

DLT-Based Trading Venues and EU Capital Markets Legislation: State of the Art and Perspectives Under the DLT Pilot Regime

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Abstract

This paper aims to analyze the interconnection of the recently published DLT Regulation with traditional pieces of EU financial legislation, particularly MiFID II and the CSDR, as to the treatment of market infrastructures. Therefore, the study's main purpose is to scrutinize the legislative choices concerning the use of DLT in trading and settlement transactions, especially given the principle of technological neutrality. To reach such an objective, the paper briefly evaluates whether, and to what extent, the applicable legislation is indeed incompatible with DLT. As a result, questions are posed to the design of a pilot regime and to the short-term solution ultimately adopted by EU legislators, given the feasibility of more efficient coordination of the regimes in light of the new technology.

I. Introduction

The Regulation on a pilot regime for market infrastructures based on distributed ledger technology ('DLT Regulation')¹ lies at the core of the Digital Finance Package,² together with the new Regulation on Markets in Crypto-Assets ('MiCA')³ and the Digital Operational Resilience Act ('DORA').⁴

The three legislative measures represent the first concrete actions to provide

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¹ 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 [2022] OJ L 151.

² See https://finance.ec.europa.eu/publications/digital-finance-package_en.

³ Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937 [2023] OJ L 150.

⁴ Regulation (EU) 2022/2554 of the European Parliament and of the Council of 14 December 2022 on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014, (EU) No 909/2014 and (EU) 2016/1011 [2022] OJ L 133.

appropriate levels of investor protection and legal certainty for digital finance in the European Union, enabling markets to make use of blockchain, distributed ledger technology ('DLT'), and crypto-assets while ensuring financial stability.

MiCA broadly defines crypto-asset as 'a digital representation of a value or a right which may be transferred and stored electronically, using distributed ledger technology or similar technology', which seems to indicate that, by definition, crypto-assets under MiCA necessarily make use of DLT-based infrastructures for storage or transfer. However, MiCA carves out from its scope of application any crypto-assets that may qualify as 'financial instruments' under the Markets in Financial Instruments Directive ('MiFID II').⁵ Alternatively, The DLT Regulation, specifically covers crypto-assets falling under the 'financial instruments' definition, thus complementing the MiCA regime.

The DLT Regulation aims at, on the one hand, establishing operating conditions to allow crypto-assets to be traded and settled using DLT and, on the other hand, enabling regulators to remove regulatory constraints capable of inhibiting the development of DLT-based solutions in the Union. The latter goal, in particular, is pursued through the adoption of a 'sandbox' approach, ie, a controlled space with temporary derogations from existing financial services rules to foster the development of initiatives using DLT (the so-called 'Pilot Regime').⁶

Given the foregoing, this paper investigates to what extent the trading and settlement of crypto-assets qualified as financial instruments might result in a fundamental change to the existing EU financial market architecture. The query relies on the assumption, which seems to emerge from the DLT Regulation – and which we do not fully share, as it will be further discussed below – that the trading and settlement of crypto-assets qualified as financial instruments is only possible on the DLT market infrastructures introduced by the DLT Regulation, ie, excluding traditional structures typically established under MiFID II regime.

A further issue derives from the fact that the DLT Regulation only deals with some of the financial instruments governed by MiFID II, namely shares, bonds, money market instruments, and units of UCITS funds, and does not cover other financial instruments, most notably derivatives, and units of non-UCITS funds. In this case, questions arise as to which regulatory regime would apply to financial instruments not included in the DLT Regulation whose underlying technology is, however, based on DLT.

⁵ 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 [2014] OJ L 173.

⁶ As described in the *ESAs Report on Regulatory Sandboxes and innovation hubs*, 7 January 2019, JC 2018 74, 16, the aim of such sandboxes is 'to provide a monitored space in which competent authorities and firms can better understand the opportunities and risks presented by innovations and their regulatory treatment through a testing phase, and to assess the viability of innovative propositions, in particular in terms of their application of and their compliance with regulatory and supervisory requirements'. The report is available at <https://tinyurl.com/52bfusuj> (last visited 20 September 2023)

This paper also seeks to provide critical reflections on two different but interconnected questions: whether the DLT Regulation indeed follows and promotes the alleged principle of *technological neutrality* ('same business, same rules') and whether, and to what extent, the use of DLT is incompatible with the existing financial services regulatory framework.

II. The DLT Regulation

The DLT Regulation represents a significant step towards the creation of an EU framework that enables both the development of markets in crypto-assets as well as the tokenization of traditional financial assets under a wider use of DLTs in financial services.⁷

The 'tokenization' of financial instruments - that is to say, the process of creating a digital representation of an underlying physical financial instrument in the form of a cryptographic token, enabling their issuance, storage, and transfer through DLT⁸ - has required the European legislator to assess the compatibility and the suitability of the existing EU legislation with the new framework introduced by the DLT Regulation.

The Union's financial services legislation was not designed with DLT and crypto-assets in mind, and, in principle, there could be provisions in the existing EU framework that could preclude or limit the use of DLTs in the issuance, trade, and settlement of crypto-assets qualifying as financial instruments.

The introduction of a 'sandbox approach' by legislators was justified due to the finding of concrete legal obstacles for the development of the technology. This allowed for experimentation through derogations for the use of DLTs in the trading and post-trading of crypto-assets, where existing legislation precludes or limits their use. As it stands, the DLT Regulation became effective on June 23rd, 2022 and will be applicable through March 23rd, 2023.

1. The Road to the Current Scope of Application

To self-circumscribe its scope of application, the DLT Regulation sets out a definition of 'DLT financial instruments', referencing the notion provided under MiFID II.⁹

According to the Regulation, a 'DLT financial instrument' is a *financial instrument* that is issued, recorded, transferred, and stored using distributed ledger technology, where a 'financial instrument' is defined in Art 4(1), point (15),

⁷ D.A. Zetsche and J. Woxholth, 'The DLT Sandbox under the EU Pilot Regulation' *University of Luxembourg Law Research Paper*, I, 1-30 (2021), available at <https://tinyurl.com/wn37jke4> (last visited 20 September 2023).

⁸ See Recital (3) of the DLT Regulation.

⁹ In the first drafts of the DLT Regulation, only transferable securities were covered by the regime.

of MiFID II.

This provision is further specified by Art 3 of the DLT Regulation, which lays out limitations on the DLT financial instruments which may be admitted to trading or recorded on DLT market infrastructures.

