JURISDICTION AND CHOICE OF LAW IN DISPUTES RELATING TO CROSS-BORDER NFT TRANSACTIONS: THE CASE FOR UNIFORM PRIVATE INTERNATIONAL LAW RULES

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INTRODUCTION

THE recent collapse of large crypto exchanges like FTX[1] has drawn much public attention to the cryptoasset space. Despite the decline of cryptocurrencies, non-fungible tokens (NFTs), another type of cryptoasset, have risen in popularity with about $946 million in trading volume in January 2023. [2] A common feature of NFTs and cryptocurrencies is that they are both applications of blockchain technology. While some proponents have argued that the law is irrelevant to the blockchain, this article argues that law is relevant because blockchain technology does not provide a remedy for all cases that may arise from its use. Furthermore, blockchain technology cannot determine the validity or legality of NFT and cryptocurrency smart contracts under national laws, and courts in litigation will need to determine which law governs these questions. Blockchain-based smart contracts (including NFTs) will, as this article argues, have a foreign element because the blockchain nodes are in various jurisdictions, as are, often, the parties to the contracts.[3] It is therefore vital to understand how conflict of law rules determine the jurisdiction and applicable law in NFT-related disputes.

[1]   David Yaffe-Bellany, Emily Flitter & Matthew Goldstein, *Binance Faces Mounting Pressure as U.S. Crypto Crackdown Intensifies*, N.Y. TIMES, (Apr. 26, 2023), https://www.nytimes.com/2023/04/26/technology/binance-crypto-crackdown.html.

[2]   Anushree Dave, *Why NFTs Saw $946 Million in Trading Volume in January - The Highest Since June 2022*, MARKETWATCH, (Feb. 27, 2023), https://www.marketwatch.com/story/why-the-nft-art-market-saw-941-million-in-trading-volume-in-january-highest-since-june-2022-11675357798.

[3]   Giesela Rühl, *Smart (Legal) Contracts, or: Which (Contract) Law for Smart Contracts?*, *in* BLOCKCHAIN, LAW AND GOVERNANCE, 163-65 (Benedetta Cappiello & Gherardo Carullo eds., 2020).

This article offers the first comprehensive examination of the issues of jurisdiction and choice of law that arise in NFT-related disputes.[4] It analyzes the major extant private international law frameworks, including the Brussels I (recast) Regulation, the CISG, and the Rome I & II Regulations, and shows why they are inadequate for addressing these issues, largely because the concepts in these frameworks do not easily apply to the features of the blockchain that arise in NFT-related disputes. This article also examines UK jurisprudence on cryptoassets and NFT-related case law across various jurisdictions and the potential of the UNIDROIT Principles on Digital Assets and Private Law, which address blockchain issues better than other frameworks. Furthermore, the article examines all pertinent case law on these questions.

The article makes a number of contributions. It explains in detail the various factors that are important for a successful application of the traditional private international law rules to NFT-related disputes, and it demonstrates the challenges of applying traditional choice of law rules in this area. These challenges, the article shows, are even more complex for NFT-related disputes than for seemingly analogous disputes that have arisen in the context of cross-border Internet transactions. The article also analyzes the main alternatives to national choice of law, including *lex cryptographia*, uniform substantive law rules, and uniform

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[4]   But of course, I build on the work of others. For a discussion of jurisdictional issues that arise in NFT transactions under the Brussels I (recast) Regulation, see Ana Mercedes Lopez Rodriguez, *International Jurisdiction in Claims Relating to Non-Fungible Tokens (NFT)*, 74 REVISTA ESPAÑOLA DE DERECHO INTERNACIONAL 299, 313 (2022); Ioannis Revolidis, *On Arrogance and Drunkenness - A Primer on International Jurisdiction and the Blockchain*, 2 LEX & FORUM 349, 360 (2022). For a discussion of the application of Swiss private international law rules to blockchain transactions, see BLOCKCHAINS, SMART CONTRACTS, DECENTRALISED AUTONOMOUS ORGANISATIONS AND THE LAW (Daniel Kraus, Thierry Obrist & Olivier Hari eds., 2019), including Florence Guillaume, *Aspects of private international law related to blockchain transactions*, *in* BLOCKCHAINS, SMART CONTRACTS, DECENTRALISED AUTONOMOUS ORGANISATIONS AND THE LAW (Daniel Kraus, Thierry Obrist & Olivier Hari eds., 2019).
For a discussion of conflict of laws issues in the context of cryptoasset litigation in the EU, see Chloë Bell & Joshua Cainer, *Decrypting the Situs, Conflicts of Laws Challenges in Cryptoasset Litigation,* OUTER TEMPLE CHAMBERS, (Oct. 20, 2020), https://perma.cc/B93N-ELWL.

private international law rules. The article concludes that developing uniform private international law rules for NFT-related disputes is the most feasible and efficient solution that has a better chance of acceptability and workability than the other proposals.[5] This article proceeds as follows: Part I describes the relevance of law to the blockchain. Part II defines the technological concepts that are relevant to the legal analysis. Part III discusses the jurisdiction issues that arise in disputes relating to NFT transactions. Part IV discusses choice of law issues. Part V makes an argument about how to resolve these issues.

I. THE RELEVANCE OF LAW TO THE BLOCKCHAIN

Some proponents have argued that the blockchain does not need the law[6] because of the autonomy of smart contracts and the certainty with which distributed ledger technology (DLT) guarantees the position of a person who acquires blockchain-based assets. [7] However, a critical analysis of the issue shows that the blockchain needs the law because blockchain technology does not provide a remedy for cases where the transferor mistakenly enters a wrong bitcoin unit or transfers bitcoins to a wrong wallet, or where the transfer is induced by fraud or material misrepresentation, in which case the transfer is effective as far as the blockchain is concerned although the contract is voidable under the law.[8] Blockchain technology merely prevents "double spending."[9] Therefore, although the blockchain was designed to eliminate the interference of

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[5]   Due to space limitations and to maintain focus on conflicts of laws, this article does not cover issues of data protection violations, taxation, regulation of NFTs as securities, NFT-related intellectual property violations, or other NFT-related torts besides NFT hacks. Also, the recognition and enforcement of foreign judgments in NFT-related disputes are outside the scope of this article.

[6]   See Matthias Lehmann, *Who Owns Bitcoin: Private Law Facing the Blockchain*, 21 MINN. J.L. SCI. & TECH. 93, 99-101 (2020).

[7]   *Id.* at 102; AARON WRIGHT & PRIMAVERA DE FILIPPI, BLOCKCHAIN AND THE LAW: THE RULE OF CODE 198-99 (2018); *see generally* Rühl, *supra* note 3.

[8]   Lehmann, *supra* note 6, at 103.

[9]   This refers to a situation where the same owner transfers the bitcoin twice. *Id.* at 102.

the law, it may give rise to new types of disputes[10] which can only be resolved by the law.

With respect to smart contracts[11] that are stored and executed on the blockchain,[12] some proponents are of the opinion that the issue of the applicable law is irrelevant because smart contracts are "a technological alternative to the whole legal system"[13] and therefore do not require a legal system to function.[14] This is the basis of the famous "code is law" argument.[15] The rationale for this is that the essence of smart contracts is to facilitate the automatic execution of the obligations that arise under those contracts such that it becomes unnecessary to seek to enforce the contract by going to court.[16] However, this assertion is inaccurate because the contracts embodied in smart contracts still depend on the legal system to determine their validity and legality or otherwise.[17] The rationale for this was aptly captured in these words:

> [T]he smart contract itself—as a piece of code—does not have the means of knowing whether an enforceable legal

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[10]   Joseph Melnik & Bradley W. Harrison, *Disputes, Liability, and Jurisdiction in the Blockchain Era*, *in* BLOCKCHAIN FOR BUSINESS LAWYERS, 215 (James A. Cox & Mark W. Rasmussen eds., 2018). Also, the blockchain does not provide for what would obtain in the event of the death or bankruptcy of the holder of the cryptoasset, and in such cases, the law must step in. *See* Lehmann, *supra* note 6, at 105.

[11]   Smart contracts are codes that facilitate the automatic performance of a pre-programmed activity upon the occurrence of the conditions specified in the code. The code has a specific address on a blockchain. Smart contracts differ from legal contracts because they are algorithms that can automatically perform pre-programmed functions upon the fulfillment of the predetermined conditions. Carla L. Reyes, *Cryptolaw for Distributed Ledger Technologies: A Jurisprudential Framework*, 58 JURIMETRICS 286 (2018).

[12]   This distinction is made because there may be instances where some types of smart contracts do not run on the blockchain. Rühl, *supra* note 3, at 160.

[13]   Rühl, *supra* note 3, at 161 (quoting Alexander Savelyev, *Contract law 2.0: 'Smart' Contracts as the Beginning of the End of Classic Contract Law*, 26 INFO. & COMMC'N TECH. L. 116–34 (2017).

[14]   Rühl, *supra* note 3, at 161.

[15]   *Id.* at 184.

[16]   *Id.*

[17]   *Id.* at 161–62; Kevin Werbach & Nicolas Cornell, *Contracts Ex Machina*, 67 DUKE L.J. 313, 377 (2017).

obligation has been validly created. It does not even have the means of knowing whether the parties who decide to make use of a smart contract have validly agreed to do so. All that a smart contract can do is to do what it has been told to do. However, the mere power to do something does not mean that doing it is right or legal. Code is not law. And it should not.[18]

The foregoing shows that the law applies to smart contracts. Considering that, for blockchain-based smart contracts, the fact that the nodes on which the blockchain is operated are located simultaneously in different jurisdictions gives the smart contracts a foreign element,[19] private international law is relevant for the purpose of determining the jurisdiction and applicable law in disputes arising from smart contracts. This is important for NFTs because the smart contract to which the NFT is linked (called the NFT smart contract) is an integral and indivisible part of the NFT. Therefore, most NFT transactions are inherently cross-border unless it can be proven that all the nodes on the blockchain network on which the NFT is stored and all the parties to the transaction are in the same country, but attempting to prove this is impracticable.[20]

The traditional rules of private international law attempt to determine jurisdiction and applicable law by referring to territorial connections or geographic locations—concepts that may be hard to apply to NFT transactions because they are usually done on the blockchain which is transnational and decentralized. The fact that most blockchain users use pseudonyms may complicate the issue although there are cases where claimants have successfully brought actions in English and Singaporean courts against unknown defendants using their pseudonyms,[21] but this may not be possible in all cases. The Law Commission of England and Wales described the challenge in these words:

> In many cases involving emerging technology, it is unclear which courts have the power or jurisdiction to hear the dispute, and which law should be applied. The

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18 Rühl, *supra* note 3, at 161.
19   *Id.* at 163–65.
20   *See* Guillaume, *supra* note 4.
21 Osbourne v. Persons Unknown [2023] EWHC 340 (KB); Janesh s/o Rajkumar v. Unknown Person ("CHEFPIERRE") [2022] SGHC 264.

> problem is partly driven by digital location – because digital assets are intangible and often distributed, their geographical location can be hard to pinpoint, creating an array of legal issues.[22]

This situation is exacerbated by the fact that States have taken divergent approaches to regulating blockchains and NFTs with respect to both private law and conflict of laws rules.[23] As stated by the UK Law Commissioner for Commercial and Common Law, Professor Sarah Green, "With digital assets and other emerging technologies developing rapidly in recent years, the laws that support and govern them have struggled to keep pace. This has led to inconsistencies across jurisdictions, with uncertainty over which laws should be applied and which courts should rule on them."[24]

II. DEFINITION OF KEY TECHNOLOGICAL CONCEPTS

A. Blockchain

1. Definition of the Blockchain

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[22] *Law Commission to Review How Private International Law Applies to Digital Assets and Other Emerging Technology*, L. Comm'n of Eng. & Wales (Oct. 18, 2022), https://www.lawcom.gov.uk/law-commission-review-to-examine-how-private-international-law-can-apply-to-digital-assets-and-other-emerging-technology/review-to-examine-how-private-international-law-can-apply-to-digital-assets-and-other-emerging-technology/ [hereinafter *Digital Assets*].

