

Entangled in Cryptoassets' Legal Nature and Governance: Searching for Clear Boundaries or Working for their Removal?

by

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The increase in the number of disputes before courts and regulatory authorities requires legal scholars to finally question the legal nature of cryptoassets. The few legislative frameworks already in force show the limits of a state-based regulation addressed both to captivate the FinTech industry through the 'intangible asset' of legal certainty and to avoid stifling the development of distributed ledger technology (DLT) and blockchains. However, these aims can conflict with regulatory capital market objectives, especially with market integrity and investor protection. 'Exchange platforms' and initial coin offerings can cause fraud and scams. Currently, these concepts affect 'only' private and commercial law, but what will happen when public law dimension is also affected? It is likely that the wait to find out will not be long if we consider the emergence of securities tokenization. Thus, the time has come to decide whether to clarify the legal boundaries between cryptoassets and fiat money, securities and commodities or to use this new technology to have more efficient and less costly financial markets by removing the legal border between crypto space and the 'physical world economy'. Considering this aspect, the involvement of international organizations should be encouraged.

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I. Introduction

Most legal scholars who have worked with ‘cryptoassets’¹ have thus far discussed whether, and if so, how to regulate them rather than helping to define their legal nature².

If a government does not want to ban these ‘things’, a truly effective and functional regulatory scheme requires a consideration of the private law dimension, which inevitably varies from jurisdiction to jurisdiction according to the different legal systems³.

Moreover, we need to consider that this kind of new technological application is no longer a mere tool to improve the efficiency of the ‘physical world economy’ but rather something truly complex to define⁴. These things arise from the idea of being separate from the physical world and avoiding the legal rules that govern economic activity⁵. The grade of separation may differ according to the type of distributed ledger technology (DLT)⁶. Different levels of authority attributed to the participants (nodes) affect the governance of these systems and their technological structure rooted in a native currency or in tokens⁷. The schemes of distributed ledgers that come from these two combinations have been commonly classified as either permissionless or permissioned according to the fact that all participants either do not have or have ‘read/write’ access and, respectively, cannot or can contribute, without any control, to the update and

¹ The reader must be advised that the DLT lexicon used for this subject (legally speaking) is really variable. The terminology changes with the development of new DLT applications. For the importance of the terminology and its correct usage, see, respectively, Syren Johnstone, ‘Taxonomies of Digital Assets: Recursive or Progressive?’ [2019] *Stanford Journal of Blockchain Law & Policy* <<https://stanford-jblp.pubpub.org/pub/taxonomies-digital-assets>>; Angela Walch, ‘Blockchain’s Treacherous Vocabulary: One More Challenge for Regulators’ (2017) 21 *Journal of Internet Law* 9 10. Among the classifications given of ‘cryptoassets’ see HM Treasury, FCA and Bank of England, ‘Cryptoasset Taskforce: Final Report’ 11; FCA, ‘Guidance on Cryptoasset’ <<https://www.fca.org.uk/publications/consultation-papers/cp19-3-guidance-cryptoassets>> accessed 25 January 2019. There is not a single widely agreed definition of a cryptoasset. Broadly, a cryptoasset is a cryptographically secured digital representation of value or contractual rights that uses some type of DLT and can be transferred, stored or traded electronically. According to the UK Taskforce, cryptoassets can be categorized according to their own characteristics in three different forms, namely, exchange tokens (using DLT platforms not issued or backed by a public authority and are used as a means of exchange or for investment); security tokens (providing rights such as ownership, repayment of a specific sum of money, or entitlement to a share in future profits; they may also be transferable securities or financial instruments under the EU’s Markets in Financial Instruments Directive II); utility tokens (redeemable for access to a specific product or service that is typically provided by using a DLT platform). See furthermore n 7 and Intergovernmental Fintech Working Group (IFWG), ‘Consultation Paper on Policy Proposals for Crypto Assets’ <https://www.resbank.co.za/Lists/News%20and%20Publications/Attachments/9037/CAR%20WG%20Consultation%20paper%20on%20crypto%20assets_final.pdf> accessed 18 January 2019 8.

² ‘The bulk of the papers, two thirds, discuss various aspects of governance, public policy and the legal framework under which governments should or should not regulate and control Bitcoin and other cryptocurrencies’: Mark Holub and Jackie Johnson, ‘Bitcoin Research across Disciplines’ (2018) 34 *The Information Society* 114 123 <<https://www.tandfonline.com/doi/full/10.1080/01972243.2017.1414094>> accessed 25 November 2018.

³ For a deeper understanding of this issue, see Rosario Girasa, *Regulation of Cryptocurrencies and Blockchain Technologies. National and International Perspectives*, 1st edition, Palgrave Studies in Financial Services Technology (New York, NY: Springer Science+Business Media, 2018) esp. 57 et seq.

⁴ Here and hereinafter, ‘physical world economy’ is used to distinguish it with the so called ‘tokenized economy’ as defined by Paul J Ennis, James Waugh and William Weaver, ‘Three Definitions of Tokenomics’ (*coindesk.com*, 18 March 2018) <<https://www.coindesk.com/three-definitions-tokenomics>> accessed 3 March 2019.

⁵ Primavera De Filippi and Aaron Wright, *Blockchain and the Law: The Rule of Code* (Harvard University Press 2018) 205: ‘Nakamoto released the Bitcoin network in the middle of a financial crisis, as a reaction to an unstable international banking system. In doing so, he gave birth to a new currency – one controlled not by any government or central bank but only by cryptography and code’. Moreover, as it has been effectively observed ‘Blockchain technology is the superlative of the internet in the sense that its decentralized nature ensures that the system in itself no longer needs to be linked to any legal system’ and ‘Blockchain offers a different perspective of looking at the current legal system’: see Jeroen Naves and Olivier Rikken, ‘Some General Remarks about Blockchain and the Law’ in UNOPS (ed), *The Legal Aspects of Blockchain* (2018) <<https://www.unops.org/news-and-stories/news/unops-partners-with-the-dutch-governments-blockchain-pilots-to-explore-legal-dimensions-of-distributed-ledger-technology>> accessed 24 January 2019.

⁶ For a review of the wide and ‘not coherent’ literature on distributed ledgers technology systems, see Michel Rauchs and others, ‘Distributed Ledger Technology Systems: A Conceptual Framework’ (Cambridge Center for Alternative Finance 2018) <https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2018-10-26-conceptualising-dlt-systems.pdf> accessed 4 January 2019 19-21.

⁷ Paolo Tasca and Claudio J Tessone, ‘Ontology of Blockchain Technologies. Principles of Identification and Classification’ [2017] *SSRN Electronic Journal* <<http://www.ssrn.com/abstract=2977811>> accessed 4 January 2019 21 et seq. and 32 et seq.

management of the ledgers.

It is questionable whether the nature of the distributed ledgers and blockchains can originate distinct categories of cryptoassets and if so, whether they have a different legal nature since they also have their own proper function. Not accidentally, a classification has been proposed that distinguishes blockchain cryptoassets from protocol cryptoassets by separating blockchain cryptoassets into payment and platform cryptoassets⁸.

A. Institutionalizing cryptoassets?

On a legal basis, the question is then if cryptoassets are frameable as rights or not and if so, which kind of right they are. Are they transferable or 'exhausted' with their use? And what is the basis of their underlying value?

To attempt to answer these questions, a legal scholar must inevitably face a critical dilemma: what are truly cryptoassets? Are they – as suggested by some regulators or rulers – 'a digital representation of value'⁹?

This legal definition could mean that every kind of cryptoasset has own its intrinsic value. However, as we know, this is not always true. This definition may be legally useful when considering payment cryptoassets - or as they are also called, 'virtual currencies' - to prevent, for instance, money laundering¹⁰. However, when a consumer/investor faces the risks linked to an initial coin offering (ICO), this definition is not useful because one must first consider what kind of cryptoasset is offered and on which type of DLT. In particular, this aspect has been considered only marginally until now by the national legislators who have introduced rules for ICOs.