Accordingly, DLT financial instruments shall only be admitted to trading on a DLT market infrastructure, or be recorded on a DLT market infrastructure, if, at the moment of admission to trading or recording, the DLT financial instruments are either: (a) shares, the issuer of which has a market capitalization, or a tentative market capitalization, of less than EUR 500 million; (b) bonds, other forms of securitized debt, (including depositary receipts in respect of such securities) or money market instruments, with an issue size of less than EUR 1 billion, excluding those that embed a derivative or incorporate a structure which makes it difficult for the client to understand the risk involved; or (c) units in collective investment undertakings covered by Article 25(4), point (a) (iv), of Directive 2014/65/EU, the market value of the assets under management of which is less than EUR 500 million.¹⁰

In addition, DLT financial instruments should meet the volumetric thresholds provided by Art 3.¹¹

It should be noted, however, that the path to the final draft of the Regulation was not so obviously inclined toward the alignment of concepts and definitions.

In the first draft of the DLT Regulation, in fact, the admission to trading and the recording on DLT market infrastructures were not permitted to *all* financial instruments – as in the final text – but only to a specific subset, namely the ‘DLT transferable securities’.

DLT transferable securities were defined as ‘transferable securities within the meaning of Art 4(1)(44) (a) and (b) of Directive 2014/65/EU that are issued, recorded, transferred, and stored using a DLT’.

In this sense, many of the issues primarily raised in connection with the scope of the DLT Regulation were due to the fact that the definition of ‘DLT transferable securities’ contained MiFID II did not only include shares and bonds but also depositary receipts in respect of shares or bonds, meaning

¹⁰ UCITS funds and money-market instruments were not included in the first version of the DLT Proposal. The European Parliament, in a Position adopted on 24 March 2022, suggested to include units, or shares of exchange-traded funds into the DLT Regulation’s scope.

¹¹ The aggregate market value of all the DLT financial instruments that are admitted to trading on a DLT market infrastructure or that are recorded on a DLT market infrastructure shall not exceed EUR 6 billion at the moment of admission to trading, or initial recording, of a new DLT financial instrument. Where the admission to trading or initial recording of a new DLT financial instrument would result in the aggregate market value referred to in the first subparagraph reaching EUR 6 billion, the DLT market infrastructure shall not admit that DLT financial instrument to trading or record it. Where the aggregate market value of all the DLT financial instruments that are admitted to trading on a DLT market infrastructure or that are recorded on a DLT market infrastructure has reached EUR 9 billion, the operator of the DLT market infrastructure shall activate a ‘transition strategy’.

‘those securities which are negotiable on the capital market and which represent ownership of the securities of a non-domiciled issuer while being able to be admitted to trading on a regulated market and traded independently of the securities of the non-domiciled issuer’.¹²

Initially, the European Parliament was of the view that depositary receipts ought to be excluded from the scope of the DLT Regulation based on the assumption that ‘in a DLT environment, shares and bonds could be considered as ‘native’ security tokens while depositary receipts can be considered as ‘asset-backed’ security tokens representing ownership rights of an underlying traditional share or bond’.¹³

Nonetheless, as mentioned, depositary receipts have been now included by the DLT Regulation among the financial instruments which may be admitted to trading or recorded on DLT market infrastructures.

This choice seemed consistent with the principle of technological neutrality, according to which the use of a given technology, such as DLT, should not be seen as a distinguishing feature for identifying, or regulating, a new distinct category of assets.

Once the scope of application of the DLT Regulation is clarified, we will now focus on whether the DLT is compatible with the existing EU financial services rules on trading venues.

2. Intermediaries and Secondary Markets in DLT

The DLT Regulation offers a definition of ‘market infrastructures’ that includes: (i) DLT multilateral trading facilities (‘DLT MTFs’), (ii) DLT settlement systems (‘DLT SS’) and (iii) DLT trading and settlement systems (‘DLT TSS’).

A DLT MTF is an MTF under MiFID II (subject to additional requirements), while a DLT SS relies on the securities settlement system (‘SSSs’) definition contained in the Central Securities Depositories Regulation (‘CSDR’).¹⁴ Arts 8, 9, and 10 of the DLT Regulation set out the conditions under which market participants may apply for a specific permission to operate, respectively, a DLT MTF, a DLT SS, or a DLT TSS.¹⁵

¹² European Parliament, Committee on Economic and Monetary Affairs, Draft Report 2020/0267(COD) on Digital finance: Pilot regime on distributed ledger technology market infrastructures (DLT) [2021], 47 OJ.

¹³ *ibid* 18.

¹⁴ Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012 [2014] OJ L 257.

¹⁵ The DLT Regulation mandates ESMA to develop guidelines to establish standard forms, formats, and templates for the submission of the information by market participants to the competent authorities to be authorized as DLT Market Infrastructures. On 11 July 2022, ESMA published a Consultation Paper on guidelines on standard forms, formats, and templates to apply for permission to operate a DLT market infrastructure, ESMA70-460-34.

As detailed below, a DLT TSS should be either: (i) a DLT MTF that combines the services performed by a DLT MTF and by a DLT SS, operated by an investment firm or a market operator that has received a specific license to operate a DLT TSS, or (ii) a DLT SS that combines the services performed by a DLT MTF and by a DLT SS, operated by a Central Securities Depository ('CSD') that has received a specific permission to operate a DLT TSS.

Considering DLT MTFs, therefore, the DLT Regulation draws a clear line between secondary markets in financial instruments issued on DLT, and secondary markets in financial instruments issued in a 'traditional' way, providing the former with a specific set of rules and thus apparently aiming at designing a separate regime for DLT-based trading venues.

This apparent issue, however, arises from an opaque and unclear justification of the background for this legislative choice, which is vaguely addressed in Recital (41) of the Regulation, stating that:

'secondary markets in financial instruments issued on distributed ledger technology or similar technology are still nascent and therefore their features may differ from markets in financial instruments using traditional technology'.

The solution adopted by the European legislator – to create a Pilot Regime rather than to amend the existing legislation – seems to be driven by reasons of simplification (in particular, as stated in the DLT Regulation, to avoid the complication of identifying all the regulatory obstacles that would require an immediate legislative action), as well as by the unquestionable and undisputed differences between DLT and other markets.

