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Regulating Crypto-Assets: Investor Protection Strategies and the 5-I's Model

MARIKA SALO-LAHTI*

Abstract

Crypto-assets are often marketed with high expected returns but as a detriment, very high price volatility comes in the same package. It is hard to imagine more controversial investment objectives than crypto-assets – their status varies worldwide from legal currency to totally prohibited illegality. Crypto-assets have been an almost unregulated field in the EU. However, the Crypto Wild West days are soon to be over, as the new EU regulation is finally coming. The growing consumer demand for crypto-assets forces to strengthen investor protection. In this paper, investor protection strategies of the crypto-asset market are systematised with the 5-I's Model developed by the author. The model examines crypto-assets from the perspective of investor, investment, information, intermediary and issuer – parts that constitute the five 'Is' in the model.

Keywords

5-I's model, crypto-assets, EU regulation, MiCA, DLT, blockchain, investor protection, FinTech, regulatory sandbox, decentralised finance

1. Crypto-Assets as Investment Objectives

1.1. The Definition of Crypto-Assets and Recent Regulatory Activities

Crypto-assets are used both in lawful and unlawful activities. Special attention has been paid to the usage of crypto-assets to buy and sell illegal goods and services online, money laundering, and tax avoidance. Most legal activities take place on crypto-exchanges. Crypto-assets serve new financing opportunities for businesses, in an electronic and decentralised way. For investors, they can serve diversification possibilities.[1]

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[1] High Level Forum, *A New Vision for Europe's Capital Markets. Final Report of the High Level Forum on the Capital Markets Union,* 14 (2020).

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Consumer interest on crypto-assets, including both virtual currencies and new types of crypto-assets, has grown significantly.[2] One reason for that is the search for yield in the unprecedently turbulent market conditions.[3] The market of crypto-assets includes wide range of different actors and assets. In March 2023, CoinMarketCap[4] lists over 22,700 different crypto-assets, Bitcoin and Ethereum being the most well-known.[5] The skyrocketed price of Bitcoin has led to strong investor demand, and this is followed by the assumption that crypto-assets will eventually achieve mainstream acceptance.[6]

When considering crypto-asset markets, the terms 'cryptocurrency' or 'virtual currency' have been widely used,[7] but the emergence of new subsets, such as utility tokens, stablecoins and central bank digital currencies, advocates using a broader 'crypto-asset' term.[8] The term 'token' is often used as a synonym for crypto-assets. Crypto-assets can serve many functions: they can be *payment* methods as well as *investment* objectives. *Utility tokens* are used to access applications or services. Some crypto-assets, such as Bitcoin, have more than one of these functions.[9] New EU-wide regulation proposal on Markets in Crypto-assets (hereinafter 'MiCA')[10] defines 'crypto-asset' as a digital representation of value or rights which may be transferred

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[2] See, e.g., European Commission, *Disclosure, Inducements, and Suitability Rules for Retail Investors Study*: *Final Report,* 69 (2022). According to the study, interest in crypto-assets is increasing in all of the studied Member States, especially among young and risk-seeking investors.

[3] ESMA (European Securities and Markets Authority), *ESMA Report on Trends, Risks and Vulnerabilities,* ESMA50-165-1524 54 (2021).

[4] CoinMarketCap, *Today's Cryptocurrency Prices by Market Cap*, https://coinmarketcap.com (accessed 6 Mar 2023).

[5] ESAs (European Supervisory Authorities), *EU Financial Regulators Warn Consumers on the Risks of Crypto-Assets,* 3 (2022).

[6] ESMA, *supra* n. 3, at 53.

[7] See Apolline Blandin, Ann-Sofie Cloots, Hatim Hussain, Michel Rauchs, Rasheed Saleuddin, Jason Grant Allen, Bryan Zhang & Katherine Cloud, *Global Cryptoasset Regulatory Landscape Study*, 34–35 (Cambridge Centre for Alternative Finance, University of Cambridge, 2019). Based on their study on crypto-asset regulation in different jurisdictions, the authors found that official statements utilised at least ten different terms, such as 'virtual currency', 'digital currency' and 'Bitcoin', on crypto-assets between 2013 and 2019.

[8] Robby Houben & Alexander Snyers, *Crypto-assets – Key Developments, Regulatory Concerns and Responses*, 8 (Study for the Committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, 2020).

[9] See, e.g., EBA (European Banking Authority), *Report with Advice for the European Commission on Crypto-assets,* 6–7 (2019). EBA notes in its report that currently there is no common taxonomy of crypto-assets used by international standard-setting bodies.

[10] European Commission, *Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937* (MiCA proposal) COM(2020) 593 final (2020). At the time of writing this article, MiCA was not yet published in the Official Journal of the European Union. The latest available version was approved by the Council of the European Union 5 October 2022. See Council of the European Union, *Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937 (MiCA) – Letter to the Chair of the European Parliament Committee on Economic and Monetary Affairs* (2022).

and stored electronically, using distributed ledger technology (DLT)[11] or similar technology. The European Parliament version from March 2022 added to the definition that a crypto-asset uses cryptography for security and is in the form of a coin or a token or other digital medium, but the later Council version from October 2022 removed this addition.[12] An important example of DLT is blockchain, which is underlying, for instance, Bitcoin.[13] Crypto-assets are one of the main applications of blockchain technology.[14]

From the EU regulatory perspective, blockchain is a current topic also otherwise. In 2018, the European Blockchain Partnership was created by the Joint Declaration.[15] One of the main aims of the declaration was to establish the European Blockchain Services Infrastructure (EBSI).[16] The EBSI is a peer-to-peer network of interconnected nodes that enable using blockchain in the cross-border public sector services.[17] The EBSI helps to verify information, such as identity information and diplomas, and to boost the trustworthiness of services. The EBSI is the first EU-wide blockchain that is driven by the public sector.[18] The first version of the EBSI was released in 2020.[19]

In 2020, the EU launched its digital finance package,[20] which included, for instance, the Digital finance strategy, as well as legislative proposals on crypto-assets.[21] The MiCA regulation poses many requirements for crypto-asset issuers and service

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[11] While there is no standard definition of DLT, it can include certain features, such as the use of cryptography, distribution of data across multiple participants, automation of functions, and in certain cases decentralisation of control. See HM Treasury, *UK Regulatory Approach to Cryptoassets, Stablecoins, and Distributed Ledger Technology in Financial Markets: Response to the Consultation and Call for Evidence,* 25 (2022). See also European Parliament, *Report on the proposal for a regulation of the European Parliament and of the Council on markets in crypto-assets and amending Directive (EU) 2019/1937. (COM(2020)0593 – C9-0306/2020 – 2020/0265(COD))* (2022). The European Parliament included the DLT definition in its amendments to the MiCA proposal. According to it, DLT means protocols and supporting infrastructure that enable nodes in a network to propose, validate, and record changes and updates without the need for central trusted parties. DLT is built upon public-key cryptography which includes pairs of keys: public and private.

[12] European Parliament, *supra* n. 11; Council of the European Union, *supra* n. 10.

[13] See, e.g., EBA*, supra* n. 9, at 8.

[14] European Commission, *supra* n. 10, at 1.

[15] The Partnership includes all EU Member States, as well as Norway and Liechtenstein.

[16] Cooperation on a European Blockchain Partnership Declaration (2018).

[17] European Commission, *Commission Decision of 19.1.2022 on the Distribution of European Blockchain Services Infrastructure (EBSI) Software,* C(2022) 407 final (2022).

[18] European Commission, *Introducing EBSI*, https://ec.europa.eu/digital-building-blocks/wikis/display/EBSI/Home (accessed 20 Jun. 2022).

[19] European Commission, *New Steps in the Development of the European Blockchain Services Infrastructure (EBSI)* (2020), https://digital-strategy.ec.europa.eu/en/news/new-steps-development-european-blockchain-services-infrastructure-ebsi (accessed 20 Jun. 2022).

[20] European Commission, *Digital Finance Package*, https://ec.europa.eu/info/publications/200924-digital-finance-proposals_en (accessed 29 Jul. 2022).

[21] The digital finance package includes also a legislative proposal on digital operational resilience, which is meant to ensure that financial sector firms, including fintechs, have strict standards in order to prevent and limit their ICT-risks.

providers. The regulation (EU) 2022/858 on a pilot regime for market infrastructures based on DLT[22] is completing the EU-wide crypto-asset regulation and is targeted to the crypto-assets that have already been covered by existing legislation.[23] The DLT pilot regime is meant to provide financial firms possibilities to utilise DLT and be exempted from certain requirements of the existing law. The regulation notes that the current financial services legislation was not developed with DLT and crypto-assets in mind, and it contains provisions that may hinder the use of DLT. In addition, investors must be effectively protected from potential operational failures and other risks related to the use of DLT.[24] The regulation also enables more efficient secondary market for crypto-assets that are classified as financial instruments.[25]

1.2. The Aim of the Paper

There are many regulatory questions concerning crypto-assets. They can relate to, for instance, payment industry, when the main issue is how the conversion of fiat currency to crypto-asset and back is executed with proper care.[26] An important question is also how to prevent tax evasion and other fraudulent actions. The investment-role of crypto-assets invokes important questions on proper investor protection in the highly volatile crypto-asset markets. This paper concentrates on the role of investor and the possible investor protection strategies that can be utilised in crypto-asset regulation.

Crypto-assets are probably the most controversial investment objectives in the market. According to the studies, they are mainly used for speculative purposes.[27]As one type of speculation, *Grobys* and *Junttila* have found that cryptocurrencies face lottery-like demand. Investors then lack diversification and bet on investment objects that have exhibited highest daily returns.[28] Consumers often see crypto-assets as an easy way to wealthy life, without proper understanding of their characteristics.[29]

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[22] Regulation (EU) 2022/858 of the European Parliament and of the Council of 30 May 2022 on a pilot regime for market infrastructures based on distributed ledger technology, and amending Regulations (EU) No 600/2014 and (EU) No 909/2014 and Directive 2014/65/EU (hereinafter 'DLT pilot regime').

[23] The regulation on DLT pilot regime is applied from 23 March 2023.

[24] It should be noted that the DLT pilot regime is optional, and the same services can be provided under existing EU financial services legislation.

[25] DLT pilot regime, *supra* n. 22, at Recitals (4), (6).

[26] Marek Bočánek, *First Draft of Crypto-Asset Regulation (Mica) With the European Union and Potential Implementation* 22 Financial Law Review 37, 47 (2021).

[27] See e.g., FCA (Financial Conduct Authority), *Research Note: Cryptoasset Consumer Research 2021* (2021), https://www.fca.org.uk/publications/research/research-note-cryptoasset-consumer-research-2021 (accessed 17 Jan. 2023). The most popular use of cryptocurrencies was 'as a gamble that could make or lose money' (Chart 17).

[28] Klaus Grobys & Juha Junttila, *Speculation and Lottery-Like Demand in Cryptocurrency Markets* 71 Journal of International Financial Markets, Institutions & Money 1, 1–2 (2021).

