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Recovery of Digital Assets and Cryptocurrencies in Civil Enforcement Proceedings: Key Challenges

Abstract

This paper addresses the challenges of recovering digital assets (particularly cryptocurrencies) in civil enforcement proceedings, highlighting the unique legal issues raised by their intangible and decentralised nature. Traditional legal norms designed for tangible assets often fail to address these complexities, leading to difficulties in enforcing judgments involving digital assets. The paper examines the evolving legal landscape, including recent case law that examines the status of digital assets as objects of property rights. It also identifies key legal gaps and proposes solutions to ensure efficient enforcement procedures, with a particular focus on the recovery of cryptocurrencies. The study draws on comparative legal analysis and emerging regulatory trends to provide a comprehensive overview of potential reforms needed to adapt to the digital asset environment.

KEYWORDS: digital assets, civil enforcement proceedings, recovery of digital assets, cryptocurrency, property rights

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For individuals seeking to defend their violated rights, one of the most critical stages of the judicial process is arguably the civil enforcement proceedings. While legal professionals may be particularly invested in the intricacies of the dispute, the arguments presented by the parties, the legal norms applied, and the court's interpretation of those rules, for the average litigant – someone not deeply entrenched in the legal profession – these complexities are often an unnecessary burden. Such individuals are primarily concerned with practical outcomes, such as recovering their assets or securing a favourable judgment, and are less preoccupied with the legal reasoning behind the court's decisions.

Enforcement proceedings, therefore, represent a space where two distinct realms – legal and social reality – converge. Through enforcement actions, such as compulsory measures, the legal framework is given tangible effect in the social sphere, ensuring that the practical outcome desired by the litigant is achieved. In this way, enforcement proceedings serve as the mechanism by which justice is translated from theoretical principles into concrete results. Without the ability to enforce judicial decisions, the value of the court system itself would be severely undermined. Thus, the importance of enforcement proceedings is undeniable, as they are essential in transforming abstract legal rights into real, enforceable protections for individuals.

However, the social reality, which is modified by the execution of court judgments, is constantly and constantly changing, but the need to accept and execute court judgments undoubtedly remains. The legal rules that define legal reality are prescriptive in nature and, unlike social reality, do not change it. Thus, fundamental social transformations often imply the need to adapt the legal reality in order to achieve the objectives pursued by a given legal regulation. In this respect, the enforcement proceedings are no exception: in order for court decisions to be enforced efficiently and for the human rights of the persons involved in the enforcement proceedings to be successfully and realistically guaranteed, the legal norms governing the enforcement proceedings must be adapted to the transformative social phenomena mentioned above. One of these current and fundamental changes in social reality, which cuts across many areas, is digitisation. Of course, digitalisation is also having a huge impact on the law. Legal scholars emphasise that this phenomenon affects the law in two ways: on the one hand, digitalisation is becoming the subject of regulation of the law itself, including issues such as data ownership, liability for autonomous systems or the legal personality of artificial intelligence; on

the other hand, the law itself is being digitalised, and the application of digital technologies to facilitate legal work is being contemplated, even in terms of the use of digital technology in the application or interpretation of the law.[1] This article focuses on the first type of digitalisation's impact on the law: digitalisation has made digital assets a fully-fledged part of civil life, the recovery of which inevitably becomes the subject of regulation by the norms of the enforcement proceedings, even if the norms do not explicitly regulate the type of assets in question – the lack of a specific regulation of a particular technology, such as a block chain, does not imply that such systems are operating outside the scope of law.[2] In any case, however, the objective of efficiency is not lost: the regulation of this instrument must be adapted to the above – mentioned relatively new developments in the civil environment, which are linked to the widespread use of digital assets. This is not an easy task for the legislator, who has to deal with a multitude of digital assets, each with its own specific characteristics. For example, digital assets based on block chain technology – cryptocurrencies, NFTs, virtual goods – are characterised by their intangibility, decentralisation and anonymity. These inherent characteristics of these assets make the rules for traditional types of assets inapplicable to the recovery of digital assets, as they make it practically impossible to achieve the objectives of the enforcement proceedings. Quite simply, in the case of a recalcitrant debtor who has digital assets as a major part of his assets, it is very likely that the debt will not be recovered or that the courts will be forced to deal with the regulatory vacuum on an *ad hoc* basis, to the detriment of legal clarity and the lack of predictability as to what kind of judgment can be expected. The abovementioned specificity of digital assets and the inadequacy of the regulation of traditional types of recovery make it necessary to look for solutions to this situation, at least in academic doctrine. Thus, by this research, it is sought to provide an answer to a fundamental question: can digital assets be recognised as objects of property rights and effectively recovered in civil enforcement proceedings under the existing legal frameworks? The authors of this article seek to identify the current challenges and specific regulatory problems arising in the recovery of digital assets and propose possible solutions to these problems. The aim

1 Jan Oster, "Code Is Code and Law Is Law–The Law of Digitalization and the Digitalization of Law" *International Journal of Law and Information Technology*, 2021.

2 Karen Yeung, "Regulation by Blockchain: The Emerging Battle for Supremacy between the Code of Law and Code as Law" *Modern Law Review*, 2 July 2018.

of the paper is achieved through specific tasks: first, the concept of digital assets is defined and the different types of digital assets are distinguished. Second, the work identifies the specific problems encountered in the context of the current regulatory framework for the recovery of digital assets. Third, drawing on current regulatory trends, soft law sources and national best practices, it proposes specific regulatory changes that could address these problems. The study uses linguistic, systematic, comparative and logical methods. Linguistic, systematic and logical methods are used to analyse in detail the sources of law and legal doctrine and to identify existing regulatory gaps or problems. These methods are combined with the comparative method to seek inspiration for solutions to the identified problematic aspects. Other methods, such as historical or teleological, are also used in the study. The study analyses the existing Lithuanian and foreign regulation of enforcement proceedings, as well as focuses on soft law sources that systematise national best practices, such as the International Union's of Judicial Officers Global Code on Digital Enforcement (hereinafter – UIJH Code), International Institute's for the Unification of Private Law (UNIDROIT) Principles on Digital Assets and Private Law (hereinafter – UNIDROIT Principles), and the legal systems of other countries, as well as Lithuanian and foreign private law doctrine are analysed for their roots.