The difficulty in governing cryptoassets is that they are hybrid things. Potentially, they can have on the inside all the legal categories of private and commercial law but their juridicity as things is strictly linked to the kind of DLT where they occur. This DLT is legally qualifiable as 'private legal system' where cryptoassets' origin is according to private agreements if they are not named as rights by the law. However, when the law does not specify cryptoassets' legal nature, we can recognize them only as *abstract things*¹¹ based on *cryptographic operations that act as contracts*¹². These contracts are governed according the private law systems as they differ in civil and common law countries, but in both of them, the cryptoasset value would be in the transfer of the contracts themselves.

This remains, however, one of the many interpretations that could be given to cryptoassets' legal nature. This is why we need to disentangle the question and attempt to promote a debate among legal scholars¹³.

In the conclusion, we attempt to provide a further contribution.

B. Cryptoassets' (early) technical fingerprint

The technology through which cryptoassets come to life – DLT and blockchains – can extend the reach of cryptoassets beyond the typical centralized political scheme of modern democracies by allowing the participants of the chain – at least theoretically – to behave as authorities¹⁴.

⁸ Bastien Buchwalter, 'Decrypting Cryptoassets: An Introduction to Blockchain' [2018] SSRN Electronic Journal <<https://www.ssrn.com/abstract=3271641>> accessed 4 January 2019 23 et seq.

⁹ Cf. also (n 1).

¹⁰ Directive (EU) 2018/843 of The European Parliament and of the Council of 30 May 2018 amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, and amending Directives 2009/138/EC and 2013/36/EU [2018] OJ L 156/43, art. 1 (d) that replaces point 18 of Dir (EU) 2015/849.

¹¹ Cf. Gloucester Wilson, *A Further Defence of Abstract Currencies [Electronic Resource] / by Gloucester Wilson* (Printed for John Murray, [et al] London 1812), 5 et seq.

¹² Makoto Nishibe, *The Enigma of Money* (Springer Singapore 2016) <<http://link.springer.com/10.1007/978-981-10-1819-0>> accessed 23 January 2019, esp. par. 1.5.

¹³ Team Luno, 'Cryptocurrency, Is It A Security, Currency Or Asset?' (*Medium*, 8 November 2018) <<https://medium.com/luno-money/cryptocurrency-is-it-a-security-currency-or-asset-1785acb1e60f>> accessed 23 January 2019.

¹⁴ Sarah Manski and Ben Manski, 'No Gods, No Masters, No Coders? The Future of Sovereignty in a Blockchain World' (2018) 29 *Law and Critique* 151 <<http://link.springer.com/10.1007/s10978-018-9225-z>> accessed 27 November 2018.

In the permissionless blockchains these ‘intangible things’¹⁵ that we name cryptoassets are built by the chain and take place in the chain, with the approval of the chain participants, using cryptography and ledgers¹⁶. The result is a cryptography string that is unique, (almost) unmodifiable¹⁷, transferable and identifiable without naming the holder.

Then, what are cryptoassets in the case of permissionless blockchains? It has been said that ‘they are cryptographic proof that a specific set of mathematical functions has been performed. They are proof that certain software instructions have been performed and of the algorithmic outputs of that software. And crucially, the mathematical functions are performed by nobody in particular, they are performed by the network as a whole’¹⁸. At the same time, one can also state that ‘specific actions performed in a blockchain should be regulated by the legal rules ... when performed outside of a blockchain, since “[e]ven when the technology is not specifically mentioned in a law or regulation, an activity or use of a new technology can be covered by existing laws or regulation”’¹⁹. Cryptoassets are so strictly linked to the underlying operating protocol that it acts substantially as a ‘legal agreement’. In fact, cryptoassets follow and do not forego the agreement, which is why it is such a challenge to legally define cryptoassets.

The first cryptoasset, the very well-known bitcoin, is based on a permissionless blockchain and could be classified as a payment cryptoasset²⁰. Bitcoin seeks to eliminate the third party (‘middlemen’) from the system of payments. Therefore, financial intermediaries are not needed to transfer cryptoassets. The payments can be made directly, peer-to-peer, by simply sending a code from the payer’s digital wallet to the beneficiary’s digital wallet. For the payment to be confirmed, all that is needed is for all the participants to validate the transfer; then, the transaction is complete.

All the rules of a blockchain are given by the underlying algorithm and can be modified according to it. If the transfer would have occurred inside the blockchain, as it is a closed-system, it would probably not be meaningful to ask how cryptoassets can be legally conceived²¹. The reason to ask this question comes from the fact that some of these cryptoassets, especially ‘exchange tokens’²², are accepted as a form of payment and are exchanged with legal tender money²³.

Therefore, by focusing on the economic aspect, cryptoassets are accepted both as a medium of exchange and as a unit of account²⁴. From a legal perspective, cryptoassets are not conceived of as ‘surrogate currency’, and their users treat them as fiat money²⁵.

The technological peculiarity and social endorsement of cryptoassets make them an ambiguous object to define²⁶. For this reason, we agree with the authors who state that ‘the lack of attention to private law rights hampers regulatory

¹⁵ For a discussion on how this notion can be applied to ledgers, see Joshua AT Fairfield, ‘Bitproperty.(Digital Property Interests)’ (2015) 88 *Southern California Law Review* 805.

¹⁶ ‘As cryptocurrencies stand today, lack of accountability of developers and miners for any conduct that may undermine monetary policy or payment system is of an immense concern’: see Asress Adimi Gikay, ‘Regulating Decentralized Cryptocurrencies Under Payment Services Law: Lessons From European Union Law’ (2018) 9 *Journal of Law, Technology and the Internet* 1 30. For an analysis and a proposal, see Syren Johnstone, ‘Regulating Cryptographic Consensus Technology: Oxymoron or Necessity?’ [2018] *SSRN Electronic Journal* <<https://www.ssrn.com/abstract=3264556>> accessed 25 November 2018.

¹⁷ The immutability condition must be interpreted in the sense that an attacker cannot change the blockchain without being detected. If everything works correctly we have an unmodifiable chain otherwise the blockchain can fork in two different chains according to a transparent procedure as well. For a different interpretation see Angela Walch, ‘The Path of Blockchain Lexicon (and the Law)’ (2017) 36 *Review of Banking & Financial Law* 713 <<https://www.bu.edu/rbfl/files/2017/09/p729.pdf>> 736 et seq.

¹⁸ Edan Yago, ‘There Is No “Bitcoin”: What the SEC Doesn’t Get About Cryptocurrency’ <<https://www.coindesk.com/there-is-no-bitcoin-what-the-sec-doesnt-get-about-cryptocurrency>> accessed 22 November 2018.

¹⁹ Marina Fyrigou-Koulouri, ‘Blockchain Technology: An Interconnected Legal Framework For An Interconnected System’ (2018) 9 *Journal of Law, Technology & the Internet* 1 8.

²⁰ Many similar and various cryptoassets have followed. See the list at <https://coinmarketcap.com/all/views/all/>.

²¹ Phillip Paech, ‘The Governance of Blockchain Financial Network’ (2017) 80 *The Modern Law Review* 1073 1097 et seq.

²² Cf. again (n 1).

²³ Stearns Broadhead, ‘The Contemporary Cybercrime Ecosystem: A Multi-Disciplinary Overview of the State of Affairs and Developments’ (2018) 34 *Computer Law & Security Review* 1180 <<https://linkinghub.elsevier.com/retrieve/pii/S026736491830308X>> accessed 23 January 2019.