[29] See FCA, *supra* n. 27, at Charts 1 and 6. Although the percentage of people who have heard of cryptos have risen, the overall understanding of their meaning has fallen. 71 % of the people who have

Instead of official sources of information, few influential recommendations can affect on purchase decisions.[30] High volatility makes crypto-assets very risky investment objects, and the industry suffers from lack of trust.[31] The need for stronger investor protection is apparent. However, the specific features of crypto-assets must be taken into account when developing investor protection regime for crypto-asset market. This paper aims at systematically evaluating investment protection strategies that are typically used in the financial market law. This is carried out with the 5-I's Model which is created by the author and utilised earlier to analyse crowdfunding regulation – another novel EU-wide fintech regulation.[32]

In order to systematically examine investor protection strategies, the problems and challenges of regulating crypto-assets are first examined. The objectives and possible regulating strategies are then considered, as they resonate behind the investor protection regime, as well.

2. The Controversial Nature of Crypto-Assets and Worries on Investor Protection

The exponential rise in the price of Bitcoin has increased interest to use crypto-assets as investment objectives.[33] However, the prices of crypto-assets have also undergone severe crashes in 2022. In addition to Bitcoin, wide variety of other crypto-assets can be easily offered to retail investors. Especially initial coin offerings (ICOs) have raised investor protection concerns as the offering documents, called *white papers*, of ICOs have contained misleading and inadequate information. There have also been fraudulent ICOs, where crypto-assets have not even existed, or the issuer has disappeared after the ICO.[34] Some crypto-assets have faced price manipulations and cyber-attacks. This harms not only investors but also crypto-asset markets. *Edwards* et al. refer to the 'lemons problem' of the economist theory, where bad actors poison the market and the good actors suffer from that.[35]

Due to many fraudulent uses of crypto-assets, regulators have tended to handle crypto-assets more as risks than as welcomed new innovations. Many standard-setting

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heard of crypto identified correctly its definition from the list of statements. This can lead to risk that consumers buy crypto-assets without proper understanding of them.

[30] See also *ibid.*, Charts 13–14, which confirm the influence of friends and family as an important source of information when purchasing crypto-assets.

[31] Joseph Lee & Florian L'heureux, *A Regulatory Framework for Cryptocurrency* 31 European Business Law Review 423, 437, 441 (2020).

[32] See Marika Salo-Lahti & Vesa Annola, *Investor Protection Strategies in Crowdfunding Regulation. The 4-I's Model*, in *Responsible Finance and Digitalization. Implications and Developments,* 171–185 (UK and US: Routledge, 2022).

[33] Franklin R. Edwards, Kathleen Hanley, Robert Litan & Roman L. Weil, *Crypto Assets Require Better Regulation* 75 Financial Analysts Journal 14, 14 (2019).

[34] ESMA, *Advice – Initial Coin Offerings and Crypto-Assets,* ESMA50-157-1391 14 (2019).

[35] Edwards et al., *supra* n. 33, at 15.

bodies worldwide have issued warnings on crypto-assets to investors.[36] In March 2022, the European Supervisory Authorities (ESAs)[37] warned again consumers that many crypto-assets are highly risky and speculative, and as such, they are not suited for most retail consumers either as an investment or as a means of payment or exchange. Some crypto-assets are also very complex, and difficult to understand for many consumers. According to the ESAs, one of the central risks of crypto-assets is misleading advertisements which can be channelled via social media and influencers. Special caution should be paid if the promised returns look too good to be true. Prices can also fall and rise very quickly as the volatility is typically very high. The risk of scams, fraud, operational errors and cyberattacks must be taken into account, as well. Due to the current regulatory framework, consumers may not have any rights to protection or compensation if these risks realise. All the invested money can be lost.[38]

The ESAs had issued its earlier warning on virtual currencies (VCs) in 2018.[39] The ESAs stressed then that VCs are neither issued nor guaranteed by central banks, and they are not legally 'currency' or 'money'.[40] The ESAs doomed VCs as unsuitable for most consumer purposes, such as investment or retirement planning, due to their high volatility, uncertainty about their future, and unreliability of the exchange platforms and wallet providers.[41] In its 2021 warning on crypto-assets, ESMA worried that especially stablecoins could raise concerns on financial stability. ESMA also noted the potential problems concerning the anonymity in the DLT which is typically used by crypto-assets.[42] The new EU anti-money laundering package given in the summer 2021 tries to tackle this problem. A proposal of AML/CFT regulation[43] (Anti-Money Laundering/Combating the Financing of Terrorism) included in the package. According to the proposal, crypto-asset transfers should be traced in the same way as traditional money transfers. Anonymous crypto-asset wallet services will be prohibited. Technological solutions are meant to ensure that crypto-asset transfers are individually identified. However, the rules do not apply to person-to-person transfers without the service provider. For some part, crypto-assets have already been under

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[36] See also Iris H-Y Chiu, *Regulating the Crypto Economy: Business Transformations and Financialisation,* 81 (UK; Hart Publishing, 2021). According to Chiu, warnings can lead to biases in token offerings as the offerings can be skewed towards sophisticated and high-net-worth investors, leaving retail investors out.

[37] The ESAs consist of EBA (European Banking Authority), ESMA (European Securities and Markets Authority) and EIOPA (European Insurance and Occupational Pensions Authority).

[38] ESAs, *EU Financial Regulators Warn Consumers on the Risks of Crypto-Assets,* ESA 2022 15 1–2 (2022).

[39] Different EU authorities have issued warnings on crypto-assets also earlier. For instance, the EBA had issued its first warning on virtual currencies already in 2013. See EBA, *Warning to Consumers on Virtual Currencies,* EBA/WRG/2013/01 (2013).

[40] Currently, some countries have made Bitcoin as legal currency. The first one was El Salvador.

[41] ESAs, *ESMA, EBA and EIOPA Warn Consumers on the Risks of Virtual Currencies,* 1–2 (2018).

[42] ESMA, *supra* n. 3, at 53–54.

[43] European Commission, *Proposal for a Regulation on the Prevention of the Use of the Financial System for the Purposes of Money Laundering or Terrorist Financing,* COM(2021) 420 final (2021).

AML/CFT legislation, as AML/CFT Directive (EU) 2018/843[44] added exchange services between virtual currencies and fiat currencies, and custodian wallet providers to the Directive. Member States have the responsibility to ensure that providers of exchange services and custodian wallets, are registered.

In addition to different types of warnings, some financial market authorities have decided to ban certain types of crypto-assets. In 2020, the UK's Financial Conduct Authority (FCA), prohibited the sale of derivatives and exchange traded notes that reference certain crypto-assets for retail consumers.[45] The FCA noted that retail consumers have inadequate understanding of crypto-assets and they cannot reliably assess the value and risks of these types of products. In addition to the extreme volatility of crypto-asset markets, other reasons for the prohibition was the nature of the underlying assets that do not have inherent value, as well as market abuse and financial crime in crypto-asset markets.[46]

The controversial nature of crypto-assets appears also in the fact that while some countries, such as El Salvador, have made Bitcoin as a legal currency, some others, such as China and North Macedonia, have decided to prohibit the exchange of crypto-assets altogether. Despite the problems linked to crypto-assets, they have remained mostly unregulated. However, some national legislations have existed. Malta was among the first ones in the world to have a detailed cryptocurrency regulation. For instance, Germany and France have also enacted national crypto regulation. These national regulations have different regimes. Rules can be optional, such as in France, or mandatory, like in Germany and Malta. The scope of crypto-assets and activities covered also differ, as well as the requirements imposed to issuers and service providers. In addition, the measures to ensure market integrity are not equivalent.[47] In the next chapter, the main principles underlying proper regulatory framework on crypto-assets will be considered. The new MiCA regulation will also be examined.

3. Regulatory Objectives and the New EU Regulation

One of the priorities in the Digital finance strategy[48] is to ensure that the EU regulatory framework facilitates digital innovation. Innovations utilising DLT or artificial intelligence can benefit both consumers and businesses. One role of the regulatory framework is to ensure that these new technologies are used in a responsible way. In addition to its many opportunities, digital finance brings challenges for the existing legal framework which cannot always ensure financial stability, consumer protection,

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[44] 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.

[45] The prohibition came into force in January 2021.

[46] The FCA, *Prohibiting the Sale to Retail Clients of Investment Products That Reference Crypto-assets,* Policy Statement PS20/10 4 (2020).

[47] European Commission, *supra* n. 10, at 148.

[48] The Digital finance strategy builds on the 2018 Fintech Action Plan.

market integrity, fair competition and security in the digital finance. The Commission has adopted the principle 'same activity, same risk, same rules' in order to ensure the balance between traditional financial institutions and new participants.[49]

When new innovative technologies are regulated, the impact of the regulation on willingness to create and use new innovations must be carefully considered. On the other hand, uncertainty of the legal situation can harm innovations, as well. It can be unsure whether the securities laws should apply and are there certain types of disclosure requirements that must be followed. The regulation of crypto-assets should concern worries on cyberattacks. In addition, capital requirements are one typical tool in the financial market regulation in order to protect investors and to build trust in the market.[50]

In general, the regulation on new digital finance innovations has been fragmented. Some countries have adopted national regulation while others have refrained from regulating the new phenomena. Harmonisation of the regulation between EU-countries is crucial in order to ensure cross-border actions. The passporting system enables offering financial services across EU countries with single authorisation. The EU Crowdfunding regulation (EU) 2020/1503[51] enabled passporting for crowdfunding services, and the new MiCA regulation brings passporting to EU crypto-asset markets as well.[52]

It has also been ambiguous whether more traditional EU financial market regulation can be applied to crypto-assets. One problem is to define *what* a crypto-asset is or can be. Crypto-assets are not coins, banknotes or scriptural money. That is why they are typically not 'funds' as qualified in the PSD2 (second Payment Services Directive (Directive 2015/2366/EU)).[53] However, the EBA has noted that in some cases, a crypto-asset can be qualified as 'electronic money' which is regulated in the EMD2 (second Electronic Money Directive (Directive 2009/110/EC)).[54] Electronic money is, in turn, in the scope of the PSD2.[55]

Crypto-assets can also qualify as 'financial instruments', when appropriate financial market regulation can be applied.[56] Due to the technological neutrality principle of the EU law, same regulation should be applied to the same instruments and services regardless of the technology used. This is the case, for instance in investment advising

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[49] European Commission, *Digital Finance Strategy for the EU,* COM(2020) 591 final 4–5 (2020).

[50] Edwards et al., *supra* n. 33, at 17.

[51] Regulation (EU) 2020/1503 of the European Parliament and of the Council of 7 October 2020 on European crowdfunding service providers for business, and amending Regulation (EU) 2017/1129 and Directive (EU) 2019/1937.

[52] European Commission, *supra* n. 49, at 7.

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

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

[55] EBA, *supra* n. 9, at 12–15.

[56] ESMA, *supra* n. 34, at 21–36.

– MiFID II (Directive 2014/EU/65)[57] is applied to traditional investment advising as well as robo-advising.[58] Likewise, crypto-assets that can be qualified as 'financial instruments' defined in the MiFID II, should be treated the same as traditional financial instruments.[59] However, there are gaps and issues in current legal framework when applied to crypto-assets.[60] Hence, the regulation on the DLT pilot regime grants certain exemptions from the MiFID II for crypto-assets that qualify as financial instruments.