1 The concept and types of digital assets

Digital assets are not particularly comparable to traditional types of assets due to their specific characteristics as objects of recovery. The unusual nature of these characteristics means that the definition of this type of recovery requires considerable attention. Also, as digital assets are a truly broad concept, it is necessary to clearly define the different types of digital assets, to identify their characteristics and to assess the relevance of each type in the context of enforcement. After all, it is undoubtedly only by accurately identifying the object of the investigation that it is possible to identify and resolve the problems related to it.

Since, as already mentioned, the current Lithuanian enforcement procedure regulation is not at all adapted to the recovery of digital assets, it is not surprising that it does not include the concept of digital assets. The Lithuanian legal system is not particularly exceptional in this respect – at present,

most of the world's legal systems are still taking the first steps towards perceiving data and digital assets as potential objects of property rights in normative regulation or in case law. In this context, it is appropriate to look for the concept of digital assets in the legal scholarly doctrine.

It must be considered obvious that since it is the emergence of cryptocurrencies in civil circulation that makes the issue of enforcing a judgment against digital assets relevant, it is primarily cryptocurrencies that digital assets are associated with. In fact, this view is rather narrow – cryptocurrencies are only one of the many types of digital assets, and many more are identified in the scholarly doctrine, which has been analysing various issues related to digital assets (such as inheritance of digital assets) since before cryptocurrencies became popular. Digital assets include emails, social media accounts, music, videos and books in digital form, as well as points accumulated through a shopping platform or credit card.[3] Digital assets are broadly defined as assets that are in digital form and have value.[4] It is these two characteristics of digital assets – digital, intangible form and value – that are the relevant criteria for the question of whether an object can be considered as an enforceable object, and that also give rise to the issues addressed in this article: in the context of enforcement proceedings, it is the objects of value that the creditor seeks to recover, to enforce his/her property rights, but the immateriality of these objects of value alone poses a problem for the attempt to recover them in the context of the current regulation of the enforcement proceedings – and digital assets have a number of specific characteristics in addition to their digital form. In the authors' opinion, although the scientific doctrine states that digital assets may have not only monetary but also sentimental value,[5] in the context of the recovery of digital assets, it is only those digital assets that have monetary value that are relevant – in general, only the realisation of objects that have economic value makes it possible to enforce a judgment on a pecuniary obligation in practice. For this reason, digital assets such

3 Amnon Lehavi, *Property Law in a Globalizing World* (Cambridge: Cambridge University Press, 2019), 200.

4 Neringa Gaubienė, "Digital Assets in the Process of Enforcement of Judgments at the Intersection of the Interests of Digital Economy", [in:] *IAI Academic Conference Proceedings: Vienna Academic Conference, 21 June 2022* (International Academic Institute, 2022), 15.

5 Vilija Vismantaitė, *Ar skaitmeninis turtas gali būti paveldėjimo teisės objektu?*. (2017), 10. https://portalcris.vdu.lt/server/api/core/bitstreams/416ab0a4-abaa-41a1-a25d-ac3a66628c7a/content.

as e-mails or social media accounts should not be analysed in the context of this article, as they have no economic value, unlike cryptocurrencies or electronic books, films or music.[6]

In addition to academic doctrine, the concept of digital assets is also found in emerging soft law sources. For example, the UNIDROIT Principles define digital assets as an "electronic record which is capable of being subject to control" (Principle 2(2)),[7] while the UIJH Code's definition of digital assets also focuses on value and digital form: "Product or service of economic value that is stored, displayed, and administered electronically."[8] This source also provides a separate definition of the most relevant type of digital asset mentioned above, crypto-assets: "Digital currency not issued by a central authority using decentralised control designed to work as a medium of exchange wherein individual coin ownership records are stored in a ledger existing in a form of a computerised database using strong cryptography to secure transaction records, to control the creation of additional coins, and to verify the transfer of coin ownership." From this definition, it can be concluded that crypto-assets can be considered as assets based on blockchain technology. It should be noted that digital assets are also defined in the European Law Institute's (ELI) Principles on the Use of Digital Assets as Security (further – ELI Principles)[9] – "any record or representation of value that fulfils the following criteria: (i) it is exclusively stored, displayed and administered electronically, on or through a virtual platform or database, including where it is a record or representation of a real-world, tradeable asset, and whether or not the digital asset itself is held directly or through an account with an intermediary; (ii) it is capable of being subject to a right of control, enjoyment or

6 It is true that the fact that these types of digital assets do not have a specific economic value in no way implies that their potential to be the subject of other civil legal relationships (e.g. inheritance) should not be analysed.

7 International Institute for the Unification of Private Law (UNIDROIT), *Principles on Digital Assets and Private Law*, (2023), 11, https://www.unidroit.org/wp-content/uploads/2024/01/Principles-on-Digital-Assets-and-Private-Law-linked.pdf.

8 Marc Schmitz, *Code mondial de l'exécution digitale / Global Code of Digital Enforcement*, (2021). https://www.larcier-intersentia.com/fr/code-mondial-execution-digitale-global-code-digital-enforcement-9782802771029.html.

9 It must be noted that the ELI principles have no bearing on the legal characterisation of a digital asset, and, in particular, on whether an asset embodies a contractual, proprietary or other, *sui generis* right (p. 19). However, in author's view, the provided definition of a digital assets materially corresponds to the key aspects of the content of property rights.

use, regardless of whether such rights are legally characterised as being of a proprietary, obligational or other nature; and (iii) it is capable of being transferred from one party to another, including by way of voluntary disposition."[10] This soft-law source also defines "control" as "the legal power or factual capability of any natural or legal person to deal in and/or extinguish such assets, as the case may be."[11]

According to all the provided scholarly doctrine and soft-law definitions, it could be consolidated that an object could be considered as a digital asset if: (i) it is an identifiable object stored electronically, (ii) it is subject to right of control, (iii) it can be transferred to other parties. Authors take these criteria into account in the further case-law analysis regarding the legal status of digital assets. Also, the criterion of value is arbitrary – in authors' view, both objects having and lacking economic value should be treated as digital assets,[12] however, this dichotomy could be reflected in legal regulation by providing distinction between legal regimes applicable to these two types of digital assets.