Nonetheless, even though a cautious approach is quite understandable for the proper handling of such new technologies, one could consider the EU legislator to be inconsistent in its ambiguous stance on regulating such markets. While, on the one hand, the legislator takes a clear position as to the need for an *ad-hoc* legal framework regulating the trading and settlement of crypto-assets qualifying as financial instruments, on the other hand, reference is still made to the existing legislative framework, mainly MiFID II and MiFIR, when dealing with crucial concepts, such as MTFs or settlement systems, for instance. Nevertheless, such a position does not properly consider that, as long as concrete rules dedicated to regulating decentralized finance and, in particular, decentralized autonomous organizations, are not introduced, the influence of MiFID as the main regulatory landmark is unavoidable.

III. MiFID II Trading Venues and DLT

In order to properly address the interconnections between the legal frameworks created by the DLT Regulation and MiFID II, it is appropriate to briefly review the definitions of market infrastructures and the different types of trading venues

provided for in MiFID II and in the DLT Regulation.

The DLT Regulation defines ‘market infrastructures’ which explicitly includes trading venues. In the past, however, the generally accepted view was that only payments systems, central securities depositories, central counterparties, securities settlement systems, and trade repositories were considered as market infrastructures, but not trading venues.

This is also confirmed by certain studies published by the Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO), which, in addressing the rising of the DLT phenomena, referred only to post-trading infrastructures. It seems, therefore, that the financial industry initially recognized the role that DLT could have on clearing and settlement activities, while trading venues or other trading facilities were, at first, considered less likely to be affected by the technology.

However, the rise of new market players, including trading platforms, that are largely unregulated and that offer disintermediated access to investors, has required legislative action on this front as well.

1. Regulated Markets and Alternative Trading Venues in the EU

MiFID II distinguishes between three types of trading venues: (i) regulated markets; (ii) multilateral trading facilities (MTFs); and (iii) organized trading facilities (OTFs).¹⁶ While regulated markets can be seen as traditional exchanges, MTFs and OTFs are ‘alternatives’ to regulated markets.¹⁷

MiFID II provides a similar definition of regulated markets and MTFs: both trading venues are multilateral systems, meaning that in their systems they can bring together multiple third-party buying and selling interests in all financial products (equity and non-equity). Moreover, both regulated markets and MTFs are based on non-discretionary rules, leaving no discretion as to how the interests may interact. Despite their similarities, the two trading venues are not identical: the main difference is that an MTF can be run by investment firms or market operators while regulated markets can be managed only by market operators.¹⁸

An OTF is a multilateral system which is not a regulated market or an MTF and in which multiple third-party buying and selling interests in bonds, structured finance products, emission allowances, or derivatives are able to interact in the system in a way that results in a contract. The main features of OTFs are as follows:

¹⁶ ‘Systematic internalisers’ defined in Art 4(1), point (20), MiFID II, are not trading venues, although they share some features with trading venues, in particular transparency and organizational rules.

¹⁷ For further reference on trading venues, see N. Moloney, *EU Financial Markets and Securities Regulation* (Oxford: Oxford University Press, 2014); M. Gargantini, *The European Regulation of Securities Exchanges Regulated Markets in an Evolving Technological and Legal Context* (Torino: Giappichelli, 2021).

¹⁸ Art 47 MiFID II. A ‘market operator’ can operate a regulated market, MTF, or OTF, whereas investment firms can only operate an MTF or OTF, but not a regulated market.

First, OTFs can only be used for the execution of non-equity financial instruments (while in regulated markets and MTFs both equity and non-equity financial instruments can be traded); Second, the OTF must execute on a discretionary basis, whereas regulated markets and MTFs are subject to non-discretionary rules; Third, an OTF can, under certain conditions, trade on its own account, whereas regulated markets and MTFs can never trade on their own accounts.

MiFID II introduces a strict set of organizational requirements on investment firms and trading venues that can be divided into four categories: (i) general requirements for all investment firms (including for MTFs, OTFs, and systematic internalisers); (ii) additional requirements for MTFs and OTFs; (iii) requirements for regulated markets; and (iv) additional requirements for systematic internalisers.

The general organizational rules include rules on (i) compliance, (ii) risk management, (iii) complaint handling, (iv) personal transactions, (v) outsourcing, and (vi) the identification, management, and disclosure of conflicts of interest.

In addition to the abovementioned general organizational rules - applicable to all investment firms - MiFID II requires MTFs and OTFs to comply with additional organizational requirements.

In this sense, both MTFs and OTFs must, *inter alia*: (i) have transparent rules and processes for fair and orderly trading; (ii) set-out objective criteria for the efficient execution of orders; (iii) put in place arrangements for the sound management of the technical operations of the facility; (iv) implement transparent rules regarding the criteria for determining the financial instruments that can be traded; (v) provide access to sufficient publicly available information so as to enable its users to form an investment opinion, taking into account the nature of the users and the types of instruments traded; and (vi) establish transparent and non-discriminatory rules.

With respect to OTFs, it should be noted that the rules to which they are subject are specific, *vis-à-vis* regulated markets and MTFs.

First, OTFs have a degree of discretion with respect to the order-matching process. 'Discretion', in this context, means that the OTF may decide whether to place an order on, or retract an order from, the OTF concerned (discretion at execution level) and/or not to match a specific client order with other orders available in the OTF system (discretion at order level), provided it complies with specific instructions received from a client and in accordance with best execution-obligations.¹⁹

Second, OTFs are allowed to trade on their own account only (i) through matched principal trading and (ii) when trades in illiquid sovereign debt are involved.

Moreover, MiFID II requires MTFs – in addition to the above-mentioned requirements for all investment firms and for MTFs/OTFs – to comply with the

¹⁹ D. Busch and H. Gulyas, 'Regulated Markets, Alternative Trading Venues & Systematic Internalisers in Europe' *European Banking Institute Working Paper*, 75, 15 (2020), available at <https://tinyurl.com/mr48vz3a> (last visited 20 September 2023).

following specific organizational requirements originating from the definition provided by MiFID II:

- i. 'MTFs must have non-discretionary rules for the execution of orders in the system;
- ii. MiFID II sets out similar requirements for MTFs as for regulated markets with respect to member/participant criteria;
- iii. MTFs must have arrangements in place with respect to (a) the risks to which the MTF is exposed, (b) efficient and timely finalization of transactions (settlement), and (c) financial resources of the MTF;
- iv. MTFs are not subject to client-facing roles, such as client order handling and best execution requirements;
- v. MTFs are not permitted to trade for their own account (ie, proprietary trading) or to engage in matched principal trading'.²⁰

Finally, with respect to regulated markets, it is worth noting that the rules for regulated markets and MTFs are becoming even more closely aligned under MiFID II than they were under MiFID I. The goal of this is to improve the level playing field between the two trading venues.²¹ Regulated markets and MTFs are therefore subject to almost the same organizational requirements. However, some differences between the two can be summarized as follows:

As anticipated, regulated markets cannot be managed by investment firms. Consequently, no 'proportionate approach' applies to regulated markets, as is the case for investment firms;²² and

Under MiFID II, regulated markets are subject to stricter rules concerning the admission of financial instruments to trading; the Directive sets out (a) specific requirements for the financial instruments that can be admitted to trading on the regulated market; and (b) arrangements to verify that issuers of transferable securities comply with their obligation under EU law.

