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Kjærsgaard, Louise Fjord

Document Version
Final published version

Published in:
Intertax

Publication date:
2020

License
Unspecified

Citation for published version (APA):
Kjærsgaard, L. F. (2020). Blockchain Technology and the Allocation of Taxing Rights to Payments Related to Initial Coin Offerings. *Intertax*, *48*(10), 879-903.

Link to publication in CBS Research Portal

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ARTICLE

Blockchain Technology and the Allocation of Taxing Rights to Payments Related to Initial Coin Offerings

Louise Fjord Kjærsgaard*

The author explores one of the most debated technologies of recent times – blockchain technology – from an international tax perspective. The focus is on its main principles in its current stage and how the technology may create value in certain use cases. Being one of the most common use cases benefitting from the main principles of blockchain technology, it is analysed how capital raised through initial coin offerings and the investors' return on their invested capital should be classified according to the OECD Model Tax Convention 2017. More specifically, emphasis is placed on classification of capital raised through the issuing of utility tokens, debt tokens, and equity tokens as well as the classification of return on investments in such tokens. Among other things, it is concluded: 1) that capital raised through the issuing of utility tokens in some initial coin offerings may be subject to a shared taxing right; 2) and that Article 21 of the OECD Model Tax Convention 2017 may, to a greater extent, be applicable with regards to the classification of the investors' return on investment in tokens compared to return on more 'traditional' hybrid financial instruments. Against this background, the fundamental principles of legal certainty and neutrality are discussed. It is also recommended that policymakers provide guidance on the classification of capital raised through initial coin offerings and the investors' return on their invested capital.

Keywords: OECD Model Tax Convention, tax treaty classification, international tax law, tax policy, blockchain technology, initial coin offering, hybrid financial instrument, financial innovation.

1 Introduction

The digitalization of the economy has enabled the development of new products and services and has changed the ways in which such products and services are produced and delivered.[1] However, these changes also raise challenges when the current tax rules should be applied. In recent years, these challenges have been high on the political agenda at both national and supranational levels. From an international tax perspective, the work conducted by the OECD as part of its Base Erosion and Profit Shifing Project has been considered by many stakeholders as the most appropriate forum for establishing an understanding of the challenges and, on this basis, developing long-term solutions and obtaining international consensus. As part of this work, it was stated already in the Final Report Action 1 *Addressing the Tax Challenges of the Digital Economy* that was published in 2015 that, while the digitalization of the economy could exacerbate the risk of base erosion and profit shifting,[2] it also raised broader challenges in respect of, inter alia, the heavy reliance on user data, nexus, and classification of income for digital products and services for tax treaty purposes.[3] In this respect, the primary focus in the OECD's later publications has been on user data and nexus for (large) centralized business models with the intention of aligning taxation with the perceived value creation in market states and on the prevention of tax avoidance.[4]

While acknowledging that this is of significant importance, the identified challenges regarding classification of income for tax treaty purposes remain a challenge and a

Notes

* Senior Associate at CORIT Advisory and Ph.D. Scholar at Copenhagen Business School. The article is intended to form part of a PhD dissertation and was prepared during a research stay at New York University. It was generously funded by Handelskammerets Understøttelsesfond and FSR's Studie- og Understøttelsesfond.
Emails: lfk@corit.dk & lfk.law@cbs.dk.

1 See OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1–2015: Final Report* 52 (OECD Publishing 2015).

2 See OECD, *supra* n. 1, Ch. 6.

3 See OECD, *supra* n. 1, Ch. 7.

4 See e.g. OECD, *Tax Challenges Arising from Digitalisation – Inclusive Framework on BEPS: 2018 Interim Report*, OECD/G20 Base Erosion and Profit Shifting Project (OECD Publishing 2018); OECD, *BEPS Project Public Consultation Document – Addressing the Tax Challenges of the Digitalisation of the Economy, 13 February–6 March 2019* (OECD Publishing 2019); OECD, OECD, *Programme of Work to Develop a Consensus Solution to the Tax Challenges Arising from the Digitalisation of the Economy*, OECD/G20 Inclusive Framework on BEPS (OECD Publishing 2019); OECD, *Public Consultation Document – Secretariat Proposal for a 'Unified Approach' Under Pillar One, 9 October 2019–12 November 2019* (OECD 2019), and OECD, *Public Consultation Document – Global Anti-Base Erosion Proposal ('GloBE') – Pillar Two, 8 November 2019–2 December 2019* (OECD Publishing 2019).

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source of legal uncertainty for taxpayers. The issues typically relate to identifying the relevant transaction and providing a sufficient understanding of the technology as well as the rights and obligations provided in the transaction that is relevant for tax treaty purposes.

An example of payments that appear to be challenging to classify for tax treaty purposes are those for products and services based on blockchain technology. It was initially employed as the technological framework for bitcoins[5] and, although blockchain technology has been overshadowed by bitcoins and other cryptocurrencies in many ways, it has been argued that its true potential goes beyond cryptocurrencies – although the technology is still in its infancy. Hence, blockchain enthusiasts have argued that blockchain technology may have the potential to change the nature of companies with regards to how they are managed and funded, how they create value, and how they perform basic functions such as marketing and accounting.[6] Other commentators are more moderate in their view on blockchain technology and point out the many technological, governance, organizational, and societal barriers which will have to be overcome for a true blockchain revolution to be successful.[7]

However, despite the substantial publicity and the ensuing commotion that has surrounded blockchain technology and cryptocurrencies, the OECD has been almost silent on the potential challenges that the technology may impose when the current international tax regime is to be applied to products and services that are provided by the use of such decentralized technology or even entire business models based on it. More specifically, the Final BEPS Report on Action 1 from 2015 states that bitcoins and other virtual currencies raise substantial policy issues[8] and, in the Interim Report from 2018, it is recognized that the use of blockchain technology is an area in which further research is warranted, however, the report does not indicate whether this research will, in fact, be conducted.[9] In the two Public Consultation Documents[10] and the Programme of Work[11] from 2019, blockchain technology and its potential applications and challenges were not mentioned at all.

In the international tax literature related to blockchain technology, focus has primarily been on the classification and taxation of capital gains and losses from the sale of cryptocurrencies according to domestic tax regulation[12] and, further, how blockchain may be deployed in, e.g. a value chain analysis, VAT within the EU, and other matters of tax compliance.[13] While recognizing the existing literature and taking into account the inherent international nature of blockchain technology, the aim with this article is to contribute to the existing tax literature analysing the technology by answering the following overall research question:

> *How are the taxing rights to payments related to initial coin offerings allocated according to the OECD Model Tax Convention on Income and on Capital from 2017?*

In order to answer the overall research question, firstly, a general understanding of blockchain technology should be established. However, as the technological aspects of the technology imply a highly technical frame of reference that is unnecessary for the purpose of this article, the analysis will be focused on how different forms of the underlying governance structure influence the significance of the distinctive characteristics of blockchain technology, which may create economic value if applied in appropriate use cases. On this basis, it will be analysed when to apply the technology to create economic value (*see* section 2).

Notes

5 S. Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System* (2008), https://Bitcoin.org/Bitcoin.pdf (accessed 21 Jan. 2020).

6 *See* e.g. D. Tapscott & A. Tapscott, *How Blockchain Will Change Organizations*, 58 MIT Sloan Mgmt Rev. 2 (2017), P. Boucher, *How Blockchain Technology Could Change Our Lives*, European Parliamentary Research Service, PE 581.948 (2017), J. Parra-Moyano & O. Ross, *KYC Optimization Using Distributed Ledger Technology*, 59 Bus. & Info. Systems Eng'g 6 (2017), D. Tapiscott & A. Tapscott, *Blockchain Revolution: How the Technology Behind Bitcoin and Other Cryptocurrencies Is Changing the World* (Portfolio/Penguin 2017) and D. E. O'Leary, *Configuring Blockchain Architectures for Transaction Information in Blockchain Consortiums: The Case of Accounting and Supply Chain Systems*, 24(4) Intelligent Systems Acc. Fin. Mgmt138–147 (2017).

7 M. Iansiti & K. R. Lakhani *The Truth About Blockchain*, 95(1) Harv. Bus. Rev. 118–127 (2017); S. Banker, *Blockchain In The Supply Chain: Too Much Hype* (1 Sept. 2017), https://www.forbes.com/sites/stevebanker/2017/09/01/blockchain-in-the-supply-chain-too-much-hype/#4f508fb7198c (accessed 21 Jan. 2020) and C. Horlacher *BankThink 'Centralized' Blockchain Projects Are Doomed to Failure* (31 Jan. 2017), https://www.americanbanker.com/opinion/centralized-blockchain-projects-are-doomed-to-failure (accessed 21 Jan. 2020).

8 See OECD, *supra* n. 1, at 43 & 44.

9 See OECD, *Tax Challenges Arising from Digitalisation – Inclusive Framework on BEPS: 2018 Interim Report, supra* n. 4, at 206.

10 See e.g. OECD, *BEPS Project Public Consultation Document – Addressing the Tax Challenges of the Digitalisation of the Economy, supra* n. 4; OECD, *Public Consultation Document – Secretariat Proposal for a 'Unified Approach' under Pillar One, supra* n. 4, and OECD, *Public Consultation Document – Global Anti-Base Erosion Proposal ('GloBE') – Pillar Two, supra* n. 4.

11 See OECD, *Programme of Work to Develop a Consensus Solution to the Tax Challenges Arising from the Digitalisation of the Economy, supra* n. 4.

12 *See* e.g. A. Bal, *Taxation, Virtual Currency and Blockchain*, 68 Series Int'l Tax'n (Wolters Kluwer 2019), Ch. 5 in respect of the US, the UK, Germany and the Netherlands, L. F. Kjærsgaard & A. Arfwidsson, *Taxation of Cryptocurrencies from the Danish and Swedish Perspectives*, 47(6/7) Intertax 620 et seq. (2019); A. J. Maples, *A Bit of Tax for the Revenue Authority: The Taxation of Cryptocurrency in New Zealand – Some Initial Thoughts*, 25 N. Z. J. Tax'n L. & Pol'y 181 (2019); F. Rubinstein & G. G. Vettori, *Taxation of Investments in Bitcoins and Other Virtual Currencies: International Trends and the Brazilian Approach*, 20(3) Derivatives & Fin. Instruments (2018); S. Bilaney, *India: Taxing Time for Cryptocurrencies*, 20(4) Derivatives & Fin. Instruments (2018) and J. Brockdorff, J. Bielik & K. Bronzewska, *How Small Islands Are Setting the Tone for Crypto Regulation: Malta and Jersey's Approaches*, 21(1) Derivatives & Fin. Instruments (2019).

13 *See* e.g. C. A. Herbain, *Fighting VAT Fraud and Enhancing VAT Collection in a Digitalized Environment*, 46(6/7) Intertax (2018); S. K. Bilaney, *From Value Chain to Blockchain – Transfer Pricing 2.0,* 25(4) Int'l Transfer Pricing J. 294 et seq. (2018); A. Majdanska & K. Dziwinski, *The Potential of a Standard Audit File – Tax in the European Union: A Chance for Coordinated VAT Administration?* 72(10) Bull. Int'l Tax'n 582 et seq. (2018) and C. Dimitropoulou, S. Govind & L. Turcan, *Applying Modern, Disruptive Technologies to Improve the Effectiveness of Tax Treaty Dispute Resolution: Part 1,* 46(11) Intertax 868–870 (2018) and Bal, *supra* n. 12, at 19–27.

In accordance with the findings in section 2, the remainder of the article will be devoted to one of the most common and debated use cases that creates economic value through the characteristics of blockchain technology, specifically, initial coin offerings (hereinafter: ICOs). More specifically, the subsequent analysis includes a legal dogmatic analysis of how capital raised through ICOs and the ICO investors' return on invested capital in ICOs are classified for tax treaty purposes (*see* section 3).[14] The primary aim with section 3 is to deduce the applicable law as it stands *de lege lata* by gathering, systematizing, and analysing relevant legal sources.[15] In the context of ICOs, the focus is on analysing characteristics of the most popular types of tokens and their similarities as well as differences to more 'traditional' hybrid financial instruments and how these affect the classification according to the OECD Model and its commentaries. Hence, although the OECD Model is not, in itself, a ratified and binding treaty, the OECD Model and its commentaries have often been of great importance for the interpretation and application of bilateral tax treaty provisions[16] that typically rely on the definitions of income categories included in the OECD Model.[17] Section 4 of the article outlines the main conclusions to answer the overall research question.

Finally, in order to offer some wider, new academic perspectives, considerations *de lege ferenda* will be provided. They will focus on the principles of neutrality between traditional and highly digitalized business models,[18] and recommendations are subsequently made for improving legal certainty which requires the law to be clear, easily accessible, and comprehensible.[19] Otherwise stated, it is contended *de lege ferenda* that the findings presented in this article should have tax policy impact as a lack of action will prevent achieving the value creating potential of blockchain technology as regulatory ambiguity is known to delay the adoption rate of new technologies such as this (*see* section 5).

2 Economic value through blockchain technology

The technical aspects of blockchain technology are very complex and not easy to understand without a technical background, and a comprehensive explanation of the technical mechanisms falls outside the scope of this article.[20] However, as it requires a basic understanding of blockchain technology to know when it may be beneficial and how it may impact various use cases, an explanation of the technology is provided along with its most significant features and their value-adding potential.

2.1 *Types of Blockchains*

Blockchain technology was born in the post-Internet era as the underlying technology of bitcoin; a purely peer-to-peer version of electronic cash that allows online payments to be sent directly from one party to another without going through a financial institution.[21] However, the underlying technology has been argued to potentially having an impact extending well beyond the payment sector.[22]

Notes

[14] The legal dogmatic method is often used in studies of international tax law; *see* e.g. J. Wittendorff, *Transfer Pricing and the Arm's Length Principle in International Tax Law*, 35 Series Int'l Tax'n 13 et. seq. (Kluwer International Law 2010) and J. Bundgaard, *Hybrid Financial Instruments in International Tax Law* (Wolter Kluwer 2017).

[15] *See* e.g. E.-M. Svensson, *Boundary-Work in Legal Scholarship*, in *Exploiting the Limits of Law: Swedish Feminism and the Challenge to Pessimism* 17–50 (Å. Gunnarsson, E.-M. Svensson & M. Davies eds, Routledge 2007).

[16] *See* e.g. US: Tax Court (USTC), *Taisei Fire and Marine Insurance Co. v. Commissioner*, 104 TC 535, 548 (2 May 1995). Similarly, the Danish Supreme Court has, in a number of cases, referred to the OECD Model and Commentaries: *see* e.g. DK: (HR) [Supreme Court], 18 Dec. 1992, I 323/1991, in which the court referred to the OECD, *Model Tax Convention on Income and on Capital: Condensed Version September 1992* (OECD Publishing 1992), as the reason for its decision in assessing the taxable income of a Danish branch of a US company. *See also* AU: High Court of Australia (HCA), *Thiel v. Federal Commissioner of Taxation* (22 Aug. 1990) in which the HCA dealt with the tax treatment of profits resulting from the sale of shares under the bilateral tax treaty concluded between Australia and Switzerland in 1980. To clarify the meaning of 'enterprise' within the tax treaty, the judges in this case turned to the OECD, *Model Tax Convention on Income and on Capital (1977): Commentary on Article 3* and *Article 7*. The importance of the OECD Model is further discussed in R. Avi-Yonah, *International Tax as International Law*, 57(4) Tax L. Rev. 483–501 (2004); and C. Garbarino, *Judicial Interpretation of Tax Treaties: The Use of the OECD Commentary* 3 (Edward Elgar 2016) Garbarino argues that OECD interpretative solutions or principles may circulate through either effective or hybrid juridical transplants activated by domestic courts.

[17] See OECD, *Model Tax Convention on Income and on Capital: Condensed Version September 2017* (OECD Publishing 2017), Arts 5 and 12. *See* C. H. Lee & J.-H. Yoon, *General Report*, in *Withholding Tax in the Era of BEPS, CIVs and the Digital Economy* vol. 103B, 24 (IFA Cahiers 2018), where it is stated that many countries adhere to the OECD Model to a certain extent, although the allocation of taxing rights over royalties typically differs. *See also* J. Sasseville & A. Skaar, *General Report*, in *Is There a Permanent Establishment?*, vol. 94a, 23 et seq. (IFA Cahiers 2009); and P. Baker, *Double Taxation Agreements and International Tax Law: A Manual on the OECD Model Double Taxation Convention (1977)* 2 (Sweet and Maxwell 1991).

[18] See OECD, *Implementation of the Ottawa Taxation Framework Conditions* 12 (OECD Publishing 2003).