At this point, a reader, who is unfamiliar with digital assets, may ask: what is the blockchain technology that is considered to be the basis of cryptocurrency? This technology was developed in 2008 alongside the Bitcoin cryptocurrency, which can be described as a kind of "ledger." The technology allows for the secure and transparent monitoring and verification of transactions based on the cryptocurrency it is based on, importantly without the need for any central authority such as a central bank. The database is decentralised and encrypted, recording every transaction and making it at least partially known to all participants in the network. Sophisticated cryptographic techniques ensure that the data recorded in the blockchain cannot be altered or deleted at a later date, which is why the data stored in the blockchain is considered to be trustworthy and difficult to forge. In terms of security, it should be noted that cryptocurrency payments, unlike payments by bank card or wire transfer, are made using "push technology," where the user initiates the payment by transmitting to the network only the pertinent information relevant to the specific transaction, rather than "pull technology," where the user's personal information is stored in a file

10 Sjef van Erp et al., "ELI Principles on the Use of Digital Assets as Security" 5 October (2022): 17. https://ssrn.com/abstract=4318347.

11 Ibidem.

12 Such assets might have not economic, but, for example, sentimental value, and the absence of economic value is not an obstacle to treating objects of physical form that do not have such value as objects of property law.

and can be accessed at any time when permitted.[13] This technology has applications far beyond cryptocurrencies – for example, some medical institutions choose to store patient data using blockchain technology. New blocks appear in the chain as a result of the mining process. During the mining process, the miner uses its computer resources to solve complex mathematical equations to verify and add new transactions to the block chain. Cryptocurrency miners are rewarded with a certain amount of cryptocurrency to mine in exchange for carrying out this process, leading individuals or even entire corporations to engage in this activity for profit.[14]

2 Digital property as an object of property rights in case law

One of the measures for the enforcement of a judgment, recovery from the debtor's property, forcibly deprives the debtor of his ownership of the property subject to recovery. Thus, the debtor's ownership of the property is a prerequisite for recovery to be possible – for example, the bailiff must ensure that, in the enforcement proceedings, it is the debtor's property that is realised in the enforcement proceedings, not a third party's (Article 690, Article 602(1)(1) of the Civil Procedure Code).[15] Therefore, in the context of the recovery of digital assets, it is important to pay attention not only to the digital form and value of the asset, but also to its ability to be the object of a right of ownership – it goes without saying that only assets that belong to the debtor by right of ownership can be recovered. The question of whether a digital asset or a piece of data can be regarded as an object of property rights and what specific types and content of property rights apply to such assets is conceptual and normative. Conceptually, given that property law applies *erga omnes*, in order for an object to property law, it

13 Melanie Swan, *Blockchain: Blueprint for a New Economy* (Newton: O'Reilly, 2015), 4. https://books.google.lt/books/about/Blockchain.html?id=ygzcrQEACAAJ&redir_esc=y.

14 Ibidem, x.

15 Egidija Tamošiūnienė et al., *Civilinio proceso kodekso VI dalies mokslinis praktinis komentaras* (Vilnius: Lietuvos antstolių rūmai, 2023).

must be clearly defined and the external boundaries of the object must be clear and publicly known, so that the third parties against whose unlawful effects the object of property law is protected have a practical way of identifying what is protected by the property right in each individual case.[16] At the regulatory level, the question of whether digital assets or data are worthy of ownership protection and who should be entitled to exercise ownership rights over these assets should often be broken down into more specific cases of access, use and control. This is especially because digital assets and data are usually controlled by a basic standard contract, such as a contract between the user of a social networking platform (e.g. Facebook) and an account, or a contract between the seller and the buyer of digital assets. Such contracts aim to control issues such as possible restrictions on resale, transfer or inheritance, or the right of the digital asset and/or data provider to obtain and use personal information about the user of the relevant platform for commercial purposes.[17] In addition to contract law, intellectual property issues are also relevant in the context of the legal environment relating to digital assets and data. This in turn affects aspects of control, access and use, such as the right of the owner/user of a digital asset or "smart asset" (smartphone, smart home) to modify the asset's software or settings.[18] Digital assets or data therefore raise complex issues that go beyond the definition of the identity of the owner of the asset in general, to the regulation of specific attributes of access, use and control.

This current practice, whereby the regulation of digital property is not governed by the traditional rules of property law, but rather by the provisions of contracts between the users of the various platforms and the platforms themselves, which grant the platforms very broad rights, is referred to in scholarly doctrine as "digital feudalism"[19] – in which case, rather than the users of the platforms becoming the owners of the digital property associated with the platforms, it is the users of the platforms who are now, figuratively speaking, the 'property' of the platforms themselves.[20] Before using the services of an electronic platform that stores or

16 Sjef van Erp, "Ownership of Digital Assets and the Numerus Clausus of Legal Objects" *Maastricht European Private Law Institute Working Paper*, No. 6 (2017).

17 Natalie Banta, "Property Interests in Digital Assets: The Rise of Digital Feudalism" *Cardozo Law Review*, Vol. XXXVIII (2017): 1099-1157.

18 Joshua A.T. Fairfield, *Owned: Property, Privacy, and the New Digital Serfdom* (Cambridge: Cambridge University Press, 2017), 4-5.