2. DLT-Based Trading Venues

With the introduction of the 'DLT market infrastructures', the DLT Regulation aims at supporting the trading of DLT financial instruments under the assumption that

²⁰ *ibid* 14.

²¹ *ibid* 14 'The MTF requirements were almost the same as for RMs, albeit that the regime for RMs was stricter. MiFID II retains the MiFID I organizational requirements for MTFs. At the same time, MiFID II changes two things. First, MiFID II extends the MiFID I organizational requirements for MTFs to OTFs. This is not surprising, given that the OTF is a new trading venue under MiFID II. Second, MiFID II tightens the MiFID I requirements for MTFs by introducing new requirements. The new requirements include, among other things, more specific rules on conflicts of interest and technical operations of the MTF (and OTF). The new and stricter MiFID II regime intends to enhance the level playing field between RMs and MTFs compared to MiFID I. OTFs are subject to similar rules as RMs and MTFs given their shared status as a trading venue'.

²² Art 16(1) and Art 18(1) MiFID II.

‘without a secondary market able to provide liquidity and to enable investors to buy and sell such assets, the primary market for crypto-assets that qualify as financial instruments will never expand sustainably’.

The legal and regulatory regime covering crypto assets’ primary markets – this is, the space where crypto assets are issued, stored, and transferred – is therefore strictly interconnected with the one regulating secondary markets and, therefore, trading venues.

A significant question to consider is whether the only solution to the limited use of DLT in financial services is indeed the introduction of an *ad-hoc* ‘DLT-based secondary market’ or whether traditional trading venues could have served this purpose.

Before opting for the Pilot Regime, the European legislator posed the same question, concluding that despite the number of amendments to existing legislation being relatively limited and targeted to well-defined areas, the creation of a DLT market infrastructure would indeed be more effective.²³ From this perspective, it is not surprising that the DLT Regulation itself acknowledges that the Pilot Regime does not follow the principle of technological neutrality.²⁴

However, this is justified by the circumstance that ‘the existing financial services legislation was not designed with DLT and crypto-assets in mind’ and that ‘there is presently not sufficient evidence to support more significant and wide-ranging permanent changes to the existing financial services framework in an effort to allow for the use of DLT’.

In this context, it is essential to identify the provisions in the existing financial service legislation representing a potential limit to the use of DLT, a task that the DLT Regulation otherwise leaves to national authorities and legislators.

3. Obstacles to the Application of Existing Financial Law to DLT Trading Venues?

At present, traditional MTFs are allowed to admit as members or participants only investment firms, credit institutions, and other entities that have a sufficient level of trading ability and competence and who maintain adequate organizational arrangements and resources. By contrast, many platforms for trading crypto-assets offer disintermediated access and provide direct access for retail investors.

²³ According to the first version of the DLT Regulation ‘Under Option 2 (‘Targeted amendments to the EU framework on financial services’, the number of amendments to existing legislation would be relatively limited. As DLT and financial instruments in crypto-asset form are in nascent stages, it is difficult to identify all regulatory obstacles that would require immediate legislative action’.

²⁴ According to the Impact Assessment accompanying the document Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets and amending Directive (EU) 2019/1937 on the protection of persons who report breaches of Union law [2020] OJ SWD/2020/380 final ‘The targeted amendments would strive to maintain the technology-neutral approach taken by the current financial services legislation’.

Accordingly, one potential regulatory obstacle to the development of multilateral trading facilities for DLT financial instruments could be the obligation of intermediation.

In particular, under the DLT Regulation, a DLT MTF is allowed to request a temporary derogation to such an obligation of intermediation and to grant access to retail investors, provided that adequate safeguards for investor protection would be in place and that such retail investors are fit and proper for anti-money laundering and combating the financing of terrorism purpose.²⁵

Regarding MiFIR, potential gaps have been identified in the data reporting requirements and pre-and post-trade transparency requirements,²⁶ which, according to the DLT Regulation, are not well adapted to financial instruments issued on a distributed ledger technology.

The DLT Regulation includes a recital requiring ESMA to assess whether the regulatory technical standards (RTS) developed under MiFIR, in connection with pre-and post-trade transparency and data reporting requirements, need amendments in order to be effectively applied to financial instruments issued, traded, and recorded on DLT as well.

In this regard, ESMA conducted a call for evidence from 4 January 2022, to March 4th, 2022, to seek feedback on the need to amend the RTS to comply with transparency and data reporting requirements. In addition, ESMA organized a workshop on March 31st to discuss feedback received from the call for evidence. As a result, on September 27th, 2022, ESMA published a report presenting the findings (the 'Report').²⁷

Considering the Report, it should be noted that, although DLT MTFs can be exempted from pre-and post-trade transparency and data reporting requirements (assuming that they are not compatible with the DLT), most of the feedback received noted that the rules applicable to conventional MTFs and DLT MTFs

²⁵ According to Art 4 DLT Regulation 'In addition to the persons specified in Art 53(3) of MiFID II, if requested by an operator of a DLT MTF, the competent authority may permit that operator to admit natural and legal persons to deal on own account as members or participants, provided that such persons fulfil the following requirements: (a) they are of sufficient good repute; (b) they have a sufficient level of trading ability, competence and experience, including knowledge of the functioning of distributed ledger technology; (c) they are not market makers on the DLT MTF; (d) they do not use a high-frequency algorithmic trading technique on the DLT MTF; (e) they do not provide other persons with direct electronic access to the DLT MTF; (f) they do not deal on their own account when executing client orders on the DLT market infrastructure; and (g) they have given informed consent to trading on the DLT MTF as members or participants and have been informed by the DLT MTF of the potential risks of using its systems to trade DLT financial instruments. Where the competent authority grants the exemption referred to in the first subparagraph of this paragraph, it may require additional measures for the protection of natural persons admitted to the DLT MTF as members or participants. Such measures shall be proportionate to the risk profile of those members or participants'.

