Regulation of security tokens as financial instruments in the EU: is there a need for amendments?

BACHELOR THESIS

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DECLARATION OF HONOUR:

I declare that this thesis is my own work, and that all references to, or quotations from, the work of others are fully and correctly cited.

(Signed) ………………………………….

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ABSTRACT

In 2020 the European Commission proposed laws on crypto-assets and DLT. The EU treats security tokens as financial instruments, provided that they fall into the MiFID II definition. This Thesis aims to provide classification for crypto-asset as a financial instrument, to identify regulatory gaps in the EU legislation applicable to crypto-assets that qualify as financial instruments (security tokens), and to provide recommendations in relation to security tokens regulation in the EU.

The results indicate that Amending Directive will harmonize the procedure for classification of a crypto-asset as a financial instrument across the EU, but the requirement for the expected profit to be derived from the efforts of others should be added to the security tokens criteria. Only MiFID II authorization or specific permission under PilotR allows CASPs to deal with security tokens. PilotR exemptions might motivate more CASPs to become authorized DLT market infrastructures. Thesis recommends warning investors about the risks, and NCAs should assess the compliance of PSPs listed on DEXs' websites. The application of PR to STOs is reasonable as issuers have non-costly options in relation to territorial limitations. SSR rules must be incorporated into MiCA.

Keywords: security token, crypto-asset, financial instrument, EU financial law, STO, DLT

SUMMARY

This Thesis investigates the EU regulation of crypto-assets that qualify as financial instruments under MiFID II. The author sets the following research questions: 1) What is and/or what should be the procedure for classification of a crypto-asset as a financial instrument under MiFID II? 2) What are the gaps in the EU financial law applicable to crypto-assets that qualify as financial instruments under MiFID II? 3) How could the EU financial law be amended in order to mitigate the risks raised by crypto-assets that qualify as financial instruments under MiFID II and to facilitate technological and economic development in the EU?

The Thesis consists of three chapters. The first chapter is dedicated to setting the research background that includes definitions, comparison of concepts and research outstanding. There has been lack of unified definition of the latter, but MiCA defined crypto-asset together with other relevant terms. A widely accepted classification of crypto-assets was also adopted by the EU; it divides crypto-assets into payment tokens, utility tokens, and security tokens. The latter class of crypto-assets grants investors rights similar to financial instruments and must comply with the EU financial law the same as financial instruments. Crypto-market infrastructure does not require a central party in contradistinction to the FMI. Security tokens are associated with higher risks compared to financial instruments. The is lack of up-to-date assessment of the EU financial law applicable to security tokens that would consider all legislative proposals of 2020. However, there was a consensus among researchers that the definition of financial instrument must be harmonized across the EU for the purposes of security tokens classification.

The second chapter is dedicated to comparison of guidelines of Member States and case study as well as to analysis of the EU legislation related to crypto-assets and financial instruments. Member States with progressive views on crypto-regulation tend to issue clearer guidance on the procedure for classification of a crypto-asset as a financial instrument. There is also a correlation between clear guidelines and a smooth STO process. Some issuers that do not wish to comply with securities laws' requirements can pretend to issue utility tokens, when they issue security tokens. The chapter then, firstly, covers the legislative proposals in the field of crypto-assets and DLT. Secondly, it analyzes the EU financial law from the perspective of security tokens.

The third chapter provides answers to the research questions posed by synthesizing the theory and legal analysis. There has been no unified procedure for classifying security tokens in the EU but Amending Directive will help to harmonize it by enshrining DLT financial instruments within MiFID II definition of financial instrument. The identified criteria for classification of security tokens must be supplemented with the requirement for the expected profit to be derived from the efforts of others. Then, the issues of the EU legislation are addressed. For CASPs to trade security tokens, they must be either authorized under MiFID II or apply for a specific permission under PilotR. Exemptions form MiFID II requirements can motivate more CASPs to become authorized DLT trading venues. DEXs should not be banned, instead there is a need to warn investors about the related risks, and PSPs listed on DEXs' websites should be inspected by NCAs for AML compliance. PR is appropriate for application to STOs, since issuers have non-costly options in relation to territorial limitations. Finally, SSR

rules must be implemented into MiCA in order to mitigate the risks of unacceptable market practices involving all classes of crypto-assets.

The conclusion summarizes the analysis of all three chapter. There are only two proposals amending the EU financial law: regarding the criteria for determining which crypto-assets qualify as financial instruments and amendments to MiCA related to SSR. Most proposals concern non-legislative measures or no measure at all being needed. The conclusion also summarized and discussed implications on and options available to issuers of security tokens and CASPs.

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LIST OF ABBREVIATIONS

AMD	Anti-Money Laundering Directive
AML	Anti-money laundering
BaFin	Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht) (Germany)
BoL	The Bank of Lithuania (Lietuvos bankas)
CASP	Crypto-asset service provider
CEX	Centralized exchange
CSD	Central securities depository
CSDR	Central Securities Depositories Regulation
DAO	Decentralized autonomous organization
DeFi	Decentralized Finance
DEX	Centralized exchange
DFS	Digital Finance Strategy
DLT	Distributed ledger technology
DORA	Regulation on digital operational resilience for the financial sector
EBA	European Banking Authority
EFSA	Estonian Financial Supervision Authority (Finantsinspektsioon)
ESMA	European Securities and Market Authority
EU	European Union
FATF	Financial Action Task Force
FCMC	Financial and Capital Market Commission (Finanšu un kapitāla tirgus komisija) (Latvia)
FinCEN	Financial Crime Enforcement Network
FMI	Financial Market Infrastructure
ICO	Initial Coin Offering
ICT	Information and Communication Technology
IDO	Initial DEX Offering
IEO	Initial Exchange Offering
IFO	Initial Farm Offering
IPO	Initial Public Offering
KNF	Polish Financial Supervision Authority (Komisja Nadzoru Finansowego)

KWG	German Banking Act (Gesetz über das Kreditwesen)
MAR	Market Abuse Regulation
MiCA	Markets in Crypto-Assets Regulation
MiFID II	Markets in Financial Instruments Directive
MiFIR	Markets in Financial Instruments Regulation
MSB	Money Services Business
MTF	Multilateral trading facility
NCA	National Competent Authority
OTF	Organized trading facility
PilotR	Regulation on a pilot regime for market infrastructures based on distributed ledger technology
PR	Prospectus Regulation
PRoIFR	Regulation on prudential requirements of investment firms
PSoIFD	Directive on the prudential supervision of investment firms
PSP	Payment service provider
SEC	Securities and Exchange Commission
SFR	Settlement Finality Regulation
SMA	Securities Market Act (Estonia)
SME	Small and medium enterprise
SS	Settlement system
SSR	Short Selling Regulation
STO	Security Token Offering
TD	Transparency Directive
TSS	Trading and settlement system
UK	United Kingdom
U.S.	United States

INTRODUCTION

The regulation of a crypto-market has been a recognized topic since around 2013[1], where both the technologies underlying the crypto-market and the discovered gaps in regulations evolve quickly. While some states make radical decisions on crypto-regulation[2], the EU resorts to a path of innovation-friendly but precautious regulation. The European Commission (Commission) makes great steps towards the comprehensive and clear crypto-market regulation by issuing the proposals for the Regulation on Markets in Crypto-assets (MiCA), for the Regulation on a pilot regime for market infrastructures based on distributed ledger technology (PilotR), for the Regulation on digital operational resilience for the financial sector (DORA), and for the Amending Directive as part of its digital finance strategy (DFS).

The proposal on MiCA covers many crypto-assets and provides for authorization requirements for issuers and crypto-asset service providers (CASPs); however, MiCA excludes from its scope of application financial instruments, i.e., crypto-assets identifiable as financial instruments or security tokens. Regulation of security tokens should be one of the priorities of regulators, since the market for them grows rapidly. Security Token Offerings (STOs) firstly emerged in 2017, when there were only 2 of them that raised around USD 22 million in total, but in 2018 the amount raised increased almost by 2000% with the number of STOs increased fourteen times.[3] Although the second half of 2019 did not show any significant growth in STO market[4], many researchers forecast a compound annual growth rate of more than 20% (up to 85%) in upcoming years.[5]

Under the EU regulation, security tokens are subject to the existing EU law applicable to financial instruments. However, many unclarities arise in connection to such regulation, e.g., how to determine that a particular crypto-asset is a financial instrument and who must determine it? These unclarities confuse CASPs and issuers of tokens which may result in their losses in case they do not comply with some requirements of the EU financial law. Moreover, not differentiating between financial instruments and security tokens might be incorrect. What is

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[1] The oldest articles regarding cryptocurrency regulation on HeinOnline and Kluwer Law Online are from 2013-2014.

[2] *See*, *e.g.*, "China Declares All Crypto-Currency Transactions Illegal," *BBC News*, accessed September 24, 2021, sec. Technology, https://www.bbc.com/news/technology-58678907; and "El Salvador Becomes First Country to Make Bitcoin National Currency, and Then It Hit a Snag," Associated Press, accessed September 28, 2021, https://www.usatoday.com/story/money/2021/09/08/bitcoin-becomes-el-salvadors-national-currency/5767198001/.

[3] PwC, 4th ICO / STO Report, 2019, accessed May 17, 2022, p. 6. Available on: https://cryptovalley.swiss/wp-content/uploads/ch-20190308-strategyand-ico-sto-report-q1-2019.pdf.

[4] PwC, 6th ICO / STO Report, 2020, accessed May 17, 2022, pp. 1, 6. Available on: https://www.pwc.ch/en/publications/2020/Strategy&_ICO_STO_Study_Version_Spring_2020.pdf.

[5] *See* Data Bridge Market Research, "Global Tokenization Market – Industry Trends and Forecast to 2029," (2022), accessed May 17, 2022, extract available on: https://www.globenewswire.com/news-release/2020/06/11/2047125/0/en/Tokenization-Market-Will-Rise-at-the-CAGR-22-45-with-Top-Competitors-First-Data-Corporation-Gemalto-Fiserv-and-Others.html; Markets and Markets, "Tokenization Market by Component, Application Area (Payment Security, User Authentication, and Compliance Management), Tokenization Technique, Deployment Mode, Organization Size, Vertical and Region - Global Forecast to 2026," (2022), accessed May 17, 2022, extract available on: https://www.marketsandmarkets.com/Market-Reports/tokenization-market-76652221.html?gclid=CjwKCAjw26H3BRB2EiwAy32zhSbeVbca2GHoSyZSp0ge1UPVkfJrITd9WqwE-ntgaB0pJVQ8PbVFpxoCjJkQAvD_BwE; Benjamin Schaub et al. (Plutoneo), "Tokenization in Europe — Market Size to Reach €1.4trn in 2024," *Medium* (2020), accessed May 17, 2022, available on: https://plutoneoam.medium.com/tokenization-in-europe-market-size-to-reach-1-4trn-in-2024-90238edaff73; Jay Han et al. (Chain Partners Research), "Security token (STO) analysis," (2019), accessed May 17, 2022, available on: https://www.finyear.com/attachment/1338789/.

the point of making a STO instead of Initial Public Offering (IPO) if both are regulated the same? The requirements of the EU financial law may be too burdensome for those operating with security tokens and not securities themselves.

The European Parliament itself recognized the need in clarifying the application of the EU financial law to security tokens and considered three options in relation to that: 1) non-legislative measures which include guidance as to which crypto-assets qualify as financial instruments under Markets in Financial Instruments Directive (MiFID II) and guidance for application of current EU financial law; 2) targeted amendments to sectoral legislation in order to remove obstacles to the use of distributed ledger technology (DLT) and address new risks associated with DLT; 3) pilot/experimental regime for creating DLT market infrastructure for security tokens which would allow some innovative business models the use of permission-based and permission-less DLT.[6] The EU resorted to option two by issuing proposals for Amending Directive and DORA, and to option three by issuing PilotR which should make the EU law applicable to security tokens more appropriate for DLT market infrastructures. However, up-to-date guidance on the procedure for classification of crypto-assets as financial instruments is still lacking.

This Thesis focuses on the problem of the regulation of crypto-assets that qualify as financial instruments in the EU. In particular, on the classification of a token as a security and on the regulatory gaps in the existing and developing EU financial law applicable to security tokens. Analysis of the existing practice in this field and understanding of differences between security tokens and financial instruments can help to create a better guidance for CASPs and issuers as well as to indicate the direction for regulators in this field.

The author refers to a doctrinal legal research methodology in order to define the EU laws applicable to a crypto-market, especially to security tokens, and uses analytical legal research method to identify the most relevant provisions of the law. Doctrinal legal research method is also used to understand what the application of the EU financial law to security tokens entails and, in case of inefficiencies in such application, to find a solution for them. Moreover, 'black letter' methodology is referred to for the definitional purposes. Conceptual legal research method underlines the first chapter where the author discusses already present information and results of the research outstanding. The author uses a combination of descriptive and comparative legal research methodologies in order to compare the procedures for classification of a crypto-asset as a financial instrument (guidelines and case study of real-life examples) in different jurisdictions. In particular, the methodology helps to determine whether such procedure exists in writing at all and if it does, then where it is clearer. These findings are useful for suggesting the EU the most optimal harmonized procedure. Analytical legal research method is used in the third chapter for forming an opinion and finding a solution to the research questions posed.

The research questions are as follows: 1) What is and/or what should be the procedure for classification of a crypto-asset as a financial instrument under MiFID II? 2) 2) What are the gaps in the EU financial law applicable to crypto-assets that qualify as financial instruments under MiFID II? 3) How could the EU financial law be amended in order to mitigate the risks

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raised by crypto-assets that qualify as financial instruments under MiFID II and to facilitate technological and economic development in the EU?

The aim of this Thesis is to provide guidance on the procedure for classification of a crypto-asset as a financial instrument, to identify regulatory gaps in the EU legislation applicable to security tokens, and to provide recommendations in relation to security tokens regulation in the EU. The objectives for the achievement of the mentioned aims are as follows: to clearly indicate the substantial difference between security tokens and financial instruments; to compare the procedure for classification of a crypto-asset as a security in different jurisdictions; to analyze the EU financial law present and in the development stage; to propose amendments to the existing legislation based on all these findings.

The research is limited to crypto-assets that qualify as financial instruments under MiFID II, but does not propose a treatment for tokens that fall within several categories at the same time (e.g., how to treat a token that has features of both payment and financial instruments). The Thesis also covers only EU financial law applicable to financial instruments; it excludes tax law applicable to financial instruments and crypto-assets, notwithstanding of their category.

This Thesis consists of 3 chapters. In the first chapter the author provides definitions relevant for the research, explains the structure and infrastructure of a crypto-market comparing with those of a financial market and compares security tokens with financial instruments in order to determine substantial differences. Lastly, the first chapter provides an overview and summary of the challenges in the regulation of security tokens identified in the outstanding research. In the second chapter the author analyzes and compares the guidelines of Member States with progressive and non-progressive views at crypto-regulation as well as conducts a case study. Then, the author analyzes the EU legislation related to crypto-assets and financial instruments. Finally, in the third chapter the author answers research questions, provides recommendations on the procedure for classification of a crypto-asset as a financial instrument and identifies problems of the EU financial law as well as proposes amendments based on the findings of the first and second chapters.

1.   RESEARCH BACKGROUND

In order to determine the gaps in regulation of a market and propose amendments, it is crucial to understand its components. What is traded on the market? Who are the market participants? Moreover, it must be established which regulatory challenges were already identified by researchers.

For these purposes, this chapter provides definitions relevant for understanding the crypto-market and security tokens in particular **[1.1]**; explains the structure and infrastructure of the market **[1.2]**; compares financial instruments to security tokens **[1.3]**; as well as summarizes regulatory challenges identified by other researchers **[1.4]**.