19 Banta, "Property Interests in Digital Assets", 1104-1113.

20 Fairfield, *Owned: Property.*

creates a certain type of digital asset, the user has no possibility of influencing the content of the contract that governs the relationship between him and the platform, but is left with two choices: either to accept, at the push of a button, the terms and conditions of the contract that are imposed on him unilaterally, or to opt out of the platform's services altogether. In view of this unnatural imbalance between the parties to such a transaction, scholarly doctrine suggests that, notwithstanding the contractual provisions, users of such platforms should be recognised as having certain aspects of property rights over digital assets they hold, such as the right to modify, use, dispose of (for example, by sale), and prohibit the use of such assets by others.[21]

This issue of recognising digital assets as property has already reached the courts, as it has already been addressed in foreign case law. For example, in the 2014 case Your Response Ltd. v. Datateam Business Media Ltd.,[22] the dispute arose between a publishing company and a company engaged in database management activities. These companies had entered into a contract under which the database management company stored the publishing company's electronic records of subscribers in the databases. When the publishing company terminated the contract, the publishing company demanded that the database manager hand over the data stored in the database to it, which refused to hand over the data on the ground that it was exercising a lien and that the data could be considered to be an object of a common law lien. In this judgment, the England and Wales Court of Appeal noted the historical distinction between tangible (choses in possession) and intangible (choses in action) assets: tangible assets may be subject to physical possession (and control), whereas intangible assets may not. This decision demonstrates a conservative approach to digital assets as objects of property rights, as the court held that data, as a type of intangible asset, cannot be the object of a lien (and therefore ownership), unlike the tangible assets identified by the court.

A slightly more progressive approach to digital assets as property was demonstrated in the New Zealand Supreme Court case Jonathan Dixon v. The Queen.[23] The case concerned a charge under s 249(1)(a) of the

21 Ibidem, 8-10

22 Your Response Ltd v. Datateam Business Media Ltd, [2014] EWCA Civ 281 (Eng. & Wales Ct. App., Mar. 14, 2014). https://www.casemine.com/judgement/uk/5b46f1ed2c94e0775e7ee3bb.

23 Jonathan Dixon v. The Queen, [2015] NZSC 147 (Supreme Court of New Zealand, Oct. 20, 2015). https://www.courtsofnz.govt.nz/cases/

New Zealand Crimes Act 1961 (accessing a computer system for dishonest purposes), which provides for imprisonment for a person who "directly or indirectly accesses any computer system [...] and obtains any property without authority [...]." The Court considered whether digital files could be considered as property, noting that "digital files are identifiable, have value and can be transferred to other persons". The Court took an interesting approach and held that assets such as digital files have a physical form, as the storage of such information on physical media inevitably alters the physical state of the media itself. Thus, the Court took the view that, irrespective of whether digital files are to be considered as tangible or intangible property, they (in the case at hand, video material) are to be considered as property and not merely as information. However, it must be noted that this is a criminal case; therefore, the court's reasoning might not be applicable to a civil matter.

Also, in the context of the issue of digital assets as an object of property law, also relevant is the 12 July 2018 decision of the German Supreme Court (*Bundesgerichshof*) in the case III ZR 183/17.[24] In this case, the status of one of the digital assets, a Facebook account, was examined in the context of inheritance law in a dispute between the administrator of the social network and the mother of a girl who had died in a tragic incident. In this case, in contrast to the case-law examples set out above, the court, while recognising the heritability of the social networking account and ordering the administrator of the social networking site to grant the applicant access to the account, did not deal with the notion of the social networking account and the content thereof as an object of a civil law relationship, and instead took its decision by assessing the relationship between the deceased and the administrator of the social networking site exclusively through the prism of the law of obligations and the law of succession.[25] However, it must be acknowledged that this judgment is a positive example of the solution to the problem of "digital feudalism" already referred to above, in that the court disregarded the provisions of the contract between the deceased

jonathan-dixon-v-the-queen-1.

24 BGH, Urteil vom 12. Juli 2018 – III ZR 183/17, Bundesgerichtshof, https://juris.bundesgerichtshof.de/cgi-bin/rechtsprechung/document.py?Gericht=bgh&Art=en&sid=7c44a7522ec6d35bf7f07cbb69f9eddf&nr=86602&pos=0&anz=1.

25 Vytautas Mizaras, „Teisės į socialinių tinklų paskyras paveldėjimas: Vokietijos Federalinio Aukščiausiojo Teismo sprendimas" *Teise Pro*, 3 August 2018. https://www.teise.pro/index.php/2018/08/03/v-mizaras-teises-i-socialiniu-tinklu-paskyras-paveldejimas-vokietijos-federalinio-auksciausiojo-teismo-sprendimas/.

and the administrator of the social networking site, which provide for the non-successibility of the rights and obligations of the deceased (although such contractual clauses are permitted under German civil law).

The above cases have dealt with the legal status of digital assets with seemingly no monetary value, such as data or a social network account. It can be concluded, that courts do not recognize such types of digital assets as objects of property rights. However, at least some attributes of proprietary rights are considered in the judgements. The courts analysed aforementioned criteria: such assets' ability to be identifiable, controllable by the owner. Such characteristics are traditionally attributed to objects of ownership in physical form, therefore such developments in case law must be considered really flexible and progressive, regardless of the fact that digital assets lacking economic value are not considered objects of property rights yet.

However, more relevant in the context of asset recovery are digital assets such as cryptocurrencies, which undoubtedly have a monetary value and whose essential aspect is their ability to be used as a means of payment. It is therefore inevitable that this research work should emphasise on an analysis of the case law relating to this type of digital assets.

The 2018 case Vorotyntseva v. Money-4 Ltd[26] is one of the first cases in the UK jurisdiction to address the legal status of cryptocurrency. In this case, the court was brought by a claimant who had deposited approximately 1.5 million Bitcoin and Ethereum cryptocurrencies on a cryptocurrency trading platform. The applicant had doubts about the functioning of the trading platform managing its contribution and, without obtaining the requested information from the management of the cryptocurrency trading platform, the applicant applied to the court for a proprietary injunction to freeze the cryptocurrencies it owned. While it is true that in this case the court did not provide detailed clarification as to whether a cryptocurrency is an object, what type of object or form of property it constitutes, the court held that there was nothing to suggest that "cryptocurrency cannot be a form of property or that a party amenable to the court's jurisdiction cannot be enjoined from dealing in or disposing of it." This case is considered a major milestone in the context of digital asset recovery, as the court concluded, on the basis of the evidence presented, that there was a real

26 Vorotyntseva v. MONEY-4 Ltd & Ors, [2018] EWHC 2596 (Ch), England and Wales High Court (Chancery Division). https://www.bailii.org/ew/cases/EWHC/Ch/2018/2596.html.

risk of embezzlement and issued an order requiring the company and its directors to freeze the cryptocurrency at issue.