²⁴ Usman Chohan, ‘Cryptocurrencies: A Brief Thematic Review’ [2017] *SSRN Electronic Journal* <<https://www.ssrn.com/abstract=3024330>> accessed 23 January 2019: ‘At its simplest, a cryptocurrency can be thought of as a digital asset that is constructed to function as a medium of exchange, premised on the technology of cryptography, to secure the transactional flow, as well as to control the creation of additional units of the currency’.

²⁵ Anton Didenko and Ross P Buckley, ‘The Evolution of Currency: Cash to Cryptos to Sovereign Digital Currencies’ [2018] *SSRN Electronic Journal* <<https://www.ssrn.com/abstract=3256066>> accessed 23 January 2019, 21 et seq.

²⁶ It is easier to state what is not a cryptoasset. Cf. Noah Vardi, ‘“Criptoalute e Dintorni”: Alcune considerazioni sulla natura giuridica dei bitcoin’ [2015] *Il diritto dell’informazione e dell’informatica* 443 456.

efforts, as it seems obvious that regulating an obscure and enigmatic asset must pose greater challenges than regulating well-established asset classes with clearly defined legal characteristics²⁷.

C. *The unclear legal nature of cryptoassets*

When we attempt to provide a legal framework for cryptoassets, we must first consider the fact that we face different algorithms on which they are based. Consequently, various technical and economic aspects distinguish one cryptoasset from another. If we compare cryptoassets with currencies, securities and contracts of the ‘physical world’, we do not find the same distinctions other than regarding the kind of jurisdiction from which they originate.

In fact, in modern globalized economies, based on the rules of a configured open and competitive market, there is a consolidated trend to harmonize legal frameworks. If anything, a large distinction could depend on the kind of legal system, common or civil law, because of the inherent differences in the private law principles on which these legal systems are founded. If these differences do not hamper the building of an increasingly integrated capital market, at least on a legal basis, the same should not be true for new digital assets.

For cryptoassets, we have the opposite phenomenon: the territorial dimension that distinguishes most legal systems does not apply, and harmonization goes beyond their framework. Cryptoassets can be banned, favoured or regulated, but their vital space is the DLT and the peer-to-peer system. This spontaneous transnationality collides with the different conceptions applied to the legal framing of cryptoassets. If we look at the Library of Congress website, which is dedicated to the ‘*Regulation of Cryptocurrency around the world*’²⁸, we realize how different the legal interpretations and implementations of regulations are at the level of individual world jurisdictions²⁹.

These differences may be due to differences in political attitudes towards cryptos that relate to the model adopted by the economic system and the grade of intervention of public powers. This suggestion may be true, but more evidently, the differences are because of the different approaches to such digital outputs given by the polyhedral state of private law rules and financial law residual regulatory perimeter. Therefore, how can these differences be resolved with only the establishment of a common regulatory framework for cryptoassets? A common framework could be useful and necessary to guarantee the commonly accepted aims of the capital market, namely, financial stability³⁰, market integrity and investor/consumer protection. However, it is doubtful whether adopting the same approach used for securities regulation is the right choice considering the starting point for securities – common legal characteristics. Moreover, regulation could be ineffective or lead to distortions if we cannot classify cryptoassets into an existing category or build a new category to determine the regime (legal, fiscal, or prudential) to which they are subject.

D. *The importance of determining the legal nature of cryptoassets for drafting cryptoasset regulation*

If we do not succeed, we could have involuntary negative effects from an incorrect categorization attempt. In a *Report* of the French Minister of Finance, at least three of these effects are mentioned, specifically, fixing legal rules that would become rapidly inadequate due to the fast development of the technology, being mistaken about the true nature of the object being regulated, and orienting innovation towards escaping regulation³¹.

Nevertheless, we cannot ignore the fact that cryptoassets are increasingly used both as a form of payment and, primarily, as a form of investment. This usage inevitably leads to the necessity to settle the disputes that have already arisen in the sphere of property rights. The orientation that is derived from the judgements of the courts can be of interest for checking this need and, in this case, for drafting an appropriate legal framework for cryptoassets.

²⁷ Kelvin FK Low and Ernie GS Teo, ‘Bitcoins and Other Cryptocurrencies as Property?’ (2017) 9 *Law, Innovation and Technology* 236.

²⁸ The Law Library of Congress, ‘Regulation of Cryptocurrency Around the World’ <<https://www.loc.gov/law/help/cryptocurrency/cryptocurrency-world-survey.pdf>>.

²⁹ Intergovernmental Fintech Working Group (IFWG) (n 2) 19 et seq.

³⁰ Financial Stability Board, ‘Cryptoasset Markets Potential Channels for Future Financial Stability Implications’ 12 <<http://www.fsb.org/wp-content/uploads/P101018.pdf>> accessed 26 November 2018.

³¹ Jean-Pierre Landau, ‘Les crypto-monnaies Rapport au Ministre de l’Économie et des Finances’ (2018) 44.

Otherwise, every judicial or regulatory authority in each jurisdiction, if asked to intervene, will be obliged to resolve the dispute by tying the legal interpretation of cryptoassets to the legislation in force. Consequently, in the absence of the intervention of legislative power, there will be uncertainty in both private law and public law. In addition, the role and the competence that each authority should have in regulating cryptoassets will affect the level of autonomy that it is politically allowed in the unregulated systems and should be meaningfully hampered by DLT technology. Clearly, autonomy is inherent in being decentralized and trans-ordinal and in determining the consensus among members through cryptography.

If the autonomy of permissionless DLT did not come into contact with the general legal system, we could refer to it simply as the ‘law of privates’, in quoting a book by Cesarini Sforza³². However, DLT stretches autonomy into typical areas of sovereignty, such as the building of an alternative/parallel currency system and through this, the building of a financial system.

We face a legal pluralistic model – to quote Santi Romano³³ – where *de facto* the two legal systems interact as a consequence. However, this interaction regards the rules established and the events that occurred in the permissionless DLT blockchain-based system³⁴, which by paraphrasing Teubner, tends to behave as a civil constitution³⁵.

II. *The crypto space governance conundrum: hints for orientation*³⁶

There should be many different ways to govern cryptoassets. Several of these methods have already been implemented, and other methods are just proposals. These methods come from different views and aims. No one method at the moment seems to be prevalent, although there is a trend towards the institutionalization of cryptoassets.

A. *Cryptolaw as a new paradigm*

One of these proposals, which is tied to Lessig’s vision, is quite radical and is derived from the Teubner view: ‘discussion of cryptolaw cannot end with whether and how to regulate DLT. If the discussion ends there, cryptolaw will devolve into a group of loosely affiliated musings about how to adapt legal paradigms built on assumptions of trusted and regulatable intermediaries to the world of DLT, which relies on math and inherently distrusts intermediaries’³⁷. Cryptolaw is outside of the law as we know it: it is a cloud of legal norms, processes, institutions, and vocabularies for governing inter-crypto, intra-crypto, and all other legal relations concerning crypto instruments, institutions, and markets³⁸.

The cryptolaw method of governance varies according to the kind of relation that exists between the law and code³⁹.

³² Widar Cesarini Sforza, ‘Il diritto dei privati’ [1929] *Rivista italiana per le scienze giuridiche*.

³³ Santi Romano, ‘Oltre lo Stato’ [1918] *Rivista di diritto pubblico*.

³⁴ ‘(...) [I]t gets us to the heart of the distributed ledger domain: the thing that is genuinely new is the emergence of platforms, shared across the Internet between mutually distrusting actors, that allow them to reach consensus about the existence and evolution of facts shared between them’: see Richard Gendal Brown, ‘Introducing R3 Corda™: A Distributed Ledger Designed For Financial Services’ <<https://gendal.me/2016/04/05/introducing-r3-corda-a-distributed-ledger-designed-for-financial-services/>> accessed 23 November 2018.