[19] D. Weber & T. Sirithaporn, Legal Certainty, Legitimate Expectations, Legislative Drafting, Harmonization and Legal Enforcement in EU Tax Law, in Principles of Law: Function, Status and Impact in EU Tax Law (C. Brokelind ed., IBFD 2014); and G. T. Pagone, *Tax Uncertainty*, 33(3) Melb. U. L. Rev. 887 (2009), citing S. Joseph & M. Castan, *Federal Constitutional Law: A Contemporary View* 6 (Law Book Co. 2006) and J. Raz, *The Rule of Law and Its Virtue*, 93(2) L. Q. Rev. 198–202 (1977). The principles of neutrality and legal certainty have been chosen because they are generally considered fundamental for evaluating tax systems, including with respect to digitalized business models. *See* e.g. OECD, *supra* n. 1, at 20.

[20] For a more technical perspective, *see* e.g. S. Abiteboul et al., *Web Data Management – Introduction to Distributed Systems* (Cambridge University Press 2011).

[21] Nakamoto, *supra* n. 5. However, despite that blockchain technology itself is considered a technology in its very early stages, the technology is based on the well-known technologies, peer-to-peer network, cryptographic algorithm, distributed ledger, and decentralized consensus mechanism.

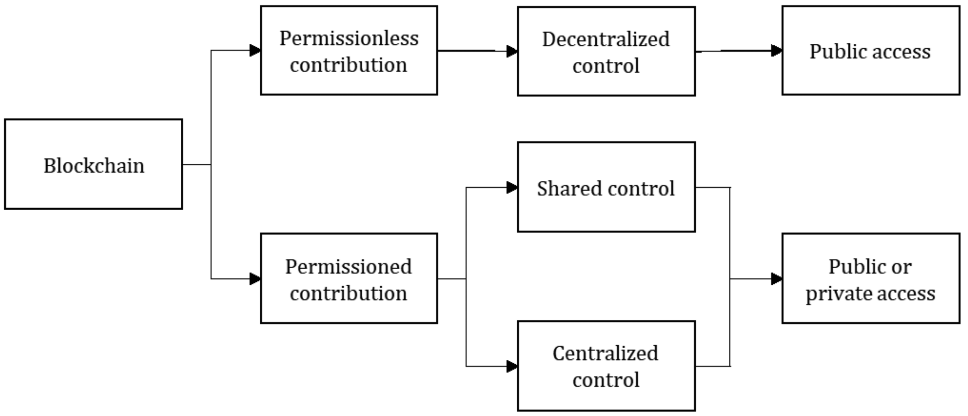
[22] *See* e.g. Tapscott & Tapscott, *How Blockchain Will Change Organizations supra* n. 6; Boucher, *supra* n. 6, Parra-Moyano & Ross, *supra* n. 6; Tapiscott & Tapscott, *Blockchain Revolution: How the Technology Behind Bitcoin and Other Cryptocurrencies Is Changing the World, supra* n. 6.

In simple terms, a blockchain can be described as an open distributed ledger that records and links transactions between parties chronologically in a verifiable and permanent manner. New transactions may be valuated through different consensus mechanisms, inter alia depending on the degree of trust and decentralization of the network as well as the required speed and scalability. As in the case of bitcoins (fully decentralized), the consensus mechanism is proof-of-work (PoW) for which participants of the network, referred to as miners, compete to solve cryptographic problems using computing power, resulting in massive energy consumption as the number of transaction increases.[23] The miners are rewarded with new cryptocurrencies if they succeed in solving the cryptographic problem. Another and more energy-efficient consensus mechanism is proof-of-stake (PoS) for which the chance of solving the cryptographic problem depends on the participant's stake in the network, i.e. the number of cryptocurrencies rather than the amount of computing power. The validators of a PoS consensus mechanism are rewarded with transaction fees if they succeed in solving the cryptographic problem. In environments with partial trust, as known from businesses using legal agreements and frameworks, other consensus mechanisms may be applied to obtain a more rapid finality of a transaction such as lottery-based or voting-based consensus mechanisms, as applied in inter alia Hyperledger.[24] In the end, the choice of consensus mechanism generally depends on the desired trade-off between security, speed, scalability, and finality.

Besides differences in consensus mechanisms, the governance structure of a blockchain may vary according to its accessibility, and it can be divided into two main categories: permissionless and permissioned blockchains.[25] In permissionless blockchains, anyone can *contribute* data for it, and *control* – as well as validation – is fully decentralized among participants while the rules for achieving consensus are predefined. The applications supported by permissionless blockchains will have public *access.* An example is the bitcoin blockchain. In permissioned blockchains, only pre-selected participants can *contribute* data to it. *Control* can be shared, e.g. across a consortium of companies or different departments within the same company, or *control* can be centralized with one authorized participant who coordinates and validates the data to be added to the blockchain, e.g. a governmental authority. In the case of permissioned blockchains, *access* to the application supported by the technology can be either public or private. An overview of the various governance structures is provided in Figure 1:

Choosing which blockchain to apply significantly depends on the specific use case, though it will generally be a trade-off between security in terms of risk of individual errors and manipulation, scalability, transparency, need for privacy, flexibility, as well as efficiency in terms of transaction costs and time.

Figure 1 Illustration of the Various Governance Structures of Blockchains According to Contribution, Control, and Accessibility to the Data Stored on the Blockchain.[26]



Notes

[23] K. J. O'Dwyer & D. Malone, *Bitcoin Mining and Its Energy Footprint*, 25th IET Irish Signals & Systems Conference 2014 and China-Ireland International Conference on Information and Communications Technologies 2014, 280–285 (2014) and A. de Vries, *Bitcoin's Growing Energy Problem*, 2(5) Joule 801–805 (2018).

[24] Hyperledger, *Hyperledger Architecture Volume 1 – Introduction to Hyperledger Business Blockchain Design Philosophy and Consensus* 4, https://www.hyperledger.org/wp-content/uploads/2017/08/Hyperledger_Arch_WG_Paper_1_Consensus.pdf (accessed 13 Mar. 2020). Underlying assumption that business networks have partial trust.

[25] P. Tasca, & C. J. Tessone, *Based on A Taxonomy of Blockchain Technologies: Principles of Identification and Classification*, 4 Ledger J. 10–11 (2019).

[26] Based on J. Camilo Giraldo Mora, *X-Border Platforms: The Implications of Distributed Ledger Technology*, Conference Paper June 2018 Conference: European Conference on Information Systems, https://www.researchgate.net/publication/326683507_X-Border_Platforms_The_Implications_of_Distributed_Ledger_Technology (accessed 7 Apr. 2020).

2.2 Main Principles of Blockchain Technology

While the consensus mechanism and governing structure of blockchain technology varies, its fundamental architecture has been argued to have certain main principles.[27] Although, to some extent, dependent on the choice of consensus mechanism and governance structure of the specific blockchain, the below-listed five principles have been argued to create value from an economic perspective by increasing efficiency of transacting[28] if they are applied in appropriate use cases:

- *Constant distribution of data* across the network of participants provide either public or private access to the entire history of the database.
- *Peer-to-peer transmission* implying a disintermediation of intermediaries in traditional transaction flows.
- *Transparency with pseudo-anonymity* implies that historic records of data transactions are fully disclosed while the party who initiated each transaction is anonymized with a cryptographic key.[29]
- *Irreversibility* of records enabled by decentralized control or shared control means that once a transaction has been added to the blockchain, it requires consensus among the network to change that data thereby making it very difficult to change data records already added to the blockchain.
- *Computational logic* behind each of the transactions taking place facilitates the creation of certain rules at the transaction level, resulting in the possibility of creating so-called 'smart contracts'[30] that allow for automatic coordination in the validation of predefined processes and transactions between two or more parties.

As already indicated, the significance of each feature is dependent on the underlying governance structure of the blockchain, and it is the specific use case that determines whether a feature is beneficial or problematic. Hence, if data protection and confidentiality concerns are important, the features of constant data distribution and transparency may imply that a private permissioned blockchain is preferred over a public permissionless blockchain. Conversely, transparency and constant distribution of data to all of the participants of the network may be desired in networks in which creation of trust is of substantial importance, implying that permissionless public blockchain may be more beneficial than a private permissioned blockchain.

The lower transaction costs due to the disintermediate consequence of peer-to-peer transactions also imply that multiple participants perform the same functions independently of each other – especially in permissionless public blockchains with decentralized control. Hence, blockchain technology should be applied only when no trusted or cost-competitive intermediary can be identified. Alternatively, if there is partial trust within the network, the number of replicated functions may be limited by deploying a private permissioned blockchain not reaching consensus through PoW.

Finally, the features of irreversibility and computational logic both ensure that data cannot be changed or deleted once it is stored on the blockchain and strengthens contractual performance by use of smart contracts, i.e. the two features provide certainty for the participants. However, in practice, some degree of flexibility may be preferred in terms of making corrections with a retroactive effect or adapting to changing circumstances. Moreover, with regards to the coding of a smart contract, challenges are likely to arise when specialized programmers should translate abstract legal terms into codes as well as anticipate all potential events which may subsequently significantly increase the costs of coding.[31] Hence, it is argued that smart contracts may be most suitable for contractual relationships characterized by simplicity and a substantial number of similar transactions in order to decrease costs of coding per contract, to transfer standardized products to minimize the risk of challenges of assessing whether contractual obligations are fulfilled, and for one-off relationships or contracts for which events affecting the contract are limited and easily

Notes

[27] Similarly, M. Iansiti & K. R. Lakhani, *The Truth About Blockchain*, Harv. Bus. Rev. 9 (Jan.-Feb. 2017). However, depending on a specific use case, other features may be more relevant, *see* e.g. H. F. Atlam et al., *Blockchain with Internet of Things: Benefits, Challenges, and Future Directions*, 10(6) MECS Int'l J. Intelligent Systems & Applications 40–48 (2018). The author emphasizes that immutability, decentralization, anonymity, better security, and increased capacity are the features that are most beneficial in respect of blockchain applied in the context of the internet of things or IoT.

[28] It should be noted that 'value' and 'value creation' are concepts of constant topicality within academia as the concepts are continually shaped with the use of technology. One way to think of value and value creation is from an economic perspective where value is attributed to a monetary measure. This perspective has traditionally been applied for tax purposes and implies an emphasis on the profits made by a taxpayer as well as the mechanisms that enable the creation of these profits. Accordingly, a business creates value if the revenues exceed the corresponding costs – also known as the 'net principle'. In respect of value and value creation within the field of tax law, *see* e.g. OECD, *supra* n. 1; OECD, *Tax Challenges Arising from Digitalisation – Inclusive Framework on BEPS: 2018 Interim Report, supra* n. 4, Ch. 2, primarily focusing on Porter's value chain in M. Porter *Competitive Advantage Creating and Sustaining Superior Performance* (The Free Press 1985), and Stabell and Fjeldstad's value shop and value in C. Stabell & Ø. Fjeldstad, *Configuring Value for Competitive Advantage: On Chains, Shops, and Networks*, 19(5) Strategic Mgmt J. 413–437 (1998); M. Olbert & C. Spengel, *Taxation in the Digital Economy – Recent Policy Developments and the Question of Value Creation*, 2(3) Int'l Tax Stud. (2019).

[29] Importantly though, this anonymity is limited as cryptographic keys' history may be used to de-anonymize users; *see* e.g. M. A. Harlev et al., *Breaking Bad: De-Anonymising Entity Types on the Bitcoin Blockchain Using Supervised Machine Learning*, Proc. 51st Hawaii Int'l Conf. System Sci. 3794 (2018), https://research-api.cbs.dk/ws/portalfiles/portal/57467494/hoahua_sun_yin_et_al_breaking_bad_publishersversion.pdf (accessed 13 Mar. 2020).

[30] M. Iansiti & K. R. Lakhani, *The Truth About Blockchain*, 95(1) Harv. Bus. Rev. (2017); Bal, *supra* n. 12, at 12–19. Chaincode is used as a synonym for a smart contract in the Hyperledger network.

[31] Bal, *supra* n. 12, at 11–19. The author discusses the legal enforceability as well as the pros and cons of smart contracts.

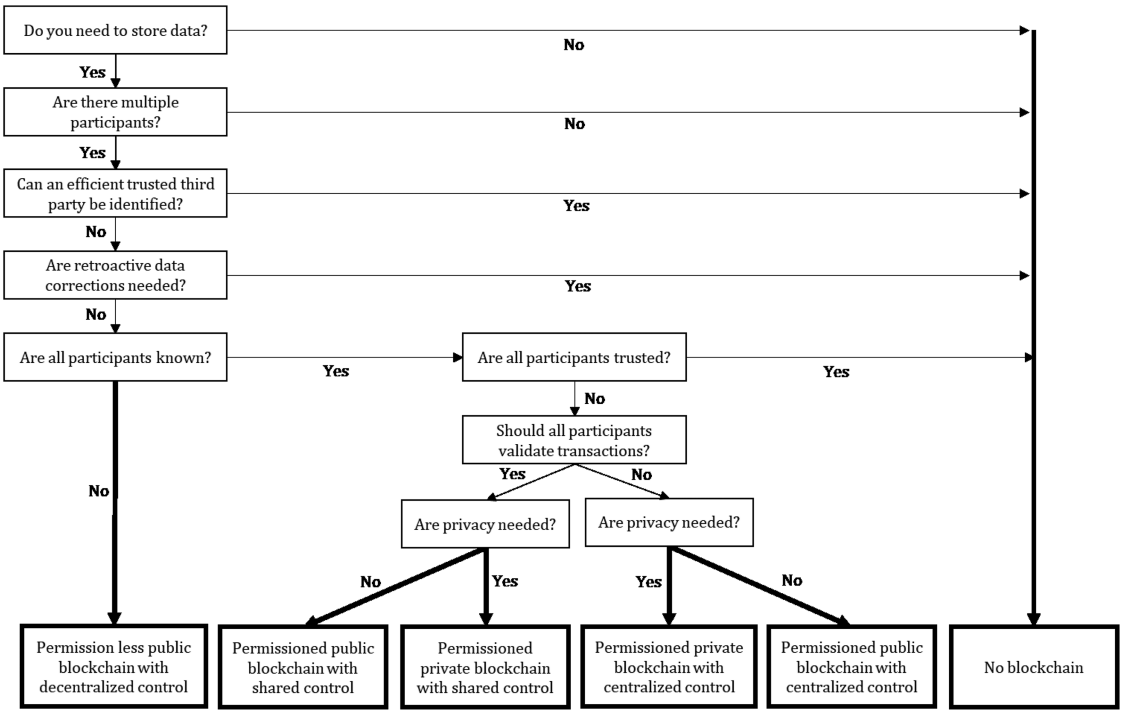
predicted, with the aim of limiting the desire or need for adapting terms and conditions to changing circumstances. In a network where the permanent nature of blockchain technology is problematic and greater flexibility is desired, a permissioned blockchain with a more centralized control governance structure may be preferred – although this could also imply that blockchain technology is not the most suitable solution at all.

In summary, the decision on whether to apply blockchain technology and, if so, which type of governance structure to apply may – in simplified terms – be based on answering the questions as illustrated in Figure 2:

In conclusion blockchain enthusiasts may claim that the technology is going to change the world and transform the internet from the 'the internet of information' to 'the internet of value'. However, it is more moderately argued in this article that while blockchain technology offers the ability to store verified data permanently from multiple sources and present a shared ledger, the potential use cases where the technology – at the current stage – creates economic value may primarily be networks where disintermediation and transparency are more important than performance and confidentiality.[32] Further, the main principles of blockchain technology – and economic value creation from these principles – are only guaranteed in permissionless public blockchains with fully decentralized control such as those used for bitcoin and ethereum. Nonetheless, in practice, concerns related to data protection and confidentiality tend to imply a preference for permissioned private blockchains that allow for greater control and privacy[33] yet – in reality – this type of blockchain is more comparable to a traditionally shared database.

However, a common use case that benefits significantly from the main principles of permissionless public blockchains is fundraising through the issuance of cryptocurrencies, i.e. ICOs. Although there is no widely

Figure 2 Illustration of How to Decide Whether to Go for a Blockchain Solution and, if so, Which Governance Structure to Deploy (the Author's Creation).



Notes

[32] *See also* Bal, *supra* n. 12, at 32.