The proprietary status of cryptocurrencies continued to be addressed in the UK courts – in 2019, an insurance company providing cyber-attack insurance applied to the High Court of England and Wales in the case AA v. Persons Unknown.[27] The insured information systems were hacked and the data stored on them was encrypted, and the claimant paid the hacker a ransom of around USD 950,000 in Bitcoin cryptocurrency for software to decrypt the data. With the help of a third party, a blockchain research company, the claimant found out that most of the cryptocurrency had ended up on a specific cryptocurrency platform operated by one company. As in the above case, the plaintiff asked the court for an injunction. The court granted an injunction of a slightly different content, relating to a claim *in rem*, than that requested by the applicant, and even allowed service of the decision granting that injunction (the cryptocurrency platform was registered in the British Virgin Islands) to be made by an unusual method, namely by e-mail. It is important to note that in this case the court recognised the proprietary status of the cryptocurrencies, at least in the context of the application of an injunction. The Court agreed with the position set out in the UK Jurisdictional Working Group's statement on "Crypto Assets and Smart Contracts"[28], according to which crypto-assets are considered to be property, but do not fall within the categories of either tangible or intangible property under English law. The Court reasoned that cryptocurrencies are property on the basis that they are "definable, identifiable by third parties, capable in their nature of assumption by third parties, and having some degree of permanence," thus conforming to the classic concept of property in common law jurisdictions as set out by the House of Lords of the United Kingdom in the 1965 judgment in the case National Provincial Bank v. Ainsworth.[29]

These UK cases have created the preconditions for the imposition of an injunction on cryptocurrencies in this jurisdiction (one measure or another

27 AA v. Persons Unknown, [2019] EWHC 3556 (Comm), England and Wales High Court (Commercial Court). https://www.bailii.org/ew/cases/EWHC/Comm/2019/3556.html.

28 UK Jurisdictional Task Force, "Cryptocurrencies Statement", May 2021. https://www.blockchain4europe.eu/wp-content/uploads/2021/05/6.6056_JO_Cryptocurrencies_Statement_FINAL_WEB_111119-1.pdf.

29 National Provincial Bank v. Ainsworth, [1965] 2 All E.R. 472, House of Lords. https://core.ac.uk/download/pdf/232617227.pdf.

to restrict the disposal of a particular cryptocurrency). Although the enforcement of a judgment relating to a cryptocurrency is not at issue in those cases and the judgment in the second case is interlocutory and of limited precedential value, the judgments in these cases give rise to a presumption that the cryptocurrency is an object of property rights. In the authors' view, such judicial clarifications, although only a first step, are undoubtedly a necessary one in order to create the possibility of effective recovery of cryptocurrency.

In this context, it is worth returning to the jurisdiction of the courts of New Zealand, another common law country, already mentioned. In the 2020 New Zealand Supreme Court's decision in Ruscoe v. Cryptopia Ltd,[30] the court also held that cryptocurrencies meet the definition of property of common law jurisdictions established in the above-mentioned case. In that case, a cryptocurrency platform was being wound up after it had suffered a cyber-attack and had lost around €30 million. New Zealand dollars' worth of cryptocurrency. The liquidator of the company approached the court with two questions: (1) is cryptocurrency "property" in the context of the New Zealand Companies Act capable of being held in trust; and (2) was the cryptocurrency in this case held in trust? Interestingly, the court answered these questions and decided on the compatibility of a cryptocurrency as an object of civil rights with the criteria of property in common law case law by delving into the specifics of how cryptocurrencies operate. First, the court held that cryptocurrencies meet the criterion of an identifiable object because

> computer-readable strings of characters recorded on networks of computers established for the purpose of recording those strings [...] are sufficiently distinct to be capable of then being allocated uniquely to an accountholder on that particular network. For the cryptocurrencies involved here, the allocation is made by what is called a public key – the data allocated to one public key will not be confused with another. This is the case even though the identical data is held on every computer attached to the network.

Second, the court based the eligibility of cryptocurrencies for the third party identifiability test on the fact that "the degree of control necessary for ownership (namely the power to exclude others) is achieved for cryptocurrencies by the computer software allocating to each public key

30 Ruscoe v. Cryptopia Ltd (in liq), [2020] NZHC 728, High Court of New Zealand. http://www.nzlii.org/nz/cases/NZHC/2020/728.html.

a second set of data made available only to the holder of the account (the private key), and requiring the combination of the two sets of data in order to record a transfer of the cryptocurrency attached to the public key from one account to another." Third, in finding that cryptocurrencies could be taken over by others, the court noted that property is "by its nature to be concerned with legal rights that affect strangers to bilateral transactions" and "normally, but not always, an asset recognised by the law as an item of property will be something which is potentially desirable to third parties such that they would want themselves to obtain ownership of it." Fourth, the court held that cryptocurrencies meet the criterion of a certain degree of permanence or stability because, although in a blockchain the digital transfer of a cryptocurrency destroys an existing asset at the transferor's disposal and creates a new asset at the hands of the transferee, there

> will be situations where the short life of an asset is the result of the deliberate process of transferring the value inherent in the asset so that one asset becomes replaced by another. [...] cryptocurrencies work in this manner but it is also true that bank payments use a similar process which is simply native to the type of property in question.

According to the court, "this is not inimical to the asset's status as property".

It is very important to note that this case did not only deal with the compatibility of cryptocurrencies as an object of property rights with the common law criteria for the object of such rights, but also refuted the liquidator's argumentation that neither the common law, nor company law recognises a property right in information, and that cryptocurrencies were merely digitally captured information. The court refuted this argument by noting that "the whole purpose behind cryptocurrencies is to create an item of tradeable value not simply to record or to impart in confidence knowledge or information" and that "mere information" can be multiplied infinitely, which is not the case for cryptocurrencies, since "every public key recording the data constituting the coin is unique on the system where it is recorded. It is also protected by the associated private key from being transferred without consent". In the authors' view, these criteria are very important and can potentially be considered as exemplary in order to underline the uniqueness of cryptocurrency as a type of digital asset.

