REVISTA Direitos Humanos e Sociedade

The Regulatory Framework for Crypto-Assets in the European Union

O quadro regulamentar para os criptoativos na União Europeia

Resumo: Este artigo apresenta uma análise abrangente da regulamentação jurídica dos criptoativos na União Europeia (UE). Examina os principais instrumentos legislativos da UE neste domínio, incluindo o Regulamento (UE) n.º 2023/1114 relativo aos mercados de criptoativos (MiCA); o Regulamento (UE) 2023/1113 relativo às informações que acompanham as transferências de fundos e determinados criptoativos (o Regulamento relativo às Transferências de Fundos, ou TFR), que introduz a Regra de Viagem da UE; o Regulamento (UE) 2024/1624 relativo à prevenção da utilização do sistema financeiro para efeitos de branqueamento de capitais ou financiamento do terrorismo (AMLR); Regulamento (UE) 2024/1620 que institui a Autoridade Europeia para o Combate ao Branqueamento de Capitais e ao Financiamento do Terrorismo (AMLA); Regulamento (UE) 2022/2554 relativo à resiliência operacional digital do setor financeiro (DORA); e Regulamento (UE) 2022/858 relativo a um regime-piloto para infraestruturas de mercado baseadas na tecnologia de registo distribuído (o Regime-Piloto DLT). O artigo conclui que o quadro jurídico da União Europeia para os criptoativos representa uma abordagem sistemática, abrangente e equilibrada à regulamentação.

Palavras-chave: Autoridade Europeia de Combate ao Branqueamento de Capitais e ao Financiamento do Terrorismo; criptoativos; estratégias jurídicas; inovação digital; tokens de moeda eletrônica.

Abstract: This article offers a comprehensive analysis of the legal regulation of crypto-assets in the European Union (EU). It examines the principal EU legislative instruments in this field, including Regulation (EU) 2023/1114 on Markets in Crypto-Assets (MiCA); Regulation (EU) 2023/1113 on information accompanying transfers of funds and certain crypto-assets (the Transfer of Funds Regulation, or TFR), which introduces the EU Travel Rule; Regulation (EU) 2024/1624 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing (AMLR); Regulation (EU) 2024/1620 establishing the European Authority for Anti-Money Laundering and Countering the Financing of Terrorism (AMLA); Regulation (EU) 2022/2554 on the digital operational resilience of the financial sector (DORA); and Regulation (EU) 2022/858 on a pilot regime for market infrastructures based on distributed ledger technology (the DLT Pilot Regime). The article concludes that the European Union's legal framework for crypto-assets represents a systematic, comprehensive, and balanced approach to regulation.

Keywords: Crypto-assets; European Anti-Money Laundering and Counter-Terrorist Financing Authority; legal strategies; digital innovation; electronic money tokens.

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INTRODUCTION

The European Union (EU) is among the most advanced jurisdictions in the regulation of crypto-assets, both in terms of the sophistication of its legal framework and its effort to strike an appropriate balance between the risks arising in the evolving crypto-asset market and the need to foster financial innovation.

Prior to the adoption of Regulation (EU) 2023/1114 on Markets in Crypto-Assets (MiCA), EU Member States applied differing legal approaches to crypto-assets. This resulted in a fragmented regulatory landscape in which identical crypto-asset transactions could be subject to different legal treatment depending on the jurisdiction concerned.

This situation changed when, as part of its Digital Finance Package, the European Union introduced a comprehensive legal and supervisory framework comprising:

– Regulation (EU) 2023/1114 on Markets in Crypto-Assets (MiCA);

– Regulation (EU) 2023/1113 on information accompanying transfers of funds and certain crypto-assets (the Transfer of Funds Regulation, or TFR), which introduces the EU Travel Rule;

– Regulation (EU) 2024/1624 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing (AMLR), together with Regulation (EU) 2024/1620 establishing the Authority for Anti-Money Laundering and Countering the Financing of Terrorism (AMLA-R);

– Regulation (EU) 2022/2554 on digital operational resilience for the financial sector (DORA);

– Regulation (EU) 2022/858 on a pilot regime for market infrastructures based on distributed ledger technology (the DLT Pilot Regime).

Taken together, these supranational instruments form a comprehensive legal and supervisory framework designed to support the secure development of digital innovation and to regulate crypto-assets within the EU single market.

The choice of these legal instruments as the object of this study is based on clear criteria: firstly, all of these regulations were adopted at the supranational level and aim to harmonize rules across all EU member states; secondly, these regulations are functionally interconnected, as they were developed within the framework of a single "Digital Finance Package" and regulate different but complementary aspects of cryptoasset circulation; thirdly, all of the regulations, as well as the accompanying directives, discussed in detail in this paper, were adopted between 2022 and 2025, allowing us to assess the current state of EU legislation regarding cryptoassets, which has been developed over a long period of time.

