# A Look at the New Developments in the European Union's Regulation on Crypto-Assets and Anti-Money Laundering

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**Abstract:** The article examines the recent developments in the European Union's regulation concerning crypto-assets. This regulation is evolving in a fragmented manner and by sectors, particularly focusing on markets and the financial sector in general, and does not have a defined perspective for a comprehensive regulation of the sector. It is a regulation that aims to introduce elements of public control over the actors in the system to regulate the markets and also in anticipation of future new instruments consisting of crypto-assets, introducing elements of public control entrusted to national authorities (notably Regulation 2023/1114 and 2022/858). Meanwhile, in order to enhance the fight against money laundering, elements of control and verification on intermediaries have been introduced as part of the AML Package (particularly with Regulation 2023/1113), imposing obligations on them and implementing control tools over end users, their identities, and their operations. National legal systems are gradually receiving these regulations and harmonizing with European Union law

**Keywords:** Crypto-assets, Virtual currency, European Union Regulation, Anti-money laundering, AML Package, MiCAR Regulation, DLT, Blockchain.

## INTRODUCTION

The regulation of cryptocurrencies (and subsequently crypto-assets) has not achieved uniform development: in many cases, it is completely absent, while in others it only pertains to specific areas of activity or awaits further implementation through additional norms.

A quick overview of existing regulations at national or supranational levels provides a complex picture, leading to very different and imbalanced situations across various countries.

In particular, it has been noted (World Economic Forum, 2024) that legislations have addressed sector-specific issues (even those of significant relevance) such as the necessity for licenses or authorizations for market operators, rules for Stablecoins (crypto-currencies based on fiat currency also defined, as we will see later, Asset-Referenced Tokens - ARTs), consumer protection, anti-money laundering regulations, marketing and promotion regimes, as well as the regulation of DeFi (Decentralized Finance) and DAOs (Decentralized Autonomous Organizations). However, no legal systems have achieved a comprehensive regulatory framework, and there is no uniformity regarding the characteristics of regulation in terms of market access types, controls, liabilities, and sanctions.

## THE ISSUE OF REGULATING CRYPTO-ASSETS

The necessity for general legislation becomes evident when considering certain aspects.

First, for the protection of end-users (also as consumers), because the technology used is complex and difficult to control, leading them to place excessive trust in operators, resulting in numerous cases of fraud or improper conduct.

Second, for the protection of market security, as transaction security and the assertion of individual operator responsibilities are essential elements for its development, given that crypto-assets have effectively established themselves as instruments of the financial market even before their regulation; this poses risks particularly for weaker systems and countries. An excessive and uncontrolled development of crypto-assets could undermine the effectiveness of monetary policy, circumvent capital flow management measures, exacerbate fiscal risks, and divert resources from financing the real economy.

Finally, to prevent the criminal use of crypto-assets, as these can obscure ownership and the nature and reasons behind transactions in the absence of adequate regulation, thus serving as vehicles for money laundering to a greater extent than traditional money and financial instruments.

Furthermore, the presence of legislation in this area and its completeness are determining factors for operators' choice of countries for establishment due to the greater (or lesser) protection they can offer to the system and end-users (PWC Report, 2024). It is known that a State with a less regulated system may be more attractive to categories of operators on the fringes of legality. Even among substantially homogeneous legal

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systems, however, differences in approach and varying states of implementation of regulations—which inherently require guidelines and periodic updates—can lead to heterogeneous situations (European Parliament Report, 2023).

As a result, there is a trend towards activating virtuous phenomena that lead to the progressive regulation of crypto-assets according to uniform criteria at a global level, alongside similar regulations regarding anti-money laundering norms.

For these reasons, concerning crypto-assets and financial markets, IOSCO (International Organization of Securities Commissions) developed and published the "18 Policy Recommendations for Crypto and Digital Asset Markets - Final Report (IOSCO, 2023)," containing guidelines for regulating markets and activities in this sector with the intent to provide a common direction for national and supranational legislations. Additionally, The World Economic Forum (World Economic Forum, 2023) describes a certain international alignment on crypto-assets rules as “not just desirable but necessary”.

