiqué, performing foreign currency exchange or transfer services.⁵⁹ Thus, we cannot regard cryptocurrencies as foreign currencies.

2. Bills of exchange

Under the Turkish Commercial Code, bills of exchange are policies, promissory notes, and cheques,⁶⁰ which document a right to a monetary claim such as a money order or a debt acknowledgment⁶¹ that usually arises from the sales of goods or services.

Turkish Commercial Code describes the form and essentials of policies, promissory notes, and cheques in detail.⁶² Among these essentials, the *drawer's signature* is a form requirement with particular importance, specifically envisaging the obligation to sign these instruments in handwriting.⁶³

Compared with bills of exchange, besides being signed digitally,⁶⁴ cryptocurrencies do not represent any right to a monetary claim. They are just digital transaction records.⁶⁵ Therefore, we cannot regard cryptocurrencies as bills of exchange.⁶⁶

3. Securities

Turkish Commercial Code and the Capital Markets Law regulate securities, briefly classified as share certificates, redeemed shares, and corporate bonds.⁶⁷

Share certificates represent the shares of a corporation,⁶⁸ whereas redeemed shares grant its owner limited corporate rights such as the right to buy the shares to be issued in the future.⁶⁹ On the other hand, corporate bonds are for borrowing purposes,⁷⁰ which a corporation issues under certain financial

⁵⁸ Communiqué No. 2018-32/45, O. J., Jan. 30, 2018, art. 3.

⁵⁹ See *infra* Introduction; See *ibid*.

⁶⁰ Turkish Commercial Code [hereinafter T. Com. C.] art. 671 *et seq.*, 776-779, 780 *et seq.*

⁶¹ See Ali Bozer and Celal Göle, *Kıymetli Evrak Hukuku* 64-65, 71, 182, 224 (8th ed. 2018).

⁶² T. Com. C., *supra* note 60, art. 671-676, 776-777, 780-781.

⁶³ *Id.*, art. 756, 778, 818; Law on Electronic Signature No. 5070, O. J., Jan. 23, 2004, art. 5(2).

⁶⁴ See *infra* Introduction.

⁶⁵ *Ibid*.

⁶⁶ *Accord e.g.*, Anning *et al.*, *supra* note 3, 52 (same conclusion under Canadian law).

⁶⁷ T. Com. C., *supra* note 60, art. 484 *et seq.*, 502-503, 504-506; See Law No. 6362, O. J., Dec. 30, 2012, art. 3; Bozer and Göle, *supra* note 61, 495-502.

⁶⁸ T. Com. C., *supra* note 60, art. 486.

⁶⁹ *Id.*, art. 503.

⁷⁰ *Id.*, art. 504.

limits calculated in proportion to their equities.⁷¹

Cryptocurrencies neither represent the shares of a corporation nor grant its holder corporate rights, nor are they issued in connection with corporate equity. Thus, we cannot regard cryptocurrencies as securities.⁷²

4. Conclusion

The significant difference between cryptocurrencies and the concepts above is that the law has acknowledged and defined money (legal tender, electronic money, foreign currency), bills of exchange, and securities, but it has not recognized cryptocurrencies, and cryptocurrencies do not fit in the current definitions of these concepts.

This difference means that cryptocurrency holders cannot enjoy protection under the Turkish Commercial Code or the Capital Markets Law provisions protecting the owners of bills of exchange or securities.⁷³

Furthermore, the cryptocurrency holders cannot make legally acceptable payments for goods or services in cryptocurrencies because, as per the Turkish Code of Obligations, payments should be made in legal tender⁷⁴ or another currency if that currency is a foreign currency with an official exchange rate announced by the CBRT,⁷⁵ which is not the case for cryptocurrencies.⁷⁶

Besides, the CBRT has recently adopted this conclusion as a rule and stated in its Regulation on the Prohibition of Using Crypto-Assets in Payments that one cannot directly or indirectly use crypto-assets for payments, and providing such payment services are not allowed.⁷⁷

⁷¹ *Id.*, art. 506; Law No. 6362, *supra* note 67, art. 31; Communiqué on Means of Borrowing No. VII-128.8, O. J., June 7, 2013, art. 9.

⁷² *Accord e.g.*, Anning et al., *supra* note 3, 89 (same conclusion under German law); *See* Turanboy, *supra* note 41, 54-57 (discussing Bitcoin and other virtual currencies in terms of the capital markets legislation).

⁷³ *E.g.*, T. Com. C., *supra* note 60, art. 713-742, 808-811; Law No. 6362, *supra* note 67, art. 88-116.

⁷⁴ Turkish Code of Obligations [hereinafter T. C. Obl.] art. 99(1); Fikret Eren, *Borçlar Hukuku Genel Hükümler*, 999-1001 (23rd ed. 2018).

⁷⁵ *See* T. C. Obl., *supra* note 74, art. 99(2)(3); Eren, *supra* note 74, 1001-1002.

