İSTANBUL UNIVERSITY PRESS

Annales de la Faculté de Droit d'Istanbul, 76: 27–46

DOI: 10.26650/annales.2025.76.0002
http://annales.istanbul.edu.tr/

Submitted: 15.08.2024
Accepted: 18.12.2024
Published Online: 15.01.2025

Annales de la Faculté de Droit d'Istanbul

RESEARCH ARTICLE

The Applicable Law to Proprietary Issues on Digital Assets considering Recent Developments: *Lex rei Sitae* or Not?

Ekin Ömeroğlu*

Abstract

The legal nature of digital assets and the applicable law for digital assets have been debated in recent years in many legal systems, including Turkish law. The inability to reach a definite conclusion on evaluating the legal nature of digital assets in Turkish law makes it difficult to determine the applicable law to proprietary issues on digital assets in private international law. In the context of conflict of laws rules, determining the applicable law for rights over digital assets depends more on the medium in which the asset is recorded than its function. National legislators and legal institutions are seeking new connecting factors beyond the traditional *lex rei sitae* principle, given that digital assets predominantly exist in electronic environments. Therefore, our study aims to address how to bridge the gap in Turkish private international law concerning the applicable law for digital asset proprietary issues by drawing on comparative law developments.

Keywords

Digital assets, Blockchain, Proprietary, Applicable Law, Lex rei sitae

***Corresponding Author:** Ekin Ömeroğlu (Assoc. Prof. Dr.), Kadir Has University, Faculty of Law/Private International Law Department, İstanbul, Türkiye. E-mail: ekin.hacibekiroglu@khas.edu.tr ORCID: 0000-0002-2656-5996

To cite this article: Omeroglu E, "The Applicable Law to Proprietary Issues on Digital Assets considering Recent Developments: *Lex rei Sitae* or Not?", (2025) 76 Annales de la Faculté de Droit d'Istanbul 27. https://doi.org/10.26650/annales.2025.76.0002

Introduction

Digital assets undoubtedly present new challenges for private international law. Blockchain technology and the values called "tokens" produced in chains established using this technology have emerged as a new medium of exchange and financial investment instrument that the states have not regulated in the past few years. Digital assets, and especially crypto assets, transfer the value from one point of the world to another, directly and without any cost, without an intermediary institution. Nowadays, a large part of currency token trading occurs online with cryptobrokers or via cryptoexchanges. Such transactions often have a cross-border connection and thus raise the conflict of law question regarding which law will apply to the various legal relationships. To determine the applicable law for disputes involving a foreign element, the characterisation of the connecting subject matter is necessary. When discussing proprietary rights over digital assets, characterising such disputes in terms of private international law is not easy. This is because the rules regarding property ownership are designed with physical movable and immovable items in mind rather than digital assets. Therefore, this paper will first briefly address digital assets and then discuss how disputes regarding digital assets and proprietary rights should be characterised.

Disputes relating to digital assets may arise from a debt relationship or may relate to the proprietary issues over the digital asset. In this study, we will discuss the law applicable to the disputes arising from proprietary rights over digital assets. While examining the applicable law regarding proprietary issues over digital assets, we will elaborate on national legal systems and the soft law instruments of legal institutions that have regulated provisions on private international law aspects like the question of who has digital assets and according to which rules it can be disposed of with third party effect.

In some provisions regulated by national laws and soft law instruments, the party autonomy principle and the more closely connected law have been adopted as connecting factors for determining the applicable law regarding proprietary issues over digital assets. For this reason, this study will also address concepts of the more closely connected law and the principle of party autonomy, which is accepted or proposed as the connecting factor in determining the applicable law for ownership rights over digital assets in some of these regulations.

I. Characterisation of Digital Assets and Transactions Relating to Real Rights over Digital Assets

Disputes regarding digital assets that are claimed to have a foreign element due to their nature fall within the scope of private international law[1]. To determine the

1 F. Guillaume, 'Aspects of Private International Law Related to Blockchain Transactions" in Daniel Kraus, Thierry Obrist and Olivier Hari (eds), *Blockchains, Smart Contracts, Decentralised Autonomous Organisations and the Law* (Edwards

conflict of law rule that will ascertain the applicable law in private international law, it is first necessary to characterise the legal relationship in question[2]. Thus, to determine the applicable law in disputes concerning proprietary rights over digital assets, it is essential first to define what digital assets are in general terms.

Digital asset classification represents a challenge not only for substantive law but also for the conflict of laws. Generally, digital assets are digital value units that are stored in a mostly decentralised booking system and transferred as well as used as the basis for real security[3]. The characterisation of the connecting subject matter is mostly conducted according to the *lex fori*[4]. However, Turkish law does not define digital assets. In addition, UNIDROIT Digital Assets and Private Law Principles[5] and ELI Principles on the Use of Digital Assets as Security[6] contain a definition for digital assets. According to the ELI Principles, a digital asset represents value that can be subject to rights of control, use, and enjoyment and can be transferred from one person to another. It meets the criteria of being electronically stored, displayed, and managed on or through a virtual platform or database, including the dematerialised or representative form of assets traded in the real world, whether held directly or through an intermediary account. In line with the definition provided in Article 2(2) of the UNIDROIT Principles, a digital asset is an electronic record that is capable of being subject to control. In addition, according to the explanation provided in the Commentary on the UNIDROIT Principles, digital assets are defined as data created, recorded, stored, and transferable in a digital environment, over which parties have control, specifically including crypto assets such as Bitcoin[7].

Blockchains, tokens, gaming accounts, and assets that can be purchased in the metaverse can be cited as examples of digital assets[8]. As we have noted, the most common example of digital assets is cryptoassets (cryptocurrencies). While the legal nature of cryptoassets varies across different legal systems, many jurisdictions recognise cryptoassets as intangible property. For instance, under English law, cryptoassets are

Elgar Publishing 2019) 59; Michael Stürner, *Europäisches Vertragrecht* (De Gruyter 2021) 654.

2 James Fawcett, Janeen M. Carruthers, *Cheshire, North & Fawcett Private International Law* (15th edn, Oxford University Press 2022) 42; Ergin Nomer, *Devletler Hususi Hukuku* (23rd edn, Beta Publishing 2021) 97; Aysel Çelikel, B. Bahadır Erdem, *Milletlerarası Özel Hukuk* (16th edn, Beta Publishing 2020) 75; Cemal Şanlı, Emre Esen, İnci Ataman-Figanmeşe, *Milletlerarası Özel Hukuk* (10th edn, Beta Publishing 2024) 57.

3 C. Wendehorst, 'Digitalgüter im Internationalen Privatrecht' (2020) *Praxis des Internationalen Privat– und Verfahrensrechts (IPRax)* 494.