The main research problem is that despite the European Union's comprehensive, systemic, and balanced approach to regulating crypto-assets within the single internal market, questions remain regarding the effectiveness of this EU approach, which is expressed in the EU's consistent rejection of a directive regulatory model in favor of a regulatory one, which in turn, despite all the obvious advantages, gives rise to a number of negative consequences.

The following hypothesis is put forward: Comprehensive legal regulation of cryptoasset circulation in the European Union, implemented through the Digital Finance Package (MiCA, TFR, AMLR, DORA, DLT Pilot Regime), does provide greater legal certainty and regulatory consistency at the EU level compared to fragmented national legal regimes. However, such a supranational approach may create new systemic risks associated with excessive administrative burdens for innovative companies and a potential reduction in the competitiveness of the European jurisdiction compared to less regulated markets.

The aim of this study is to conduct a comprehensive analysis of the legal regulation of cryptoassets in the European Union and assess its effectiveness.

The study utilized a combination of general and specialized scientific methods. Analysis and synthesis were used to identify key regulatory aspects and combine the analytical results to form a holistic understanding of the comprehensive regulatory system for cryptoassets in the EU and assess its effectiveness. Deduction was used to move from general provisions regarding the prescriptive model of regulation to formulating specific conclusions regarding the negative consequences of abandoning the prescriptive model of regulation. An inductive approach was employed to summarize specific data and steps taken by the EU to create a legal and technical basis for the international automatic exchange of data on the taxation of cryptoasset transactions. This was used to draw conclusions regarding potential tax revenues for

EU member states. A systemic approach allowed for examining key regulations and accompanying directives of the European Union in the area of cryptoasset regulation as an interconnected system, analyzing their interactions, consistency, and market impact. A formal legal approach was employed to thoroughly examine the structure and content of EU regulations.

1. ANALYSIS AND CONTENT OF KEY EU LEGISLATIVE ACTS GOVERNING CRYPTO-ASSETS

The European Union (EU) is widely regarded as one of the most developed jurisdictions in the regulation of crypto-assets, not only because it has constructed a relatively comprehensive regulatory architecture, but also because its policy design seeks to reconcile two competing objectives: mitigating the risks emerging in rapidly evolving crypto-asset markets while preserving space for financial innovation.

Before the adoption of Regulation (EU) 2023/1114 on Markets in Crypto-Assets (MiCA), EU Member States pursued divergent legal strategies toward crypto-assets. The resulting regulatory fragmentation meant that economically equivalent crypto-asset activities could be subject to materially different rules depending on the applicable national jurisdiction1.

This situation was substantially altered through the EU's broader digital finance agenda, which introduced an integrated legal and supervisory framework comprising, inter alia:

– **Regulation (EU) 2023/1114 (MiCA)** on Markets in Crypto-Assets;
– **Regulation (EU) 2023/1113** on information accompanying transfers of funds and certain crypto-assets (Transfer of Funds Regulation, **TFR**), implementing the EU **"Travel Rule"**;
– **Regulation (EU) 2024/1624 (AMLR)** on preventing the use of the financial system for money laundering or terrorist financing, together with **Regulation (EU) 2024/1620 (AMLA Regulation)** establishing the European Anti-Money Laundering and Counter-Terrorist Financing Authority;
– **Regulation (EU) 2022/2554 (DORA)** on digital operational resilience for the financial sector;
– **Regulation (EU) 2022/858** establishing a pilot regime for market infrastructures based on distributed ledger technology (the **DLT Pilot Regime**)[2].

[1] Frunzeti T., Dumitru A.C. Harmonizing virtual currency use in the EU: The evolution and impact of Mica Regulation / T. Frunzeti, A.C. Dumitru // Land Forces Academy Review. — 2024. — № 2(114). — P. 142.

[2] Ladislav H., Miroslav S. EU Regulation of the Crypto-Assets Market / H. Ladislav, S. Miroslav // Bialystok Legal Studies. — 2024. — № 1. — P. 33.

Together, these supranational acts create a comprehensive legal and supervisory framework aimed at the safe development of digital innovation and the regulation of crypto-assets within the single internal market.

To eliminate fragmentation in legal regulation and ensure uniform standards in the field of crypto-assets, in September 2020, the European Commission presented a draft Regulation on Markets in Crypto-Assets (MiCA) as part of the aforementioned strategic initiative, the Digital Finance Package[3]. After three years of discussions and negotiations, the Regulation was finally adopted by the European Parliament and the Council of the EU and entered into force on 29 June 2023.