⁷⁶ *Cf.* Yelmen, *supra* note 51, 286 (concluding that agreeing on a legally acceptable currency and then, at the stage of performance, making a sales contract's payment in Bitcoin instead of the agreed currency may be considered as an *act in place of payment* or an *act for the sake of payment*). *But cf.* Fatih Bilgili, M. Fatih Cengil, *Bitcoin Özelinde Kripto Paraların Ticaret Şirketlerine Sermaye Olarak Getirilmesi*, 23 Ankara Hacı Bayram Veli Üniversitesi Hukuk Fakültesi Dergisi 3, 8-18 (2019) (arguing that one can undertake Bitcoins as a capital contribution of a business corporation and perform as *capital in kind* but reminding to consider the *capital maintenance principle* in joint-stock corporations and limited companies). The author thinks that performing cryptocurrencies as capital in kind in joint-stock corporations or limited companies is not achievable because proving that the cryptocurrencies are free of any restrictions or obtaining a court expert report valuing the cryptocurrencies do not seem possible, which are among the requirements for capitals in kind. *See* T. Com. C., *supra* note 60, art. 32, 342, 343, 578, 581; Muge Onal Baser, *Can Cryptocurrencies be "Paid in" as Capital Contribution?* (2020), <http://www.monol.av.tr/can-cryptocurrencies-be-paid-in-as-capital-contribution> (last visited May 1, 2021).

⁷⁷ *See* Regulation on the Prohibition of Using Crypto-Assets in Payments, *supra* note 56, art. 3(2)(3).

C. Rights to wills and testaments

The Constitution guarantees and the Turkish Civil Code governs inheritance rights⁷⁸ covering the heirs' rights and the decedents' rights on a deceased's estate. A deceased's estate consists of their real rights, debts and receivables, possessions on movables and immovables, and *rights on other assets*.⁷⁹

Turkish Civil Code does not define what *other assets* mean.⁸⁰ To solve this ambiguity and clarify the assets included in the deceased's estate, we need to determine whether the subject-matter objects or rights are *transferable* in terms of the inheritance law principles.⁸¹ As per these principles, except for the inalienable personal rights such as the usufruct right or the right of habitation, the deceased's rights and assets are transferable.⁸² Thus, a deceased's cryptocurrencies are also transferable in this respect.

One of Turkey's first-degree courts of appeals has recently rendered a critical judgment supporting this conclusion.⁸³ In this judgment, the court has recognized the *digital asset* and *digital estate* concepts and ruled that the deceased's electronic mail account and associated *digital wallet accounts*, which are digital assets, should be included in the deceased's digital estate during the probate.⁸⁴

This ruling means that, although cryptocurrencies are not items of property in terms of the property law,⁸⁵ cryptocurrency holders can include their cryptocurrencies in their wills or testaments under the inheritance law. However, one should note that this is solely a single judgment, and there is no guiding or binding Supreme Court judgment on this issue yet; so, the matter is open to discussion, and the courts may render different judgments in the future.

D. Rights to matrimonial assets regimes

Under the Turkish Civil Code, married couples are subject to a statutory

⁷⁸ T. Const., *supra* note 37, art. 35; T. Civ. C., *supra* note 38, art. 495 *et seq.*

⁷⁹ See T. Civ. C., *supra* note 38, art. 599(2).

⁸⁰ *Id.*, art. 599 *et seq.*

⁸¹ See Bilge Öztan, *Miras Hukuku*, 16-18 (8th ed. 2017); Nurten İnce Akman, *Mirasbırakanın Dijital Bilgilerinin Mirasçılara Geçişi (Dijital Tereke)*, 9 İnönü Üniversitesi Hukuk Fakültesi Dergisi 527, 539 (2018); Yasemin Maraşlı Dinç, *Ölümden Sonra Sosyal Medya Hesaplarının Hukuki Akıbeti: Dijital Miras*, 142 Türkiye Barolar Birliği Dergisi 273, 276-277 (2019); Çiğdem İleri, "Dijital Miras" - Alman Federal Mahkemesi'nin "Facebook" Kararı Üzerine Bir İnceleme, 146 Türkiye Barolar Birliği Dergisi 123, 144 (2020); Süleyman Yılmaz, Vehbi Umut Erkan, *Sosyal Medya Hesaplarının Miras Yoluyla İntikal Edip Edemeyeceği Sorusunun Kişisel Verileri Koruma Hukuku Kapsamında İncelenmesi*, 11 İnönü Üniversitesi Hukuk Fakültesi Dergisi 569, 578-579 (2020).

⁸² *Ibid.*

⁸³ See Antalya Regional Court of Justice, 6th Civil Law Chamber, Nov. 13, 2020, No: 2020/1149 E. 2020/905 K., <https://www.lexpera.com.tr/> (last visited May 1, 2020).

⁸⁴ *Ibid.*; See also Sezer Çabri, *Miras Hukuku Şerhi (TMK m. 495-574) Cilt I 30 fn.* 101 (2018) (stating that the cryptocurrencies and similar assets are in the deceased's estate and reminding that the inheritors should have the required keys to access them).

⁸⁵ See *infra* Part I.A.

assets regime.⁸⁶ As per this regime, the spouses, upon the marriage's end, have monetary partition rights over the assets acquired during the marriage except for their assets.⁸⁷

Accordingly, the Turkish Civil Code categorizes the spouses' assets mainly as *acquired assets* and *personal assets*.⁸⁸ Acquired assets are acquisitions in return for work, social security, and similar payments, compensation for loss of working power, earnings from personal assets, and other assets acquired in return for consideration. On the other hand, personal assets are items for personal use, assets owned by the spouses before the marriage or acquired by them without consideration, spouses' non-pecuniary compensation claims, and other assets acquired in return for such personal assets.⁸⁹ Apart from this categorization, the Turkish Civil Code does not provide a restriction for the term *assets*.⁹⁰ Therefore, the spouses' cryptocurrencies would also be among one of these categories.