4 Nomer (n 2) 100; Çelikel, Erdem (n 2) 79; Şanlı, Esen, Ataman-Figanmeşe (n 2) 60; Sibel Özel, Mustafa Erkan, Hatice Selin Pürselim, Hüseyin Akif Karaca, Milletlerarası Özel Hukuk (3rd edn, On İki Levha Publishing 2024) 89.

5 UNIDROIT Digital Assets and Private Law Principles, <www.unidroit.org/wp-content/uploads/2024/01/Principles-on-Digital-Assets-and-Private-Law-linked.pdf>, accessed 27 September 2024.

6 ELI Principles on the Use of Digital Assets as Security, https://www.europeanlawinstitute.eu/projects-publications/publications/eli-principles-on-the-use-of-digital-assets-as-security/ (Last Accessed: 02.10.2024).

7 UNIDROIT Digital Assets and Private Law Principles, 13-15.

8 İbrahim Doğan Takavut, '5718 Sayılı MÖHUK ve Dijital Varlıklara İlişkin Uyuşmazlıklar' in Sibel Özel, Mustafa Erkan and Hatice Selin Pürselim (eds), *MÖHUK'ta Reform* (On İki Levha Publishing 2023) 349.

recognised as intangible property[9]. It has been stated that, like English law, German law may also recognise cryptocurrencies as intangible property[10]. As discussed, many times in the Turkish law doctrine[11], cryptoassets are not considered money or goods. Under Turkish law, the generally accepted view is that cryptocurrencies have the value of intangible assets as well[12]. The "Regulation on the Disuse of Crypto Assets in Payments[13]" includes the first provision regarding cryptoassets in Turkish law. According to Article 3(1) of the Regulation, "*crypto asset refers to intangible assets that are created virtually using distributed ledger technology or a similar technology and distributed via digital networks, but are not classed as fiat money, deposit money, electronic money, payment instrument, securities, or other capital market instruments*."

Crypto assets, which are a type of digital assets, can be defined in simple terms. They emerge as a virtual currency created by the method of cryptography and are not subject to the management and control of a central authority[14]. The first cryptocurrency in the world is Bitcoin, which emerged in 2008 with an article published by Satoshi Nakamoto[15]. Bitcoin is transferred through a technology called blockchain, and all users included in the Bitcoin network can have the information contained therein[16].

On the other hand, different approaches have been adopted worldwide regarding the legal nature of cryptocurrencies. In some legal systems, such as Japan and Switzerland, cryptocurrencies are accepted as a legal means of payment, while in Brazilian law, cryptocurrencies are considered commodities[17].

9 Andrew Dickinson, 'Cryptocurrencies and the Conflict of Laws' in David Fox and Sarah Green (eds), *Cryptocurrencies in Public and Private Law* (Oxford University Press 2019) 127; Michael Ng, 'Choice of Law for Property Issues Regarding Bitcoin under English Law' (2019) 15 *Journal of Private International Law* 326.

10 S. Schwemmer, 'Das Tokensachstatut Zur kollisionsrechtlichen Behandlung der Übertragung von Bitcoin, Kryptowertpapieren und anderen Kryptoken'(2022) *Praxis des Internationalen Privat– und Verfahrensrechts (IPRax)* 333.

11 Kadir Berk Kapancı, 'Özel Hukuk Penceresinden Blokzincir: 'Sanal Para' Değerleri ve 'Akıllı Sözleşmeler' Üzerine Değerlendirmeler' in Eylem Aksoy Retornaz and Osman Gazi Güçlütürk (eds), *Gelişen Teknolojiler ve Hukuku I: Blokzincir* (On İki Levha Publishing 2020) 119; Fatih Bilgili, M. Fatih Cengil, *Blockchain ve Kripto Para Hukuku* (2nd edn, Dora Publishing 2022) 144; Asuman Yılmaz, *Kripto Para Birimi Bitcoin ve Bitcoin'in Türk Sermaye Piyasası Hukuku Açısından Değerlendirilmesi* (On İki Levha Publishing 2021) 42-44; Argun Karamanlıoğlu, 'Son Gelişmeler Işığında Kripto Paraların Hukuki Niteliği ve Kripto Para Borsalarına İlişkin Tespit ve Öneriler' in Başak Baysal, Nilay Arat, Ahmet Abut and Tuğçe Bilgetekin (eds), *Khas Hukuk Bülteni 2020-2021 Akademik Yılı Derlemesi* (On İki Levha Publishing) 180; Mete Tevetoğlu, 'Bankacılık ve Sermaye Piyasası Hukuku Perspektifinden Bitcoin Davaları' (2020) 9(34) *Banka ve Finans Hukuku Dergisi* 551; Osman Gazi Güçlütürk, 'Türk Hukukunda Kripto Varlıkların Para ve Elektronik Para Niteliğinin İncelenmesi' (2019) 4(3) *REGESTA* 397; Deniz Alp İmamoğlu, *Kripto Para Birimleri ve Türk Hukukunda Düzenlenmesi* (3rd edn, Seçkin Publishing 2022) 100.

12 Kapancı (n 11) 121; Bilgili, Cengil, (n 11*)* 144; Mesut Serdar Çekin, 'Kripto Varlıklar Üzerinde Gerçekleştirilen İşlemlerin Borçlar Hukuku ve Eşya Hukuku Açısından Değerlendirilmesi' (2022) 9(1) *İstanbul Medipol Üniversitesi Hukuk Fakültesi Dergisi* 5.

13 Regulation on the Disuse of Crypto Assets in Payments, <https://www.tcmb.gov.tr/wps/wcm/connect/c241af16-e730-45b5-bb0d-31d3af28884e/Regulation+on+the+Disuse+of+Crypto+Assets+in+Payments.pdf?MOD=AJPERES>, accessed 27 September 2024.

14 Yılmaz (n 11) 6; Burcu Yüksel Ripley, 'Cryptocurrency Transfers in Distributed Ledger Technology-Based Systems and their Characterisation in Conflict of Laws' in Justin Borg-Barthet, Katarina Trimmings, Burcu Yüksel Ripley and Patricia Zivkovic (eds), *From Theory to Practise in Private International Law* (Hart Publishing 2024) 112.

15 Satoshi Nakamoto, Bitcoin: A Peer-to-Peer Electronic Cash System, 2008, <https://bitcoin.org/bitcoin.pdf>, accessed 12 May 2024.

16 Yılmaz (n 11) 10.

17 Türkiye Bilişim Vakfı, 'Dünyada Blokzinciri Regülasyonları ve Uygulama Örnekleri Karşılaştırma Raporu' (2019) <https://bctr.org/dokumanlar/Dunyada_Blokzinciri_Regulasyonlari.pdf>, accessed August 05, 2024.

Assuming that it is possible to file a lawsuit in Turkish courts in disputes regarding digital assets, which are subject to different statutes by legal systems, it is critical to determine the law under which the courts will resolve the dispute.