1.1   Definitions

Crypto-asset is the object that is traded on the crypto-market. However, all operations with crypto-assets, such as transfer and storage, are done thought a distributed ledger system called blockchain.[7]

1.1.1   Blockchain definition

Blockchain is a DLT[8] which is

> a set of tools for recording data (…) allowing a network of computers to verify and store updates without a single central management system.[9]

The definition of DLT does not substantially vary between the sources. European Banking Authority (EBA) states that "DLT enables storage, update and validation of information in a decentralized way".[10] The Cambridge research defines DLT as a new shared accounting tool enabling distributed recordkeeping without the need in a single controller.[11]

In the context of crypto-assets, these are stored in virtual wallets which are, in turn, needed for the storage of private and public keys and for the interaction with DLTs (multiple or specific ones).[12] Public and private keys are generated via cryptography; the former are essential for identification and the latter are used for authentication and encryption, i.e., for establishing the ownership of the respective crypto-asset.[13] For a transaction to take place, it has to include the address of a sending party, the address of a receiving party and a private key

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[7] Chris Brummer, "Introduction," in *Crypto assets: Legal, Regulatory, and Monetary Perspectives*, ed. Chris Brummer (New York: Oxford University Press, 2019), p. 2, accessed February 19, 2022, https://doi.org/10.1093/oso/9780190077310.003.0001.

[8] Ilias Kapsis, "Blockchain and Cryptocurrencies: Essential Tools in a Two-Tier Financial System," *Capital Markets Law Journal* Vol.15, Issue 1 (2020): p. 23, accessed February 20, 2022, https://doi.org/10.1093/cmlj/kmz025.

[9] European Central Bank and Bank of Japan. *Payment systems: Liquidity Saving Mechanisms in a Distributed Ledger Environment* (September 2017), p. 2. Available on: https://www.ecb.europa.eu/pub/pdf/other/ecb.stella_project_report_september_2017.pdf. Accessed February 19, 2022.

[10] EBA. *Report with advice for the European Commission*, p. 8. Available on: https://eba.europa.eu/documents/10180/2545547/EBA+Report+on+crypto+assets.pdf. Accessed February 19, 2022.

[11] Apolline Blandin et al., "Global Cryptoasset Regulatory Landscape Study," University of Cambridge Faculty of Law Research Paper No. 23/2019, *SSRN Electronic Journal*, p. 15, accessed February 19, 2022, https://doi.org/10.2139/ssrn.3379219.

[12] EBA, *supra* note 10, p. 9.

[13] *Ibid.*, p. 8.

of the sending party, which, however, stays secret (non-disclosed).[14] Then the transaction is sent to the entire DLT network, which verifies whether the sending party is authorized to transfer the crypto-asset on the address it is sending from based on the mentioned private key.[15]

Blockchains can be intended to store different amount and kind of information (e.g., in the Bitcoin blockchain, the ownership of referenced assets among pseudonymous participants is tracked, but blockchains can be also used to publicly identify different transaction details).[16] Some blockchains, such as the Ethereum platform, have also introduced "smart contracts", which allow a payment only when certain conditions are satisfied.[17] This is similar to escrow accounts offered by banks, but unlike those, blockchain with smart contracts system does not require intermediaries and human work for the performance of a transaction.

"Blockchains do not record individual transactions one at a time".[18] Instead, the transactions are added into blocks, and blocks are then added to a block chain recording particular crypto-asset transactions in chronological order.[19] In order for the system to know when and under which circumstances to add a new block to a preexisting one, there must be encoded rules called consensus mechanism.[20]

DLTs are now being widely implemented not only in the context of crypto-assets, but also by a number of financial institutions in the context of trade finance, management of customer due diligence documentation, securities markets, and cybersecurity and information security.[21] In addition, it is also becoming popular in other non-finance related fields such as, e.g., retail and logistics.[22] General benefits of such technology are that it is highly secure (cannot be modified by hackers), transparent (anyone within the ledger can track transactions), works without intermediaries and users can remain anonymous (in case of Bitcoin blockchain).[23]

1.1.2 Crypto-asset definition and classification

Defining a crypto-asset is not an easy task, since, unlike DLT, it does not have one uniform definition.[24] The Cambridge study of 2019 emphasized on the lack of clear and common terminology; and states that the term crypto-asset is usually used to refer to digital tokens issued and transferred on DLT systems, but such definition is very broad, and there is no clear agreement on the definitional boundaries.[25] The study also summarized the attempts to define the boundaries into three main views: the first was broad one which includes all types of digital tokens (not necessarily performing an essential function for the underlying network to operate properly) issued and transferred via both open and permissionless as well as closed enterprise DLT systems; the second, "intermediate" view, narrowed the previous one to permissionless DLT systems with open access and public transaction history; and the third, "narrow" view,

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[14] *Ibid*.

[15] *Ibid*.

[16] Brummer, *supra* note 7.

[17] *Ibid*.

[18] *Ibid.*

[19] Kapsis, *supra* note 8, pp. 23-24.

[20] Brummer, *supra* note 7.

[21] EBA, *supra* note 10.

[22] Jei Young Lee, "A decentralized token economy: How blockchain and cryptocurrency can revolutionize business," *Business Horizons* Vol.62 (2019): p. 775.

[23] Kapsis, *supra* note 8, p. 24.

[24] Joe Dewey, "USA," in *Blockchain & Cryptocurrency Laws and Regulations 2022*, ed. Joe Dewey (London: Global Legal Press, 2021), accessed February 20, 2022, https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/usa.

[25] Blandin et al., *supra* note 11.

specified that crypto-assets are only those digital tokens which perform an essential function for the operation of the underlying network and are issued and transferred only via open and permissionless DLT systems.[26] The last view, in general, describes the Bitcoin blockchain as it refers to a network of nodes that "create new units according to a transparent and pre-defined schedule specified by an intangible software protocol"[27] or, in other words, consensus mechanism.

So, different jurisdictions have resorted to different definitions with varying boundaries, some being more detailed and specific, and some being broader. In Dewey's view, opting for broader, more technologically-agnostic definitions is a wise approach, since in such case these jurisdictions "(…) will be better positioned to regulate as and when the technology evolves".[28]

Both academics and legislators widely follow the approach of dividing crypto-assets into three categories: 'currency/payment tokens', 'utility tokens' and 'security/financial/investment tokens'.[29]

'Currency/payment tokens' represent medium of exchange, storage of value and unit of account.[30] Bitcoin is considered one of the most famous currency/payment tokens[31], however, according to Ammous, Bitcoin might be "the best store of value humanity ever invented", while being inadequate to serve as a medium of exchange for everyday transactions.[32] The author wishes to highlight that actually Bitcoin is also used for speculative transactions in order to gain profit on its sale, thus, it is not purely a currency/payment token. It seems that it is placed in this class of tokens, because the majority uses it as a medium of exchange, store of value and unit of account, and not as a financial instrument for speculative transactions; or since its main primary purpose is to serve as a currency/payment token. In general, author agrees with such classification of Bitcoin, since speculative transactions can be also performed with regular currencies, but it does not automatically make a currency a financial instrument. In addition, the so-called 'stablecoins' are also included in the class of currency/payment tokens. These are asset-backed tokens which are not that volatile compared to non-backed cryptocurrencies.[33]

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[26] *Ibid.*, p. 16.

[27] *Ibid.*

[28] Dewey, *supra* note 24.

[29] *See* Dirk A. Zetzsche et al., "The Markets in Crypto-Assets Regulation (MiCA) and the EU Digital Finance Strategy," *Capital Markets Law Journal* Vol.16, Issue 2 (July 20, 2021): p. 206, accessed February 19, 2022, https://doi.org/10.1093/cmlj/kmab005; Brummer, *supra* note 7; and Blandin et al., *supra* note 11, p. 38.

[30] *See* Zetzsche et al., *supra* note 29, p. 207; and Benjamin Geva, "Cryptocurrencies and the Evolution of Banking, Money, and Payments," in *Crypto assets: Legal, Regulatory, and Monetary Perspectives*, ed. Chris Brummer (New York: Oxford University Press, 2019), p. 12, accessed February 20, 2022, https://doi.org/10.1093/oso/9780190077310.003.0001.

[31] Zetzsche et al., *supra* note 29, p. 207. *See also* Judgement in *Skatteverket*, EU:C:2015:718, paras. 52-53 (Bitcoin is deemed as a currency or 'payment token' in the EU).

[32] *See* Saifedean Ammous, *The Bitcoin Standard: The Decentralized Alternative to Central Banking* (Hoboken, NJ: Wiley, 2018), p. 177; and Saifedean Ammous, "Can cryptocurrency fulfil the functions of money?" *The Quarterly Review of Economics and Finance* Vol.70 (November, 2018): p. 47, accessed February 20, 2022, https://doi.org/10.1016/j.qref.2018.05.010.

[33] European Union Blockchain Observatory & Forum. *Blockchain and the Future of Digital Assets*, p. 12. Available on: https://www.eublockchainforum.eu/sites/default/files/report_digital_assets_v1.0.pdf. Accessed February 26, 2022. However, recent market events prove that even stablecoins can be unreliable. *See, e.g.*, Steven Ehrlich, "Unstable Stablecoin: How Crypto's Crash Broke The Buck For TerraUSD," *Forbes*, available on: https://www.forbes.com/sites/stevenehrlich/2022/05/10/unstable-stablecoin-how-cryptos-crash-broke-the-buck-for-terrausd/?sh=1c1807b56ff4. Accessed May 12, 2022

Some of the most famous examples of stablecoins are Tether, USD Coin and Diem (formerly known as Libra) which is, however, failing.[34]

'Utility tokens' enable holder an access to a specific product or service which are usually provided using a DLT system, or a company's ecosystem.[35] "Utility tokens may also provide holders with governance rights in the issuing company"[36], such as, e.g., voting rights, which also makes them look similar to shares – securities.[37] One of the quickly developing projects Solana[38] offers SOL tokens which have two use cases: staking tokens for receiving rewards and using SOL as payment for fees associated with the use of blockchain.[39] The latter use case is a typical example of utility token, while the first one at first sight seems something in between of the utility and security token.

'Security/financial/investment tokens' grant ownership rights or stake in the issuing company which in fact allows to equate them with shares or securities.[40] They might offer voting rights or rights to future profits (dividends) and "are typically treated under financial regulatory regimes as financial products, securities, financial instruments, derivatives or collective investment schemes".[41] Lambert et al. suggest the following definition of a security token:

> a security token is a digital representation of an investment product, recorded on a distributed ledger, subject to regulation under securities laws.[42]

The same study also divides security tokens into five following categories: (i) equity tokens as, e.g., shares, (ii) debt tokens as, e.g., bonds and notes, (iii) fund tokens as, e.g., fund units, (iv) income-share tokens as, e.g., profit-sharing agreements, and (v) other security tokens as, e.g., derivatives.[43] The first three have a mix of capital gains and (fixed) income-generating component, but the other two provide capital gains only.[44] Although it seems logical to apply regulation on financial instruments to such class of tokens, in practice it is more difficult. The main question here is how to understand whether a particular crypto-assets falls within the definition of a financial instrument. In the U.S. for that purpose there is a so-called *Howey* test which provides that an investment contract is (1) an investment of money (2) in a common enterprise (3) with the expectation of profit (4) to be derived from the efforts of others.[45] In the EU, on the other hand, there is no particular test, but the scope of the term 'financial instrument'

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[34] Bloomberg. Liana Baker et al., Mark Zuckerberg's Stablecoin Ambitions Unravel With Diem Sale Talks (25.01.2022), available on: https://www.bloomberg.com/news/articles/2022-01-25/zuckerberg-s-stablecoin-ambitions-unravel-with-diem-sale-talks?sref=ExbtjcSG. Accessed February 26, 2022.
[35] *See* EBA, *supra* note 10, p. 7; and Thomas Bourveau et al., "The Role of Disclosure and Information Intermediaries in an Unregulated Capital Market: Evidence from Initial Coin Offerings," *Journal of Accounting Research* Vol. 60, Issue 1 (2022): pp. 130, 135, accessed March 26, 2022, https://doi.org/10.1111/1475-679X.12404.
[36] Zetzsche et al., *supra* note 29.
[37] *See also* Nate Crosser, "Initial Coin Offerings as Investment Contracts: Are Blockchain Utility Tokens Securities?" *Kansas Law Review* Vol.67, Issue 2 (2018): p. 391.
[38] "[A] decentralized blockchain built to enable scalable, user-friendly apps for the world" – Solana, https://solana.com/. Accessed February 28, 2022.
[39] Luke Conway, "What is Solana?" *Blockworks* (February 2, 2022), https://blockworks.co/what-is-solana-everything-you-need-to-know-about-the-ethereum-rival/#anchor-4. Accessed February 28, 2022.
[40] Dmitrijs Dikanskis, "Blockchain-based Tokens Issuance under the EU Framework: is it underdeveloped?" Master's Thesis, *Riga Graduate School of Law*, 2020, p. 13.
[41] Zetzsche et al., *supra* note 29, pp. 206-207.
[42] Thomas Lambert et al., "Security token offerings," *Small Bus Econ (Small Business Economics)* (2021): p. 4, accessed April 14, 2022, https://doi.org/10.1007/s11187-021-00539-9.
[43] *Ibid*.
[44] *Ibid*.
[45] *SEC* v. *W.J. Howey Co.*, 328 U.S. (1946), para. 299.

is provided in Section C of Annex I to MiFID II.[46] According to this scope, transferable securities qualify as financial instruments; the term 'transferable securities' is defined as follows:

> those *classes of securities* which are *negotiable on the capital market*, with the exception of instruments of payment, *such as* (a) shares (…); (b) bonds (…); (c) any other securities giving the right to acquire or sell any such transferable securities or giving rise to a cash settlement determined by reference to transferable securities, currencies, interest rates or yields, commodities or other indices or measures (emphasis added).[47]

The issue is that each crypto-asset shall be then assessed on a case-by-case basis by applying the test or definitional boundaries. It is not very clear who and at which stage should decide whether the crypto-asset qualifies as a security or financial instrument. Moreover, the criteria for classification seems not that clear in case of the EU definition.

It also worth mentioning that utility tokens and question about their regulation have received little attention.[48] But this might change soon, since the mentioned MiCA regulation will indeed cover the so-called utility tokens.[49]

Art. 3(1)(2) of MiCA provides for a definition of a crypto-asset:

> a digital representation of value or rights which may be transferred and stored electronically, using distributed ledger technology or similar technology.[50]

The said regulation also defines DLT, asset-referenced token (stablecoin), electronic money token (payment token), utility token, and many other terms relevant for the crypto-market. Definitions in the MiCA are not substantially different from those provided in this chapter.

1.2 Participants and infrastructure of crypto-market compared to financial market

Crypto-market in its structure is similar to financial market: it also has a primary and a secondary market.[51] In the primary market, crypto-assets are created by means of three major mechanisms: pre-mine, continuous mining, and hybrid.[52] Pre-mine means that an entity creates all tokens together at one point of time.[53] Continuous mining is done by 'miners', special nodes called record producers, which

> create new units on a continuous and regular basis according to a transparent, pre-specified procedure specified by the protocol that governs the network or application ruleset.[54]

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[46] Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (recast) Text with EEA relevance (Consolidated version 01.01.2022), *OJ L* 173, 12.06.2014. Available on: http://data.europa.eu/eli/dir/2014/65/2022-01-01. Accessed February 28, 2022.

[47] *Ibid.*, Art. 4(1)(44).

[48] Blandin et al., *supra* note 11, p. 18.

[49] Zetzsche et al., *supra* note 29, p. 210-211.

[50] European Commission. Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and Amending Directive, COM (2020) 593 final. Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020PC0593. Accessed March 5, 2022.