Regulation (EU) 2023/1114 on Markets in Crypto-Assets (MiCA) represents the first comprehensive legislative instrument at the supranational level to govern the issuance, circulation, and provision of services associated with crypto-assets on a global scale.

MiCA lays down unified rules addressing three principal categories of regulated actors and institutions:

- entities that issue crypto-assets;
- crypto-asset service providers (CASPs);
- supervisory authorities entrusted with the enforcement of MiCA requirements - at both the Union and the Member State level.

A defining characteristic of MiCA and of the regulatory model it embodies is its direct applicability across all Member States, dispensing with the need for transposition into national law. A further noteworthy dimension is the phased nature of the Regulation's entry into full effect. The central provisions became operative in December 2024, whereas full-scale implementation together with national transitional windows may persist until 1 July 2026, granting undertakings a phased period to adjust their operations to conform with the new regulatory framework.

The substantive content of MiCA can be distilled into the following principal elements:

[3] European Commission. Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937. — COM/2020/593 final. — Brussels: European Commission, 2020. [Electronic resource]. URL: https://finance.ec.europa.eu/publications/digital-finance-package_en

1) Titles I and II set out the Regulation's object, delimit its scope of application, and establish the taxonomy of crypto-assets.

The Regulation identifies three fundamental crypto-asset categories, with the initial two pertaining to stablecoin:

– **Asset-referenced tokens (ARTs)** are crypto-assets (commonly grouped under the “stablecoin” label) that purport to maintain a stable value by referencing another value or right, or a combination thereof, including one or more official currencies.

– **Electronic money tokens (EMTs)** are crypto-assets that purport to maintain a stable value by referencing the value of a single official currency (e.g., the euro or the US dollar).

– **Other crypto-assets** comprise those that do not qualify as ARTs or EMTs but meet MiCA’s general definition of a crypto-asset, namely a digital representation of value or a right that can be transferred or stored electronically using distributed ledger technology or similar technology; **Bitcoin** is the paradigmatic example[4].

2) Titles III and IV establish the regulatory framework for entities issuing crypto-assets, introducing a sharp differentiation between the rules applicable to issuers of asset-referenced tokens and those imposed on issuers of e-money tokens. Given that e-money tokens bear the closest functional resemblance to traditional currency, their issuers are held to considerably more demanding standards. These entities are further bound by the requirements laid down in Directive 2009/110/EC alongside several complementary Directives. A central distinction lies in the fact that asset-referenced tokens may be issued by any legal entity that has secured a dedicated authorization from the relevant competent authority — typically the national financial regulator — whereas the right to issue e-money tokens is reserved exclusively for credit institutions and their branches, specialized electronic money

[4] Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on Markets in Crypto-Assets (MiCA) // Official Journal of the European Union. — L 150/40. — 2023. [Electronic resource]. URL: https://eur-lex.europa.eu/eli/reg/2023/1114/oj/eng

institutions, the European Central Bank, and national central banks[5]. Moreover, divergent reserve asset requirements apply to each category of issuer.

Among the obligations common to both types is the duty to publish a so-called "White Paper," a disclosure document setting out particulars concerning the issuing entity, the characteristics of the crypto-asset in question, the associated risks, the rights and obligations attached to the asset, and information regarding its principal adverse effects on climate and other environmental impacts (Articles 19 and 51 MiCA).

3) Title V of the MiCA Regulation introduces a unified authorization (licensing) framework for crypto-asset service providers, which must take the form of legal persons or other undertakings acting in an intermediary capacity in the delivery of one or more crypto-asset-related services. The range of such services encompasses, among others: the custody, administration, and transfer of crypto-assets on behalf of clients; the operation of crypto-asset trading platforms; the exchange of crypto-assets for fiat currency or for other crypto-assets; the provision of advisory services concerning crypto-assets; and the management of crypto-asset portfolios.

4) Title VI addresses measures designed to counter insider dealing, the unauthorized disclosure of inside information, and market manipulation in connection with crypto-assets.

5) The provisions of Titles VII and VIII deal with supervisory arrangements and the imposition of sanctions.

MiCA compliance is monitored through a two-level structure:

at the Member State level, by nationally designated competent authorities catalogued on the ESMA website;

at the Union level, where ESMA and the EBA assume the task of formulating technical standards and orchestrating cross-border supervisory cooperation.