Disputes arising from digital assets are subject to classification based on the legal relationship involving the digital asset. The rise in cryptocurrency theft, blockchain network forks, and disputes arising from the bankruptcy of crypto exchanges have necessitated addressing the private international law aspects of digital assets, particularly cryptocurrencies. These disputes may originate from a contract involving the digital asset or from a non-contractual obligation, such as in the case of the theft of a digital asset[18]. Within the scope of our study, such legal relationships will not be addressed. Instead, this study focuses on determining the applicable law for disputes arising from proprietary issues over digital assets. As stated in our study, if *lex fori* characterisation is accepted in the qualification of the connecting subject matter, the law of the forum will determine what qualifies as proprietary issues[19]. In Turkish law, there is no legal regulation regarding the legal nature of rights over digital assets, nor is it a subject on which there is a consensus in the legal doctrine. It has been stated in Turkish law that the rights over cryptoassets will be included in the category of proprietary rights[20]. Property rights, as they carry economic value and can be measured in monetary terms, have led to the doctrine that rights over crypto assets can also be included in the category of property rights. According to this view, the authority of the private key holder to make claims against third parties can be considered within the category of property rights, on the grounds that such authority may be determined by the value the crypto asset represents outside the blockchain network[21]. Although digital assets, which are considered intangible property and do not possess the characteristics of tangible goods, may not appear to be subject to real rights, as a *de lege ferenda* solution, it has been suggested that crypto assets could be subject to movable property ownership under the Turkish Civil Code[22].

II. Which Law Governs Proprietary Issues on Digital Assets?

Although rights over digital assets that could be subject to property rights are not explicitly regulated by legal provisions, it has been suggested in the doctrine that matters related to the ownership, transfer, use of digital assets, and third-party rights over digital assets fall within the scope of property issues[23]. Additionally, in the

18 Ng (n 9) 316; Guillaume (n 1) 62.

19 Ng (n 9) 321; Gerald Spindler, 'Fintech, Digitalization, and the Law Applicable to Proprietary Effects of Transactions in Securities (Tokens): A European Perspective' (2019) 24 *Uniform Law Review* 725; Schwemmer (n 10) 335.

20 Takavut (n 8) 363.

21 Çekin (n 12) 11-12.

22 Çekin (n 12) 27.

23 Christiane Wendehorst, 'Proprietary Rights in Digital Assets and the Conflict of Laws' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023) 101, 107; Tetsuo

Introduction of the UNIDROIT Principles, it is stated that proprietary aspects over digital assets, regardless of whether digital assets are recognised as property under national laws, encompass ownership rights, the protection of innocent acquirers, and security rights over digital assets[24].

The question arises as to whether, if rights over digital assets are likened to proprietary rights, the applicable law can be determined based on the status of real rights (*rights in rem*). Traditionally, *lex rei sitae* is accepted as a connecting factor by national laws for rights *in rem* on movables and immovables. However, digital assets differ from other properties in that they do not have any physical location. Therefore, various connecting factors related to the law applicable to proprietary issues of digital assets have been recognised through case law in some legal systems and statutory regulations in others. These connecting factors include the choice of law, the law of the supervisor, the law of the operator, the law of the issuer, the law of custody and the place of residence or business of the person in control. In addition, provisions concerning the law applicable to disputes over the property of digital assets have begun to be adopted by soft law. In this section of our study, the connecting factors recognised by national laws and soft law for determining the applicable law to disputes arising from property issues of digital assets will be examined.

A. National Legal Provisions on the Law Applicable to Proprietary Rights in Digital Assets

1. The German Electronic Securities Act (*Gesetzes zur Einführung von elektronischen Wertpapieren*)

In German law, there are no specific conflict of law rules indicating the applicable law for disputes arising from blockchain technology[25]. However, the German Electronic Securities Act (*Gesetzes zur Einführung von elektronischen Wertpapieren* - "eWpG")[26] introduces a central register for electronic securities. Although the regulation in German law primarily pertains to electronically registered securities, it has been stated in German legal doctrine that it could also be an example and applicable to digital assets on the blockchain[27]. It is stated that although the eWpG does not explicitly mention blockchain technology, it adopts a neutral approach

Morishita, 'Blockchain and Japanese Private International Law' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023) 783.

24 UNIDROIT Digital Assets and Private Law Principles, 5.

25 Felix M. Wilke, 'A German Approach: Lex Supervisionis Registri and Subordinate Connecting Factors' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023) 743.

26 Gesetzes zur Einführung von elektronischen Wertpapieren, <https://www.gesetze-im-internet.de/ewpg/BJNR142310021.html>, accessed September 29, 2024.

27 Matthias Lehmann, 'Kollisionsregeln für die Blockchain im Rechtsvergleich' (2023) 122 *Zeitcshrift für Vergleichende Rechtswissenschaft (ZVglRWiss)* 274; Wendehorst (n 23) 109.

with the aim of adapting future developments[28]. Therefore, the connecting factors regulated in the eWpG will be briefly addressed within the scope of this study.

Section 32 of the Law contains a conflict of laws rule. According to this provision, rights to an electronic security and dispositions over electronic security are subject to the law of the state under whose supervision the registry authority responsible for maintaining the electronic securities registrar is situated[29]. Registrar for electronic securities means the issuer or a financial service provider designated by the issuer and responsible for registration management[30]. However, in German law, there is no provision regarding which law to apply in cases where the place and identity of the registrar or issuer cannot be determined.

2. The Liechtensteiner Token and Trusted Technology Service Provider Act (*Gesetz über Token und Vertrauenswürdige Technologien*)

The Liechtensteiner Token and Trusted Technology Service Provider Act (*Gesetz über Token und Vertrauenswürdige Technologien* – "TVTG")[31], which came into force in 2020, includes both regulatory and private law provisions for token issuers and other crypto service providers[32].

Under Article 3(2) of the TVTG, to apply this Act, the tokens must be created by a trustworthy technology service provider[33] with its headquarters or place of residence in Liechtenstein, or the parties must explicitly choose to apply the provisions of this Act to a legal transaction involving the tokens[34]. In the absence of an explicit choice of law by the parties regarding the application of the TVTG, the applicable law should be determined according to the conflict of laws rules in Liechtenstein law[35].

28 Wilke (n 25) 732.

29 "Soweit nicht § 17a des Depotgesetzes anzuwenden ist, unterliegen Rechte an einem elektronischen Wertpapier und Verfügungen über ein elektronisches Wertpapier dem Recht des Staates, unter dessen Aufsicht diejenige registerführende Stelle steht, in deren elektronischem Wertpapierregister das Wertpapier eingetragen ist."

30 Wendehorst (n 3) 495; Lehmann (n 27) 274.

31 Gesetz über Token und Vertrauenswürdige Technologien, 2019, <https://www.gesetze.li/konso/2019301000/?version=1>, accessed September 29, 2024.