So, the current legal framework has been difficult to apply, as the specific characteristics of a certain crypto-asset may have led to an interpretation that a crypto-asset is a financial instrument, electronic money or none of them. The European Parliament notes in its amendments to the MiCA proposal that crypto-assets can also qualify as deposits as defined in the Directive 2014/49/EU.[6162] The Council again changed the list, and stated in its October 2022 amendments that the MiCA will not be applied to crypto-assets that qualify as, for instance, financial instruments, deposits, funds, or non-life or life insurance products. Electronic money is deleted from the list. The Council states that as electronic money and funds received in exchange for electronic money should not be treated as deposits, electronic money tokens cannot be considered as deposits that are exempted from the MiCA regulation.[63] For the most part, crypto-assets have still remained outside the field of financial market regulation and consequently are unregulated.[64] In addition to forming new legal terms, some traditional terms may need to be amended. In the regulation on DLT pilot regime Article 18 it is stated that the definition of the 'financial instrument' in the MiFID II should be amended to include financial instruments that are issued by DLT.

When new innovative phenomena are regulated, the 'regulatory sandbox' approach can also be utilised. In the EU, it has been noted that flexibility and experimentation can be effective tools for innovation-friendly and future-proof legislation. Regulatory sandboxes are increasingly used in various sectors, such as in finance, health and legal services, often including the use of new technologies, such as DLT.[65] The DLT pilot regime regulation can be seen as an example of the 'regulatory sandbox' approach with its limited six years' period for the exemptions and permissions. The aim is to test DLT market infrastructures. The DLT pilot regime is meant to provide experiences

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[57] 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.

[58] See, e.g., Marika Salo-Lahti, *Good or Bad Robots? Responsible Robo-Advising* 33 European Business Law Review 671 (2022).

[59] European Commission, *supra* n. 10, at Recital (6).

[60] ESMA, *supra* n. 34, at 37.

[61] Directive 2014/49/EU of the European Parliament and of the Council of 16 April 2014 on deposit guarantee schemes.

[62] European Parliament, *supra* n. 11, at Recital (2a).

[63] Council of the European Union, *supra* n. 10, at Recital (6).

[64] EBA, *supra* n. 9, at 14–15.

[65] Council of the European Union, *Council Conclusions on Regulatory Sandboxes and Experimentation Clauses as Tools for an Innovation-Friendly, Future-Proof and Resilient Regulatory Framework That Masters Disruptive Challenges in the Digital Age,* 13026/20 3 (2020).

of the opportunities and risks relating to crypto-assets that qualify as financial instruments, and it can help to develop practical proposals for future regulatory framework. If the pilot regime deems successful, it might be made permanent in the future. This can be made by amending financial services regulation in order to establish one coherent framework, instead of two parallel DLT and non-DLT infrastructures.[66]

In general, regulating crypto-assets means balancing between innovation and investor protection. New legal requirements mean also new compliance costs for market actors. Despite of the aim at strengthening investor protection, the reactions of the investors to new legal actions are not always positive. *Koenraadt* and *Leung* found that news about regulation aimed at increasing transparency by requiring more disclosures led to *negative* market reaction according to the price data from Coinmarketcap. Investors may sometimes perceive new requirements as burdensome or costly.[67]

The MiCA regulation proposal has four main objectives. First one of them is legal certainty. A sound legal framework that is grasping all crypto-assets is needed in order to develop an EU-wide crypto-asset market. The second objective is to support innovation and fair competition. The third objective takes into account proper levels of consumer and investor protection as well as market integrity. Finally, the fourth objective is to safeguard financial stability.[68] Bearing these objectives in mind, in the next chapter, crypto-asset regulation will be analysed utilising the 4-I's Model which is completed to the 5-I's Model.

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[66] DLT pilot regime, *supra* n. 22, at Recitals (6), (53). Resembling the pilot regime idea, the UK government will implement a Financial Market Infrastructure Sandbox in 2023. The FMI Sandbox aims at supporting firms using technologies, including DLT, by providing modifications to existing regulation when regulation can be seen as a barrier to adoption. One goal of the sandbox is to provide regulators information on what changes are needed in the existing regulation. HM Treasury, *supra* n. 11, at 5–6.

[67] However, these reactions were less negative among higher quality and transparent token issuers which were already more transparent and engaged with the holders. The importance of information was still evident: investors valued voluntary disclosure. It should be noted that at the time of the study sample, there were no mandated disclosures for crypto tokens. Instead, crypto-markets have developed without investor protection rules or disclosure requirements. Information asymmetries have been reduced with voluntary and mainly unverifiable disclosures. These disclosures can be channelled via corporate websites, product information and social media. White papers are the primary sources of information. Crypto exchanges can also put pressure on transparency with their listing requirements. Jeroen Koenraadt & Edith Leung, *Investor Reactions to Crypto Token Regulation* 31 European Accounting Review 2–4, 6, 19, 23 (2022). See also Thomas Bourveau, Emmanuel T. de George, Atif Ellahie & Daniele Macciocchi, *The Role of Disclosure And Information Intermediaries in an Unregulated Capital Market: Evidence from Initial Coin Offerings* 60 Journal of Accounting Research 129, 130, 138, 160 (2022). *Bourveau* et al. also noted the importance of information, as higher levels of disclosure were associated with better success in raising external capital. Market-based information intermediaries such as rating platforms, enhanced the credibility of voluntary disclosures. Intermediaries can serve in a certification role and build trust in the market. https://www.tandfonline.com/doi/full/10.1080/09638180.2022.2090399?scroll=top&needAccess=true&role=tab.

[68] European Commission, *supra* n. 10, at 2–3.

4. Investor Protection Strategies in the Crypto-Asset Market: From the 4-I's Model to the 5-I's Model

4.1. Explaining and Expanding the 4-I's Model

Salo-Lahti and *Annola* have created the 4-I's Model in order to systematise the investor protection strategies especially in crowdfunding regulation.[69] However, the aim of the model is not to be limited to the crowdfunding regulation, but it is meant to serve as a systematisation tool for financial market regulations. There are certain similarities between the EU crowdfunding regulation and the MiCA regulation. Both of them are totally new regulations aiming at harmonisation of the fragmented regulatory fields of the new financial innovations. Both crowdfunding and crypto-assets can include wide variety of actors with different levels of risk to investors.

There are also practical linkages between crowdfunding and crypto-assets. Actually, crowdfunding and ICOs (initial coin offerings) appear very similar methods to digitally collect financing from large crowds of people. In the ICO, a venture sells tokens to a crowd using DLT, such as blockchain technology.[70] Crowdfunding, instead, is a form of fundraising involving open calls to the public, typically via online platforms, to finance projects through monetary contributions in exchange for a reward, product pre-ordering, lending, or investment.[71] *Chiu* notes that ICOs take the peer-to-peer idea and distributed finance one step further than crowdfunding.[72] Both financing methods are typically used in rather early stages of company lifecycle, compared to initial public offerings (IPOs) where companies go public to sell stock shares to the public.[73] Some researchers suggest even to combine crowdfunding and ICOs in order to overcome the inefficiencies of crowdfunding and the shortcomings of ICOs.[74]

There are also many differences between crowdfunding and ICOs. Unlike in crowdfunding, crypto-tokens are tradable assets that resemble more traditional securities.[75] Block et al. also notes that the motivations of the backers[76] in crowdfunding and ICOs differ, as ICOs are expected to attract more technology-oriented investors

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[69] Salo-Lahti & Annola, *supra* n. 32.

[70] Joern H. Block, Alexander Groh, Lars Hornuf, Tom Vanacker & Silvio Vismara, *The Entrepreneurial Finance Markets of the Future: A Comparison of Crowdfunding and Initial Coin Offerings* 57 Small Business Economics 865, 866 (2021).

[71] European Commission, *Crowdfunding*, https://ec.europa.eu/growth/access-finance/policy-areas/crowdfunding_en (accessed 21 Jul. 2022).

[72] Chiu, *supra* n. 36, at 55.

[73] Angelos Delivorias, *Understanding Initial Coin Offerings. A New Means of Raising Funds Based on Blockchain,* European Parliamentary Research Service PE 696.167 2–3 (2021).

[74] Lars Hornuf, Theresa Kück & Armin Schwienbacher, *Initial Coin Offerings, Information Disclosure, and Fraud* 58 Small Business Economics 1741, 1755 (2022).

[75] *Ibid.*, at 1743.

[76] It must be noted that the motivations differ also among different types of crowdfunding. For instance, backers of reward-based crowdfunding projects and equity-based crowdfunding projects have different motivations.

The 5-I's Model – a systematisation tool for investor protection				
Investor (e.g. investor classification)	**Investment** (e.g. crypto-asset classification, limitations and bans)	**Information** (factors influencing in the disclosure duties)	**Intermediaries** (characteristics influencing in the responsibilities)	**Issuers** (noting the meaning of decentralisation)

Figure 1. The 5-I's Model.

than crowdfunding campaigns. The role of platforms is another important difference. Platforms play a crucial role in crowdfunding, whereas they have been of minor importance in ICOs. As a consequence, ICOs have been much less fraud resistant than crowdfunding – due diligence checks by the crowdfunding platforms can disclose many of the fraudulent projects. However, recently ICOs have been more often conducted through exchanges, so these differences may diminish.[77] The ICOs will be partly regulated when the new MiCA regulation will be applied. One specific objective of the MiCA is to increase the funding sources of companies through increased initial coin offerings.[78]

The 4-I's Model consists of Investor, Investment, Information, and Intermediary. By Investor, the model refers to the protection elements of financial market regulation that are based on the characteristics of investors. Client classification is an example of this – financial market regulation typically safeguards especially retail investors. Investment in the model refers to the regulatory tools that are directly bound to the investment itself, such as limits concerning invested amounts. Information part refers to the disclosure duties which are typical tools to protect investors in different fields of financial market regulation. The Intermediary refers to the service providers, such as crypto-asset exchanges and wallet providers.[79] Differing from crowdfunding regulation, the role of issuers is strong in the crypto-asset regulation. As a consequence, a fifth 'I' – Issuer – will be added to the model in order to serve as a proper systematisation tool for crypto-asset regulation. Despite of their role in the regulation, in reality there may not be *any* particular issuer, depending on the characteristics and the decentralisation of the crypto-asset in question. The Figure 1 describes the content of the 5-I's Model.

4.2. Investor: The First 'I'

Classifying investors into groups by their experience and knowledge is a common way to direct investor protection regulation to the client groups that need the protection

[77] Block et al., *supra* n. 70, at 866, 869–870, 872.
[78] European Commission, *supra* n. 10, at 145.
[79] Salo-Lahti & Annola, *supra* n. 32.

most. In the financial market regulation, investor protection is often targeted especially to retail clients. This regime takes into account the different protection needs of investors – while more vulnerable retail clients are under stricter protective measures, products and services can be offered to sophisticated investors with lighter rules and lower costs.[80]

Client classification can be implemented in many ways and different wordings. Client classification is in a central role, for instance, in the MiFID II, which divides clients into three classes. *Retail clients* are under the strongest protection, while *professional clients* and *counterparties* can be served with less strict rules.[81] The Crowdfunding regulation (EU) 2020/1503 distinguishes between *sophisticated* and *non-sophisticated* investors, when determining the appropriate level of investor protection. Despite using different terms, this classification builds on the MiFID II definitions of professional clients and retail clients.[82]

Quite surprisingly, the term 'retail investor' is not even mentioned in the original MiCA proposal. However, retail investors are still in a very central role in the crypto-asset market, as crypto-asset platforms usually give direct access to retail investors. Client classification is implicitly part of the original MiCA proposal, as the term 'qualified investors' is used several times. Lighter rules are imposed when crypto-assets are offered only to qualified investors. According to the Article 3, the term refers to the qualified investor of the Prospectus regulation (EU) 2017/1129.[83] The Prospectus regulation, in turn, refers to the definition of professional clients found in the MiFID II and its predecessor MiFID. In practice, *Ferrari* notes that instead of qualified investors, initial coin offerings (ICOs) are typically addressed to the crowds of retail investors.[84] Unlike the original version, the term 'retail holder' was included in the Council version of the MiCA in October 2022. According to the amended Article 3, retail holder means any natural person 'who is acting for purposes which are outside his trade, business, craft or profession'. It is not further explained, whether this definition is somehow broader than the MiFID II Article 4 definition of the retail client who 'is not a professional client'. Remarkable is, that the Council version refers to the protection of retail holders in several occasions.