MiCA further establishes a rigorous sanctions framework. Member States are required, in accordance with their respective domestic legislation, to ensure that

[5] Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of electronic money institutions // Official Journal of the European Union. — L 267/7. — 2009. [Electronic resource]. URL: https://eur-lex.europa.eu/eli/dir/2009/110/oj/eng

competent authorities possess the power to impose maximum administrative penalties on legal persons — for instance, fines of no less than €5,000,000 for violations of specified provisions of the Regulation (namely, Articles 4–14, Articles 16, 17, 19, 22, 23, 25, Articles 27–41, Articles 46–47, Articles 48–51, Articles 53–55, 59, 60, 64, and Articles 65–83), or alternatively, penalties amounting to as much as 12.5% of the entity's annual turnover in cases of grave infringements, or fines reaching €15,000,000 for breaches of Articles 89–92 (Article 111 MiCA).

6) Title IX encompasses the transitional and concluding provisions of the Regulation.

The adoption of MiCA carries systemic significance. The Regulation does not merely institute a harmonized legal framework for crypto-assets across the entirety of the EU, it simultaneously strengthens the protection afforded to consumers and investors, builds safeguards against market abuse, and mitigates the financial stability risks attributable to stablecoins.

Beyond this, MiCA ensures regulatory alignment with other constituent elements of the EU's financial governance architecture, including Regulation (EU) 2023/1113 on transfers of funds (TFR) and the recently adopted instruments addressing anti-money laundering and counter-terrorist financing (AMLR, AMLA-R, AMLD6).

Concurrent with MiCA's core provisions, the **EU Travel Rule** took effect in December 2024, deriving its legal basis from Regulation (EU) 2023/1113 on information accompanying fund transfers and certain crypto-assets (TFR). The rule traces its lineage to the well-established FATF Recommendation No. 16, originally promulgated in 2019, which the EU subsequently transposed and elevated into a binding requirement for every Member State.

The fundamental purpose of this rule is to extend the established AML/CFT compliance framework to the domain of crypto-asset transfers. As stated in Recital 16 of the Regulation, safeguarding the continuous flow of identifying data throughout the payment or crypto-asset transfer sequence necessitates a system under which payment service providers must accompany fund transfers with information pertaining to both payer and payee, while crypto-asset service providers are correspondingly required to furnish originator and beneficiary data alongside each crypto-asset transfer[6].

Under the terms of Article 14 of Regulation (EU) 2023/1113, the crypto-asset service provider of the originator (sender) is mandated to attach to each crypto-asset transfer a prescribed body of identifying information about the sender, specifically: full legal name, account reference or wallet address, residential address specifying the country, and an official identification number or, where unavailable, the sender's birth date and birthplace. In parallel, this provider must see to it that the transfer is likewise accompanied by the beneficiary's (recipient's) core identifying data, namely, the recipient's complete name and account number or wallet address.

The service provider acting for the beneficiary is then charged with confirming the integrity of the received information, detecting any irregular indicators — such as discordances in address or name particulars — and, where warranted, blocking or declining the transaction in cases of incomplete or questionable data (Article 17). The obligation to maintain all relevant records extends for a minimum of five years (Recital 54).

Taken as a whole, the European Union is presently in the process of fundamentally restructuring its framework for combating money laundering and the financing of terrorism (AML/CFT). The enactment in 2024 of **Regulation (EU) 2024/1624, aimed at preventing the exploitation of the financial system for laundering or terrorist financing purposes (AMLR)**, alongside Regulation (EU) 2024/1620 creating the European Anti-Money Laundering and Counter-Terrorist Financing Authority (AMLA-R), signifies a decisive shift from a decentralized, directive-dependent architecture toward a consolidated regulatory system enjoying direct applicability across all Member States.

Before the present reform cycle, the legal foundation for AML/CFT within the EU was constituted by the Fourth Anti-Money Laundering Directive (EU) 2015/849 (AMLD4)[7] and the Fifth Anti-Money Laundering Directive (EU) 2018/843 (AMLD5)[8].

[6] Regulation (EU) 2023/1113 of the European Parliament and of the Council of 31 May 2023 on information accompanying transfers of funds and certain crypto-assets // Official Journal of the European Union. — L 150/1. — 2023. [Electronic resource]. URL: https://eur-lex.europa.eu/eli/reg/2023/1113/oj/eng

[7] Directive (EU) 2015/849 of the European Parliament and of the Council of 20 May 2015 on the prevention of the use of the financial system for the purposes of money laundering or terrorist

These legislative acts prescribed common norms for Member States; however, their reliance on national transposition mechanisms engendered regulatory fragmentation, heterogeneous enforcement approaches, and unequal supervisory standards.