32 Lehmann (n 27) 276.

33 According to Article 2(1)(i), a trustworthy technology service provider is a person who exercises one or more functions under the token issuer, token generator, trustworthy technology key depositary, trustworthy technology token depositary, trustworthy technology protector, physical validator , trustworthy technology exchange service provider, trustworthy technology verifying authority, trustworthy technology price service provider, and trustworthy technology identity service provider. For details on the definitions provided in the Liechtenstein law, see <https://www.gesetze.li/konso/2019301000/?version=1>, accessed September 29, 2024.

34 "Es findet Anwendung, wenn: a) Token durch einen VT-Dienstleister mit Sitz oder Wohnsitz im Inland erzeugt oder emittiert werden; oder b) Parteien in einem Rechtsgeschäft über Token dessen Vorschriften ausdrücklich für anwendbar erklären."

35 Francesco A. Schurr, Angelika Layr, 'DLT and PIL from the Perspective of Liechtenstein' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023) 759.

3. Swiss Private International Law Act *(Bundesgesetz über das Internationale Privatrecht)*

One of the legal systems that includes provisions on the applicable law to the disputes over proprietary issues of digital assets is Swiss law. According to Article 145a[36] added to the Swiss Private International Law Act in 2020[37], disputes regarding whether a claim is represented by a document or equivalent instrument and whether such document can be transferred shall be governed by the law specified in the relevant document. If no specific law is indicated in the document, it is presumed that the law of the state in which the issuer has its registered office, or failing that, the law of the state of its habitual residence, shall apply. In the Swiss doctrine, it has also been stated that there is legal uncertainty regarding the applicable law due to the absence of a specific provision concerning crypto assets in the Swiss PILA[38].

In Swiss private international law, Article 108a[39] of the Swiss PILA provides a definition of intermediated securities. According to that provision, intermediated securities are securities held with an intermediary as defined in the Hague Convention of 5 July 2006 on the Law Applicable to Certain in Respect of Securities held with an Intermediary[40]. However, the applicability of Article 108a, which does not explicitly mention digital assets, to digital assets used as security has been discussed in the doctrine[41].

One of the connecting factors put forward in the law applicable to digital assets used as security is the law of the intermediary's principal place of business, abbreviated as PRIMA (place of relevant intermediary approach)[42] and recommended as the applicable law in international qualified ownership disputes regarding securities in the intermediary system in the Hague Convention[43]. However, the Hague Convention cannot be applied to disputes arising from blockchain networks, which are fundamentally organised in a decentralised manner, because the Hague Convention presumes the existence of one or more intermediaries[44].

36 "Ob eine Forderung durch einen Titel in Papier- oder gleichwertiger Form vertreten und mittels dieses Titels übertragen wird, bestimmt das darin bezeichnete Recht. Ist im Titel kein Recht bezeichnet, so gilt das Recht des Staates, in dem der Aussteller seinen Sitz oder, wenn ein solcher fehlt, seinen gewöhnlichen Aufenthalt hat."

37 Bundesgesetz über das Internationale Privatrecht, 1987, <https://www.fedlex.admin.ch/eli/cc/1988/1776_1776_1776/de>, accessed September 29, 2024.

38 Pascal Favrod-Coune, Kevin Belet, 'Conflict of Laws and Tokens in Swiss Private International Law' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023) 707.

39 "Der Begriff der intermediärverwahrten Wertpapiere ist im Sinne des Haager Übereinkommens vom 5. Juli 2006 über die auf bestimmte Rechte an intermediärverwahrten Wertpapieren anzuwendende Rechtsordnung zu verstehen."

40 Convention of 5 July 2006 on the Law Applicable to Certain Rights in Respect of Securities held with an Intermediary, https://www.hcch.net/en/instruments/conventions/full-text/?cid=72 (Last Accessed:11.07.2024).

41 Lehmann (n 27) 276.

42 For further information on the PRIMA principle for international qualified ownership disputes regarding securities in the intermediary system see: Ayşe Elif Ulusu, *Milletlerarası Özel Hukukta Kaydi Menkul Kıymet Ticaretinde Hak Sahipliği İhtilaflarına Uygulanacak Hukuk* (On İki Levha Publishing 2022).

43 Wendehorst (n 3) 496.

44 Guillaume (n 1) 80; Spindler (n 19) 730; Lehmann (n 27) 276.

4. Uniform Commercial Code (UCC)

The law applicable to proprietary rights over digital assets in the United States is found in the Uniform Commercial Code (UCC)[45]. In 2022, amendments were made to the UCC, introducing a Section 12. Section 12(107) (c) of the UCC[46] introduces the rule of waterfall[47]. In other words, if no connecting factor exists, the applicable law should be determined based on the next available connecting factor in the sequence. The provision first recognises the acceptance of party autonomy. The choice of law can be made either in the digital asset itself, or where it is recorded, or for the entire system[48]. If no choice of law is made, it is acknowledged under UCC Sec. 12 107(c) (5) that the law of Washington D.C. will apply.

B. Soft Law Principles on the Law Applicable to Proprietary Rights in Digital Assets

1. ELI Principles on the Use of Digital Assets as Security

The principles outlined in the guide prepared by the European Law Institute (ELI) regarding the Use of Digital Assets as Security[49] serve as regulatory frameworks that states can draw inspiration from when developing their national regulations on this matter.

Article 1 of the ELI Principles pertains to the use of digital assets as security by natural or legal persons. Additionally, Articles 3 and 4 of the ELI Principles contain provisions regarding the applicable law for the creation of security rights over digital assets and the law applicable to the effects of security rights over digital assets against

45 Uniform Commercial Code, <https://www.uniformlaws.org/acts/ucc>, accessed September 29, 2024.

46 "The following rules determine a controllable electronic record's jurisdiction under this section:
(1) If the controllable electronic record, or a record attached to or logically associated with the controllable electronic record and readily available for review, expressly provides that a particular jurisdiction is the controllable electronic record's jurisdiction for purposes of this article or [the Uniform Commercial Code], that jurisdiction is the controllable electronic record's jurisdiction.
(2) If paragraph (1) does not apply and the rules of the system in which the controllable electronic record is recorded are readily available for review and expressly provide that a particular jurisdiction is the controllable electronic record's jurisdiction for purposes of this article or [the Uniform Commercial Code], that jurisdiction is the controllable electronic record's jurisdiction.
(3) If paragraphs (1) and (2) do not apply and the controllable electronic record, or a record attached to or logically associated with the controllable electronic record and readily available for review, expressly provides that the controllable electronic record is governed by the law of a particular jurisdiction, that jurisdiction is the controllable electronic record's jurisdiction.
(4) If paragraphs (1), (2), and (3) do not apply and the rules of the system in which the controllable electronic record is recorded are readily available for review and expressly provide that the controllable electronic record or the system is governed by the law of a particular jurisdiction, that jurisdiction is the controllable electronic record's jurisdiction.
(5) If paragraphs (1) through (4) do not apply, the controllable electronic record's jurisdiction is the District of Columbia."