The DLT pilot regime also utilises retail investor classification. The DLT infrastructure would be difficult to match with MiFID II and retail investors, and that is why the pilot regime regulation gives certain temporary exemptions on the strict rules of the MiFID II so that retail investors can also be given direct access to market without intermediaries. Adequate investor protection issues must be considered and retail

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[80] *Ibid.*, at 173.

[81] See also *ibid.*, at 173–175.

[82] Crowdfunding regulation, *supra* n. 51, at Recital (42).

[83] 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.

[84] Valeria Ferrari, *The Regulation of Crypto-Assets in the EU – Investment and Payment Tokens under the Radar* 27 Maastricht Journal of European and Comparative Law 325, 332 (2020).

investors must fulfil certain prerequisites.[85] The Article 4 states that natural and legal persons can be admitted to trade on their own account, if they, for instance, are of sufficient good repute, have sufficient level of competence and experience, including knowledge of the functioning of DLT, and they have been adequately informed. The position of retail investors is given special attention also in the Article 7, concerning the transition strategy which should describe how issuers, clients and other parties are handled in the event of a withdrawal or discontinuation of a specific permission or a cessation of business. The transitional strategy must set out how especially retail investors are protected from any disproportionate impact in such cases.

4.3. Investment as the Second 'I'

One important question concerning the regulation on crypto-assets is what exactly is a crypto-asset. Crypto-asset markets also develop rapidly. Is it even possible to formulate future-proof regulation in this type of area? When regulating crypto-assets, it is important to notice that there are different types of crypto-assets with differing characteristics and risk levels. A one-size-fits-for-all regulation is not possible. In order to systematise the crypto-asset market and to build effective regulation and investor protection, a justifiable classification of crypto-assets is needed so that stricter regulation can be targeted to those crypto-assets that impose higher risks to the market and investors.

In general, classification of instruments is an important tool in the financial market law as it determines the applicable rules and supervisory powers of competent authorities. Uncertain classifications may lead to regulatory arbitrage where actors seek the most favourable regulatory environment.[86] However, classification is a particularly problematic area for crypto-assets. There are different types of crypto-asset classifications among jurisdictions which can lead to high level of fragmentation and complexity. The hybrid and transformative nature of crypto-assets makes it challenging to establish a comprehensible classification.[87] Ferrari refers to the 'temporal dimension' of the problem of tokens' classification: tokens can have different functions during their lifecycle. Therefore 'substance over form approach' that considers the actual functions in specific circumstances might work best.[88]

So, the classification is not just for theoretical purposes – quite the contrary: crypto-assets are not homogeneous group and different crypto-assets must be treated

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[85] DLT pilot regime, *supra* n. 22, at Recital (26).

[86] Dirk A. Zetzsche, Filippo Annunziata, Douglas W. Arner & Ross P. Buckley, *The Markets in Crypto-assets Regulation (MiCA) and the EU Digital Finance Strategy* 16 Capital Markets Law Journal 203, 209 (2021).

[87] Jérôme Saulnier & Ilaria Giustacchini, *Digital Finance: Emerging Risks In Crypto-Assets – Regulatory and Supervisory Challenges in the Area of Financial Services, Institutions and Markets,* European added value assessment, European Parliament PE 654.177 8, 29 (2020).

[88] Ferrari, *supra* n. 84, at 329–330.

differently by regulators.[89] The MiCA regulation proposal divides crypto-assets into three sub-categories, which all have specific requirements. First group consists of 'utility tokens' that are meant to provide digital access to a good or service. Hence, they are non-financial by nature and only accepted by their issuer. The second class of crypto-assets are 'asset-referenced tokens'. Their value is intended to be stable as it is tied to reference assets, such as fiat currencies like Euro or US Dollar, or commodities such as gold, or a combination of many assets. The third category of crypto-assets are 'electronic money tokens' or 'e-money tokens' which main function is to serve as a stable payment tool with reference only to one fiat currency.[90] The Council modified the categories by broadening the scope of the former utility token class by defining the sub-category as 'other crypto-assets that are not asset-referenced tokens or e-money tokens'. This category includes utility tokens.[91]

The European Economic and Social Committee (EESC) stated in its opinion on the MiCA proposal that a greater degree of clarity could be achieved with more detailed specifications of the sub-categories of crypto-assets and their scope. The EESC called for a definition of 'security token' with clear guidance on the features of a crypto-asset that can be classified as a financial instrument, as this determines the applicable law.[92] The European Central Bank (ECB) noted in its opinion that asset-referenced tokens and e-money tokens defined in the MiCA proposal are, in whole or in part, money substitutes.[93] The ECB also stated that the crypto-asset definition in the MiCA proposal is 'a wide, catch-all definition'. Deviating from the technology neutrality principle, the ECB deemed the definition to be technology-specific. The ECB was also of the opinion that the scope of the regulation should be further clarified. Most of the confusion relates to the distinction between crypto-assets that can be characterised as financial instruments falling under the MiFID II regulation, and crypto-assets belonging under MiCA.[94] In general, it is important to notice that not all crypto-assets are under the MiCA regulation. Some of them are regulated with traditional financial law. *Szwajdler* notes that these two groups of crypto-assets

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[89] Pawel Szwajdler, *Considerations on the Construction of Future Financial Regulations in the Field of Initial Coin Offering* 23 European Business Organization Law Review 671 (2022).

[90] European Commission, *supra* n. 10, at Recital (9).

[91] Council of the European Union, *supra* n. 10, at Recital (9).

[92] EESC (European Economic and Social Committee), *Opinion of the European Economic and Social Committee on: Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937 (COM(2020) 593 final – 2020/0265 (COD)), Proposal for a Regulation of the European Parliament and of the Council on a pilot regime for market infrastructures based on distributed ledger technolog,y* (COM(2020) 594 final – 2020/0267 (COD)) 35 (2021).

[93] The ECB refers to the three functions of money as a medium of exchange, store of value and unit of account. Asset-referenced tokens are targeting especially to the store of value function, whereas e-money tokens have both the medium of exchange and unit of account functions. ECB, *Opinion of the European Central Bank of 19 February 2021 on a Proposal for a Regulation on Markets in Crypto-assets, and amending Directive (EU) 2019/1937* CON/2021/4 1–2 (2021).

[94] *Ibid.*, at 1–2.

should be discussed separately, and that the MiCA regulation leads to the fragmentation of legal approaches to different crypto-assets.[95]

The UK crypto-asset categorisation differs from the categories in the MiCA. The FCA lists crypto-assets in its guidance as security tokens, e-money tokens, and unregulated tokens. The latter category includes both exchange-tokens, and utility tokens.[96] *Huang* criticises the classification of the UK regulation for being too complicated. One reason for that is the case-by-case identification of crypto-asset classes. Crypto-assets can also move from one category to another during their existence. According to Huang, the unclear classification can cause problems including slower licencing process and possibilities of financial misconduct. The regulation also encompasses only some of the crypto-assets while others remain unregulated.[97]

The study of the Cambridge Centre for Alternative Finance – enclosing crypto-asset regulations in 23 countries – found that crypto-assets are typically classified as payment, utility, and security tokens, while some jurisdictions add fourth category of hybrid tokens sharing characteristics of multiple categories.[98] In addition, the UK government will add a new category of regulated tokens in its categorisation: stablecoins.[99] Stablecoins are designed to maintain a stable value by pegging their value to another reference asset. In the MiCA proposal, stablecoins are considered as the riskiest category of crypto-assets, as they can become quickly more common and cause higher risks for investors, counterparties and the financial system. Hence, stablecoins are the most strictly regulated category of crypto-assets in the MiCA regulation. However, the term 'stablecoin' is not even mentioned in the regulation. In the Explanatory Memorandum it is stated that stablecoins are complex by their structure and they comprise many interdependent functions. Stablecoins share many features with e-money. That is why they can fall under the 'e-money token' definition of the MiCA. However, a stablecoin can also be an 'asset-referenced token', depending on its specific structure. So, despite they are not explicitly mentioned in the regulatory text, stablecoins include in the two mostly regulated categories of crypto-assets in the MiCA.[100] To further strengthen investor protection, some asset-referenced tokens and e-money tokens are considered *significant*, and they are subject to additional requirements, such as higher capital and a duty to have a liquidity management policy and procedures. In its amendments, the European Parliament added a category of 'quasi-e-money tokens'. They are significant asset-referenced tokens that

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[95] Szwajdler, *supra* n. 89, at 7, 20.

[96] FCA, *Guidance on Cryptoassets. Feedback and Final Guidance to CP 19/3,* Policy Statement PS19/22 13–14 (2019).

[97] Sherena Huang, *Crypto Assets Regulation in the UK: An Assessment of the Regulatory Effectiveness and Consistency* 29 Journal of Financial Regulation and Compliance 336, 343–344, 346 (2021).

[98] Blandin et al., *supra* n. 7, at 13, 18. See also EESC, *supra* n. 92, at 35. According to the EESC opinion on the MiCA proposal, hybrid tokens should be classified more clearly.

[99] See, e.g., HM Treasury, *Financial Services Bill to Unlock Growth and Investment across the UK,* Press release (2022), https://www.gov.uk/government/news/financial-services-bill-to-unlock-growth-and-investment-across-the-uk (accessed 1 Aug. 2022).

[100] European Commission, *supra* n. 10, at 5, 8, 10.

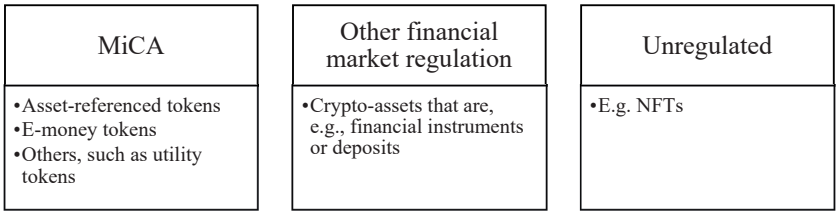

Figure 2. Regulatory Regimes for Different Crypto-Assets.

have become widely used as a means of exchange.[101] However, this category was not included in the Council version of October 2022.[102]

In general, crypto-assets differ in the way they resemble traditional financial instruments. They can be 'blockchain-based variants' of them, or they can have unique properties requiring new regulatory actions. The Cambridge Centre for Alternative Finance study suggests that the categorisation of crypto-assets should be made after case-by-case analysis, taking into account their functions, underlying infrastructure and other key attributes.[103] For instance, Ferrari also notes the importance of case-by-case approach when evaluating risks and legal position of crypto-assets. Classification categories are to be considered as *archetypes* that steer crypto-assets towards specific areas of regulation. Legal uncertainty may remain, as innovative crypto-assets can be difficult to fit in to defined classes.[104] Some new type of crypto-assets may also categorically fall outside regulation. As an example, non-fungible tokens (NFTs), which are unique digital assets representing real objects, such as memes or art, were excluded from the MiCA. The European Commission will later assess whether a specific NFT regime is necessary.[105]

The Figure 2 describes the relationship of different crypto-asset categories and the future applicable regulation. In the Article 2 of the MiCa proposal it is stated that the regulation does not apply to crypto-assets that qualify, for instance, as financial instruments as defined in the Directive 2014/65/EU, deposits (Directive 2014/49/EU), structured deposits (Directive 2014/65/EU), or securitisation (Regulation (EU) 2017/2402).[106] These instruments are subject to traditional financial market law. The

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[101] European Parliament, *supra* n. 11, at Article 40.