[33] Examples of such permissioned private blockchain-based initiatives currently taking place are (1) various forms of recordkeeping including publicly traded companies applying blockchain to maintain a record of stock ownership to ensure accurate ownership, voting, and dividend payments. The Delaware General Corporation Law was amended 1 Aug. 2017 to allow corporations to maintain shareholder lists and other corporate records using blockchain technology, Senate Bill 69 – An Act to Amend Title 8 of the Delaware Code Relating to the General Corporation Law. (2) Dubai's payment reconciliation and settlement developed under The Dubai Blockchain Strategy. Smart Dubai, *Blockchain*, https://www.smartdubai.ae/initiatives/blockchain (accessed 13 Mar. 2020). Further, established MNEs have included blockchain-based products in their portfolio in the form of a platform through which customers can develop a customized blockchain solution for their business and industry, e.g. IBM Blockchain Platform, or finalized use-case-specific applications, e.g. TradeLens created by a joint venture between the world's largest shipping company, Maersk, and IBM for the purpose of supply chain management within the shipping industry.

accepted definition of an ICO, the phenomenon may be described as a new method for raising capital for financing projects – typically before a final product or platform has been commercialized or even developed – by issuing cryptocurrencies in exchange for official currencies or other cryptocurrencies.[34] Hence, an ICO is somewhat similar to crowdfunding and initial public offerings (IPO) of shares, although there are also substantial differences.[35] The application of blockchain technology in ICOs facilitates peer-to-peer transactions between the ICO issuer and the ICO investors, significantly decreasing costs compared to the expensive, complex, and time intensive process of, e.g. IPOs.[36] The absence of a trusted intermediary is accepted by the parties due to the transparency, irreversibility, computational logic, and constant distribution of data to all of the participants of the network, i.e. the blockchain technology solves the double-spending issues that are typically addressed by trusted intermediaries. Further, the limited flexibility in smart contracts and the feature of irreversibility should generally not be problematic as there will typically be no need for making corrections with a retroactive effect or adapting to changing circumstances in the one-off contractual relationship between the ICO issuer and the ICO investors. Finally, the costs of coding per contract may be limited as the borderless nature and inclusive element of blockchain technology as applied in ICOs allows 'micro investors' all around the world to invest [37] as opposed to, e.g. traditional venture capital funds which – in general – only allow a smaller group of elite investors to invest.[38]

From the perspective of the ICO investors, the motivation for investing in ICOs generally rests on the hope that the funded project becomes a success, implying that the value of the cryptocurrencies increases as well as the potential for various forms of accruing returns on investment – depending on the specific rights associated with the issued cryptocurrencies.

Consequently, the intense popularity experienced by the phenomenon as a means of financing crypto start-up companies should not be surprising.[39] However, the growth in the number of and the capital raised through ICOs have been decreasing for some time.[40] Although there may be several reasons for this decrease, the fact that ICOs generally remain less or even unregulated does impose a number of risks and legal uncertainties upon the ICO investors as well as the ICO issuers, which arguably may be a contributing factor to the observed decrease.[41] From a domestic tax perspective, capital gains and losses from the sales of cryptocurrencies have been subject to debate in the media and analysis in academia, and it has been argued that ICO issuers as well as ICO investors are typically subject to tax on such capital gains.[42] However, the fact that ICO investors may very well be tax residents in another jurisdiction in which the ICO is conducted may imply that the taxing rights to such income should be allocated according to an applicable tax treaty – an analysis that, to the knowledge of this author, has not yet been conducted. Hence, in the remaining part of this article, the focus will be on the tax treaty classification of the capital raised by the ICO issuers, the ICO investors' return on invested capital, and the ICO investors' gains from the sale of the cryptocurrencies.

Notes

[34] ICOs has previously been discussed in the international literature, *see* e.g. C. Fisch, *Initial Coin Offerings (ICOs) to Finance New Ventures*, 34(1) J. Bus. Venturing 2 (2019); W. A. Kaal & M. Dell'Erba, *Initial Coin Offerings: Emerging Practices, Risk Factors, and Red Flags*, U. of St. Thomas (Minnesota) Legal Studies Research Paper No. 17–18 (2018). In a tax perspective, *see* e.g. Bal, *supra* n. 12, at 40 et seq.; A. Bal, *VAT Treatment of Initial Coin Offerings*, 29(3) Int'l VAT Monitor 118 et seq. (2018); A. Bal, *Blockchain, Initial Coin Offerings and Other Developments in the Virtual Currency Market*, 20(2) Derivatives & Fin. Instruments (2018) and Kjærsgaard & Arfwidsson, *supra* n. 12, at 620 et seq.

[35] Kaal & Dell'Erba, *supra* n. 34, at 3; Bal, *supra* n. 12, at 40–41 and Kjærsgaard & Arfwidsson, *supra* n. 12, at 622.

[36] A tendency towards a declining hegemony of bank financial intermediaries such as commercial banks has also been observed on the 'traditional' market for corporate financing, *see* S.-E. Bärsch, *Taxation of Hybrid Financial Instruments and the Remuneration Derived Therefrom in an International and Cross-border Context* 14 (Springer 2012).

[37] This seems to be in accordance with the changing role of the form of investment in corporations. Previously, the majority of corporations were often times financed by controlling shareholders through a well-defined debt contract, the tendency today is portfolio investments, *see* Bärsch, *supra* n. 36, at 13. However, it should be noted that the People's Bank of China has labelled ICOs *'illegal and disruptive to economic and financial stability'; see* W. Zhao, *China's ICO Ban: A Full Translation of Regulator Remarks* (5 Sept. 2017), https://www.coindesk.com/chinas-ico-ban-a-full-translation-of-regulator-remarks (accessed 13 Mar. 2020).

[38] A tendency towards a declining hegemony of bank financial intermediaries such as commercial banks has also been observed on the 'traditional' market for corporate financing, *see* Bärsch, *supra* n. 36, at 14.

[39] Kaal & Dell'Erba, *supra* n. 34, at 2; Fisch *supra* n. 34, at 3–4 and S. Adhamia, G. Giudicib & S. Martinazzi, *Why Do Businesses Go Crypto? An Empirical Analysis of Initial Coinofferings*, 100 J. Econ. & Bus. 66–67 (2018).

[40] It should be noted that there is no platform upon which ICOs must occur, and there is no compulsory registration for ICOs hence it is difficult to keep track of the ICO market, *see also* Fisch *supra* n. 34, at 3 and Data Driven Investors, *The ICO Market in 2019* (21 July 2019), https://medium.com/datadriveninvestor/the-ico-market-in-2019-a5c44c97b686 (accessed 13 Mar. 2020).

[41] Among the most significant risks are: *Limited information* in the whitepaper to an ICO as it does not require the support of a reputable banking institution as underwriters while it typically only provides the ICO investor with a description of the (intended) project as well as the functioning of the cryptocurrency; *early stage of the ICO issuers' business*, implies that ICO investors invest in the future promise of a concept that has not yet been tested from a business perspective; *volatility* inter alia due to the fact that capital may be raised at a very early stage of a project, the limited amount of information provided in the white paper, a relative illiquid market, and (typically) a speculative purpose of investments are all factors that imply a risk of very high volatility and *complexity* since it suggests that it may be very difficult for ICO investors to make a comprehensive assessment of the intended project and the cryptocurrency, including the risk of abuse, fraud, or coding errors, as the technical aspects of the underlying technology are very complex and not easy to understand without a technical background. *See also* Bal, *supra* n. 12, at 42 & 43 and Kaal & Dell'Erba, *supra* n. 34, at 14–19 and OECD *The Tokenisation of Assets and Potential Implications for Financial Markets, OECD Blockchain Policy Series* 10 (OECD Publishing 2020), in which the negative consequences of, lack of, or ambiguous regulation is discussed.

[42] *See* e.g. Bal, *supra* n. 12, Ch. 5 in respect of the United States, the United Kingdom, Germany, and the Netherlands, Kjærsgaard & Arfwidsson, *supra* n. 12, at 620 et seq.; Maples, *supra* n. 12, at 181; Rubinstein & Vettori *supra* n. 12; Bilaney, *supra* n. 12, and Brockdorff, Bielik & Bronzewska, *supra* n. 12. In respect of taxation of the ICO issuer, *see* e.g. Kjærsgaard & Arfwidsson, *supra* n. 12, at 620 et seq.

3 Initial coin offering and current international tax principles

There is no current common international definition of the term 'cryptocurrency'. However, cryptocurrencies have previously been described as decentralized convertible virtual currencies that are protected by cryptography.[43] In addition to this, they are typically divided into two main categories: coins and tokens.[44] Coins are generally powered by separate blockchains that operate independently from other blockchains, and they are intended to function as an alternative to official national currencies although, in practice, investment is often done for speculative purposes.[45] On the other hand, tokens are units of value that rely on an already existing blockchain, and they are issued through an ICO.[46] The most popular coin and token as of today are bitcoin and ether, respectively, with current market capitalizations of more than USD 95 billion and USD 13 billion, respectively.[47]

In an ICO, the ICO issuer sells tokens that typically imply different obligations and rights for the ICO issuer and the ICO investors and, as the structuring possibilities of ICOs are – in principle – infinite, tokens have been developed with a wide range of different terms and conditions. However, as the quality of information provided in whitepapers is typically inadequate and opaque with regards to offering details on governance and the use of proceeds, it is not without challenges to classify tokens in practice.[48] Nonetheless, they are often divided into security tokens (encompassing equity tokens and debt tokens) and utility tokens.[49] Empirical data suggest that not only the majority of issued tokens contain utility components but also that it is not uncommon that tokens offer the ICO investors a type of profit participation right.[50] In summary, ICOs can be considered as one of the latest innovations within capital raising which, due to the endless structuring possibilities, actualizes the tax challenges known from the field of hybrid financial instruments,[51] inter alia in respect of classification for tax treaty purposes.

3.1 *Classification of Payments Related to ICOs*

The relevance of the classification of cross-border payments is justified by the practical significance of the OECD Model Tax Convention according to which cross-border income should be classified under a number of categories, and the right to tax this income is allocated to each state depending on the classification.[52] Yet, as tax treaties only allocate the right to tax a payment, whereas domestic tax regulation determines whether a payment is actually subject to tax, it only becomes relevant to allocate the taxing rights to payments related to ICOs for tax treaty purposes if it has been established that the payment is taxable according to the domestic tax law of the contracting states. However, the domestic tax laws generally impose taxes on non-residents' income that is derived from various domestic sources[53] and, accordingly, from this point on – unless explicitly stated otherwise – it will be assumed that income related to an ICO will be taxable in the contracting states for domestic tax law purposes, although it is acknowledged that this may, in practice, not always be the case.

Notes

[43] Bal, *supra* n. 12, at 38.

[44] *See* e.g. Bal, *Blockchain, Initial Coin Offerings and Other Developments in the Virtual Currency Market, supra* n. 34, at 1 and Bal, *supra* n. 12, at 38 & 39 where the author categorizes cryptocurrencies as tokens and coins.

[45] *See* e.g. Kjærsgaard & Arfwidsson, *supra* n. 12, at 621.

[46] Bal, *Blockchain, Initial Coin Offerings and Other Developments in the Virtual Currency Market, supra* n. 34, at 1 and Bal, *supra* n. 12, at 38 and Kjærsgaard & Arfwidsson, *supra* n. 12, at 622.

[47] CoinMarketCap, *Top 100 Cryptocurrencies by Market Capitalization*, https://coinmarketcap.com/ (accessed 13 Mar. 2020).

[48] Adhamia, Giudicib & Martinazzi, *supra* n. 39, at 73.

[49] *See* e.g. C. Fis et al., *Motives and Profiles of ICO Investors*, J. Bus. Res. (2019); Fisch *supra* n. 34, at 3.

[50] Adhamia, Giudicib & Martinazzi, *supra* n. 39, at 64 et seq. The authors classify 253 real-world ICOs. Further, G. Fridgen et al., *Don't Slip on the Initial Coin Offering (ICO) – A Taxonomy for a Blockchain-Enabled Form of Crowdfunding* Conference Paper (June 2018), https://www.researchgate.net/publication/325131210_Don't_Slip_on_the_Initial_Coin_Offering_ICO_-_A_Taxonomy_for_a_Blockchain-enabled_Form_of_Crowdfunding (accessed 13 Mar. 2020). The authors classify fifty-two real-world ICO.

[51] The international tax literature on hybrid financial instruments is vast and several important contributions exist; *see* e.g. Bundgaard, *supra* n. 14; G. Lopes Dias, *Tax Arbitrage Through Cross-Border Financial Engineering*, 50 Series Int'l Tax'n (Wolter Kluwer Law and Business 2015); Bärsch, *supra* n. 36; IFA, *Tax Treatment of Hybrid Financial Instruments in Cross-Border Transactions*, IFA Cahiers, vol. 85a (Wolters Kluwer International 2000) and IFA, *The Debt-Equity Conundrum*, IFA Cahiers, vol. 97b (Wolters Kluwer International 2012).

[52] C. H. Lee, *Impact of E-Commerce on Allocation of Tax Revenue Between Developed and Developing Countries*, in *International Tax Law*, vol. 1 (R. S. Avi-Yonah ed., Edward Elgar 2016); M. J. Graetz & M. M. O'Hear, *The 'Original Intent' of US International Taxation* in: *International Tax Law*, vol. 1 (R. S. Avi-Yonah ed., Edward Elgar 2016); H. D. Rosenbloom & S. I. Langbein, *United States Tax Treaty Policy: An Overview*, 19 Colum. J. Transnat'l L. 359 (1981) and Bärsch, *supra* n. 36, at 94; Bundgaard, *supra* n. 14, at 9; Lopes Dias, *supra* n. 51, at 111.

[53] *See* e.g. W. Hoke, *South Korean Cryptocurrency Exchange Challenges Tax Assessment*, Tax Notes International (21 Jan. 2020). The author reports that bithumb, a major South Korean cryptocurrency exchange, challenges a tax assessment for unpaid withholding tax on gains realized by nonresidents selling cryptocurrencies. Further, according to Lee & Yoon, *supra* n. 17, at 18, every country covered in the branch reports relies on a withholding system to collect a number of taxes concerning nonresidents. Further, these authors state that withholding taxes applies almost universally in international transactions classified as interest, dividends, royalties, and even certain forms of business profits not attributed to permanent establishments. Further, as a general rule, the tax treatment of equity financing and debt financing follows the same basic principles around the world; *see* Bundgaard, *supra* n. 14, at 42; Piltz, *General Report*, in *International Aspects of Thin Capitalization*, IFA Cahiers, vol. 81b, 87 et seq. (Wolters Kluwer International 1996) and Brown, *General Report*, in *The Debt-Equity Conundrum*, IFA Cahiers, vol. 97b, 17 et seq. (Wolters Kluwer International 2012).

It should be noted that the classification of income for tax treaty purposes should be based on a thorough understanding of the specific transaction, including the specific terms of the concluded contract, hence, the classification of payments related to ICOs may, in practice, vary according to these terms. However, for the purpose of structuring this article, the analysis will be conducted based on fictive tokens in accordance with the rights and obligations typically associated with utility tokens and security tokens.

As neither tokens nor hybrid financial instruments, in general, are defined or even explicitly mentioned in the OECD Model, income from tokens should be dealt with according to the general tax treaty provisions in accordance with the economic attributes of the token, including the rights and obligations of the ICO issuer and ICO investors.[54] Depending on the economic attributes of the specific token, several provisions may be relevant to consider, including Article 10 of the OECD Model on dividends and Article 11 of the OECD Model on interest payments, which are considered the most relevant provisions with respect to 'traditional' hybrid financing instruments since the covered payments reflect the yield on equity and debt.[55] However, with regards to income from tokens, Article 7 of the OECD Model on business income, Article 12 of the OECD Model on royalties, Article 13 (5) of the OECD Model on capital gains, and Article 21 of the OECD Model on 'other income' may also be relevant to consider. The distinction between these income categories is relevant as only some of them allow the source state to tax and as the accepted tax rate at source differs between the income categories.

Due to the (often) hybrid nature of some tokens, a number of rights and obligations may suggest that the token should be classified as debt, for instance, whereas other rights and obligations may suggest that the token should be classified as equity or business income. In this respect, it should be noted that the approach taken in this article follows an integration approach, often referred to as the blanket approach.[56] This implies that a hybrid financial instrument is considered as one instrument, i.e. the instrument should be classified and treated as either interest-generating debt, dividend-generating equity, or other income generating asset based on whether the distinctive characteristics of the instrument are more debt-like or equity-like or provide other economic rights.[57] An alternative approach is the so-called bifurcation approach for which hybrid financial instruments are to be split up into their underlying separate, distinctive components.[58] It is obvious that the choice of approach may have important practical consequences. For example, if tokens are classified according to the blanket approach and if only one contractual element, i.e. the distinctive characteristic, gives rise to source taxation, the entire payment will be subject to source taxation. Conversely, if the bifurcation approach is applied, source taxation will only apply to part of the consideration. Although no explicit reference is made to the blanket approach in the OECD Model or its commentaries, support may be found in the commentaries to Article 12 of the OECD Model dealing with payments under mixed contracts. It is stated there that payable consideration under mixed contracts should, in principle, be broken down either according to the information provided in the contract or by means of a reasonable apportionment of the entire amount of consideration pursuant to the various parts; and that, subsequently, the appropriate tax treatment, including classification, should be applied to each apportioned part. However, if one part of what is being provided constitutes 'by far the principal purpose of the contract' while 'the other parts stipulated therein are only of an ancillary and largely unimportant character', the treatment applicable to the principal part should be applied to the whole amount of the consideration.[59] Considering that the OECD has found the need to give explicit guidance to split-up mixed contracts under Article 12 but not under other income categories may suggest that the approach described under Article 12 deviates from the general approach applied in the OECD Model.

