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EU Regulation of the Crypto-Assets Market[1]

Abstract: The present paper discusses the issue of regulation of the crypto-assets market. This area is still struggling with a lack of legislation, and there are only some initiatives to regulate the market. The aim of the article is to analyse the state of legal regulation of the crypto-assets market while simultaneously pointing out problematic issues with *de lege ferenda* proposals. For this purpose, we established two hypotheses: the crypto-assets market needs to be regulated by legal acts of a European nature (H1), and the adopted EU legal acts regulating the crypto-assets market are adequate and sufficient (H2). Several types of scientific papers, such as analysis, synthesis, and the historical method, were used in the preparation of this paper.
Keywords: digital revolution, crypto-assets, crypto-assets market, financial law, financial-market law

> *Digital finance is an increasingly important part of Europe's economic environment. It is crucial to create a stimulating environment for innovative businesses while mitigating risks for investors and consumers.*
> Andrej Šircelj, Minister of Finance of Slovenia (Council of the EU, 2021)

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Introduction

Almost everyone has come across the concept of crypto-assets, or other synonyms for this phenomenon.[2] It can be said that they have already become an integral part of everyday life in an era that is often referred to as the industrial (digital) revolution 4.0. A relatively long period has passed since the first crypto-assets were issued,[3] and they are increasingly becoming more accessible to the general public, who do not even need to have investment experience to buy or sell them. This is also due to many other technological innovations,[4] which are used in the competitive struggle for clients and which make it possible to buy crypto-assets practically anywhere.[5]

This is also why the quote with which we deliberately started this article is becoming more relevant. What is the state of the current financial-legal legislation of crypto-assets? The answer to this question is definitely not positive, because national parliaments in most cases have not yet reflected that the area is characterized by insufficient, or in many cases, absent legal regulation. At first, the attention of legislative bodies was focused primarily on the issue of taxation of income flowing from crypto-assets and related criminal-legal aspects, while financial-legal regulation continued to live a life of its own. The availability of crypto-assets, high volatility and the associated risk for individuals are facts that lead us to fully identify with at least the second part of a statement by the president of the European Central Bank, Christine Lagarde, according to whom '[c]rypto is "worth nothing" and should be regulated' (Koc, 2022).

However, the current situation is not completely black and white, and legislative initiatives at the level of the European Union indicate that there is an effort to adopt a certain basic regulatory framework that would regulate some financial-legal issues related to crypto-assets; we can perhaps add in the same breath that progress in this area is not only quantitative but certainly also qualitative. States prefer a joint and coordinated approach to the various unilateral efforts to deal with this issue. The aim of this article is to analyse the state of legal regulation of the crypto-assets market while simultaneously pointing out problematic issues with *de lege ferenda* proposals. As part of the research activity, we verified two hypotheses: hypothesis H1, that the crypto-assets market needs to be regulated by legal acts of a European nature; and

2 The essence of bitcoin and other crypto-assets, as well as their conceptual definition, have been addressed by several authors (Kubát, 2015; Richter et al., 2015; Tumpel & Kofler 2019).

3 In 2008, the most famous crypto-asset, bitcoin, was introduced. The identity of the architect of this digital asset is still unknown, because he appears under the pseudonym Satoshi Nakamoto (Nakamoto, 2018).

4 Technological innovations are already applied in all spheres of human life. The area of public finance control is no exception (Zalcewicz, 2023).

5 The COVID-19 pandemic was also a driving factor for technological progress. Coffie et al. (2022) have addressed the impact of this disease (among other things) on the transformation of mobile payment services.

hypothesis H2, that the adopted EU legal acts regulating the crypto-assets market are adequate and sufficient.