[51] *See, e.g.,* Blandin et al., *supra* note 11, pp. 23-28; and Dikanskis, *supra* note 40, pp. 15-16.

[52] Blandin et al., *supra* note 11, p. 23.

[53] *Ibid.*

[54] *Ibid.*

This process is performed by using sophisticated hardware which solves the numeric problem (in case of Bitcoin – finds a valid proof-of-work).[55] Hybrid creation of tokens involves both previously mentioned methods, so that an entity, at first, pre-mines a particular number of total final token supply, and then the remaining token units are continuously minted after network or application launch.[56] So, at this preliminary stage, the crypto-market participants are entities that pre-mine crypto-assets (issuers) and entities and individuals that are involved in continuous mining.

Then, crypto-assets are being distributed on a primary market. In case of mining, newly minted tokens are distributed automatically to miners who succeeded with satisfying necessary conditions provided by the protocol.[57] In case of pre-mine two main scenarios are present: pre-token sale and token sale/Initial Coin Offering (ICO).[58] Where pre-token sale can be only private, usually offers substantial discounts, is generally restricted to accredited investors, and tokens are often non-transferable and have lock-up periods, the token sale can be both public or private as well as both publicly available or restricted to certain investor types.[59] However, ways of pre-minted tokens distribution evolve rapidly and now include Initial Exchange Offering (IEO), Initial DEX Offering (IDO), Security Token Offering (STO) and Initial Farm Offering (IFO).[60] Previously, all token offerings were called ICOs, notwithstanding the type of crypto-asset offered, but now it is accepted by many scholars that ICOs concern only utility tokens, while STOs – only security tokens.[61] Additionally, airdrop and fork – ways of token distribution possible only if the prospective holder already possesses another token.[62] Under the airdrop model the token is distributed to a holder of another existing token, generally under specific conditions.[63] In case of a fork, a new token is created as a result of change to protocol or basic set of rules which makes the new version of a blockchain no longer backward-compatible with previous blocks.[64] In this case the new token is received on a 1-1 basis by the holders of existing token.[65] It follows that the primary market also involves token issuers and, in addition, investors, crypto-exchanges (which are involved in offerings) and custodians or wallet service providers, since tokens must be distributed to a particular place and stored somewhere.

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[55] Euny Hong, "How does Bitcoin mining work?" *Investopedia* (Updated March 7, 2022), https://www.investopedia.com/tech/how-does-bitcoin-mining-work/#toc-the-bottom-line. Accessed March 11, 2022.

[56] Blandin et al., *supra* note 11, p. 23.

[57] *Ibid*., p. 24.

[58] *Ibid*.

[59] *Ibid*.

[60] IEO – token offering through a centralized crypto exchange platform; IDO – token offering through a decentralized crypto exchange platform; STO – token offering with cooperation with a local financial authority; IFO – through the farming feature offered by decentralized exchanges.
Binance Academy. What is an IDO (Initial DEX Offering)? (Updated February 14, 2022). Available on: https://academy.binance.com/en/articles/what-is-an-ido-initial-dex-offering. Accessed March 11, 2022.
CoinMarketCap, Alexandria, glossary. Initial Farm Offering (IFO). Available on: https://coinmarketcap.com/alexandria/glossary/initial-farm-offering-ifo. Accessed March 11, 2022.

[61] *See*, *e.g.*, Paul P. Momtaz, "Security Tokens," in *The Emerald Handbook of Cryptoassets: Investment Opportunities and Challenges*, ed. H. Kent Baker et al. (Bingley: Emerald Publishing Limited, 2021), p. 13, accessed April 20, 2022, https://ssrn.com/abstract=3865233; and Lambert et al., *supra* note 42, pp. 5-6.

[62] Blandin et al., *supra* note 11, p. 24.

[63] *Ibid*.

[64] Coinbase. What is a fork? Available on: https://www.coinbase.com/ru/learn/crypto-basics/what-is-a-fork. Accessed March 11, 2022.

[65] Blandin et al., *supra* note 11, p. 24.

Finally, crypto-assets are resold on a secondary market either peer-to-peer or via crypto-exchanges and other intermediaries.[66] Transactions can be on-chain (direct transfer via the underlying DLT) or off-chain (transfer taking place outside the DLT).[67] However, not all crypto-assets are freely transferable, they can be not transferable at all, and these restrictions can be encoded into them by the issuer in order to set some trading conditions or to prohibit their transfer in full.[68] Secondary market in principal includes the same participants as the primary market.

To be more precise, CASPs are not limited only to crypto-exchanges and custodians/wallet service providers. MiCA does not give a particular name to each CASP, rather it differentiates between them based on the type of service they provide. It provides for the following services: the custody and administration of crypto-assets on behalf of third parties; the operation of a trading platform for crypto-assets; the exchange of crypto-assets for fiat currency that is legal tender; the exchange of crypto-assets for other crypto-assets; the execution of orders for crypto-assets on behalf of third parties; placing of crypto-assets; the reception and transmission of orders for crypto-assets on behalf of third parties; and providing advice on crypto-assets.[69]

Referring to the market infrastructure it must be noted that it significantly differs from the financial market infrastructure (FMI). In Principles for financial market infrastructures the FMI is defined as

> a multilateral system among participating institutions, including the operator of the system, used for the purposes of clearing, settling, or recording payments, securities, derivatives, or other financial transactions.[70]

Crypto-market's infrastructure is in principle a blockchain, since it is used to transfer funds (as a payment system) and everything is recorded there, so there is no need in, e.g., a depositary. 'Operator of the system' is the provider/developer of the DLT system; however, such provider/developer may be 'unofficial' and bear no official responsibility for maintaining the system operational as it is the case with Bitcoin[71] and Ethereum[72] blockchains. On the other hand, although there is no legal obligation imposed on anyone to maintain the blockchain operational, the biggest stakeholders (e.g., holders of crypto-assets developed on this DLT system or businesses operating using this DLT system) should be interested in putting effort into its maintenance. Having no one in charge represents the decentralized nature of most blockchains, while the FMI has a centralized structure.[73]

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[66] *Ibid.*, p. 25.

[67] *See, e.g., ibid.*; and European Union Blockchain Observatory & Forum, *supra* note 33, p. 9.

[68] *Ibid.*

[69] *See* Art. 3(1)(9) of MiCA.

[70] Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commission. *Principles for financial market infrastructures* (2012), p. 7, para. 1.8. Available on: https://www.bis.org/cpmi/publ/d101a.pdf. Accessed March 14, 2022.

[71] Angela Walch, "The Bitcoin Blockchain as Financial Market Infrastructure: A Consideration of Operational Risk," *NYU Journal of Legislation and Public Policy* Vol. 18 (2015): p. 870, accessed March 14, 2022, https://ssrn.com/abstract=2579482.

[72] Ethereum.org. Governance, available on: https://ethereum.org/en/governance/. Accessed March 14, 2022.

[73] Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commission, *supra* note 70.

1.3 Differences between financial instruments and security tokens

Sub-section 1.1.2 establishes that according to classification also adopted by the EU a crypto-asset may qualify as a financial instrument if it falls within the definition of a transferable security provided by the MiFID II. In such case the EU treats that crypto-asset, the so-called security token, the same as other 'classical' financial instruments.[74] However, it is important to understand the differences between these instruments as well as between the activities/services involving them in order to assess the appropriateness of such treatment and identify its gaps.

Of course, in essence these instruments are the same, since otherwise crypto-assets could not qualify as financial instruments. Both financial instruments and security tokens provide the same rights to investors which are rights to any financial return and claim on the issuer.[75] In short, any token granting a capital flow from issuer to owner is a transferable security within the meaning of MiFID II.[76] The negotiability requirement set out in Art. 4(1)(44) of the MiFID II is met by tokens, since the blockchain makes the safe transfer of ownership from the seller to the buyer possible, and this is comparable to a transfer on a stock exchange.[77] Additionally, there is an unwritten requirement of Art. 4(1)(44) that securities have to be standardized[78], and this requirement is met if an STO includes tokens of the same kind or different classes of tokens which are easily identifiable and hence negotiable.[79] Volatility and riskiness of investment are another characteristics these instruments have in common. Overall, security tokens and financial instruments comply with the same requirements laid down in MiFID II, have similar characteristics and grant investors the same rights, however, different technologies underlie them as 'classical' financial instruments are not linked to blockchain. So, it must be determined whether the risks associated with both instruments differ and how it affects the activities/services involving security tokens and financial instruments.

Counterparty or credit risk underlies both security tokens and financial instruments, since there is always a risk that the borrowing issuer will be in default, notwithstanding the nature of a financial instrument. Liquidity risk is associated only with some financial instruments, such as, e.g., bonds[80], and some security tokens which are also similar to bonds (e.g., Bitbond) or those which have a lock-up period. Interest rate risk, leverage effect risk, information risk and market risk are again inherent in both instruments, since losses caused by these risks are not dependent on the nature of financial instrument. Currency risk relates to both instruments, too, but in case of security tokens, investors might face higher risk of losses due

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[74] *See* Philipp Maume, "Initial Coin offerings and EU Prospectus disclosure," *European Business Law Review* Vol. 31, Issue 2 (2020): p. 191. Kluwer Law Online; Zetzsche et al., *supra* note 29, pp. 209-210; and European Union Blockchain Observatory & Forum, *supra* note 33, p. 13.

[75] Clifford Chance, Security Token Offerings – a European Perspective on Regulation, 2020, accessed April 14, 2022, p. 4. Available on: https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2020/10/security-token-offerings-a-european-perspective-on-regulation.pdf.

[76] Maume, *supra* note 74, p. 193.

[77] Philipp Hacker et al., "Crypto-Securities Regulation: ICOs, Token Sales and Cryptocurrencies under EU Financial Law," *European Company and Financial Law Review* Vol. 15, Issue 4 (2018): p. 665 et seqq.

[78] Rüdiger Veil, "Financial Instruments," in *European Capital Markets Law* 2nd Ed., ed. Rüdiger Veil (Oxford: Hart Publishing: 2017), p. 115, § 8 para. 5.

[79] Philipp Maume et al., "Regulations of Initial Coin Offerings: Reconciling U.S. and E.U. Securities Laws," *Chicago Journal of International Law* Vol. 19, Issue 2 (Winter 2019): pp. 580-581, available on: Academic Search Complete (HeinOnline). Accessed February 19, 2022.

[80] Luminor. Description of financial instruments and related risks (effective from: 02.01.2019), para. 3.2, accessed April 14, 2022. Available on: https://www.luminor.lv/sites/default/files/docs/ieguldijumi/an_overview_of_financial_instruments_the_risks_related_to_them.pdf.

to exchange rate fluctuations, since issuers often resort to payments in cryptocurrency rather than in usual currencies such as dollars or euros.[81] Unless the payments are made in stablecoins[82], currency risk is higher due to higher volatility of crypto-assets. Another risk which is higher for security tokens is issuer's compliance risk or legal risk. Both investment firms and CASPs as well as issuers of both types of instruments are at risk of non-compliance with relevant laws or at risk of a changing regulatory environment, but with CASPs and issuers of security tokens the risk is higher, since regulation is not that clear and may change more frequently as well as changes can be extreme as, e.g., a complete ban of crypto-assets. Inability to comply with legal requirements due to their vagueness or frequent change will incur losses to the issuer and hence to the investors. When traded on decentralized crypto-exchanges (DEXs), security tokens may pose a higher risk of money-laundering and higher risk of losses due to the lack of investor protection. Thus, it follows that risks posed by security tokens and financial instruments are in general the same, but some, such as currency, legal, money-laundering and investor protection risks, are higher for security tokens. While the decision regarding the currency of payments to investors is made purely by the issuer, the issuer has no influence over the legal environment. Clear and effective regulation is the responsibility of the legislator, and security of investments clearly depends on that. The risks associated with DEXs should be also mitigated by legislators and regulators.

Moving to the activities and services involving security tokens and financial instruments, there is a need to compare traditional IPOs with STOs as well as secondary market trading in both security tokens and financial instruments. STOs technically do not require so many intermediaries as it is required by law for IPOs. An IPO is originally linked to a stock exchange where the securities are offered and sold, online marketing and publishing of prospectuses only supplement the traditional 'sales channel' for IPOs, while for STOs online marketing is usually the only communication and distribution channel.[83] If partnering with financial institutions is necessary for an IPO, it is also mandatory for an STO[84], however, STO can be conducted though a crypto-exchange or crypto-trading platform either centralized or fully decentralized, with peer-to-peer trading and no financial intermediaries involved.[85] Trade through crypto-exchanges would make more sense, since financial instruments accounts within financial institutions and crypto-wallets or accounts within crypto-platforms are different, i.e., financial instruments cannot be stored on crypto-wallets and vice versa. STOs are also borderless in nature, while IPOs are more limited territorially. On the other hand, with STOs the settlement of security tokens can be much faster due to a smart contract technology.[86] Both in primary and secondary market the transaction may take place without fiat, i.e., security tokens can be sold and purchased for cryptocurrency or other tokens. Central party is in general

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[81] *E.g.*, Bitbond issuer chose to make interest payments and redemptions in Stellar Lumens (Bitbond Securities Prospectus (January 30, 2019), p. 39, para. 7.2.3, availble on: https://static.icoholder.com/files/28898/af943f6ecce1e45a54eda345f511a96f.pdf. Accessed April 14, 2022); Nexo also paid dividends to its investors in its own security tokens (NEXO) based on the NEXO/USD exchange rate at time of distribution (Nexo. "The Final Dividend Worth $20 Million Has Been Distributed" (June 16, 2021), available on: https://nexo.io/blog/the-final-dividend-worth-20-million-has-been-distributed. Accessed May 1, 2022).

[82] *But see* Ehrlich, *supra* note 33.

[83] Philipp Maume, *supra* note 74, p. 190-191.

[84] *See, e.g.,* Momtaz, *supra* note 61, pp. 10-11; Lambert et al., *supra* note 42, p. 9; and FCMC. *Skaidrojums par virtuālo aktīvu un ICO izmantošanas iespējām un piemērojamo regulējumu* (Explanation on virtual assets and ICO usage possibilities and applicable regulation), 23.01.2019, p. 9. Available on: https://www.fktk.lv/wp-content/uploads/2019/05/ICO_skaidrojums_23012019.pdf. Accessed November 30, 2021.

[85] Clifford Chance, *supra* note 75, p. 11.

[86] Momtaz, *supra* note 61, pp. 6-7.

not essential for STOs and security tokens trading as blockchain tracks all transactions and safekeeps securities, as it has been also mentioned in the previous section.

To conclude, security tokens and financial instruments mostly differ by their issuance and trade in a way that procedure and system used for financial instruments is not fully suitable for security tokens. Some aspects that are crucial for financial instruments, such as partnering with financial institutions for securities' issuance or central security depositories (CSDs) to keep track of all securities transactions, are not in practice needed for security tokens. This suggests that regulators should take the necessities of security tokens into account, but not blindly apply the same law as to financial instruments.

1.4   Need for regulation

Many scholars have raised their concerns about the lack of clear regulation of crypto-market already for years., Cvetkova in 2018 highlighted that

> only progressive jurisdiction and state regulation of cryptocurrency activity will allow the creation of the conditions that will ensure the implementation of legitimate and safe cryptocurrency relations.[87]

Minor in 2020 called for a need in clear cryptocurrency regulatory guidance and a stable (and friendly) regulatory environment in this field.[88] Many papers have focused on particular aspects of crypto-market regulation establishing what exactly and how needs to be regulated.