47 Lehmann, 'Digital Assets in the Conflict of Laws: A Comparative Search for the Ideal Rule', 4 (*SSRN 4862792*, 20 May 2024) < https://ssrn.com/abstract=4862792> accessed August 01, 2024.

48 Lehmann (n 27) 272.

49 ELI Principles on the Use of Digital Assets as Security, https://www.europeanlawinstitute.eu/projects-publications/publications/eli-principles-on-the-use-of-digital-assets-as-security/ (Last Accessed: 16.07.2024).

third parties. In both Article 3(2)[50] and Article 4(2)[51], the same connecting factor is accepted, namely the law of the place of business of the security provider at the time the security interest is created, or, if there are multiple places of business, the law of the location of the central administration. Under the ELI Principles, the focus is on the security provider as the connecting factor due to the easier identification of digital asset providers on the blockchain.

The ELI Principles also provided an escape clause for determining the applicable law both in the creation of security rights over digital assets and in their effectiveness against third parties. According to Articles 3(3)[52] and 4(3)[53] of the ELI Principles, if a digital asset is clearly connected with one particular jurisdiction, the law of that jurisdiction is deemed the applicable law. The connecting factor adopted in the ELI Principles is exemplified as applying to disputes concerning stablecoins, virtual currencies, NFTs, and utility tokens, particularly those operated by identifiable operators and hosted on permissioned ledgers[54]. It should be noted that these conflict of laws rules pertain solely to the creation and effectiveness of security rights over digital assets and do not include a connecting rule regarding the law applicable to all real rights issues related to digital assets.

2. UNIDROIT Principles on Digital Assets and Private Law

Another initiative aimed at unifying the legal framework internationally, prompted by the inadequacies of national laws in resolving disputes related to digital assets, cryptocurrencies, and blockchain technology, is the UNIDROIT Principles on Digital Assets and Private Law. Prepared by the International Institute for the Unification of Private Law (UNIDROIT), these Principles provide a conflict of laws rule intended to guide legislators, courts, and practitioners.

Article 5 of the UNIDROIT Principles contains a conflict of laws rule. The commentary on Article 5 states that the purpose of this rule is to ensure clarity and legal certainty in the law applicable to disputes concerning the proprietary issues

50 "For the purposes of Principle 3(1), the 'applicable law' is the law of the jurisdiction in which the security provider has, at the time of the creation of the security interest, its place of business, or its central administration (if it has a place of business in more than one jurisdiction) or the law of the jurisdiction in which the security provider has its habitual residence (absent a place of business)."

51 "For the purposes of Principle 4(1), the 'applicable law' is the law of the jurisdiction in which the security provider has, at the time of the creation of the security interest, its place of business or its central administration (if it has a place of business in more than one jurisdiction) or the law of the jurisdiction in which the security provider has its habitual residence (absent a place of business)."

52 "By derogation from Principle 3(2), in those cases where the digital asset itself is clearly connected with one particular jurisdiction, the law of that jurisdiction is deemed to be the 'applicable law'."

53 "By derogation from Principle 4(2), in those cases, where the digital asset itself is clearly connected with one particular jurisdiction, the law of that jurisdiction is deemed the 'applicable law'"

54 The European Law Institute, 'ELI Principles on the Use of Digital Assets Report of the European Law Institute' (2022)<https://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Principles_on_the_Use_of_Digital_Assets_as_Security.pdf > accessed 22 July 2024, 27.

of digital assets[55]. According to this rule, the choice of law primarily determines proprietary issues regarding a digital asset. This choice of law can be made within the digital asset itself or within the system in which the digital asset is recorded. While the UNIDROIT Principles allow for the possibility of choosing the applicable law, they require that this choice be made explicitly.

In the absence of a choice of law, the law of the issuer's statutory seat will apply to the digital asset. If no choice of law has been made and the applicable law cannot be determined, the UNIDROIT Principles offer national legislators two options. Under Option A, the law-governing rights over digital assets can be subject to specific rules of national law supported by the UNIDROIT Principles. Under Option B, the applicable law can directly reference the UNIDROIT Principles as the governing law.

III. Current Legislation and Proposals in Turkish Private International Law for the Applicable Law to Proprietary Rights over Digital Assets

A. The Applicable Law for the Proprietary Rights over Digital Assets under the Turkish Private International and Procedural Law Act

In Turkish private international law, conflict of laws rules are set forth in Law No. 5718 on Private International Law and Procedure (hereinafter referred to as "Turkish PILA"), which came into effect on December 4, 2007[56]. However, the Turkish PILA excludes a specific provision regarding the applicable law for proprietary rights over digital assets. In Turkish PILA, the law applicable to rights *in rem* over movable and immovable property is regulated under Article 21, which adopts the principle of *lex rei sitae*, which refers to the law of the place where the property is located. As mentioned in our study, digital assets are considered intangible property under Turkish law, and Article 21 of the Turkish PILA does not encompass the concept of intangible property.

In determining the applicable law for rights *in rem* over digital assets under the Turkish PILA, another potential provision is Article 23, which governs the law applicable to intellectual property rights. However, as this provision is limited to intellectual property rights, it is not suitable for determining the applicable law for rights over digital assets[57]. Additionally, the conflict of laws rules concerning intellectual property rights accept the principle of territoriality and, therefore, cannot be applied to disputes regarding the proprietary issues of digital assets. Indeed, because digital assets do not have a physical location, there is no country of protection

55 Ibid 41.

56 Law No. 5718 on Private International Law and Procedure, <https://www.mevzuat.gov.tr/mevzuatmetin/1.5.5718.pdf>, accessed September 29, 2024.

57 Takavut (n 8) 364.

for digital assets[58].

Even if we assume for a moment that proprietary rights over digital assets would be subject to the status of rights *in rem* and that the *lex rei sitae* rule would be applied to determine the applicable law, the lack of a physical location for digital assets would likely result in no real connection to the dispute. Because digital assets do not always have a physically identifiable location, the *lex rei sitae* rule appears inadequate to establish the most closely connected law, thereby failing to achieve private international law equity for digital assets[59].

In situations where the *lex rei sitae* principle fails, it is proposed by doctrine[60] and comparative law[61] that for determining the applicable law for proprietary rights over digital assets, priority should be given to allow for the choice of law either on the digital asset itself or within the system where the digital asset is registered. In the absence of such a choice of law, it is recommended to adopt an escape clause that would enable the application of a law more closely connected to the dispute. In the following, our study will focus on the proposals of choice of law and escape clause, which could also offer solutions for digital assets' current state, especially under Turkish private international law.

B. The Party Autonomy Principle as a Proposal

Although the principle of party autonomy is proposed in the doctrine concerning the applicable law to property rights in Turkish private international law[62], it is not recognised in legislation. In comparative law, however, the possibility of choosing the applicable law, particularly for disputes arising from property rights over movable assets, is accepted. This choice is either directly or indirectly recognised through escape clauses[63].