So, if the spouses' cryptocurrencies fall under the acquired assets category and the marriage ends, the cryptocurrency holder's spouse would have partition rights on the cryptocurrencies' monetary value. However, the cryptocurrency holders who do not prefer this outcome can agree with their fiancées or spouses before or after the marriage and make alternative arrangements allowed by the law, such as choosing another matrimonial assets regime.⁹¹

II. Cryptocurrency holders' contractual rights

The Turkish Code of Obligations regulates contractual rights, and the main principle governing contractual rights is the freedom of contract, which is guaranteed by the Constitution.⁹² In this context, the parties are free to conclude a contract defined by law or with special terms and conditions⁹³ unless they violate the mandatory provisions of laws, the principles of morality, the public order, the personality rights,⁹⁴ or agree on something impossible.⁹⁵

⁸⁶ T. Civ. C., *supra* note 38, art. 202(1); *See* Turgut Akıntürk and Derya Ateş, *Türk Medenî Hukuku Aile Hukuku İkinci Cilt*, 144-146 (19th ed. 2016).

⁸⁷ *See* T. Civ. C., *supra* note 38, art. 218-241; Akıntürk and Ateş, *supra* note 86, 163-177.

⁸⁸ T. Civ. C., *supra* note 38, art. 218-221. There are also co-owned assets, which are the assets that cannot be proven to which one of the spouses belongs. *Id.*, art. 222(2); Akıntürk and Ateş, *supra* note 86, 155, 159.

⁸⁹ *Id.*, art. 219, 220.

⁹⁰ *Id.*, art. 202 *et seq.*

⁹¹ *Id.*, art. 202(2), 203-205, 221; Akıntürk and Ateş, *supra* note 86, 146-148.

⁹² T. Const., *supra* note 37, art. 48.

⁹³ Eren, *supra* note 74, 333; Fikret Eren, *Borçlar Hukuku Özel Hükümler*, 19-20, 949-950 (6th ed. 2018).

⁹⁴ "Rights on personal beings such as life, health, freedoms, honor, dignity, private life, name, picture, or emotional life embodies the right to personality". Ahmet M. Kılıçoğlu, *Medeni Hukuk*, 301 (3rd ed. 2016).

⁹⁵ *See* T. C. Obl., *supra* note 74, art. 26, 27(1); *See* Eren, *supra* note 74, 333-348 (explaining the limits of the freedom of contract in detail).

Entering contracts related to cryptocurrencies is not prohibited unless those contracts are associated with any other criminal or legally banned activity.⁹⁶ There is also no reason to conclude that such agreements are immoral, violate personality rights, or their subject matter is impossible. One can claim the violation of the public order in that regard in terms of the state's tax, emission, or criminal policies, yet such a discussion is outside the scope of this article.

Nonetheless, the CBRT's recent Regulation on the Prohibition of Using Crypto-Assets in Payments may open the door for impossibility discussions because it prohibits payment institutions and electronic money institutions from acting as an intermediary for transferring funds to and from the platforms that offer trading, custody, transfer, or issuance services for crypto-assets.⁹⁷ With this rule, it becomes unclear how a party of a cryptocurrency transaction can make payment to the other party of the transaction, thus perform their agreement.⁹⁸ It is also unclear whether this prohibition covers banks licensed under the Banking Law⁹⁹ or just the payment institutions and electronic money institutions licensed under the Law on Payment and Securities Reconciliation Systems, Payment Services, and Electronic Money Institutions.¹⁰⁰ Furthermore, whether this regulation can envisage such prohibition is also questionable as it violates the freedom of contract, which only a law can restrict, not a regulation.¹⁰¹ So, the validity of this prohibition is highly controversial.

Therefore, cryptocurrency transactions cannot be declared invalid categorically. We should analyze the main conditions required for a valid contract, which are (1) the contract form, (2) the parties' capacity to contract, and (3) the parties' mutual and consistent declarations of intent.¹⁰² For such an analysis, we can categorize the cryptocurrency transactions as (A) digital transactions, (B) electronic transactions, and (C) initial coin offerings.¹⁰³

⁹⁶ Önal, *supra* note 49, 177-179; *accord e.g.*, Schembri, *supra* note 1, 23 (“[C]ryptocurrencies are in fact legal in the EU. Furthermore, no EU member state has attempted to impose a ban or restrict their use. . .”); *See* Durdu, *supra* note 3, 55-56.

⁹⁷ Regulation on the Prohibition of Using Crypto-Assets in Payments, *supra* note 56, art 4(2).

⁹⁸ *See* Eren, *supra* note 74, 344-348.

⁹⁹ Law No. 5411, O. J., Nov. 1, 2005, art. 6, 10.

¹⁰⁰ Law No. 6493, *supra* note 46, art. 14, 18.

¹⁰¹ T. Const., *supra* note 37, art. 13, 48.

¹⁰² *See* Eren, *supra* note 74, 242-276, 279 *et seq.* (discussing these conditions in detail).

¹⁰³ Many believe that cryptocurrencies are the subject of a sale or a barter contract, which the Turkish Code of Obligations defines. However, these contracts are related to the objects that are either movables or immovables. Although Eren states that intangible goods that are not movables or immovables may be the subject of a sales contract and mentions the transfer of “owning a right”, not the property, he does not explain how such transfer can enjoy the legal consequences of a sales contract, for instance, the provisions on the passing of risk. Such legal consequences arise with the transfer of possession for movables and the registration to the land registry for immovables. These provisions cannot be applied to cryptocurrency transactions, as cryptocurrencies are not capable of being possessed. *Accord e.g.*, Anning et al., *supra* note 3, 118 (Under German law, “[S]uch a contract is not a purchase agreement . . . because cryptocurrency is not a “thing” within the meaning of the law”); *see* T. C. Obl., *supra* note 74, art. 207 *et seq.*, 282-284; Eren, *supra* note 93, 26-27, 46 *et seq.*;

A. Digital transactions

Digital transactions are P2P transactions, which are being implemented and recorded digitally through specific codes and software.¹⁰⁴ In this context, whether digital transactions form valid contracts and grant any rights to the cryptocurrency holders can be analyzed as follows.