[23] For an overview of how NFTs are regulated globally, see Apolline Blandin et al., *The Global Cryptoasset Regulatory Landscape Study*, *in* Legal Studies Research Paper Series 5, 10–122 (2019), https://www.jbs.cam.ac.uk/wp-content/uploads/2020/08/2019-04-ccaf-global-cryptoasset-regulatory-landscape-study.pdf. Liechtenstein, Malta, and Singapore have relatively friendly and more comprehensive regulatory regimes for the blockchain. In the United States, the position on the regulation of NFTs is uncertain and may vary on a case-by-case basis. *See generally* Matthias Lehmann, *National Blockchain Laws as a Threat to Capital Markets Integration*, 26 Unif. L. Rev. 148 (2021).

[24] *Digital Assets*, *supra* note 22.

Blockchain technology was invented by Satoshi Nakamoto[25] in 2008.[26] The terms "blockchain" and "distributed ledger technology (DLT)" are commonly used interchangeably because the data is stored (distributed) on various networks[27] in different parts of the world rather than on a central database.[28] Blockchain avoids traditional middlemen by facilitating peer-to-peer transactions for its users. It works by distributing cryptographed transactions into blocks that are recorded on a ledger that is visible to the public and is typically run by many computers[29] across the world,[30] hence it is transnational.[31]

The innovative edge of the blockchain is captured in the following words, "Blockchains…blend together several existing technologies, including peer-to-peer networks, public-private key cryptography, and consensus mechanisms, to create what can be thought of as a highly resilient and tamper-resistant database where people can store data in a transparent and non-repudiable manner and engage in a variety of economic transactions pseudonymously."[32] Blockchain technology infrastructures are of two types, viz.: public or permissionless, which is accessible on the Internet and can be joined without permission, and private or permissioned blockchains which require permission to join.[33] Bitcoin and Ethereum are some popular examples of public blockchains.[34] Some applications of blockchain technology include cryptocurrencies, smart contracts, and non-fungible tokens (NFTs).

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[25]   This is a pseudonym. WRIGHT & DE FILIPPI, *supra* note 7, at 20.

[26]   *Id.*

[27]   The term "networks" refers to the computers of all network participants.

[28]   Despite being commonly used interchangeably, the terms "blockchain" and "DLT" are different because blockchain is a type of DLT.

[29]   These are also called nodes.

[30]   Tanner Dowdy, *Speech Markets & Web3: Refreshing the First Amendment for Non-Fungible Tokens (NFTs)*, 91 U. CIN. L. REV. 206, 209 (2022); Guillaume, *supra* note 4, at 59.

[31]   Some writers prefer to describe this feature as "a-national" (referring to the difficulty of tying the blockchain to a single or specific location) rather than as "transnational." Both terms are used interchangeably in this article.

[32]   WRIGHT & DE FILIPPI, *supra* note 7, at 2.

[33]   Kristin Cornelius, *Betraying Blockchain: Accountability, Transparency and Document Standards for Non-Fungible Tokens (NFTs)*, 12 MDPI 358, 361 (2021). In private blockchains, permission is granted by a "central key stakeholder." Revolidis, *supra* note 4.

[34]   Cornelius, *supra* note 33, at 361.

Blockchain uses Internet technology. However, blockchain activities tend to be more distributed than other Internet-based activities because of the decentralized nature of the blockchain.[35] There are divergent views on whether the blockchain presents similar jurisdiction and governing law issues as the Internet. While there are views that some of the rules that apply to the Internet should, theoretically, apply to the blockchain,[36] some proponents argue that the blockchain presents more complex issues than the Internet.[37] To an extent, the blockchain and the Internet pose similar challenges regarding the application of traditional conflict of laws rules which attempt to locate transactions with respect to geographic space. However, the available case law on conflict of law issues regarding the blockchain and NFTs is not as robust as that on the conflict of law issues regarding the use of the Internet. There is hardly any literature that analyzes how Internet-related rules could be applied by analogy to the blockchain.

Moreover, some features that set the blockchain apart from the Internet as a whole, such as immutability and the consensus mechanism of the blockchain, could make the application of Internet-related rules to the blockchain not straightforward. There are also cases where a matter could present both Internet issues and blockchain issues. It is interesting that in many cases involving the determination of jurisdiction in blockchain-related disputes, the court did not apply Internet-related rules except in very few cases like *In re Tezos*[38] which involved using NFTs for initial coin offerings. In that case, the court located the place of the transaction by applying rules that are unique to the blockchain, but it also considered some Internet-related rules because the defendant's website was a factor in the dispute. However, in the English and Singaporean NFT cases discussed in this article, the court did not consider Internet-related rules in determining jurisdiction.[39] The court

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[35]   ROSARIO GIRASA, REGULATION OF CRYPTOCURRENCIES AND BLOCKCHAIN TECHNOLOGIES: NATIONAL AND INTERNATIONAL PERSPECTIVES 59 (Bernardo Nicoletti ed., 2018).

[36]   Guillaume *supra* note 4, at 60.

[37]   GIRASA, *supra* note 35, at 59.

[38]   *In re* Tezos Sec. Litig., No. 17-CV-06779-RS (N.D. Cal. Aug. 7, 2018).

[39]   Osbourne v. Persons Unknown & Ors. (2023) EWHC 340 (KB); Janesh s/o Rajkumar v. Unknown Person ("CHEFPIERRE") (2022) SGHC 264.

ruled that NFTs are property, and that the jurisdiction is the claimant's domicile. As more blockchain and NFT-related issues become litigated, the approach that the courts lean toward will become clearer.

2. Features of the Blockchain

Blockchains have some distinct features that are important for the purpose of analyzing the jurisdiction and choice of law issues that arise in NFT-related disputes.[40] Blockchains are decentralized, autonomous, and transnational. They use consensus mechanisms that facilitate the recording of information to their database by a distributed network of peers without the need for a centralized operator. They can deploy autonomous software (via smart contract codes) that is independent of the control of any party and that can bypass national laws and boundaries because the user's private key, rather than his location, is the relevant factor for the execution of the blockchain transaction. Moreover, by using consensus mechanisms and one-way hashing algorithms to store and record data, blockchains are resilient, immutable, tamper-proof, and transparent. It is hard to change or delete the information recorded in a blockchain, and this cannot be done by a single party. The blockchain is replicated on many different computers worldwide, which store exact or nearly exact copies of the blockchain.[41]

Blockchains are also characterized by pseudonymity and traceability. They use digital signatures and public-private key cryptography and, therefore, do not require the disclosure of the user's identity. However, the transaction history of a cryptoasset can be traced by downloading open-source software via the internet. While pseudonymity ensures the privacy of users, it is prone to abuse and can be used to facilitate illegal activities like money laundering and dealing in illegal goods. It also raises issues where jurisdiction is tied to the defendant's domicile. Pseudonymity could make the service of court processes on defendants challenging, for instance, in cases of misappropriation of NFTs, unless the court permits service via NFTs as was done in *Osbourne*.[42] Governments may use blockchain technology for surveillance and control because of its transparency and traceability.

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[40]   *See generally* WRIGHT & DE FILIPPI, *supra* note 7, at 33-57; THOMAS RICHTER, HANDBOOK OF BLOCKCHAIN LAW: A GUIDE TO UNDERSTANDING AND RESOLVING THE LEGAL CHALLENGES OF THE BLOCKCHAIN TECHNOLOGY 131-141 (Matthias Artzt & Thomas Richter eds., 2020).

[41]   WRIGHT & DE FILIPPI, *supra* note 7, at 33-57; RICHTER, *supra* note 40, at 131-141.

[42]   Osbourne v. Persons Unknown & Ors. (2023) EWHC 340 (KB).

Even though Internet technology is required to operate the blockchain, blockchains are arguably more disintermediated [43] than Internet platforms because "trusted authorities or middlemen" [44] are frequently used for interactions on the Internet [45] while, for blockchains, an overarching software protocol links together a network of computers operating from anywhere in the world, and there is no central authority that controls the blockchain. [46]

B. Cryptoassets

Cryptoassets are records of transactions maintained on the blockchain which can be accessed by all the nodes on the blockchain. [47] The Cryptoassets Taskforce Report [48] defines a cryptoasset as "a cryptographically secured digital representation of value or contractual rights that uses some type of DLT and can be transferred, stored or traded electronically." [49] NFTs are a type of cryptoasset. Other types of cryptoassets include exchange tokens or cryptocurrencies, security tokens, and utility tokens. [50]

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[43]   Blockchains have the potential to facilitate "'true' platform disintermediation." Yannis Bakos & Hanna Halaburda, *Will Blockchains Disintermediate Platforms? The Problem of Credible Decentralization in DAOs* (March 15, 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4221512.

[44]   Such as eBay, YouTube, and PayPal. WRIGHT & DE FILIPPI, *supra* note 7, at 34.

[45]   Centralized intermediaries like Apple, Microsoft, Alphabet, Amazon, Meta, VISA, and Tencent have typically controlled Internet platforms. Bakos & Halaburda, *supra* note 43, at 1.

[46]   This position may, however, be slightly different for private or permissioned blockchains.

[47]   *Cryptoassets and Dispute Resolution: Four Things to Know*, THE EUR. FIN. REV. (Mar. 9, 2022),   https://www.europeanfinancialreview.com/cryptoassets-and-dispute-resolution-four-things-to-know/. .

[48]   HM TREASURY, CRYPTOASSETS TASKFORCE: FINAL REPORT (2018), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752070/cryptoassets_taskforce_final_report_final_web.pdf.

[49]   *Id.*

[50]   *Id.*

C.   Non-Fungible Tokens (NFTs)

1. Definition of NFTs

NFTs have been described as "unique and non-interchangeable units of data that signify ownership of associated digital items"[51] and as distinctive digital identifiers recorded in a blockchain.[52] They are built with smart contracts, which facilitate their interoperability.[53] NFTs are usually traded on marketplaces[54] and are famous for their typically huge purchase prices. Minting an NFT means turning a digital file into a unique token on the blockchain. Usually, there is an underlying digital asset[55] that forms an integral component of the NFT, and while the NFT smart contract is on the blockchain, the underlying digital asset is usually stored separately on an external hosting service[56] because it is expensive to store it on the blockchain.

NFTs are similar to cryptocurrencies because they both utilize blockchain technology, and payment for NFTs is usually made in cryptocurrencies. However, while cryptocurrencies are fungible tokens that can be used as currencies, NFTs are non-fungible tokens that represent "ownership" or other rights over the underlying digital item. NFTs are also used as representations of items sold in the metaverse.[57]

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[51]   KRISTEN E. BUSCH, CONG. RSCH. SERV. REP. R47189, NON-FUNGIBLE TOKENS (NFTS) (2022) (cited in LING ZHU, CONG. RSCH. SERV. REP. R47224, THE METAVERSE: CONCEPTS AND ISSUES FOR CONGRESS (2022), https://crsreports.congress.gov/product/pdf/R/R47224), https://crsreports.congress.gov/product/pdf/R/R47189.

[52]   *See* Joshua A. T. Fairfield, *Tokenized: The Law of Non-Fungible Tokens and Unique Digital Property*, 97 IND. L.J. 1261, 1313 (2022).

[53]   James Holbein & Justin Holbein, *Evolving Legal Issues for NFTs*, JD SUPRA (Apr. 21, 2022), https://www.jdsupra.com/legalnews/evolving-legal-issues-for-nfts-5461995/.

[54]   Common NFT marketplaces include OpenSea, Magic Eden, Axie Infinity, and CryptoPunks.

[55]   This could be a work of art such as music, video or other piece of art.

[56]   Such a service could be a centralized server, like the server hosted by OpenSea, or a distributed file system like the Interplanetary File System, or a cloud storage.

[57]   ZHU, *supra* note 51; Aubrey Moore, *The relationship between NFTs and the Metaverse*, FINTECHNEWS (Jan. 2, 2023), https://www.fintechnews.org/the-relationship-between-nfts-and-the-metaverse/.