[102] Council of the European Union, *supra* n. 10.

[103] Blandin et al., *supra* n. 7, at 20–21.

[104] Ferrari, *supra* n. 84, at 340–341.

[105] Council of the European Union, *Digital Finance: Agreement Reached on European Crypto-assets Regulation (MiCA),* Press release (2022), https://www.consilium.europa.eu/en/press/press-releases/2022/06/30/digital-finance-agreement-reached-on-european-crypto-assets-regulation-mica/ (accessed 1 Aug. 2022).

[106] Regulation (EU) 2017/2402 of the European Parliament and of the Council of 12 December 2017 laying down a general framework for securitisation and creating a specific framework for simple, transparent and standardised securitisation, and amending Directives 2009/65/EC, 2009/138/EC and 2011/61/EU and Regulations (EC) No 1060/2009 and (EU) No 648/2012.

Council added to the list also funds, as well as certain non-life and life insurance products, and pension products.[107]

Separating e-money tokens of the MiCA proposal and electronic money of the Directive 2009/110/EC may be sometimes tricky. Both are electronic surrogates for coins and banknotes and used for making payments. It is important to note, that despite many similarities, electronic money and e-money tokens of the MiCA have also important differences, concerning, for instance, redemption rights. In addition, e-money tokens are crypto-assets by their nature, and they can raise challenges that are typical to crypto-assets and as a consequence, the must be subject to the MiCA regulation. According to the MiCA proposal and its later amendments, any definition of 'e-money tokens' should be 'as wide as possible' to capture all crypto-assets that reference one single fiat currency that is a legal tender.[108]

Taking into account the problematics of the crypto-asset classification and its legal relevance, crypto exchanges have typically required *legal opinions* on the classification of crypto-assets. These legal opinions are commonly drafted by legal professionals. In the MiCA proposal, legal opinions are required from issuers of asset-referenced tokens that need to include a legal opinion in their application for authorisation. This legal opinion is meant to confirm that the token does not qualify as a crypto-asset that are excluded from the scope of the MiCA, such as a financial instrument; or an e-money token. To specify this requirement, the Council added that EBA shall, in close cooperation with ESMA, develop standard forms, templates and procedures to be met by these legal opinions in order to ensure uniformity across the Union.[109]

In the US, the U.S. Supreme Court has developed the 'Howey test' that can be used to determine whether a crypto-asset is a 'security' which would be regulated under securities laws. Under the Howey test, an 'investment contract' exists when 'there is the investment of money in a common enterprise with a reasonable expectation of profits to be derived from the efforts of others'. The test focuses not only to the form and terms of the instrument itself but also on the circumstances that surround the asset and the manner in which it is offered and sold.[110] Resembling the rather flexible definition of the 'investment contract' in the Howey test, the term 'security' has not fixed boundaries in the EU law. Like in the Howey test, several functional criteria can be utilised in order to identify whether an asset is a security or not. The typical features of securities are tradability, negotiability on capital markets, and standardisation. They must also include a financial risk.[111]

In addition to carefully considering the classification of crypto-assets and targeting regulation based on it, investor protection could be improved by limiting the amount that investors can invest in crypto-assets. This investor protection strategy is utilised,

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[107] Council of the European Union, *supra* n. 10, at Article 2.

[108] European Commission, *supra* n. 10, at Recitals (9)–(10). The Council version of October 2022 states similarly. See Council of the European Union, *supra* n. 10, at Recital (10).

[109] Council of the European Union, *supra* n. 10, at Article 16.

[110] SEC (U.S. Securities and Exchange Commission), *Framework for "Investment Contract" Analysis of Digital Assets*, https://www.sec.gov/files/dlt-framework.pdf (accessed 2 Aug. 2022).

[111] Ferrari, *supra* n. 84, at 331.

for instance, in the crowdfunding regulation. However, the way in which the limit is set in different crowdfunding regulations, varies. It can depend on the personal income, wealth, or financial assets, or it can be some fixed amount of money. The limitation can concern each offering, or the crowdfunding market in total in a certain timeframe, such as 12 months.[112] The limits can encourage diversification and protect investors from bigger losses.[113]

However, these types of limits have also faced critiques, for instance, for being a form of hard paternalism, as limits are narrowing the freedom of investors by protecting investors *from themselves*. *Klöhn* et al. states that this type of regime is foreign to financial market regulation. Despite this, the authors still concerned that the features of crowdfunding market, such as high risks and the danger of market bubbles, can justify even paternalistic rules.[114] Chiu notes that paternalism has increased in the regulation of consumer finance, and this regulatory design should not be rejected in relation to retail investment either.[115] Crypto regulations worldwide utilise paternalism also in the form of bans concerning crypto-assets.

Differing from the crowdfunding regulation, the MiCA proposal does not address limits concerning invested amounts per investor. Instead of investor-specific limits, there can be more general market limits. The Council version of October 2022 states that when asset-referenced tokens are 'widely used as means of exchange' within a single currency area, issuers should be required to reduce the level of activity.[116] The DLT pilot regime Article 3 sets monetary limits, not to invested amounts per investor, but to the financial instruments that are admitted to trading, and to the DLT market infrastructure. For instance, the issuer of shares that are admitted to trading on a DLT infrastructure must have less than EUR 500 million market capitalisation. The total market value of all the DLT financial instruments on a DLT market infrastructure should not exceed EUR 6 billion when new DLT financial instruments are admitted to trading. If the total market value otherwise reaches EUR 9 billion, the transition strategy defined in the regulation must be activated. *Priem* notes that limitations, such as the maximum number of customers or volume restrictions, are typical in the regulatory sandbox approach.[117] The limitation tool adopted in the DLT pilot regime

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[112] Salo-Lahti & Annola, *supra* n. 32, at 176.

[113] FCA (Financial Conduct Authority), *Loan-based ('Peer-To-Peer') and Investment-Based Crowdfunding Platforms: Feedback to CP18/20 and Final Rules, Policy Statement*, PS19/14 18 (2019).

[114] Lars Klöhn, Lars Hornuf & Tobias Schilling, *The Regulation of Crowdfunding in the German Small Investor Protection Act: Content, Consequences, Critique, Suggestions* 13 European Company Law 56 (2016). Also available at SSRN: https:// papers.ssrn.com/sol3/papers.cfm?abstract_id=2595773, 16–17. See also Salo-Lahti & Annola, *supra* n. 32, at 175–177.

[115] Iris H-Y Chiu, *More Paternalism in the Regulation of Consumer Financial Investments? Private Sector Duties and Public Goods Analysis* 41 Legal Studies 657 (2021). Also available at: https:// discovery.ucl.ac.uk/id/eprint/10126484/1/Chiu_LS_Revised_final.pdf, 2.

[116] Council of the European Union, *supra* n. 10, at Recital (42d).

[117] Randy Priem, *A European Distributed Ledger Technology Pilot Regime for Market Infrastructures: Finding a Balance Between Innovation, Investor Protection and Financial Stability* 30 Journal of Financial Regulation and Compliance 371, 375 (2022).

protects investors only indirectly, as it constrains the impact of the DLT market infrastructures to the financial stability.

Instead of limiting the invested amounts, more extreme means have also been adopted to protect especially retail investors. One example is the aforementioned UK's prohibition of the sale of crypto derivatives to retail clients. This prohibition combines the Investor and Investment parts of the 5-I's Model. Prohibition is a very strong tool to influence investor protection, and in many cases the protective tools are limited to retail investors. This, in turn, can lead to institutional or sophisticated investor domination in the crypto market.[118] However, there are also exceptions, and issuing and exchanging crypto-assets are totally prohibited in some countries. Prohibition can also be an efficient supervisory tool that can be used when needed. In the MiCA proposal, competent authorities have, as part of their supervisory power, right to prohibit an issuance of a crypto-asset or the provision of a crypto-asset service.

In the MiCA proposal, there are also some other specific investor protection provisions. For instance, retail investors, that are in the Council version of October 2022[119] called 'retail holders' have the right of withdrawal, giving them in certain specific cases 14 calendar days' time to withdraw their agreement to purchase crypto-assets without any cost. Redemption rights can also protect investors. Still, one specific tool to improve investor protection is utilised in the MiCA as it tries to improve investor protection by influencing the *preferred uses* of asset-referenced tokens and e-money tokens. Holders of those tokens cannot be granted interest for the time they are holding the tokens. This is meant to ensure that these tokens are mainly used as a means of exchange and not as a store of value.[120] However, one special objective behind the legislative proposal was to allow 'investors to access new investment opportunities'.[121] The ECB noted in its opinion that the impact of the prohibition to pay interest depends on the interest rate environment. Inflows and outflows could be created when interest rate environment changes significantly. This, in turn, could affect on financial stability.[122] However, the prohibition of interest is not unique in the EU financial law. The Electronic Money Directive 2009/110/EC also prohibits granting interest related to the length of time that electronic money is held.

Still one possible mean to protect investors would be product governance requirements. This type of regime is used in the MiFID II. The manufacturers of financial instruments must, for instance, determine beforehand the needs and characteristics of clients for whom the financial instrument is compatible. The distributors must ensure that the products are offered or recommended consistently with the target market

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[118] Chiu, *supra* n. 36, at 88. Chiu notifies that prohibitions do not prevent national activities from migrating across borders. In addition, these regimes come too late as there is already wide circulation of cryptocurrencies.

[119] Council of the European Union, *supra* n. 10, at Article 12.

[120] European Commission, *supra* n. 10, at Recitals (41), (46).

[121] *Ibid*., at 145.

[122] ECB, *supra* n. 93, at 2–3.

definitions.[123] However, this type of regime may not be appropriate for ICOs which are direct offer products. Product governance rules, instead, are based on the duty of suitability which is applied to investment advisors.[124]

4.4. Information Forms the Third 'I'

Misleading and inadequate information is one of the main problems associated with crypto-asset markets. Disclosure duties are a powerful tool to improve investor protection. These duties have traditionally been in a central position in financial market regulations. However, the focus of these duties is shifting from the quantity of the information to the quality and suitability.[125] Less is often more when it comes to information disclosures. Long and complex disclosure documents tend to be left unread, especially in the online settings, although we confirm that we have read them. *Lannerö* names this problem as 'the biggest lie on the internet'.[126] The High Level Forum set up by the European Commission also notifies this problem and suggest that disclosure rules should be re-assessed in order to make them more coherent, more understandable for retail investors and accessible in a 'digitally-friendly way'.[127]

The MiCA regulation includes different informing duties, for instance, in the form of white papers and warnings as well as continuous informing duties. Some of the information obligations of the MiCA are meant to inform clients, as the others are directed to the supervisory body.[128] This article concentrates on the role of investors and the obligations that are meant to protect investors. Comprehensibility of investor information is especially important from the investor protection perspective. According to the consumer research conducted by the FCA in the UK, only 58 % of the crypto users agreed with the statement 'I believe I have a good understanding of how cryptocurrencies and the underlying technology works'.[129] This means, that almost half of the crypto owners believed that they did not have proper understanding of what they have bought.