³⁵ Gunther Teubner, ‘Societal Constitutionalism: Alternatives to State-Centred Constitutional Theory’ <Gunther Teubner, *Societal Constitutionalism: Alternatives to State-Centred Constitutional Theory*, Storrs Lectures 2003/04 Yale Law School.> accessed 23 November 2018.

³⁶ It is not used here as synonymous of cyberspace: cf. Jason G Allen and Rosa M Lastra, ‘Border Problems II: Mapping the Third Border’ [2018] *SSRN Electronic Journal* <<https://www.ssrn.com/abstract=3296614>> accessed 24 January 2019.

³⁷ Carla Reyes, ‘Conceptualizing Cryptolaw’ [2017] *SSRN Electronic Journal* 152 <<https://www.ssrn.com/abstract=2914103>> accessed 17 October 2018.

³⁸ CleanApp, ‘Defining Cryptolaw’ (*Medium*, 28 September 2018) <<https://medium.com/cryptolawreview/defining-cryptolaw-6461db516c66>> accessed 22 November 2018.

³⁹ ‘Cryptolaw, then, is the science of ascertaining the principles applicable when societal actors (whether governmental or private) adopt crypto-legal structures in two specific contexts: first, in identifying when adoption of a crypto-legal structure is actually warranted, and second, in determining how and in what manner we should assess the applicability of existing rules and the relation of existing rules to crypto-legal structures’. See Carla L Reyes, ‘Cryptolaw For Distributed Ledger Technologies: A Jurisprudential Framework’ (2018) 58 *Jurimetrics* 283.

There are many potential arguments against this solution; the main argument is the conception of sovereignty. We observe that the legal theories applied to sports law can be used for cryptolaw, where autonomy is confused with independence⁴⁰.

B. State-based law approach: is it a way to breach crypto space?

One additional method is derived only from the above consideration. The sovereign legal system has own legitimacy to regulate cyberspace and therefore has the legitimacy to regulate DLT and blockchains, which is the case for any other 'space', whether physical or not. According to this legal dimension, the general principles on which the legal system is rooted are applicable to blockchains and DLT. The legal solution given to the interpretation of the nature of cryptoassets that follows is that they are a form of property⁴¹, are private intangible property, are a valuable digital artefact⁴² or have the nature of obligation rights⁴³. This approach can be adequate to explain the legal nature of what we have named above as payment and securities cryptoassets, but it is not useful for classifying the cryptos that have been classified as protocol cryptoassets, as in the case of decentralized applications or dapp, such as decentralized autonomous organizations (DAO)⁴⁴.

C. Self-executing and regulatory organizations, Lex Cryptographica, the international law perspective and a multi-layered approach or polycentric co-regulation: are they truly promoting crypto space autonomy?

On the opposite side of the spectrum, another approach, which can be defined as cyber-separatism, extends to all kinds of cryptoassets and indicates that no regulation should be imposed and that DLT should remain self-driven⁴⁵. Otherwise, regulations governed by the rule of law may be replaced by a system of algorithmic governance operated exclusively through the rule of code that both defines and enforces a *Lex Cryptographica*⁴⁶. This approach can be useful in not stifling the new industry, but it can be quite inappropriate for the governance of what we call blockchain cryptoassets.

The position held by so-called internationalists instead depends on the international nature of technology; according to them, governance would be appropriate if it was managed through international law⁴⁷.

Finally, another position considers that the layered architecture approach is more appropriate and encourages lawmakers to layer regulations in ways that exploit the uniqueness of the technology⁴⁸.

Internationalists and 'multi-layered approach' legal scholars take advantage of the growing transnational feature of law. Moreover, all of these approaches are classifiable among the different forms that governance can historically take. These

⁴⁰ Neil Walker, *Sovereignty in Transition* (Hart 2006), 257: 'Herman Dooyeweerd, a Dutch philosopher of law, (...) advocates a notion of broken or fragmented sovereignty, which he calls "sovereignty in spheres". (...) According to Dooyeweerd no modern theory of sovereignty has been able properly to articulate the ontological independence of different institutions within the political order'.

⁴¹ David Fox, 'Cryptocurrencies in the Common Law of Property' [2018] SSRN Electronic Journal <<https://www.ssrn.com/abstract=3232501>> accessed 24 November 2018.

⁴² Rhys Bollen, 'The Legal Status of Online Currencies Are Bitcoins the Future?' [2016] SSRN Electronic Journal 13 <<http://www.ssrn.com/abstract=2736021>> accessed 23 November 2018.

⁴³ Irina Cvetkova, 'Cryptocurrencies Legal Regulation' (2018) 5 BRICS Law Journal 128 <<http://www.bricslawjournal.com/jour/article/view/156>> accessed 24 November 2018.

⁴⁴ Finck Michèle, 'Blockchain Technology', *Blockchain Regulation and Governance in Europe* (Cambridge University Press 2018), 22 et seq.

⁴⁵ Samuel Elliott, 'Bitcoin: The First Self-Regulating Currency?' (2018) 3 LSE Law Review 57 <<http://eprints.lse.ac.uk/88095/>> accessed 26 November 2018.

⁴⁶ Finck Michèle, 'Blockchains as a Regulatory Technology', *Blockchain Regulation and Governance in Europe* (Cambridge University Press 2018); De Filippi and Wright (n 5) 193 et seq. See especially 204.

⁴⁷ Nicholas A Plassaras, 'Regulating Digital Currencies: Bringing Bitcoin within the Reach of the IMF' (2013) 14 Chicago Journal of International Law 377.

⁴⁸ Michèle Finck, 'Blockchains: Regulating the Unknown' (2018) 19 German Law Journal 665, 686 et seq.; Daniel Folkinshteyn, Mark M Lennon and Timothy Reilly, 'A Tale of Twin Tech: Bitcoin and the WWW' [2015] Journal of Strategic and International Studies, Forthcoming 82 <<https://ssrn.com/abstract=2601617>> accessed 23 November 2018.

approaches depend mostly on the ideological and doctrinal view of the role of law in society. In addition, each of these approaches seems to extend to only a part of the issue, sometimes attributing greater relevance to the technological aspect and sometimes, instead, attributing greater relevance to the field of action in which the technological dimension occurs.

However, in any case, any solution must acknowledge that economic decisions and economic acts implemented through informatic systems such as blockchains are territorially neutral and are formed only virtually by a peer-to-peer network. This aspect makes it still more difficult to find the correct path for regulating cryptoassets because uncertainty exists regarding their legal nature. From now on, our analysis will be focused especially on payment and securities cryptoassets.

III. Cryptoasset policies and governance in practice: from the judgements of courts and the initiatives of regulatory authorities to the first ad hoc legislative provisions and governmental supervision

ICOs are perhaps the most emblematic example of the need to find an effective scheme for governing crypto space⁴⁹.

In *In re Tezos Securities Litigation*⁵⁰, a US federal court faced the virtual dimension of blockchains: ‘where does an unregistered security [transaction], purchased on the internet, and recorded ‘on the blockchain,’ actually take place?’⁵¹ The US federal court found that for purported securities purchased on a blockchain network, one factor for determining US jurisdiction over the transaction is the actual site of the blockchain’s validation nodes at the time that the transaction is recorded on the blockchain.

In this case, the site was within US territory, but what happens if the node is abroad?