Seeking to remedy these shortcomings, the European Commission advanced a suite of legislative proposals in 2021 designed to forge a single regulatory framework for the field, a process that culminated in June 2024 with the enactment of the AMLR and the AMLA-R[9], supplemented by the Sixth Directive (EU) 2024/1640[10].

Regulation (EU) 2024/1624 (AMLR) constitutes the first directly applicable legislative instrument at the Union level to lay down harmonized AML/CFT requirements, thereby eliminating discrepancies among national regimes, strengthening the transparency and oversight of financial flows, and most significantly, subjecting the crypto-asset sector to a comprehensive framework of financial supervision[11]. The substantive provisions of the AMLR are set to become applicable from 10 July 2027, affording both Member States and financial market participants a transitional window within which to align their operations with the new standards.

Regulation (EU) 2024/1620 (AMLA-R), for its part, creates a new supranational institution - the European Anti-Money Laundering Authority (AMLA). Until this point, the monitoring of and compliance with AML/CFT obligations had been conducted on a decentralized basis by national financial intelligence units (FIUs)

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financing // Official Journal of the European Union. — L 141/73. — 2015. [Electronic resource]. URL: https://eur-lex.europa.eu/eli/dir/2015/849/oj/eng

[8] Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing // Official Journal of the European Union. — L 156/43. — 2018. [Electronic resource]. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32018L0843

[9] European Commission. Anti-Money Laundering Package: Strengthening the EU's rules on AML/CFT. — Brussels: European Commission, 2021. [Electronic resource]. URL: https://finance.ec.europa.eu/publications/anti-money-laundering-and-countering-financing-terrorism-legislative-package_en

[10] Directive (EU) 2024/1640 of the European Parliament and of the Council of 31 May 2024 on the mechanisms to be put in place by Member States for the prevention of the use of the financial system for the purposes of money laundering or terrorist financing // Official Journal of the European Union. — L series. — 2024. [Electronic resource]. URL: https://eur-lex.europa.eu/eli/dir/2024/1640/oj/eng

[11] Regulation (EU) 2024/1624 of the European Parliament and of the Council of 31 May 2024 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing // Official Journal of the European Union. — L series. — 2024. [Electronic resource]. URL: https://eur-lex.europa.eu/eli/reg/2024/1624/oj/eng

operating independently of one another. AMLA started its activities on 1 July 2025, assuming the role of the central coordinating body for national competent authorities, and from 2028 onward it will be vested with the competence to exercise direct supervisory oversight over selected entities within the financial sector[12].

In consequence, the prevailing AML/CFT legal landscape within the EU is now constituted by four mutually reinforcing legislative acts: Regulation (EU) 2024/1624 (AMLR), laying down a harmonized set of AML/CFT standards and incrementally displacing the Fourth Anti-Money Laundering Directive (EU) 2015/849 (AMLD4);

> Regulation (EU) 2024/1620 (AMLA-R), founding the supranational AMLA;
> the Sixth Directive (EU) 2024/1640, functioning alongside the AMLR and similarly undertaking a staged substitution of the Fourth Directive;
> and Regulation (EU) 2023/1113 (TFR), instituting the EU Travel Rule governing the informational obligations attendant upon crypto-asset transfers.
> Considered as an integrated whole, these acts constitute a novel centralized framework for combating money laundering and terrorist financing, anchored in uniform regulatory standards and oversight exercised at the supranational plane. The progressive implementation of the AML/CFT reform agenda spanning 2024 to 2027 pursues the objective of erecting a singular, transparent, and resilient legal infrastructure for financial security throughout the Union.

Of particular note is the fact that, driven by the financial industry's deepening reliance on ICT systems and the growing prevalence of cyber incidents, the European Parliament and the Council adopted Regulation (EU) 2022/2554 concerning digital operational resilience in the financial sector (DORA)[13], which came into force on 16 January 2023 and became compulsorily applicable from 17 January 2025[14].

DORA stands as the first comprehensive legislative instrument at the EU level to institute a unified legal framework for digital operational resilience applicable to

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[12] Regulation (EU) 2024/1620 of the European Parliament and of the Council of 31 May 2024 establishing the Authority for Anti-Money Laundering and Countering the Financing of Terrorism // Official Journal of the European Union. — L series. — 2024. [Electronic resource]. URL: https://eur-lex.europa.eu/eli/reg/2024/1620/oj/eng

[13] Council of the the European Union. Digital finance: Council adopts Digital Operational Resilience Act (DORA). — Press release, 28 November 2022. [Electronic resource]. URL: https://www.consilium.europa.eu/en/press/press-releases/2022/11/28/digital-finance-council-adopts-digital-operational-resilience-act/

[14] European Securities and Markets Authority (ESMA). Digital Operational Resilience Act (DORA). — Paris: ESMA, 2024. [Electronic resource]. URL: https://www.esma.europa.eu/esmas-activities/digital-finance-and-innovation/digital-operational-resilience-act-dora

financial entities. The Regulation encompasses a broad spectrum of such entities within its scope.