1. Contract form

Parties can enter a contract in any form unless otherwise required by the law.¹⁰⁵ So, digital transactions' validity as to form is not questionable.

2. Parties' capacity to contract

To become a party to a contract, each party should have the legal capacity to acquire rights and the legal capacity to act.¹⁰⁶ Natural persons and legal entities have the legal capacity to acquire rights.¹⁰⁷ On the other hand, the capacity to act requires a person to be mentally competent, be legal of age, and not be legally incapacitated.¹⁰⁸ For legal entities, having the relevant bodies, e.g., a board of directors, is required for the capacity to act.¹⁰⁹

In this context, it will be challenging to determine the capacity to act in a digital transaction. The codes and software do not check information such as a person's identity or a company's trade registry records.¹¹⁰ Indeed, the purpose of such transactions is anonymity.

The validity of a digital transaction will therefore be questionable from this aspect.¹¹¹

see infra Part I.A.; *See also* Oğuzman et al., *supra* note 41, 54 (stating that only tangible things can be possessed); *cf.* Kapancı, *supra* note 2, 124-125 (stating that cryptocurrencies as a consideration in a contract is an act of doing, neither money nor property in exchange, so such contracts are not sale or barter contracts). Similarly, we cannot consider cryptocurrency transactions as contracts for the sale of goods under the United Nations Convention on Contracts for the International Sale of Goods because this treaty applies to the sale of certain movables only. Software programs may be among those movables, yet the cryptocurrencies themselves are not a software program. *See* United Nations Convention on Contracts for the International Sale of Goods, Multilateral, O. J., Apr. 7, 2010, art. 1-2; Yavuz Kaplan, *1980 Tarihli Birleşmiş Milletler Viyana Sözleşmesi Çerçevesinde, İnternet Ortamında Bilgisayar Programı Satış Sözleşmesi*, 22 *Milletlerarası Hukuk ve Milletlerarası Özel Hukuk Bülteni* 325-356 (2002); Annotated Text of CISG Article 1 (2014), <https://www.cisg.law.pace.edu/cisg/text/e-text-01.html> (last visited May 6, 2021); Zafer Zeytin, *Milletlerarası Mal Satım Sözleşmeleri Hukuku CISG 58-63* (3rd ed. 2019); *See infra* Introduction; *cf.* Miklós Király, *The Vienna Convention on International Sales of Goods and the Bitcoin*, 16 *US-China L. Rev.* 179, 181 (2019) (“[A]ccepting Bitcoin as money—it is an international sale of goods transaction and CISG applies. In other case, considering Bitcoin as goods itself, it is a barter contract that is out of sphere of application of CISG”).

¹⁰⁴ *See infra* Introduction.

¹⁰⁵ T. C. Obl., *supra* note 74, art. 12(1); *See* Eren, *supra* note 74, 287-302 (explaining the types of the form of contracts in detail).

¹⁰⁶ Eren, *supra* note 74, 243.

¹⁰⁷ T. Civ. C., *supra* note 38, art. 8, 48.

¹⁰⁸ *Id.*, art. 14.

¹⁰⁹ *Id.*, art. 49.

¹¹⁰ *See infra* Introduction.

¹¹¹ *See* T. Civ. C., *supra* note 38, art. 15, 16; Eren, *supra* note 74, 243-244.

3. Parties' mutual and consistent declarations of intent

Parties execute a contract through their mutual and consistent declarations of intent, covering the substantial matters under the contract.¹¹² Such declarations of intent can be explicit or implicit.¹¹³

In digital transactions, there are only codes and algorithms that the parties approve digitally.¹¹⁴ So, such approval may have two different outcomes. First, one can interpret it as the parties' implicit declarations of intent and conclude that the parties executed a valid contract. On the other hand, one can also conclude that the digital approval alone is not satisfactory, as there is no sufficient information to understand whether there is an agreement on the substantial matters under the contract, so the parties did not execute a valid contract.¹¹⁵

Thus, a digital transaction's validity will be questionable in this respect.

4. Conclusion

If the parties have executed a valid contract resulting from a digital transaction, having a dispute over this contract will create significant problems.

For instance, parties' potential claims under such a contract are uncertain, as the codes or algorithms do not have any content describing the rights and obligations of the parties.¹¹⁶ Besides this problem, determining the parties' identity, the court of competent jurisdiction, or the applicable law are other complications.

In a potential lawsuit, satisfying the burden of proof will be another concern. Under the Law of Civil Procedure, parties should prove the legal transactions exceeding TL 4.880 (~USD 590¹¹⁷) with a document,¹¹⁸ though

¹¹² T. C. Obl., *supra* note 74, art. 1(1), 2(1).

¹¹³ *Id.*, art. 1(2).

¹¹⁴ *See infra* Introduction.

¹¹⁵ *See Eren, supra* note 74, 247.