Regarding anti-money laundering efforts, FATF (Financial Action Task Force) has long integrated its Recommendations with specific ones addressing money laundering through crypto-assets (Fatf Reccomendations, 2023), which have been followed by numerous national or supranational legislations.

## DLT TECHNOLOGIES, BLOCKCHAIN, CRYPTO-CURRENCIES, CRYPTO-ASSETS: FRAMEWORK AND REASONS FOR A UNITARY REGULATION

The purposes of regulating crypto assets make it necessary to include in a generalized way all the usable technologies, according to an abstract criterion of legislation. The choice of the European legislator was therefore to include all DLT technologies in its regulation and not only blockchain technologies.

DLT technologies are a genre of which Blockchain is the most widespread and characteristic specification.

Distributed Ledger Technology (DLT) is a decentralized system that enables secure, transparent, and efficient recording and sharing of transactions across a network of nodes. Its main feature is the lack of a central registry manager that controls its contents and updates, in a system that is proposed as democratic. The decentralized nature of DLT ensures that transactions are tamper-proof and transparent, making it an ideal platform for crypto-assets. The use of DLT in crypto-assets reduces the reliance on intermediaries, increases security, and enhances trust among participants by providing a clear and permanent record of all transactions (Nevil, 2024).

As a matter of fact it eliminates the need for a central authority by using cryptography and consensus algorithms to validate transactions. Its limit is that the lack of centralized control makes it impossible (or at least complicates) the possibilities of intervention by the public authority even in the case of violations of a criminal nature.

Blockchain is a particular form of DLT, characterized by the grouping and organization in blocks, linked together and protected by cryptography (hence the name blockchain, “chain of blocks”). The term Blockchain derives, in fact, from the union of the words block (block) and chain (chain). It is a decentralized distributed database, structured as a chain of blocks, containing transactions that are correlated with each other according to a chronological principle and whose integrity is ensured by a system of algorithms and cryptographic rules. Blockchain technology is therefore identified in an immutable and distributed digital register within which when a transaction is recorded, it cannot be modified. In fact, the blocks are continuously added to the chain, and it is only possible to add data to the distributed database. The data, once recorded, is immutable, that is, it can no longer be modified or deleted.

DLT technologies can have various characteristics regarding data structure, consensus mechanisms and applications. Blockchain has more specific characteristics even if it can also have different declinations (public or private Blockchain, with or without the intervention of supervision and control systems).

Blockchain technology underpins crypto-assets by facilitating the creation, trading, and management of digital currencies like Bitcoin and Ethereum (Nevil, 2024).

Blockchain technology was initially used in particular for cryptocurrencies, as the structure of the registers themselves favors their use as a tool for exchanging representations of value. However it has evolved towards more complex instruments than cryptocurrencies, so it has become necessary to regulate the entire world of crypto-assets, which

includes more complex systems than simple representations of value comparable to Fiat money, such as tokens representing assets or social shares, or credits of other types, or Nfts. Therefore, we have moved from the concept of cryptocurrency to the broader concept of crypto-asset (EBF, 2018).

The European legislator intended to intervene in a generalized way on all possible developments, present and future, not only of Blockchain but of all DLT technologies, in order to allow the control of markets and the protection of consumers.

DLT technologies (in reality almost exclusively Blockchain) are used for the development of the world of DEFI (decentralized finance), with methods that escape the normal market systems (and traditional intermediaries), but also the control of public authorities and their protection. The DeFi ecosystem, without any control, is fraught with risks. Key challenges include security vulnerabilities in smart contracts, regulatory uncertainty that can lead to legal issues, and market volatility that can cause sudden financial losses. Furthermore, the technologies used can easily allow system actors to escape controls, even hiding their identity, or to resort to the protection of legal systems that do not offer adequate protection to end users (Siani, 2022).