2. Categories of NFT Contracts

For the purposes of this article, three categories of NFT contracts will be considered, viz.: contracts between NFT marketplaces and NFT providers;[58] contracts between NFT marketplaces and NFT acquirers; and peer-to-peer NFT transactions.[59]

a. Contracts between NFT Marketplaces and NFT Providers

The NFT provider mints the NFT and grants licensing rights to the NFT marketplace to display the NFTs on its platform for marketing purposes, usually for a commission. The legal relationship between the parties is both a contract for the provision of services and a licensing agreement,[60] and it may be based on a smart or traditional contract or both. Usually, both parties conclude the contract in a commercial or professional capacity. However, in some cases, the NFT provider may be a consumer.[61] In this article, jurisdiction issues in contracts that solely involve NFT smart contracts are analyzed separately from contracts that involve traditional contracts, either solely or in conjunction with smart contracts. The former is referred to in this article as "purely smart NFT contracts" while the latter is referred to as "mixed/non-smart NFT contracts."

b. Contracts between NFT Marketplaces and NFT Acquirers

An NFT acquirer is a person who acquires an NFT for consideration, which is typically cryptocurrencies, and this is usually done via an NFT marketplace. Most NFT marketplaces have T&Cs (which usually include

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[58]   NFT providers are sometimes referred to as NFT creators. Revolidis, *supra* note 4, at 29.

[59]   This is based on the classification done by Ioannis Revolidis. *Id.*

[60]   The NFT providers grant the NFT marketplaces copyright licenses to market the NFTs on their marketplace. *Id.*

[61]   Persons who mint NFTs on OpenSea may not be professionals since OpenSea's free minting tool eliminates the need for professional expertise. OPENSEA, https://opensea.io/ (last visited Apr. 26, 2023).

arbitration agreements and governing law provisions) that NFT acquirers must accept at the point of creating an account on the NFT marketplace's platform. These transactions are usually consumer contracts and are facilitated by smart contracts.

c. Peer-to-Peer NFT Transactions

In this case, the holder of a private key[62] transfers NFTs to the other party's digital wallet for a consideration, which is typically cryptocurrency. Usually, the parties use pseudonyms and do not execute traditional contracts because the transactions are facilitated by smart contracts. Cases where NFTs are used as collateral for cryptocurrency loans will generally fall within this category.

III. JURISDICTION ISSUES IN DISPUTES RELATING TO NFT TRANSACTIONS

A. Brussels I (recast) Regulation - EU

Courts in the EU will consider the provisions of the Brussels I (recast) Regulation [63] to determine jurisdiction in an NFT-related

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[62] Investopedia defines a private key as: "an alphanumeric code used in cryptography, similar to a password. In cryptocurrency, private keys are used to authorize transactions and prove ownership of a blockchain asset." Jake Frakenfield, *Private Key: What It Is, How It Works, Best Ways to Store*, INVESTOPEDIA (Feb 17, 2023), https://www.investopedia.com/terms/p/private-key.asp#:~:text=A%20private%20key%20is%20an,ownership%20of%20a%20blockchain%20asset.

[63] Regulation (EU) 1215/2012 of the European Parliament and of the Council of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (recast), art. 7(1)(c) [hereinafter *Brussels I (recast) Regulation*].

dispute.[64] The Regulation provides for party autonomy,[65] but this is limited in cases of consumer contracts.[66]

1. Mixed/Non-Smart NFT Contracts

a. Arbitration Agreements in NFT Transactions

Parties to mixed/non-smart NFT contracts may enter into arbitration agreements[67] or jurisdictional agreements.[68] A(n) arbitration or jurisdictional agreement in the T&Cs may be accepted by the clickwrap method, provided that the other party can obtain a durable record of the agreement before executing the contract.[69] Arbitration agreements are common in contracts between NFT marketplaces and NFT acquirers and sometimes in agreements between NFT marketplaces and NFT providers.[70] Regarding contracts between NFT marketplaces and NFT acquirers, the arbitration agreement is usually contained in the T&Cs of the NFT marketplaces.

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[64]   The *Brussels I (recast) Regulation* covers all civil and commercial matters, except the matters that are excluded under the Regulation. *Id.* art. 1.

[65]   *Id.* recital 19.

[66]   Party autonomy is also limited in cases of insurance and employment contracts. *Id.* recital 19. Furthermore, party autonomy is subject to the exclusive grounds of jurisdiction in the Regulation. *Id.* art. 24(4). The ground that is relevant to NFTs relates to proceedings in respect of the registration or validity of patents, trademarks, designs, or other similar rights required to be deposited or registered. In such cases, the courts of the Member State in which the deposit or registration took place or was applied for, respectively, will have jurisdiction. *Id.* art. 24. A consumer is a natural person who concludes a contract for a purpose that can be regarded as being outside his trade or profession while a professional is a person acting in the exercise of his trade or profession, in the context of concluding a contract. Regulation (EC) No. 593/2008 of the European Parliament and of the Council of 17 June 2008 on the law applicable to contractual obligations (Rome I Regulation), art. 6(1).

[67]   *Brussels I (recast) Regulation*, *supra* note 63, recital 12.

[68]   *Id.* art. 25(1).

[69]   Rodriguez, *supra* note 4, at 313.

[70]   *See* Nifty Gateway LLC v. Soleymani, Judgment of the High Court of Justice of England and Wales (2022) EWHC 773 (where the T&Cs of the NFT marketplace contained an arbitration agreement).

The implication of this is that the parties' legal relationship will be governed both by the traditional contract (the T&Cs) and the smart contract. Where the parties have entered into a valid arbitration agreement, the EU court that is seized of the matter will refer the parties to arbitration.[71]

However, the court can examine whether the arbitration agreement is null and void, inoperative, or incapable of being performed[72] and, although as far as research shows[73] there is no known EU case law on the nullity, voidability or inoperability of arbitration agreements in NFT consumer contracts, in *Soleymani*,[74] an English consumer contract case where an NFT acquirer agreed to the arbitration agreement in the T&Cs of an NFT marketplace, the English Court of Appeal (to which the Regulation does not apply), ruled that a full trial should be done in the English Courts on the issue of the nullity and inoperativeness of the arbitration agreement. In another case,[75] an English court ruled that it had jurisdiction even though the consumer had entered into an arbitration agreement with the cryptoasset exchange, and the arbitration proceedings had been concluded.[76]

Regarding contracts between NFT marketplaces and NFT providers, the parties' legal relationship will be governed by the arbitration agreement in the T&Cs of the NFT marketplace only if the NFT provider creates an account on the NFT marketplace's platform or otherwise accepts the T&Cs (which is usually not the case). The parties

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[71] *Brussels I (recast) Regulation*, *supra* note 63, recital 12.

[72] *Id.*

[73] Under the Council Directive 93/13/EEC of 5 April 1993 on Unfair Terms in Consumer Contracts, the terms of pre-formulated standard contracts are generally regarded as unfair. This may include the arbitration agreements in the T&Cs of NFT marketplaces if such agreements exclude or hinder the consumer's right to take legal action or exercise any other legal remedy, particularly by requiring the consumer to take disputes exclusively to arbitration not covered by legal provisions. *See* Council Directive 93/13/EEC of 5 April 1993 on Unfair Terms in Consumer Contracts, art. 3 and section 1(q) of the annex; *see also* Justinas Jarusevicius, *Consumer Arbitration – Will The Two Different Worlds Across The Ocean Converge?*, Kluwer Arbitration Blog (Feb 25, 2016), https://arbitrationblog.kluwerarbitration.com/2016/02/25/consumer-arbitration-will-the-two-different-worlds-across-the-ocean-converge/the-ocean-converge/ (mentioning the Directive).

[74] *Soleymani*, *supra* note 70.

[75] Chechetkin v. Payward Ltd and Others (2022) EWHC 3057 (Ch).

[76] *Id.*

usually execute smart contracts. Since the jurisdictional agreement is required to be in writing or be evidenced in writing[77] and in a form that accords with established practices or usage,[78] this raises the issue of how the choice of forum will be indicated, given that smart contracts algorithms are usually in the form of "if this, then that."[79] To overcome this challenge, the parties may first execute a base contract (a traditional contract that contains the choice of forum clause) and then convert the relevant aspects of it into a smart contract.[80] However, the conversion is prone to errors because it is done by a human being.[81] Also, lawyers representing the parties cannot verify the accuracy of the conversion unless they are skilled in programming.[82] Alternatively, parties may execute a Ricardian contract, which is a type of contract that is readable to both humans and machines.[83]

b. Jurisdictional Agreements - Choice of EU & Non-EU Courts

If a jurisdictional agreement is in place, the applicable rule under the Brussels I (recast) Regulation would depend on the location of the selected court. If an EU court[84] is selected as the forum, that court will have jurisdiction unless the agreement is null and void as to its substantive validity under the national law of that court.[85] That court's jurisdiction will also be exclusive unless the parties have agreed otherwise.[86] But if the selected forum is a non-EU court, the EU court that is seized of the matter has to consider other factors. There is a divergence of opinion on what those factors should be. There are views

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[77] *Brussels I (recast) Regulation*, *supra* note 63, art. 25(1)(a).

[78] *Id.* art. 25(1)(b)-(c).

[79] Rühl, *supra* note 3, at 169.

[80] Guillaume, *supra* note, at 54-55 (noting that the desirability of the conversion lies in the ease and efficiency that the smart contract brings to the execution of the transaction).

[81] *Id.* at 66-67.

[82] *Id.* at 67.

[83] Rühl, *supra* note 3, at 169.

[84] The terms "EU court" and "non-EU" court in this article refer to courts within and outside an EU Member State, respectively.

[85] *Brussels I (recast) Regulation*, *supra* note 63, art. 25(1).

[86] *Id.*

that, based on the decision of the European court in *Coreck Maritime*,[87] the EU court should consider if the jurisdictional agreement is valid under the law that is applicable to the dispute and should decline to exercise jurisdiction only if such validity is established.[88]

There are, however, views that, considering another decision of the European court,[89] the yardstick for establishing the validity of the jurisdictional agreement should be Article 25 of the Brussels I (recast) Regulation rather than the law that is applicable to the dispute.[90] The issue with the former approach is that it assumes that the governing law is always easy to decipher, but this assumption is inaccurate, given the peculiarities of NFT-related transactions; thus the latter position is preferable. The issue of the validity of the jurisdictional agreement would be relevant, for instance, in cases of incapacity to enter into the contract under the applicable law,[91] although pseudonymity may make it challenging to determine capacity.[92] Nevertheless, determining capacity may be somewhat possible in contracts between NFT marketplaces and NFT acquirers because the marketplaces are required to obtain the information and identification documents of persons who trade on such marketplaces.[93] Where a valid choice of forum is made, the matter will be tried by the selected forum unless it relates to a consumer contract, in which case, other provisions of the Regulation will be considered.[94]

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[87] Revolidis, *supra* note 4, at 30 n.105-6 (citing Case C-387/98   Coreck   Maritime GmbH v. Handelsveem BV and Others (2000) ECLI:EU:C:2000:606).

[88] *Id.* at 30.

[89] Revolidis, *supra* note 4, at 31 n.107 (citing Case C-154/11 Ahmed Mahamdia v. People's Democratic Republic of Algeria (2012)).

[90]   Revolidis, *supra* note 4, at 31.

[91]   Rodriguez, *supra* note 4, at 313.

[92] *Id.* at 314.

[93] Valentina Mazza & Carolina Battistella, *Italian Court Rules on the First Case of Trademark Infringement through NFTs*, DLA PIPER (May 17, 2023), https://www.dlapiper.com/en/insights/publications/law-a-la-mode/2023/law-a-la-mode-edition-35/italian-court-rules-on-the-first-case-of-trademark-infringement-through-nfts (citing Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC [hereinafter *Digital Services Regulation*, art. 30].

[94] *Brussels I (recast) Regulation*, *supra* note 63, recitals 20-22.

c. Consumer Contracts

Special considerations apply to consumer contracts because the Regulation guarantees the protection of the consumer by rules of jurisdiction that are more favorable to his interests than the general rules of the Regulation.[95] Therefore, in consumer contract cases, the court would apply the *lex specialis* rule such that, before considering the general provisions of the Brussel I (recast) Regulation which may apply to the matter, the court will consider and apply the specific provisions of Article 18 on consumer contracts. This was demonstrated in an Austrian case involving the transfer of Bitcoin.[96] The provisions of the Regulation

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[95]   *Id.* recital 18.