The payments relevant for tax treaty classification purposes are illustrated in Figure 3 which also provides a structural overview of the reminder of this article.

Notes

[54] *See* Bundgaard, *supra* n. 14, at 6. The author states that, in modern finance, companies can offer investors any set of rights that can be described by words, subject to any conceivable set of qualifications, and in consideration of any conceivable set of offsetting obligations in exchange for capital.

[55] Bundgaard, *supra* n. 14, at 138.

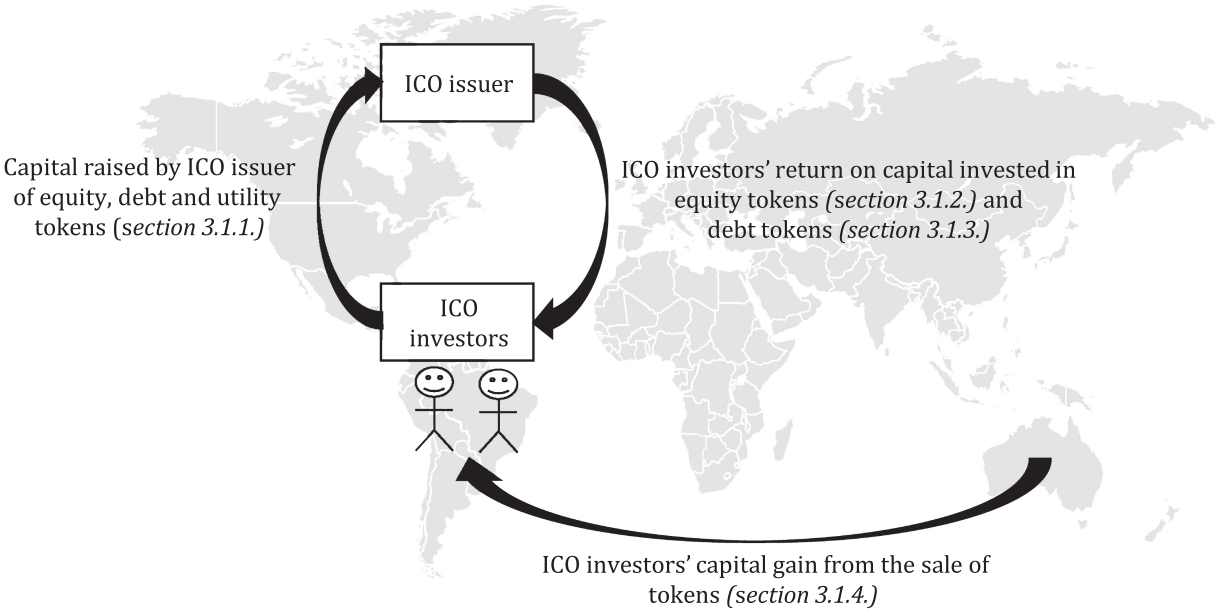
[56] A similar approach is applied in respect of 'traditional' hybrid financial instrument by Bundgaard, *supra* n. 14, at 138, and W. Haslehner, *Article 11. Interest*, in *Klaus Vogel on Double Taxation Conventions* 927 (4th ed., E. Reimer & A. Rust eds, Kluwer Law International 2015) and Bärsch, *supra* n. 36, at 92 & 107. In accordance with the fundamental principle of neutrality, which forms part of the Ottawa Taxation Framework Conditions as adopted by the OECD, taxation should seek to be neutral and equitable between traditional and digitalized business models. On this basis, it is argued that a similar approach should be followed when classifying income related to ICOs.

[57] Bärsch, *supra* n. 36, at 92. The author argues that the decisive characteristic should be based on a benchmark, e.g. on more than one distinctive characteristic, i.e. multi determinative (possibly weighted) characteristics.

[58] Bärsch, *supra* n. 36, at 107. The author states that the bifurcation approach is not permitted for tax treaty purposes.

[59] *See OECD Model: Commentaries to Article 12*, paras 11.6 and 17 (2017). For a detailed analysis of the treatment of mixed contracts under Art. 12 OECD Model (2017), *see* e.g. L. F. Kjærsgaard, *Allocation of the Taxing Right to Payments for Cloud Computing-as-a-Service*, 11(3) World Tax J. (2019), s. 3.1.1.

Figure 3 Illustration of Payments Related to ICOs That May Be Relevant to Classify for Tax Treaty Purposes, i.e. (1) Capital Raised by the ICO Issuer, (2) ICO Investors' Return on Capital Invested in Equity Tokens, (3) ICO Investors' Return on Capital Invested in Debt Tokens, and (4) the ICO Investors' Gain from the Sale of the Tokens. In Its Most 'Simple' Version, Utility Tokens Do Not Imply an Accruing Return on Investment to the ICO Investor but only the Potential Gain from the Sale of the Utility Tokens (the Author's Creation).



3.1.1 *Classification of Capital Raised by the ICO Issuer*

Corporations can raise capital from either internal or external sources. Whereas internal capital comes from retained earnings, external capital is obtained from other economic agents.[60] With regards to external capital, in the international tax literature, it has previously been assumed that all financing alternatives should be characterized as either debt or equity[61] – however, without there being a commonly accepted definition of debt and equity for international tax purposes. Nevertheless, from an 'ideal-typical' perspective, pure equity capital is generally characterized by only providing the investor financial rights that are contingent on the economic situation and at the discretion of the capital borrower, i.e. the ICO issuer in the case of an ICO. Furthermore, the return on investment in equity capital is only paid after all pure (and matured) debt holders have been remunerated, and the repayment amount (if any) will not be provided before liquidation. In addition, pure equity capital is characterized by granting the investor certain non-financial rights (e.g. voting power and the right to certain information) that enable the investor to control the capital borrower, i.e. the ICO issuer in an ICO.[62] In contrast, pure debt capital is characterized by granting fixed rights that are not determined by reference to the economic result of the capital borrower, i.e. the ICO issuer in an ICO, and such investor is not granted any power to control the capital borrower.[63] Stated differently, investors in pure equity capital are exposed to the capital borrower's entrepreneurial risk as well as profitability, and they have (some) control over both while this does not apply for investors in pure debt capital.[64]

Although these typical characteristics are not explicitly referred to as guiding tax principles for classifying capital raised, e.g. in an ICO, they may be relevant for further

Notes

[60] Bärsch, *supra* n. 36, at 9.

[61] Based on this, an equity contribution does necessarily imply participation in the share capital of a company; *see* e.g. Bundgaard, *supra* n. 14, at 43.

[62] Bärsch, *supra* n. 36, at 83.

[63] *Ibid.*

[64] *Ibid.*, at 83 & 84 summarizes the differences in Table 3.1.

analysis by underlying the demarcative tax classification of tokens issued in an ICO and the associated return on investment.[65] The inclusion of typical characteristics of pure equity capital and pure debt capital may also be supported by the results of previous studies, which conclude that the international and supranational sources relevant for classification, as well as the company law, the insolvency law and the financial accounting generally make use of these distinctive characteristics.[66]

Applying the above-mentioned considerations to capital that is raised through ICOs, it could be argued, on the one hand, that such capital should always be regarded as internal capital that is earned from the sale of unique digital assets, i.e. the tokens. On the other hand, it could also be contended that, as the capital raised through an ICO should be classified according to the distinctive character of the specific tokens, the capital that is raised may not always be classified as internal capital from retained earnings.

In general terms, utility tokens function as a payment method within the network funded by the ICO as they can be exchanged for (future) goods and services developed through the project funded by the ICO, i.e. internal capital.[67] However, as ICO investors are typically purchasing utility tokens to fund the actual creation of the products – the success of which determines the possibility of the increase in token value – certain similarities with external capital are also present, i.e. the ICO investor's return on investments in utility tokens is contingent on the success of the funded project. However, based on the ideal-typical characteristics of equity, it seems unlikely that capital raised from the issuance of utility tokens should be characterized as equity as utility tokens will not typically grant the ICO investor financial *rights* that are contingent on the economic situation of the funded project or the ICO issuer and at the discretion of the ICO issuer. Instead, a utility token is argued to be a unique digital asset that – depending on the market demand and supply of the utility token itself as well as its usage – may earn the ICO investor a return on the investment upon its sale. In addition, utility tokens should, based on the ideal-typical characteristics of debt, generally not be classified as debt as they will typically not grant the ICO investor non-contingent rights to repayment or return on investment.[68] Hence, it is argued that capital raised through an ICO of utility tokens should be classified as internal capital earned from the sale of unique digital assets, representing a right to future product developed under the funded project.

On the other hand, security tokens grant a potential future return on the invested capital, and they may, like other financial instruments, combine a variety of characteristics and features with specific rights and obligations, e.g. financial rights and obligations and certain governance rights.[69] More specifically, security tokens may include share-like features such as voting rights, the right to appoint management of the funded project, and profit participation rights in the project funded by the ICO proportioned to the number of tokens that are owned. Alternatively, security tokens may include debt-like features, such as short-term loan with repayment of the principal amount as well as a variable or fixed interest during a specified time period. Such features naturally associate these tokens with either equity or debt; however, in practice, security tokens may also be hybrids with features from both shares and bonds.[70] On this basis, it cannot be precluded that capital raised by issuing tokens with equity or debt features may, in fact, be considered equity or debt represented by a unique digital asset that has no other value or purpose than granting the ICO investor financial and non-financial rights, i.e. a form of external capital.

Notwithstanding whether the capital should be regarded as internal or external capital, the structure of the OECD Model seems to prescribe that the classification of the capital raised through an ICO is dependent on the token issued and, therefore, it should be determined (1) whether 'income' – according to domestic tax law – is realized by the ICO issuer, (2) what the distinctive characteristic of the token is, and (3) how the right to tax payments for the distinctive characteristic should be allocated according to the OECD Model.

Re. 1. Has the ICO issuer realized 'income'? As the analysis conducted in this article focuses on the allocation of taxing rights – and thus classification – for tax treaty purposes, it is outside the scope to conduct a thorough analysis of the concept of 'income' that may be taxable according to domestic tax laws. However, given that classification, for the purpose of

Notes

[65] Bundgaard, *supra* n. 14, at 42. The author also notes that the tax consequences are not always linked directly to the debt or equity classification for economic and accounting purposes as tax consequences arise from legislation primarily addressing the treatment of the return on investment. Further, *see* Bärsch, *supra* n. 36, at 85 in regard to classification of 'traditional' hybrid financial instruments.

[66] Bärsch, *supra* n. 36, at 91.

[67] Bal, *supra* n. 12, at 39 and Kjærsgaard & Arfwidsson, *supra* n. 12, at 622. T. Sameeh, *ICO Basics: The Difference Between Security Tokens and Utility Tokens* (29 Mar. 2018), https://www.cointelligence.com/content/ico-basics-security-tokens-vs-utility-tokens/ (accessed 13 Mar. 2020). Fisch *supra* n. 34, at 3. Hence, leaving the technical construction aside, the difference between coins and utility tokens is mainly the purpose for which they are created, i.e. as a general payment method versus a payment method within a specific network. This implies that, whereas the value of coins is based solely on market supply and demand of the coin itself, the value of a utility token is based on the value of the goods or services within the network. Compared to security tokens, the intended use of utility tokens is more similar to the use of coins although investment in utility tokens, to some extent, appears to be done for speculative purposes.

[68] D. Zetzsche et al., *The ICO Gold Rush: It's a Scam, It's a Bubble, It's a Super Challenge for Regulators*, University of New South Wales Law Research Series, Law Working Paper Series, no. 2017–011 (2 July 2018).

[69] Bal, *supra* n. 12, at 39 and Kjærsgaard & Arfwidsson, *supra* n. 12, at 622. Sameeh, *supra* n. 67 and Bärsch, *supra* n. 36, at 78–82. The author discusses the distinctive characteristics of financial instruments in general. Fisch *supra* n. 34, at 3.

[70] Bal, *supra* n. 12, at 39 and Kjærsgaard & Arfwidsson, *supra* n. 12, at 622; Sameeh, *supra* n. 67; Fisch *supra* n. 34, at 3.

allocating taxing rights according to a tax treaty becomes relevant only if the payment is recognized as taxable income according to the domestic tax law of the contracting states, some high-level and general considerations will be provided. In respect of the concept of 'income', it has previously been argued in the international tax literature that, in the economics of the twentieth century, the concept should be understood in accordance with *wealth accrual*, which relates to the economic ability of persons.[71] In other words, income may be determined as the disposing power of a person who has not impaired his capital or incurred debts.[72] Accordingly, provided that security tokens with debt features do, in fact, constitute a legal debt-claim that is valid and enforceable,[73] it is argued that capital raised by issuance of debt tokens generally should not constitute 'income' for the ICO issuer under domestic tax law. Accordingly, classification for tax treaty purposes will not be relevant insofar as the payment from the ICO investor is offset by an obligation of the ICO issuer to pay back the loan so that there is no net increase in economic power of the ICO issuer.

Further, it could be argued that capital raised by the issuance of security tokens with equity features does not constitute 'income' under domestic tax law, implying that classification and allocation of taxing rights for tax treaty purposes would not be relevant. The argument would be that the payment from the ICO investor for the economic right embedded in the equity token equals the impaired capital of the ICO issuer. Stated differently, accepting the capital raised from the issuance of equity tokens as 'income' would violate the concept of income as the gains derived by the ICO issuer are not 'real economic benefits' but, instead, what has been referred to as 'illusory gains' given that the ICO issuer's economic power has not improved.[74] However, as argued by *Kevin Holmes*, illusory gains are often recognized as 'income' for domestic tax purposes because the legal concept of income recognizes only the flow element but not the diminution-in-value element.[75] On this basis, it is not unlikely that capital raised through the issuance of equity tokens will be recognized as 'income' under domestic tax law purposes,[76] implying that the capital raised – if taxable according to the domestic tax law of the ICO issuer and the ICO investor – should be classified for tax treaty purposes.

Similarly, it seems most likely that capital raised by issuing utility tokens should generally be considered 'income' under domestic tax law as a repayment obligation will typically not be a component of utility tokens.[77] In this case, the capital raised by the ICO issuer should be classified for tax treaty purposes.

Re. 2. What is the distinctive characteristic of the token? Independently of the economic attributes attached to a token, the ICO issuer – in simple terms – sells a unique digital asset to the ICO investor, i.e. the ownership of the issued token is transferred to the ICO investor. However, as stated above, it may be argued that the economic attribute of the specific tokens is, in fact, the distinctive economical characteristic of the instruments – similar to the distinctive character of bearer shares for which the distincive economical characteristic is not the physical paper but the ownership in a company represented by the physical paper. Hence, with regards to utility tokens, it may be argued that the distinctive characteristic is not the sale of a unique digital asset but, instead, the right to a (prepaid) future product, implying that the payment should be classified according to what is being paid for. Similarly, it could be argued that the distinctive characteristic of equity tokens is the right to future profit from the funded project and not the unique digital asset in itself. In accordance with the blanket approach, hybrid financial instruments must be classified *entirely* according to whether the (compositions of) distinctive characteristics are more sale of asset-like *or* more prepaid right future product-like or profit-like. This approach also seems to be in accordance with the fact that the components (i.e. the unique digital asset and the specific rights) are technically and commercially inherently linked.

Hence, although identifying the distinctive characteristics of tokens should be based on a case-by-case assessment, for

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71 Also referred to as the Haigh-Simons concept of income or the Schanz-Haigh-Simons concept of income. With reference to the main contributions of G. Von Schanz, *Der Einkommensbegriff und die Einkommensgesetze*, Finanz-Archiv (1896); R. Haig, *The Concepts of Income – Economic and Legal Aspects*, The Federal Income Tax (Columbia University Press 1921) and H. Simons, *Personal Income Taxation – The Definition of Income as a Problem of Fiscal Policy* (University of Chicago Press 1983). For a thorough analysis, *see* K. Holmes, *The Concept of Income – A Multi-Disciplinary Analysis*, Doctoral Series Vol. 1, (IBFD 2001), in particular Ch. 2, Foundation Concept of Income. *See also* Bal, *supra* n. 12, at 61–63.