One of the systems identified by the market to ensure greater reliability consists of stablecoins, i.e. cryptocurrency systems whose value is linked to other assets traded on the market. Stablecoins are a type of cryptocurrency designed to maintain a stable value by pegging it to another asset, such as a fiat currency (e.g., the U.S. dollar), a commodity (e.g., gold), or another cryptocurrency. This stability is achieved through various collateral structures, which help reduce the volatility typically associated with cryptocurrencies like Bitcoin or Ethereum. Although steblecoins offer some greater security features than non-asset-linked cryptocurrencies, there are still risks due to the complexities of the system and the technologies used, which make them useful tools for public protection.

Another factor of opportunity and risk is the increasingly widespread use of artificial intelligence in the world of finance (not only DEFI). The integration of Artificial Intelligence (AI) into the crypto-asset ecosystem is rapidly transforming the financial landscape. AI technologies are enhancing several facets of the crypto market, including security, scalability, and decision-making. By analyzing vast datasets, AI can detect fraudulent transactions, optimize blockchain operations for faster and more efficient transactions, and provide predictive analytics to inform trading strategies. Additionally, AI enables the automation of routine tasks, reducing human error and increasing trading efficiency. On the other hand, as in any case of use of AI, the error in the setup stage, often detectable only when unexpected events occur, can be the cause of significant problems. The issue remains (already experienced by financial markets in previous crises) of the danger of automatisms that lead to wrong and irreversible decisions repeated numerous times in a very short time. It is not yet clear, given the state of technology, to what extent artificial intelligence has solved this problem and to what extent human intervention is still needed.

## FROM VIRTUAL CURRENCIES TO CRYPTO-ASSETS: DEVELOPMENTS IN EUROPEAN LEGISLATION

The European Union's legislation first addressed DLT technologies with Directive 2018/843, amending the Fourth Anti-Money Laundering Directive (2015/849) by introducing the concept of virtual currency (article 3, nr. (18)) and initial regulations regarding intermediaries' obligations. A subsequent intervention occurred with the Fifth Directive (2018/843) that expanded and made this regulation more effective.

Directive 2018/843 also introduced a broader concept of virtual currency beyond merely substituting money; it extends to other purposes such as investment and store-of-value (Directive (EU) 2018/843, Considerandum 10). Developments already indicated that the use of such instruments could be much broader; however, legislation limited its scope primarily to combating money laundering by merely expanding the definition's reach.

The awareness that evolution went well beyond currencies and crime fighting prompted European legislators to legislate on both substantial legal relationships concerning intermediation and markets as well as anti-money laundering measures.

The outcome of this process is Regulation (EU) 2023/1114 on markets in crypto-assets (MiCAR) and Regulation (EU) 2023/1113 on information accompanying transfers of funds and certain crypto-assets.

Regulation 2023/1114 first introduced a general definition of crypto-asset replacing the previous one for

virtual currency as “digital representation of a value or right.” (Directive (EU) 2018/843, Article 3, nr. (5)).

This regulation distinguishes and partially regulates various types of crypto-assets differently but primarily governs markets by establishing consumer protection norms, defining access rules, controls, types of intermediaries, and identifying regulators or criteria for determining them at national levels. Thus, DLT technology therefore goes from being a self-sufficient tool containing its own rules to merely being a technical tool that must fit within a regulatory framework laden with numerous constraints.

Efforts are made to respond to increased security needs due to rising fraud cases (FBI report 2023) through creating regulated markets—contradicting what had initially been a trend towards widespread disintermediation by DLT technologies.

Simultaneously, these regulations strive to remain open to new developments both in technology and products since only legislation framed very generally can avoid being outpaced by technological innovations.