This is in the case of an ICO, but the geographical dimension is also relevant for cryptoasset exchange platforms, which are key services for customers who want to have access to this market. ICOs are mostly completely unregulated except for some ICOs that at least implement anti-money laundering checks, although they are not yet formally obliged to do this; however, they suffer from issues such as poor systems and controls, low price transparency and conflicts of interest. ICOs are basically illiquid and vulnerable to market abuse and manipulative behaviour, which put market integrity at risk. Moreover, even if ICOs act on a permissionless DLT platform, they provide a service that is similar to intermediaries. If a government attempts to ban or discourage a cryptoasset, exchange platforms could face the possibility of exchange operators who either bypass these obstacles through technological solutions (such as exchange-escrowed peer-to-peer services)⁵² or move towards more regulatory-friendly jurisdictions, such as Malta, whose

⁴⁹ OICV-IOSCO, ‘IOSCO Board Communication on Concerns Related to Initial Coin Offerings (ICOs)’ <<https://www.iosco.org/news/pdf/IOSCONEWS485.pdf>> accessed 23 November 2018.: ‘Initial Coin Offerings (ICOs, also known as token sales or coin sales), typically involve the creation of digital tokens – using distributed ledger technology – and their sale to investors by auction or through subscription, in return for a crypto-currency such as Bitcoin or Ether [or more rarely for government-backed or official fiat currency (such as the US Dollar or the Euro)]. These offerings are not standardized, and their legal and regulatory status is likely to depend on the circumstances of the individual ICO. There are clear risks associated with these offerings. ICOs are highly speculative investments in which investors are putting their entire invested capital at risk. While some operators are providing legitimate investment opportunities to fund projects or businesses, the increased targeting of ICOs to retail investors through online distribution channels by parties often located outside an investor’s home jurisdiction – which may not be subject to regulation or may be operating illegally in violation of existing laws – raises investor protection concerns. There have also been instances of fraud, and as a result, investors are reminded to be very careful in deciding whether to invest in ICOs’.

⁵⁰ *In Re Tezos Securities Litigation*, No. 3:2017cv06779 - Document 130 (N.D. Cal. 2018).

⁵¹ David Felsenthal, Steven Gatti and Jesse Overall, ‘Tokens and the Extraterritorial Reach of US Securities Laws’ <<https://corpgov.law.harvard.edu/2018/10/24/tokens-and-the-extraterritorial-reach-of-us-securities-laws/>> accessed 23 November 2018.

⁵² Kevin Helmes, ‘Indian Court Gives Government Two Weeks to Submit Crypto Report’ <<https://news.bitcoin.com/indian-supreme-court-government-cryptocurrency-report/>> accessed 23 November 2018. The legal battle over crypto regulations started in April 2018 when the Reserve Bank of India (RBI) announced that it would cease to provide services to persons or legal entities involved in cryptocurrencies. Following the move, eleven crypto businesses filed a case against the RBI in the Supreme Court to overturn the decision. After several postponements, the hearing was finally held in late October. During the hearing, the Supreme Court set a two-week deadline for the Indian government to announce its official stance on crypto. Shortly after the hearing, the Indian secretary of Economic Affairs recommended that the country’s Ministry of Finance impose a ban on ‘private cryptocurrencies’. As Cointelegraph previously reported, while the legal crypto framework in India remains unclear, Indian authorities arrested the developers of the country’s first Bitcoin (BTC) ‘ATM’ in the city of Bangalore on criminal charges. According to local news outlets, the two co-founders of the country’s first cryptocurrency exchange Unocoin were booked on serious criminal charges, including criminal conspiracy, cheating, and forgery. See ‘A Branding Mistake, Jailed Crypto Entrepreneurs: The Curious Case of

legislation entered into force on 1 November 2018.

A. *The first EU member state to implement legislation regarding cryptoassets: a 'holistic approach'*

As an EU member state, Malta's cryptoasset regulatory scheme can be of particular interest for an in-depth analysis in anticipation of EU legislative provisions.

Malta's Virtual Financial Assets Act (VFAA) is currently one of the few examples worldwide of a special legal framework for cryptoassets⁵³. The reason why most governments have not yet drafted a definite legal framework is due to different political views, as we have seen above, on the regulatory aims of pursuing goals other than investor protection, market integrity and financial stability. As has always occurred in legal regulatory schemes, the choice is, on the one hand, to favour and, on the other hand, to ban an economic activity that can be harmful to the above-mentioned regulatory goals⁵⁴. The Maltese regulatory framework is based on a principle-based approach that aims to ensure technology neutrality without stifling innovation. For this purpose, the Maltese legislature has placed the Financial Services and Markets Authority (FSMA) next to the Malta Digital Innovation Authority (MDIA), which, within the context of the cryptoasset regulation, is competent for the purposes of the Innovative Technology Arrangements and Services Act. MDIA must guarantee security against the risks inherent in cryptoasset transactions, including the loss of investments and data breaches attributable to the hacks of cryptoasset exchange platforms and individual 'wallets'⁵⁵.

Except for the introduction of a 'twin-peak' regulatory framework, the legislative technique is not very different from the legislative technique used for EU capital market regulation. To avoid stifling innovation and simultaneously guarantee investor protection, the Maltese legislature has introduced legal rules that could define the crypto space boundaries differently than the traditional financial landscape. The legal technique used here is comparable to the legal technique of the EU MiFid legislature. The approach starts from the definition of a financial instrument to address the case of when investment firms are involved with different trading venues. Therefore, in the VFAA, we find definitions of 'DLT asset', 'DLT exchange', 'VFA asset' and 'VFA exchange'.

After defining asset as a 'movable and immovable property of any kind'⁵⁶, the Maltese legislature introduces two further distinct definitions based on the virtual location where the asset exists or more precisely, whether it 'is intrinsically dependent on, or utilizes, DLT'⁵⁷ or not. The use of DLT, however, is not suggestive of the legal nature of the assets, except for that specific one defined by the act as a 'virtual financial asset'.

Thus, according to the VFAA, a DLT asset can be a financial instrument, electronic money, a virtual token and a virtual financial asset. If a DLT asset is considered to be a financial instrument, then it is regulated by the EU MiFID regulatory scheme. If it is considered to be electronic money, it should be regulated under the E-Money Directive⁵⁸. If it is considered to be a virtual token, according to the VFAA, it is 'a form of digital medium recordation that has no utility, value or application outside of the DLT platform on which it was issued and may only be redeemed for funds on such platform directly by the issuer of such DLT asset'. As defined by the Maltese legislature, funds are 'banknotes and

Unocoin' *The Economic Times* (8 November 2018) <<https://economictimes.indiatimes.com/news/company/corporate-trends/a-branding-mistake-jailed-crypto-entrepreneurs-the-curious-case-of-unocoin/articleshow/66546629.cms>> accessed 23 November 2018.

⁵³ Wulf Kaal, 'Initial Coin Offerings: The Top 25 Jurisdictions and Their Comparative Regulatory Responses (as of May 2018)' *Stanford Journal of Blockchain Law & Policy* <<https://stanford-jblp.pubpub.org/pub/ico-comparative-reg?version=c7b71be9-e048-4052-b373-6669ffed1c1f>>.

⁵⁴ Christopher P Buttigieg and Christos Efthymiopoulos, 'The Regulation of Crypto Assets in Malta: The Virtual Financial Assets Act and Beyond' [2018] *Law and Financial Markets Review* 1 <<https://www.tandfonline.com/doi/full/10.1080/17521440.2018.1524687>> accessed 22 November 2018: 'The novelty of the pertinent sector, combined with a lack of clear understanding of its disruptive impact over the existent financial services cosmos, has generally prevented jurisdictions from reaching a consensus on whether, how and to what extent these should be regulated'.

⁵⁵ Helmes (n 51).

⁵⁶ Virtual Financial Assets Act 2018, pt I art. 2 (2).

⁵⁷ *ibid.*

⁵⁸ Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of electronic money institutions amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC [2009] OJ L 267/7.

coins, scriptural money, electronic money and virtual financial assets⁵⁹.

When we have, according to the VFSA, ‘a form of digital medium recordation that is used as a medium of exchange, unit of account or store of value’, it is not any of the other DLT classes; then, we can classify this digital asset as a virtual financial asset.