¹¹⁶ *See Mesut Serdar Çekin, Borçlar Hukuku ile Veri Koruma Hukuku Açısından Blockchain Teknolojisi ve Akıllı Sözleşmeler: Hukuk Düzenimizde Bir Paradigma Değişimine Gerek Var mı?, 77 İstanbul Hukuk Mecmuası 315, 325-329 (2019) (discussing the smart contracts in terms of the law of obligations); See generally Sai Agnikhotram, Antonios Kouroutakis, Doctrinal Challenges for the Legality of Smart Contracts: Lex Cryptographia or a New, 'Smart' Way to Contract?, 19 J. High Tech. L., 300-328 (2019) (discussing the difficulties in fitting the smart contracts into traditional contract provisions and whether lex cryptographia can be the solution); Maren K. Woebeking, The Impact of Smart Contracts on Traditional Concepts of Contract Law, 10 JIPITEC 105, 108-111 (2019) (explaining the advantages and disadvantages of smart contracts considering the German law and the EU law); Kapanıcı, supra note 2, 130-149 (discussing smart contracts on blockchain); See generally Mete Tevetoğlu, Ethereum ve Akıllı Sözleşmeler, 12 İnönü Üniversitesi Hukuk Fakültesi Dergisi, 193-208 (2021) (discussing smart contracts from Ethereum perspective and how Ethereum can solve contractual issues through programmable codes).*

¹¹⁷ Indicative Exchange Rates Announced by the CBRT (2021),

<https://www.tcmb.gov.tr/wps/wcm/connect/EN/TCMB+EN/Main+Menu/Statistics/Exchange+Rates/Indicative+Exchange+Rates> (last visited May 1, 2021).

¹¹⁸ Law No. 6100, O. J., Feb. 4, 2011, art. 200, supp. art. 1; Tax Procedural Law General Communiqué No. 521, O. J., Nov. 28, 2020; *See also* Nedim Meriç, HMK ve İİK'da Yer Alan

only the electronic data created through a secure electronic signature is in the scope of the term document, not digital data.¹¹⁹ Thus, in a dispute arising from a digital transaction, the court may well dismiss the lawsuit because the parties failed to prove their claims unless the court admits the relevant blockchain keeping the digital transaction records as a *basis of evidence*¹²⁰ or applies other exceptions to the rules of evidence.¹²¹

Consequently, even if the parties overcome all the above problems and a court renders a judgment, then where and how they can enforce this judgment may be expected to be the following problem.

B. Electronic transactions

Electronic transactions are transactions concluded online through websites or applications, where usually at least one of the parties to a transaction is subscribed to that as a user. For instance, the *buying-selling* of cryptocurrencies through an online cryptocurrency exchange is an electronic transaction.

In this context, we think that electronic transactions should be subject to the rules of electronic commerce, as, under the Law on the Regulation of Electronic Commerce, electronic commerce involves all kinds of online economic and commercial activities performed electronically without encountering physically,¹²² and there are no definitions or restrictions on goods or services that parties can trade in electronic commerce. Thus, electronic transactions can be considered an electronic commerce activity, and the owners of the websites or applications over which the parties implement those transactions can be regarded as *service providers* or *intermediary service providers* under this law.¹²³

Service providers are persons, including legal entities, who are engaged in electronic commerce activities, and intermediary service providers are persons, including legal entities, who provide the medium for the electronic commerce activities of others.¹²⁴ A service provider or an intermediary service provider should register with the Electronic Commerce Information System of the Ministry of Commerce (hereinafter ECIS) before commencing its

Parasal Sınırlar (2021), <https://legalbank.net/belge/hmk-ve-iikda-yer-alan-parasal-sinirlar-2021-yili/3009245> (last visited May 1, 2021) (calculating the legal monetary thresholds for 2021).

¹¹⁹ See Law No. 6100, *supra* note 118, art. 205(2).

¹²⁰ Law No. 6100, *supra* note 118, art. 202 (“A basis of evidence is a record sent by the other party or their representative, which is not sufficient to prove a legal transaction; however, it shows that the claimed legal transaction is probable”.); See also Ramazan Arslan et al., *Medenî Usul Hukuku*, 421 (3rd ed. 2017) (giving photos, films, images, sound recordings, or electronic mails as examples of a basis of evidence and reminding that the parties should not obtain those unlawfully).

¹²¹ See Law No. 6100, *supra* note 118, art. 193, 203; See also Arruñada, *supra* note 11, 96 (“[T]here is still a need for the law to establish the rules of evidence: to set the value of the blockchain as a source of evidence for in rem adjudication”).

¹²² Law No. 6563, O. J., Nov. 5, 2014, art. 2.

¹²³ *Ibid.*

¹²⁴ *Ibid.*

activities.¹²⁵ Moreover, other obligations include providing information to the users, protecting personal data obtained through the transactions, retaining the electronic records related to the transactions, or carrying the burden of proof when a user files a complaint to the Ministry of Commerce.¹²⁶

With these rules in mind, whether electronic transactions form valid contracts and grant any rights to the cryptocurrency holders can be analyzed as below.

1. Contract form

As per the freedom of form,¹²⁷ electronic transactions' validity as to form is not questionable.

2. Parties' capacity to contract

Compared to digital transactions, determining the parties' capacity to act,¹²⁸ which is a requirement for the capacity to contract, is less challenging in electronic transactions. Users can check the service providers' information on their website and the ECIS, and the service providers may request information and undertakings from the users during the subscription process.

Thus, the validity of an electronic transaction will not be questionable from this aspect either.