## MICAR REGULATION 2023/1114 AND ITS IMPLEMENTATION

Regulation (EU) 2023/1114, commonly referred to as the Markets in Crypto-Assets Regulation (MiCAR), was enacted on June 29, 2023, to create a comprehensive framework for the regulation of crypto-assets within the European Union. The regulation aims to provide clarity and security for both issuers and users of crypto-assets while ensuring market integrity.

The Regulation analytically provides for the types of crypto-assets, the rules for service providers and for markets.

However, it does not prohibit the exchange of crypto-assets between private individuals and obviously does not regulate relationships with subjects and intermediaries outside the territory of the Union, except in the case of the establishment of external intermediaries in the Union.

It categorizes crypto-assets into three main types:

- Electronic Money Tokens (EMTs): these tokens aim to maintain a stable value by referencing a single official currency. Only banks and electronic money institutions can issue EMTs, subject to notification to relevant authorities (article 3, par. 1, nr. 7);
- Asset-Referenced Tokens (ARTs): these tokens maintain a stable value by referencing a combination of values or rights, which may include one or more official currencies (article 3, par. 1, nr. 6). The issuance of ARTs is regulated, requiring specific authorizations and adherence to prudential standards; this definition includes crypto-assets generally called stablecoins;
- Other Crypto-Assets: this category includes any crypto-assets that do not fall under the definitions of EMTs or ARTs. MiCAR establishes requirements for these assets as well, particularly concerning transparency and investor protection.

The regulation introduces a new category of intermediaries known as Crypto-Asset Service Providers (CASPs), listed mainly in article 3, par. 1, nr. 15-16. These entities are authorized to offer various services related to crypto-assets, including exchange, custody, trading, and advisory services. CASPs must adhere to strict operational standards and are subject to supervision by competent authorities.

The Regulation designates specific authorities responsible for overseeing compliance (Title VII).

European Banking Authority (EBA) and European Securities and Markets Authority (ESMA) play crucial roles in promoting convergence in the classification of crypto-assets and ensuring regulatory compliance across member States (article 93).

Each EU member State will have designated national authorities responsible for the supervision of EMTs, ARTs, and CASPs. For instance, in Italy, the Bank of Italy will oversee EMT issuers and CASPs regarding anti-money laundering (AML) regulations, while Consob will supervise ARTs and other crypto-assets (article 94).

The competent authorities have several significant powers: they can grant or refuse authorization for the issuance of EMTs and ARTs, conduct on-site inspections and monitor compliance with regulatory requirements.

Furthermore they can impose administrative penalties for non-compliance and take necessary measures to protect investors and maintain market integrity.

MiCAR represents a significant development in the regulatory landscape for crypto-assets within the EU,

establishing clear definitions, requirements for issuers and service providers, and a robust framework for oversight and enforcement. The regulation provides a structured approach to managing the risks associated with crypto-assets while fostering innovation in the sector. On the other hand, transactions not intermediated by authorized service providers, will remain out of control.

## MARKET REGULATION AND CRIME-RELATED PHENOMENA: AML PACKAGE AND FUND TRANSFER

Regulation (EU) 2023/1113 focuses on enhancing the regulatory framework surrounding crypto-assets within the European Union, particularly concerning the obligations of crypto-asset service providers (CASPs), the types of crypto-assets covered, and the enforcement powers of authorities.

Regulation 2023/1113 was issued at the same time as the MiCAR Regulation, from which it takes many definitions and on whose structure it is conformed. This is a conscious choice aimed at creating a single body of legislation intended for the uniform regulation of crypto-asset markets.

The purpose of the Regulation, which is the first in chronological order of the AML Package, is to create anti-money laundering rules adhering to the regulated market that is sought to be created for crypto-assets in the territory of the Union. Other regulatory acts of the AML package are Regulation 2024/1624 (Single Rulebook) Regulation 2024/1620 (establishing AMLA – Anti Money Laundering Authority) and Directive 2024/1640 (VI Directive).