72 *See* Holmes, *supra* n. 71, at 57–59.

73 Bundgaard, *supra* n. 14, at 105. The author states that the term 'debt' is often adopted from civil law concepts and, in some countries, information found in the balance sheet can be used directly for tax law purposes while, in other countries, the information found in financial statements may only be used to a limited extent.

74 Holmes, *supra* n. 71, at 341 & 342 and Ch. 8 in general.

75 Holmes, *supra* n. 71. The author exemplifies 'illusory gains' that cannot be considered 'real economic benefits' but will typically be considered 'income' from a domestic tax perspective: *inflationary gains*, i.e. an increase in the value of assets attributable to an economy enduring inflation, at 342–348; *bonus share issues*, i.e. the capitalization of a company's profits by way of a bonus issue to shareholders does not increase each shareholder's wealth as the net assets of the company do not change (the number of shares in the company held by a shareholder increases, however, the value per share decreases so that the aggregate value of each shareholder's investment is the same before and after the bonus issue.) at 348–350, and *share repurchases*, i.e. assuming the value of the consideration from the company to the shareholder equals the value of the shares, it is merely one type of asset (shares) i.e. substituted for another type of asset (cash), at 350 & 351.

76 *See* e.g. Kjærsgaard & Arfwidsson, *supra* n. 12, at 631. The authors conclude that capital raised through equity tokens (referred to as share-like tokens) should most likely be recognized as taxable income under Danish and Swedish domestic tax law.

77 *See* e.g. Kjærsgaard & Arfwidsson, *supra* n. 12, at 628. The authors conclude that capital raised through utility tokens should most likely be recognized as taxable income under Danish and Swedish domestic tax law.

the purpose of analysing the tax treaty classification of the capital raised through the issuance of utility tokens and equity tokens, it will be assumed that the economic attributes of the utility token (the right to prepaid future products) and the equity token (the right to future profit from the funded project) should be considered as the distinctive characteristics that are relevant for classifying the capital raised through the ICOs according to the OECD Model. This assumption also seems to be in accordance with the fundamental principle of neutrality as stated in the Ottawa Taxation framework and adopted by the OECD.[78] According to this principle, taxation should seek to be neutral and equitable between traditional and digitalized business models such that business decisions are motivated by economic considerations rather than tax considerations, i. e. taxpayers in similar situations performing similar transactions should be subject to similar levels of taxation. Hence, it is argued that the underlying economic substance of a financial instrument should generally be considered the distinctive character, and this should not be influenced by whether a financial instrument is traded and registered at a trusted intermediary, only existing as a physical written contract between the parties or stored on a blockchain.

Re. 3. How should the income be classified? As a consequence of considering the right to prepaid future products as the distinctive characteristic of utility tokens, the classification may vary depending on what the future product is as the classification of payments for tax treaty purposes should be based on a thorough understanding of the specific transaction, including the specific terms of the concluded contract. Hence, the classification of the capital raised by issuing utility tokens may, in practice, vary according to these terms. Nonetheless, considering the digital and intangible nature of the typical product developed by crypto-start-ups through capital raised in ICOs,[79] the most important classification issue that arises – assuming that all such capital received by the ICO issuer is received in the course of conducting business – will typically be the distinction between business income and royalties corresponding to Article 7 and Article 12 of the OECD Model, respectively.[80] This is based on the fact that numerous bilateral tax treaties allow the source state (i.e. the residence state of the ICO investor) to tax royalty payments whereas the right to tax business income is exclusively granted to the residence state of the ICO issuer unless the income should be attributed to a permanent establishment located in the residence state of the ICO investor.[81]

Even though the definition of royalties varies across bilateral tax treaties, it is often inspired by the definition of royalties included in Article 12 (2) of the OECD Model:

> *{P}ayments of any kind received as a consideration for the use of, or the right to use, any copyright of literary, artistic or scientific work including cinematograph films, any patent, trade mark, design or model, plan, secret formula or process, or for information concerning industrial, commercial or scientific experience.*

It should be noted that this definition includes 'payment' in monetary and non-monetary forms and, hence capital raised in other cryptocurrencies such as bitcoins and ethers may be classified as royalties according to the OECD Model – even though cryptocurrencies are generally not considered as money under domestic regulations.[82] Importantly, however, the classification of such payments as royalties remains subject to the payment being provided in return for (1) 'the use of' or 'the right to use' and (2) one of the specific assets or information included in the definition in Article 12 (2) of the OECD Model. Further, the guidance on mixed contracts included in the commentaries to article 12 (2) of the OCD Model should be observed.[83] As a result, any references to intangible assets in the whitepaper will be of particular importance when classifying capital raised through the issuance of utility tokens.

Concerning equity tokens, the issues of classifying the capital raised by the ICO issuer is argued to be whether the capital should be classified as capital gains, business profit, or 'other income' under Article 13(5), Article 7, or Article 21 of the OECD Model, respectively.[84] However, the practical relevance of which classification applies is limited, i.e. neither of the provisions allow for source taxation - assuming that the capital raised are not attributable to a permanent establishment of the ICO issuer. Nonetheless, the issuance of equity tokens may evoke the contentious distinction between income and capital receipts.[85] As Article 7 and Article 21 of the OECD Model are both secondary to Article 13, it should

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[78] The principle of neutrality forms part of the Ottawa Taxation Framework Conditions as adopted by the OECD *see* OECD, *supra* n. 18, at 12.

[79] Fisch *supra* n. 34, at 11, where the author include a set of dummies and states that while all ventures revolve around distributed ledger technology and thus belong to the knowledge-intensive IT sector, a more fine-grained differentiation is analysed, i.e. entertainment (e.g. gaming and gambling), finance (e.g. payments and investing), infrastructure (e.g. data storage and machine learning), and others.

[80] *See* e.g. Technical Advisory Group on Treaty Characterization of Electronic Commerce Payments, *Tax Treaty Characterisation Issues Arising from E-Commerce*, Report to Working Party No. 1 of the OECD Committee on Fiscal Affairs 5 (1 Feb. 2001); OECD, *supra* n. 1, at 104. It is argued that in respect of classifying payments for digital products and services, in general, most challenges are experienced in the distinction between business income and royalties, corresponding to Article 7 and Article 12 of the OECD Model, respectively.

[81] Lee & Yoon, *supra* n. 17, at 21 and H. Litwinczuk, *Poland: Payments for Copyrights of Computer Software as Royalties*, in *Tax Treaty Case Law around the Globe* 288–299 (M. Lang et al. eds, Wolters Kluwer Law & Business 2011).

[82] *See* e.g. Bal, *supra* n. 12, at 50–53 and Kjærsgaard & Arfwidsson, *supra* n. 12, at 623–625.

[83] *supra* note 59.

[84] This will generally also apply to debt tokens not constituting a valid and enforceable legal claim.

[85] *See* e.g. Holmes, *supra* n. 71, at 173–178.

initially be analysed whether the capital raised may be classified as capital gains.

Capital gains are not defined in detail in Article 13 of the OECD Model nor in its commentaries, however, it is stated in the commentaries that the words 'alienation of property' are:

> *used to cover in particular capital gains resulting from the sale or exchange of property and also from a partial alienation, the expropriation, the transfer to a company in exchange for stock, the* ***sale of a right****, the gift and even the passing of property on death".*[86] *(author's emphasizing)*

Hence, despite that equity tokens do generally not grant the ICO investors with actual ownership in the ICO issuer similar to shares,[87] it seems plausible from a literal interpretation of the commentaries that the capital raised through the issuance of equity tokens may be classified as capital gains under Article 13 of the OCED Model. This is based on the argument that the distinctive characteristic of equity tokens is the financial and non-financial rights in the funded project or the ICO issuer. It is also contended that an ICO implies the sale of the full right and ownership of the equity token and its implied financial and non-financial rights which the ICO investor is typically free to sell on a secondary market.

Further, the domestic courts' interpretation of the distinction between concepts of income and capital receipts has previously been analysed in the international tax literature, and *Kevin Holmes* suggests a 'judicial proposition' implying that[88]:

1) Income must be realized.
2) Income requires separation from its source.
3) Income requires a profit making-purpose or motive or a profit-making scheme or undertaking.

It seems likely that the capital raised through the issuance of equity tokens will fulfil requirement (1) and (3) as – based on the above – it will likely be recognized as an income/illusory gain for tax purposes. Considering that the ICO is conducted for the purposes of raising capital for (continuous) research and development under the funded project, i.e. the ICO issuer has a profit making-purpose or motive when issuing equity tokens, will further validate this. However, it could be argued that requirement 2) is not fulfilled as the equity tokens may be seen as the source itself and hence not separable from its source. Stated differently, analogues to the example of an apple tree (the source) producing apples (generating income),[89] the equity tokens may represent the right to a part of the apple tree potentially producing apples in the future, however, if the tree fails to provide, i.e. if the funded project will never be successfully commercialized, no apples will be produced, and hence no income will be generated from the source. This also seems to adhere to the argumentation of other legal scholars arguing that Article 13 of the OECD Model encompasses any extraordinary enrichment from the alienation of operating assets while Article 7 of the OECD Model applies whenever industrial or commercial profits from the ongoing sale of products are concerned.[90] In other words, the capital raised from issuing equity tokens should be classified as business income under Article 7 of the OECD Model rather than capital gains under Article 13 of the OECD Model only if the ICO issuer conducts business with sale of equity tokens and similar assets.

Hence, although there may be divergent domestic practices in respect of the distinction between income and capital receipts,[91] based on the existence of a profit making-purpose underlying the issuance of equity-tokens through an ICO and the fact that, in the context of a business life-cycle, the issuance of equity tokens results in extraordinary enrichment from the sale of economic rights, it is argued that capital raised through the issuance of equity tokens should most likely be classified as capital gains under Article 13 (5) of the OECD Model. Accordingly, only the residence state of the ICO issuer can tax the capital raised, assuming that the capital gains may not be attributed to a permanent establishment of the ICO issuer.

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[86] *See OECD Model: Commentaries to Article 13*, para. 5 (2017).

[87] Kaal & Dell'Erba, *supra* n. 34, at 2.

[88] *See* e.g. Holmes, *supra* n. 71, Ch. 5. A similar interpretation can be observed in domestic case law; *see* e.g. the DK: Supreme Court, SKM2010.553.HR (published 10 Sept. 2010). The Danish Supreme Court ruled that a football club's transfer proceeds compensated the club for giving up its rights under employment contracts signed with players could not be considered capital gains from the sale of property but that such proceeds should instead be considered part of the usual current income from the football club's operating activities in order to optimize the sporting and financial results, i.e. part of the usual professional business. The Supreme Court did not elaborate on its reasons but upheld the Eastern High Court's decision (DK: Eastern High Court, SKM2008.706.ØLR (published 2 Sept. 2008)) in which it was inter alia assumed that the player contract could only be prematurely terminated by mutual agreement and that a transfer of the football player could not occur without the football player's acceptance, i.e. the football players could not be considered property of the football club.

[89] For a historical analysis of the development of the income and capital aspect of the legal concept of income, *see* Holmes, *supra* n. 71, Ch. 5, Development of the Legal Concept of Taxable Income and, in particular, at 173–178. The author states that the concept is founded on the agricultural harvest cycle, i.e. land is the capital (source) that produces the harvest (income) through farming.

[90] E. Reimer, *Article 7. Business Profits*, in *Klaus Vogel on Double Taxation Conventions* 508 (4th ed., E. Reimer & A. Rust eds, Kluwer Law International 2015). *See also* Holmes, *supra* n. 71, Ch. 6 and, in particular, at 288–290, where the author concludes that, in English and New Zealand law, no infallible criterion exists to determine the distinction between trading operation and investments. Accordingly, a taxpayer's purpose or motive at the time that the asset was acquired has proven to be important although resulting in a narrow view, i.e. gains derived other than from current business operations fall outside the legal meaning of income. Contrarily, Australian Courts have adopted an extended concept of income also capturing extraordinary gains that arise from a transaction entered into with a profit-making purpose.

[91] *See* Holmes, *supra* n. 71, Ch 5 & 6. The author concludes that US jurists viewed capital gains quite differently from their English counterparts, i.e. realization of capital gains has been far more frequent and conspicuous than in England and Europe and, further, that Australian courts have adopted an extended notion of income also capturing extraordinary gains that arise from a transaction entered into with a profit-making purpose.

In summary, capital raised through the issuance of debt tokens should most likely not be considered as 'income' under domestic tax law and, therefore, not be classified for tax treaty purposes insofar as the debt tokens represent a valid and enforceable legal claim. In contrast, capital raised through issuance of utility and equity tokens should likely – in practice – be considered as 'income' or 'illusory gains' for domestic tax purposes and, therefore, be classified for tax treaty purposes in accordance with the blanket approach in which the economic attribute of a token is argued to constitute the distinctive characteristic. On this basis, it cannot be precluded that capital raised through the issuance of utility tokens in some ICOs should be classified as royalty which implies shared taxing rights according to many bilateral tax treaties. If the capital cannot be classified as royalties, capital from the issuance of utility tokens should typically be classified as business income and, therefore, only taxable in the residence state of the ICO issuer. Similarly, capital raised through the issuance of equity tokens should typically only be taxable in the residence state of the ICO issuer as such capital should likely be classified as capital gains. This is considering that selling tokens should typically not be considered part of the ICO issuer's business but instead a right to the 'source' producing income.

In the following sections, the return on investment in equity tokens and debt tokens are classified, respectively, according to the provisions of the OECD Model. As utility tokens in their 'simplest' version do not, as such, imply an accruing return on investment to the ICO investors,[92] return on investment in utility tokens will not be classified.

3.1.2 *Classification of ICO Investors' Return from Equity Tokens*

Although equity tokens generally do not grant the ICO investors an actual ownership in the ICO issuer that is similar to shares,[93] the fact that the equity tokens may grant the ICO investor voting and/or profit participating rights in the funded project or the ICO issuer naturally result in such payments being associated with dividends traditionally paid to shareholders. It follows from Article 10 (1) of the OECD Model that dividends paid by a company may be taxed in the residence state of the recipient. However, according to Article 10 (2), such dividends may also be taxed in the source state, i.e. the residence state of the dividend paying company, although such tax shall not exceed 5% if paid to parent companies owning more than 25% of the capital of the company paying the dividends (throughout a 365 day period) or 15% in all other cases – provided that the recipient is the beneficial owner.[94]

Despite the inclusive elements of ICOs in respect of potential ICO investors, in principle, allowing 'micro investors' all around the world to invest, it may be the case that one ICO investor acquires more than 25% of the issued equity tokens. Consequently, it is relevant to consider whether this ICO investor qualifies for the parent/subsidiary-privilege. In this respect, the commentaries to Article 10 (2) of the OECD Model clarify that 'capital' – as a general rule – should be understood in accordance with company law in terms of par value of all shares often shown as capital in the company's balance sheet.[95] However, it is further stated in the commentaries that, even when contributions to the company do not – strictly speaking – classify as 'capital' under company law such contributions may be regarded as 'capital' and, therefore, potentially qualify for the parent/subsidiary-privilege.[96] This is provided that, on the basis of domestic law or practice, the income derived in respect of the contribution is treated as a dividend under Article 10 of the OECD Model. Hence, if the return on investment in equity tokens should be classified as dividends pursuant to Article 10 (3) of the OECD Model, an ICO investor owning more than 25% of the capital (i.e. share capital and value of the issued tokens) may benefit from the parent/subsidiary-privilege even though equity tokens do not represent an actual ownership in the ICO issuer, which is similar to shares.[97]

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[92] However, some utility token may include a return on investment i.e. payable by the ICO issuer. If such a return is not contingent on the performance and profit of the ICO issuer, not treated as income from shares under domestic tax law of the source country, and no valid and enforceable debt claim exists, it may be classified as `other income´ under Art. 21 of the OECD Model, as discussed in s. 3.2.2.

[93] Kaal & Dell'Erba, *supra* n. 34, at 2.

[94] The term 'beneficial owner' is elaborated in *OECD Model: Commentaries to Article 10*, paras 12–12.7 (2017) and, accordingly, the term is not used in a narrow technical sense; rather, it should be understood in its context, in particular in relation to the words 'paid … to a resident' and considering the object and purposes of the OECD Model, including avoiding double taxation and the prevention of fiscal evasion and avoidance. It should be noted that, despite being subject to extensive analyses in the international tax literature, the term 'beneficial owner' is still highly debated and still not fully settled. For a thorough analysis of the term 'beneficial owner', reference may be given to A. Meindl-Ringler, *Beneficial Ownership in International Tax Law*, Series on International taxation no. 58 (Wolters Kluwer 2016). *See also* W. Haslehner, *Article 10. Dividends*, in *Klaus Vogel on Double Taxation Conventions* 816–818 (4th ed., E. Reimer & A. Rust eds, Kluwer Law International 2015) and D. G. Duff, *Beneficial Ownership: Recent Trends*, in *Beneficial Ownership: Recent Trends* 17–22 (M. Lang et al., IBFD 2013).