[96]   Rodriguez, supra note 4, at 315 (citing Oberster Gerichtshof [OGH] [Supreme Court] Nov. 11, 2020, 3 Ob 95/20x, https://www.ris.bka.gv.at/Dokument.wxe?Abfrage=Justiz&Dokumentnummer=JJT_20201104_OGH0002_0030OB00095_20X0000_000&Suchworte=RS0133344). The case involved a transaction where the defendant who was domiciled in Germany borrowed 6.00114227 bitcoins from the claimant that was to be repaid within four weeks. The defendant defaulted, so the claimant sued him in Austria where the claimant was domiciled, but the Austrian courts of first and second instance rejected the defendant's argument that the Austrian court lacked jurisdiction. However, the Supreme Court of Austria, to which the defendant appealed, after determining that the defendant contracted with the claimant as a consumer as provided by Article 17 of the Brussels I (recast) Regulation and not in a professional or commercial capacity while the claimant, on the other hand, contracted as a professional who directed his bitcoin lending activities toward the EU Member State in which the defendant resides, affirmed the ruling of the lower court and held that the courts in Germany where the defendant was domiciled had jurisdiction and not the Austrian courts where the claimant had instituted the action. The fact that the claimant and his business partners had sold bitcoin investments in Germany; that the claimant was part of a distribution system geared towards Germany which had recruited many investors by presenting the investment products to potential investors in Germany formed part of the rationale for the court's decision.

on consumer contracts may however be departed from by the agreement of the parties.[97]

The contracts between NFT marketplaces and NFT acquirers are usually consumer contracts because most NFT acquirers act outside the exercise of their trade or profession when entering into such contracts. Their position contrasts with that of the NFT marketplaces that pursue commercial or professional activities in, or direct such activities to, the consumer's domicile in circumstances where the contracts are within the scope of such activities.[98] In the Austrian consumer contract case, which involved the transfer of Bitcoin, the court found that the claimant directed his commercial activities to the defendant's domicile (Germany) because the claimant and his business partners had sold Bitcoin investment products in Germany and the claimant was part of a distribution network geared towards presenting those products to potential investors in Germany.[99] Applying the consumer protection principles of the Regulation to this case was easy because the claimant had met with the defendant in Germany. But this may not be the case in all NFT-related disputes.[100] Furthermore, while the NFT acquirer can sue the NFT marketplace in either party's domicile,[101] the NFT marketplace can sue the NFT acquirer only in the NFT acquirer's domicile.[102]

Determining the consumer (the NFT acquirer)'s domicile may be challenging because of the issue of pseudonymity, although practically speaking, if the consumer is sued outside of his domicile, he could argue that the court has no jurisdiction. On the other hand, the consumer may easily sue the NFT marketplace since he has the option of suing him in his (the consumer's) domicile. Nevertheless, where the NFT acquirer

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[97]   Such departure may be done only by an agreement that is entered into after the dispute has arisen; or which allows the consumer to bring proceedings in courts other than those indicated for consumer contracts; or which is entered into by the consumer and the other party to the contract if they are both domiciled or habitually resident in the same Member State at the time of conclusion of the contract and chose the courts of that State as their forum. *Brussels I (recast) Regulation*, *supra* note 63, art. 19.

[98]   *Brussels I (recast) Regulation*, *supra* note 63, art. 17.

[99]   *See* OGH 3 Ob 95/20x, *supra* note 96.

[100] Particularly peer-to-peer NFT disputes where there is no interaction between the parties or knowledge of their personal details.

[101] *Brussels I (recast) Regulation*, *supra* note 63, art. 17.

[102] *Id.* art. 17(2).

trades on the NFT marketplace, the NFT marketplace is required to obtain his information and identification document.[103] Where this is done, the challenge of pseudonymity is eliminated.

2. Purely Smart NFT Contracts

a.   General Jurisdiction Scenarios

Typically, no choice of forum will be made in cases of purely smart NFT contracts. In such cases, the general rule in the EU is that the appropriate forum is the defendant's domicile, regardless of his nationality.[104] Assuming that the defendant's domicile is ascertainable (which will most likely not be the case), this rule eliminates the problem posed by the a-nationality of the blockchain. But where the defendant's domicile is not known, determining the forum may be a challenge. Theoretically, the claimant could surmount this challenge by filing the action in any court and upon the defendant's argument that the court lacks jurisdiction because it is outside of his domicile, the claimant could institute another action in the defendant's domicile. This process is, however, inefficient because the claimant will expend time and resources filing the first action before filing the second.

b.   Special Jurisdiction Scenarios: Contracts and the Issue of Proprietary Rights

The Regulation contains special jurisdiction provisions for matters relating to contracts. In such instances, the forum is the courts for the place of performance of the obligation.[105] Unless otherwise agreed by the parties, the place of performance of the obligation is the place where the goods or services were or should have been delivered or provided, respectively, under the contract.[106] Applying this rule to an NFT transaction requires identifying the type of contract and the place of performance of the obligation.

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[103] *Digital Services Regulation*, *supra* note 93, art. 22.
[104] *Brussels I (recast) Regulation*, *supra* note 63, art. 4.
[105] *Id.* art. 7(1)(a).
[106] *Id.* art. 7(1)(b).

Most peer-to-peer NFT transactions are concluded exclusively via smart contracts. There are arguments on whether courts should recognize smart contracts. An argument for this could be that the technology-neutral provisions of the United Nations Commission on International Trade Law (UNCITRAL) Model Law on Electronic Commerce (1996) (MLEC)[107] and the United Nations Convention on the Use of Electronic Communications in International Contracts (2005)[108] (ECC) recognize the validity of a contract that is formed via an offer which is communicated and accepted by means of data messages that are recorded in a blockchain or solely by the interaction of automated message systems without human intervention.[109] Therefore, the courts should recognize smart contracts.[110] The EU court will have to determine if the context of the smart contracts entails freely assumed obligations by the parties.[111] The position in the UK is somewhat clearer than in the EU. According to the UK Jurisdiction Taskforce ("**UKJT**"):

> There is a contract in English law when two or more parties have reached an agreement, intend to create a legal relationship by doing so, and have each given something of benefit. A smart contract is capable of satisfying those requirements just as well as a more traditional or natural language contract, and a smart contract is therefore capable

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[107] Art. 11(1) of the MLEC which states that: "In the context of contract formation, unless otherwise agreed by the parties, an offer and the acceptance of an offer may be expressed by means of data messages. Where a data message is used in the formation of a contract, that contract shall not be denied validity or enforceability on the sole ground that a data message was used for that purpose." *See also* art. 8 of the MLEC.

[108] Art. 12 of the ECC which states that "A contract formed by the interaction of an automated message system and a natural person, or by the interaction of automated message systems, shall not be denied validity or enforceability on the sole ground that no natural person reviewed or intervened in each of the individual actions carried out by the automated message systems or the resulting contract."

[109] *See* Koji Takahashi, *Implications of Blockchain Technology for the UNCITRAL Works*, UNCITRAL MODERNIZING INTERNATIONAL TRADE LAW TO SUPPORT INNOVATION AND SUSTAINABLE DEVELOPMENT, (July 31, 2017) https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/EN/COMM/CQ/general/17-06783_ebook.pdf.

[110] *See generally* Anna Duke, *What Does the CISG Have to Say About Smart Contracts? A Legal Analysis*, 20 CHI. J. INT'L. L. 141 (2019); Werbach & Cornell, *supra* note 17; and Rühl, *supra* note 3.

[111] *See* Rodriguez, *supra* note 4, at 309.

of having contractual force. Whether the requirements are in fact met in any given case will depend on the parties' words and conduct, just as it does with any other contract. [112]

c.   Determining the Type of Contract

Some proponents argue that if the smart contract of an NFT token also includes the underlying digital asset, thereby forming a single unit that is stored on the blockchain (such as Cryptopunks NFTs), the NFT may be regarded as a good[113] while for cases where only the smart contract of the NFT token is stored on the blockchain without being unified to the underlying digital asset which is stored outside of the blockchain (on an external hosting service) but linked in the smart contract,[114] there could be some hesitation to characterize such NFT as a good.

Moreover, there are arguments that NFT-related contracts are not contracts for the sale of goods because a sale is traditionally associated with the concepts of ownership and proprietary rights, which some have argued are absent in the case of NFTs. Although NFT providers claim that NFTs are a new form of property,[115] there are uncertainties regarding whether NFTs could be regarded as property because the relevant national law must recognize them as property before they may be regarded as such.[116] Therefore, the question is whether NFTs can be the subject of proprietary rights. It is instructive to note that the International Institute for the Unification of Private Law ("UNIDROIT"), in its Principles on Digital Assets and Private Law ("Principles")[117] establishes that "digital assets [including NFTs] can be

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[112]   UK Jurisdiction Taskforce, *Legal Statement on Cryptoassets and Smart Contracts*, THE LAWTECH DELIVERY PANEL (Nov. 2019), https://cms.lawtechuk.io/uploads/4.-Cryptoasset-and-Smart-Contract-Statement.pdf.

[113]   *See* Revolidis, *supra* note 4.

[114]   *Id.*

[115]   *Id.*

[116]   *See generally* Lehmann, *supra* note 6; Revolidis, *supra* note 4; Lehmann, *supra* note 23.

[117]   UNIDROIT, *Principles on Digital Assets and Private Law* (April 2023), https://www.unidroit.org/wp-content/uploads/2023/04/C.D.-102-6-Principles-on-Digital-Assets-and-Private-Law.pdf

the subject of proprietary rights."[118] But the issue of whether NFTs are regarded as property under national law was not addressed.[119] The Principles, however, state that proprietary issues in respect to digital assets, particularly their acquisition and disposition, are always a matter of law.[120]

The EU and the UK have taken different approaches to the issue of whether cryptoassets are property. While there is no doubt that NFTs are subjects of proprietary rights in the UK, the position in the EU is debatable.[121] In a CJEU case,[122] the court ruled that, under existing secondary EU law, pure digital assets are similar to service-on-demand models and cannot be construed as sales contracts because sales contracts are limited to digital assets that are borne on a tangible medium.[123] This suggests that in the EU, NFTs are not subjects of proprietary rights.[124]

Another aspect of this argument relates to the nature of the rights acquired by the NFT acquirer following payment for the NFT and the transfer of the NFT to him. Some proponents have argued that those rights are license rights rather than ownership rights because, unlike the case of traditional sale of goods where ownership of the good is transferred to the buyer upon the execution and perfection of the contract,[125] the transferor (which could be an NFT provider, an NFT marketplace or a "peer" in cases of peer-to-peer NFT transactions) could retain control over the NFT after the transfer, for instance, by executing a smart contract that ensures that he receives a royalty upon every subsequent transfer of the NFT. There are also instances like that of Axie Infinity where the transferor retains control by prohibiting the NFT acquirer from reselling the acquired NFT or exploiting it for commercial gain.[126] Therefore, NFT transactions may be regarded as license contracts rather than contracts for the sale of goods.[127]

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[118]   *Id.* at 23, principle 3(1).

[119]   *Id.* at 13, para. 0.13.

[120]   *Id.* at 31, principle 5(2)(a).

[121]   See Revolidis, *supra* note 4.

[122]   Case C-263/18, Nederlands Uitgeversverbond v. Tom Kabinet Internet BV, ECLI:EU:C:2019:1111(Dec. 19, 2019).

[123]   *Id.*

[124]   Revolidis, *supra* note 4, at 39.

[125]   Rodriguez, *supra* note 4, at 312.

[126]   *Id.*

[127]   *See generally* Rodriguez, *supra* note 4 and Revolidis, *supra* note 4.

But the issue with characterizing NFT transactions as license contracts is that, typically, with a licensing agreement comes a right to revoke the license, which may not necessarily be the case with NFTs because once an NFT has been transferred to an NFT acquirer, it does not revert to the transferor unless it is used as collateral for a cryptocurrency loan and must be returned to the transferor upon the repayment of the loan. These issues, therefore, make it doubtful to construe NFT transactions as contracts for the sale of goods. The position may be straightforward for some types of NFT transactions, such as contracts between NFT marketplaces and NFT providers, which are a mix of contracts for the provision of services[128] and license contracts,[129] although it is unclear how this will be treated by the EU courts for the purposes of the Brussels I (recast) Regulation.