Firstly, Regulation 2023/1113 uses the same scheme as the MiCAR Regulation to define cryptoassets.

Secondly CASPs are required to adhere to stringent anti-money laundering (AML) and counter-terrorism financing (CFT) measures, similar to those imposed on traditional financial institutions.

Main obligations are: ensuring that all transfers of crypto-assets are accompanied by relevant information about the originator and beneficiary, in line with the "travel rule" established by the Financial Action Task Force (FATF); implementing measures to identify and rectify missing or incomplete information in transactions; reporting compliance with these regulations to competent authorities within specified timeframes.

Various national competent authorities across EU member States are empowered to oversee compliance and enforce regulations. They have the power to conduct audits and investigations into CASPs, Impose penalties for non-compliance with AML/CFT requirements, coordinate with other regulatory bodies to ensure a unified approach across jurisdictions.

One of the main focuses of this regulation is on beneficial ownership disclosure. Beneficial owners of crypto-assets must be known by CASPs. It must also be possible that beneficial owners can be known under certain circumstances by other obliged subjects (as Banks, other financial institutions, or professionals as lawyers and notaries), and competent authorities.

CASPs must implement measures to identify beneficial owners, which involves collecting personal identification information from users during onboarding processes, and utilizing transaction tracing or other tools to ascertain ownership.

## SANDBOXES AND REGULATION 858/2022

Regulation (EU) 2022/858, known as the DLT Pilot Regime, was implemented to facilitate the use of distributed ledger technology (DLT) in financial markets.

It provides for an experimental period (up to six years) of use of DLT technologies in financial markets, the application of which is left to national authorities. It preceded Regulations 2023/1114 and 2024/1113 by providing more limited and controlled areas of application.

Its key aspects are the roles of service providers, anti-money laundering (AML) measures, and the impact on national regulation.

The DLT Pilot Regime aims to create a framework for market infrastructures that utilize DLT, allowing them to operate under a temporary exemption from certain EU financial legislation for up to six years. This is intended to encourage innovation in trading and settlement processes for crypto-assets that qualify as financial instruments. The regime includes provisions for various types of DLT market infrastructures, such as DLT multilateral trading facilities (MTFs) and DLT settlement systems (SSs).

The DLT Pilot Regime identifies two primary types of service provide: Operators of DLT MTFs and Central Securities Depositories (CSDs). The first ones facilitate

trading in tokenized securities and must adhere to specific operational standards set by national competent authorities; the others shall be subject to the requirements that apply to a CSD operating a securities settlement system under Regulation (EU) No 909/2014, but can apply for exemptions from certain regulatory requirements under existing EU laws, allowing them more flexibility in their operations.

MiCAR Regulation, on the other side, provides a wider choice for operators, which must respect a more restrictive set of european and national rules. National authorities can add other requirements to safeguard retail investors' interests.

In both cases the purpose of the legislator is ensuring investor protection by service providers.

Also in DLT Pilot Regime any service provider must be compliant with Anti Money Laundering Measures.

While the DLT Pilot Regime provides a harmonized approach at the EU level, national regulations play a crucial role in its implementation. National authorities are responsible for authorizing entities wishing to operate under the DLT Pilot Regime. They assess compliance with both the pilot regime and existing financial regulations. Member States may impose further obligations on market participants beyond those specified in the EU regulation, especially concerning investor protection and AML compliance.

## OBLIGATIONS OF INTERMEDIARIES AND LIMITS OF THE SYSTEM

The European Union's regulations impose obligations on service providers in crypto-assets that are similar to those of other financial operators and obligated entities. These obligations, established by Regulation 2023/1113, include conducting verification of informative data (articles 8 and 9), particularly regarding the identification of the beneficial owner, reporting suspicious transactions (article 13), and the obligation to suspend operations in certain cases (articles 8 and 12).

Overall, these obligations are quite complex, and the system operates under stringent public control, both for consumer and market protection and for combating crime and money laundering.