Chu considered that crypto-exchanges should be viewed through the scope of 'old classic' exchanges.[89] Based on the world's previous experience in regulating exchanges, Chu proposed the following initiatives for cryptocurrency exchanges regulation: customer protection rule, net capital rule and rules on bankruptcy and insurance.[90] This paper is written from the U.S. perspective, referring to the historical events and the existing U.S. laws on securities exchanges, however, is indeed relevant for the whole world, since the issue of customer protection in light of crypto-exchanges has concerned regulators around the globe for a long time. Moreover, Johnson criticized formal registration processes imposed on market participants (mainly – exchanges) by federal securities law for being too costly and instead proposed a self-designation process.[91] She stated that although "applying federal securities laws to cryptocurrency origination and secondary distribution is far from an express prohibition", it nevertheless imposes a significant burden on market participants including broker-dealers and exchanges.[92] Jones, on the other hand, suggested to require all crypto-exchanges to register with Financial Crimes Enforcement Network (FinCEN) as Money Services Businesses (MSBs) and

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[87] Irina Cvetkova, "Cryptocurrencies Legal Regulation," *BRICS Law Journal* Vol. 5, Issue 2 (2018): p. 152, available on: Academic Search Complete (HeinOnline). Accessed February 19, 2022.

[88] Avery Minor, "Cryptocurrency Regulations Wanted: Iterative, Flexible, and Pro-Competitive Preferred," *Boston College Law Review* Vol. 61, Issue 3 (March 2020): pp. 1176, 1181, available on: Academic Search Complete (HeinOnline). Accessed February 19, 2022.

[89] Dennis Chu, "Broker-Dealers for Virtual Currency: Regulating Cryptocurrency Wallets and Exchanges," *Columbia Law Review* Vol. 118, Issue 8 (December 2018): pp. 2323-2360, available on: Academic Search Complete (HeinOnline). Accessed February 19, 2022.

[90] *Ibid.*, p. 2359.

[91] Kristin N. Johnson, "Decentralized Finance: Regulating Cryptocurrency Exchanges," *William & Mary Law Review* Vol. 62, Issue 6 (May 2021): p. 1999, available on: Academic Search Complete (HeinOnline). Accessed February 19, 2022.

[92] *Ibid.*, p. 1983.

all MSBs to report transactions involving any wallet, since it would provide a 'clean bright-line rule, although would likely unsatisfactory for many crypto-market participants.[93]

The issue of money laundering and other illegal activities is also important as crypto-assets might serve as a good instrument for these purposes. Hamil outlined that cryptocurrency regulation shall mitigate the risks associated with it, namely: illegal trafficking, hacking and theft, fraud, money laundering, and criminal financing.[94] Comolli and Korver discussed the 'first wave' of cryptocurrency money laundering and proposed recommendations for the preparation for future waves, which as such included: implementation of Financial Action Task Force (FATF) virtual asset-related recommendations, monitoring and supervision of decentralized finance (DeFi) products and exchanges with special attention given to the service DeFi lending or flash lending, and monitoring of how and to what extent central bank digital currencies can be used to launder money when these currencies come into circulation globally.[95]

Several authors have investigated a need for regulation for different classes of crypto-assets, in particular – for security tokens. Johnson, Jones, Zhang and Hazen, who also focused on the U.S. crypto-market regulation, stated that, according to the Securities and Exchange Commission (SEC), crypto-assets may be deemed securities (under the previously mentioned *Howey* test and under the risk capital analysis[96]) and offering of such 'securities' is subject to the provisions of the U.S. Securities Act.[97] Hazen only concluded that the most crypto-assets are likely to implicate the securities laws, discussed what are the consequences of classifying a crypto-asset as a security[98], however, he did not raise a question of adequacy of application of securities laws to crypto-assets. Johnson and Zhang in their papers were more critical and highlighted the lack of clarity as regards to the application of *Howey* standard to crypto-assets; especially challenging is to understand which of them satisfy final elements of the mentioned standard.[99] Johnson also recalled how costly are IPOs, and this is also why many companies tend to shift from IPOs to ICOs and other token offerings in order to raise capital.[100] However, when the offerings of tokens identifiable as securities are regulated the same as IPOs, there is no more benefit in those for companies. Jones also pointed on the uncertainty of application of the *Howey* test by the SEC and criticized SEC's *ad hoc* approach.[101] She proposed "to declare expressly that all cryptocurrencies, outside of the ICO context, are not securities" and thus are

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[93] Lindsay Sain Jones, "Beyond the Hype: A Practical Approach to CryptoReg," *Virginia Journal of Law & Technology* Vol. 25, Issue 4 (Spring 2022): pp. 234-237, available on: Academic Search Complete (HeinOnline). Accessed February 19, 2022.

[94] Blake Hamil, "EU Crypto Currency Regulation: Creating a Haven for Businesses or for Criminals?" *Georgia Journal of International and Comparative Law* Vol. 48, Issue 3 (2020): pp. 841-844, available on: Academic Search Complete (HeinOnline). Accessed February 19, 2022.

[95] Alexandra D. Comolli et al., "Surfing the First Wave of Cryptocurrency Money Laundering," *Department of Justice Journal of Federal Law and Practice* Vol. 69, Issue 3 (May 2021): pp. 183-236, available on: Academic Search Complete (HeinOnline). Accessed February 19, 2022.

[96] *See* Thomas Lee Hazen, "Tulips, Oranges, Worms, and Coins - Virtual, Digital, or Crypto Currency and the Securities Laws," *North Carolina Journal of Law & Technology* Vol. 20, Issue 4 (April 2019): pp. 505-507, available on: Academic Search Complete (HeinOnline). Accessed February 19, 2022.

[97] *Ibid*., pp. 503-505; Dafan Zhang, "Security Tokens: Complying with Security Laws and Regulations Provides More than Token Rewards," *UMKC Law Review* Vol. 88, Issue 2 (Winter 2019): pp. 333-334, available on: Academic Search Complete (HeinOnline). Accessed February 19, 2022.; Johnson, *supra* note 91, p. 1982; and Jones, *supra* note 93, pp. 205-206.

[98] Hazen, *supra* note 96, pp. 514-526.

[99] Johnson, *supra* note 91, p. 1983; and Zhang, *supra* note 100, pp. 330-332, 334.

[100] Johnson, *supra* note 91, p. 1998.

[101] Jones, *supra* note 93, pp. 223-226.

out of the scope of the SEC's supervision.[102] Moreover, she recommended to include a clear framework to differentiate between a cryptocurrency launch and an ICO (STO, to be more precise).[103] Jones also proposed amendments which would strengthen the authority of the Commodity Futures Trading Commission and FinCEN to effectively supervise cryptocurrency markets and modernize tax policy.[104] In deviation from Johnson's proposals, Jones states that the self-certification option for new derivatives of cryptocurrencies should be eliminated.[105]

The EU follows the same approach as the U.S. in the treatment of tokens identifiable as securities/financial instruments: MiCA expressly excludes financial instruments from the scope of its application suggesting that crypto-assets falling within the definition of financial instrument are to be regulated under MiFID II and other EU financial law applicable to financial instruments.[106] Some scholars and lawyers criticized the EU definition for lack of clarity as in case with *Howey* test. The critique primarily concerned the vagueness of regulators avoiding deep legal analysis[107] and the lack of harmonization of core definitions and concepts of EU financial law.[108] The problem is that Member States differently interpret the definition of 'transferable security' under MiFID II, in particular, the requirement to be 'negotiable'.[109] Moreover, Member States have a different understanding of what is similar to shares or bonds as well as what constitutes a derivative component.[110]

Several scholars have analyzed the applicability of EU financial law to security tokens; however, these works are from 2019 and 2020, and none of them mentioned MiCA. Sietiņš, Burilov and Dikanskis mentioned that the following legislative acts should be applicable to STOs: MiFID II and Markets in Financial Instruments Regulation (MiFIR), Regulation (PR), Transparency Directive (TD); the following – to trade in security tokens: Market Abuse Regulation (MAR), Short Selling Regulation (SSR); the following – to trading platforms performing settlement activities: Central Securities Depositories Regulation (CSDR), Settlement Finality Directive (SFD); the following – to STOs structured with an idea of 'collective investment scheme' to invest capital into financial instruments: Undertakings for Collective Investment in Transferable Securities Directive and Alternative Investment Fund Managers Directive; and Anti-Money Laundering Directive (AMLD5) being applicable to CASPs which exchange crypto-assets and fiat.[111] Report of European Union Blockchain Observatory & Forum also provided for the same laws being applicable to security tokens.[112] Interesting to note that in 2019 Burilov concluded that it is still too early for EU policymakers to include into the scope of the EU financial law crypto-assets "which are not functional equivalents of financial instruments", nor to provide for a standardized bespoke regulation.[113]

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[102] *Ibid*., p. 223. It is also important to note, that ICO is understood here as an offering of security tokens, so the correct term would be 'STO'.

[103] *Ibid*., p. 226.

[104] *Ibid*., pp. 228, 234, 238.

[105] *Ibid*., pp. 232-234.

[106] Art. 2(2)(a) of MiCA; *see also* Zetzsche et al., supra note 29, pp. 209-210; European Union Blockchain Observatory & Forum, *supra* note 33, p. 13; Maume, *supra* note 74, p. 191.

[107] Maume, *supra* note 74, p. 191-192.

[108] Vlad Burilov, "Regulation of Crypto Tokens and Initial Coin Offerings in the EU," *European Journal of Comparative Law and Governance* Vol. 6, Issue 2 (2019): p. 146, accessed April 23, 2022, https://doi.org/10.1163/22134514-00602003; Zetzsche et al., *supra* note 29, pp. 218-219; and Clifford Chance, *supra* note 75, p. 10.

[109] Clifford Chance, *supra* note 75, p. 10; and Zetzsche et al., *supra* note 29, p. 218.

[110] Zetzsche et al., *supra* note 29, pp. 218-219.

[111] Reinis Sietiņš, "Security Token Offering in EU: applicable law," Master's Thesis, *Riga Graduate School of Law*, 2019, pp. 23-29; Burilov, *supra* note 108, pp. 164-170; and Dikanskis, *supra* note 40, pp. 27-35.

[112] European Union Blockchain Observatory & Forum, *supra* note 33, p. 13.

[113] Burilov, *supra* note 108, p. 186.

He suggested legislators to focus on accommodating the EU regulation "to the risks posed and opportunities arising from application of DLT in financial services" in order for security tokens to "become effectively regulated under the amended framework".[114] Sietiņš, also in 2019, held that at that time there was no evidence of direct harms of legal uncertainty towards STOs, but still recommended to design laws in this field and to integrate DLT in governmental processes and in share registers.[115] Maume focused particularly on PR and concluded that the problem of supervision and enforcement on national level, considering the international character of STOs, should be addressed.[116]

A group of researchers, Zetzsche et al., have analyzed recent EU initiatives in the field of crypto-regulation. At first, in April 2021, they discussed and criticized MiCA proposal stating that: for harmonized application of EU financial law concepts across the whole EU and EEA there is a need in guidelines on behalf of European Securities and Market Authority (ESMA) and EBA; regulators should review all prospectuses and identify clearly which crypto-assets fall within the scope of MiCA/MiFID II/prospectus rules or outside the scope of EU financial law; and crypto-assets falling outside the scope of MiCA should be included in a revised MiFID II, but subject to different and less strict rules.[117] One year later, the same group of researchers analyzed PilotR, however, they reviewed a proposal and not the Provisional Agreement to which the author refers in the Thesis. Zetzsche et al. heavily criticized PilotR proposal, in particular stating that: EU legislators should clearly explain how the objectives of PilotR and DFS correlate and how PilotR fits into a broader set of measures to support innovation; value thresholds for admissible security tokens should be raised and made equal; the list of admissible financial instruments (shares and bonds) should be supplemented with, e.g., derivatives; exemptions from MiFID II should be also provided; trading venues that are not yet authorized under MiFID II or CSDR should also have an opportunity to apply for a specific permission to operate a DLT trading venue.[118]

The analysis of the academic research outstanding indicates that the majority of the previous research aimed at the U.S. regulation of crypto-market, in particular security tokens, but there is a lack of the relevant EU focused papers. Most of the EU research is outdated, since the financial regulation, especially of crypto-market, changes rapidly, thus, there is a need to assess the legislative changes made in the past two-three years. Although a group of researchers reviewed MiCA and PilotR, they did not particularly focus on security tokens regulation. Researchers seem to agree concerning the anti-money laundering (AML) rules applicable to crypto-assets: the rules should aim at mitigating the risks of crypto-assets and should take into consideration all emerging services related to them. However, the regulation of crypto-exchanges and security tokens implies more controversial views. EU researchers conclude that there is a need for guidelines as to which tokens identify as financial instruments under MiFID II, but most importantly, considering the inter-state nature of STOs and security tokens trade, there is a need for harmonization and standardization of definitions and rules being applicable to this class of tokens.

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[114] *Ibid.*
[115] Sietiņš, *supra* note 111, p. 64.
[116] Maume, *supra* note 74, p. 207.
[117] Zetzsche et al., *supra* note 29, p. 221.
[118] The researchers have made some other suggestions as well, but in author's view, the mentioned ones are the most significant. Dirk A. Zetzsche et al., "The DLT sandbox under the Pilot-Regulation," *Capital Markets Law Journal* Vol. 17, Issue 2 (April 2022), pp. 229-233, accessed April 23, 2022, https://doi.org/10.1093/cmlj/kmac003.

2. ANALYSIS OF THE EU REGULATION OF SECURITY TOKENS

As it has been determined in the previous chapter, the EU approach is that those crypto-assets that fall within the definition of financial instrument provided in the MiFID II shall be regulated the same as financial instruments. The applicable rules would include those already named by Sietiņš, Burilov and Dikanskis. Thus, issuance (STOs), trading and post-trading of security tokens should be regulated by these laws. The aim of this chapter is, firstly, to identify what is the procedure for classification of a crypto-asset as a financial instrument if there is any **[2.1]**, secondly, to review the EU law on crypto-assets and DLT soon to be adapted **[2.2]**, and, thirdly, to review the current EU financial law from the perspective of security tokens **[2.3]**.

2.1 Procedure for classification of a crypto-asset as a financial instrument

2.1.1 Guidelines of NCAs

It follows from the research outstanding that a crypto-asset qualifies as a financial instrument when falls within the EU definition of 'transferable security', and the criteria is: (i) capital flow from the issuer to the investor; (ii) negotiability (transferability); and (iii) standardization. However, interpretation of the definition and criteria varies across Member States which, in turn, raises uncertainty among issuers and investors.

In 2019 ESMA stated that it is the responsibility of the National Competent Authority (NCA) to determine whether certain tokens issued within ICO/STO are 'transferable securities' and that it would depend on the specific national implementation of EU law.[119] However, it is not precisely clear how the process would look like. An issuer could launch an ICO not thinking that the crypto-asset it offers qualifies as financial instrument, and then the NCA would determine whether it is a financial instrument or not, as it is its responsibility. If it determines that it is a financial instrument when the ICO is already launched, would the issuer be fined? Or should then the issuer refer to the NCA every time it wishes to issue new tokens, and wait until the NCA would classify them? The whole procedure seems very unclear, so the author reviews the existing guidelines of NCAs from different Member States **[2.1.1]** and cases of STOs and other token offerings **[2.1.2]** in order to clarify it.

Considering the limited length of the Thesis, the author further discusses only three NCAs from Member States known for taking a progressive view on crypto-assets and for being on the list of leaders in the number of ICOs launched in them.[120] Additionally, the author refers to some Member States which lack clear guidance on security tokens.