²⁶ Regulated Markets, MTFs, and OTFs are subject to common equity and non-equity pre- and post-trade transparency rules. For further reference, see D. Busch and H. Gulyas, n 22 above, 19.

²⁷ ESMA, 'Report on the DLT Pilot Regime on the Call for Evidence on the DLT Pilot Regime and compensatory measures on supervisory data', 27 September 2022 (ESMA70-460-111).

should indeed be the same.²⁸

The Report showed that there are no key differences between DLT and standard instruments and thus DLT financial instruments should fall under the same transparency regime as all other financial instruments. As a result, respondents did not see the need to change the existing requirements.

Given that MiFID II and MiFIR are fully applicable to DLT MTFs, except for only *two* provisions, it is reasonable to conclude that most of the MiFID II and MiFIR framework are largely compatible with the use of DLT.

This is also supported by the amendment that the DLT Regulation has operated on the definition of ‘financial instruments’ contained in MiFID II. Art 18 of the DLT Regulation has, in fact, changed the wording of Art 4(1), point (15), of MiFID II and replaced it with the following: ‘(15) ‘financial instrument’ means those instruments specified in Section C of Annex I, including such instruments issued by means of distributed ledger technology’.

In this regard, it is worth mentioning that Article 1 of the DLT Regulation clearly states that

‘This Regulation lays down requirements on DLT market infrastructures, which are granted with specific permissions to operate in accordance with this Regulation’.

Such a provision seems to be aimed at clarifying that the perimeter of the DLT Regulation is not extended to all the market infrastructures using DLT, but only to those falling within the scope of the DLT Regulation.

Therefore, ‘DLT financial instruments’ can be defined as a subset of the more generic category of MiFID II ‘financial instruments’. The result of this is that where a financial instrument does not meet the requirements provided by Art 3 of the DLT Regulation (ie it is not a bond, share, or unit of a UCITS fund, it does not meet the thresholds provided by Art 3 of the DLT Regulation, etc), it will be covered by the already existing MiFID II framework as we all know it. From this perspective, DLTs should be considered merely as a technological tool for issuing financial instruments, and MiFID II ‘financial instruments’ should continue being regulated under the MiFID II framework, even if they are issued through DLT technology. This conclusion seems to be supported by ESMA as the Report

²⁸ In particular, according to *Deutsche Börse Group (DBG)* ‘We share ESMA’s view that the existing RTSs are designed in a ‘technology neutral’ manner and that the introduction of new technologies should not lead to significant changes. Amendments to existing RTSs on reporting should be limited and need to ensure that the data/information regarding traditional financial instruments is comparable to those of their ‘tokenized’ equivalents. Additionally, significant changes to the RTSs should be prevented in order to secure the ‘same business, same risk, same rules’ principle. It should not matter whether a financial instrument is issued ‘traditionally’ or on a DLT. We believe that this is important for all asset classes, regardless of whether they are already in scope of the DLT Pilot Regime or whether they would potentially be included in the future (eg, derivatives)’.

demonstrated that most stakeholders called for interoperability across DLT market infrastructures, and between DLT market infrastructures and traditional financial market infrastructures, with some stakeholders positing that there is a low likelihood that securities could be issued, traded, and settled exclusively in a DLT environment in the short term. As stated by ESMA, the extent to which this will be possible will depend on the national frameworks in place and, in particular, whether these will allow the issuing, trading, and settlement of the same instrument both on DLT market infrastructure and trading markets infrastructures.

4. The CSDR as the Real Challenge to the DLT Regulation

Once it is clarified that DLT is largely compatible with MiFID II, attention should be drawn to a different - but related - question, namely, whether the same conclusion applies to the CSDR.

According to the CSDR regime, where a transferable security is admitted to trading on a trading venue in the European Union, it is to be recorded in book-entry form with an authorized CSD on or before the intended settlement date.

However, Recital 11 of the CSDR clarifies that the Regulation should not impose one particular method for the initial book-entry form recording which should be able to take the form of immobilization or of immediate dematerialization.

This measure is aimed at increasing the efficiency of settlement, facilitating the shortening of settlement periods, and ensuring the integrity of a securities issue by allowing for easier reconciliation of securities holdings. Further, it would notably reduce settlement risk, since book-entry securities are much easier to deliver than paper-based securities, and it would facilitate the reduction of the settlement period.

As drawn from the CSDR, the core functions of the CSDs are: (i) 'notary' function, which is the entering of securities into book-entry. It ascertains the existence of the securities when they are brought for reimbursement upon maturity; (ii) the 'settlement' function, which is the operation of a securities settlement system, through which securities are initially delivered to investors or are subsequently exchanged between buyers and sellers (via participants to the securities settlement system); and (iii) the 'central safekeeping' function, which regards the maintenance of 'top tier' accounts in a book entry system.²⁹

²⁹ The functioning of CSD systems for securities settlement is analyzed in D.A. Zetsche and J. Woxholth, n 10 above, 4 'A CSD, as a centralized ledger provider, holds a master copy of the ledger of all transactions in a given security and performs the process of clearing, settlement, and recording. Then, intermediaries with access to the CSD hold an account with that CSD; those accounts constitute a copy of the master copy. Intermediaries with CSD access then function as a centralized ledger for other sub-level intermediaries: this situation has been likened to a hub-and-spoke system, with the CSD as the hub, and the intermediaries as the spokes. Once a transaction takes place it must be reconciled on all ledgers concerned, at the level of sub-level custodians, that of top-level custodians with CSD access and, if the overall number of shares a top-level custodian holds changes due to the transaction, the CSD as well. This typically happens

In more general terms, CSDs, together with central counterparties,³⁰ largely contribute to maintaining post-trade infrastructures (so-called post-trading), protecting financial markets and ensuring market participants that transactions are always executed correctly and timely during clearing and settlement.³¹

With respect to the interconnection with the DLT Regulation, it should be noted that the notion of DLT SS relies on the definition of securities settlement system ('SSSs') contained precisely in the CSDR. This means that a CSD operating a DLT SS shall, therefore, be subject to *all* the requirements that apply to a CSD operating a securities settlement system under the CSDR.