As examined in our study, when discussing determining the applicable law for disputes concerning ownership rights over digital assets, the principle of party autonomy is regulated in national legal systems and soft law instruments. In both the UCC and the UNIDROIT Principles, the party autonomy principle for disputes arising from proprietary rights in digital assets or the systems in which they are

58 Spindler (n 19) 736; Ng (n 9) 331.

59 Guillaume (n 1) 64; Ng (n 9) 326.

60 Lehmann (n 47) 28; Takavut (n 8) 370.

61 The Uniform Commercial Code and UNIDROIT Principles on Digital Assets and Private Law.

62 Ekin Ömeroğlu, *Ayni Haklara Uygulanacak Hukukun ve Yetkili Yargı Merciinin Tayininde İrade Serbestisi Prensibi* (Adalet Publishing 2017) 159.

63 Examples of national laws that directly allow the choice of applicable law for property rights over movable assets include the laws of the Netherlands, Switzerland, the United Kingdom, and China. On the other hand, examples of national laws that provide for the indirect choice of law primarily include German law and the laws of the Netherlands and Switzerland. For detailed information, see: ibid 160 ed seq.

registered has been selected as the primary connecting factor. Liechtenstein's law, which allows for the choice of law, has adopted a more indirect approach. It set forth that the provisions regulating digital assets will apply if expressly chosen by the parties. If the provisions under The Swiss Private International Law Act Articles 108a and 106 also apply to digital assets, they provide limited party autonomy.

In Turkish private international law, it is also proposed in the doctrine that the law more closely connected to disputes involving digital assets is the law chosen by the parties. The reasoning behind this view is that if the choice of law is accepted as the law more closely connected to the dispute, it would facilitate the determination of the applicable law and increase predictability[64]. However, when accepting the choice of law for disputes arising from proprietary rights over digital assets, it is beneficial to inform third parties about the chosen law to ensure that their rights are not adversely affected[65].

The position paper prepared by the Working Group on the Law Applicable to Digital Assets within the European Association of Private International Law (EAPIL)[66] emphasises the necessity for the choice of law to be visible to third parties. This ensures that third parties are aware of the chosen law. Consequently, any choice of law made for a digital asset must be included in a format or system accessible to all participants. According to Article 5(2)(b) of the UNIDROIT Principles, when determining whether the applicable law has been specified for a digital asset or platform, the records attached to or associated with the digital asset or platform must be considered. This implies that the choice of law will only be valid against third parties if it is included in such records[67]. Even if, for a moment, we consider that the choice of law is only valid between the parties to the transaction to protect third parties, the application of the chosen law to disputes arising from proprietary rights over digital assets would conflict with the principles of publicity and legal certainty required in property disputes. As a solution to this issue, it is proposed in the doctrine that each participant in the network should be allowed to express their intent regarding the choice of law[68].

Given the nature of blockchain technology and digital assets, which may not have a severe connection to any particular country, allowing for the choice of law in such disputes is considered reasonable. However, choosing a national law carries the risk of being undesirable for blockchain technology users who may prefer not to be bound

64 Takavut (n 33) 359.

65 Spindler (n 13) 734; Lehmann (n 26) 24; Takavut (n 8) 361.

66 EAPIL Working Group on the Law Applicable to Digital Assets, Position Paper in response to the public consultation on the UNIDROIT Draft Principles and Commentary on Digital Assets and Private Law, <https://eapil.org/what-we-do/position-papers/paper-on-digital-assets-2023/> accessed 02 August 2024.

67 Ibid 6.

68 Wendehorst (n 3) 497.

by any state laws[69]. In addition, it should be noted that for the chosen State's law as an applicable law, legal transactions conducted on the blockchain must be recognised under the chosen law[70].

C. "Thinking" an Escape Clause for Digital Assets as a Connecting Factor

When determining the applicable law for proprietary rights over digital assets, both current national legal rules and the connecting factors suggested in soft law regulations may not always be identifiable due to the decentralised nature of blockchain unless the parties have made a choice of law. Consequently, legislators may consider the acceptance of an escape clause for the applicable law for these disputes. An escape clause should necessarily support conflict of law rules that determine the applicable law for proprietary rights over digital assets. This would allow courts, when applying existing conflict-of-laws rules, to deviate from traditional connecting factors if they identify a law with a more close connection to the case[71].

At this point, it is crucial to address how the more closely connected law to digital assets will be determined. If a permissioned blockchain is regulated or controlled by a state—such as when banks or financial institutions operate digital assets on a controlled permissioned blockchain[72]—in our opinion, these assets can be deemed to have a more closely connection to the dispute.

In addition to the disintermediation, which is the most prominent feature of blockchain technology, it is possible for crypto assets to be held as crypto securities by a central securities depository[73]. A digital asset held by an intermediary can be considered to be more closely connected with the law of the jurisdiction where the intermediary's central administration is located due to the intermediary's authority over the digital asset. The existence of a choice of law on the digital asset is another example that can be considered in determining the more closely connected law related to the digital asset.

In comparative law, as an example from German law, an escape clause is accepted for all disputes arising from rights *in rem* over property. According to Article 46[74]

69 Lehmann (n 47) 24.

70 Guillaume (n 1) 79.

71 Lehmann (n 27) 287; Takavut (n 8) 366.

72 Eliza Mik, 'Electronic Platforms: Openness, Transparency&Privacy Issues' (2019) 6 European Review of Private Law 870; Tetsuo Morishita, 'Technical Description of DLT for Conflict Lawyers' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023)59.

73 Koji Takahashi, 'Blockchain-based Negotiable Instruments: with Particular Reference to Bills of Lading and Investment Securities' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023) 525.

74 "Besteht mit dem Recht eines Staates eine wesentlich engere Verbindung als mit dem Recht, das nach den Artikeln 43 und 45 maßgebend wäre, so ist jenes Recht anzuwenden."

of the *Einführungsgesetz zum Bürgerlichen Gesetzbuche* (EGBGB)[75], if there is a substantially closer connection with the law of a State other than the conflict of laws rules determined by Articles 43 to 45[76], this law shall apply[77].

At this point, it is beneficial to clarify the relationship between the German Electronic Securities Act and the provisions of the EGBGB in our study. Although the eWpG does not explicitly mention blockchain technology or digital assets, the potential applicability of these regulations considering technological advancements should be addressed. The EGBGB does not regulate specific conflict-of-law provisions related to securities and electronic securities. However, if the legal relationship documented in a security is affected by the rights *in rem* inherent in that security, it is accepted that Article 43 of the EGBGB will apply as the general connecting factor for rights *in rem*, unless supplanted by a special rule[78].

In German legal doctrine, the law applicable to disputes arising from the ownership of digital assets should also be examined under Article 46 of the EGBGB. According to *Wendehorst*, even if authorizations to and disposals of tokens are correctly qualified under property law, at least for the purposes of conflict of law, a possible application arises due to the fact that the situs rule always has the problem that physical localisation is not possible with decentralised booking systems. Appropriate connections must be sought based on Art. 46 EGBGB, which considers the principle of the closest connection[79].