(i) Lithuania

The Bank of Lithuania (BoL) has issued guidelines on STOs in 2019 where it explained which tokens would qualify as financial instruments under the transposition of MiFID II to the Lithuanian law.[121] Under Lithuanian law tokens can qualify as transferable securities if they confer to their holders the rights similar or equivalent to the rights conferred by either shares,

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[119] ESMA. *Advice on Initial Coin Offerings and Crypto-Assets* (2019), p. 5. Available on: https://www.esma.europa.eu/document/advice-initial-coin-offerings-and-crypto-assets. Accessed on April 26, 2022.
[120] *See* Sietiņš, *supra* note 111, pp. 35-46.
[121] The Bank of Lithuania. *Guidelines on Security Token Offerings* (2019). Available on: https://www.lb.lt/uploads/documents/docs/23488_be8ce9606ecb203bf8a9a4bde09ac399.pdf. Accessed April 30, 2022.

bonds and other forms of non-equity securities, or other negotiable securities.[122] However, the BoL highlighted that the circumstances must be considered on a case-by-case basis in order to legally qualify tokens.[123]

There is no legal definition of 'negotiability' in the Lithuanian law, but the BoL considered tokens to be negotiable if they are capable of being transferred or traded on capital markets.[124] Importantly, the abstract possibility of being transferred or traded is sufficient for the BoL, so even tokens with temporary lock-up periods can qualify as securities.[125] Moreover, even when the negotiability of tokens is restricted on a contractual basis, they may still be deemed securities, however, it has to be assessed on a case-by-case basis.[126] Further the BoL also provided some examples of ICOs crypto-assets and their assessment. That can be indeed useful for issuers to see how the Lithuanian authority classifies different crypto-assets.

(ii) Estonia

In 2020 Estonian Financial Supervision Authority (EFSA) has published on its website the "Information for entities engaging with virtual currencies and ICOs", where it tried to explain which laws would apply to ICOs and other types of activity with crypto-assets, depending on their nature.[127] Also, in 2018 it published an article called "The legal framework of initial coin offerings".[128] None of the articles clearly explained how the issuer should assess whether its tokens constitute securities, but only stated that tokens might qualify as securities within the meaning of Art. 2 of the Securities Market Act[129] (SMA) if they

> give investors certain rights in the issuer company or whose value is tied to the future profits or success of a business.[130]

The article of 2020 only provided that in case a token qualifies as a security, the provisions of the SMA on public offerings would apply to the STO unless it is exempted by Art. 12(2) of the SMA.[131] However, the article of 2018 also pointed that "[b]usinesses should complete an analysis on whether a security is involved".[132] Thus, EFSA makes issuers and CASPs responsible for classifying tokens.

(iii) Germany

German Federal Financial Supervisory Authority (BaFin) has been quite active in guiding crypto-asset issuers and CASPs. It issued two Guidance Notices on prospectus and authorisation requirements in connection with the issuance of crypto tokens: one – in 2018 and the second – in 2019. The notice is very detailed in regards the classification of a token as a security and the laws applicable in such case.

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[122] *Ibid.*, pp. 8-9.
[123] *Ibid.*
[124] *Ibid.*, p. 10.
[125] *Ibid.*
[126] *Ibid.*
[127] EFSA. Information for entities engaging with virtual currencies and ICOs, available on: https://www.fi.ee/en/finantsinspektsioon/financial-innovation/virtual-currencies-and-ico/information-entities-engaging-virtual-currencies-and-icos. Accessed April 30, 2022.
[128] EFSA. The legal framework of initial coin offerings, available on: https://www.fi.ee/en/investment/aktuaalsed-teemad-investeerimises/virtuaalraha-ico/legal-framework-initial-coin-offering-estonia. Accessed April 30, 2022.
[129] Estonia. Securities Market Act (8 April 2022). Available on: https://www.riigiteataja.ee/en/eli/506062014002/consolide. Accessed April 30, 2022.
[130] *Ibid.*
[131] EFSA, *supra* note 127.
[132] EFSA, *supra* note 128.

BaFin highlights that not all tokens should be regarded as financial instruments under the German Banking Act (KWG).[133] The most important elements are again transferability and negotiability on financial markets and embodiment of rights similar to securities. German law separates the requirements of transferability and negotiability by considering notion 'negotiable' as 'standardized'. That means that to comply with the negotiability requirement tokens must be comparable with each other in terms of a 'class'.[134] BaFin stated that for a token to be comparable with a security it must convey either investment (e.g., repayment of investments when the token expires or periodic interest payments) or membership (e.g., dividends) rights.[135]

(iv) No clear guidelines

Many countries did not provide clear guidance to security tokens issuers, investors and CASPs involved in their trade. Latvian Financial and Capital Market Commission (FCMC) issued an explanatory note similar to Estonian one where it only stated that tokens may qualify as financial instruments and entities engaged in ICOs should carefully analyze whether their activity is subject to any regulations but did not explain the criteria for classifying a token as a security.[136] The Czech National Bank has not issued any opinion or guidelines in relation to security tokens. According to Clifford Chance, in 2020 the Ministry of Finance of the Czech Republic was of opinion that security tokens do not fall within the definition of securities under national law.[137] Polish Financial Supervision Authority (KNF) also stays silent in regards the security tokens. Its last communication on crypto-assets available on its website is of 2017 and mainly warns about the risks of ICOs.[138] Again, according to Clifford Chance, the KNF initiated a consultation on its draft position on crypto-assets in 2020[139], but the outcome of it cannot be found. Moreover, Clifford Chance concluded that security tokens would not be classified as such under Polish law.[140]

Surprisingly, Estonia does not have a clear guidance concerning the qualification of crypto-assets as securities, although it is considered one of the leaders on the number of ICOs. Even though EFSA and FCMC were not very detailed in their statements, from these statements it follows that the regulators expect businesses to classify crypto-assets themselves, which is in controversy with ESMA's claim.

2.1.2   Case study: STOs

At first, the author mentions an STO where the issuer classified the tokens as securities itself and organized a compliant STO. Second, the author refers to an STO where the issuer has classified the tokens as securities, however, the compliance with laws is not precisely clear.

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[133] BaFin. *Guidance Notice, second advisory letter on prospectus and authorisation requirements in connection with the issuance of crypto tokens* (2019), p. 6. Available on: https://www.bafin.de/SharedDocs/Downloads/EN/Merkblatt/WA/dl_wa_merkblatt_ICOs_en.pdf?__blob=publicationFile&v=4. Accessed April 30, 2022.
[134] *Ibid.*, p. 7.
[135] *Ibid.*
[136] FCMC, *supra* note 84, p. 6.
[137] Clifford Chance, *supra* note 75, p. 24.
[138] *See* KNF. *The KNF's statement on selling so-called coins or tokens (Initial Token Offerings – ITOs or Initial Coin Offerings – ICOs)* (2017). Available on: https://www.knf.gov.pl/knf/en/komponenty/img/The_KNFs_statement_on_selling_socalled_coins_or_tokens_ICO_60238.pdf. Accessed April 30, 2022.
[139] Clifford Chance, *supra* note 75, p. 24.
[140] *Ibid.*

Finally, the author provides an example of STO where the issuer organized an ICO, although the tokens should qualify as financial instruments.

Bitbond is an example of a very clear and transparent STO. The company Bitbond Finance GmbH is fully owned by Bitbond GmbH and is incorporated in Germany.[141] It delivers blockchain powered financial technology in the fields of small and medium enterprises (SME) lending, tokenization and digital asset custody, and in 2019 it launched an STO where it offered BB1 token which grants investors the same rights as corporate bonds.[142] The token matures on July 1, 2029, after 10 years from the date of issuance, and provides both fixed and floating coupons.[143] This is the first STO in Germany that was approved by the BaFin.[144] Bitbond classified the token itself and received regulator's approval; it also complied with the relevant legal requirements such as prospectus.

Nexo is a platform for instant cash loans which accepts crypto-assets as collateral.[145] The company is incorporated in Bulgaria, but licensed and regulated as a digital assets institution in the U.S., Canada, Switzerland, Hong Kong and Lithuania.[146] In 2018 the company has launched an STO where it offered equity-like security tokens which entitled investors to 30% of the company's net profits as dividends, proportionally distributed according to token balance.[147] Nexo distributed dividends yearly, but in 2021 the distribution of USD 20 million was final as it was decided on the first Governance Vote (new token functionality) that investors would prefer daily payouts over dividends.[148] It seems that Nexo had no doubt that NEXO token qualifies as security, since it grants investors the same rights as shares. There is no information regarding the jurisdiction of STO and which laws were complied with. However, in February 2022 the SEC fined crypto-exchange BlockFi claiming that its high yielding accounts, including Nexo Earn Interest Product, were unregistered securities.[149] The fine does not concern NEXO token, however, it shows that SEC has a wider understanding of securities.

Polybius Foundation, registered in Estonia, organized an ICO in May 2017 within the framework of its digital bank project (Polybius Bank), where it offered PLBT tokens that came with the right to receive 20% of the distributable profit of a financial year. According to the BoL, this token should be deemed as transferable security, and most other NCAs also support such opinion.[150] Polybius published a prospectus[151], where it mostly described its business model and plans, and a whitepaper[152], where it described the token in more details. However,

[141] Bitbond. STO, available on: https://www.bitbondsto.com/. Accessed May 1, 2022.

[142] *Ibid*.

[143] *Ibid*.

[144] Lukas Hofer, "Bitbond STO Closed – What's the Bottom Line?" *ICO.li* (2019), available on: https://ico.li/bitbond-sto-closed-whats-the-bottom-line/. Accessed May 1, 2022.

[145] Nexo, available on: https://nexo.io/. Accessed May 1, 2022.

[146] Nexo. Licenses and registrations, available on: https://nexo.io/licenses-and-registrations. Accessed May 1, 2022.

[147] *See* Blue Belt. "10 Security Token Offerings (STO) That Proves Tokenized Securities are Legit," available on: https://www.bluebelt.asia/10-security-token-offerings-sto-that-proves-tokenized-securities-are-legit/. Accessed May 1, 2022; and Nexo, "NEXO Tokens Distribution," *Medium*, available on: https://medium.com/nexo/nexo-dividend-tokens-distribution-333d5890b6d. Accessed May 1, 2022.

[148] Nexo, *supra* note 81.

[149] Bob Mason, "NEXO Under U.S Regulatory Scrutiny Over High Yield Crypto Product," *FX Empire* (2022), available on: https://www.fxempire.com/news/article/nexo-under-u-s-regulatory-scrutiny-over-high-yield-crypto-product-904668. Accessed May 1, 2022.

[150] The Bank of Lithuania, *supra* note 121, p. 13.

[151] Polybius prospectus, available on: https://www.yumpu.com/en/document/read/58096093/polybius-prospectus. Accessed May 1, 2022.

[152] Polybius token whitepaper, available on: https://cryptorating.eu/whitepapers/Polybius/tw_en.pdf. Accessed May 1, 2022.

these documents are now unavailable on the issuer's website. Moreover, the only terms and conditions on the ICO that could be found are named "Polybius Crowdfunding Terms and Conditions"[153], which stipulate that the process of token offering is a crowdfunding rather than an STO, as well as explicitly mention that tokens have not been and will not be registered under the U.S. Securities Act, and hence may not be offered or sold in the U.S. or to/for the benefit of U.S. persons. In June 2017 the EFSA warned investors that Polybius Foundation does not have any financial institution's licenses and did not register its prospectus, while the issuer did not consider its token a security for which it must register a prospectus.[154] EFSA did not fine Polybius, furthermore, after various complaints from companies launching ICOs, the Estonian Supreme Court ruled that EFSA is not entitled to publish warnings concerning these companies and should delete all of them.[155] Although EFSA published an article concerning ICOs only in 2018, but this ICO was launched in 2017, it is still very unclear why it did not consider PLBT token a security.

Overall, mostly issuers can determine whether their tokens have characteristics similar to securities, however, some of them may not want to acknowledge it, since they do not wish to comply with all securities laws. Germany had one of the best guides on STOs, so that probably resulted in a smooth and clear STO process for issuers. While there are no well-known cases of ICOs being fined for non-compliance with securities laws in the EU, the U.S. SEC imposes fines on numerous issuers and CASPs.[156] However, it does not seem to shed light on the procedure for classification of a crypto-asset as a financial instrument.

2.2   EU law on crypto-assets and DLT

(i) Markets in Crypto-Assets Regulation (MiCA)

In 2020 the Commission has proposed a new regulation MiCA as part of the Commission's DFS. It will cover utility tokens and other non-financial instruments (Title II), regulate the issuance of stablecoins and payment tokens (Titles III to IV), provide general authorization and operating requirements for certain CASPs (Title V), touch upon rules to prevent market abuse (Title VI) and establish supervisory competences of NCAs and EBA (Title VI). On March 14, 2022, the European Parliament adopted its negotiating position on MiCA where it left-out explicit language that would have banned proof-of-work mechanisms, but kept all uniformity and consumer protection elements.[157]

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[153] Polybius. Polybius Crowdfunding Terms and Conditions, available on: https://polybius.io/crowdfunding-terms-conditions/. Accessed May 1, 2022.

[154] *See* Xavier Lavayssière, "EFSA and the Estonian Supreme Court," *Legalico* (2018), available on: https://www.legalico.io/polybius-efsa/. Accessed May 1, 2022; GM Litigation Assistance. Information on Polybius Foundation OÜ, available on: https://www.gmlitigationassistance.com/de/warnungen-p/oeffentliche-betrugswarnung-verbraucherwarnung-polybius_foundation_oue.shtml. Accessed May 1, 2022; and Äripäev. "FSA warned against the Polybius Foundation, the company considers the report unfair" (2017), available on: https://www-aripaev-ee.translate.goog/uudised/2017/06/06/hoiatus-lubadeta-firma-kusibraha?_x_tr_sl=auto&_x_tr_tl=en&_x_tr_hl=en. Accessed May 1, 2022.

[155] *See* Lavayssière, *supra* note 154; and EFSA. "Finantsinspektsioon is temporarily stopping publishing investor alerts" (2021), available on: https://fi.ee/en/news/finantsinspektsioon-temporarily-stopping-publishing-investor-alerts. Accessed May 1, 2022.

[156] *See*, *e.g.*, Mason, *supra* note 149 (fines imposed on BlockFi, Ripple Lab (XRP), Coinbase (COIN)).

[157] *See* Deloitte, Regulatory News Alert. Digital Finance: European Parliament adopts MiCA Regulation, paving the way for an innovation-friendly crypto regulation (17 March, 2022). Available on: https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/financial-services/lu-rna-digital-finance-mica-regulation.pdf. Accessed April 29, 2022; and Nicolette Kost De Sèvres et al., "EU Regulation of Crypto-Assets (MiCA): EU Parliament Publishes Report and Votes on "Proof of Work" in the Context of Sustainability," *Mayer*

MiCA does not cover security tokens as stated in Art. 2(2). Based on that, it could be concluded that the authorization requirements laid down in it apply only to those CASPs which do not deal with security tokens. However, now CASPs rarely differentiate between the classes of crypto-assets they deal with.

(ii) Regulation on a pilot regime for market infrastructures based on distributed ledger technology (PilotR)

PilotR[158] is also part of DFS and was proposed by the Commission along with MiCA. The regulation establishes rules on 'authorization' or, using the wording of the regulation, on receiving a specific permission to operate a DLT multilateral trading facility (MTF), a DLT settlement system (SS) and a DLT trading and settlement system (TSS). Moreover, PilotR provides DLT trading venues with various exemptions from the EU financial law. Only authorized MTFs operated by an investment firm, a market operator that operate the business of a regulated market, or the regulated market itself are eligible to become a DLT MTF (Rec. 8). However, entities not authorized under MiFID II or CSDR could apply for authorization under that directive/regulation, and, at the same time, for a specific permission under PilotR and exemptions from that directive/regulation (Rec. 8a). Art. 3(1) of the PilotR limits the financial instruments that can be admitted to trading on or settled by a DLT market infrastructure to: (i) shares (where issuer's market capitalization is less than EUR 500 million); (ii) bond and other forms of securitized debt (where issuance size is less than EUR 1 billion, but corporate bonds, whose issuer's market capitalization did not exceed EUR 200 million at the time of issuance, are excluded from the calculation of the threshold); and (iii) Units in collective investment undertakings (where market value of assets under management is less than EUR 500 million). Based on Rec. 11, this list should be rather understood as shares, bond and units in collective investment undertakings issued as security tokens.