However, as for DLT MTFs, at the request of a CSD operating a DLT SS, the competent authority may exempt that CSD from Art 2(1), points (4),³² (9)³³ or

after transactions are settled individually on each ledger, for instance daily at the close of business. If financial securities are 'purchased' (ie, exchanged for fiat currency), clearing and settlement takes place through a security leg and a payment leg. The CSD first verifies that the seller holds a title in the securities being sold. Then, the CSD registers the name of the new owner (the buyer) in the ledger. Thereafter, the transaction price is taken from the buyer's bank account and added to that of the seller. If the buyer and seller do not have custodial accounts at the same institution, the ledger held in the name of each of the custodians directly or indirectly (through intermediaries with CSD access) at the CSD will be updated to reflect that the custodian of the seller now has a claim on the custodian of the buyer. This process typically takes 1-3 days. In the meantime, both securities and money are often held as collateral and are rendered unavailable for other economic purposes'.

³⁰ With regard to clearing, see R. Priem, 'A European DLT Pilot Regime for Market Infrastructures: Finding a Balance Between Innovation, Investor Protection, and Financial Stability', 8 (2021), available at <https://tinyurl.com/568c694j> (last visited 20 September 2023). 'Although the proposal considers MTFs as market infrastructures, central counterparties are not taken into consideration. That is, central clearing is not considered by the European Commission as they are of the view that DLT can lead to the almost instantaneous trading and post-trading of securities. Counterparty risk is thus nearly absent, making central clearing no longer necessary for eg, equities and bonds. The view that CCPs might still be beneficial to market liquidity because of their multilateral netting services is thus not taken into consideration'.

³¹ Post-trading services are clearing and settlement. For more information about clearing and settlement, see L. Goldberg et al, 'Securities Trading and Settlement in Europe: Issues and Outlook' 8 *Current Issues in Economics and Finance*, 1 (2002), available at <https://tinyurl.com/2s4za83m> (last visited 20 September 2023). 'The post-trade clearing process facilitates proper completion of a transaction. The first step is trade comparison, or trade matching, which confirms that the buyer and seller have agreed on the price, quantity, and other details of the transaction. Next, the buyer and seller identify the accounts to which the security and payment should be delivered. In some markets, large broker-dealers that frequently trade with each other use central counterparties (CCPs) to minimize the risks of failure. A CCP 'stands between' interdealer trades, becoming the buyer to all sellers and the seller to all buyers. The CCP lowers the risks to dealers by offsetting, or 'netting,' buy and sell trades. In addition, it reduces the number and size of securities and money movements at settlement. Settlement represents the exchange of a security and its payment. In most developed financial markets, few participants actually hold physical certificates for the publicly traded securities they own. Rather, ownership is tracked electronically through a book-entry system maintained by a central securities depository (CSD). At the depository, ownership transfer at settlement occurs on the system's records'.

³² Dematerialized form.

³³ Transfer order.

(28),³⁴ or Art 3,³⁵ Art 37,³⁶ Art 38,³⁷ Art 40³⁸ of CSDR, provided that the CSD complies with the requirements set by the DLT Regulation.³⁹

The CSD can be also exempted from Art 6,⁴⁰ Art 7,⁴¹ Art 19,⁴² Art 33,⁴³ Art 34⁴⁴ or 35,⁴⁵ Art 39,⁴⁶ Art 40,⁴⁷ Art 50,⁴⁸ 51,⁴⁹ and 53⁵⁰ of CSDR, subject to the fulfillment of the conditions provided by the DLT Regulation.

According to such exemptions, the rules of the CSDR which refer to the terms ‘dematerialized form’, ‘securities account’, or ‘transfer orders’ would not apply to CSDs operating a DLT SS.

Concerning the term ‘securities account’, the exemption would cover the rules on the recording of securities, the integrity of issues, and the segregation of accounts.⁵¹

³⁴ Securities account.

³⁵ Book-entry form ‘Without prejudice to para 2, any issuer established in the Union that issues or has issued transferable securities which are admitted to trading or traded on trading venues, shall arrange for such securities to be represented in book-entry form as immobilization or subsequent to a direct issuance in dematerialized form. Where a transaction in transferable securities takes place on a trading venue the relevant securities shall be recorded in book-entry form in a CSD on or before the intended settlement date, unless they have already been so recorded (...)’.

Art 3 has been identified as one of the main existing legislative obstacles to the development of DLT market infrastructures in P. Carrière et al, ‘Tokenizzazione di azioni e azioni tokens’ in Consob *Quaderni Giuridici*, (2023), available at <https://tinyurl.com/4ksfz449> (last visited 20 September 2023).

³⁶ Integrity of the issue.

³⁷ Protection of securities of participants and those of their clients.

³⁸ Cash settlement.

³⁹ The CSD should: (a) demonstrate that the use of a ‘securities account’ as defined in Art 2(1), point (28), of that Regulation or the use of the book-entry form as provided for in Art 3 of that Regulation is incompatible with the use of the particular distributed ledger technology; (b) propose compensatory measures to meet the objectives of the provisions in respect of which an exemption has been requested, and ensures at a minimum that: (i) the DLT financial instruments are recorded on the distributed ledger; (ii) the number of DLT financial instruments in an issue or in part of an issue recorded by the CSD operating the DLT SS is equal to the total number of DLT financial instruments making up such issue or part of an issue that are recorded on the distributed ledger at any given time; (iii) it keeps records that enable the CSD operating the DLT SS at any given time to segregate the DLT financial instruments of a member, participant, issuer or client from those of any other member, participant, issuer or client without delay; and (iv) it does not allow securities overdrafts, debit balances or the improper creation or deletion of securities.

⁴⁰ Measures to prevent settlement fails.

⁴¹ Measures to address settlement fails.

⁴² Extension and outsourcing of activities and services.

⁴³ Requirements for participation.

⁴⁴ Transparency.

⁴⁵ Communication procedures with participants and other market infrastructures.

⁴⁶ Settlement finality.

⁴⁷ Cash settlement.

⁴⁸ Standard link access.

⁴⁹ Customized link access.

⁵⁰ Access between a CSD and another market infrastructure.