On the other hand, English courts have consistently held that NFTs are property[130] and the UKJT affirmed that cryptoassets are regarded in principle as property.[131] According to the UKJT's Legal Statement on Cryptoassets and Smart Contracts:

> Whether English law would treat a particular cryptoasset as property ultimately depends on the nature of the asset, the rules of the system in which it exists, and the purpose for which the question is asked. In general, however:
>
> (a) cryptoassets have all of the indicia of property;
> (b) the novel or distinctive features possessed by some cryptoassets—intangibility, cryptographic authentication, use of a distributed transaction ledger, decentralisation, rule by consensus—do not disqualify them from being property;

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[128] The reason is that the marketplace puts the NFTs up for display on its platform for marketing purposes on the NFT provider's behalf and earns a commission. Revolidis, *supra* note 4.

[129] This is because the NFT provider gives the NFT marketplace a limited license to display the goods. *Id.*

[130] Osbourne v. Persons Unknown & Ors. (2023) EWHC 340 (KB); Ion Science Ltd and Duncan Johns v. Persons Unknown, Binance Holdings Limited and Payward Limited (unreported, 21 December 2020); AA v. Persons Unknown (2019) EWCA 3556 (Comm).

[131] UK Jurisdiction Taskforce, *supra* note 112, at 7.

> (c) nor are cryptoassets disqualified from being property as pure information, or because they might not be classifiable either as things in possession or as things in action;
> (d) cryptoassets are therefore to be treated in principle as property.[132]

Moreover, the UK Law Reform Commission recommended the creation of a distinct third category of personal property[133] outside the traditional categories of property recognized by UK law which are things in possession[134] and things in action.[135] The rationale for this is that:

> Digital assets cannot be categorised properly in either of the traditionally recognized categories of things in possession or things in action (in the narrow sense). They are neither tangible things in the normal sense (although they do have a highly distributed tangible existence) and [sic] nor are they only claimable or enforceable by legal action or proceedings. Instead, they function more like objects in themselves.[136]

The Commission proposed three criteria for determining what goods should fall within the proposed third category of personal property, viz.: the thing must: (1) be composed of data represented in an electronic medium, including in the form of computer code, electronic, digital or analog signals; (2) exist independently of persons and exist independently of the legal system; and (3) be rivalrous.[137] NFTs may not

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132   *Id.*
133   UK Law Reform Commission, *Digital Assets: Summary of Final Report* (June 2023), https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2022/07/Digital-Assets-Summary-Paper-Law-Commission-1.pdf.
134   This is defined as any object which the law considers capable of possession. It includes assets that are tangible, moveable, and visible. *Id.*
135   This is defined as any personal property that can only be claimed or enforced through legal action or proceedings, such as debts, rights to sue for breach of contract, and shares in a company, it is sometimes regarded as encompassing any personal property that is not a thing in possession. *Id.*
136   *Id.* section 1.13.
137   *Id.* section 1.18-19.

meet these criteria because they are non-rivalrous in consumption;[138] however, they have been recognized as property by the English courts. Creating a third category of personal property that is broad enough to include NFTs is a good suggestion as it will enable the law to take into account the peculiarities of NFTs, which make it difficult to fit them into the existing categories of personal property.[139] Moreover, classifying NFTs as property and making the applicable forum the claimant's domicile, as was done by the English and Singaporean courts[140] will eliminate the challenge posed by attempts to locate NFT transactions in a physical space.

d.   Determining the Place of Performance of the Contract

Locating a blockchain transaction in the case of NFT smart contracts may not be straightforward because the blockchain is decentralized and lacks a central server that can be used to establish a location, hence the saying that blockchain transactions are "located everywhere and nowhere."[141] The courts could become creative and impose a location as was done in *In re Tezos*[142] and as is typically done in Internet-related disputes. However, case law for blockchains and NFTs in this regard is

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[138]   *See* Amy Whitaker, *The Artistic Value of an NFT*, ART BASEL (2022), https://www.artbasel.com/stories/artmarket-report-amy-whitaker?lang=enmarket-report-amy-whitaker?lang=en..

[139]   UK Law Reform Commission, *supra* note 130, at section 1.16. Creating a third category of personal property is in line with the international law reform work being carried out on digital assets by the American Law Institute and Uniform Law Commission's Uniform Commercial Code and Emerging Technologies Committee in the United States, and by the International Institute for the Unification of Private Law (UNIDROIT) Digital Assets Working Group. UK Law Reform Commission, *supra* note 133, at section 1.17.

[140]   In Janesh s/o Rajkumar v. Unknown Person ("CHEFPIERRE"), a Singaporean court ruled that NFTs are property. The claimant borrowed money from the defendant, using his Bored Ape NFT as collateral. Contrary to the agreement of the parties, the defendant "foreclosed" on the claimant before the agreed repayment deadline. The claimant was granted a proprietary injunction prohibiting the defendant from dealing with the Bored Ape NFT. The court also permitted service of the injunction on the defendant via NFT. (2022) SGHC 264.

[141]   Guillaume, *supra* note 4, at 70.

[142]   *In re* Tezos Sec. Litig., Case No. 17-cv-06779-RS (N.D. Cal. May. 25, 2018).

minimal. Also, the fact that NFT transactions are inherently blockchain-based, which makes purely smart NFT contracts automated and their "performance" automatic, implies that the issue of whether or not the contractual obligation has been performed will rarely arise in purely smart NFT contract cases.[143] Rather, most issues would center around the validity, fairness, and legality of the purely smart NFT contract and the capacity of the parties to execute the smart contract code in the first place.[144] Therefore, the reasonability of maintaining that jurisdiction should be vested in the court of the place of performance of the obligation is debatable (since the issue of performance will not often arise).[145]

Determining capacity to consent to the contract may be an issue because of the pseudonymity of the blockchain. While NFT marketplaces may be able to overcome this challenge through a Know-Your-Customer assessment or by requiring an NFT acquirer who trades on the NFT marketplace to provide his information,[146] this may be impossible in peer-to-peer NFT transactions. Some writers have asserted that, in contracts between NFT marketplaces and NFT providers, ascertaining the identity of the parties is not an issue because parties typically use their real identities so that they can earn the other party's trust.[147] This may not be entirely correct. The trust factor is built into the blockchain, and the technology was designed to make it safe for users to transact business based on pseudonyms, which will typically be a feature of contracts between NFT marketplaces and NFT providers.

Another likely challenge is the issue of determining a physical place for a transnational transaction. As affirmed by the UK Law Reform Commission, "Smart contracts may pose certain unique challenges when seeking to identify the geographical location of performance, actions and enrichment, such as where the obligations under a smart contract are performed on a distributed ledger rather than involving any physical

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[143]   *See generally* Rühl, *supra* note 3; Revolidis, *supra* note 4; and Rodriguez, *supra* note 4.
[144]   *See* Rühl, *supra* note 3; Rodriguez, *supra* note 4.
[145]   Revolidis, *supra* note 4, at 33.
[146]   *Digital Services Regulation*, *supra* note 93, art. 30.
[147]   Revolidis, *supra* note 4, at 19-20.

performance in the real world."[148] NFT transactions are done on the blockchain via smart contracts, and the blockchain's a-national feature makes it impracticable to tie the performance of a contractual obligation under such transactions to a specific geographic territory.

The situation with blockchain transactions may be slightly different from other transactions carried out via the Internet in which the place of performance of the contractual obligation may be identified by considering a number of factors. These factors may include the location of the host server for the data or the digital content used to provide the service; the place from where the digital content was uploaded to the server; the vendor or supplier's address; the place from where the service, content or information was accessed or downloaded; and the addressee's address or the address displayed on the relevant webpages.[149] However, for blockchain transactions and smart contracts, without the benefit of instructive case law on this point, these factors may be hard to determine because the "obligations" embedded in the smart contract code are simultaneously on the multiple nodes of the blockchain in several different locations worldwide.[150]

The issue posed by an attempt to ascertain the place of performance of the obligation is that if the court is to construe this strictly, then the place of performance would be all the countries where the computers containing the various nodes on the blockchain are located. In determining the place of a sales transaction that was recorded in the Ethereum blockchain, a federal court in Northern California,[151] after analyzing factors such as where the server hosting the website was hosted, where the operator of the website was located, and the location to which the marketing was directed, held that the transaction took place in the United States.[152] The rationale was that the "contribution of Ethereum . . . became irrevocable only after it was validated by a network

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[148]   UK Law Reform Commission, Summary of Smart Contracts Call for Evidence, chromeextension://bdfcnmeidppjeaggnmidamkiddifkdib/viewer.html?file=https ://s3-eu-west-2.amazonaws.com/lawcom-prod-storage_11jsxou24uy7q/uploads /2020/12/Smart-Contracts-summary.pdf.

[149]   Rodriguez, *supra* note 4, at 312.

[150]   *Id.*

[151]   *In re* Tezos Sec. Litig., No. 17-CV-06779-RS (N.D. Cal. Aug. 7, 2018).

[152]   *Id.*

of global 'nodes' clustered more densely in the United States than in any other country."[153]

Relying on nodes to determine the place of the contract has been criticized on the grounds that the intervention of the nodes is random, with no node having control over the other nodes because of the decentralized nature of the blockchain, which justifies the non-existence of a central server that could be a reference point for locating the blockchain transactions.[154] In *Janesh,*[155] a Singaporean court ruled that it had jurisdiction because the claimant is based in Singapore and that, since the NFT that is the subject matter of the dispute is stored on the Ethereum blockchain, which is a decentralized ledger with nodes around the world. If the Singapore court did not hear the case, there was no other appropriate forum.[156]

These complexities could make Article 7(1)(a) and Article 7(1)(c) of the Brussels I (recast) Regulation irrelevant. Given the lack of uniformity of the private international law rules that are applicable to NFTs, a likely challenge is that courts in multiple jurisdictions may simultaneously assert that they have jurisdiction over the same matter (where, for instance, both parties institute proceedings in different courts), particularly if the courts rely on the factor of the density of nodes (whose verification may be impracticable due to the distributed nature of the ledger), as was done in *In re Tezos.*[157]

e.   NFT Hacks and the Special Jurisdiction Rules

Torts and issues of infringement of intellectual property rights are notorious issues when it comes to NFT transactions because of the nature of NFTs. For instance, a person who mints an NFT that is linked to original creative work (such as music, art, or logos) is not required to show that he is the author or that he otherwise has a right to mint the NFT. The internet is rife with complaints by artists over the theft of their works by persons who minted those works into NFTs and did not get

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[153]   *Id.*
[154]   Rodriguez, *supra* note 4, at 313. *See also* Guilluame, *supra* note 4.
[155]   Janesh s/o Rajkumar v. Unknown Person ("CHEFPIERRE") (2022) SGHC 264.
[156]   *Id.*
[157]   *In re* Tezos Sec. Litig., No. 17-CV-06779-RS (N.D. Cal. Aug. 7, 2018).

the artist's permission before minting and selling the NFTs. [158] This is an issue that NFT platforms grapple with. For instance, Open Sea had to make some changes to its practices upon discovering that 80% of the NFTs created with its free minting tool were plagiarized works, fake collections, and spam.[159] There have also been issues of hacks and scams with respect to the digital wallets of NFT holders and NFT marketplaces.[160] However, because of the robust legal ramifications of NFT-related intellectual property violations, the discussion of NFT-related torts in this article is restricted to NFT hacks.

It is possible to sue a defendant domiciled in a Member State in another Member State if the matter relates to tort, delict, or quasi-delict. [161] In such cases, the defendant may be sued in the courts for the place where the harmful event occurred or may occur.[162] The issue with applying this rule to NFT transactions is the challenge of determining the place of occurrence of the harmful event because NFT transactions occur on nodes that are distributed across many jurisdictions.