According to Arts. 7-9, a trading venue that wishes to apply for a specific permission to operate a DLT market infrastructure must submit: (i) a business plan, rules on the DLT market infrastructure and information regarding its functioning, services and activities; (ii) information on the functioning of the DLT used; (iii) its overall IT and cyber arrangements; (iv) evidence of sufficient prudential safeguards; (v) where applicable, a description of the safekeeping arrangements; (vi) a description of the arrangements to ensure investor protection and the mechanisms for handling complaints and consumer redress; (vii) its transition strategy; and (viii) requested exemptions, justification for that, any compensatory measures proposed and the means envisaged to comply the conditions attached to such exemptions.

PilotR allows CSDs to operate a DLT SS which is not a securities SS designated pursuant the SFD (Rec. 23). However, it does not preclude system operators from designating and notifying a DLT SS that complies with all the requirements of the SFD (Rec. 23).

PilotR provides for an exemption from CSDR requirements on authorization and certain organizational requirements (Rec. 9a); from the application of notions 'dematerialised form',

'security account', and 'transfer orders' as well as from provisions referring to 'security account' (Rec. 20); from the participation requirements and the obligation of intermediation (Rec. 22); from the provision of the CSDR on settlement finality and cash settlement (Recs. 23 and 24); and from transparency requirements (Rec. 25).

According to Rec. 13, the full set of MAR's rules would be still applicable in case security tokens are admitted to trading on a DLT trading venue under the PilotR regime. All the SSR provisions would also still apply to investors trading security tokens on DLT trading venues, since the PilotR does not allow for exemptions from any of the SSR's provisions.

Interesting that PilotR does not specify that DTL venues under this regime are still obliged to comply with AML requirements. The regulation only provides that these venues shall be still subject to all the requirements applicable to them under MiFID II, MiFIR and/or CSDR with some exemptions possible (Arts. 4-5a). Offered exemptions are to some extent related to AML obligations as they concern transparency and reporting obligations.[159] Although the wording is not straightforward, legislators could not fully exclude DLT trading venues from the AML requirements. Since PilotR does not specifically provide for an exemption from any AML obligation, it should be interpreted that even under PilotR regime entities are subject to AMLD5 as they were previously.

(iii) Regulation on digital operational resilience for the financial sector (DORA)

DORA[160] provides uniform requirements concerning the security of network and information systems supporting the business processes of financial entities mainly linked to the Information and Communication Technology (ICT) (Art. 1). The regulation will be, *i.a.*, applicable to investment firms, CSDs, trading venues, CASPs and issuers of crypto-assets (as under MiCA). DORA supplements the requirement to implement and maintain an adequate business continuity and disaster recovery plan, applicable to different financial institutions, with inclusion of ICT business continuity and disaster recovery plan (Arts. 53(2) and (4) and 54(3)).

(iv) Amending Directive

Amending Directive[161] amends various European directives applicable to financial sector, but the author focuses on amendments to MiFID II. First and foremost, Art. 6(1) of Amending Directive explicitly includes DLT financial instruments, in other words, security tokens, in the scope of the notion "financial instrument". Moreover, DORA's requirements on ICT are added to Arts. 16 and 17 of MiFID II (Arts. 6(2), (3), (5) and (6)). Art. 6(4) allows DLT market infrastructures operating under PilotR to admit natural persons as members or participants, when these persons are of sufficient good repute, fit and proper and have sufficient level of trading ability, competence and experience.

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[159] *E.g.*, exemptions from Art. 34 (Transparency) of CSDR and Art. 26 of MiFIR (Obligation to report transactions).

[160] European Commission. Proposal for a Regulation of the European Parliament and of the Council on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014 and (EU) No 909/2014, COM (2020) 595 final. Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020PC0595. Accessed May 13, 2022.

[161] European Commission. Proposal for a Directive of the European Parliament and of the Council amending Directives 2006/43/EC, 2009/65/EC, 2009/138/EU, 2011/61/EU, EU/2013/36, 2014/65/EU, (EU) 2015/2366 and EU/2016/2341, COM/2020/596 final. Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020PC0596. Accessed May 13, 2022.

2.3 EU financial law from the perspective of security tokens

The author distinguishes the laws applicable to the primary and secondary market in security tokens. The primary market constitutes STOs and the laws regulating this process are: (i) PR and (ii) TD **[2.3.1]**. Regulation of the secondary market trading includes rules for both CASPs and investors: (i) MiFID II and MiFIR, (ii) AMLD5, (iii) MAR, and (iv) SSR **[2.3.2]**. Separately, the author discusses the laws applicable to trading platforms performing settlement activities: (i) SFD and (ii) CSDR **[2.3.3]**. However, the author does not consider laws applicable to 'collective investment scheme'. The author also notes that it discusses the following financial law from the perspective of entities not applying for specific permissions and exemptions under PilotR.

2.3.1 Regulation of primary market (issuers and STOs)

(i) Prospectus Regulation (PR)

The PR[162] provides for the requirements for the publication of prospectus when securities are offered to the public or admitted to trading on a regulated market situated or operating within a Member State (Art. 1(1)). Its aim is to enable investors to make an informed decision by reducing the information asymmetry between issuer and investor (Art. 6(1) and Rec. 3).

Arts. 1(2) to 1(5) list exemptions from the obligation to publish prospectus. The most important exemptions would be 1) most governmental securities (Art. 1(2)(b)-(d)); 2) non-profit organizations (Art. 1(2)(e)); 3) offers to qualified investors (Art. 1(4)(a)); 4) offers addressed to less than 150 investors per Member State (Art. 1(4)(b)); 5) offers where each investor pays at least EUR 100 000 or denomination of securities is at least EUR 100 000 (Art. 1(4)(c)-(d)); and 6) offers with a total consideration of less than EUR 1 million, calculated over a period of 12 months (Art. 1(3)). First two exemptions are probably not relevant for security token issuers, since these are usually businesses, startups in particular.[163] However, there are other options to escape the prospectus requirement available to issuers. The issuer may limit the target audience of the offer to 'qualified investors' which are mentioned in Section I of Annex II to MiFID II.[164] Although it can be possible to organize such an offer, e.g., with help of smart contract (transaction is possible only after proof of status is uploaded and checked) or through a crypto-trading platform which has the capacity to check all the documentation of investors, the blockchain environment makes verification of the status of investors harder, especially of those investors who are outside of the EU.[165] Further, the issuer may chose option 5 which in principle means targeting large and rich investors, thus excluding private and small ones.[166] Another option – to limit the offer to less than 150 non-qualified investors per Member State. All mentioned options seem not very suitable for STOs as these offerings are usually made by young businesses/startups, so it is important for them to attract as many investors as possible.

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[162] Regulation (EU) 2017/1129 of the European Parliament and of the Council of 14 June 2017 on the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market, and repealing Directive 2003/71/EC Text with EEA relevance, *OJ L* 168, 30.06.2017, pp. 12-82. Available on: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32017R1129. Accessed April 21, 2022.

[163] Lambert et al., *supra* note 42.

[164] *E.g.*, investments firms, insurance companies, governments, central banks, collective investment schemes and companies with both a balance sheet of more than EUR 40 million and a turnover of more than EUR 20 million.

[165] Hacker et al., *supra* note 77, pp. 687-688.

[166] Maume, *supra* note 74, p. 201.

Default exemption concerns the total consideration of the offer (less than EUR 1 million over a period of 1 year), however, the regulation allows Member States to raise their threshold to EUR 8 million, so that offers below that value are excluded from the prospectus obligation (Art. 3(2)). ESMA has published a list of national thresholds below which the obligation to publish a prospectus does not apply in October of 2020, and at that time already 14 Member States (2 – with conditions) plus the UK have adopted the new threshold of EUR 8 million.[167] It is likely that after 2 years even more Member States have raised their threshold, but it is difficult to check, since many countries do not have their financial law translated to English.[168] However, some Member States still have a threshold of EUR 5 million or even EUR 1 million, and Rec. 13 of the PR provides that an issuer of securities for over EUR 1 million but less than EUR 8 million cannot benefit from the passporting regime in Member States that retain the threshold of EUR 1 million, which means that the issuer would need to prepare a prospectus for the offer in those Member States.[169]

In STOs investors often can pay in other cryptocurrencies and tokens, as well as issuers can decide to make payments to investors in crypto-assets. Taking into account high volatility of crypto-assets, it should be understood how to correctly assess the total consideration of the offer, since the PR refers only to euros. According to Maume, since Art. 1(3) of the regulation emphasizes on the monetary value of the offer itself, the exchange rate at the time the STO is initiated and subscription is first possible should be considered in order to translate the cryptocurrency price into euros.[170] However, then there is an issue of which crypto-exchange to choose for determining an exchange rate between the token and euro. The answer to this question cannot be found within the EU legislation, so Maume suggested regulators to limit the issuer's choice to crypto-exchanges licensed under EU law and its Member States equivalents.[171] At the time Maume made such a proposal there were only initiatives of some Member States to license crypto-exchanges under their domestic law, but with the introduction of MiCA and PilotR this proposal seems even more realistic, since they provide for unified authorization/specific permission requirements. Then, the question would be which authorized trading venue to choose. Most likely, it should be either a trading venue granted a specific permission under PilotR or authorized under MiFID II, if this entity did not fall under PilotR.

It is important to note that the PR also requires the publication of a prospectus in case of admission to trading on a regulated market. Regulated market is defined in Art. 4(1)(21) of MiFID II, but in principle it means a licensed stock exchange.[172] Security tokens are usually traded on crypto-exchanges which, in turn, can be also regulated markets or MTFs. For example, LMAX Digital is a crypto-exchange subject to supervision of the UK FCA and Gibraltar FinServ Commission and regulated under MiFID II; eToroX is also subject to MiFID II and supervised by the UK, Cyprus, U.S., and Australian financial regulators; and also, the

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[167] ESMA. *National thresholds below which the obligation to publish a prospectus does not apply* (23 October 2020). Available on: https://www.esma.europa.eu/sites/default/files/library/esma31-62-1193_prospectus_thresholds.pdf. Accessed April 24, 2022.

[168] At least Malta seems to have raised a threshold to EUR 8 million, since in the Prospects MTF rules there is now said only about EUR 8 million and nothing about EUR 5 million.
Malta Stock Exchange plc, Prospects MTF Rules, p. 13. Available on: https://borzamalta.com.mt/ProspectsMTF/Documents/Prospects_rules.pdf. Accessed April 24, 2022.

[169] Maume, *supra* note 74, p. 196.

[170] *Ibid.*, p. 197.

[171] *Ibid.*

[172] ESMA. *List of regulated markets*. Available on: https://registers.esma.europa.eu/publication/searchRegister?core=esma_registers_upreg. Accessed April 25, 2022.

Stuttgart Stock Exchange opened its crypto-exchange regulated as an MTF.[173] Additionally, with the adoption of PilotR, issuers will be obliged to comply with prospectus requirement in case of admission of their security tokens to DLT MTFs, but only if the security tokens comply with the limitations set in Art. 3(1) of the PilotR.

(ii) Transparency Directive (TD)

The TD[174] requires issuers, whose securities are already admitted to trading on a regulated market situated or operating within a Member State, to disclose their periodic and ongoing information which includes, e.g., annual financial reports, half-yearly reports, interim management statements, acquisition or disposal of major holdings and any changes in the rights of holders of securities.[175] The requirements laid down in this directive also apply to issuers of security tokens if these are admitted to trading on a regulated market, such as crypto-exchanges discussed in the previous paragraph or DLT MTFs, since the Provisional Agreement does not provide for exemptions from rules of this directive.

2.3.2   Regulation of secondary market (CASPs and investors)

(i) MiFID II and MiFIR

The aim of the Market in Financial Instruments Directive framework consisting of MiFID II[176] and MiFIR[177] is to "ensure fairer, safer and more efficient markets and facilitate greater transparency for all participants".[178] MiFID II lays down the organizational requirements, the conduct of business rules and the transparency and reporting requirements for firms providing investment services/activities.[179] ESMA suggested that

> where crypto-assets qualify as financial instruments, a number of crypto-asset related activities are likely to qualify as investment services/activities such as placing, dealing on own account, operating an MTF or OTF[180] or providing investment advice.[181]

In this case, CASPs that provide investment services/activities in relation to security tokens need to be authorized as investment firms and comply with MiFID II requirements. ESMA in its advice focused on the applicability of MiFID II to crypto-exchanges, and the author agrees that these CASPs are the main investment services/activities providers.[182] ESMA has also identified three main categories of crypto trading platforms and determined how these should

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[173] *See* Winnie Mosioma et al., "Regulated cryptocurrency exchanges: sign of a maturing market or oxymoron?" *LSE Business Review* (April 2021), accessed April 26, 2022, https://blogs.lse.ac.uk/businessreview/2021/04/13/regulated-cryptocurrency-exchanges-sign-of-a-maturing-market-or-oxymoron/; and Digital Exchange Börse Stuttgart, accessed April 26, 2022. Available on: https://www.bsdex.de/en/.
[174] Directive 2004/109/EC of the European Parliament and of the Council of 15 December 2004 on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and amending Directive 2001/34/EC, *OJ L* 390, 31.12.2004, p. 38-57. Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32004L0109. Accessed April 26, 2022.
[175] *See ibid*, Art. 1(1); and ESMA, *supra* note 119, p. 23.
[176] Directive 2014/65/EU, *supra* note 46.
[177] Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012 Text with EEA relevance, *OJ L* 173, 12.06.2014, p. 84–148. Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32014R0600. Accessed April 26, 2022.
[178] ESMA. *MIFID II*. Available on: https://www.esma.europa.eu/policy-rules/mifid-ii-and-mifir. Accessed on April 26, 2022.
[179] ESMA, *supra* note 119, p. 24.
[180] Organized trading facility.
[181] ESMA, *supra* note 119, p. 24.
[182] *Ibid*.

be regulated under MiFID II. First are platforms that have a central order book and/or match orders under other trading models, and these should operate either as regulated markets under Title III of MiFID II or as MTFs or OTFs under Title II of MiFID II.[183] Platforms' activities are similar to those of brokers/dealers if the operators are dealing on own account and executing client orders against their proprietary capital; in such case the platforms should comply with the requirements of Title II of MiFID II.[184] The platforms that advertise buying and selling interests without actual trade execution and arrangements are out of the scope of MiFID II.[185] In this advice ESMA also stated that DEXs are "still in their infancy"[186], however, the advice was written in 2019, but now DEXs are developing and maturing on the market. Although ESMA and some researchers claimed that DEXs face a number of challenges and hence handle far less volume than the centralized exchanges (CEXs)[187], others stated that DEXs, notwithstanding their disadvantages, are built on CEXs shortcomings and are growing in popularity.[188] It is not precisely clear whether full or even partial DEXs would be subject to regulation, in particular MiFID II, but from the practice it is evident that they now escape the regulatory requirements.[189]

(ii) Anti-Money Laundering Directive (AMLD5)

The AMLD5[190] amends the initial directive (AMLD), which establishes rules for the obliged entities for the prevention of the use of EU's financial system for the purposes of money laundering and terrorist financing[191], by including CASPs into its scope (Art. 1(1)(c) of AMLD5). In particular, AMLD5 imposes AML obligations on CAPSs engaged in exchange services between crypto-assets and fiat and custodian wallet providers. The directive does not differentiate between different types of crypto-assets, hence it should be applicable to CASPs providing services/activities related to security tokens as well. On the other hand, CASPs involved in security tokens trading/storage would qualify as financial institutions, e.g., investment firms, since, as determined in the previous paragraph, they should be subject to MiFID II authorization requirements. Financial institutions were subjects to AML requirements even before AMLD5 (Art. 2(1)(2) of AMLD).