There are certain overall rules in the MiCA that can be seen as ethical rules that guide the informing duties. The issuers of crypto-assets must communicate with the holders in a fair, clear and not misleading manner. Similarly, crypto-asset service providers shall provide their clients fair, clear and not misleading information. In this issue, special attention is given also to the marketing communication and its

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[123] Commission delegated directive (EU) 2017/593 of 7 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to safeguarding of financial instruments and funds belonging to clients, product governance obligations and the rules applicable to the provision or reception of fees, commissions or any monetary or non-monetary benefits, Articles 9–10.

[124] Chiu, *supra* n. 36, at 165.

[125] Salo-Lahti & Annola, *supra* n. 32, at 179.

[126] Pär Lannerö, *Fighting the Biggest Lie on the Internet,* Common terms betaproposal 3 (Metamatrix Stockholm, 2013), http://commonterms.org/commonterms_beta_proposal.pdf (accessed 2 Aug. 2022).

[127] High Level Forum, *supra* n. 1, at 20.

[128] Bočánek, *supra* n. 26, at 45.

[129] FCA, *supra* n. 27, at Chart 6.

identifiability as such. These formulations are similar than in the MiFID II. The MiCA proposal tries to tackle misleading information by prohibiting crypto-asset service providers to, either deliberately or negligently, mislead clients on the real or perceived advantages of crypto-assets. They must also warn clients of the risks involved when crypto-assets are purchased, and pricing policies must be publicly available.

Important information duties concerning the offering of assets or admittance to trading are often executed via standardised documents. Depending on the financial market regulation in question, these documents can be called, for instance, prospectuses, or key investment information sheets. In the MiCA – and otherwise in the crypto market – these documents are called white papers. The issuers of crypto-assets must produce, notify to their competent authority and publish a white paper which contains mandatory disclosures. These documents include, for instance, general information on the issuer, on the project that is meant to be carried out with the capital collected, on the public offer or on the admission to trading, on the rights and obligations attached to the crypto-assets, on the underlying technology and on the related risks. Clear statements must be included on the fact that crypto-assets may lose their value in part or in full, and they may not be always transferable or liquid. Statement from the management body of the issuer must confirm that information presented is correct. In its opinion on the MiCA proposal, the European Data Protection Supervisor suggested that crypto-asset white papers should also include information concerning personal data processing, and the main risks and mitigation strategies regarding data protection.[130]

The usability of information is taken into account when formulating the responsibilities concerning white papers. Information presented in a white paper should be in a *concise* and *comprehensible* form. For further aiding the usability of information, the Article 5 of the MiCA proposal concerns the summary that must be included in white papers in a similar way than, for instance, in prospectuses. The summary should in 'brief and non-technical language' provide the key information of the offer or indented admission to trading on a trading platform, and the essential elements of the crypto-asset in question.

The characteristics of the crypto-assets affect on the duties of issuers and service providers, as was discussed in the Chapter 4.3. That is true also concerning the informing duties. Asset-referenced tokens and e-money tokens have stricter requirements on white papers. For instance, detailed description of the issuer's governance arrangements and of the reserve assets are demanded for the asset-referenced tokens. White papers on asset-referenced crypto-assets should also include information on the stabilisation mechanism. In addition, the issuers of asset-referenced tokens have *continuous* informing duties. They must disclose regularly the amount of tokens in circulation and the value of reserve assets. This information can be given on their website. Informing duties include also the outcome of the audit of the reserve assets, and any event that is likely to have a significant effect on the value of the tokens or

[130] EDPS (European Data Protection Supervisor), *Opinion 9/2021 on the Proposal for a Regulation on Markets in Crypto-assets, and amending Directive (EU) 2019/1937* 8 (2021).

reserve assets. These continuous informing duties resemble those in the stock markets. They can enhance investor protection better than disclosures given only at the specific point in time. The *ex ante* disclosures of ICOs are typically early and speculative by nature, and investor protection could be more effectively based on an ongoing regime.[131]

Resembling the Prospectus regulation, crypto-asset offers that do not exceed an adequate aggregate threshold are exempted from the obligation to compose a white paper. However, different from a prospectus, white papers for other than asset-referenced tokens are not approved by competent authorities before publication. After publication, competent authorities can request additional information in the white paper or marketing communications. Due to this, white papers must contain a statement noting that offerors are solely responsible for their content.

When considering the strength of the disclosure duties in protecting investors, it should be noted that these duties do not always safeguard the *decision-making ability* of investors. Although new financial market legislations typically take into account the comprehensibility of information, a European Commission study considering retail investors states that the rules on disclosure are still not focusing on making documents *engaging*. Capturing the attention of investors is an important precondition for understanding and making rational decisions. Hence, disclosures are insufficient means to support retail investors in their decision-making.[132] Chiu notes that there is an 'assistance' or 'advice' gap in the protection of retail investors. Engaging in 'do-it-yourself decision-making' without any expert help can cause adverse effects on client welfare. As strictly regulated 'official' investment advices cover only some of the investment decisions made by retail investors, a broader access to pre-sale assistance could benefit retail investors. However, investment advices are strictly regulated, and possible legal risks can hinder the development of the 'spectrum' of advices.[133]

In the MiCA proposal, crypto-asset service providers can be authorised to give advices on crypto-assets. In the financial market regulation, advice-giving is typically regulated more strictly than general information sharing. This is meant to protect investors, as advising is a quite strong means to affect on investor decision-making. In the MiCA, an advice is defined as a personalised recommendation to a third party concerning one or more transactions relating to crypto-assets, or the use of crypto-assets services. An initiative for the advice can be on either the customer or the service provider. This definition resembles of the 'investment advice' in the MiFID II. When giving advice on crypto-assets, the service provider must ensure that its staff has the necessary knowledge and experience to fulfil the obligations, resembling the similar requirement in the MiFID II Article 25.

It is also important to consider, what types of information are essential for crypto investors. In addition to information concerning the characteristics of the crypto-asset in question, investors should have some technological understanding. Investors should

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[131] Chiu, *supra* n. 36, at 156.
[132] European Commission, *supra* n. 2, at 13–14.
[133] Chiu, *supra* n. 115, at 6–7.

also be able to protect the devices that are used to buy, store or transfer crypto-assets.[134] Despite bringing some new information needs, technology can also bring many benefits for investor information. The usage of DLT can improve the synchronisation and traceability of information, which in turn can enhance the visibility of market activity, as market data can be seen in real-time. Hence, DLT can prevent the fragmentation of data among different participants with separate unsynchronised databases.[135]

The technical settings of the crypto-asset markets must be taken into account also in the format and layout of the information concerning crypto-assets. The MiCA proposal refers to the 'machine readable formats' of crypto-asset white papers, which will be guided by implementing technical standards.[136] Machine-readability has recently been noted also elsewhere in the EU financial market regulation. For instance, the proposal for the regulation on European Single Access Point[137] highlights the meaning of machine-readability of information. European Single Access Point is meant to be a centralised platform that gathers all the relevant financial information on business entities and their products, together. In order to be digitally usable, this information should be 'in a data extractable format' or, if required by the EU law, in a 'machine-readable format'. The latter enables that software applications can easily identify and extract specific data.[138] Digital tools have still been under-used in making information more accessible, although some recent regulative projects of the EU have already taken this into account. The key-finding of the fitness check on the EU framework for public reporting by companies was that the potential of digital tools should be utilised in order to structure, re-use, secure, disseminate and give easier access to both financial and non-financial information.[139] The Digital finance strategy of the EU sets machine-readability as an important target and states that by 2024, information that is publicly released under EU financial services regulation, should be disclosed both in 'standardised and machine-readable formats'. In the strategy, it is stated that the Commission will propose legislative amendments to the financial market legislation to require machine-readable formats of the public disclosures. This work starts with the crypto-asset regulation proposal.[140]

The investor information on crypto-assets could be constructed in a similar type of way than the Creative Commons licences in the Figure 3. The CC licences have three layers. The legal code layer is the 'lawyer-readable' version of the terms and

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[134] ESAs, *supra* n. 5, at 1.

[135] HM Treasury, *supra* n. 11, at 26.

[136] European Commission, *supra* n. 10, at Recital (75).

[137] European Commission, *Proposal for a regulation of the European Parliament and of the Council establishing a European single access point providing centralised access to publicly available information of relevance to financial services, capital markets and sustainability,* COM(2021) 723 final (2021).

[138] *Ibid.*, Recital (4).

[139] European Commission, *Fitness Check on the EU Framework for Public Reporting by Companies,* SWD(2021) 81 final 7 (2021).

[140] European Commission, *supra* n. 49, at 12–13.

Figure 3. The 3-Layer Design of the Creative Commons License.
Sources: Creative Commons, About the Licences, <https://creativecommons.org/licences/>.

conditions. The second layer is the common deeds, which is a 'human-readable' version of the terms. It summarises the legal code in a user-friendly way. The third layer is the machine-readable version of the license which is written in the format that applications, search engines and other technology can understand.[141]

4.5. Intermediaries Forming the Fourth 'I'

When scrutinising the investor protection regulation, the whole lifecycle of the crypto-assets must be considered. Crypto-assets are issued and distributed, after which they can be traded or kept in custody. Hence, the main parties concerning crypto-assets are the holder of the crypto-asset, the issuer of the crypto-asset, and intermediaries – called crypto-asset service providers[142] – such as crypto-asset exchanges and wallet providers. Crypto-assets are often purchased and sold via crypto-exchanges, and wallet providers serve a means to store the assets. Crypto-asset holders are mainly protected by imposing requirements concerning, for instance, the organisation, management and procedures of the intermediaries and issuers. Crypto-asset service providers are protecting investors also by acting like a *filter*: crypto-assets are admitted to trading via due diligence and approval processes. Depending on the crypto-asset,

[141] Creative Commons, *3.1 License Design and Terminology*, https://certificates.creativecommons.org/cccertedu/chapter/3-1-license-design-and-terminology/ (accessed 17 Jun. 2022).

[142] Crypto-asset services are defined in the MiCA Article 3, and they include 1) the custody and administration of crypto-assets on behalf of third parties, 2) the operation of a trading platform for crypto-assets, 3) the exchange of crypto-assets for fiat currencies, or 4) other crypto-assets, 5) the execution of orders for crypto-assets on behalf of third parties, 6) placing of crypto-assets, 7) the reception and transmission of orders for crypto-assets on behalf of third parties, and 8) providing advice on crypto-assets. In its amendments, the European Parliament added to the list the transfer of crypto-assets, the exchange of crypto-assets for financial instruments, providing portfolio management on crypto-assets, and the provision of a portfolio management service. See European Parliament, *supra* n. 11, at Article 3. The Council of the European Union also made some slight changes to the wordings. See Council of the European Union, *supra* n. 10.

there can also be miners creating new crypto-assets and verifying transactions.[143] However, this paper does not handle mining, as it is not at the core when investor protection issues are considered.