There is also the question of whether the holder of a private key can assert that his NFTs were stolen if he cannot show that he has ownership rights over the NFTs.[163] This is because, as discussed in this article, NFT contracts are arguably more appropriately classified as license contracts than as sales contracts.[164] Blockchain is a unique technology, and given its peculiarities, the law should be able to provide a remedy for a victim of NFT theft without necessarily requiring him to prove ownership. Other factors, like holding a private key, may be used, but the issue with this is that the holder may have stolen the key. Therefore, the law should be able to ensure that holders of stolen keys cannot take advantage of

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[158]   *See* James Purtill*, Artists Report Discovering their Work is Being Stolen and Sold as NFTs*, ABC News (Mar 16, 2021), https://www.abc.net.au/news/science/2021-03-16/nfts-artists-report-their-work-is-being-stolen-and-sold/13249408.

[159]   *See* @opensea, TWITTER (Jan. 27, 2022), https://twitter.com/opensea/status/1486843204062236676?lang=en and Rodriguez, *supra* note 4, at 317 which mentions this.

[160]   *See NFT Hacks and Scams,* FORKAST, https://forkast.news/state-of-the-nft-market/nft-hacks-and-scams/.

[161]   *Brussels I (recast) Regulation*, *supra* note 63, art. 7(2).

[162]   *Id.*

[163]   Lehmann, *supra* note 6, at 22.

[164]   *Id.*

their wrongdoing. Since NFT transactions would vary on a case-by-case basis, the courts would have to examine the facts and circumstances of each NFT transaction to ascertain its legal nature. In a line of UK cases (which involved the theft of NFTs), NFTs were categorized as property, and the forum was the owner's domicile.[165] This made it easy for the claimant (owner) to institute proceedings against the defendant.

Some scholars consider it unlikely that the EU will classify NFTs as property because extant EU law suggests that property rights do not attach to digital assets, and EU courts cannot recognize new property rights because such rights have to be created by legislation, which may be challenging because of the EU's tendency to avoid regulating NFTs specifically.[166] It has been suggested that a victim of an NFT hack may rely on the EU Directive on Attacks Against Information Systems,[167] which is a secondary EU criminal law that criminalizes interference with digital systems, to make a case under the Brussels I (recast) Regulation that since hacking is illegal, the hacker is, as a matter of law, obliged to undo any damage caused to the victim.[168]

The victim may therefore argue that the interpretation of torts under Article 7(2) of the Brussels I (recast) Regulation is wide enough to cover non-contractual liabilities, including these obligations of the hacker.[169] Yet this suggestion does not address the issue of identifying the place of the harmful event. This situation is worsened by the difficulty of locating the NFT transaction in a physical territory due to the a-nationality of the blockchain on which the NFT is stored and the fact that the hacker may act from any country, including outside the EU.[170] While it is possible that the EU courts may arbitrarily impose a location, it will be interesting to see how the courts will resolve this issue.

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[165] Osbourne v. Persons Unknown & Ors. [2023] EWHC 340 (KB); Ion Science Ltd v. Persons Unknown and others (unreported), 21 December 2020 (Commercial Court); AA v. Persons Unknown [2019] EWCA 3556 (Comm).

[166] *See* Revolidis, *supra* note 4, at 44. Revolidis asserts that this tendency is exemplified by the exclusion of NFTs from the scope of the proposed Markets in Cryptoassets Regulation, although with an exception.

[167] Revolidis, *supra* note 4 (citing Directive 2013/40/EU of the European Parliament and of the Council of 12 August 2013 on attacks against information systems and replacing Council Framework Decision 2005/222/JHA [2013] OJ L218/8).

[168] Revolidis*, supra* note 4.

[169] *Id.*

[170] *Id.*

IV. CHOICE OF LAW IN DISPUTES RELATING TO NFT TRANSACTIONS

A. CISG

The UN Convention on Contracts for the International Sale of Goods ("CISG") is an international uniform substantive law that applies to contracts of sale of goods where the parties have their places of business in different States that are signatories to the CISG.[171] It also applies when the rules of private international law lead to the application of the law of a State that has adopted the CISG.[172] The CISG does not apply to some types of sales, including sales of certain goods bought for personal, family, or household use (unless the seller neither knows nor ought to have known that the goods were bought for such use). [173] Therefore, the CISG does not apply to consumer contracts. The provisions of the CISG are not mandatory as parties to a contract may derogate from or vary the effect of any of its provisions.[174] Any question concerning a matter that is governed by but not expressly settled in the CISG is to be settled in conformity with the general principles on which the CISG is based or in conformity with the law applicable by virtue of the rules of private international law.[175] If an NFT smart contract falls within the scope of the CISG, the applicable law will be the CISG unless it is inapplicable for any valid reason.[176]

The issue here is ascertaining if the CISG applies to NFT smart contracts that are not consumer contracts or otherwise outside the scope of the CISG. This would depend on whether the courts regard NFT

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[171]   U.N. Convention on Contracts for the International Sale of Goods, art. 1 (entered into force April 11, 1980) [hereinafter *CISG*].

[172]   *Id.* art. 1(a)-(b). The *CISG* however does not apply where the parties to a contract have excluded its application. *Id.* art. 6.

[173]   The *CISG* also does not apply to sales by auction, sales on execution or otherwise by authority of law, sales of stocks, shares, investment securities, negotiable instruments or money; sales of ships, vessels, hovercraft or aircraft, and sales of electricity. *Id.* art. 2.

[174]   *Id.* art. 6.

[175]   *Id.* art. 7(2).

[176]   Rühl, *supra* note 3, at 164–65.

smart contracts as contracts for the sales of goods and, if they do, given the a-nationality and pseudonymity of the blockchain, there is the question of how the places of business of the parties will be determined to ascertain that those States are signatories to the CISG. Arguably, this may not be an issue given that at the time of writing this article, 96 States have ratified the CISG.[177] There are views that smart contracts give rise to contractual obligations in respect of which the CISG will apply, but this is debatable.[178] Furthermore, the blockchain is designed to protect the privacy of its users; thus it allows for pseudonymity, and this feature is usually utilized by blockchain users. Where the identities of users are not known, it may be difficult to establish a valid basis on which the CISG will apply. The foregoing issues show that fitting NFT disputes within the framework of the CISG is not entirely straightforward, and some innovation may be required in this regard.

B. Contractual Issues-Rome I Regulation-EU & UK

If a contractual dispute relating to NFTs is brought before an EU or UK court, the court will determine the applicable law by considering the Rome I Regulation ("Regulation").[179] The Rome I Regulation is an international uniform substantive law that applies in the EU and UK[180] in situations involving a conflict of laws to contractual obligations in civil and commercial matters.

In this regard, some proponents who view "contractual obligations" as "all obligations freely assumed by one (private) party towards another irrespective of whether they are mutual or unilateral"[181] have raised the question of whether smart contracts give rise to contractual obligations. It has been argued that since smart contracts, being software, typically do not create obligations themselves but are ancillary to obligations created outside the software, the Rome I Regulation does not apply to

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[177] CISG-Online, https://cisg-online.org/home, (last visited Apr 26, 2023).

[178] *See generally* Rühl*, supra* note 3.

[179] Regulation (EC) No 593/2008 of the European Parliament and of the Council of 17 June 2008 on the law applicable to contractual obligations, art.1. [hereinafter *Rome I Regulation*]. The *Rome I Regulation* does not apply to Denmark pursuant to recital 46 of the Regulation. In such instances, the Danish courts may apply other applicable rules of private international law such as the Rome Convention. *See* Rühl, *supra* note 3, at 166–67.

[180] The *Rome I Regulation* applies in the UK by virtue of the Law Applicable to Contractual Obligations and Non-Contractual Obligations (Amendment etc.) (EU Exit) Regulations 2019.

[181] Rühl, *supra* note 3, at 166.

the smart contracts but to the obligations unless those obligations are created by algorithms and captured in the smart contract.[182] This argument may not be plausible for NFTs because typically, the NFT smart contract and the NFT are a unified entity or they are linked together such that it would be impossible to separate one from the other.[183] In NFT transactions, the NFT smart contract would not exist without the NFT transaction, and vice versa.

Although the Regulation permits the courts of EU Member States that are parties to multilateral treaties (such as the 1955 Hague Convention on the Law Applicable to the International Sale of Goods) to rely on them to determine the law applicable to international contracts,[184] for courts in these countries to apply the Hague Convention, they must be able to determine that the Hague Convention applies to smart contracts[185] and this may be challenging without a specific legal framework that addresses this issue. Parties may choose the governing law for the contract, but as discussed in this article, choosing the governing law may be a challenge, especially for legal or contractual relationships governed solely by smart contracts such as peer-to-peer NFT transactions. Contracts between NFT marketplaces and NFT acquirers or NFT providers are usually governed by the NFT marketplace's T&Cs, which typically include choice of law provisions.

1. NFT Consumer Contract Issues

The Regulation stipulates that consumers should be protected by conflict of law rules that are more favorable to their interests than the general rules.[186] This may, however cause uncertainty in NFT transactions concluded with consumers. Where no choice of law is made by the parties,[187] the applicable law for a consumer contract is the law of the consumer's habitual residence, provided that the professional

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[182]   *Id.*
[183]   Rodriguez, *supra* note 4, at 308–09.
[184]   *Rome I Regulation*, *supra* note 179, art. 25.
[185]   Rühl, *supra* note 3, at 166.
[186]   *Rome I Regulation*, *supra* note 179, recital 23.
[187]   *Id.* art. 6(2).

pursues his commercial or professional activities in, or directs it to that place, and the contract is within the scope of such activities.[188]

Despite the choice of law by parties to a consumer contract, the consumer cannot be deprived of the protection afforded to him by the mandatory provisions of the law of his habitual residence.[189] The implication of this is that a consumer contract may be governed by multiple laws, which would be the case if the law of the consumer's habitual residence affords him some protections that the governing law does not provide for. This situation may be inefficient for the professionals that are involved in NFT consumer contracts because they may be unable to determine the applicable law with certainty and where they have businesses in many countries, they have to be acquainted with the relevant laws of each country.[190] This is worse in NFT cases because many countries have yet to provide clarity on the national law for NFTs.[191] For countries that have provided clarity, their national laws are usually divergent from those of other countries.[192]

There is also the question of the ability of the professional to know that he is contracting with a consumer, which may be challenging because of the pseudonymity of the blockchain.[193] According to an ECJ ruling, Article 6 Rome I Regulation will not apply if "a consumer conceals that he or she is acting for private purposes"[194] or "(consciously) creates the impression through his or her own conduct that he or she is acting for professional or commercial purposes."[195] This ruling, however, does not take into account the fact that there may be instances where, due to the nature of NFT transactions, the professional is unable to ascertain that the other party is a consumer or that such concealment or creation of a false impression was done.[196]

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[188]   *Id.* art. 6(1).

[189]   *Id.* art. 6(2).

[190]   *See* Rodriguez, *supra* note 4.

[191]   This may be due to either an absence of NFT-specific laws or uncertainty about how existing technological laws would be applied to NFTs.

[192]   *See* Lehmann, *supra* note 23.

[193]   *See* Rühl, *supra* note 3, at 175.

[194]   *Id.*

[195]   *Id.*

[196]   *Id.*

2. Determining the Applicable Law Where No Law is Chosen

Where no choice of law is made by the parties (which will usually be the case with purely smart NFT contracts), the court would rely on the choice of law rules provided in Article 4 of the Rome I Regulation. If the NFT transaction is a contract for the sale of goods, provision of services, or a distribution contract, the applicable law is the law of the habitual residence of the seller, the service provider, or the distributor, respectively.[197] Where it is a contract for the sale of goods by auction, the applicable law is the law of the place of the auction.[198] Again, as discussed in this article, pseudonymity and decentralization could make the determination of the habitual residence and the place of the auction challenging, respectively. Even if the habitual residence is ascertainable, the country may not have a legal framework that governs the NFT transaction.