B. An empirical way to identify the legal nature of a cryptoasset

The definitions given by the VFSA are not conclusive in the sense that they do not fully qualify the legal nature of a cryptoasset. The definitions aim only to identify the digital assets that can be regulated under the VFSA. The MFSA processing of a Financial Instrument Test is the definitions’ proof with ‘the objective to determine whether a DLT asset, based on its specific features, is encompassed under (i) the existing EU legislation and the corresponding national legislation, (ii) the Virtual Financial Assets Act or (iii) is otherwise exempt’⁶⁰.

It is particularly meaningful that at the end of the evaluation procedure (given on an excel file), a declaration of responsibility must be signed by the VFA agent⁶¹, compliance officer, or legal advisor. Unsurprisingly, the above declaration must be fulfilled according to the VFSA and its guidelines so that the information provided in the test is truthful and complete. Surprisingly, the declaration can be temporary. If the applicant becomes aware ‘that any of the DLT assets’ features changed during its lifecycle’, he or she must re-submit it to the MFSA ‘without undue delay’⁶².

The MFSA test seems to be an attempt to implement the US Howey test method in the Maltese legal system by fitting it to the specific needs of the cryptoasset regulation. The Howey Test is the US Supreme Court’s ‘investment contract’ test, which was first announced in *SEC v. Howey*⁶³. The Securities Exchange Act does not define ‘investment contract’. The Supreme Court of the United States, in *SEC v. W.J. Howey Co.*, developed and adopted the commonly used definition for this term through a three-question test: is there 1) an investment of money? 2) a common enterprise? and 3) an expectation of profits to come solely from the efforts of others?

If the three questions are answered affirmatively, then an investment contract exists, and US federal securities regulations apply.

The *Howey test* was conceived by the judiciary to provide certainty of application to a catch-all legal category, such as ‘investment contract’, which was desired by the Congress for the many types of instruments that fall within the ordinary concept of a security⁶⁴. A broad definition, which has been retained, is an effective tool in preventing regulatory arbitrage⁶⁵. However, it has been observed that a narrower definition leaves the interpreters with the power to extend US federal securities regulations to a context that Congress did not intend to cover⁶⁶. Other than US constitutional law, matters have also been raised for policy reasons rooted in the notion that ‘subjecting these securities to federal securities regulation will hinder creativity in various unpalatable ways, such as by impeding the growth and evolution of virtual space, preventing regulatory experimentation, and interfering with the positive aspects of play’⁶⁷.

⁵⁹ Following the PSD2. Cf. Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC [2015] OJ L 337/35.

⁶⁰ MFSA, *Virtual Financial Asset Framework*, <<https://www.mfsa.com.mt/pages/viewcontent.aspx?id=692>> (accessed 01.11.2018).

⁶¹ Virtual Financial Assets Act 2018, art. 2: “‘VFA agent’” means a person registered with the competent authority under this Act and authorized to carry on the profession of – (a) advocate, accountant or editor; or (b) a firm of advocates, accountants and auditors, or corporate services providers; or (c) a legal organization which is wholly owned and controlled by persons referred to in paragraphs (a) or (b), whether in Malta or in another recognized jurisdiction, or any other class of persons holding authorizations, qualifications and, or experience deemed by the competent authority as possessing suitable expertise to exercise the functions listed under articles 7 and, or 14’. The VFA plays a mediation role between the issuer and the competent authority.

⁶² MFSA, Guidance Note to The Financial Instrument Test, Section 2 ‘High Level Guidelines’ G1-1.2.3, 24 July 2018 8.

⁶³ *SEC v. W.J. Howey Co.*, 328 U.S. 293 (1946). Depending on the features of any given instrument and the surrounding facts, cryptoassets may also need to be evaluated as a possible security under the general definition of security and the case law that interprets it.

⁶⁴ *Howey*, 328 U.S. at 229 (quoting H. Rep. No. 85, 73rd Cong. 1st Sess. 11).

⁶⁵ Wendy Gerwick Couture, ‘The Risk of Regulatory Arbitrage: A Response to Securities Regulation in Virtual Space’ 74 *Washington and Lee Law Review Online* 241 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3119356> accessed 22 November 2018.

⁶⁶ Eric C Chaffee, ‘Securities Regulation in Virtual Space’ (2017) 74 *Washington and Lee Law Review* 1387 1439 et seq.

⁶⁷ *ibid* 1444 et seq.

We find the same uncertainty also being expressed in the positions taken by US regulatory authorities (SEC, CFTC, CFPB, FINCEN, IRS and OFAC)⁶⁸. The SAFT⁶⁹ project⁷⁰ was an attempt to make cryptoasset issuers compliant with US federal laws.

The legislative solution adopted by Malta through the VFAA lies in the same institutional duality because the fundamental issue that needs to be solved is whether the crypto space – which has emerged from the DLT-based applications – is truly separable from the old legal categories. The conditions under which the VFAA is applicable are not just the conditions for the excludability of the existing legal frameworks for payments and securities but a *conditio sine qua non*. For the VFAA to be applied, it is necessary to provide at least one of the services listed in Schedule 2⁷¹. These services are almost completely comparable (see footnote) to the services of the EU financial instrument regulation, as has already been observed.

C. Regarding the legitimacy of exchanging cryptoassets with legal tender money

The main interesting aspect is the attempt to build a legal bridge between the crypto space and the physical world through binding rules that provide VFA exchanges or a wallet service. In contrast, the VFAA's main aim is to regulate the ICOs (named Virtual Financial Assets Offerings by the Maltese legislature).

However, the regulatory framework, although theoretically careful not to stifle innovation technology in the financial services industry, mirrors the conceived framework for EU securities regulation. For the Maltese legislature⁷², a VFA exchange 'means a DLT exchange operating in or from within Malta, on which only virtual financial assets may be transacted in accordance with the rules of the platform or facility, which is licensed by the competent authority under this Act to provide such services'. We again have the same distinction used for cryptoassets: a VFA exchange is a DLT exchange – which means that any trading and/or exchange platform or facility on which any form of DLT asset may be transacted according to the rules of the platform or facility – and its distinction merely concerns the kind of asset traded on it. Specifically, to obtain a license, the regulatory framework imposes a spectrum of prudential requirements that include 'requirements on administration, compliance, risk management, systems and security access protocols, financial resources, capital adequacy, professional indemnity insurance and any other related requirements included in the regulations made or Rules issued under this Act'⁷³. A licence holder 'shall ensure that all of its systems and security access protocols are maintained at all times to appropriate high standards'⁷⁴.

The legal framework introduced for the VFA exchanges aims to pursue the same objectives as the EU regulation for financial instruments, and it is quite difficult to support the idea that the principle-based approach leaves more space for innovation⁷⁵ than for legal certainty. In addition, it seems clear that the purpose is to guarantee investor protection⁷⁶, market integrity and financial stability.

IV. Boundaries falling? Capital market tokenization

If boundaries were not falling, we would be unable to explain the reason why security token offerings (STOs) are emerging in addition to ICOs. There are economic reasons for this emergence due to the advantages of the assets that

⁶⁸ Girasa (n 3) 73 et seq.; Jin Enyi and Ngoc Le, 'The Legal Nature of Cryptocurrencies in the US and the Applicable Rules' [2017] SSRN Electronic Journal <<https://www.ssrn.com/abstract=2995784>> accessed 24 November 2018.

⁶⁹ Simple Agreement for Future Tokens.

⁷⁰ 'The SAFT Project Developing a Compliant Framework for Token Sales' <<https://saft-project/>> accessed 23 November 2018.

⁷¹ Virtual Financial Assets Act 2018, art. 2, Second Schedule: (VFA Services) Reception and Transmission of Orders; Execution of orders on behalf of other persons; Dealing on own account; Portfolio management; Custodian or Nominee Services; Investment Advice; Placing of Virtual Financial Asset: The Operation of a VFA Exchange.