Moreover, it should be noted that, in the present case, the court's finding that cryptocurrencies can be the subject of property law also led to the

conclusion that cryptocurrencies can be, and in the present case were, held in trust. The Court based this position on the fact that the cryptocurrencies met the requirements of definiteness of the object (the cryptocurrencies were clearly recorded in the cryptocurrency platform's database), definiteness of the subject matter (it is clear who the relevant beneficiaries are – the account holders, whose respective currency balances on the cryptocurrency platform were positive) and certainty of intent (as evidenced by the conduct of the cryptocurrency platform in setting up the exchange and in withholding the public and private keys to store the launched digital assets from the account holders) criteria. This case is therefore important as it not only assessed the status of cryptocurrencies as an object of property law, but also the legal relationship between the cryptocurrency platform and its client.

A similar approach to cryptocurrencies as a subject matter of civil rights was demonstrated in the 2023 Singapore High Court judgment in ByBit Fintech Ltd v. Ho Kai Xin and Others.[31] In this case, a company operating a cryptocurrency platform, Tether (USDT), sued its former employee, accused of illegally transferring around €4 million worth of the company's Tether cryptocurrency into her wallet. In the present judgment, the court, on the basis of the criteria already mentioned several times above, recognised the cryptocurrencies as an object of property right, and addressed the question whether the cryptocurrencies were to be recognised as intangible assets (choses in action). In this case, it is interesting to note that, contrary to the above-mentioned judgments of the United Kingdom courts, in this judgment the Singaporean court chose to recognise cryptocurrencies as an intangible asset, rather than as a third type of asset which does not fall under the categories of tangible and intangible assets. The reasoning of the court was that, while intangible assets are traditionally understood as rights enforceable through the courts and, in the case of cryptocurrencies, there is no other party against whom a claim can be brought (unlike in the case of property rights), the category of intangible assets is, according to the court, broad, flexible and open. This category is, according to the court, expanding, with intangible property rights such as copyright being recognised as intangible property. The court also noted that in the present case (USDT is a so-called stablecoin), the holder of the currency had a contractual right to sell the cryptocurrency to Tether Ltd in exchange for

31 ByBit Fintech Ltd v. Ho Kai Xin & Anor, [2023] SGHC 199, High Court of Singapore. https://www.elitigation.sg/gd/s/2023_SGHC_199.

regular currency, but that this was not a necessary factor for the recognition of the USDT cryptocurrency as an intangible asset.

It should be noted that the legal status of cryptocurrencies has been addressed not only by the courts of the common law but also by the courts of the countries of the continental legal tradition. It is true that the courts of the continental legal tradition have a much more conservative approach to cryptocurrencies as an object of property law than the courts of the common law jurisdictions. In 2018, the Court of Appeal of Brescia, Italy, ruled in a case concerning the question whether a contribution in kind can be made to the share capital of a company by transferring cryptocurrencies to the company.[32] Under the Italian Civil Code, contributions to the shareholders' capital of a company may be made in cash or in kind. The Court clarified that cryptocurrencies do not fall into any of these categories and that the impossibility of cryptocurrencies being the object of a non-monetary capital contribution was based on the absence of the possibility of establishing their market value, the Court finding that it was not possible to attribute a market value to a commodity (cryptocurrency) that was itself an element of exchange in trade.

It is true that this conservative approach of the Italian court towards cryptocurrencies as an object of property law does not imply that this approach is shared by all jurisdictions in the continental legal tradition. For example, the French courts have taken a much more progressive approach to the possibility of cryptocurrencies being an object of property law, with the court's interpretation of cryptocurrencies as an object of property law in the 2020 judgment of the Commercial Tribunal of Nanterre in Case No 2018F00466.[33] In this case, a dispute arose between a consultancy firm and a cryptocurrency platform, after the former borrowed 1000 Bitcoin (BTC) coins from the latter. In 2017, a hard fork[34] of the Bitcoin blockchain occurred, which

32 Elenora Curreli, Luca Gambini, *Brescia Court of Appeal Rules Cryptocurrencies Are Not an Appropriate Asset for Capital Contribution.* https://portolano.it/en/newsletter/portolano-cavallo-inform-corporate/brescia-court-of-appeal-rules--cryptocurrencies-are-not-an-appropriate-asset-for-capital-contribution.

33 Paymium v. BitSpread, Tribunal de Commerce de Nanterre, 26 February 2020, No. 2018F00466 https://www.doctrine.fr/d/TCOM/Nanterre/2020/U42C38A741278C2180646.

34 A blockchain hard fork (bifurcation) is defined as a radical change to the blockchain network protocol that renders previously invalid blocks and transactions invalid, or vice versa. When a hard fork occurs, all users of the blockchain must migrate to a software version that supports the new protocol. In the context of cryptocurrencies, a hard fork results in the emergence of a new cryptocurrency,

created a new cryptocurrency complementary and parallel to BTC, Bitcoin Cash (BCC), which resulted in the defendant having at its disposal, in addition to the 1 000 BTC it had already borrowed, 1 000 BCC. The defendant returned 1000 BTC to the cryptocurrency platform, but refused to return the Bitcoin Cash cryptocurrency it held. The court resolved this dispute by first clarifying the legal position of the cryptocurrency in the context of the law of property, recognising that the BTC cryptocurrency is a consumable and fungible (describable by properties of the kind) object. The Court stated that "BTC is «consumable» when it is used – in payment for goods or services, in exchange for currency or in lending – as legal tender, even if it is not legal tender, BTC is deemed to be consumable by virtue of its use," and that "BTC is fungible as it is of the «same kind and quality», i.e., they are all based on the same computing protocol and subject to a statement of equivalence to other BTC for the purpose of making a payment." In the view of the qualification of the Bitcoin cryptocurrency as an object of civil rights, the court accordingly qualified the legal obligation of a loan between the parties to the dispute: the court held that a so-called loan for consumption (French term: *prêts de consommation*) had been granted, rather than a loan for use (French term: *prêt à usage*), which, in the light of the regulation laid down by the French Civil Code, resulted in the transfer of ownership of the cryptocurrency at issue to the beneficiary of the loan. It should also be noted that, in the case of this type of loan, the risk also passes to the borrower, so that the Commercial Tribunal held that any income deriving from the object of the loan (including the 1 000 Bitcoin Cash coins resulting from the hard forking of the blockchain) belonged to the borrower and dismissed the claim of the cryptocurrency platform. In this context, the loan agreement at issue was concluded before the entry into force of the French Business Growth and Transformation Act (also known as the PACTE Act), which introduced an innovative regulatory framework for the regulation and supervision of certain players in the cryptocurrency market sector. However, the rule laid down in that law that in the event of bifurcation, the holders of the title to the old cryptocurrency also acquire the title to the new cryptocurrency would unfortunately not have helped the court to reach a decision, as it only applies to the relationship between the cryptocurrency's custodian and the owner, and not to the relationship between the borrower and the lender.