Since crypto-assets have developed in the absence of national and supranational regulations, their operation is independent of the boundaries of individual legal systems, partly due to the characteristics of Distributed Ledger Technology (DLT). This has led to doubts among operators regarding the appropriateness and efficiency of European regulations.

In reality, it stems from the observation that an environment lacking controls is excessively prone to illicit uses, both in terms of criminal economies and more trivially concerning the protection of State prerogatives in market protection and taxation.

However, the effectiveness of this regulation has intrinsic limits. The trading of crypto-assets can occur without resorting to service providers or by using providers operating in third countries outside the European Union.

In cases of non-intermediated transactions, there is a critical issue regarding the material impossibility of identifying who has control over the crypto-assets or who has created such availability. In the absence of a third party that has identified the holder of the crypto-asset while assuming responsibility for anti-money laundering purposes, this holder remains protected by anonymity.

The disclosure of this ownership does not always provide certainty and does not yield secure data about who created the crypto-asset itself, which is particularly relevant if the crypto-asset serves as a means of payment, due to the importance of fund provenance for anti-money laundering.

Moreover, there may also be uncertainty regarding the transfer from one party to another since the anonymity inherent in non-intermediated crypto-asset positions makes it uncertain who both the sender and final recipient are, with possible legitimate or illicit fiduciary positions.

If there is intermediation but intermediaries are located outside the European Union, two scenarios may arise:

- the intermediary does not provide sufficient or reliable data for identifying the actual owner and source of funds; in this case, issues are similar to those in non-intermediated transfers;

- the intermediary provides the required data, but at this point, it is necessary to assess the reliability of both the information and the intermediary.

In both cases, further and complex research or verification activities become necessary.

It seems reasonable to assert that beyond potential recourse to repressive policies, the gap concerning relationships with different legal systems is particularly severe from any perspective.

The European legislator is well aware of this issue; in Regulation MiCAR, Article 2 defines many exceptions to regulatory application that are also referenced by Regulation 2023/1113. It can be stated that European legislation aims to redirect capital invested in crypto-assets towards regulated markets, making them more attractive due to increased safety while acknowledging that it cannot offer (or impose) a system covering all activities. However, there is a risk of creating parallel systems that compete with each other, one of which may be entirely or partially exempt from State control.

The European Union, with the measures examined, has addressed these problems from a perspective of internal regulation and repression of internal abuses. To reach a solution to the problems outlined, a truly international approach is needed, which includes and involves the various legislations in a virtuous path, leading in principle to the interoperability of applications, to the exchange of data and to mutual or at least shared controls. These are activities similar to those carried out by the FATF-GAFI in the field of anti-money laundering and which should be, if possible, even more incisive.

The challenge is therefore to move regulation from the domestic level (in this case of the European Union) to the truly international one, in order to create a shared environment in which the use of crypto-assets is regulated in a substantially uniform way. This path is not simple because in the financial field the competition between legal systems (in particular on sensitive issues such as the anonymity of negotiations and their tax treatment) is already widespread even outside the world of crypto-assets.

It seems realistic to hypothesize a phased process that should include, in a gradual path, the identification and mutual recognition of the intermediaries present on the market, to arrive at the knowability of the transactions and their owners, up to the taxation system, and without prejudice to the legitimate differences of the various legal systems. This is a challenge that concerns first the world of politics and only then that of law.

It should not be forgotten that even the national legal systems within the European Union are gradually aligning themselves with the new system that has emerged, on the one hand for the adoption of measures and the implementation of the activities envisaged at national level, such as the identification and activation of supervisory authorities, and the creation of a specific system of sanctions, and on the other for the modification of regulations incompatible with the new European legislation, applicable from 30 December 2024. Just as an example, the Italian legislative provision on the matter (Legislative Decree 5 September 2024 n. 129 relating to the regulation of markets, and Legislative Decree 27 December 2024 n. 204, relating to anti-money laundering) are still being implemented. It is also foreseeable that the regulatory adjustments will also be subjected to the scrutiny of the Union's judicial bodies such as the CJEU, or to a subsequent political evaluation, as they may not be entirely compliant with Union legislation or in any case not uniform among themselves.