The application of the escape clause in determining the applicable law for disputes arising from digital assets and blockchain technology is proposed as a solution to the possibility of being unable to identify connecting factors. However, the application of the escape clause is generally contingent upon the applicable law determined by the connecting factors being less related to the dispute and the existence of another law that is more closely connected to that dispute[80]. The escape clause can be regulated to address the problem when the connecting factors indicating the applicable law for disputes arising from digital assets cannot be determined.

75 Einführungsgesetz zum Bürgerlichen Gesetzbuche 1994, <https://www.gesetze-im-internet.de/bgbeg/>, accessed September 29, 2024.

76 In Article 43 of the EGBGB, the conflict of laws rule regarding disputes arising from rights in rem over property is provided, in Article 44, the regulation governing claims arising from intromissions emanating from real property is stipulated, and in Article 45, the conflict of laws rule related to means of transportation is set forth.

77 Heinz-Peter Mansel, 'Normzweck und Tatbestandsstruktur des Art. 46 EGBGB' in Stephan Lorenz, Alexander Trunk, Horst Eidenmüller, Christiane Wendehorst and Johannes Adolff (eds), *Festschrift für Andreas Heldrich zum 70. Geburtstag* (C.H. Beck Verlag 2005) 899.

78 Wilke (n 25) 734.

79 Wendehorst (n 3) 496.

80 Wilke (n 25) 746.

Conclusion

Digital assets have become a significant factor that private international law can no longer overlook. The difficulties in determining the legal nature of digital assets also complicate the determination of the applicable law in disputes with a foreign element. Private international law disputes related to digital assets, which are considered to be intangible goods, may arise from various legal relationships, such as those involving contractual relationships, non-contractual obligations, or proprietary rights over digital assets. Our study specifically focused on the applicable law for disputes concerning proprietary rights over digital assets.

Disputes concerning proprietary rights over digital assets may relate to the ownership, transfer, use of digital assets, or third-party rights over digital assets. In such cases, the first conflict of law rules that come to mind for determining the applicable law are those related to rights *in rem*. The principle of *lex rei sitae*, which refers to the law of the place where a property is situated, is a fundamental connecting factor in determining the applicable law for rights *in rem* over tangible assets. However, due to the inherent lack of a physical location for digital assets, applying this principle to digital assets presents significant challenges in the context of private international law.

To determine the applicable law for disputes arising from proprietary issues of digital assets, our study first focused on defining what constitutes a digital asset and how ownership disputes should be characterised. In Turkish private law, there are currently no explicit regulations concerning the rights over digital assets. The absence of substantive legal provisions regarding proprietary rights over digital assets in Turkish law raises the question of which legal category will be used to determine the applicable law for disputes concerning proprietary issues of digital assets under the Turkish PILA. The absence of a physical presence for these assets limits the applicability of traditional legal connecting factors, necessitating consideration of the environment in which digital assets exist. Consequently, disputes regarding the proprietary rights of digital assets call for adopting new connecting factors as recognised by national legal provisions and soft law instruments.

Our study highlights various approaches adopted by different countries. Legislation such as Germany's Electronic Securities Act, Liechtenstein's Token and Trusted Technology Service Provider Act, Switzerland's Private International Law Act, and the United States' Uniform Commercial Code offer different connecting factors for determining the applicable law concerning proprietary rights over digital assets. These regulations propose distinct connecting factors based on the nature of digital assets and the systems in which they operate while also allowing for party autonomy in choosing applicable law. Additionally, soft law principles proposed by international

organisations such as the European Law Institute and UNIDROIT reflect efforts to achieve global harmonisation concerning using digital assets as security interests and the law applicable to proprietary rights over these assets. These principles facilitate a better understanding of the legal nature of digital assets and the associated rights, allowing national legal orders to enact more effective regulations.

The scope of digital assets covered by the examined legal provisions and soft law rules varies. German and Swiss law provides regulations specifically for electronic securities, whereas the UCC and the UNIDROIT Principles address digital assets in a broader context. The uniformity of conflict of laws regulations on digital assets internationally would be highly preferable. Nevertheless, upon examining the regulations within comparative law, a universally accepted connecting factor concerning the applicable law for proprietary issues of digital assets has not yet been established.

As examined in our study, we agree with the view that choice of law should be allowed in determining the applicable law for disputes concerning ownership rights over digital assets, considering the possibility that digital assets do not have a specific location and the identity of parties in blockchain transactions may be unclear. Allowing the parties to choose the applicable law would simplify the determination of the governing law and make it more predictable. Another solution would be to include an escape clause in determining the applicable law for disputes concerning proprietary rights over digital assets, allowing the identification of the law more closely connected to the dispute. In this way, even if the parties have not made a choice of law, the courts would have the discretion to investigate and apply the law more closely connected to the dispute. Clearly, the primary purpose of adopting the escape clause in conflict of laws is to ensure fairness in private international law by applying the law more closely connected to the dispute in cases where unexpected circumstances arise in the determination of the applicable law.

In conclusion, there is a need for clarity in the legal regulations concerning proprietary rights over digital assets at both national and international levels. Allowing for party autonomy or adopting an escape clause can determine the applicable law to proprietary issues over digital assets. Lastly, regardless of which connecting factor is accepted for determining the applicable law for disputes arising from proprietary rights over digital assets, it should be noted that the overriding mandatory rules of the *lex fori* will prevail if such rules exist[81].

81 For example, in Turkish private international law, the Regulation on the Non-Use of Crypto Assets in Payments will be considered an overriding mandatory rule in disputes related to the rights to crypto assets where Turkish courts have jurisdiction.

Peer-review: Externally peer-reviewed.
Conflict of Interest: The author has no conflict of interest to declare.
Financial Disclosure: The author declared that this study has received no financial support.

Bibliography

Bilgili F and Cengil MF, *Blockchain ve Kripto Para Hukuku* (2nd edn, Dora Publishing 2022).

Çekin MS, 'Kripto Varlıklar Üzerinde Gerçekleştirilen İşlemlerin Borçlar Hukuku ve Eşya Hukuku Açısından Değerlendirilmesi' (2022) 9(1) *İstanbul Medipol Üniversitesi Hukuk Fakültesi Dergisi* 1.

Çelikel A and Erdem BB, *Milletlerarası Özel Hukuk* (16th edn, Beta Publishing 2020).

Dickinson, A. "An escape clause should necessarily support conflict of laws rules that determine the applicable law for proprietary rights over digital assets.", 'Cryptocurrencies and the Conflict of Laws' in David Fox and Sarah Green (eds), *Cryptocurrencies in Public and Private Law* (Oxford University Press 2019).

Fawcett J and Carruthers JM, *Cheshire, North & Fawcett Private International Law* (15th edn, Oxford University Press 2022).