3. Parties' mutual and consistent declarations of intent

In electronic transactions, service providers must provide the users with the information stipulated in the Law on the Regulation of Electronic Commerce before the parties execute a contract.¹²⁹ In this context, service providers must provide the contract's text to the users.¹³⁰ So, when users conclude an electronic transaction, they approve a transaction, and the terms and conditions of this transaction, usually covering the substantial matters under the contract.¹³¹

Thus, an electronic transaction's validity will also not be questionable in this respect.

4. Conclusion

In case an electronic transaction is performed through, e.g., an online cryptocurrency exchange registered with the ECIS, the parties will conclude an electronic commerce contract, and the user will be entitled to:

¹²⁵ Communiqué on the Electronic Commerce Information System and Notification Requirements, O. J., Aug. 11, 2017, art. 4, 5(1); Decree-Law No. 703, O. J., July 9, 2018, art. 29; *cf.* 23 NYCRR Part 200 (2020) (The *BitLicense* regulation have a similar effect. The businesses should have a license to conduct virtual currency activities, and their activities are regulated.).

¹²⁶ Law No. 6563, *supra* note 122, art. 3 *et seq.*; Regulation on the Service Providers and Intermediary Service Providers in the Electronic Commerce, O. J., Aug. 26, 2015, art. 5 *et seq.*

¹²⁷ *See infra* Part II.A.1.

¹²⁸ *See infra* Part II.A.2.

¹²⁹ Law No. 6563, *supra* note 122, art. 3, 4.

¹³⁰ *Ibid.*

¹³¹ *See infra* Part II.A.3.

(a) the rights granted by the terms of this electronic commerce contract, (b) the protection ensured by the electronic commerce legislation, and (c) the applicable rights granted by the general provisions of the Turkish Civil Code and the Turkish Code of Obligations,¹³² unless there is a choice of law provision in the electronic commerce contract indicating another law instead of Turkish law as the contract's governing law. For instance, if a provision in this electronic commerce contract is ambiguous, it will be interpreted in favor of the user.¹³³

Moreover, whether registered with the ECIS, the service providers and the users usually conclude a user agreement to trade on the online cryptocurrency exchanges.¹³⁴ If such an agreement exists, the users will be entitled to the rights under this agreement's terms and governing law.

If there is no such agreement, the existence of a verbal contract and the parties' rights under such contract will be questionable. Accordingly, in case of a dispute, the parties will encounter some legal problems as such in digital transactions.¹³⁵

C. Initial coin offerings

An ICO is to collect funds or cryptocurrencies from investors in return for tokens of a newly issued cryptocurrency to finance a project or a venture company.¹³⁶ Such tokens may represent goods or services related to the project or a return as a share of revenue or equity in the company.¹³⁷

This activity resembles collecting funds from the public, referred to as *crowdfunding* under the Capital Markets Law.¹³⁸ One can perform crowdfunding through the intermediation of the electronic crowdfunding platforms, which commence their activities with the authorization of the Capital Markets Board (hereinafter CMB).¹³⁹ So, if an ICO issuer does not have

¹³² See T. Civ. C., *supra* note 38, art. 5 ("The general provisions of this Code and the Code of Obligations shall apply to all private law relationships, as relevant"); T. C. Obl., *supra* note 74, art. 646 ("This Code is the Fifth Book of the Turkish Civil Code . . . and is an integral part thereof").

¹³³ See T. C. Obl., *supra* note 74, art. 23; See Eren, *supra* note 74, 219-238 (explaining the contract provisions that the academic literature considers *general trading conditions* and the legal consequences arising of such categorization in detail).

¹³⁴ E.g., Coinbase User Agreement (2020),

https://www.coinbase.com/legal/user_agreement/payments_europe (last visited May 1, 2021).

¹³⁵ See *infra* Part II.A.4.

¹³⁶ Cf. Jake Frankenfield, Initial Coin Offering (ICO) (2020),

<https://www.investopedia.com/terms/i/initial-coin-offering-ico.asp> (last visited May 1, 2021) (stating that an ICO is like an initial public offering); See generally Sinan H. Yüksel, Osman Gazi Güçlütürk, *Kripto Varlıkların İlk Arzı (ICO) ve Türk Hukukunda İlgili Düzenlemelerin Tespiti*, *Gelişen Teknolojiler ve Hukuk I: Blokzincir*, 181-254 (2020) (discussing ICOs in detail, considering the EU regulations, the Swiss law, and Turkish capital markets law).

¹³⁷ See Frankenfield, *supra* note 136.

¹³⁸ See Law No. 6362, *supra* note 67, art. 3.

¹³⁹ *Id.*, art. 35/A.

the required authorization, its activities may be found illegitimate.¹⁴⁰

Accordingly, the announcement by the CMB in 2018 alerted the investors on this issue as follows:

“Whether the “token sale” practices, which have similarities with and differences to the initial public offering and crowdfunding activities, will fall under the regulatory boundaries of our Board, will vary on a case-by-case basis. Before the secondary regulations come into force, all necessary administrative and criminal measures will be implemented by our Board regarding crowdfunding activities without authorization. At this stage, investors should not give credit to crypto-asset sales that are likely to be realized under the name of crowdfunding”.¹⁴¹

Nevertheless, such an ICO issuer might have concluded contracts with its investors. If this is the case, the investors will be entitled to the rights under the contract’s terms and governing law. Though, if this contract’s governing law is Turkish law, then it may be found invalid because of violating the Capital Markets Law; if not, our analysis on the electronic transactions will apply to this contract as well.¹⁴²