Pursuant to Article 2, the Regulation's reach extends to an extensive catalogue of financial entities and, of particular relevance to the present study, covers issuers of asset-referenced tokens, issuers of e-money tokens, and crypto-asset service providers alike[15].

DORA thus expressly incorporates the crypto-asset sector within the normative perimeter of digital operational resilience regulation.

The interplay between MiCA and DORA is functionally complementary, with both instruments forming constituent parts of a broader regulatory architecture. MiCA establishes a harmonized legal regime governing the issuance and circulation of crypto-assets throughout the Union, whereas DORA prescribes the standards applicable to the technological infrastructure (ICT infrastructure) upon which the issuance and trading of crypto-assets depend, bearing responsibility for ensuring its resilience and security.

The adoption of the MiCA Regulation, together with the associated legislative instruments enumerated above, thus exemplifies a carefully calibrated approach that seeks to reconcile the imperative of fostering financial innovation with the equally pressing demand for regulatory security.

A particularly illustrative instance of this equilibrium is the unified authorization mechanism established under MiCA, whereby a crypto-asset service provider that has secured the requisite authorization in a single Member State is entitled to conduct operations across the entire Union without the necessity of obtaining supplementary licenses in other jurisdictions (Article 59(7) MiCA)[16]. This mechanism enables crypto-asset service providers to scale their activities at an accelerated pace, gaining entry to twenty-seven national markets while adhering to a single set of harmonized regulatory standards.

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[15] Regulation (EU) 2022/2554 of the European Parliament and of the Council of 14 December 2022 on digital operational resilience for the financial sector // Official Journal of the European Union. — L 333/1. — 2022. [Electronic resource]. URL: https://eur-lex.europa.eu/eli/reg/2022/2554/oj/eng

[16] Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on Markets in Crypto-Assets (MiCA) // Official Journal of the European Union. — L 150/40. — 2023. [Electronic resource]. URL: https://eur-lex.europa.eu/eli/reg/2023/1114/oj/eng

Perhaps the most striking demonstration of this balanced philosophy is **Regulation (EU) 2022/858 on a pilot regime for market infrastructures built upon distributed ledger technology (the DLT Pilot Regime)**. This instrument permits both newly established and incumbent financial market participants, by way of targeted derogations from certain existing regulatory requirements, to trial the deployment of DLT technology within a controlled experimental environment over a six-year period commencing from the date on which the special authorization is granted. Throughout this process, the designated supervisory authority — the European Securities and Markets Authority (ESMA) monitors emerging risks, gathers empirical data, and retains the capacity to subsequently revise and adapt the applicable legal provisions in light of the findings obtained[17].

To restate the central point, the EU's approach to regulating crypto-assets serves as a model of structured, thoroughgoing, and well-calibrated lawmaking. The passage of the MiCA Regulation alongside the interconnected legislative measures detailed above has facilitated the creation of an unprecedented global legal framework for crypto-assets, guaranteeing their legitimate movement within the confines of the internal market. This balanced posture is reflected in the Union's capacity to reconcile the hazards posed by the maturing crypto-asset ecosystem with the overriding need to sustain financial innovation.

2. LEGAL AND REGULATORY IMPLICATIONS OF THE EUROPEAN UNION'S SHIFT FROM DIRECTIVES TO REGULATIONS

Nonetheless, the EU's conscious transition from directive-reliant regulation toward a regime built upon directly applicable regulations, despite its undeniable benefits, carries with it a number of consequential disadvantages.

It merits recalling that Article 288 TFEU characterizes a directive as a legislative act laying down a pan-European objective that Member States are duty-bound to achieve. The defining feature of a directive is its requirement for incorporation into national law, coupled with the preservation of member states

[17] 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 // Official Journal of the European Union. — L 151/1. — 2022. [Electronic resource]. URL: https://eur-lex.europa.eu/eli/reg/2022/858/oj/eng

freedom to choose the appropriate means and modalities for reaching the designated objectives. A regulation, on the other hand, is obligatory in all its elements, enjoys direct application, and takes effect uniformly across the totality of Member States[18].

As the foregoing analysis has made evident, the European Union has in recent years been steadily departing from a directive-centered model of financial regulation in favor of a more prescriptive mode of supranational rule-making. This trajectory suggests that one of the principal adverse consequences of the turn toward regulation-based governance is the considerable strain it places upon the regulatory sovereignty of individual Member States. Under such conditions, the national regulator is effectively reduced to an implementing authority rather than retaining its capacity as an autonomous norm-setting body.