⁵¹ However, a CSD operating a DLT SS should still ensure the integrity of the DLT financial

In this regard, whereas CSDs operate securities settlement systems, double-entry or multiple-entry bookkeeping securities accounts might not always be feasible in a DLT SS. This justifies the fact that a CSD operating a DLT SS is exempted from the CSDR rules referring to the term ‘book-entry form’, where such an exemption is necessary to allow for the recording of DLT financial instruments on a distributed ledger.

Ultimately, competent authorities may also exempt DLT SSs from Art 40 of the CSDR, provided that the settlement occurs based on delivery versus payment.

In this context, the settlement of payments shall be carried out through central bank money, including tokenized form, where practical and available or, where not practical and available, through commercial bank money, including tokenized form, or ‘e-money tokens’.

In any case, where a CSD requests an exemption, it shall demonstrate that the exemption requested is: (a) proportionate to, and justified by, the use of distributed ledger technology; and (b) limited to the DLT SS and does not extend to a securities settlement system that is operated by the same CSD.

The potential trading and settlement⁵² benefits of distributed ledger technology justify the establishment of a dedicated DLT market infrastructure by the DLT Regulation, namely, the DLT trading and settlement systems (DLT TSS), which amalgamates the activities usually performed by multilateral trading facilities and securities settlement systems.

Operators of DLT TSSs should be able to request similar exemptions as those available to operators of DLT MTFs and of DLT SS.

Under the DLT Regulation, there is a shift of roles from CSDs to the DLT TSSs. Once exempted from the book-entry requirement and the recording with a CSD, a DLT TSSs takes over the functions of recording the crypto-assets on its distributed ledger, ensuring the integrity of the issues on the distributed ledger, establishing and maintaining procedures to ensure the safekeeping of the DLT transferable securities, completing the settlement of transactions, and preventing settlement failures.

In this perspective, DLT MTFs would be allowed to also provide settlement services, which, according to CSDR, would otherwise be reserved to CSDs. Hence, under the DLT Regulation, the requirement that trading and settlement must be

instruments issued on the distributed ledger and the segregation of the DLT financial instruments belonging to the various participants.

⁵² Bank of International Settlements, ‘Distributed ledger technology in payment, clearing and settlement an analytical framework’, February 2017, available at <https://tinyurl.com/26pwjs4m> (last visited 20 September 2023) ‘DLT may radically change how assets are maintained and stored, obligations are discharged, contracts are enforced, and risks are managed. Proponents of the technology highlight its ability to transform financial services and markets by (i) reducing complexity; (ii) improving end-to-end processing speed and thus the availability of assets and funds; (iii) decreasing the need for reconciliation across multiple record-keeping infrastructures; (iv) increasing transparency and immutability in transaction record keeping; (v) improving network resilience through distributed data management; and (vi) reducing operational and financial risks’.

executed by two different entities is no longer imposed.⁵³

As mentioned before, the exemptions provided by the DLT Regulation concern many of the fundamental CSDR requirements standing at the core of the CSDR, with the result that CSDs, although still considered by the DLT Regulation, in practice, appear to be deprived of their role.

Removing the rules which refer, for instance, to the terms ‘dematerialized form’, ‘securities account’, ‘transfer orders’, and ‘book-entry form’ from the CSDR calls into question if CSDs still have a function in a DLT context, or if the CSDR should be considered as the real and effective obstacle of the existing legislation to the development of a DLT market infrastructure, rather than MiFID or MIFIR.

Indeed, for financial instruments not covered by the CSDR (eg, derivatives), market operators could already set up a DLT-enabled trading and settlement platform that would rest outside the scope of the CSDR. Such financial instruments can already be freely traded on MiFID II trading venues, thereby also using DLT. Yet, their scope of activities would be limited to the trading and settlement of transactions in securities that fall outside of CSDR, ie, it would not cover the settlement of transactions in transferable securities admitted to trading on EU trading venues.

On the contrary, and as indicated above, where a transaction in transferable securities takes place in a trading venue, the relevant securities shall be recorded in book-entry form in a CSD and subject to the requirements set by the CSDR.⁵⁴

However, it is not clear which role the DLT Regulation has reserved for CSDs. The large number of fundamental derogations from the CSDR and the possibility to provide settlement services granted to the DLT MTFs, make it difficult to frame the CSDs in the ecosystem built by the DLT Regulation.

The choice made by the DLT Regulation in this matter seems contradictory: on one hand, providing all the exemptions to the CSDR seems to imply an absolute incompatibility of the CSDR with DLTs. However, on the other hand, it maintains the role - though largely limited - of CSDs.

Such an approach also seems to suggest that the main concern in applying the CSDR rules to a DLT ecosystem does not actually originate from the current regulatory framework itself but are technology-specific and inherent in the nature of CSDs as centralized entities, in contrast with the DLT as a de-centralized technology.⁵⁵

⁵³ R. Priem, n 33 above, 8.

⁵⁴ For a critical analysis about the relationship between CSDs and DLT, see S. Green and F. Snagg, ‘Intermediated Securities and Distributed Ledger Technology’, in L. Gullifer and J. Payne eds, *Intermediation and Beyond* (Oxford: Hart Publishing, 2019).

⁵⁵ According to Clerstream Banking AG, as a respondent to the European Commission’s targeted consultation document on the review of regulation on improving securities settlement in the European Union and on central securities depositories that took place from December 8th, 2020, to February 2nd, 2021, most concerns in applying the current rules in a DLT environment do not originate from the current regulatory framework itself but are technology-specific and inherent. In particular, ‘Definition of CSD: Definition is technologically neutral. DLT provides for a number of governance models and can be applied in the context of a CSD. However, a CSD is by

The real effort that could have been made by the DLT Regulation is actually feasible. First to assess whether it is still meaningful to consider the CSDs as part of a DLT-environment and, subsequently, to verify whether the DLT can assume the functions reserved to CSDs, while ensuring the same standard of investors protection and financial stability granted by the CSDR.⁵⁶