Conclusion

Under the existing legislation, cryptocurrency holders have limited rights, which aligns with the decentralization notion. Cryptographers designed cryptocurrencies to avoid the monitoring and supervision of a centralized authority such as a state, so the cryptocurrency holders may not expect to enjoy the protection of a state or the legal system created by a state. Besides, any cryptocurrency may even “disappear”, and the system providing its infrastructure may not be reached.¹⁴³ Similarly, a cryptocurrency exchange may suddenly cease its operations.¹⁴⁴

Despite these facts, after a decade since the cryptocurrencies first appeared, in addition to information technologies savvies and professional investors, ordinary persons are also interested in holding cryptocurrencies. Therefore, how the government can provide legal protection to cryptocurrency holders

¹⁴⁰ Cf. Yüksel, Güçlütürk, *supra* note 136, 241 (concluding that ICOs collecting crypto-assets or operating without an intermediary platform would be out of the scope of the crowdfunding activities under the Capital Markets Law).

¹⁴¹ Sermaye Piyasası Kurulu Bülteni 2018/42 (2018), <https://www.spk.gov.tr/Bulten/Goster?year=2018&no=42&year=2018&no=42> (last visited May 1, 2021); See generally Regulators’ Statements on Initial Coin Offerings, <https://www.iosco.org/publications/?subsection=ico-statements> (last visited May 1, 2021) (collection of statements by different countries’ securities regulators).

¹⁴² See T. C. Obl., *supra* note 74, art. 27; See *infra* Part II.B.

¹⁴³ See Szilagyi, *supra* note 45, 34; Pałka, *supra* note 41, 156.

¹⁴⁴ E.g., Taylan Bilgiç, Ercan Ersoy, Crypto Users Bicker After Turkish Exchange Abruptly Goes Silent (2021), <https://www.bloomberg.com/news/articles/2021-04-21/crypto-users-bicker-after-turkish-exchange-abruptly-goes-silent> (last visited May 1, 2021); Jamie Crawley, Turkish Court Jails Thodex CEO’s Siblings in Crypto Exchange Probe (2021), <https://www.coindesk.com/turkish-court-jails-6-thodex-crypto-exchange-ceo-siblings> (last visited May 1, 2021).

without hindering the development of this technology is an important issue.¹⁴⁵

In terms of Turkish law, leaving this issue to the courts will not be an ideal solution.¹⁴⁶ Although the judges have the authority to create rules when there is a legal loophole, such rules only bind the parties of a specific lawsuit, and they are not binding as an enacted legislation.¹⁴⁷ So, even if a court creates a rule, it will not cover all the cryptocurrency holders. Thus, enacting new laws or applying existing laws more effectively can be the two central solutions.

As a new law, the legislator can consider amending the Turkish Civil Code and acknowledging digital assets as an item of property.¹⁴⁸ Such an amendment may categorize the digital assets under *virtual property*, *bitproperty*, *res digitales*, or any similar concept that can be as inclusive as possible.¹⁴⁹ To overcome the question of trust and admissibility as evidence, it should define in detail the expected minimum technical specifications of the digital infrastructures behind the digital assets, so the legally defined digital asset concept should not cover any digital asset generated by a technically unreliable system.¹⁵⁰

Consequently, legally defined digital assets will grant the cryptocurrency holders an absolute right, which can be claimed against everyone and protected by relevant lawsuits, including tort claims.¹⁵¹ Such an amendment will be helpful in terms of clarifying the cryptocurrency holders' rights to wills

¹⁴⁵ See Bozkurt Yüksel, *supra* note 29, 213; See Ondřej Kovařík, Draft Report with Recommendations to the Commission on Digital Finance: Emerging Risks in Crypto-assets - Regulatory and Supervisory Challenges in the Area of Financial Services, Institutions and Markets (2020/2034(INL)) (2020). Available at: https://www.europarl.europa.eu/doceo/document/ECON-PR-650539_EN.pdf (last visited May 1, 2021).

¹⁴⁶ *But see e.g.*, David M. Fox, Cryptocurrencies in the Common Law of Property, 42 (2018). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3232501 (last visited May 1, 2021) (“The common law can . . . provide a default set of property principles to govern cryptocurrency transactions. Statutory intervention is not essential”); *cf.* Bullmann et al., *supra* note 1, 30 (“[R]egulation could be perceived as (unintentionally) legitimi[z]ing crypto-assets business”).

¹⁴⁷ T. Civ. C., *supra* note 38, art. 1; Kemal Gözler, *Hukuka Giriş*, 391-393 (15th ed. 2018).

¹⁴⁸ *See e.g.*, Wyo. Stat. §§ 34-29-101, 34-29-102 (2019) (defining digital assets to include virtual currencies and classifying them as property); *See also* Bilgili, Cengil, *supra* note 41, 20-21 (suggesting an arrangement like the Turkish Civil Code considering certain natural powers as movables or a particular legal arrangement which will provide the cryptocurrencies an absolute right protection). *But see* Tatiana Cutts, David Goldstone, Bitcoin Ownership and its Impact on Fungibility (2015), <https://www.coindesk.com/bitcoin-ownership-impact-fungibility> (last visited May 1, 2021) (arguing that the law of property may be a “wrong tool” to protect the Bitcoin because its technical features are sufficient for protection).

¹⁴⁹ *See generally* Charles Blazer, *The Five Indicia of Virtual Property*, 5 *Pierce L. Rev.*, 137-161 (2006); *See generally* Joshua A. T. Fairfield, *Bitproperty*, 88 *S. Cal. L. Rev.*, 805-874 (2015); *See generally* Wian Erlank, *Introduction to Virtual Property: Lex Virtualis IPSA Loquitur*, 18 *Potchefstroom Elec. L. J.*, 2524-2559 (2015); Pałka, *supra* note 41.