[95] *See OECD Model: Commentaries to Article 10*, paras 15 (a) and (b) (2017).

[96] *See OECD Model: Commentaries to Article 10*, para. 15 (d) (2017). In this respect, Haslehner notes that, if loans and other contributions should also be taken into account as a part of the capital of the company, this is inconsistent with a calculation of the company's nominal capital. The commentaries suggest considering the 'value' of such loans and contributions as capital without elaborating when these instruments should be valued although the value may considerably change. Further, the author notes that, this is also entirely inconsistent with taking the par value of shares as a premium above par value may be paid to the ICO issuer. The author concludes that taking it into account would make the calculation of the threshold highly volatile and impossible to do for a shareholder not knowing the amount of such contributions made by other shareholders. Hence, according to the author capital contributions not reflected in the nominal capital of the company should not be taken into account for defining the relevant 'capital' of a company to determine whether the 25% threshold has been met. *See* Haslehner, *supra* n. 92, at 822.

[97] Kaal & Dell'Erba, *supra* n. 34, at 2.

The concept of 'dividends' is defined in Article 10 (3) of the OECD Model as[98]:

> *income from shares, "jouissance" shares or "jouissance" rights, mining shares, founders' shares or other rights, not being debt-claims, participating in profits, as well as income from other corporate rights which is subjected to the same taxation treatment as income from shares by the laws of the State of which the company making the distribution is a resident.*

Based on the general principle for interpretation, the definition shall be interpreted in accordance with the ordinary meaning given to the terms in the context and in light of the object and purpose of the tax treaty. There may also be recourse regarding the preparatory work of the tax treaty and the circumstances of its conclusion.[99] Hence, reference to domestic tax law, if not explicitly made, should only be made if a term cannot be sufficiently determined on basis of the tax treaty itself or in its co-text, based on a literal and autonomous interpretation as well as a purposive and contextual interpretation of the strict and broader context.[100]

Accordingly, following a literal interpretation of the definition of dividend, the definition is not exhaustive but instead consists of three parts, i.e. income from:

(1) shares, jouissance shares or jouissance rights, mining shares and founders' shares,
(2) other rights not being debt-claims, participating in profits, and
(3) other corporate rights to the extent that such income is subjected to the same taxation treatment as income from shares by the laws of the source state, i.e. the residence state of the dividend paying company.[101]

In these three parts, the distinctive element of the definition is argued to be 'corporate rights' under the third part as this seems to refer back to the previous parts of the definition. Moreover, the second part seems to specify that the examples of the first part must be considered (corporate) rights participating in profits – without being debt-claims – if the return from such financial instruments should be classified as dividends according to Article 10 of the OECD Model.[102] Hence, if the return on investment in equity tokens should be classified as dividends, the equity tokens must be considered corporate rights that *either* imply participation in the ICO issuer's current profits without being debt-claims *or* are subject to the same tax treatment as income from shares according to the laws of the residence state of the ICO issuer.

Despite 'corporate rights' being a crucial term, no further guidance is provided in the definition, therefore, an autonomous as well as a purposive and contextual interpretation of the context is required.[103] Based on the commentaries to the OECD Model, the relevant criteria is whether the investor '*effectively shares the risks run by the company*, i.e. *when repayment depends largely on the success or otherwise of the enterprise's business.*'.[104] According to the prevailing doctrine in the international tax literature, this has been interpreted in the sense that the ICO investor must share 'the entrepreneurial risk' of the ICO issuer if the return on investment should be classified as dividends.[105] Although this analysis should be based on a case-by-case assessment of all of the circumstances, a list of distinctive characteristics indicating that an investor shares the entrepreneurial risk of the issuer is provided in the commentaries to the OECD Model:[106]

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[98] *See* in general, regarding the interpretation of this article, e.g. Bundgaard, *supra* n. 14, at 138–143; Bärsch, *supra* n. 36, at 98–104; Lopes Dias, *supra* n. 51, at 111–126; M. Helminen, *The International Tax Law Concept of Dividend*, 36 Series Int'l Tax'n 174–179 (Wolter Kluwer Law and Business 2010). Haslehner, *supra* n. 92, at 834 et seq.; E. Eberhartinger & M. Six, *Taxation of Cross-Border Hybrid Finance: A Legal Analysis*, 37(1) Intertax 8 & 9 (2009).

[99] The interpretation of treaties in general – and, therefore, also tax treaties – is undertaken in accordance with the Vienna Convention on the Law of Treaties (23 May 1969)). It should, however, be noted that the importance of the convention has been subject to discussion in the literature: *see* e.g. F. Engelen, *Interpretation of Tax Treaties Under International Law*, Doctoral Series Vol. 7 425–516 (IBFD 2004); U. Linderfalk & M. Hilling, *The Use of OECD Commentaries as Interpretative Aids – The Static/Ambulatory-Approaches Debate Considered from the Perspective of International Law*, 2015(1) Nordic Tax J. 36–40 (2015); and P. J. Wattel & O. Marres, *The Legal Status of the OECD Commentary and Static or Ambulatory Interpretation of Tax Treaties*, 43(7/8) Eur. Tax'n 225–229 (2003). According to Art. 31 and 32 Vienna Convention on the Law of Treaties, a treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in the context and in light of the object and purpose of the treaty; further recourse may be had to the preparatory work of the treaty and the circumstances of its conclusion.

[100] There is ongoing discussion regarding which state's domestic law Art. 3(2) OECD Model refers to, i.e. the domicile state, the source state, or the state applying the OECD Model. However, as the analysis in this paper is of a general nature and conducted according to the OECD Mode – although examples from domestic law are provided to a limited extent for illustrative purposes – it is not considered necessary to engage in this discussion. Instead, *see* e.g. Engelen, *supra* n. 97, at 473 et seq. and, in the context of hybrid financial instruments, *see* e.g. Bärsch, *supra* n. 36, at 97 & 98.

[101] Bundgaard, *supra* n. 14, at 140; Bärsch, *supra* n. 36, at 98; Helminen, *supra* n. 96, at 63 and Haslehner, *supra* n. 92, at 834. It has also been proposed to group the definition into two classes (combining the first and the second group); *see* e.g. M. Six, *Hybrid Finance and Double Taxation Treaties*, 63(1) Bull. Int'l Tax'n 22 et seq. (2009).

[102] Bundgaard, *supra* n. 14, at 140; Bärsch, *supra* n. 36, at 98 & 99; Lopes Dias, *supra* n. 51, at 115 & 116 and Haslehner, *supra* n. 92, at 834.

[103] Bundgaard, *supra* n. 14, at 142; Bärsch, *supra* n. 36, at 99. and Haslehner, *supra* n. 92, at 839; Helminen, *supra* n. 96, at 64 & 175.

[104] *See OECD Model: Commentaries to Article 10*, para. 25 (2017).

[105] Bärsch, *supra* n. 36, at 100; Bundgaard, *supra* n. 14, at 146. Others commentators argue that 'corporate rights' mean such a membership right comparable to an ordinary shareholder of a company, i.e. a membership-like relation requires a basis in domestic company law; *see* e.g. Helminen, *supra* n. 96, at 176, stating that *'Generally, income qualifies as a dividend only if it is received by a shareholder because of the recipient's position as a shareholder or because of a comparable position in a company.'* On the other side of the spectrum, some commentators seem to argue that the term 'corporate rights' should be understood more generally such that it solely excludes financial instruments when a 'company' is not the capital borrower but is, instead, a partnership; *see* e.g. H. Pijl, *Interest from Hybrid Debts in Tax Treaties*, 65(9) Bull. Int'l Tax'n (2011).

[106] *See OECD Model: Commentaries to Article 10*, para. 25 (2017).

- The invested capital heavily outweighs any other contribution to the issuer's capital (or was taken out to replace a substantial proportion of capital that has been lost) and is substantially unmatched by redeemable assets.
- The investor will share in any profits of the issuer. In this respect, it should be noted that whether 'any profit' refers to current profit and/or liquidation proceeds, i.e. hidden reserves, has been subject to discussion in the international tax literature. The majority of commentators argue that a participation in the current profits is not sufficient and should also not be necessary if the participation in the liquidation proceeds imparts a sufficient participation in the entrepreneurial risk.[107] However, as long as an investor participates in both the current profits and any potential liquidation proceeds, such instruments undoubtedly share the entrepreneurial risk.[108]
- The repayment of the principal amount is subordinated to claims of other creditors or to the payment of dividends, i.e. the investor has to accept the risk of losing all of the capital invested as the investor only holds a right in the company rather than against the company.[109]
- The return on investment depends on the profits of the issuer.
- The contractual agreement contains no fixed provisions for the repayment of the principal amount by a definite date.

When comparing the list of examples provided in the commentaries with the ideal-typical characteristics of pure equity discussed above in section 3.1.1., it seems apparent that non-financial rights (e.g. voting rights) should not be considered as decisive for the definition of whether the instrument implies 'corporate rights' within the meaning of Article 10 of the OECD Model. This is perhaps because such rights have no direct impact on the entrepreneurial risk,[110] although it may be argued that such non-financial rights provide (some) control over the entrepreneurial risk.

In addition to the requirement of corporate rights, the classification of return on investment as dividends requires that these rights *either* imply participation in the issuer's profits without being either debt-claims (second part of the definition) *or* are subject to the same tax treatment as income from shares by the laws of the issuers residence state, e.g. when loan capital is reclassified based on the argument that an independent third party in a similar situation would have refused to make loan capital available (third part of the definition).[111] It is argued that the reference to domestic law should likely be understood as a dynamic reference to the current domestic law, i.e. not the law in force when a specific tax treaty was agreed.[112] Furthermore, as the determination of '*same taxation treatment as income from shares*' may be challenging according to domestic tax law, reference to civil law and company law may be necessary which should still be in accordance with the renvoi-method in Article 3 (2) of the OECD Model.[113]

Furthermore, it should be noted that only income paid by a 'company' according to Article 3 (1) (a) of the OECD Model, i.e. '*any body corporate or any entity that is treated as a body corporate for tax purposes*', may be classified as dividends under Article 10 of the OECD Model. Naturally, this will require a case-by-case assessment of the ICO issuer in each specific ICO, however, in practice, some ICO issuers should be considered as a 'company' for tax treaty purposes.

Finally, the term 'income' in respect of dividends covers benefits in money or money's worth and, therefore, distribution of cryptocurrencies may also be classified as dividends – provided that the conditions that are contained in the definition of a dividend are fulfilled.[114]

Consequently, although highly dependent on the specific rights and obligations associated to equity tokens, it cannot be precluded that return from investments in these tokens may be classified as dividends under Article 10 of the

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[107] Vogel interpreted 'corporate right' to imply a right to benefit from the potential increase in value of the enterprise as remuneration for sharing the business risk which also comprises the potential loss of the invested capital in the image of a regular shareholder, i.e. both a right to participate in the current profits and in the liquidation proceeds; *see* K. Vogel, *Klaus Vogel on Double Taxation Conventions* 651 (Kluwer 1997). This interpretation is widely cited; *see* e.g. Bundgaard, *supra* n. 14, at 149; Lopes Dias, *supra* n. 51, at 121 & 122; Helminen, *supra* n. 96, at 839. The authors argue that limitation of the participation in the liquidation proceeds to a certain percentage is accepted whereas, if the investor is completely barred from claiming liquidation proceeds, the return on investment cannot be classified as dividends according to Art. 10 (3) of the OECD Model. In contrast, *see* Bärsch, *supra* n. 36, at 100. The author argues that, it could be a too narrow interpretation of 'any profit' if participation in current profits is not sufficient and if participation in current profits should not be necessary for the fulfillment of the equity test.

[108] Bundgaard, *supra* n. 14, at 149 & 150. The author states, with respect to the corporate right-test, that *'The vital fault of this test is that is far from clear when an instrument can be said to be sufficiently participating in the profits and liquidation proceeds in order to render dividend treatment under the treaty. Moreover, it appears that the second limb* (i.e. the holder of a corporate right must be entitled to participate in the liquidation proceeds) *of the corporate rights test is solely based on its inherent logic'*. Somewhat similar criticism is given by Lopes Dias; *see* Lopes Dias, *supra* n. 51, at 127.

[109] Lopes Dias, *supra* n. 51, at 147 and Haslehner, *supra* n. 92, at 836.

[110] Bärsch, *supra* n. 36, at 102 and Bundgaard, *supra* n. 14, at 141.

[111] *See* Bundgaard, *supra* n. 14, at 143 and Haslehner, *supra* n. 92, at 840.

[112] Bärsch, *supra* n. 36, at 104; Bundgaard, *supra* n. 14, at 142; Haslehner, *supra* n. 92, at 841.

[113] Bundgaard, *supra* n. 14, at 142.

[114] *See OECD Model: Commentaries to Article 10*, para. 28 (2017). This paragraph cites examples of other benefits in money or money's worth to be treated as dividends: bonus shares (stock dividends), bonuses, hidden distributions of profits (constructive dividends). It is generally accepted that none of the cryptocurrencies known today should be regarded as money or an official currency; *see* e.g. Bal, *supra* n. 12, at 50–53 and Kjærsgaard & Arfwidsson, *supra* n. 12, at 623–625.

OECD Model insofar as the principal value should not be classified as a debt-claim. The arguments are: *firstly*, that the capital typically is substantially unmatched by redeemable assets since the ICO is conducted at a very early stage of the project thus making, in general, the redeemable assets minimal; *secondly*, that the ICO investor's return on investment is – to a varying extent – dependent on the profits of the ICO issuer; *thirdly*, that repayment of the principal amount is subordinated to claims of creditors as the ICO investor in equity tokens – in the case of bankruptcy or termination of the ICO issuer's business or the specific project funded by the ICO – typically have no liquidity preference or simply do not have the right to repayment of the principal amount at all, implying that the ICO investor typically loses everything it has invested; and, *fourthly*, that income derived from 'rights' typically form part of a 'traditional' 'corporate right' although they have been separated therefrom. Such separated rights have previously been argued to fall within the definition of dividends in Article 10 of the OECD Model as the classification of a payment as 'dividends' depends on the rights held by the beneficial owner of the income in relation to the company making the payment (as opposed to relying exclusively on the point of view of the company making the payment in response to an existing but separately owned 'corporate right') and hence this approach seems more consistent.[115]

However, although it cannot be precluded that the return from specific equity tokens should be classified as dividends under Article 10 of the OECD Model, it is argued in this article that the return on investment in equity tokens, in practice, should not be classified as dividend. The arguments for this conclusion are: *firstly.* if applying a stricter interpretation of 'corporate right' (as supported by the majority of legal scholars), return on investments paid to ICO investors in equity tokens that are not entitled to liquidation proceeds – which may be the most common situation in practice as most ICO investors may not have a right to repayment of the principal amount at all – under no circumstances may be classified as dividends[116]; *secondly*, that the return on investment in equity tokens is typically not dependent on 'any profit' of the ICO issuer but instead, e.g. dependent on the revenue of a specific product and not on other sources of revenue of the ICO issuer;[117] *thirdly*, that it has previously been concluded in the international tax literature that return from equity tokens should most likely *not* be subject to the same tax treatment as income from shares under the laws of the residence state of the ICO issuer in the analysed countries.[118]

In the arguably most common situation that a contingent return on investment – not treated in the same way as return on shares for domestic purposes in the source country – cannot be classified as dividends, it may be classified as `other income´ under Article 21 of the OECD Model.[118] This is valid even though it has previously been argued in the international tax literature that the actual scope of Article 21 (1) of the OECD Model is very narrow in respect of more `traditional´ hybrid financial instruments.[120] According to Article 21 (1) of the OECD Model, any income not dealt with in any other articles of the OECD Model shall be taxable only in the state of residence of the recipient, i.e. the ICO investor, wherever the income arises, i.e. the rule has a worldwide scope also covering income from third states.[121] However, it should be noted that Article 21 (3) of the UN Model (2017) – which is especially aimed towards financial instruments – provides that `other income´ *arising* in the source state (i.e. paid by one of its residents),[122] may also be unrestrictedly taxed at source. Hence, only income from third states falls under Article 21 (1) in the UN Model (2017).[123]

3.1.3 *Classification of ICO Investors' Return from Debt Tokens*

Return from debt tokens (e.g. obligation to repay capital raised by the ICO issuer and periodical return on investment) naturally results in association with traditional interest payments paid to corporate bond holders and other creditors. According to Article 11 (1) of the OECD

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[115] Haslehner, *supra* n. 92, at 837. The author further points out that this interpretation may result in compliance issues of the company in respect of whether to withhold dividend tax on the payment.