In 2019 ESMA highlighted its agreement with EBA's report and advice on crypto-assets that the scope of AMLD should be extended to providers of exchange services between crypto-assets and crypto-assets and providers of financial services for ICOs as suggested by FATF

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[183] *Ibid*., pp. 24-25.

[184] *Ibid*.

[185] *Ibid*.

[186] *Ibid*., p. 25.

[187] *See ibid*., p. 44; and Brian D. Feinstein et al., "The Impact of Cryptocurrency Regulation on Trading Markets," *Journal of Financial Regulation* Vol. 7, Issue 1 (March 2021): p. 53, accessed April 26, 2022, https://doi.org/10.1093/jfr/fjab003.

[188] *See* Benedict George, "Centralized Exchange (CEX) vs. Decentralized Exchange (DEX): What's the Difference?" *CoinDesk* (2022), accessed April 26, 2022, https://www.coindesk.com/learn/centralized-exchange-cex-vs-decentralized-exchange-dex-whats-the-difference/; and Johnson, *supra* note 91, pp. 1955-1959.

[189] George, *supra* note 188.

[190] Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, and amending Directives 2009/138/EC and 2013/36/EU, *OJ L* 156, 19.06.2018, p. 43–74. Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32018L0843. Accessed April 27, 2022.

[191] Art. 1(1) of the Directive (EU) 2015/849 of the European Parliament and of the Council of 20 May 2015 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, amending Regulation (EU) No 648/2012 of the European Parliament and of the Council, and repealing Directive 2005/60/EC of the European Parliament and of the Council and Commission Directive 2006/70/EC, *OJ L* 141, 05.06.2015, p. 73-117. Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32015L0849. Accessed April 27, 2022.

recommendations of October 2018.[192] Nevertheless, no amendments have been made yet and the directive still leaves crypto-exchanges which offer the exchange services only between crypto-assets (without fiat) out of its scope of application. According to ESMA and Feinstein et al., DEXs cannot provide exchange services between crypto-assets and fiat.[193] But their clients would still need wallets to store the assets, and for that purpose they can either refer to custodian wallet providers (hot wallet – when cryptographic keys are stored by the service provider) or to cold wallets – when they maintain private keys themselves.[194] In case of the latter, regulators have no control over the transactions, but they can impose AML obligations on custodian wallet providers. Theoretically, the risk of DEXs dealing with crypto-crypto transactions is outweighed by the fact that AMLD5 applies to all (European) custodian wallet providers where crypto-assets are stored even without fiat. On the other hand, there are DEXs which offer exchange between crypto-assets and fiat as well as wallets (but do not hold keys and any other data on behalf of clients) but do not comply with any AML obligations. The example of such DEX is Bisq: a platform operated by a decentralized autonomous organization (DAO) which highlights that it does not know anything about its clients and offers to trade crypto-assets for fiat currencies.[195] There is a list of payment methods supported by the platform and, although they highlight the fact that none of the payment methods are actually integrated with Bisq software, they found loopholes how the clients can transfer funds for crypto-assets without due diligence procedure.[196] Such DEXs seem impossible to regulate, since there is no one particular entity or person operating them, but it shows the potential incompliance with AML laws of payment services providers (PSPs) listed on the platform's website.

(iii) Market Abuse Regulation (MAR)

The MAR[197] provides for a common regulatory framework on insider dealing, the unlawful disclosure of inside information and market manipulation (market abuse) as well as for rules on prevention of the said activities (Art. 1). The regulation should be applicable to issuers whose security tokens are or will be traded on a regulated market, MTF or OTF (Art. 2(1)). The rules would be applicable to the issuers of security tokens in the same manner as to the issuers of 'classical' financial instruments. In short, the issuer must disclose the inside information which might affect the price of tokens to the public as soon as possible (Art. 17(1)); keep all relevant inside information on its website for the period of at least five years (Art. 17(1)); draw up and maintain an updated list of all persons having access to inside information, including employees (Art. 18).

Moreover, the regulation affects investors who acquire security tokens in the same manner as it applies to all other investors. The MAR prohibits investors to engage in insider dealing, the same as the issuers, and to engage in unaccepted market practices or market manipulation as defined in Art. 12 of MAR.

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[192] ESMA, *supra* note 119, p. 36.

[193] *Ibid*., p. 44; and Feinstein et al., *supra* note 187.

[194] Johnson, *supra* note 91, p. 1972.

[195] Bisq, frequently asked questions. How is Bisq different from other decentralized exchanges? Available on: https://bisq.wiki/Frequently_asked_questions#How_is_Bisq_different_from_other_decentralized_exchanges.3F. Accessed April 27, 2022.

[196] Bisq, wiki. Payment methods. Available on: https://bisq.wiki/Payment_methods. Accessed April 27, 2022.

[197] Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse (market abuse regulation) and repealing Directive 2003/6/EC of the European Parliament and of the Council and Commission Directives 2003/124/EC, 2003/125/EC and 2004/72/EC Text with EEA relevance (Consolidated version 2021), *OJ L* 173, 12.06.2014, p. 1–61. Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02014R0596-20210101. Accessed April 28, 2022.

(iv) Short Selling Regulation (SSR)

The SSR[198] prohibits a particular financial market behavior called 'short selling', unless some specific conditions are met (Arts. 12-14), and applies to all financial instruments, hence including security tokens, admitted to trading on a trading venue in the EU, including such instruments when traded outside a trading venue (Art. 1(1)). The regulation addresses investors and not the issuers.

2.3.3 Regulation of trading platforms performing settlement activities

(i) Settlement Finality Directive

The SFD[199] aims at reducing systemic risk associated with participation in payment, clearing and securities SSs, in particular the risks linked to insolvency of a participant in such a system.[200] The term 'system' is defined in Art. 2(a) as a formal arrangement between three or more participants, with common rules and standardised arrangements for the clearing or execution of transfer orders designated as a system by the Member State whose law is applicable. It is problematic to apply rules on SSs to DEXs, since under the SFD such system must be operated by a 'system operator' which has to be an entity or a group of entities. But in case of DEXs the market operator (usually) cannot be identified. Another issue identified by ESMA is that, according to Art. 2(f), the participants to that system must be an institution or other professional legal entities, but many participants of crypto-asset trading platforms and of DLT networks are individuals.[201]

(ii) Central Securities Depositories Regulation (CSDR)

The CSDR[202] lays down uniform requirements for the settlement of financial instruments in the EU and rules on the organisation and conduct of CSDs (Art. 1(1)). Those CASPs which operate a securities SS as defined in the SFD or DLT SS, but do not apply for a specific permission under PilotR, should comply with a full set of CSDR rules. Of course, it would be problematic, and that is the reason for creation of the PilotR. Application of all CSDR provisions exempted by PilotR is unclear in relation to DLT SSs, and that has been also highlighted by ESMA in its advice.[203] ESMA also considered permissionless DLTs less suitable to the processing of financial instruments.[204] Important to note, CSDR also leaves crypto-to-crypto transactions outside of its scope, since under the CSDR 'settlement' is defined as a transaction involving the transfer of cash and securities only. This, of course, puts DEXs again into a grey zone, however, STOs and CEXs can also have transactions without fiat.

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[198] Regulation (EU) No 236/2012 of the European Parliament and of the Council of 14 March 2012 on short selling and certain aspects of credit default swaps (Consolidated version 2022), *OJ L* 86, 24.03.2012, p. 1–24. Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02012R0236-20220131. Accessed April 28, 2022.

[199] Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems (Consolidated version 2019), *OJ L* 166, 11.06.1998, p. 45–50. Available on: https://eur-lex.europa.eu/eli/dir/1998/26/2019-06-27. Accessed April 28, 2022.

[200] ESMA, *supra* note 119, p. 30.

[201] *Ibid*., p. 32.

[202] Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012 (Consolidated version 2016), *OJ L* 257, 28.08.2014, p. 1–72. Available on: https://eur-lex.europa.eu/eli/reg/2014/909/2016-07-01. Accessed April 29, 2022.

[203] ESMA, *supra* note 119, pp. 31-34.

[204] *Ibid*., p. 37.

3.   DISCUSSION AND RECOMMENDATIONS

In this chapter the author provides answers on questions posed in the introduction based on the combination of theory provided in chapter 1 and analysis of practice and legislation conducted in chapter 2. First of all, the author discusses the procedure for classification of a crypto-asset as a financial instrument in the EU and proposes improvements in relation to it **[3.1]**. Then, the author addresses gaps and unclarities in the EU law applicable to security tokens, both identified by the research outstanding and the author, and recommends on the possible actions of regulators **[3.2]**.

3.1   Procedure for classification of a crypto-asset as a financial instrument

As it follows from the research outstanding referred to in section 1.4 and from the analysis of guidelines and case study performed in section 2.1, currently there is no unified procedure in the EU yet because interpretation of the notion 'transferable security' as well as definitions of shares, bonds and other types of financial instruments vary across Member States. Moreover, while some Member States provide clear guidance on classification of security tokens, others stay silent on this issue. This results in the lack of clarity and space for jurisdiction shopping among issuers and CASPs.

Thus, there is a need for clarifications on behalf of the EU institutions. Many progressive states such as Germany and Lithuania have taken 'substance over form' approach in determining what constitutes a security token, i.e., it is not mandatory for a financial instrument to be in a paper form or as a book-entry in CSD. In author's view it is necessary to have a 'substance over form' approach on supranational level, so that listing and book-entries on CEXs and not on 'classical' exchanges and CSDs would not be an obstacle for classifying a token as a financial instrument. The author positively views the provision of Amending Directive which would include security tokens in the definition of 'financial instrument', since this is an important step towards harmonization of the notion 'transferrable security'. Such harmonized approach would prevent issuers and CASPs from jurisdiction shopping. However, it is also recommended to issue guidelines with many examples of crypto-assets which should be deemed securities and which not, and that could be done by ESMA. European issuers and CASPs should have all necessary information to be able to classify the crypto-assets themselves and to avoid possible penalties.

The analysis by academics and guidelines of some progressive Member States suggest the reliable criteria for a crypto-asset to qualify as a financial instrument: (i) cashflow from issuer to investor, (ii) transferability and standardization (negotiability), and (iii) embodiment of rights similar to other securities. However, the criteria could be complemented with one important element from the U.S. *Howey* test: expected profit (cashflow) is to be derived from the efforts of others. The author considers it important in order to prevent the possible uncertainties in relation to tokens which are based on proof-of-stake blockchain, such as SOL token mentioned in section 1.1.2. Such tokens can be staked, and staking means that a token has to be 'invested' (it is not possible to use the tokens, while they are staked) in order to create new nods and tokens/to verify transactions, and in return, investor receives rewards (interest payments) in form of the staked token.[205] Issuers of some of proof-of-stake tokens are known

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[205] *See*, *e.g.*, Cosmos Hub offers a possibility to stake its token ATOM and to earn rewards in ATOMs (Exodus, Staking Cosmos (ATOM) FAQs, available on: https://support.exodus.com/article/1403-exodus-cosmos-staking-

(e.g., ATOM is issued by Cosmos), while others are DAOs or simply not known (e.g., ETH or Ether token does not have a centralized control[206]). In the former case there might be doubts whether the cashflow is from the issuer, and the fact that a token can be staked, thus giving a right to interest payments, may lead to perception of such token as a financial instrument. However, if there will be an additional requirement that investor is not required to do any actions except of acquiring a security token in order to receive a cashflow, cases where holders of tokens stake them for receiving interest payments (and where that is the only cashflow they get), will not be considered as acquisition of securities.

In general, the author suggests not to follow the SEC's approach by putting a label of security on every crypto-asset issued within the ICO, but also not to allow issuers to escape legal requirements by pretending that they issue utility tokens when actually these are security tokens (as in case with Polybius[207]).

3.2   Gaps in the EU law applicable to security tokens and recommendations

After the analysis of the crypto-regulation performed in section 2.2 and the analysis of the financial instruments' regulation performed in section 2.3, there appears a question in relation to crypto-exchanges dealing with security tokens, which is whether they need to receive an investment firm license or regulated market authorization under MiFID II or a CASP license under MiCA (when it comes into force). First, since MiCA does not apply to financial instruments, it can be concluded that its authorization requirements for CASPs apply only to those CASPs which do not deal with security tokens. Secondly, as PilotR governs DLT trading venues dealing with financial instruments and specifically points that only trading venues authorized under MiFID II are eligible to apply for a specific permission[208], it follows that CASPs trading and/or settling security tokens must have a license issued under MiFID II and not MiCA. Of course, the permission granted under PilotR also suits CASPs dealing with security tokens, however, primary would be still a MiFID II license.

The next question would be whether such CASPs can be authorized under MiFID II but also offer services/activities with other classes of crypto-assets in addition to security tokens. The requirements under MiFID II are stricter than under MiCA, and the most illustrative example would be the initial capital requirements under MiFID II and the Directive on the prudential supervision of investment firms (PSoIFD)[209] and the minimum capital requirements under MiCA. An investment firm and a CASP providing very similar services, such as the reception and transmission of orders, providing advice on investment/crypto-assets, execution of orders, and placing of financial instruments/crypto-assets, are subject to different initial

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faq#about. Accessed April 15, 2022; Staking Rewards, Cosmos Hub, available on: https://www.stakingrewards.com/earn/cosmos/. Accessed April 15, 2022). *See also* Jake Frankenfield, "Proof-of-Stake (PoS)," *Investopedia*, available on: https://www.investopedia.com/terms/p/proof-stake-pos.asp. Accessed May 7, 2022.

[206] Ethereum.org. What is Ether (ETH)? available on: https://ethereum.org/en/eth/. Accessed May 7, 2022.

[207] *See* section 2.1.2.

[208] Or DLT trading venues can apply for the authorization under MiFID II and for the specific permission at the same time, but in any case, PilotR makes a reference to MiFID II authorization.

[209] Directive (EU) 2019/2034 of the European Parliament and of the Council of 27 November 2019 on the prudential supervision of investment firms and amending Directives 2002/87/EC, 2009/65/EC, 2011/61/EU, 2013/36/EU, 2014/59/EU and 2014/65/EU Text with EEA relevance (Consolidated version 2019), *OJ L* 314, 05.12.2019, p. 64–114. Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02019L2034-20191205. Accessed May 8, 2022.

capital requirements: for the former it is EUR 75 000 (Art. 9(2) of PSoIFD) but for the latter – EUR 50 000 (Annex IV to MiCA). In general, the highest initial capital requirement for an investment firm is EUR 750 000, while for a CASP the highest is only EUR 150 000. However, Art. 2(6) of MiCA also specifies that where an investment firm licensed under MiFID II provides one or several crypto-asset services (other than that with security tokens), it shall be still compliant with Arts. 57-58 and 60-61 of MiCA, which concern the registration as CASP with ESMA (Art. 57), passporting of CASPs (Art. 58), prudential requirements (Art. 60), and organizational requirements (Art. 61). The prudential and organizational requirements under MiCA are not substantially different from those under Regulation on prudential requirements of investment firms (PRoIFR)[210] and MiFID II.[211] Moreover, MiCA acknowledges that particular crypto-asset services must be deemed equivalent to particular investment services specified in Section A of Annex I to MiFID II.[212] Thus, with a license issued under MiFID II a CASP can provide services in relation to security tokens as well as other classes of crypto-assets if it also complies with the mentioned MiCA requirements, but in case of MiCA authorization – in relation to all other classes of crypto-assets *excluding* security tokens.