The prevailing drift toward supranational regulation also carries the risk of eroding at least two foundational principles enshrined in Article 5 of the Treaty on European Union (TEU). The principle of proportionality dictates that Union legislative measures must not exceed what is strictly necessary to attain the prescribed objectives, while the principle of subsidiarity presupposes that action at the supranational level is warranted only where the goals of regulation cannot be satisfactorily accomplished by Member States acting on their own[19].

Moreover, as a category of supranational legislative act, the regulation is distinguished by a pronounced degree of normative rigidity, coupled with an inherently complex and protracted amendment procedure at the Union level. While this generally serves to guarantee legal certainty and regulatory uniformity, such inflexibility simultaneously impedes the timely adaptation of rules governing the crypto-asset market, a sector whose pace of evolution far outstrips that of conventional financial markets. In certain instances, legal uncertainty also emerges, manifesting itself, for example, in the Regulation's reliance upon a considerable number of framework provisions that await further elaboration and clarification by EU

[18] Consolidated version of the Treaty on the Functioning of the European Union // Official Journal of the European Union. — C 326/47. — 2012. [Electronic resource]. URL: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:12012E/TXT:en:PDF

[19] Consolidated version of the Treaty of the European Union // Official Journal of the European Union. — C 326/13. — 2012. [Electronic resource]. URL: https://eur-lex.europa.eu/resource.html?uri=cellar:2bf140bf-a3f8-4ab2-b506-fd71826e6da6.0023.02/DOC_1&format=PDF

supervisory bodies.

Under a directive-based model, by contrast, Member States would retain the capacity to respond with greater agility and promptness not only to the shifting landscape of innovation but also to act in furtherance of their own national and economic priorities.

In practical terms, the regulatory architecture erected by the European Union risks diminishing its appeal to the crypto-asset industry, which is naturally inclined to gravitate toward jurisdictions offering more adaptable and competitively structured frameworks. Over the longer horizon, enterprises already established within the Union may opt to relocate their operations beyond EU borders - an outcome that would run directly counter to the European Union's strategic ambitions in the spheres of digital transformation and innovation-driven growth.

3. THE SIGNIFICANCE OF THE CRYPTO-ASSET REPORTING FRAMEWORK (CARF) FOR THE DEVELOPMENT OF THE EUROPEAN REGULATORY APPROACH

It merits particular attention that the European Union is pursuing a proactive approach in what constitutes an indisputably strategic sphere of normative activity - crypto-asset taxation. The Crypto-Asset Reporting Framework (CARF), formulated by the OECD, has already captured the interest of regulatory bodies and national governments worldwide. Fifty-five jurisdictions, among them all EU Member States, have pledged their participation in CARF by subscribing to the multilateral agreement governing the automatic exchange of information under the Framework (CARF-MCAA)[20].

The Union integrated CARF into its regulatory architecture by enacting **Directive (EU) 2023/2226 (DAC8)**[21] in October 2023, the eighth successive

[20] OECD. (2025). Signatories of the Multilateral Competent Authority Agreement on Automatic Exchange of Information Pursuant to the Crypto-Asset Reporting Framework: CARF-MCAA. — Paris: OECD, 2025. — P. 1-2. [Electronic resource]. URL: https://www.oecd.org/content/dam/oecd/en/topics/policy-issues/tax-transparency-and-international-co-operation/carf-mcaa-signatories.pdf

[21]Council Directive (EU) 2023/2226 of 17 October 2023 amending Directive 2011/16/EU on administrative cooperation in the field of taxation // Official Journal of the European Union. — L series. — 2023. [Electronic resource]. URL: https://eur-lex.europa.eu/eli/dir/2023/2226/oj/eng

amendment to Directive 2011/16/EU (DAC) concerning administrative cooperation in fiscal matters, thereby extending the parent Directive's applicability to crypto-assets and related transactions.

Member States completed the transposition of DAC8 into their national legislation by the end of 2025, and the substantive requirements became operational on 1 January 2026.

The XML schema standards facilitating automated electronic data exchange in conformity with CARF were operationalized within the European Union through the adoption of Regulation (EU) 2025/2263.

Beginning on 1 January 2026, crypto-asset service providers - the intermediaries upon whom CARF and DAC8 impose reporting obligations, are bound to communicate detailed transactional data relating to cryptocurrency operations carried out by non-resident taxpayers to their respective national tax authorities. The initiation of the automatic international exchange of this data among tax authorities is anticipated in 2027[22].