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while users who have not updated the software remain using the old cryptocurrency. Source: https://www.investopedia.com/terms/h/hard-fork.asp.

Hence, a review of the various sources of law relating to digital property leads to several conclusions. First of all, in the legal classification of the various types of digital assets, a clear distinction must be made between traditional, classic digital assets that have been around for some time, such as data, social networking accounts, e-mails (which are not excluded from having a monetary value, but which do not have a monetary value or are not the primary purpose of being a means of trade), and digital assets that have relatively recently come to light and whose primary purpose is to have a monetary value and to be a payment instrument, such as cryptocurrency. The case law cited above shows that there is a precedent for making such a distinction. Secondly, it can be concluded that digital assets with monetary value, namely cryptocurrency, as an object of civil circulation, must undoubtedly be regarded as an object of property rights. It is true that such a position is not enshrined in the sources of statutory law, but the issue has already been successfully addressed by courts in different jurisdictions. The classification and legal qualification of such assets varies from one legal tradition to another (and there are even examples where cryptocurrencies have been qualified differently by courts in different common law jurisdictions), but an analysis of the case law leads to the conclusion that a universal recognition of cryptocurrencies as objects of property rights is inevitable. In order to reach such conclusions, the courts analyse the same criteria as in the case of aforementioned types of digital assets, lacking monetary value – the assets' identifiability, ability to be controlled (and to be disposed of) by the owner. However, in case of such digital assets having monetary value, criteria of asset's stability and ability to have tradeable value are also taken into account by the courts. This leads to the conclusion of recognising such digital assets as objects of property rights. To sum up, such courts' inclination to this legal dynamic is more than welcome, as the recognition of this type of asset as an object of ownership is a prerequisite for the enforcement of recovery. The authors undoubtedly recommend that the Lithuanian legal system should also move in this direction and that crypto-assets should be recognised as objects of property rights in legislation and case law.

3 Challenges in recovering digital assets and regulatory proposals

In order for the legal system to be favourable and to create real possibilities for the successful enforcement of judgments against digital assets, it is necessary to adapt the substantive legal framework in such a way that the relevant types of digital assets are considered as assets and objects of ownership. Also, it is important to make a number of other changes in order to adapt the regulation of the enforcement procedure to the unique aspects of these types of assets that make their enforcement impossible in the current regulatory context. Further the paper will deal with the recovery of a digital asset that has seen the light of day only a short time ago, namely cryptocurrencies, since, these digital assets have a monetary value, and it is therefore desirable to make cryptocurrencies the object of recovery in the enforcement proceedings, and it is the particularities of these digital assets that make their recovery most difficult.

The soft law sources mentioned at the beginning of this article provide inspiration to address the challenges of cryptocurrency recovery, but it is important to understand that the development and application of appropriate rules governing the recovery of digital assets must respect human rights and due process principles, which can be seen as the first challenge of the recovery of cryptocurrency in civil enforcement. This is also highlighted in the soft law sources themselves: Article 2 of the UIJH Code[35] enshrines the principles of respect for human dignity, non-discrimination, equity and solidarity, transparency and predictability, quality and safety, respect for personal data and privacy, social responsibility of developers, trust and technological neutrality. Thus, both in the modification of the current legal framework to make it suitable for the recovery of digital assets and in the application of the framework itself, it is necessary to pay attention not only to the possibility of enforcing judgments as efficiently as possible, but also to the need to ensure that restrictions on human rights in the process of enforcement are not disproportionate or arbitrary.

Another challenge is the decentralisation and internationalisation of cryptocurrency. As mentioned above, the decentralisation of the cryptocurrency makes it extremely difficult for the enforcer to identify that the debtor holds the cryptocurrency at all. Decentralisation allows cryptocurrency to

35 Schmitz, *Code mondial de l'exécution digitale*.

circulate between jurisdictions, which inevitably raises issues of private international law for the recovery of such cryptocurrency. It is true that the UIJH Code also offers a solution to this regulatory challenge, with its Part 2 dealing with applicable law and jurisdiction and Article 11 establishing the principle that digital assets are enforceable according to the law of the place where they are located. However, as mentioned above, determining the exact location of a crypto-asset can be extremely complicated and it is, therefore, recommended to apply the law of the state that has decided to initiate recovery proceedings. However, this challenge is not only related to issues of applicable law and jurisdiction, but also the procedures for the recovery of digital assets themselves must be such that the crypto-asset can be successfully recovered despite its decentralisation. In this respect, the UIJH Code can also be used as a reference: its Part 7, which details the procedures for accessing and seizing crypto-assets, recommends the creation of a national crypto-asset registry, the obligation of the debtor to declare his crypto-assets to the entity in charge of the enforcement.[36] A registry could, of course, facilitate not only the enforcement action but also the question of jurisdiction: in the authors' view, the registration of assets in one or another State's jurisdiction, or the relevant data in the registry, could imply the jurisdiction of the enforcement proceedings in one or other State. However, the authors question the proposal in this soft law source to create national registers – in their view, the aim should be to create an international register. A unified international register would make it practically easier to detect crypto-assets and to identify the persons to whom the crypto-asset belongs, and the establishment of an international register would also avoid the problem of interoperability between national registers. However, the creation of an international register could also lead to other practical hurdles. First of all, it must be noted, an in case of an international registry other rules to resolve jurisdictional conflicts would be necessary, as jurisdiction could not be determined according to the assets' registration in a national registry. Therefore in this case a set of rules for determination of jurisdiction should be enacted, and the jurisdiction of a particular asset should be determined *ex ante* and noted in the registry entry thereof. Also, an international register would inevitably face compliance issues. As digital asset regulation differs both on international and regional level (and also, it is not yet statutory), it would be virtually impossible to categorise the assets, as they could be subject