Also, Article 4 of the Regulation poses some complexities and uncertainties for parties because of its residual choice of law provisions and escape clause.[199] For instance, it provides that where the contract is not covered by Article 4(1) or where the elements of the contract would be covered by more than one of the points in Article 4(1) (a) to (h), the contract will be governed by the law of the State where the party required to effect the characteristic performance of the contract has his habitual residence.[200] Further increasing the complexities, the Regulation provides in Article 4(3) that where it is clear from all the circumstances of the case that the contract is manifestly more closely connected with a country other than that indicated in Article 4(1) or Article 4(2), the law of that other country shall apply. Finally, it provides that where the law applicable cannot be determined pursuant to Article 4(1) or Article 4(2), the contract will be governed by the law of the country with which it is most closely connected.[201]

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[197]   *Rome I Regulation*, *supra* note 179, art. 4(1)(a), (b)&(f).
[198]   *Id.* art. 4(1)(g). An NFT auction was done in *Soleymani*. *See* Soleymani v. Nifty Gateway LLC, [2022] EWCA (Civ) 1297 (Eng.).
[199]   *See generally* Rodriguez, *supra* note 4, and Revolidis, *supra* note 4, at 349
[200]   *Rome I Regulation*, *supra* note 179, art. 4(2).
[201]   *Id.* art. 4(4).

The complexities of these provisions may give some room for the court that is seized of the matter to attempt to locate the blockchain transaction by applying principles that are similar to those applied in *In re Tezos*[202] regarding the density of nodes, although this presupposes that the court will be so inclined and, where relevant, have the means for determining this, which may not always be the case. Applying these principles may also be arbitrary because it is not clear how the court will establish the legal basis or standardize the principles in a way that guarantees certainty and predictability.

Another challenge is that if more than one of the points in Article 4(1) applies (which will often be the case for NFT transactions because the lack of specific choice of law rules on the subject makes it prone to diverse interpretations), the contract will be governed by the law of the habitual residence of the party required to effect the characteristic performance of the contract. This raises the questions of what amounts to the characteristic performance of the contract and which party is required to effect it. Arguably, in the context of NFT transactions, the characteristic performance of the contract is done automatically by the smart contract code without the involvement of any person once the pre-set conditions are in place. Therefore, it is important that the lawmakers or the courts provide clarity on how the Regulation will apply in the context of NFT smart contracts.

C. Non-Contractual Issues-Rome II Regulation-EU & UK

Non-contractual issues may arise from NFT transactions, including transactions that are based solely on smart contracts.[203] For issues relating to non-contractual obligations, courts in the EU and UK, in determining the applicable law, would rely on the Rome II Regulation.[204]

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[202]   *In re* Tezos Sec. Litig., 2018 WL 4293341 at * (N.D. Cal. August 07, 2018).

[203]   Rühl, *supra* note 3, at 176.

[204]   Regulation (EC) No 864/2007 of the European Parliament and of the Council of 11 July 2007 on the law applicable to non-contractual obligations, 2007 O.J. (L 199) 40 [hereinafter *Rome II Regulation*]. The *Rome II Regulation* applies in the UK by virtue of the Law Applicable to Contractual Obligations and Non-Contractual Obligations (Amendment etc.) (EU Exit) Regulations 2019. *See* Bell & Cainer, *supra* note 4.

1. Determining the Applicable Law in NFT Tort Cases

The general rule is that the law applicable to a non-contractual obligation arising out of a tort is the law of the place where the damage occurs, irrespective of the country in which the indirect consequences of that event occur,[205] but where the habitual residence of both parties are similar, the law of the habitual residence will apply.[206] Where it is clear from all the circumstances of the case that the tort is manifestly more closely connected with another country, the law of that other country will apply.[207] A manifestly closer connection with another country could be based on a preexisting relationship between the parties that is closely connected with the tort, such as a contract.[208] Again, applying these rules to NFT transactions may be challenging. For instance, there are questions on how the place of damage and the habitual residence of an NFT hacker will be determined and what criteria will be used to determine that a tort is manifestly more closely connected with another country, given the a-nationality and pseudonymity of the blockchain.

Some proponents have asserted that the damage suffered in cases of NFT-related torts is damage to "the goodwill generated by the legitimate expectations in the DLT system"[209] and that, in this regard, the habitual residence of the holder of the private key should be the place of damage because it is the "most helpful objective proxy" for such damage. [210] The issue with this argument is that the type of damage that may be suffered in such cases is not limited to damage to goodwill because each case would have its own unique facts and circumstances. Also, considering that this criterion is not stipulated by law, courts are at liberty to refuse to adopt it.

Where NFTs are stored in a hardware wallet, it may be possible to argue that the place of damage is the physical location of the wallet. This proposition has been rejected on the grounds that the mode of storing

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[205]   *Rome II Regulation*, *supra* note 205, art. 4(1).

[206]   *Id.* art. 4(2).

[207]   *Id.* art. 4(3).

[208]   *Id.*

[209]   Bell & Cainer*, supra* note 4, at 26.

[210]   *Id.*

the NFT cannot be a determining factor.[211] However, the basis for this objection is not clear. Considering the limitations of extant private international law rules in light of the complexities of NFTs, it may be helpful to adopt any rule that will make the situation less complex. Besides, it is not unusual for the law to create exceptions in what would have otherwise been similar cases for the purpose of facilitating the resolution of knotty legal issues.

While it is possible to argue that the place of damage is where the hacker acted from, the a-nationality and decentralization of the blockchain could make the determination of such a place elusive, like any other Internet-related case, although in cases similar to NFT hacks, the English courts have addressed this issue by ruling that NFTs are property and have applied the law of the forum which is the defendant's domicile.[212] Even though blockchain transactions can be traced, those transactions do not contain information on physical locations. There could also be cases of coordinated hacking by hackers in different jurisdictions or by a single hacker who acted from a country whose legal framework does not recognize NFTs or provide any remedy for the victim of an NFT hack.[213]

Victims of NFT hacks may engage the services of digital asset tracers to trace the wallet to which the hacker transferred the NFT, although this may be difficult if the hacker stores the NFT in an offline wallet. Asset tracing may also be unhelpful in determining where the hacker acted from or his habitual residence. However, where the hacker transfers the NFTs to an online wallet, asset tracing could be useful for determining the platforms hosting those wallets. The victim could institute proceedings seeking a Norwich Pharmacal or banker's trust order against the platform to compel it to provide the details[214] of the holder of such wallets and interim injunctions preventing any further transfer of the NFTs.[215] Usually, such platforms require their users to provide their details at the point of signing up for an account, and, in some cases, the platform may, upon an injunction, be able to stop any

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211   Guillaume, *supra* note 4, at 63.

212   Osbourne v. Persons Unknown & Ors. [2023] EWHC 340 (KB).

213   *Id.*

214   In the EU, NFT marketplaces are required to obtain the information and identification document of persons who trade on such marketplaces. *Digital Services Regulation*, supra note 93, art. 30.

215   Bell & Cainer, *supra* note 4, at 9.

transfer from a wallet on the platform. This was done in the English case of *Osbourne*.[216]

In *Osbourne*,[217] the claimant instituted proceedings against some unknown persons who had misappropriated her cryptoasset wallet and removed two NFTs from it. A digital assets tracing company assisted her with tracing the NFTs to some online accounts. She obtained interim injunctions to prevent the further movement of her NFTs and a disclosure order to obtain information on the persons responsible for the misappropriation. Service of the court process was done via the transfer of NFTs containing embedded hyperlinks to the documents. The court ruled that NFTs are property and are located at the owner's domicile, and on that basis, the court determined that it had jurisdiction. [218] Similarly, in *Janesh*,[219] a Singapore court held that proprietary rights exist in respect of NFTs. Treating NFTs as property and as located at the owner's domicile is helpful in cases of NFT hacks where the defendant is typically unknown, and, if this approach is adopted by other jurisdictions, it may eliminate the problems associated with the a-nationality of the blockchain.

In the English case of *Tulip Trading Limited v. Bitcoin Association for BSV*,[220] the court held that cryptoassets systems and software developers owe no fiduciary or tortious duty to cryptoasset owners to permit or enable access to the cryptoassets where the owners lose control over the assets due to a hack. This appears to contradict the decision in *Osbourne* and may make the holders of private keys less confident of being able to obtain legal remedies if their NFTs are hacked. However, the decision in *Tulip Trading Limited v Bitcoin Association for BSV* was overturned by the English Court of Appeal in *Tulip Trading Ltd v Van der Laan*[221] and returned to trial. The outcome of the trial will be instructive for blockchain transactions and will contribute to jurisprudence in this regard.

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[216] *Osbourne,* [2023] EWHC 340.

[217] *Id.*

[218] *Id.*

[219] Janesh s/o Rajkumar v. Unknown Person ("CHEFPIERRE") [2022] SGHC 264, 26.

[220] [2022] EWHC 667 (Ch).

[221] [2023] EWCA Civ 83.

It may be easier to determine that a non-contractual obligation arising out of a tort is manifestly more closely connected with another country where there is a preexisting relationship between the parties[222] and in cases of other types of torts apart from theft or hacking, such as breach of the intellectual property or licensing rights granted under an NFT transaction. But these factors may not exist in all cases of NFT-related torts. This challenge is aptly captured by the US Department of the Treasury in these words:

> The NFT market has…disclosure and integrity gaps, where, for example, consumers can unknowingly buy NFTs that may contain copyright infringements. The industry has seen a significant increase in the number of lawsuits filed, with claims related to deceitful marketing tactics or for sales made under false pretenses. However, investors often suffer from a lack of recourse because there is insufficient information on whom to hold accountable or because accountable parties may be outside the jurisdiction of the U.S. courts.[223]

It is therefore unclear how victims of NFT-related torts will obtain legal remedies in such instances.

2. Unjust Enrichment and *Negotiorum Gestio*

If a non-contractual obligation arising out of unjust enrichment, including payment of amounts wrongly received, concerns a relationship existing between the parties, such as one arising out of a contract or a tort that is closely connected with that unjust enrichment, the applicable law is the law that governs that relationship.[224] Where the applicable law cannot be determined on this basis, and the parties had their habitual residence in the same country when the event giving rise to unjust enrichment occurred, the law of that country will apply.[225] Where the applicable law cannot be determined on this basis, the law of the country in which the unjust enrichment took place will apply.[226] But where it is clear from all the circumstances of the case that the non-contractual obligation arising out of unjust enrichment is manifestly more closely

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[222] *Rome II Regulation*, *supra* note 205, art. 4(3).
[223] U.S. Dep't of the Treasury, *Crypto-Assets: Implications for Consumers, Investors, and Businesses*, (Sept. 2022), https://home.treasury.gov/system/files/136/Crypto Asset_EO5.pdf.
[224] *Rome II Regulation*, *supra* note 205, art.10(1).
[225] *Id.* art. 10(2).
[226] *Id.* art. 10(3).

connected with a country other than the aforementioned ones, the law of that other country will apply.[227]

A similar set of choice of law rules will apply in cases of *negotiorum gestio*. If a non-contractual obligation arising out of an act performed without due authority in connection with the affairs of another person concerns a relationship existing between the parties, such as one arising out of a contract or a tort or delict that is closely connected with that non-contractual obligation, it will be governed by the law that governs that relationship, subject to the same exceptions highlighted in the foregoing paragraph in respect of unjust enrichment.[228]

In NFT-related disputes involving unjust enrichment or *negotiorum gestio*, the transnationality and pseudonymity of the blockchain could make it challenging to determine the law that governs the relationship[229] between the parties (if any), the country in which the unjust enrichment took place, and the criteria for determining the country with which the non-contractual obligation is manifestly more closely connected. In the absence of any guidance from the EU courts on this point, it is unclear how the victims will obtain redress.

D. UNIDROIT Principles on Digital Assets and Private Law

The Principles[230] are guidelines that Member States are encouraged to adopt to make their private laws consistent with best practices and international standards regarding digital assets.[231] They are technology and business model neutral[232] such that the definitions of the relevant terms make the scope broad enough to include NFTs.

The Principles take into account the fact that because digital assets are intangibles that have no physical situs, the usual connecting factors for choice-of-law rules, such as the location of persons, offices, activity, or assets, are not useful for determining the law applicable to proprietary issues relating to digital assets.[233] The Principles, however, aim to provide

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[227] *Id.* art. 10(4).

[228] *Id.* art. 11(1)–(4).

[229] *Id.* art. 4(3).

[230] UNIDROIT, *supra* note 117.

[231] *Id.* at 15, principle 1.

[232] *Id.* at 11.