Intermediaries are typically highly regulated in the financial market law, due to their positions of control and trust.[144] According to the MiCA proposal, crypto-asset services can be provided by legal entities that have a registered office in a Member State and are authorised as crypto-asset service providers by the national competent authority. Authorised credit institutions[145] and investment firms[146] are allowed to provide crypto-asset services without another authorisation. Resembling the significance criteria of asset-referenced tokens and e-money tokens, the European Parliament added in its amendments the term 'significant crypto-asset service providers', which was included also in the Council version of October 2022. ESMA should ensure the supervision of these types of service providers in cooperation with national competent authorities.[147] The crypto-asset services are considered as 'financial services' that are regulated in the Directive 2002/65/EC[148] which concerns distance marketing of consumer financial services.[149] Service providers will also have duties to, for instance, establish complaint handling procedure, and manage and disclose possible conflicts of interest. Prudential requirements concerning financial situation as well as organisational requirements are posed in the MiCA proposal. The management and major shareholders must have necessary competence and good repute. The staff employed should also have necessary skills, knowledge and expertise. Service providers must have systems and procedures to ensure the confidentiality of information received, to record all transactions, and to detect potential market abuse. Resilient and secure ICT systems must be employed and business continuity policy, including disaster recovery plans, must be set up.

The MiCA proposal imposes service providers a general ethical duty to always act honestly, fairly and professionally in the best interests of their clients. Although some of the general duties can be similar for different service providers, one central problem is the diverse nature of the crypto-asset services. The nature and intensity of risks on investor protection can vary widely depending on the service type. These risks can relate to, for instance, financial situation of the service provider, its operations, or cybersecurity. Accordingly, some requirements on service providers posed by the MiCA depend on the characteristics of services provided in order to bring proportionate requirements for service providers and to ensure adequate protection for customers. For instance, the original MiCA proposal imposes service providers liability for

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[143] See, e.g., FCA, *supra* n. 96, at 49.

[144] Chiu, *supra* n. 36, at 223.

[145] Credit institutions are subject to Directive 2013/36/EU.

[146] Investment firms are subject to Directive 2014/65/EU.

[147] European Parliament, *supra* n. 11, at Article 53.

[148] Directive 2002/65/EC of the European Parliament and of the Council of 23 September 2002 concerning the distance marketing of consumer financial services and amending Council Directive 90/619/EEC and Directives 97/7/EC and 98/27/EC.

[149] European Commission, *supra* n. 10, at Recital (55).

damages resulting from cyberattacks if they provide the service of custody and administration of crypto-assets on behalf of third parties. *Zetzsche* et al. note that it is an extremely strict rule as to liability, and it makes crypto-custodianship a risky and unwanted business.[150] The European Parliament amended this rule by stating that those service providers should not restrict the liability to their clients for the loss resulted from malfunction or hacks that are attributed to the provision of the relevant service and the operation of the service provider.[151] This was again amended by the Council in October 2022, according to which crypto-asset service providers that are authorised for the custody and administration of crypto-assets should be liable for the loss of any crypto-assets as a result of 'an incident that is attributable to the provision of the relevant service or the operation of the service provider'.[152]

When operating a trading platform, service providers must have operating rules. Before new crypto-assets are accepted to the trading platform, service providers must ensure that the crypto-asset complies with the operating rules and assess the quality of such crypto-asset. In the Council version of October 2022, the term 'quality' was replaced with 'suitability'.[153] In this suitability evaluation, the experience, track record and reputation of the issuer and its development team are significant issues. However, the suitability term is strongly associated with investment advising and may confuse in this context. Trading platforms are also an important source of market information for crypto-assets. Those service providers that are authorised for trading platforms shall make public the bid and ask prices and the depth of trading interests at those prices. The price, volume and time of the transactions in the platform must be made public, as well. The service providers that are authorised for exchanging crypto-assets against fiat currency or other crypto-assets, are also mediating market information, such as transaction volumes and prices.

Crypto-asset service providers can also have a Know Your Customer duty (KYC), which is a common investor protection tool in the financial markets law, with differing strengths depending on the service and product provided. The European Parliament added an explicit KYC duty in its amendments to the MiCA[154] with the Article 61a on Know-your-customer policy. However, the article relates to the prevention of money laundering and terrorist financing, and was not included in the Council version of October 2022. Generally, the KYC rule has multiple functions. It can help to prevent certain unwanted behaviours while it also enables offering of financial services that take into account the personal circumstances of customers. When crypto-asset service providers give advices on crypto-assets, they should assess client's experience, knowledge, objectives and financial situation, including the ability to bear losses and a basic understanding of risks involved in purchasing crypto-assets. If this information is not received or if it is clear that the clients do not have sufficient knowledge,

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[150] Zetzsche et al., *supra* n. 86, at 217–218.
[151] European Parliament, *supra* n. 11, at Article 67.
[152] Council of the European Union, *supra* n. 10, at Article 67.
[153] *Ibid.,* Article 68.
[154] European Parliament, *supra* n. 11.

experience, or the ability to bear losses, the clients should be informed that crypto-assets may be inappropriate for them and issue them a warning on the risks concerning crypto-assets. The term 'inappropriate' is replaced with 'suitable' in the Council version of October 2022,[155] adding linkages to the MiFID II. Regardless of the result of assessment, the service providers must warn clients that the value of crypto-assets may fluctuate. The European Parliament added that clients should also be warned that crypto-assets may be subject to full or partial losses, they may not be transferable or liquid, and that crypto-assets are not covered by public compensation or deposit guarantee schemes.[156]

The European Parliament made also several other amendments to the Article 73 concerning advice on crypto-assets. These changes were included also in the Council version of October 2022. Clients must be informed whether the advice is given on an independent basis, and whether it is based on a broad or a more restricted analysis of different crypto-assets. Resembling the independent advice in the MiFID II, the European Parliament version and the Council version prohibit the acceptance of fees, commissions or any monetary or non-monetary benefits from any third parties in relation to the provision of advices. These formulations are very similar than in the MiFID II Article 24, adding again linkages to the traditional financial market regulation. Crypto-asset service providers must also establish a report on suitability that specifices the given advice, and how it meets the client's preference, objectives and characteristics.[157] The duty to establish a report on the advice resembles the responsibilities laid down in the MiFID II Article 25.

Advising constitutes only a proportion of crypto-asset services and purchase situations. To ensure an adequate knowledge level of investors, similar type of more general entry knowledge test than in the EU crowdfunding regulation could be efficient way to safeguard retail crypto-asset investors. According to its Article 21, crowdfunding service providers must examine the prospective non-sophisticated investor's experience, investment objectives, financial situation and basic understanding of risks before giving them full access to investing in their crowdfunding platform. This type of duty could be introduced to crypto-asset service providers to strengthen investor protection.

Although granting many exemptions from the strict financial service rules, the regulation on DLT pilot regime also imposes several duties and requirements for the DLT market infrastructures in order to protect investors. They must, for instance, have a clear business plan that clarifies how the DLT will be used and what are the applicable legal terms. They must also have robust IT and cyber arrangements that ensure the continuity, transparency and security of the services provided. Resembling other financial services regulation, client complaint handling procedures must be in place also in the operators of DLT market infrastructure, and clients and other parties

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[155] Council of the European Union, *supra* n. 10, at Article 73.
[156] European Parliament, *supra* n. 11, at Article 73.
[157] *Ibid*., Council of the European Union, *supra* n. 10, at Article 73.

must be served with clear and unambiguous information concerning the functions, services and activities carried out.[158]

4.6. Issuers as the Fifth 'I' in the Model

In the crypto-asset regulation, the role of issuers is much more emphasised than in crowdfunding. In crowdfunding, platforms organised by crowdfunding service providers, can be seen as channels via which investor protection is executed. The regulation imposes duties to service providers instead of issuers which are called 'project owners'. In crypto-asset regulation, instead, issuers are in a central position, along with service providers. Hence, the 4-I's Model used to assess crowdfunding regulation must be expanded to 5-I's Model in the crypto-asset setting, including Issuer as one of the I's.

The decentralisation is one important issue to be considered when regulating crypto-assets and the role of issuers. Although issuers are in the central position in the MiCA regulation, depending on the crypto-asset, there may not be a single issuer at all. In these cases, investor protection can be channelled via intermediaries, if crypto-asset services are used. Unlike the original MiCA proposal, the amended 2022 version of the European Parliament included the term 'offeror', which is kept in the Council version of October 2022. Sometimes the offers of crypto-assets are conducted by offerors instead of issuers. This can be the case, for instance, when the crypto-asset is decentralised and has no single issuer. The offerors must ensure compliance with publication and audit requirements.[159]

Decentralised finance (DeFi) is an emerging field that replicates key features of traditional finance system through innovative solutions utilising public blockchains and smart contracts.[160] The DeFi is seen as 'the next step in the development of crypto asset ecosystems'. The first public blockchain was Bitcoin which aimed at being an alternative peer-to-peer electronic cash system. DeFi uses public blockchain where transactions are processed by a decentralised network of nodes instead of one central authority. There are no custody services but instead users have full responsibility to safekeep their assets and 'private keys'. DeFi challenges the traditional financial market regulation which has been entity-based and focused on the role of intermediaries. Shifting the focus from entity-based regulation to more activity-based regulation could be one solution.[161]

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[158] According to the Article 7, operators of DLT market infrastructures serve this information on their websites.

[159] European Parliament, *supra* n. 11, at Article 68.

[160] See also The European Union Blockchain Observatory & Forum, *Decentralised Finance (DeFi),* 6 (2022), https://www.eublockchainforum.eu/sites/default/files/reports/DeFi%20Report%20EUBOF%20-%20Final_0.pdf (accessed 2 Aug. 2022). DeFi is defined as an umbrella term including a collection of financial products relying on smart contracts and blockchains in order to enable open, peer-to-peer financial services and automation of specific procedures.

[161] European Commission, *European Financial Stability and Integration Review 2022,* SWD(2022) 93 final/2 6, 43–44, 53–54, 58–59 (2022).

Pavlidis has also noted that decentralised systems may not be compatible with the regulation and this can cause problems to accommodate a single legal entity as a crypto-asset service provider either.[162] The original proposal of the MiCA did not address the problems caused by decentralisation but in the spring 2022, the European Parliament made several amendments to the proposal concerning decentralisation. The European Parliament stated that decentralised issuers should not be required to organise as a single legal entity and they are not subject to regulation until their offering or issuance of crypto-assets to the public is centralised. The amended regulation proposal noted that some crypto-assets are managed by decentralised autonomous organisations instead of legal entities. However, the Council removed decentralised autonomous organisations from its later version, and the issuer is defined as 'a natural or legal person or other undertaking'.[163]

The regulation is stricter for the issuers of asset-referenced crypto-assets than for other crypto-asset issuers.[164] Only legal entities or other undertakings that are established in the Union, and credit institutions could grant an authorisation for issuing them. Issuers of e-money tokens are also regulated more strictly. They must be authorised as a credit institution or as an electronic money institution. In general, the authorisation requirements for crypto-assets do not apply offers that concern only qualified investors or are under certain threshold.