The state of the background literature is at a very solid level if we talk about the issue of financial-market law in general (see Babčák et al., 2017; Čunderlík, 2017; Jurkowska-Zeidler, 2016; Karfíková et al., 2017; Šimonová, 2012). It is also possible to observe a growing number of scientific and scholarly papers on the topic of the nature of crypto-assets (Čunderlík et al., 2018, pp. 19–37) or the taxation of income arising from the handling of crypto-assets (Hrabčák et al., 2021, p. 116; Štrkolec, 2022). Given that investments in crypto-assets and related issues are still in their infancy, there is a certain corresponding vacuum in the publication sphere, which is also related to the long-term absence of appropriate financial-legal regulation of crypto-assets.

Several methods of writing scientific papers, such as analysis, synthesis and the historical method, have been used in the preparation of this study. The starting method was analysis, which we used to examine adopted and proposed EU legal acts directly or indirectly related to crypto-assets, with special emphasis on 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. Through synthesis, we arrived at a formulation of proposals at the level of *de lege ferenda* and conclusions in relation to the raised hypotheses. The historical method showed the historical context of ongoing legislative initiatives in the research area. The methods were equally applied in processing the outlined issue.

1. Legal regulation of crypto-asset markets in Europe over time

The field of crypto-assets is characterized by the long-standing absence of relevant and adequate legal regulation. We noticed the first regulatory initiatives mainly after 2018, when bitcoin and other crypto-assets reached their historical highs, which in investment terminology are also denoted by the abbreviation ATH (from the English All Time High). The bull run was replaced by a bear market, and it was not until 2021 that the value of crypto-assets began to grow again significantly.[6] However, the attention of legislatures was mainly focused on the area of taxation of potential income connected with crypto-assets or the anti-money laundering (AML) sphere. Other issues, such as the legal nature of crypto-assets, their classification, the supervision of activities in the area and others, became relevant a little later.

6 Bitcoin, undoubtedly the most famous crypto-asset, reached its ATH on 10.11.2021, reaching the amount of almost USD 70,000 (the exact amount was USD 69,045). At the time of writing (23 June 2023), the value of bitcoin is at the level of approximately USD 30,000, which represents a drop of more than 50% compared to its peak value.

Despite the high volatility and other negative characteristics of crypto-assets, it is a very popular phenomenon among some investors, which is confirmed by the enormous increase in the number of crypto-assets and the market capitalization, at a level exceeding EUR 1 trillion (CoinMarketCap, n.d.).[7] Initially, it was possible to observe a certain correlation between stock markets and the crypto-assets market, but in March and April 2023, an interesting situation occurred, when it was possible to identify a slight increase in the value of crypto-assets during a period of declining stock markets. However, this is rather an exceptional phenomenon, and we are of the opinion that it will continue to be possible to observe a certain connection between the crypto market and stock markets.

Approaches to solving the issue differ depending on the nature of what is regulated. In the field of taxation, it is possible to identify what are completely natural, unilateral solutions by individual states. This approach is related to the tax sovereignty of states, which states do not want to give up completely in favour of international integration groupings such as the EU. It also has a historical context, and it cannot be expected that there will be any changes within this approach. The situation is different in the financial-legal area. The vast majority of EU Member States have not resorted to adopting their own financial-legal regulation, which is due to the complexity of the issue and a preference for adopting a common and coordinated solution. These digital assets are tradable globally. So can unilateral solutions have the desired effect?

Since their inception, crypto-assets have always been associated with money laundering and terrorist financing (Daudrikh, 2022; Haffke et al., 2020). It is therefore not surprising that it was concerns about criminal activity linked to crypto-assets that led the representatives of individual EU Member States to an accelerated reaction, which resulted in reaching a consensus in the adoption of Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 Amending Directive (EU) 2015/849 on the Prevention of the Use of the Financial System for the Purposes of Money Laundering or Terrorist Financing, and Amending Directives 2009/138/EC and 2013/36/EU (the AML Directive), which also affects the crypto sphere. Obligations arising from individual Member States have been incorporated into national legislation in various forms.[8]

7 Investors and crypto fans have previously classified crypto-assets into two groups, namely bitcoin and the so-called altcoins, i.e. alternative coins in relation to bitcoin. Currently, however, it is possible to identify another group (subset) of crypto-assets among altcoins – the so-called shitcoins (crypto-assets without real use in practice or intrinsic value).