In this hypothesis, technological neutrality would be maintained as the regulatory landscape provided by the DLT Regulation would not treat securities settled on a DLT market infrastructure in a more or less advantageous manner

definition a legal entity. This allows the designation of liability for the operation of the DLT platform and compliance with the applicable rules (eg, capital requirements). A platform does not as such qualify as a CSD because it is not (necessarily) a legal person. The private permissioned version of DLT with a centralized validation model, allows for combining the benefits of DLT such as Peer to Peer transaction, same version of truth, resilience and availability with the benefits of centralized governance such as clear accountability, legal certainty, performance, privacy, integrity and security'; 'Definition of 'book entry form': confirmation needed that the data recorded to a DLT ledger would be capable of constituting a 'book-entry' within the meaning of the CSDR'; 'Proposal: Clarification of Recital 11 that data recorded to a blockchain can be considered as a 'book-entry' within the meaning of CSDR'; 'Definition of 'dematerialized form': Confirmation needed that token recorded to a DLT ledger (assuming such tokens constitute 'financial instruments' within the meaning of the MiFID) are capable of being construed as financial instruments in 'dematerialized form' within the meaning of the CSDR'; 'Proposal: Tokens that exist purely in digital form on the DLT platform should be no different to the concept of 'dematerialized securities' that are issued straight to screen in the context of existing systems. Tokens on a DLT platform are capable of being structured differently, but the DLT platform in this context is envisaged to have the same elements/features as existing dematerialized securities, with the difference simply being that they are issued on a distributed system rather than a centralized one'; 'Definition of 'settlement': When a transaction is 'validated' on a DLT platform, data is recorded to the transferor's and the transferee's DLT addresses that results in a 'transfer' of the token'; Proposal: Provided the underlying terms and conditions of the tokens and the contractual arrangement between the members on the DLT platform set out clearly that their obligations to each other would be discharged by this method of transfer, the token transfer mechanism should be capable of resulting in 'settlement' within the meaning of the CSDR (subject to any national law requirements in relation to how title can be transferred on an electronic platform or register maintained by a third-party operator)'.

⁵⁶ As pointed-out by ABI - Associazione Bancaria Italiana, one of the respondents to the Call for Evidence on the DLT Pilot Regime promoted by ESMA 'In particular, DLT's distinguishing feature of being a decentralized ledger could reduce the need for reconciliation and confirmation of transaction details, as part of the post-trading processes, which in traditional systems are held by the CSD and the various intermediaries involved in the intermediary chain. This is because each time a transaction is written on the ledger, either directly by counterparties or by authorized parties acting on their behalf (this depends on how the infrastructure is configured), such transaction is validated by the technology's own mechanisms. In this way, the register represents the only source of information on the transactions themselves (the so-called 'golden source') available in real time to all participants in the infrastructure. This could lead to greater efficiency in trading and post-trading processes and a general reduction in settlement cycle times. The ultimate automation in the management of the processes in a DLT through the use of smart contracts would even allow a 'zeroing' of the time of the settlement cycle, especially if all the assets involved in the transaction (the security tokens and the tokens representing the money) were registered in the same DLT environment. In this case, a smart contract could be used to provide a so-called atomic settlement of the transaction, allowing the securities and the money to be simultaneously and instantaneously delivered to the counterparties and achieving an atomic DVP.'

than traditional securities settled according to the CSDR.

As a result, the problem of technological neutrality could have been addressed not only by simply keeping CSDs in a DLT ecosystem but also by re-assessing their role following the introduction of the DLT, in a way that, even if considered redundant, the DLT could have ensured continuity in terms of fundamental standards and principles granted by the CSDR for traditional securities.

IV. Final Remarks

This paper aimed to test the assumption that ‘in principle, there could be provisions in the existing EU framework that could preclude or limit the use of DLTs in the issuance, trading, and settlement of crypto-assets qualifying as financial instruments.’ This assumption has been tested by examining the main legislative measures regulating financial services in the European Union.

In light of the analysis carried out, it is reasonable to conclude that, while MiFID II and MiFIR rules seem to be fully compatible with the use of DLT, the same cannot be said for the CSDR.

Based on the limited number of exemptions from MiFID II and MiFIR which DLT MTFs can benefit from, it is quite clear that both MiFID II and MiFIR are *per se* not an obstacle to the development of DLTs.

This means that, per the principle of technological neutrality, even without the DLT Regulation, securities could already be freely traded on MiFID II trading venues, even where operationalized through DLT infrastructures.

Nonetheless, as discussed, the scope of activities of MTFs would be limited to the trading of transactions of securities falling outside of the CSDR, ie, it would not cover the settlement of transactions in transferable securities admitted to trading on EU trading venues.

Regarding the relationship between the DLT Regulation and the CSDR, many questions remain unsolved.

The first concerns the role of the CSDs and how to frame them as centralized entities in the intrinsically decentralized environment of DLTs.

The DLT Regulation, while maintaining the CSDs role as originally conceived by the CSDR, has also - without actually clarifying the rationale behind the legislative choice - provided exemptions to many relevant provisions of the CSDR.

The decision made by the DLT Regulation to run CSD services in a DLT environment should have required a re-assessment of the role of the CSDs – as intended by the CSDR in a context where DLT was not contemplated – and this could have led, for instance, to a change in their role from centrally running all securities on their own books to operating a network and ensuring its integrity in a legal, technical, and operational sense.⁵⁷

⁵⁷ European Commission, ‘Summary report of the targeted consultation document on the

Therefore, considering the numerous derogations from the CSDR (also compared to MiFID II and MiFIR) and the possibility granted to DLT MTFs to provide settlement services, as well as the issue of the structural compatibility of a centralized body in a decentralized environment, it seems reasonable to conclude that the CSDR can indeed be seen as precluding or limiting the use of DLTs.

However, this conclusion is not clearly stated by the DLT Regulation, as it is rather the result of an attempt to interpret the choices made by the European legislator in this area.

As a general remark, the coordination between the DLT Regulation and the existing European legislation on this point - most notably under the CSDR framework - seems contradictory.

On the one hand, the DLT Regulation states that the absence of a DLT-based secondary market limits the efficiency gains and the sustainable development of a primary market for financial instruments in crypto-asset form. On the other hand, however, it does not implement a real *ad-hoc* (Pilot) regime, simply derogating those rules that result as providing limitations to the scope of financial innovation.

The challenge to identify the applicable legal obstacles under the CSDR could also have presented a unique opportunity for the European legislator to rationalize the current legislative framework and re-assess the role of their main players, which were conceived in a pre-DLT world.

That is why, in our opinion, the DLT Regulation should not only identify immediate legal obstacles and provide for exemptions, but also consider the long-term implications of blockchain technologies and crypto-assets in meeting the objectives set out by financial regulations - with a particular focus on the CSDR - as to adapt and rationalize the existing rules permanently and efficiently.