Favrod-Coune P and Belet K, 'Conflict of Laws and Tokens in Swiss Private International Law' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023).

Guillaume F, 'Aspects of Private International Law Related to Blockchain Transactions" in Daniel Kraus, Thierry Obrist and Olivier Hari (eds), *Blockchains, Smart Contracts, Decentralised Autonomous Organisations and the Law* (Edwards Elgar Publishing 2019).

Güçlütürk OG, 'Türk Hukukunda Kripto Varlıkların Para ve Elektronik Para Niteliğinin İncelenmesi' (2019) 4(3) *REGESTA* 383.

İmamoğlu DA, *Kripto Para Birimleri ve Türk Hukukunda Düzenlenmesi* (3rd edn, Seçkin Publishing 2022).

Kapancı KB, 'Özel Hukuk Penceresinden Blokzincir: 'Sanal Para' Değerleri ve 'Akıllı Sözleşmeler' Üzerine Değerlendirmeler' in Eylem Aksoy Retornaz and Osman Gazi Güçlütürk (eds), *Gelişen Teknolojiler ve Hukuku I: Blokzincir* (On İki Levha Publishing 2020).

Karamanlıoğlu A, 'Son Gelişmeler Işığında Kripto Paraların Hukuki Niteliği ve Kripto Para Borsalarına İlişkin Tespit ve Öneriler' in Başak Baysal, Nilay Arat, Ahmet Abut and Tuğçe Bilgetekin (eds), *Khas Hukuk Bülteni 2020-2021 Akademik Yılı Derlemesi* (On İki Levha Publishing).

Lehmann, M., 'Kollisionsregeln für die Blockchain im Rechtsvergleich' (2023) 122 *Zeitcshrift für Vergleichende Rechtswissenschaft (ZVglRWiss)* 269.

Lehmann, M., 'Digital Assets in the Conflict of Laws: A Comparative Search for the Ideal Rule', (*SSRN 4862792*, 20 May 2024) < https://ssrn.com/abstract=4862792> accessed August 01, 2024.

Mansel, H.P., 'Normzweck und Tatbestandsstruktur des Art. 46 EGBGB' in Stephan Lorenz, Alexander Trunk, Horst Eidenmüller, Christiane Wendehorst and Johannes Adolff (eds), *Festschrift für Andreas Heldrich zum 70. Geburtstag* (C.H. Beck Verlag 2005).

Mik E, 'Electronic Platforms: Openness, Transparency&Privacy Issues' (2019) 6 European Review of Private Law 853.

Morishita, T., 'Blockchain and Japanese Private International Law' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023).

Morishita, T., 'Technical Description of DLT for Conflict Lawyers' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023).

Ng M, 'Choice of Law for Property Issues Regarding Bitcoin under English Law' (2019) 15 *Journal of Private International Law* 315.

Nakamoto S, Bitcoin: A Peer-to-Peer Electronic Cash System, 2008, https://bitcoin.org/bitcoin.pdf (Last Accessed: 12.05.2024).

Nomer E, *Devletler Hususi Hukuku* (23rd edn, Beta Publishing 2021).

Ömeroğlu E, *Ayni Haklara Uygulanacak Hukukun ve Yetkili Yargı Merciinin Tayininde İrade Serbestisi Prensibi* (Adalet Publishing 2017).

Özel S, Erkan M, Pürselim HS, Karaca HA, Milletlerarası Özel Hukuk (3rd edn, On İki Levha Publishing 2024).

Schurr FA and Layr A, 'DLT and PIL from the Perspective of Liechtenstein' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023).

Schwemmer S, 'Das Tokensachstatut Zur kollisionsrechtlichen Behandlung der Übertragung von Bitcoin, Kryptowertpapieren und anderen Kryptoken'(2022) *Praxis des Internationalen Privat– und Verfahrensrechts (IPRax)* 331.

Spindler G, 'Fintech, Digitalization, and the Law Applicable to Proprietary Effects of Transactions in Securities (Tokens): A European Perspective' (2019) 24 *Uniform Law Review* 724.

Stürner M, *Europäisches Vertragrecht* (De Gruyter 2021).

Şanlı C, Esen E and Ataman-Figanmeşe İ, *Milletlerarası Özel Hukuk* (10th edn, Beta Publishing 2024).

Takahashi, K., 'Blockchain-based Negotiable Instruments: with Particular Reference to Bills of Lading and Investment Securities' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023).

Takavut İD, '5718 Sayılı MÖHUK ve Dijital Varlıklara İlişkin Uyuşmazlıklar' in Sibel Özel, Mustafa Erkan and Hatice Selin Pürselim (eds), *MÖHUK'ta Reform* (On İki Levha Publishing 2023).

Tevetoğlu M, 'Bankacılık ve Sermaye Piyasası Hukuku Perspektifinden Bitcoin Davaları' (2020) 9(34) *Banka ve Finans Hukuku Dergisi* 543.

Ulusu AE, *Milletlerarası Özel Hukukta Kaydi Menkul Kıymet Ticaretinde Hak Sahipliği İhtilaflarına Uygulanacak Hukuk* (On İki Levha Publishing 2022).

UNIDROIT Digital Assets and Private Law Principles, <www.unidroit.org/wp-content/uploads/2024/01/Principles-on-Digital-Assets-and-Private-Law-linked.pdf>, accessed 27 September 2024.

Wendehorst C, 'Digitalgüter im Internationalen Privatrecht' (2020) *Praxis des Internationalen Privat– und Verfahrensrechts (IPRax)* 490.

Wendehorst, C., 'Proprietary Rights in Digital Assets and the Conflict of Laws' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023).

Wilke, F.M., 'A German Approach: Lex Supervisionis Registri and Subordinate Connecting Factors' in Andrea Bonomi, Matthias Lehmann and Shaheeza Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023).

Yılmaz A, *Kripto Para Birimi Bitcoin ve Bitcoin'in Türk Sermaye Piyasası Hukuku Açısından Değerlendirilmesi* (On İki Levha Publishing İstanbul 2021).

Yüksel Ripley B, 'Cryptocurrency Transfers in Distributed Ledger Technology-Based Systems and their Characterisation in Conflict of Laws' in Justin Borg-Barthet, Katarina Trimmings, Burcu Yüksel Ripley and Patricia Zivkovic (eds), *From Theory to Practice in Private International Law* (Hart Publishing 2024).

The European Law Institute, 'ELI Principles on the Use of Digital Assets Report of the European Law Institute' (2022)<https://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Principles_on_the_Use_of_Digital_Assets_as_Security.pdf > accessed July 22, 2024.

Türkiye Bilişim Vakfı, 'Dünyada Blokzinciri Regülasyonları ve Uygulama Örnekleri Karşılaştırma Raporu' (2019) https://bctr.org/dokumanlar/Dunyada_Blokzinciri_Regulasyonlari.pdf accessed August 05, 2024.