[233] *Id.* at 33, para. 5.4.

an incentive for those who create new digital assets to specify the applicable law.[234]

Under the conflict of laws rules in the Principles, proprietary issues with respect to digital assets are governed by the applicable law that is expressly specified by parties in either the digital assets or the system on which the digital assets are recorded.[235] This provision is similar to the propositions made by some scholars in respect of the blockchain,[236] although it is unclear how this would be done in practice, especially for peer-to-peer NFT transactions, considering the issue with including choice of law clauses in smart contracts. The specified law could be the domestic law of a State, either solely or in conjunction with any aspect of the Principles.

Where the parties did not specify the applicable law and the issuer[237] of the digital asset has a statutory seat that is readily ascertainable by the public, the domestic law of the State where the issuer has its statutory seat will apply. Thus, the Principles recognize that there are instances when one or more of the parties to an NFT transaction may be ascertainable despite the pseudonymity of the blockchain. The succeeding paragraph of this article equally shows that the Principles recognize instances where it may be challenging to ascertain the identity of any or all of the parties.

With respect to the conflict of laws rules in the Principles, where none of the provisions in the immediately preceding paragraph of this article applies, there are two options. The first option is that the applicable law would be those aspects or provisions of the law of the forum State as specified by that State. To the extent that such specified law does not address the issue, the aspect of the Principles specified by the forum State will apply, and, where these do not address the issue, the

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[234] *Id.* at 33, para. 5.5.

[235] *Id.* at 31, principle 5.

[236] *See* Bell & Cainer, *supra* note 4, at 12-15. *See generally* Michael Ng, *Choice of Law for Property Issues Regarding Bitcoin under English Law*, 15 J. PRIV. INT. LAW 315 (2019) and ANDREW DICKINSON, CRYPTOCURRENCIES IN PUBLIC AND PRIVATE LAW (David Fox & Sarah Green eds., 2019).

[237] An issuer is a legal person: (i.) who put the digital asset, or digital assets of the same description, in the stream of commerce for value, (ii.) who, in a way that is readily ascertainable by the public, 1. identifies itself as a named person; and 2. identifies its statutory seat; and 3. identifies itself as the person who put the digital asset, or digital assets of the same description, into the stream of commerce for value. UNIDROIT, *supra* note 117, at 32, principle 5(2)(f).

law applicable by virtue of the rules of private international law of the forum State will apply. The second option is that the aspects of the Principles specified by the forum State will apply and, to the extent that these do not address the issue, the law applicable by virtue of the rules of private international law of the forum State will apply.

In determining whether the applicable law is specified in a digital asset or in a system on which the digital asset is recorded, the Principles stipulate that consideration should be given to records attached to, or associated with, the digital asset or the system, if such records are readily available for review by persons dealing with the relevant digital asset.[238] This provision may be applied in cases where NFT transactions are simultaneously governed by multiple documents, such as smart contracts and T&Cs. Because the Principles are specifically focused on digital assets and are the product of an extensive public consultation process, they are generally well suited for NFT transactions, unlike other existing private international law rules. However, the fact that the rules are not binding may defeat the purpose of having uniformity and certainty globally with respect to NFT-related disputes.

V. RECOMMENDATIONS

There have been various suggestions on the appropriate way to address the jurisdiction and choice of law issues that arise in NFT-related disputes, although most of these recommendations are in respect of the blockchain rather than specifically for NFTs.

A. *Lex Cryptographia*

The coiners of the phrase "*lex cryptographia*" described it as "a set of rules administered through self-executing smart contracts and decentralized (and potentially anonymous) organizations."[239] It is a

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[238] *Id.* at 31, principle 5(2)(b).
[239] The phrase was coined by Aaron Wright and Primavera De Filippi. *See* Wright & De Filippi, *Decentralized Blockchain Technology and the Rise of Lex Cryptographia,* SSRN (May 20, 2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2580664; *see also* Guillame, *supra* note 4, at 73; Lehman, *supra* note 6, at 100.

"non-state and a-national law"[240] which proponents have recommended should govern the blockchain. It suggests a form of self-regulation of the blockchain whereby interactions with cryptoassets are resolved not by the law but by "the consensus mechanism of the DLT network."[241] The idea is that DLT systems should formulate dispute-resolution rules that are independent of any legal system and that will be used for resolving disputes relating to the use of DLT systems.

Some of the justifications given for this include the blockchain's goal of eliminating the differences between national laws[242] by providing an alternative to legal solutions[243] and preventing a centralized body or any government from interfering with its operations. Proponents argue that the intangibility and transnationality of the blockchain means that the blockchain does not need a legal system to operate, thereby making the issue of jurisdiction and choice of law outdated. [244] Another justification is that since the DLT was designed to be independent of any national law, inefficiencies and contradictions will be created if the DLT is made subject to multiple national laws simultaneously since it operates globally.[245] Moreover, such a situation may be disadvantageous to users of the blockchain, who will not benefit from the same protections across the world.

However, the idea of a *lex cryptographia* has been rejected and severely criticized as being "inherently unrealistic"[246] for not taking into account the various situations that may arise in connection with blockchain transactions and for which a real-world legal framework would be required. [247] Instances of such cases include mistake, duress, theft, misappropriation, succession, and bankruptcy.[248] For instance, it would be unreasonable to expect that the holder of a private key whose NFT is misappropriated should not be able to seek redress in court. Indeed, if the blockchain could provide a solution, victims of NFT misappropriations would not have needed to file actions in court. The

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[240]   Lehman, *supra* note 6, at 100.

[241]   Bell & Cainer, *supra* note 4, at 6.

[242]   *See* Lehman, *supra* note 23.

[243]   Bell & Cainer, *supra* note 4, at 6 (citing Lehmann, *supra* note 4, at 98).

[244]   Rühl, *supra* note 3, at 161.

[245]   *See* Lehman, *supra* note 23.

[246]   Bell & Cainer, *supra* note 4, at 6.

[247]   *See id.* Guillaume, *supra* note 4, at 73-74; and Lehmann, *supra* note 4.

[248]   Lehmann, *supra* note 4, at 106.

inability of parties to NFT transactions to enforce their legal rights in court with respect to those transactions may increase the uncertainty and unpredictability that currently exists under the conflict of laws rules with respect to NFTs.[249]

B.   Uniform Substantive Law

Some proponents have recommended the development of uniform substantive law that will apply internationally to some or all blockchain transactions.[250] The rationale for this is that if all States adopt a uniform substantive law that governs NFTs, the application of choice of law rules to NFT disputes will be unnecessary since the same substantive law will apply regardless of the State.[251] This could make the issues associated with determining the applicable law in NFT-related disputes less complicated.

Although no uniform substantive law exists currently with respect to blockchain transactions or NFTs, there are some non-binding instruments that may be applied to blockchain transactions. These include the Principles, the UNCITRAL model laws, and the CISG. The strength of these frameworks lies in the fact that they follow the principle of technological neutrality and may therefore be adaptable to blockchain transactions. However, they are typically not binding on all States, and, since they were not specifically made for blockchain or NFT transactions, applying them in these contexts may not be straightforward.

It has been argued that framing a law that is geared towards addressing current issues in NFT transactions will ensure legal certainty for all blockchain users and may prevent regulatory arbitrage. However, the scope of issues of substantive law in blockchain or NFT transactions is so broad that it will be impracticable for any of these bodies to undertake the task of formulating a uniform substantive law on the subject. Moreover, not only are the cryptoasset-related laws of various States inadequate to address all the private law issues that may arise from

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[249]   Bell & Cainer, *supra* note 4, at 6.
[250]   *See* Lehman, *supra* note 23, at 117.
[251]   *Id.*

using the blockchain,[252] but they are also so diverse that attempting to harmonize them will be impracticable. This point is buttressed by the fact that the Principles are limited to issues of proprietary rights in respect of digital assets. There are arguments that States may be willing to embrace a uniform substantive law because many of them are still trying to figure out how to appropriately regulate cryptoassets.[253] However, this assertion may not be accurate because different States are at different levels of development, with different policies and different attitudes to cryptoassets.[254] These differences may therefore make the implementation of this recommendation impracticable or unreasonable. This is why scholars have described any attempt to implement it as "aspirational."[255]

C.   Uniform Private International Law Rules for NFT Transactions

Considering the shortcomings of the first two recommendations discussed above, the development of uniform private international law rules for NFT-related matters is arguably the most viable solution to the issues of jurisdiction and choice of law that arise in NFT-related matters. The "value proposition" of the uniform private international law rules for NFTs is that, since NFT transactions, by reason of being blockchain-based are global in nature, applying the same rules globally for determining jurisdiction and applicable law in NFT-related matters will facilitate NFT transactions by ensuring certainty and predictability.

Compared to other recommendations, developing uniform private international law rules is feasible, less time-consuming, and more cost-efficient. It will also be a good way to harmonize the efforts of States and international bodies to effectively regulate NFTs rather than having a situation where each State attempts to individually reform its conflict of laws rules in line with the demands of technological advancement. The uniform rules also have a greater chance of being adopted by States than a uniform substantive law, which cannot accommodate the different

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[252]   Guillaume, *supra* note 4, at 60.
[253]   *See generally* Lehman, *supra* note 23.
[254]   *See Africa's Growing Crypto Market Needs Better Regulations*, IMF BLOG, (Oct 22, 2022), https://www.imf.org/en/Blogs/Articles/2022/11/22/africas-growing-crypto-market-needs-better-regulations.
[255]   Bell & Cainer, *supra* note 4, at 29.

legal, socio-economic, cultural, and political situations of all States simultaneously. The fact that the uniform rules will be custom-made for NFT-related matters may increase its chances of success. It also means that States will not have to grapple with trying to adapt their existing private international law rules to suit NFT-related matters. Unlike the other recommendations, developing uniform private international law rules for NFTs could facilitate the development of frameworks for addressing the issue of recognition and enforcement of foreign judgments in NFT-related disputes, which is an important issue, although it is outside the scope of this article.

Uniform private international law rules already exist regionally in the EU and UK by way of the Rome I and II Regulations and the Brussels I (recast) Regulation. However, the analysis in this article shows that these Regulations are inadequate and unsuitable for NFT-related matters.

Therefore, the proposed uniform rules should be clear, straightforward, and easily determinable. They should take into account the features of the blockchain and the peculiarities of NFTs, which make it challenging to apply traditional private international law rules to NFT-related matters, as discussed in this article. For instance, the determination of jurisdiction and applicable law should not be based on the traditional connecting factors that are irrelevant and unhelpful in most NFT-related matters.

To ensure simplicity, the rules could adopt the format of the Swiss Private International Law Act ("SPILA"), which provides for jurisdiction and applicable law for each subject matter. States and international bodies like UNIDROIT, UNCITRAL, the Hague Conference on Private International Law, and the Financial Markets Law Committee ("FMLC") could collaborate to develop the uniform rules. While the Principles may be a useful template, the uniform rules should be more expansive and NFT-specific than the Principles.

Although no such uniform rules that apply to all countries have been made previously on any subject matter, the desirability and importance of uniform conflict of law rules have been expressed.[256] The Principles

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[256] Kurt H. Nadelmann & Willis L. M. Reese, *The American Proposal at the Hague Conference on Private International Law to Use the Method of Uniform Laws*, 7 AM. J. COMP. L. 239 (1958).

demonstrate the workability of the uniform rules. Nevertheless, making the uniform rules binding on all States could be a challenge. Therefore, to ensure their effectiveness, the uniform rules could incentivize compliance, for instance, by eliminating the practical difficulties of applying traditional conflict of law rules to NFT-related disputes, thereby making it an attractive option for States.

CONCLUSION

Blockchain technology is an innovation with a potential to disrupt the modus operandi in all spheres, including the legal sphere. The novelty of this technology accounts for the unprecedented jurisdiction and choice of law issues that have arisen and will arise in matters relating to NFTs, a cryptoasset that is one of the popular applications of blockchain technology. The ramifications of the peculiarities of NFT transactions for which existing private international law rules have no frame of reference should not be overlooked, particularly in light of the role that NFTs could potentially play in the metaverse.

This article has shown that NFT-related disputes raise novel legal issues with respect to jurisdiction and choice of law, which cannot be addressed adequately by existing private international law rules. While there are diverse views on how these issues should be addressed, the position taken in this article is that the best approach to dealing with these issues is to develop uniform private international law rules that will apply to NFT-related matters worldwide.