¹⁵⁰ *Cf.* Reyes, *supra* note 26, 228 (“[T]his is a proposal that regulators undertake the dual task of enacting a law or regulation via statute, and then implementing that statute through code, so that it is endogenously incorporated into the decentralized ledger technology or applications running on top of the technology”); Szilagyí, *supra* note 45, 34 (“Bitcoin is not meaningful if separated from the blockchain that powers it”).

¹⁵¹ *See* T. Civ. C., *supra* note 38, art. 683(2); Eren, *supra* note 74, 617-620; *cf.* Kapanıcı, *supra* note 2, 121-124 (stating that tort claims are possible even without such absolute right, such as in the events of criminal or immoral acts).

and testaments and matrimonial assets regimes as well. However, making such an amendment only in Turkey will not be sufficient, as the parties to a digital transaction, a service provider, or an intermediary service provider in an electronic transaction, an ICO issuer, the blockchain recording the transactions, or the miners verifying the transactions can all be in the different parts of the world. Defining all these elements under local legislation and expecting binding legal outcomes may result in theoretical rules that are not applicable in practice¹⁵² or conflict with international law. Thus, handling the issue internationally¹⁵³ within the scope of an international treaty,¹⁵⁴ and founding technological collaborations to ensure the rules under such a treaty are enforceable, will be a more effective solution. In this context, the legislator may need to revisit the principles of international law, such as jurisdiction and territoriality.¹⁵⁵

The legislator can adopt a similar approach for cryptocurrency holders' contractual rights as well. New laws amending the Turkish Code of Obligations and the Capital Markets Law, embracing digital transactions and ICOs, and acknowledging them in an international and technological framework like acknowledging the digital assets will grant the parties at least relative rights to claim against each other.¹⁵⁶

Furthermore, another new law can acknowledge cryptocurrencies as foreign currency. If this is preferred, then the cryptocurrencies can be regulated under the foreign exchange legislation, which will protect the cryptocurrency holders and grant the authority to the government to keep the cryptocurrency transactions under control. For instance, in such a case, cryptocurrencies will be sold or bought only through authorized institutions. These institutions will document the cryptocurrency transactions, and parties to a contract can agree to payment in cryptocurrencies, except for specific contracts that one cannot conclude in foreign currencies.¹⁵⁷

Though, enacting any of these new laws will require a long time and detailed studies. Thus, in the meantime, we propose that the government

¹⁵² See Bullmann et al., *supra* note 1, 28-29.

¹⁵³ Burçin Bozdanoglu, *Sanal Para Birimi Bitcoin'in Kayıtdışı Ekonomi ile Karapara Faaliyetlerine Etkisi ve Vergilendirilmesi*, 10 Mali Hukuk Dergisi 3, 17 (2014); Jon Buck, German Central Bank Director: Crypto Regulations Must Be International (2018), <https://cointelegraph.com/news/german-central-bank-director-crypto-regulations-must-be-international> (last visited May 1, 2021); Schembri, *supra* note 1, 65.

¹⁵⁴ Cf. Pałka, *supra* note 41, 200 (“[I]t is hard to imagine that an international treaty regarding virtual items will soon be concluded”).

¹⁵⁵ See Lastra, Allen, *supra* note 1, 14; See generally P. R. Stephenson, *International Private Law as a Model for Private Law Jurisdiction in Cyberspace*, 7 Legal Issues J., 103-134 (2019) (discussing the “jurisdictional guidelines for cyberspace” from torts perspective).

¹⁵⁶ See Eren, *supra* note 74, 52-56 (explaining the relative rights concept in detail).

¹⁵⁷ See T. C. Obl., *supra* note 74, art. 99; Decree on the Preservation of the Value of Turkish Currency No. 89/14391, O. J., Aug. 11, 1989, art. 2, 4, 6, 23; See also Communiqué No. 2008-32/34 regarding the Decree on the Preservation of the Value of Turkish Currency, O. J., Feb. 28, 2008, art. 8 (detailing the contracts which cannot be concluded in foreign currencies).

applies the Law on the Regulation of Electronic Commerce more effectively. For instance, the Ministry of Commerce can audit the online cryptocurrency exchanges under its jurisdiction, which facilitate electronic transactions, check whether they comply with the rules of conducting electronic commerce, and apply administrative fines as required¹⁵⁸. Moreover, the legislator can consider strengthening the provisions of this law. In this context, it can regulate the service providers' and intermediary service providers' requirement to register to the ECIS as an obligation under the law and impose effective sanctions for non-compliance.¹⁵⁹ Similarly, it can oblige the service providers and intermediary service providers to obtain *trust marks*, which will ensure a certain standard of security and service quality.¹⁶⁰ Thereby, it can create a safer and more transparent environment for cryptocurrency trading as a beginning.

¹⁵⁸ Law No. 6563, *supra* note 122, art. 2, 11, 12.

¹⁵⁹ Currently, a communiqué regulates this requirement, and the purpose is to follow and evaluate the development of electronic commerce, not the user protection. *See* Law No. 6563, *supra* note 122, art. 11(3); Communiqué on the Electronic Commerce Information System and Notification Requirements, *supra* note 125, art. 5.

¹⁶⁰ *See* Communiqué on the Trust Marks in the Electronic Commerce, O. J., June 6, 2017, art. 2(1), 4, 5.