[116] Kaal & Dell'Erba, *supra* n. 34, at 17 & 18. *See* e.g. Blockshipping's Container Crypto Coins-tokens as a practical example of a security token for which return on investment includes a profit-sharing element, but the ICO investors are not entitled to liquidation proceeds. GSCP, The GSCP ICO White Paper by Blockshipping (May 2018), https://www.blockshipping.io/wp-content/uploads/2018/02/Blockshipping_GSCP_ICO_White_Paper_public.pdf (accessed 7 Apr. 2020).

[117] *See* e.g. Blockshipping's Container Crypto Coins-tokens as a practical example of a security token for which return on investment is dependent only on transactions fees for using the Global Shared Container platform. *See* GSCP, *supra* n. 114.

[118] Kjærsgaard & Arfwidsson, *supra* n. 12, at 628–631.

[118] Kjærsgaard & Arfwidsson, *supra* n. 12, at 628–631.

[120] Bundgaard, *supra* n. 14, at 154.

[121] *See OECD Model: Commentaries to Article 21*, paras 1 and 3 (2017).

[122] *Ibid.*, para. 9.

[123] Furthermore, the Commentary on the UN Model provides for a possible anti-abuse provision to be freely added, i.e. income from 'innovative' or 'non-traditional' instruments may also be taxed at source when the payment exceeds the arm's length amount; *see UN Model: Commentaries to Article 21*, para. 7 (2017) and similar *OECD Model: Commentaries to Article 21*, para. 7 (2017), *see also* Lopes Dias, *supra* n. 51, at 135.

Model, interest payments may be taxed in the recipient's state of residence. However, pursuant to Article 11 (2), interest payments may also be taxed in the source state (i.e. the residence state of the ICO issuer) although such tax shall not exceed 10% if the recipient is the beneficial owner of the gross amount of the interest payment and if the interest payment does not exceed an arm's length interest payment.[124]

The term 'interest' is defined in Article 11 (3) of the OECD Model as:

> *income from debt-claims of every kind, whether or not secured by mortgage and whether or not carrying a right to participate in the debtor's profits, and in particular, income from government securities and income from bonds or debentures, including premiums and prizes attaching to such securities, bonds or debentures.*

In principle, this definition is exhaustive and contrary to the definition of dividend, no reference is made to domestic law thus the definition should only be interpreted autonomously.[125] Hence, reference to domestic law should - according to the general principles on interpretation and Article 3(2) of the OECD Model - only be made after determining whether the term in question is defined either in the tax treaty itself or in its co-text, based on a literal and autonomous interpretation as well as a purposive and contextual interpretation of the strict and broader context.[126]

Based on a literal interpretation of the definition, the decisive part is argued to be the meaning of 'income from debt-claims of every kind'.[127] Moreover, government securities, bonds, and debentures should solely be considered as examples that are explicitly mentioned due to their practical importance, however, without influencing the interest definition as such.[128]

The term 'debt-claims' is not further defined under the OECD Model.[129] Therefore, an autonomous as well as a purposive and contextual interpretation of the context is required. In this respect, it has been argued in the international tax literature that debt-claims should be understood in their broadest sense.[130] However, it is a requirement that there is a legal obligation (valid and – economically – enforceable[131]) between the debtor and a creditor to repay the capital and the payment for lending the capital,[132] i.e. payments made under non-traditional financial instruments when there is no underlying debt cannot be considered interest.[133] Consequently, the prevailing doctrine is that a contingency can never exist in respect of the repayment right in terms of the face value of the amount invested by the lender.[134] Hence, the ICO investor in debt tokens cannot share the *entrepreneurial risk* run by the ICO issuer of debt tokens, i.e. the ICO investor is not required to accept the risk of losing all of the capital invested if the return on investment should be classified as interest under Article 11 of the OECD Model. Notably, the *credit risk* of the ICO investor not being able to enforce the claim because of the ICO issuer's bankruptcy obviously does not affect the classification of the return on investment in this respect.[135]

Further, it is stated in the commentaries of the OECD Model that all of the amount that the ICO issuer pays over and above that paid by the ICO investor (i.e. interest accruing plus any premium paid at the redemption or at

Notes

[124] The term 'beneficial owner' is elaborated in *OECD Model: Commentaries to Article 11*, paras 9.1 & 10.1–10.4 (2017) and, accordingly, the term is not used in a narrow technical sense, rather, it should be understood in its context, in particular in relation to the words 'paid … to a resident' and in light of the object and purposes of the OECD Model, including avoiding double taxation and the prevention of fiscal evasion and avoidance. It should be noted that, despite being subject to extensive analyses in the international tax literature, the term 'beneficial owner' is still highly debated and still not fully settled. For a thorough analysis of the term 'beneficial owner', reference may be had to Meindl-Ringler, *supra* n. 92. *See also* Haslehner, *supra* n. 56, at 910–914 and Duff, *supra* n. 92, at 17–22.

[125] *See OECD Model: Commentaries to Article 11*, para. 21 (2017) and Bundgaard, *supra* n. 14, at 144; Six *supra* n. 99, at 22 et seq.; Lopes Dias, *supra* n. 51; Eberhartinger & Six, *supra* n. 96, at 9.

[126] *Supra* n. 97 and n. 98.

[127] Bundgaard, *supra* n. 14, at 150; Bärsch, *supra* n. 36, at 104 and Haslehner, *supra* n. 56, at 923.

[128] *See OECD Model: Commentaries to Article 11*, para. 18 (2017).

[129] Bundgaard, *supra* n. 14, at 144; Bärsch, *supra* n. 36, at 105 and Six *supra* n. 99, at 22 et seq.

[130] Bundgaard, *supra* n. 14, at 144 and Haslehner, *supra* n. 56, at 923.

[131] *See* Bundgaard, *supra* n. 14, at150–153 and Fehér, *Conflicts of Qualification and Hybrid Financial Instruments*, in *Conflicts of Qualification in Tax Treaty Law* 242 et seq. (M. Lang, E. Burgstaller & K. Haslinger eds, Linde 2008). Fehér argued that »claim« in the context of the definition of interest in Art. 11 (3) OECD Model should (1) involve a legally enforceable claim, (2) be genuine from a legal as well as an economic perspective and (3) the economic risks should reflect those of a debt claim rather than those of equity. Further, Fehér argues that neither do the amount and the calculation of the return on investment have to reflect a 'classic' debt nor is it necessary that the claim is secured or ranked before the claims of others as long as this is reflected in the interest. According to Gaspar Lopes Dias, it can be logically ascertained a legal debt-claim has no substance when there is no actual economic possibility of repayment, i.e. the borrower does not have the capital *and* the profits are not sufficient *and* there is no reliable prospect of gaining either in a foreseeable future, *see* Lopes Dias, *supra* n. 51, at 133. Haslehner suggest to apply the arm's length test, i.e. any amounts that would not have been offered by an unconnected lender would typically be assigned to existing corporate rights, *see* Haslehner, *supra* n. 92, at 841.

[132] Bärsch, *supra* n. 36, at 105; Bundgaard, *supra* n. 14, at 151 and Haslehner, *supra* n. 56, at 923.

[133] *See OECD Model: Commentaries to Article 11*, para. 21.1 (2017), where it is stated that, e.g. interest swaps, unless a loan is considered to exist under a 'substance over form' rule, an 'abuse of right' principle, or any similar doctrine.

[134] Bärsch, *supra* n. 36, at 106. The author argues that the debt-test requires non-contingent entitlement to the repayment of the face value of hybrid financial instruments, but not necessarily of the principal amount, which becomes relevant in case instruments issued at premium. *See also* Lopes Dias, *supra* n. 51, at 123.

[135] Helminen, *supra* n. 96, at 178.

issue) could be classified as interest.[136] In other words, interest encompasses all of the remunerations for making capital available to the ICO issuer.[137] However, as dividends are also remuneration for making capital available, it may sometimes be difficult to distinguish between dividends and interest. Therefore, in order to avoid any possibility of overlap, it is explicitly stated that the term 'interest' as used in Article 11 of the OECD Model does not include items of income that are addressed under Article 10 of the OECD Model, i.e. it should initially be analysed whether return on investment on the token in question falls under the scope of Article 10 of the OECD Model as this would lead to that return not being covered by Article 11 of the OECD Model.[138] However, notwithstanding the wording of the commentaries, the explicit exclusion of debt-claims in the definition of dividends under Article 10 of the OECD Model implies that it – correctly – has been previously argued in the international tax literature that, in principle, it seems necessary to initially ascertain whether the financial instrument comprises a debt-claim. If so, the 'debt-claim-test' may be regarded as the key tie-breaking factor for the distinction between dividends and interest[139] – when adhering to the prevailing doctrine that 'debt-claims' and 'corporate rights' are mutually exclusive.[140]

Finally, it should be noted that the term 'income' in relation to interest is argued to cover funds in money or money's worth as well – especially when the chosen funds follow from agreement or customs – and distribution of cryptocurrencies, therefore, may also be classified as interest provided that a valid and enforceable debt-claim exists.[141]

Consequently, return from investments in debt tokens may be classified as interest under Article 11 of the OECD Model insofar as the ICO investor has a valid and enforceable right to repay the principal value lent to the ICO issuer, and the ICO investor does not share the entrepreneurial risk with the ICO issuer. However, as ICOs are characterized by being conducted at a very early stage of a project, it should be expected that the project generates no income to meet an ongoing obligation for interest payments. A solution to prevent such liquidity issues could be to make the return on investment more equity-flavoured, e.g. dependent on the performance and profitability of the project without the repayment of the underlying dept being at the discretion of the ICO issuer. Such return on investment may be classified as interest under Article 11 of the OECD Model as such hybrid financing is explicitly covered by the definition of interest in Article 11(3) – provided that a valid and enforceable debt-claim exits *and* also that the ICO investor does not participate in the liquidation proceeds.[142] Similarly, a return on investment in debt tokens should normally be classified as interest even if the ICO investor holds the right to convert the debt token into shares – until such conversion has occurred.[143] Further, a return on investments in other equity-flavoured debt instruments, e.g. 'perpetuals' or 'super maturity bonds', has previously been argued to be within the scope of interests under Article 11 of the OECD Model unless other equity characteristics are involved.[144]

In the event that the return on investment cannot be classified as interest under Article 11 of the OECD Model (or dividends under Article 10 of the OECD Model), it may be classified as `other income´ under Article 21 of the OECD Model[145] as also discussed above in section 3.1.2. in respect of equity tokens.

3.1.4 *Classification of ICO Investors' Capital Gains from the Sale of Tokens*

Depending on market demand and supply of equity tokens, debt tokens, and utility tokens, the tokens may increase in value which may earn the ICO investors a return on the investment upon sale of the token.

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[136] *See* OECD Model: Commentaries to Art. 11, para. 20 (2017).

[137] Bundgaard, *supra* n. 14, at 145; Bärsch, *supra* n. 36, at 105; Lopes Dias, *supra* n. 51, at 122; Haslehner, *supra* n. 56, at 924 and Six *supra* n. 99, at 22 et seq.

[138] *See OECD Model: Commentaries to Article 11*, para. 19 (2017).

[139] Lopes Dias, *supra* n. 51, at 129 and Bundgaard, *supra* n. 14, at 153.

[140] Lopes Dias, *supra* n. 51, at 128; Bundgaard, *supra* n. 14, at 150 and Haslehner, *supra* n. 56, at 927. S.E. Bärsch, *The Definitions of Dividends and Interest Contained in the OECD Model, Actual Tax Treaties, and the German Model*, 42(6/7) Intertax 437 (2014); Eberhartinger & Six, *supra* n. 96, at 10 and Six *supra* n. 99, pat 22 et seq.

[141] *See* para. 5 of the OECD Commentary to Art. 11, *see* however Haslehner, *supra* n. 56, at 904 & 905 in respect of accrued interest and non-monetary funds. Further, it is generally accepted that none of the cryptocurrencies known today should be regarded money or an official currency, *See* e.g. Bal, *supra* n. 12, at 50–53 and Kjærsgaard & Arfwidsson, *supra* n. 12, at 623–625.

[142] *See OECD Model: Commentaries to Article 11*, para. 18 (2017). Bundgaard, *supra* n. 14, at 366 & 367. The author contends that, according to the Corporate Rights Test, an instrument with a profit-participating right *as well as* a right to participate in the liquidation proceeds of the issuer does not yield income from debt-claims in terms of Art. 11 (3) OECD Model because the terms 'income from corporate rights' and 'income from debt-claims' with respect to the OECD Model are mutually exclusive.

[143] *See OECD Model: Commentaries to Article 11*, para. 19 (2017).

[144] Bundgaard, *supra* n. 14, at 302. The author argues that the term 'debt claims' should be understood in its broadest sense and that the perpetual instrument does, in fact, represent a right to redemption for the holder even though the actual redemption may be postponed or never take place.

[145] Notably, Art. 7 OECD Model can be ignored if the ICO investor does not conduct business through a permanent establishment in the residence state of the ICO issuer or the interest is not effectively connected to this permanent establishment; *see* e.g. Bundgaard, *supra* n. 14, at 138; Bärsch, *supra* n. 36, at 94 and Eberhartinger & Six, *supra* n. 96, at 7.

The return on investment from the sale of the full right and ownership of the tokens and their incorporated economic attribute should typically be classified as capital gains according to Article 13 (5) of the OECD Model and, accordingly, only the residence state of the selling ICO investor can tax the return on investment – assuming that the capital gains may not be attributed to a permanent establishment of the selling ICO investor. However, it may be argued that the facts and circumstances of the ICO investor selling tokens may imply that the return on investment from the sale of tokens should be classified as business income under Article 7 of the OECD Model if the tokens are not considered to be the source for income but, instead, the income itself obtained through the continuous sale of tokens with a profit-making purpose or motive as part of the current business operations. Stated differently, return on investment from the sale of tokens should be classified as business income under Article 7 of the OECD Model if trading with tokens is conducted in the same manner as a plantation selling apple trees instead of apples from the apple trees – as further discussed above in section 3.1.1.

Nevertheless, the practical outcome (of classification as business income under Article 7 or capital gains under Article 13 (5) of the OECD Model) is similar – i.e. only the residence state of the selling ICO investor may tax the return on investment in the absence of a permanent establishment of the selling ICO investor to which the return on investment may be attributed.

4 Conclusion

Despite being in its infancy, blockchain technology and its five main principles of the fundamental architecture (constant distribution of data, peer-to-peer transmission, transparency, irreversibility, and computational logic) is argued to have the potential to create economic value to businesses beyond its common association with cryptocurrencies. However, in practice, concerns related to data protection and confidentiality tend to imply that companies and institutions prefer permissioned and private blockchains that allow for greater control and privacy but, in reality, are more comparable to a traditional shared database. Nonetheless, one of the most common and debated use cases of blockchain technology up until now is ICOs which is a phenomenon that, through the main principles of blockchain technology, enables a cost-efficient and inclusive means of raising capital without the need for intermediaries. However, this new method of raising capital imposes a number of legal uncertainties, inter alia concerning how the taxing right to payments related to ICOs should be allocated for tax treaty purposes.

Based on the analysis conducted in this article, the capital raised through the issuance of debt tokens should generally not be considered as 'income' under domestic tax law and, therefore, not relevant for tax treaty allocation purposes insofar as they represent a valid and enforceable debt-claim. On the contrary, capital raised through issuance of other tokens should generally be regarded as 'income' or 'illusory gains' for domestic tax purposes and hence may be relevant for tax treaty allocation purposes if such capital is considered taxable in the contracting states. In terms of tax treaty classification, payments received from the issuance of utility tokens in ICOs should be classified as royalty under Article 12 of the OECD Model only if the utility token represents a prepaid right to use intangibles covered by the definition of royalties in Article 12 (2) of the OECD Model, implying shared taxing right according to many bilateral tax treaties. If the conditions for classification as royalties is not fulfilled, such capital should be classified as business income under Article 7 of the OECD Model and hence only be taxable in the residence state of the ICO issuer in the absence of a permanent establishment in the residence state of the ICO investor. Similarly, capital raised through the issuance of equity tokens should only be taxable in the residence state of the ICO issuer as such capital should likely be classified as capital gains under Article 13 (5) of the OECD Model provided that the ICO issuer does not conduct professional business with the sale of tokens and similar assets.

Consequently, if comparing the allocation of taxing rights to capital raised through the issuance of 'traditional' securities and hybrid financial instruments – generally assumed to be classified as either debt or equity – to the allocation of taxing rights to capital raised through the issuance of tokens, the former implies exclusive right to tax for the tax residence state of the issuer, whereas the latter in some situations may imply a shared taxing right between the tax residence state of the ICO issuer and the ICO investor.