⁷² Virtual Financial Assets Act 2018, art. 1 para 2.

⁷³ Virtual Financial Assets Act 2018, art. 23 (1).

⁷⁴ Virtual Financial Assets Act 2018, art. 23 (2).

⁷⁵ But see for a different opinion Buttigieg and Efthymiopoulos (n 53) 6.

⁷⁶ Concerning Sub-Section 6, see 'Cap on maximum investable amount' of Chapter 2 of the *Virtual Financial Assets Rulebook* issued by the MFSA on 30 October 2018: 'An issuer shall ensure that an investor does not invest more than € 5,000 in its initial VFA Offerings over a 12-month period. Provided that this Rule shall not apply to Experienced Investors'.

historically have remained in private hands, but this emergence is also due to the residual regulatory space left for what can be classified as a ‘virtual token’ with certainty – for the VFAA; consequently, the activity performed in relation thereto remains unregulated⁷⁷.

Moreover, the legal matters concerning ICOs are related mainly to fraud⁷⁸ and scams⁷⁹. In fiscal year 2018 alone, in the US, according to data released by the SEC, over a dozen standalone enforcement actions have been brought that involve ICOs⁸⁰.

Much of the investor appeal of investments in ICOs has created the expectation that the value of the native utility token should rise. However, a token-holder cannot be compared to a shareholder. The token usually does not give the bearers the same patrimonial and administrative rights as shares, which are negotiable instruments. This aspect is crucial if we consider the procedure through which ICOs occur⁸¹. Moreover, as observed above, under US law, tokens are often considered to be securities by the SEC. Research by ICO promoters on a more favourable or structured legal system – such as in Malta, Switzerland, Singapore and UK – could still face decreases in the convenience of entering into the uncertainty of a regulatory procedure aimed at qualifying the legal nature of the token and its application under an appropriate regulatory framework [securities regulation or the Anti-Money Laundering and Countering Financing of Terrorism Act (AML/CFT) and know your client (KYC)].

For all these reasons, it is becoming common for token issuers to return to the laws applied to the incumbents to remove the boundaries between crypto space and physical world. Here, the new technology is used for the economic advantages allowed, especially in terms of the costs that are supported for going public. At the same time, the possibility of transforming private companies’ securities exists, which gives cryptoassets the same characteristics as public securities, such as liquidity and transferability, but not transparency.

All the uncertainty regarding interpreting the legal nature of cryptoassets and their applicable regulatory framework has vanished. Securities tokens, regardless of the jurisdiction involved, are just securities. As a consequence, the regulatory framework for securities will be provided by the issuing jurisdiction.

The tokenization of securities, even more than the token offerings, clarifies that this space is where regulation should be primarily introduced. On the one hand, it would be more convenient for small and medium enterprises (SMEs) to raise capital; on the other hand, the legal uncertainty would narrow and force courts and regulatory authorities into their true roles. The issues of the rapid evolution of technology and the disruptive effects provoked in the capital markets must be addressed more quickly than the requests for an adequate comprehension of the economic phenomenon and the consequent legal framework.

V. Conclusion

Until DLT and blockchains have a more defined legal framework, especially those permissionless, a good policy may be to amend the legislation that is in force – or that is entering into force – to be better suited to the economics of DLT. In this context, the framework must be broader than anti-money laundering and crowdfunding regulations.

ICOs (such as STOs) are similar to crowdfunding. In fact, ICOs are part of the initiatives included in the EU FinTech Actions Plan⁸², but they differ from the EU FinTech Actions Plan because they are not accomplished through intermediaries, among other reasons. The EU Parliament has emphasized this point and stated that the crowdfunding service providers that use ICOs on their platforms should be excluded from the crowdfunding regulation. This statement

⁷⁷ MFSA, Virtual Financial Asset Framework Frequently Asked Questions, 10 October 2018, FAQ-2.9 and FAQ-2.10 7.

⁷⁸ SEC, Division of Enforcement Annual Report 2018 7: ‘But exuberance around these markets can sometimes obscure the fact that these offerings are often high-risk investments. For instance, the issuers may lack established track records, viable products, business models, or the capacity for safeguarding digital assets from theft by hackers. And some of the offerings are simply outright frauds cloaked in the veneer of emerging technology’.

⁷⁹ Dirk A Zetzsche and others, ‘The ICO Gold Rush: It’s a Scam, It’s a Bubble, It’s a Super Challenge for Regulators’ [2017] SSRN Electronic Journal <<https://www.ssrn.com/abstract=3072298>> accessed 23 January 2019.

⁸⁰ SEC, ‘Cyber Enforcement Actions. Digital Assets/Initial Coin Offerings’ <<https://www.sec.gov/spotlight/cybersecurity-enforcement-actions>> accessed 22 November 2018. The capital raised all over the world since 2015 amounts to USD 13.3 bn, but the trend currently seems to be declining.

⁸¹ Australian Government, The Treasury, ‘Initial Coin Offerings’ <<https://static.treasury.gov.au/uploads/sites/1/2019/01/c2019-t353604-Issues-Paper.pdf>> accessed 2 January 2019, 3 et seq.

⁸² Commission, ‘FinTech Action Plan: For a More Competitive and Innovative European Financial Sector’, COM (2018) 109.

is in the hope that the Commission, to achieve efficient regulation of the emerging ICO technology, can propose a comprehensive Union-level legislative framework in the future based on a thorough impact assessment. The Committee on Economic and Monetary Affairs suggests that alternative investment instruments, such as ICOs, can potentially fund SMEs, innovative start-ups and scale-ups, can accelerate technology transfers, and can be an essential part of the capital markets union. However, it is preferable to develop an adequate legislative framework for ICOs so that legal certainty can be increased overall to reduce risks that originate from asymmetric information, fraudulent behaviour and illegal activities⁸³. Investor protection could not be guaranteed only with the provision of an exception with a maximum threshold of € 8 mln, as requested by the Prospectus Regulation and the application of the AML/CFT and KYC requirements.

One more main critical issue remains, however: the exchange between cryptoassets and fiat currencies. Currently, the only legal provision in the EU ruling regarding these transfers is based on the amendment of the AML/CFT, but it must be implemented into national law within 10 January 2020. The fifth AML Directive will, among other directives, be applied to the ‘providers engaged in exchange services between virtual currencies and fiat currencies’ and to ‘custodian wallet providers’. Such provisions identify the on-going primacy of the ‘unregulated bridges’ between crypto space and the physical world dominated by the rules issued by legal systems. Accordingly, unavoidably, the European legislature must overcome the definition of ‘virtual currency’⁸⁴ and, moreover, needs to introduce that of ‘custodian wallet’⁸⁵. Again, all the difficulties are effectively legally framed by these entities. We return to the core issue of the decision about the policy and the governance of cryptoassets, which is the identification of their legal nature.

We have already discussed two main aspects that make it difficult to find a commonly accepted solution.

The first aspect is the chameleon-like nature of the technology on which cryptoassets are based, which permits their use in different ways and for different aims.

The second aspect derives from another trait of this technology and its ubiquitous nature: the need to find a supranational dimension of jurisdiction or, alternatively, to find a way to prevent private law implications to achieve a harmonized or convergent regulatory framework at the international level.

These two aspects are quite complex to manage and reflect the specificity of this phenomenon and the risk of introducing policies that stifle the emerging FinTech industry; they are largely ineffective regarding the protection of investors and guaranteeing market integrity⁸⁶.

In the EU, as the EBA has observed, ‘the proliferation of legislative and supervisory actions at the national level, driven by consumer protection considerations, gives rise to risks for the level playing field’⁸⁷. Moreover, as the ESMA suggests, ‘the qualification of all cryptoasset as financial instruments has unwanted collateral effects, meaning that there may be a need to distinguish between the different types of cryptoassets issued’⁸⁸, at the same time, for the qualification of all cryptoassets as commodities⁸⁹.