The authority to fix tax rates on crypto-asset transactions resides with each Member State individually, since the European Union holds no exclusive competence over direct taxation as stipulated by Article 5 TEU and Articles 4(1) and 4(2) TFEU. That said, the Union maintains the right to promulgate directives bearing upon taxation, where doing so is requisite for the smooth functioning of the single market, the prevention of fiscal evasion, or the strengthening of administrative cooperation (Article 115 TFEU)[23][24]. Applied to DAC8, this principle means that the EU does not institute a direct tax on crypto-asset transactions but rather prescribes compulsory standards for the reciprocal exchange of tax information.

[22] European Commission. DAC8 – Directive on Administrative Cooperation (tax transparency for crypto-assets). — Brussels: European Commission. [Electronic resource]. URL: https://taxation-customs.ec.europa.eu/taxation/tax-transparency-cooperation/administrative-co-operation-and-mutual-assistance/directive-administrative-cooperation-dac/dac8_en

[23] Consolidated version of the Treaty on the Functioning of the European Union // Official Journal of the European Union. — C 326/47. — 2012. [Electronic resource]. URL: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:12012E/TXT:en:PDF

[24] Consolidated version of the Treaty of the European Union // Official Journal of the European Union. — C 326/13. — 2012. [Electronic resource]. URL: https://eur-lex.europa.eu/resource.html?uri=cellar:2bf140bf-a3f8-4ab2-b506-fd71826e6da6.0023.02/DOC_1&format=PDF

The EU has thus carried out all the steps necessary to construct the legal and technical scaffolding for the cross-border automatic exchange of data concerning the taxation of crypto-asset transactions, a development that attests to the Union's resolve to harmonize its provisions with internationally recognized standards. The tangible effectiveness of this cooperative mechanism, which enhances fiscal transparency and bolsters efforts to counter tax evasion, will be amenable to empirical evaluation in 2027 by way of measuring comparative tax revenue outcomes. Nonetheless, a study already completed by the European Parliamentary Research Service (EPRS) provides indicative estimates. Under prevailing national tax frameworks, and assuming comprehensive adherence to fiscal obligations, with all crypto-asset-related taxable events properly reported, consolidated profits and income for 2024 would produce an estimated €4.7 billion in revenue for EU Member State budgets. Looking to the future, the convergence of market growth, heightened compliance discipline, and the operationalization of new automatic information exchange mechanisms could drive these receipts well beyond the €10 billion mark[25].

CONCLUSIONS

The European model of crypto-asset regulation represents the world's first attempt to establish a comprehensive and systematic legal framework for a phenomenon that has emerged only relatively recently in modern economic and financial life, namely crypto-assets and their circulation.

The achievements of the European legislator in this field are significant. In particular, they include:

1. Harmonisation of regulation at the supranational level. This approach eliminates the fragmentation of national legislation across EU Member States and provides legal certainty for market participants operating within the internal market. The involvement of supranational institutions also promotes consistency in enforcement and ensures a high standard of supervision.

2. The creation of a comprehensive legal and supervisory framework. The

[25] European Parliamentary Research Service (EPRS). The future of EU tax policy harmonisation: Cost of non-Europe report. — — Brussels: EPRS, 2025. — P. III [Electronic resource]. URL: https://www.europarl.europa.eu/RegData/etudes/STUD/2025/774671/EPRS_STU(2025)774671_EN.pdf

adoption of a set of supranational legislative acts addressing multiple dimensions of crypto-asset regulation simultaneously — including a unified legal regime for the issuance and circulation of crypto-assets within the EU, common requirements for the technological infrastructure (ICT infrastructure) supporting such activities, anti-money laundering and counter-terrorist financing (AML/CFT) measures, and tax transparency — has resulted in a coherent and far-reaching system of regulatory oversight.

3. A balanced regulatory approach. The EU has succeeded in striking a balance between addressing the risks arising from the developing crypto-asset market and preserving conditions conducive to financial innovation.

At the same time, the European model is not without shortcomings. In the authors' view, one of its principal drawbacks is the EU's shift from a directive-based regulatory model to a regulation-based one, which places considerable pressure on the regulatory autonomy of Member States. Under a directive-based approach, Member States retained greater flexibility to respond more quickly not only to technological innovation but also to their own national economic priorities. In addition, the comparatively strict regulatory framework established by the European Union may adversely affect its attractiveness and competitiveness as a jurisdiction for crypto-asset businesses.

Nevertheless, the European experience in the regulation of crypto-assets undoubtedly deserves close attention. It may serve as a valuable reference point for legislators in other states and political entities seeking to develop their own national regulatory frameworks for this innovative and rapidly evolving field.

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