From the perspective of the ICO investor, the return on investment in equity tokens should typically not, in practice – despite common characteristics – be classified as dividends under Article 10 of the OECD Model as 'share in any profit' under the 'corporate right test' arguably refers to the overall profit of the ICO issuer and not inter alia revenue or profit from the project specifically funded by the ICO; further, because ICO investors will typically not be entitled to liquidation proceeds; and, finally, because the return on investment should not typically be subject to the same taxation as income from shares under the domestic laws of the ICO issuer. However, theoretically, it cannot be precluded that return on specific equity tokens may be classified as dividend under Article 10 of the OECD Model implying shared taxing rights between the resident and source state.

Insofar as a return on investment in tokens does not constitute dividend according to Article 10 of the OECD Model, it may be classified as interest under Article 11 of the OECD Model if the ICO issuer has a valid and enforceable obligation to repay the face value of the capital, i.e. the ICO investor does not share the entrepreneurial risk with the ICO issuer. However, as ICOs are characterized by being conducted at a very early stage of a project, a repayment obligation and ongoing fixed interest payment may not be the preferred means of raising capital for the ICO issuer compared to more equity-flavoured financial instruments. Yet, even return

on investments in these instruments, e.g. performance or profitability-dependent return or return on investment in convertible debt instruments, may be classified as interest under Article 11 of the OECD Model – provided that a valid and enforceable debt-claim exists. In the event that the return on investment should be classified as interest, Article 11 of the OECD Model provides for shared taxing rights between the residence state and the source state.

Consequently, based on the analysis conducted in this article, it seems likely that – opposed to a return on investments in more a 'traditional' hybrid financial instrument – the return on investments in equity tokens and debt tokens, in practice, should often be classified as `other income´ under Article 21 of the OECD Model as such tokens typically do not grant the ICO investor a right to share in any profit and liquidation proceeds nor will they always impose a valid and enforceable repayment obligation on the ICO issuer. The practical consequence is that source countries, i.e. the ICO issuers' countries of tax residence, to a greater extent, will be precluded from taxing the return paid to foreign ICO investors compared with return paid on more 'traditional' hybrid financial instruments. Hence, the costs and time spent on receiving tax relief from source taxation may be avoided if investing in tokens. Further, tax relief in the ICO issuers' countries of tax residence may be subject to complex domestic regulation such as the net principle which, in addition to the challenges of allocating costs, de facto may imply double taxation if source taxation is imposed as gross taxation.

On this basis, it is argued that the classification of return on investments in tokens may be somewhat less complicated than the classification of return on investments in more 'traditional' hybrid financial instruments. The argument is that the challenges of classifying return on investment in tokens are – in practice – allegedly limited to the demarcation of interest under Article 11 of the OECD Model as it is argued that return on investment in tokens – if not classified as interest under Article 11 of the OECD Model – generally should be classified as `other income´ under Article 21 of the OECD Model. Conversely, the challenges of classifying a return on investment in more 'traditional' hybrid financial instruments is typically the delineation between dividends under Article 10 and interest under Article 11 of the OECD Model and (less commonly) capital gains and `other income´ under Article 13 and Article 21 of the OECD Model, respectively.

Finally, it is likely that only the residence state of the ICO investors will have the right to tax gains from the sale of tokens to other investors as the transfer of full rights and ownership should likely be classified as capital gains according to Article 13 (5) of the OECD Model.

In conclusion, the overall research question presented in section 1 of this article; how to allocate the taxing right to payments in ICOs and the subsequent return on investment according to the OECD Model, is answered as summarized in table 1 while assuming that the payments are not attributable to a permanent establishment.

Table 1 Summary of the Findings on How to Allocate the Taxing Right to Payments in ICOs and the Subsequent Return on Investment According to the OECD Model

	Equity Tokens	**Debt Tokens**	**Utility Tokens**
ICO Issuer	Capital gains (Article 13 (5)) Modifications: if part of professional and commercial business (Article 7) *= Tax residence state of the ICO issuer has exclusive right to tax*	If valid and enforceable obligation to pay back, no 'income' has been realized	Business income (Article 7) Modifications: If right to use certain intangibles (Article 12) *= Tax residence state of the ICO issuer has exclusive right to tax unless royalty which implies shared right to tax under many bilateral tax treaties*
ICO Investor	Other income (Article 21) Capital gains (Article 13 (5)) when sold Modifications: if part of professional and commercial business (Article 7) *= Tax residence state of the ICO investor has exclusive right to tax*	Interest (Article 11) vs. other income (Article 21) Capital gains (Article 13 (5)) when sold Modifications: if part of professional and commercial business (Article 7) *= Tax residence state of the ICO investor has exclusive right to tax unless interests which implies shared right to tax*	Capital gains (Article 13 (5)) when sold Modifications: if part of professional and commercial business (Article 7) *= Tax residence state of the ICO investor has exclusive right to tax*

5 Wider perspectives and considerations de lege ferenda

The practical significance of the OECD Model and its method of classification and assignment of source implies that a clear delineation between the different categories of income is of substantial importance in today's international tax regime. Yet, it is argued in this article that this current distinction is ambiguous and that it comes with costs due to the complexity, uncertainty, and opportunity for international tax arbitrage. These challenges and their associated costs have previously been discussed and criticized in the international tax literature on more 'traditional' hybrid financial instruments.[146] However, although the challenges may be considered as simpler compared to other hybrid financial instruments, it is argued that, due to the specific facts and circumstances of ICOs, some of the challenges and associated costs have even more negative effects in the context of ICOs. The exacerbated negative effects relate to the ever-evolving transformation of the financial markets, which has previously been described in terms of the changing role of investment (i.e. from privately and closely held corporations to portfolio investments) and the changing structure of intermediation (i.e. from commercial banks to institutional investors such as pension funds).[147] However, disintermediation being one of the main principles of blockchain technology is argued to add a new chapter to the transformation of the financial markets. In other words, the lack of professional intermediaries combined with the borderless nature as well as cost-effective and inclusive features of blockchain technology – as typically applied in ICOs – imply that micro-investors all around the world can participate directly in ICOs. Yet, such ICO investors may not possess or even be aware of the necessary knowledge within the field of international tax law to comply with the complex rules concerning the classification of payments in ICOs. Furthermore, the fact that there is no intermediary to perform this analysis and to split the associated costs between multiple ICO investors also imply that each ICO investor may have to bear the financial costs of obtaining legal advice from international tax specialists in order to be compliant for tax purposes.

Another consequence of the disintermediation and borderless nature of blockchain technology is that start-ups issuing cryptocurrencies through an ICO – depending on the classification of the capital – can be exposed to source taxation globally and hence become global multinationals for tax purposes even before they have a commercialized product or service. Such start-ups may – similar to micro-investors – be unaware of the potential tax consequences, and the complexity may require professional tax expertise at a level that they do not possess or have the resources to acquire at that point of the business' life-cycle.

Arguably, two scenarios seem plausible. The ICO investors and ICO issuers may (unknowingly) assume a significant tax risk, and source states may not be aware of potential tax revenue that they have the right to tax according to bilateral tax treaties similar to the OECD Model. The other scenario is that the high complexity and legal uncertainty may prevent companies from conducting and ICO investors from participating in cross border ICOs – despite the economic value that such a manner of raising capital is argued to create.

On this basis, it is contended that international tax law as its stands *de lege lata* violates the fundamental principle of legal certainty that requires the law to be clear, easily accessible, and comprehensible as well as to create a balance between stability and flexibility.[148] Although it is recognized that it is not possible to eliminate all uncertainties in law, it has been argued that policymakers should persistently strive to minimize legal uncertainty as the alternative risks distorting the functioning of the market.[149] Nonetheless, it is argued that the OECD Model is currently in need of improvement in the context of defining its scope with regards to payments related to ICOs.

It is further argued that failure to provide clarification in respect of the classification of payments related to ICOs will have – and has already had – a negative impact on the level of ICOs. The urgent need for action from policymakers is proven by the fact that the level of ICOs has been decreasing since 2018, inter alia as a consequence of ambiguous regulations or even a lack of regulations within some fields of law.[150] Likely, as a result of the reluctance to provide regulatory guidance, so-called security token offerings (hereinafter STOs) have experienced a growing interest, being marketed as a more regulated means of raising capital compared to ICOs – by relying on traditional types of securities while still (to some extent) benefitting and creating economic value from the main principles of blockchain technology.[151]

Although there is no internationally accepted definition of STOs, the phenomenon has previously been described as tokenized versions of conventional securities, e.g. share certificates or bonds for which the tokenization bring these digital assets onto a secondary 'on-chain' market based on decentralized

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[146] *See* e.g. Bundgaard, *supra* n. 14, at 9–11 and Ch. 12, Tax Policy Considerations, in which the author provides a review of existing literature and theoretical tax policy considerations in the context of more traditional hybrid financial instruments.

[147] Bärsch, *supra* n. 36, at 14 & 15.

[148] D. Weber & T. Sirithaporn, *Legal Certainty, Legitimate Expectations, Legislative Drafting, Harmonization and Legal Enforcement in EU Tax Law*, in: *Principles of Law: Function, Status and Impact in EU Tax Law*, GREIT Series (C. Brokelind ed., IBFD 2014), and G. T. Pagone, *Tax Uncertainty*, 33(3) Melb. U. L. Rev. 887 (2009), citing S. Joseph & M. Castan, *Federal Constitutional Law: A Contemporary View* 6 (Law Book Co. 2006) and J. Raz, *The Rule of Law and Its Virtue*, 93(2) L. Q. Rev. 198–202 (1977).

[149] Weber & Sirithaporn, *supra* n. 146, and Pagone, *supra* n. 146, citing Joseph & Castan, *supra* n. 146, and Raz, *supra* n. 146.

[150] See OECD, *The Tokenisation of Assets and Potential Implications for Financial Markets, OECD Blockchain Policy Series* 10 (OECD Publishing 2020).

[151] *Ibid.*, at 13, *see* s. 2.1.2. in regard to the main principles of blockchain technology.

ledger technology that is typically in the form of blockchain technology.[152] Tokenized securities can be either directly issued on the blockchain if domestic corporate legislation allows for this[153] or issued as conventional securities that are tokenized in a second stage.[154]

Consequently, STOs may provide the means of raising capital and trading securities that are more comparable to the conventional methods generally used today[155] while still allowing for efficiency gains through disintermediation and automatization by deploying blockchain technology and its main principles – although the significance of the main principles is still dependent on the consensus mechanism and the underlying governance structure. Further, the tokenization of securities – similar to ICOs – permits fractional ownership of the tokenized securities and thereby allows for access that is more inclusive of small investors. It also enables global pools of capital to reach parts of the financial markets previously reserved for large and professional investors while still allowing investors to diversify their investments and potentially making securities issued by small and medium sized enterprises more liquid and thereby attractive to more investors.[156]

However, from the perspective of the issuer, STOs – compared to ICOs – are not as cost-efficient as the issuer should still comply with all existing regulations for issuing conventional securities and the costs associated with this process. In addition, the STO issuers also have to bear the costs associated with tokenizing the securities. Another disadvantage of STOs compared to ICOs is that, from the perspective of the issuer, it should be expected that STOs are conducted at a later stage of the business life-cycle compared to ICOs as a consequence of having to comply with existing regulation for issuing conventional securities and incurring the associated costs. To sum up, a change from raising capital through ICOs to STOs does not come without costs despite that some economic value may still be created through the main principles of blockchain technology.

From a tax perspective, it could be argued that, whereas equity tokens, debt tokens, and utility tokens are new products representing pre-defined rights and obligation on the ICO investor and the ICO issuer, tokens issued through STOs represent ownership of traditional securities complying with existing regulation, i.e. issuing and transacting tokenized securities do not create new products as it is the form and not the substance of the product that changes through tokenization. This interpretation seems to be in accordance with the general principle of neutrality as discussed above. On the other hand, it could be argued that, if securities are issued through the conventional method and tokenized in a second stage, the tokenized security could be more comparable to so-called Global Depositary Receipts[157] which have previously been subject to debate in the international tax literature regarding classification of such certificates.[158] Consequently, although tokenization of securities may be argued to benefit less from regulatory arbitrage compared to the ICO market, the extent to which current regulation including domestic and international tax law is sufficiently encompassing any and all aspects of tokenization processes and practices is still debated and should be subject to further analysis and potential political action if the full potential should be achieved.[159]

In conclusion, despite the fact that market and technological development is attempting to adapt to existing regulation, clarity on the applicable regulatory framework, including domestic and international tax law, is of paramount importance if the potential of economic value should be achieved.[160] Further, it is argued in this article that failure to provide such clarification will have negative impacts possibly going beyond ICOs and the financial market as it is argued that the promotion and development of blockchain-based solutions in general may also be negatively impacted. In other words, there could be fear that, if the general understanding is that the regulation of blockchain-based solutions is highly

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[152] See OECD, *supra* n. 148, at 13.

[153] The Delaware General Corporation Law was amended 1 Aug. 2017 to allow corporations to maintain shareholder lists and other corporate records using blockchain technology; *see* USA: Senate Bill 69 – An Act to Amend Title 8 of the Delaware Code Relating to the General Corporation Law.

[154] See OECD, *supra* n. 148, at 15.

[155] *Ibid.*, at 14. It is stated that the electronification of financial markets and the use of automation for the issuance and trading of financial instruments is not new; securities have existed in electronic-only format for a long time.

[156] See OECD, *supra* n. 148, at 16 & 17.

[157] American Depositary Receipts are negotiable certificates issued by a bank of the United States that represent the property rights of the holder of said certificates over shares issued by a foreign company whose shares are traded on the foreign local public stock market. Such negotiable certificates can also be referred to as American Depository Receipts or Shares, New York shares, and EURO Depository Receipts.

[158] *See* e.g. V. Salvadori di Wiesenhoff & R. Egori, *2013 Italian Financial Transaction Tax*, 15(2) Derivatives & Fin. Instruments 2 (2013); V. Salvadori di Wiesenhoff, *Update on Financial Transaction Tax*, 15(6) Derivatives & Fin. Instruments (2013) and the same in V. Salvadori di Wiesenhoff, *Italian Financial Transaction Tax Implications of the Evolving Regulatory Landscape: The Post-MiFID II Financial Market Ecosystem*, 20(6) Derivatives & Fin. Instruments (2018) and V. Salvadori di Wiesenhoff, *Brexit: Deal or No Deal? Regulatory and Tax Implications for the Banking and Financial Services Industry – Part II* 21(6) Derivatives & Fin. Instruments (2019). F. Rubinstein and S. Samaha, *Taxation of Investments on the Brazilian Capital Market: New Tax Incentives and Recent Changes*, 17(3) Derivatives & Fin. Instruments (2015); R.-A. Papotti & M. Gusmeroli, *Italian FTT in Practice: Issues and Solutions*, 19(4) Derivatives & Fin. Instruments (2017); A. Czollak & F. Yáñez, *The Impact of the New General Anti-Avoidance Rules on the Assessment of Hybrid Financial Instruments and Entities*, 21(5) Derivatives & Fin. Instruments (2019); S. Suffiotti & C. Masihy, *Recent Developments in the Taxation of Indirect Share Transfers in South America: Lessons and Challenges from Chile, Colombia, Peru and Uruguay*, 73 Bull. Int'l Tax'n 9 (2019).

[159] See OECD, *supra* n. 148, at 18.

[160] *Ibid.*, at 40 & 41.

uncertain and, therefore, imposes a significant regulatory risk on all participating parties, this may imply that such opportunities are delayed or even rejected. Hence, although the majority of initiatives today focus on improving existing process flows,[161] it has been argued that blockchain technology may have the potential to facilitate new decentralized business models benefitting from the main principles of blockchain by applying permissionless and public blockchain, e.g. highly centralized business models of cloud computing service providers and intermediary platforms within the sharing economy.[162] In absence of political action, the adoption of new technologies such as blockchain technology will decelerate or even fail.

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[161] Critics point out that, for many of these projects, the immediate benefits come from digitization and process redesign but not blockchain technology. *See* e.g. A. Forrester, *Emerging Technology Projection: The Total Economic Impact™ Of IBM Blockchain*, Study Commissioned by IBM 4 (July 2018).

[162] *See* e.g. E. Gaetani et al., *Blockchain-Based Database to Ensure Data Integrity in Cloud Computing Environment*, Proceedings of the First Italian Conference on Cybersecurity (ITASEC17) (2017), https://eprints.soton.ac.uk/411996/ (accessed 13 Mar. 2020). S. Huckle et al., *Internet of Things, Blockchain and Shared Economy Applications*, 98 Procedia Computer Science 461–466 (2016).