For this purpose, adopting a specific convention under an international private law ‘framework’⁹⁰ could be considered following the path suggested by some legal scholars who propose a ‘Crypto-security Convention’ to create an internationally integrated legal area for blockchain regulation accompanied by a state unilateral prohibitive regulation,

⁸³ Guido Ferrarini and Eugenia Macchiavello, ‘FinTech and Alternative Finance in the CMU’, in Danny Busch, Emilius Avgouleas, and Guido Ferrarini (eds), *Capital Markets Union in Europe*, vol 1 (Oxford University Press 2018) 209 et seq.

⁸⁴ Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, and amending Directives 2009/138/EC and 2013/36/EU [2018] OJ L 156/43, art. 1 (2) (d) (18).

⁸⁵ Dir. (EU) 2018/843 [2018] OJ L 156/43, art. 1 (2) (d) (19).

⁸⁶ The introduction of regulatory sandboxes could be useful to reach the two objectives of capital market regulation. Regarding these aspects, for a deep analysis, see Emilius Avgouleas, ‘The Role of Financial Innovation in EU Market Integration and the Capital Markets Union’, in Danny Busch, Emilius Avgouleas, and Guido Ferrarini (eds), *Capital Markets Union in Europe*, vol 1 (Oxford University Press 2018) esp. 188 et seq.

⁸⁷ EBA, ‘Report with Advice for the European Commission’ (2019) <<https://eba.europa.eu/-/eba-reports-on-cryptoassets>> 29.

⁸⁸ ESMA, ‘Advice: Initial Coin Offerings and Cryptoassets’ <<https://www.esma.europa.eu/press-news/esma-news/cryptoassets-need-common-eu-wide-approach-ensure-investor-protection>> 21.

⁸⁹ BitcoinExchangeGuide, ‘University of Edinburgh Banking Law and Finance Expert: Bitcoin’s Legal Status Is Not a Commodity’ (25 December 2018) <<https://bitcoinexchangeguide.com/university-of-edinburgh-banking-law-and-finance-expert-bitcoins-legal-status-is-not-a-commodity/>> accessed 23 January 2019.

⁹⁰ In the interpretation given first by Von Savigny as ‘harmony of decisions’: Friedrich Carl Von Savigny, *A Treatise on the Conflict of Laws, and the Limits of Their Operation in Respect of Place and Time* (William Guthrie tr, Murray and Gibb 1868), 13 et seq.

effectively shutting down the national market for foreign cryptoassets issuers not in compliance with such convention⁹¹. They call for work to begin on draft articles and an intelligent implementation strategy not only in the Hague Conference on International Law and the Hague Academy of International Law but also in UNCITRAL⁹² and UNIDROIT⁹³ and conceivably, even the International Law Commission⁹⁴. The role of international organizations and inter-governmental bodies such as the Basel Committee for Banking Supervision⁹⁵, Financial Stability Board⁹⁶, Financial Task Action Force⁹⁷, IOSCO⁹⁸, WTO⁹⁹, World Bank and IMF¹⁰⁰ must also be considered¹⁰¹.

However, they have not considered, for instance, the potential role that the Council of Europe may have in promoting guidelines that aim at providing practical guidance for the handling of cryptoassets in civil and administrative proceedings to courts, regulatory authorities, professionals and, broadly, to parties to proceedings. The comparative study and analysis on the use of electronic evidence issued by the European Committee on legal co-operation can be a premise¹⁰², although the adoption of an ‘open convention’ should be more desirable for its own effectiveness given it is binding for the states involved. This time, the model can be the ‘Convention on Cybercrime’¹⁰³ that considers the matters concerning cryptoassets as ‘tulips’ and most of their offerings as scams or frauds.

This procedure may be much too slow to achieve the dramatic dispersal of cryptoassets that is sought. Although it seems to be the more appropriate approach considering the peculiarities of DLT and blockchains and the need to change the outlook of legal scholars and practitioners regarding cryptoassets to not waste the potential of this new technology for economic and social aims¹⁰⁴.

⁹¹ See Philipp Hacker and Chris Thomale, ‘Crypto-Securities Regulation: ICOs, Token Sales and Cryptocurrencies under EU Financial Law’ (2018) 15 *European Company and Financial Law Review* 646.

⁹² Koji Takahashi, ‘Implications of the Blockchain Technology for the UNCITRAL Works’, *Proceedings of the Congress of the United Nations Commission on International Trade Law* (United Nations 2017) <http://www.uncitral.org/pdf/english/congress/Papers_for_Programme/30-TAKAHASHI-Implications_of_the_Blockchain_Technology_and_UNCITRAL_works.pdf> accessed 30 January 2019.

⁹³ Philipp Paech, ‘Harmonised Substantive Rules Regarding Intermediated Securities - Paris Seminar on the UNIDROIT Project’ (2006) 11 *Uniform Law Review - Revue de droit uniforme* 319 <<https://academic.oup.com/ulr/article-lookup/doi/10.1093/ulr/11.2.319>> accessed 30 January 2019.

⁹⁴ Hacker and Thomale (n 90), 695.

⁹⁵ Hosted and supported by Bank for International Settlement. Cf. BIS, ‘V. Cryptocurrencies: Looking beyond the Hype’ (BSI 2018) <<https://www.bis.org/publ/arpdf/ar2018e5.htm>> accessed 31 January 2019, 105 et seq.

⁹⁶ ‘Crypto-Assets: Report to the G20 on Work by the FSB and Standard-Setting Bodies’ 10.

⁹⁷ FATF, ‘FATF Report to the G20 Leaders’ Summit’ (2018) <www.fatf-gafi.org/publications/fatfgeneral/documents/report-g20-leaders-nov-2018.html>.

⁹⁸ See (n 48).

⁹⁹ Emmanuelle Ganne, *Can Blockchain Revolutionize International Trade?* (WTO Publications 2018), 100 et seq.

¹⁰⁰ IMF, ‘The Bali Fintech Agenda’ (IMF 2018) <<https://www.imf.org/en/Publications/Policy-Papers/Issues/2018/10/11/pp101118-bali-fintech-agenda>> accessed 31 January 2019 esp. paras V, VI, VII and VIII, 21 et seq.

¹⁰¹ Cf. Oleg Stratiev, ‘Cryptocurrency and Blockchain: How to Regulate Something We Do Not Understand’ (2018) 33 *Banking & Finance Law Review* 173 187; also Fyrigou-Koulouri (n 15) 13 et seq.

¹⁰² Stephen Mason, ‘The Use of Electronic Evidence in Civil and Administrative Law Proceedings and Its Effect on the Rules of Evidence and Modes of Proof: A Comparative Study and Analysis’ (CDCJ 2016) <<https://rm.coe.int/1680700298>>; cf. also Alessandro Mantelero, ‘Artificial Intelligence and Data Protection: Challenges and Possible Remedies’ (Consultative Committee of the Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data (Convention 108) 2019) Report on Artificial Intelligence T-PD(2018)09Rev <<https://rm.coe.int/artificial-intelligence-and-data-protection-challenges-and-possible-re/168091f8a6>> accessed 2 January 2019.

¹⁰³ ‘Convention on Cybercrime’, Council of Europe (2001) ETS No. 185.

¹⁰⁴ For one of its useful application see Emiliios Avgouleas and Aggelos Kiayias, ‘The Promise of Blockchain Technology for Global Securities and Derivatives Markets: The New Financial Ecosystem and the “Holy Grail” of Systemic Risk Containment’ [2018] *SSRN Electronic Journal* <<https://www.ssrn.com/abstract=3297052>> accessed 23 January 2019.