The MiCA version of October 2022 adopted by the Council states that the MiCA applies when part of the crypto-asset activities or services are performed in a decentralised way. However, if crypto-asset services are provided in a fully decentralised manner without any intermediary they are not in the scope of the MiCA. So, the level of decentralisation sets practical limits for the application possibilities of the MiCA. The development of decentralised finance in the crypto-asset markets and the adequate regulatory treatment will be assessed by the European Commission after the MiCA has been applied for a while.[165]

According to the MiCA, the issuers of crypto-assets have the same type of ethical duty as crypto-asset service providers, and it is similar to that in the MiFID II: they must act honestly, fairly and professionally, and in the best interests of the holders of crypto-assets, which must be treated equally. They must also prevent, manage and disclose all the possible interest conflicts, and communicate with the holders in a fair, clear and not misleading manner.

The stricter duties of issuers of asset-referenced tokens resemble those duties given in other financial market regulation, such as in the MiFID II. They must, for instance, have a clear complaint handling procedure. The management must be fit for purpose and with sufficient expertise. Adequate procedures and policies must ensure the compliance with the regulation. The turbulent nature of asset-referenced crypto-asset

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[162] Georgios Pavlidis, *Europe in the Digital Age: Regulating Digital Finance Without Suffocating Innovation* 13 Law, Innovation and Technology 464, 470 (2021).

[163] Council of the European Union, *supra* n. 10, at Article 3.

[164] *Ibid.*, Recital (25).

[165] *Ibid.,* Recital (12a), Article 122.

markets is taken into account by requiring a business continuity policy. The issuers must ensure the functioning of their core activities in case of interruptions to their systems and procedures. Resembling more traditional financial market regulation, the issuers of asset-referenced tokens are subject to capital requirements. In addition, they are obliged to maintain a reserve of assets backing the crypto-assets. The MiCA proposal has several articles concerning the reserve assets, and for instance, their management, custody and investing. Adequate arrangements ensuring liquidity must also be in place.

In addition to these afore-mentioned requirements imposed to issuers and service providers, investor confidence is improved by regulating on the deterring of market abuse. This regulation relates to market manipulation, insider dealing, and unlawful disclosure of inside information. The Market Abuse Regulation (EU) 596/2014 (MAR)[166] already regulates these issues in the financial market. However, taking into account that issuers and service providers of crypto-assets are typically SMEs, complying with all the provisions of MAR would be disproportionate. In an overall level, the supervisory and investigative powers of competent authorities are also safeguarding investors. According to the MiCA proposal, competent authorities should set up complaint handling procedures which allow clients and other interested parties to submit complaints on issuers', offerors' or service providers' infringements of the regulation. In case of infringements, competent authorities may impose administrative sanctions, such as public statements and administrative fines.

5. Conclusions

Describing the controversial nature of crypto-assets, the regulatory actions taken around the world vary widely. In the most restricting end of the continuum are the legislations prohibiting the crypto-assets. Crypto-assets can also be left unregulated. Many regulators aim at supporting innovation, but this can be done with different legal solutions, as well. Chiu has divided the spectrum of regulatory approaches towards ICOs and crypto finance into five sections. In the stricter end is *Prohibitive* approach, banning the crypto economy. It is followed by the *Prohibitive minus*, banning or restricting certain parts but not all the crypto economy. In the middle is the *Facilitative but restrictive* approach, after which come *Facilitative but permissive* and finally, *Enabling* regimes. With its MiCA regulation, the EU will be among the enabling regimes, encouraging the crypto economy and financialisation.[167] Certain activities concerning crypto-assets have been regulated before others. One typical example is the AML regulation which has been already applied widely to tackle the

[166] 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.

[167] Chiu, *supra* n. 36, at 75, 90, 103–105. Chiu also calls for more holistic approach to the regulation of crypto economy, not focusing only to targeted financial regulation.

money laundering risks. Jurisdictions have applied different solutions to legislate other activities concerning crypto-assets: they can be partly grasped with existing regulation, by amending the existing regulation, or with new specifically tailored regulation.[168]

The aim of this paper was to systematise crypto-asset regulation as part of the financial market regulation, especially from the perspective of investor protection. Investors are typically protected in the financial market law by regulating different *levels* of the market. There can be seen three main regulated levels: the overall level, the organisational level and the relationship level. In the overall level, the regulation aims at, for instance, preventing market abuse and ensuring the functioning of the market, financial stability and reliable information. Powers delegated to competent authorities are securing the market. In the organisational level, the regulation typically contains prerequisites for authorisation and registration, requirements concerning the operations and services, as well as characteristics of the investment products. Finally, at the relationship level, a significant part of the financial market regulation considers relationships between different market actors, especially between clients and service providers, and between clients and issuers. When considering more specifically the investor protection perspective, investor protection strategies in the financial market regulation can be systematised with the 4-I's Model which was broadened in the crypto-asset context to the 5-I's Model. Regulation concerning Investor, Investment, Information, Intermediary, and Issuer are protecting investors of crypto-assets.

From the *investor* perspective, client characteristics could be taken into account with client classification, with which stricter duties were directed to improve the protection of most vulnerable investors which are usually called retail investors. Differing from many other financial market regulations, the original MiCA proposal did not address client classification explicitly. However, the Council version of October 2022 included the term 'retail holder'. Some of the duties of the MiCA are based on the protection of retail holders, while some exemptions are possible if crypto-assets are exclusively offered to qualified investors. So, the classification enables the application of the proportionality principle of the EU law.

From the *investment* perspective, classification of the crypto-assets aims at the same goal – stricter regulation can be targeted to those crypto-assets that impose greater risks. Investments can be guided also via stricter means. The invested amounts could be limited, which technique is however, not utilised in the MiCA regulation proposal. Prohibitions can also be used, either beforehand or when needed. In addition, competent authorities are able to make prohibitions if adequate requirements are not complied.

An important way to advance investor protection is to safeguard investor *information*. Crypto-asset regulation does not make an exception. Contributions that improve investor information and understanding of financial markets build consumer trust and enable informed investor decisions. Financial literacy has been a current topic

[168] Blandin et al., *supra* n. 7, at 41–44. See also *ibid*., at 90.

concerning information and regulation in financial markets.[169] Enhanced financial literacy can boost retail investor participation and increase the volume of funding for companies also in the crypto-asset market.[170]

Finally, the 5-I's Model included two important parties to which the crypto-asset regulation is targeted: *intermediaries* and *issuers*. Investor protection is carried out by regulating their organisation, activities and informing duties. In general, those investor protection strategies that are typically used in financial market law can mainly be used also in the crypto-asset regulation. However, specific features of the crypto-asset market must be taken into account when formulating the regulation.

Technology-neutrality is a widely accepted principle among regulators, such as in the EU. Crypto-assets are challenging this principle. Current financial market regulation has not been formulated crypto-assets in mind, and it cannot grasp all the specific characteristics of crypto-assets. Technology-neutrality is more an ideal that is guiding the way regulators are trying to include new financial phenomena into legislation.[171] The specific nature of the crypto-asset market and the underlying technology poses challenges both to the technique of the regulation, and to the regulatory objects. The digitalisation of finance requires paying special attention, for instance, to the format of investor information. In addition that much attention has been recently paid to the user-friendliness and comprehensibility of the information, the machine-readability of information is also important in the online settings. The layered approach to investor information is needed in order to serve different audiences. The underlying technology of crypto-assets must be taken into account also when considering data protection procedures.[172] The digital finance package, which included the EU crypto-asset regulations, included also Digital Operational Resilience Act (DORA) proposal which concerns the ICT risks in finance. The aim of the DORA is to bring all formerly scattered requirements on digital risks in finance under the same legislative act.[173] Financial firms hold huge amounts of personal and financial data and the quality of ICT systems determines how protected they are from cyberattacks and other risks.[174]

Decentralisation is also challenging financial market regulation. Financial market law has traditionally been identity-based – duties and requirements have been posed to different types of known market actors, and trust is built through authorisations

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[169] See also Hiroshi Fujiki, *Crypto Asset Ownership, Financial Literacy, and Investment Experience* 53 Applied economics 4560, 4560 (2021). Fujiki found that among Japanese crypto-asset owners and non-owners, the former had on average higher levels of financial literacy. The owners also tended to be more often younger, male and use cashless payment methods. However, former investment experience with conventional risky assets impacted on the financial literacy levels. As a consequence, crypto-asset owners should not be treated as a homogeneous group of their financial literacy levels, and their internet skills should not be taken as granted.

[170] High Level Forum, *supra* n. 1, at 19.

[171] Blandin et al., *supra* n. 7, at 55.

[172] See, e.g., EDPS, *supra* n. 130, at 10.

[173] 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 (2020), Recital (12).

[174] Pavlidis, *supra* n. 162, at 474.

and permissions. In the decentralised finance (DeFi), there is no single entity that could be authorised and monitored. That is why they can be called 'trustless' systems. Trust towards other actors is not needed as trust is built on the technology itself: transaction records are typically immutable and can be accessed by anyone. Some crypto-assets, including Bitcoin, are decentralised by nature which means that there is no single issuer. In these cases, investor protection cannot be effectively enacted by regulating issuers. Decentralisation affects also on investor information. As is discussed in this paper, disclosure duties are central tools in investor protection. In DeFi, there should not exist information asymmetries as everything is published in the blockchain. However, in the initial stages of token issuance this is not the case. Existing regulations should be followed or they should be adapted to account this problem in order to ensure investor protection.[175]

The technology behind the crypto-assets brings also new concepts to think about to regulators. While some parts of the crypto-asset regulation have their counterparts in the existing regulation, like exchange and trading, there are totally new activities, such as mining. Some existing legal terms need to be amended. One example is the 'financial instrument' in the MiFID II which will include financial instruments that are issued by DLT. In addition to financial market law, crypto-assets challenge regulators also among other fields of law. In the summer 2022, the UK Law Commission proposed adding a third category of 'personal property' in the property law. The proposed new category – 'data objects' – would better grasp digital assets, including crypto-assets.[176]

Even the basic terminology around crypto-assets still lack commonly accepted definitions. As an example described in the Chapter 1.1, there are different terms used as a synonym for crypto-assets and its subcategories. One challenge for regulators is to choose the most suitable definitions in order to fulfil their regulatory objectives.[177] The terms used vary also in different jurisdictions. This can lead to forum shopping. *Lee* and *L'heureux* have proposed ISO standards for common lexicon. Certified companies could use standardisation as a marketing tool.[178] Szwajdler suggests that a new international organisation specialising in crypto-assets could be created. Model regulations could be drafted by such an organisation.[179] The rapidly changing market of crypto-assets poses also other than terminological challenges to the regulation. One way to take this into account is to utilise regulatory sandbox approach. In any case, one thing is for sure: flexibility is demanded from the future-proof regulation of crypto-assets.

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[175] The European Union Blockchain Observatory & Forum, *supra* n. 160, at. 6, 8–9.
[176] Law Commission, *Digital Assets: Consultation Paper,* Law Com No 256 (2022).
[177] Blandin et al., *supra* n. 7, at 12, 15, 28.
[178] Lee & L'heureux, *supra* n. 31, at 443–444.
[179] Szwajdler, *supra* n. 89, at 34.