36 Ibidem.

to different legal regimes in different jurisdictions. Therefore, only a uniform international approach to the legal status of digital assets as objects of property rights would allow effective functioning of an international digital asset register. Another example of a compliance-related issue is data protection – different jurisdictions have different data protection requirements, which, in case of an international register, would also have to be unified. In the case of Lithuania, it is proposed to regulate and create an international cryptocurrency registry using the powers and resources of the European Union, and on a broader scale, it is necessary to focus on the creation of a *de facto* functioning international regulation, with more and more countries joining the already established registry. However, the authors are sceptical not only about the proposal to create national registries, but also about the idea of a cryptocurrency registry *per se*: it is questionable whether it would be possible to ensure that the obligation to register a cryptocurrency is actually complied with by its owners, and it is not clear that the cost of monitoring and controlling the obligation would not be disproportionately high.

The third challenge in cryptocurrency (and also, other digital assets) recovery is the inadequacy of traditional enforcement actions. In any case, at some stage or another, the entity carrying out the enforcement action takes possession of the asset in question. In this case, it is necessary to understand that the cryptocurrency owned by the debtor may be held both in a physical cryptocurrency wallet (the blockchain private cryptographic key is held in a physical medium) and that cryptocurrencies may also be held on cryptocurrency platforms operated by third parties, also known as custodians. This distinction is important to note, as different enforcement actions are relevant, depending on the method chosen to hold the cryptocurrencies, in order to enable the successful takeover of the management of these assets by the enforcing entity. It is true that soft law sources on digital enforcement also provide solutions to this challenge. For example, the UIJH Code distinguishes between the seizure of crypto-assets held by a third party (e.g. a cryptocurrency platform) and the seizure of assets held by the debtor himself, while the UNIDROIT Principles on Digital Assets and Private Law provide different guidelines for the taking of digital assets in the event of one or the other form of possession. In the case of crypto-assets held by a custodian, it is proposed to provide for the possibility for enforcement entities or the court to order the custodian to modify the rule of possession or otherwise grant access to the digital asset subject to

recovery.[37] The authors of the article agree with this proposal, as such an obligation would be sufficient to ensure that the judgment is actually enforceable, in this case, practically speaking, to even set up a system analogous to the Information System for Restriction of Cash Funds (Lithuanian: Piniginių lėšų apribojimų informacinė sistema – PLAIS), and to oblige, for instance, the cryptocurrency platforms that provide services in the jurisdiction of Lithuania to take part in this system. It should be noted that the UNIDROIT Principles contain proposals for the establishment of a regulation to facilitate the obtaining of information from third parties, as well as guidelines on the application of interim relief measures[38]. It should be noted that the UNIDROIT Principles contain proposals for the establishment of a regulation to facilitate the obtaining of information from third parties, as well as guidelines on the application of interim relief measures. It is true that the UNIDROIT Principles also contain suggestions on what enforcement action to take when the cryptocurrency is held by the debtor. In this case, where a person refuses to disclose to the enforcer the password giving access to the private cryptographic key, it is suggested that the court should be able to order that particular person (the debtor) to change the rules of the asset management or otherwise grant access to the assets subject to recovery.[39] In this case, the authors of the article are sceptical about this proposal: if the court imposes an obligation to disclose the password, there is no practical possibility to force the debtor to comply with this obligation without violating human rights. It is true that in this case it is possible to impose specific sanctions for non-compliance, such as a substantial procedural fine for each day of non-compliance, but even in this case, when dealing with a debtor who is determined not to repay the debt, the risk of non-successful recovery remains. The authors believe that this situation could change unless the technical means become available to obtain the password that gives access to the private cryptographic key from someone other than the owner of the asset.

So, is the situation so desperate that there are cases where, if the debtor is known to have a large amount of crypto-assets, the judgment cannot be enforced? All in all, it is admitted that there is hardly any objective possibility of solving this problem by the legislator laying down certain rules

37 International Institute for the Unification of Private Law (UNIDROIT), *supra note.*

38 Ibidem.

39 Ibidem.

governing the recovery of this type of asset. However, given the autonomy of the parties in civil law and the possibility for them to regulate their own relations, there is hope of ensuring that judgments can be successfully enforced through the recovery of digital assets. For example, parties may use digital assets as security for an obligation. The ELI Principles state that, in the event of a debtor's default on an obligation secured by a digital asset, the digital asset can be enforced.[40] In order to avoid the risk of non-transfer of the cryptographic key, the ELI Principles propose that the cryptographic key should be transferred under an escrow agreement to a third party that would cooperate with the creditor in the event of the debtor's insolvency. In the authors' view, it is the efforts of the counterparties themselves, rather than the legislator's enforcers, to manage the insolvency risks of cryptocurrency transactions that may have the greatest impact on the successful enforcement of the obligations. In this case, in addition to escrow, parties may also opt for smart contracts, which are automatically executed, in which case the headache of the counterparty's insolvency would disappear for good.

4 Conclusions

1. According to soft-law sources, scholarly doctrine and case-law, a digital asset should be defined as an electronically stored identifiable object, which is subject to control and can be transferred to the third parties.
2. Digital assets can be categorised into two types: digital assets having no economic value and digital assets that represent economic value. Only the latter type (namely, cryptocurrency) are recognised as the objects of property rights in the case-law.
3. Recognition of digital assets as objects of property rights enables their recovery in civil enforcement proceedings on a theoretical level.
4. Regardless of their recognition as objects of property rights, the recovery of digital assets in enforcement proceedings still poses many practical challenges. Some practical solutions – e. g. establishment

40 Sjef van Erp et al, "ELI Principles on the Use of Digital Assets as Security", *supra note*, 32.

of a crypto-currency register – are proposed to tackle these challenges; however it is questionable, whether such measures would be possibly implemented effectively.

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