Therefore, with the introduction of MiCA, CASPs which do not wish to authorize under MiFID II will need to exclude security tokens from their operations in order to authorize under MiCA. That might be problematic and even unrealistic with DEXs. In principle, issuers shall be prohibited from listing their security tokens on exchanges without MiFID II authorization as well as such exchanges shall not accept security tokens for listing. However, anyone can list a token on a DEX, including a security token.[213] Even with CEXs authorized under MiCA, in order to ensure that they do not deal with security tokens, NCAs would need to strictly monitor these CEXs and issuers in their countries, which would require a lot of resources. In case NCAs will be able to detect non-compliant crypto-exchanges and issuers and to fine them, this might lead to crypto-exchanges leaving these Member States or the EU in general due to too burdensome requirements, such as delisting previous security tokens and mandatory assessment of new tokens being listed *or* compliance with stricter MiFID II requirements. CASPs could search for jurisdictions which do not yet differentiate between security tokens and other classes of crypto-assets or, alternatively, the EU could face an increase in the number of DEXs.

The issue of DEXs seems unsolvable yet as they are not subject to regulation, since there cannot be found a particular natural or legal person responsible for them. At the moment, these exchanges do not authorize as financial institutions, do not comply with reporting and

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[210] Regulation (EU) 2019/2033 of the European Parliament and of the Council of 27 November 2019 on the prudential requirements of investment firms and amending Regulations (EU) No 1093/2010, (EU) No 575/2013, (EU) No 600/2014 and (EU) No 806/2014 Text with EEA relevance (Consolidated version 2019), *OJ L* 314, 05.12.2019, p. 1–63. Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02019R2033-20191205. Accessed May 10, 2022.

[211] *E.g.*, Art. 60(1) of MiCA and Art. 11 of PRoIFR provide that the prudential safeguards (own funds) must be higher either that the amount of permanent minimum capital requirements or than one quarter of the fixed overheads of the preceding year (however, PRoIFR also states that own funds can be higher than K-factor requirement, but MiCA also provides for a possibility to use insurance policy instead of own funds); Art. 9(4) of MiFID II and Art. 61(1) of MiCA both provide that the members of the management body must be of sufficiently good repute and competence (the only difference would be that in case an investment firm also provides crypto-asset services, member of the management body must have the necessary competence in crypto-assets other than security tokens in addition to financial instruments); Art. 16(4) of MiFID II and Art. 61(6) of MiCA both refer to reasonable steps to ensure continuity and regularity in the performance of services.

[212] *See* Art. 2(6) of MiCA.

[213] *See* Flovtec, Token Listing Strategies, available on: https://www.flovtec.com/post/token-listing-strategies. Accessed May 8, 2022; and LeewayHertz, How to list a DeFi token on Uniswap? available on: https://www.leewayhertz.com/tokens-on-uniswap-exchange/#how-to-list-a-defi-token-on-uniswap. Accessed May 8, 2022.

AML obligations as well as all other legal requirements. In author's view, regulators have two options in regard to DEXs: 1) to leave everything as it is, so to let DEXs operate as they do right now, but to warn investors about the risks associated with DEXs[214]; 2) to prohibit non-compliant DEXs and to block them (if that is possible). In the first scenario there is a hope that the regulation of wallet providers and crypto-exchanges offering the exchange between crypto-assets and fiat under AMLD5 will reduce risks of money laundering in relation to DEXs, and that warnings about unregulated activities of DEXs will protect at least some of their clients. In the second scenario it, of course, would be possible to avoid restrictions by using VPN (as it is done now by many Russian citizens due to the western media blockade[215]), and some DEXs might develop a protection from blocking. Moreover, such decision will result in dissatisfaction of crypto-community and effects of this cannot be predicted. The author considers bans not effective, since they only trigger the development of the shadow market[216], thus, it is more reasonable to resort to the first option and leave the situation with DEXs as it is while relying on AMLD5 and investor warnings. Additionally, the author recommends NCAs to take a closer look at PSPs involved in the transfer of funds between DEXs' clients. Lists of PSPs available to clients published on some DEX's websites, as in case with Bisq referred to in section 2.3.2, should be checked by NCAs in order to determine potentially non-compliant PSPs, especially in terms of AML requirements. These PSPs should be particularly inspected, and that could help to prevent the exchange between fiat and crypto-assets via DEXs.

The analysis of the PR performed in section 2.3.1 showed that issuers of security tokens must organize a territorially limited STO if they do not wish to prepare a prospectus for Member States with lower thresholds. This raises difficulties for issuers of security tokens, since for them it is more difficult to determine the location of investors rather than for issuers of 'classical' financial instruments.[217] Thus, to decrease the documentation preparation process in the form of writing a prospectus for Member States with a lower threshold, they would need to block IP addresses of all possible investors from such states. The latter could require additional resources from the issuer and could be a substantial burden for the issuers of less than EUR 8 million. Both preparing a prospectus and blocking IP addresses of non-eligible investors is costly, so issuers do not have a 'better' option. On the other hand, issuers may resort to less costly options to prevent the acquisition of security tokens by non-eligible investors: 1) they can decline applications of investors after reviewing their documentation (that could be even encoded into a smart contract) and/or 2) write disclaimers stating "not for distribution in (…)" and obliging investors to confirm that they comply with eligibility criteria. Although both these methods do not fully prevent acquisition by non-eligible investors, in that case, the investor would be liable for providing false information. Even if the unlawful transaction would be performed, when discovered it would be deemed null and void. Thus, in practice, STO organizers have a burden not larger than IPO organizers.

By analyzing the contents of MiCA in section 2.2 the author concluded that its Title IV provides for similar rules on the prevention of market abuse as MAR. The main difference is that MiCA's rules apply to utility and payment tokens and stablecoins, while MAR – to financial instruments, including security tokens. The author agrees that rules on prevention of market abuse and manipulation are important in respect of all classes of crypto-assets,

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[214] *See* section 1.3.

[215] Margaret Harding McGill, "How Russians are evading the internet blockade," *Axios* (2022), available on: https://www.axios.com/2022/03/09/vpns-evading-russias-internet-blockade. Accessed May 9, 2022.

[216] *See*, *e.g.*, Amy Fontinelle, "How Black Markets Work," *Investopedia*, available on: https://www.investopedia.com/articles/economics/12/mechanics-black-market.asp. Accessed May 9, 2022.

[217] *See* Zhang, *supra* note 100, pp. 338-339.

unaccepted market practices can be implemented not only with security tokens. However, MiCA does not adapt SSR's rules. It should be assessed whether short sale is possible with utility and/or payment tokens and/or stablecoins.

There are several articles freely available on the internet which provide a guidance on how to short sell Bitcoin and other cryptocurrencies.[218] Bitcoin is considered a payment token in the EU as it has been found in section 1.1.2, thus it should fall into the scope of MiCA. If it is possible to short sell Bitcoin and other tokens, rules from SSR must be implemented into MiCA, since the SSR itself applies only to financial instruments and security tokens. To sum up, the author's opinion is that although not all crypto-assets traded on exchanges should be deemed securities, their trade should be subject not only to MAR's but also to SSR's rules notwithstanding the class of crypto-asset being traded.

Speaking about PilotR, it is undoubtedly a beneficial initiative as it addresses many issues of the application of EU financial law to DLT market infrastructures. Hopefully the pilot regime will be successful and further transformed into a permanent regulation. The author appreciates the fact that the EU legislators took into consideration the critique of Zetzsche et al. concerning the limits on financial instruments, limited possibilities for startups to enter the pilot regime, exemptions from MiFID II, etc. and implemented the changes into the Provisional Agreement. This shows regulators' true interest in promoting innovation. The author, however, still considers the process of applying for a specific permission a little bit too bureaucratic, but the real complexity of the process can be assessed when entities will actually apply for the said permissions. It is crucial for legislators to adapt the PilotR appropriately with the development of new technologies in the field of DLT. Moreover, the author would appreciate if the process of adaption of laws that are part of DFS would be more transparent, so that researchers and businesses could easily monitor it and see all changes timely. At this point of time, the author does not have any further comments on PilotR, but there will be a need in further research when the first data from the operation of a pilot regime will be available.

To conclude, firstly, the author considers that separation of investment firms-CASPs able to deal with both security tokens and other classes of crypto-assets and CASPs able to deal only with other classes of crypto-assets may lead to negative outcomes, such as increased workload of NCAs, CASPs opting for a jurisdiction not differentiating between security tokens and other crypto-assets and increase in the number of DEXs. Secondly, there is no need in banning DEXs, although they do not comply with the EU financial law and likely will not comply with crypto-law. Instead, NCAs should focus on the compliance of PSPs mentioned by DEXs on their websites. Thirdly, PR prohibition to benefit from the passporting regime in Member States that retain the threshold lower than EUR 8 million burdens issuers of security tokens no more than issuers of financial instruments. Next, SSR rules must be implemented into MiCA in order to mitigate the risk of shorting all crypto-assets and not only security tokens. Finally, the author PilotR as a positive development and looks forward for the results on this regime.

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[218] *See*, *e.g.*, CMC Markets, Short selling bitcoin: a how-to guide, available on: https://www.cmcmarkets.com/en/trading-guides/short-selling-bitcoin. Accessed May 10, 2022; The Daily Iowan, How to Short Bitcoin and Other Cryptocurrencies, available on: https://dailyiowan.com/2021/11/17/how-to-short-bitcoin-cryptocurrency/. Accessed May 10, 2022; Nathan Reiff, "Seven Ways to Short Bitcoin," *Investopedia*, available on: https://www.investopedia.com/news/short-bitcoin/. Accessed May 10, 2022.

CONCLUSION

The author determined that there has been no unified definition of a crypto-asset, however, MiCA provides it together with many other definitions relevant for crypto-market. It is widely accepted to divide crypto-assets in three classes: (i) payment tokens, (ii) utility tokens, (iii) security tokens. The EU also followed this approach as evidenced from MiCA and as was concluded by scholars. Security tokens guarantee the same or similar rights as 'classical' financial instruments and are regulated as financial instruments in the EU. The FMI differs from crypto-market infrastructure in a way that for the latter there is no need in a central party and in intermediaries for the issuance, since DLT can replace those. Nevertheless, it has been concluded that security tokens pose higher risks that 'classical' financial instruments, namely currency, legal, money-laundering and investor protection risks. The research outstanding clearly indicated a need in harmonization and standardization of definitions and rules applicable to security tokens, while there was no up-to-date assessment of the EU financial law applicable to this class of crypto-assets.

The author found that STO process in Member States, that provide a clear guidance on how to identify a security token, tends to be smoother and clearer. Additionally, some issuers may wish to pretend that they issue utility tokens (ICO) while actually issuing security tokens (STO) in order to avoid compliance with securities laws.

The first research question was as follows: 1) What is and/or what should be the procedure for classification of a crypto-asset as a financial instrument under MiFID II? The author concluded that till now there was no unified procedure across the EU, since Member States tend to interpret the notion 'transferable security' as well as to define 'classical' financial instruments differently. This differences mainly concern formal requirements for financial instruments, i.e., where states have strict, conservative views on the CSD's book-entry requirement and do not regulate DLTs, they might not consider security tokens as financial instruments because these cannot be recorded by the CSD in accordance with established rules. At this point, some Member States take a more progressive approach and develop guidelines on STOs and security tokens in general, while others prefer to ignore this issue. Although there is no one procedure, the author derived the criteria for what constitutes a security token in the EU (to be more precise, in some parts) from the work of scholars and NCA guidelines. In general, a crypto-assets should be deemed a security token if it: (i) guarantees a cashflow from issuer to investor, (ii) is transferable and standardized (negotiable, and (iii) embodies rights similar to other securities.

The author considers that the procedure for classification of a crypto-asset as a financial instrument should be harmonized across the EU, since then there will be more clarity for issuers of security tokens and CASPs, as well as it would help to prevent the jurisdiction shopping among market participants. The provision of Amending Directive which supplements MiFID II definition of financial instrument with DLT financial instruments would serve great for the purpose of harmonization. At least then all Member States would be required to acknowledge the existence and the need for regulation of security tokens. However, the author also proposes to supplement the criteria mentioned in the previous paragraph with another point from the U.S. *Howey* test: expected profit (cashflow) is to be derived from the efforts of others. In author's point of view, such amendment is needed to exclude some controversial proof-of-stake tokens from the definition of 'transferable security'.

Other two research questions cover one broad issue on the gaps in the EU financial law applicable to crypto-assets that qualify as financial instruments. The author found that recent EU initiatives within its DFS cover almost all previously identified gaps in the EU financial law applicable to security tokens. However, there still exist some inefficiencies in the application of that law.

First, the author concluded that CASPs authorized under MiCA cannot provide services related to security tokens, while CASPs authorized under MiFID II need to comply with particular MiCA requirements in order to deal with other classes of crypto-assets in addition to security tokens. Such approach is risky, since (i) NCAs would experience higher workload in order to monitor that CASPs deal only with those crypto-assets that come with their authorization, (ii) CASPs could move to jurisdictions not differentiating between security tokens and other classes of crypto-assets, (iii) the number of DEXs would probably increase as it is difficult to regulate them. On the other hand, the author thinks that PilotR exemptions from MiFID II provisions might reduce risks of such separation of CASPs. It is likely that PilotR will motivate more CASPs to apply for a specific permission and then they would be able to provide services also related to security tokens.

Next, the author assessed the issue of DEX regulation, since DEXs can also offer security tokens but without having a MiFID II license. This type of crypto-exchanges is impossible to regulate yet, since there cannot be identified a particular natural or legal person responsible for them. That poses risks related to investor protection and money-laundering. The author offered two options in respect to DEX regulation: 1) to leave everything as it is, so to let DEXs operate as they do right now, but to warn investors about the risks associated with DEXs; 2) to prohibit non-compliant DEXs and to block them (if that is possible). Due to ineffectiveness of regulatory bans the author considered the first option to be more favorable. In general, AMLD5 and warnings addressed to investors should be enough for now to minimize the risks associated with DEXs. Additionally, the author recommends NCAs to take a closer look (from AML perspective in particular) at PSPs mentioned by DEXs on their websites as possible payment methods available to clients.

The author concluded that application of PR to STOs is reasonable and the requirement to draw up a prospectus for offer in Member States that retain a lower threshold (less than EUR 8 million) does not burden issuers of security tokens more than issuers of financial instruments. The author determined three options which issuers, that do not prepare a prospectus, can choose in order to prevent investors from countries with lower thresholds from acquiring their security tokens: 1) to decline applications of non-eligible investors after reviewing their documentation/to encode territorial limitations into a smart contract; 2) to write disclaimers warning about limitations to distribution and to oblige investors to confirm that they comply with eligibility criteria; 3) to block IP addresses of territorially non-eligible investors. Last option is more radical and costly, but also very reliable. However, two other options are cost-efficient and also effective as in case of unlawful transaction it would be deemed invalid.

Although the research question concerned the application of the EU financial law to security tokens, the author discovered that some legal rules should be also applicable to other classes of crypto-assets and not only to security tokens. These are SSR rules regulating the market practice called short selling. It is important to include SSR rules into MiCA in order for them to apply to other classes of crypto-assets, since it is possible to short sell them too (at least payment tokens as research indicated).

Overall, there is no need in many amendments to the EU law applicable to security tokens. The author had only two proposals amending the legislation: regarding the security tokens criteria and SSR rules in MiCA. The Commission's proposals within the framework of DFS, especially PilotR and Amending Directive, are crucial instruments for adopting the EU financial law to security tokens. Nevertheless, there will be a need in continuous research covering all stages of the DFS development and adoption. At first, final adopted versions of all four laws should be assessed; then, middle-results of the regimes should be analyzed; and finally, the analysis of long-term results as well as the assessment of PilotR's success should be performed.

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