## CONCLUSIONS

Cryptocurrencies and consequently crypto-assets generally arise and develop using two main features of DLT, particularly Blockchain: the ability to create a system without a manager (thus disintermediating) and potential anonymity in transactions.

This offers advantages by eliminating intermediaries perceived as costly and oppressive but raises serious control issues and challenges in combating crime.

A financial market (or similar) lacking controls has proven potentially risky not only for individuals but for the economic system at large.

The international regulatory landscape on crypto-assets is not only heterogeneous but also fragmented concerning areas addressed by individual legislators, partial and non overlapping.

The European Union's regulation is not entirely complete but is framed with a view toward potentially comprehensive regulation of the sector from user protection perspectives as well as market protection and particularly against crime and money laundering.

There is an urgent need for supranational regulations and especially coordination among legal systems. A partial attempt at coordination is represented by FATF-GAFI concerning anti-money laundering only; however, more structured initiatives are necessary for the entire sector of crypto-assets,

especially introducing homogeneous regulations across various systems along, with collaborative prospects.

Such regulations must also be structured to be compatible with a future rapid evolution of tools and technologies that appears partly unpredictable. Therefore, legislators must operate at a supranational level using abstract categories that do not describe specific phenomena or technologies.

## REFERENCES


European Banking Federation (EBF). Report EBF position on Crypto-assets and Initial Coin Offerings (ICO) *https://www.ebf.eu/innovation-cybersecurity/cryptoassets/*

European Parliament. Report *Non-EU countries' regulations on crypto-assets and their potential implications for the EU* https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/753930/EPRS_BRI(2023)753930_EN.pdf.

FATF – GAFI (Financial Action Task Force - Groupe d'action financière). *Reccomendations 2012*, Adopted on 16 February 2012. Last updated in November 2023 https://www.fatf-gafi.org/content/dam/fatf-gafi/recommendations/FATF%20Recommendations%202012.pdf.coredownload.inline.pdf.

Federal Bureau of Investigation (FBI). *2023 Cryptocurrency fraud report* https://www.ic3.gov/Media/PDF/AnnualReport/2023_IC3CryptocurrencyReport.pdf

IOSCO (International Organization of Securities Commissions). *18 Policy Recommendations for Crypto and Digital Asset Markets - Final Report,* published on November 16, 2023, https://www.iosco.org/library/pubdocs/pdf/IOSCOPD747.pdf.

NEVIL, Scott. *Distributed Ledger Technology (DLT): Definition and How It Works* published and updated on June 28, 2024, https://www.investopedia.com/terms/d/distributed-ledger-technology-dlt.asp.

*Pathways to the Regulation of Crypto-Assets: A Global Approach,* Mey, 2023, https://www3.weforum.org/docs/WEF_Pathways_to_the_Regulation_of_Crypto_Assets_2023.pdf.

PWC. *Navigating the Global Crypto Landscape with PwC: 2024 Outlook* https://www.pwc.com/gx/en/industries/financial-services/crypto-services/navigating-the-global-crypto-landscape-with-pwc-2024-outlook.html.

SIANI, Giuseppe. *La regolamentazione delle nuove tecnologie basate sulla Distributed ledger technology – DLT, tra tutela del mercato e rischi di sistema,* May 3, 2022, https://www.bancaditalia.it/media/notizia/intervento-di-giuseppe-siani-su-la-regolamentazione-delle-nuove-tecnologie-basate-sul-distributed-ledgers-technology-dlt/

World Economic Forum. *Cryptocurrency regulations are changing across the globe. Here's what you need to know* May, 2, 2024, https://www.weforum.org/stories/2024/05/global-cryptocurrency-regulations-changing/.