8 The obligations that flowed to the Slovak Republic from the AML Directive were fulfilled by the adoption of the amendment to Act No. 297/2008 Coll., on Protection against the Legalization of Income from Criminal Activity and on Protection against the Financing of Terrorism and on the Amendment of Certain Laws, as amended.

In relation to crypto-asset service providers, the AML Directive brought several changes.[9] During the transposition period, Member States were forced to expand the range of obligations on entities in their national legislation to include crypto-asset service providers. On a practical level, this meant that, from the moment the changes in the national legal systems came into effect, crypto-asset service providers became entities subject to several obligations, such as a registration obligation, the identification of clients and end-users of benefits, an obligation to find out information about the purpose and nature of the planned transactions, the performance of client checks, reporting unusual transactions and so on.

The adoption of the AML Directive was undoubtedly necessary; however, not only professionals, but also the wider public were aware that the adoption of this legal act does not solve all the problems related to crypto-assets. This is confirmed by the Communication from the Commission to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions on the FinTech Action Plan: For a More Competitive and Innovative European Financial Sector (the Action Plan). This document embodied the Commission's efforts to explore the opportunities and challenges associated with crypto-assets. In the Action Plan, the Commission mandated the European Banking Authority (EBA) and the European Securities and Markets Authority (ESMA) to assess the applicability and appropriateness of the existing regulatory framework in the area of financial services in relation to crypto-assets.

The initial results of the assessment activity were already available in 2019 and determined the direction of further activities of the EU institutions. ESMA issued advice entitled 'Initial coin offerings and crypto-assets' on 9 January 2019 (ESMA, 2019), and the EBA issued a 'Report with advice for the European Commission on crypto-assets' on the same day (EBA, 2019). The mandated institutions concluded that although some crypto-assets may fall within the scope of EU legal acts, the effective application of these acts to such assets is not always easy.[10] ESMA and the EBA stated that the existing legal regulation may create obstacles for the application of distributed ledger technology (DLT) and at the same time emphasized that most crypto-assets do not fall within the scope of EU legislation in the field of financial services (with the exception of the AML sphere), and therefore are not covered by, among other things, provisions on consumer and investor protection and market integrity, despite the high risk of these 'assets'.

9 The legal act in question did not use the term 'crypto-asset', but 'virtual currency'. In order to maintain uniformity of terminology, we primarily use the term 'crypto-asset' in this article.

10 The European Economic and Social Committee also commented on this issue in its opinion entitled 'Crypto-assets: Challenges and opportunities' (2022). Within it, the committee stated that some crypto-assets can be classified as financial instruments within the scope of the Markets in Financial Instruments Directive II (MiFID II), as electronic money under the Electronic Money Directive or as funds under the Payment Services Directive 2.

The so-called Digital Finance Package presented by the Commission on 24 September 2020 can be considered a milestone in the development of legal regulation of the crypto-assets market.[11] The package contained several documents, namely a strategy in the field of digital finance, a proposal on crypto-asset markets, a proposal on digital operational resilience and a proposal on distributed transaction database technology. As the Commission further states, the aim of the package of these measures is 'to support innovation and the uptake of new financial technologies while providing for an appropriate level of consumer and investor protection' (Council of the EU, 2021). Even this nobly formulated goal did not lead Member States to an early consensus regarding the final form of the basic financial-legal framework for crypto-assets, although this was probably due to the search for solutions to problems related to the COVID-19 pandemic, and subsequently the war in Ukraine and attempts to solve the high rate of inflation and related price increases.

In the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a Digital Finance Strategy for the EU (Digital Finance Strategy), the EU defined the active use of digital finance for the benefit of consumers and businesses as a strategic goal. It is also clear from the document that the EU was aware that in order to come closer to fulfilling this goal, adaptation of the EU regulatory framework would be necessary. This also applies (among other things) to the functioning of markets within the EU with crypto-assets and tokenized financial instruments.

According to the Digital Finance Strategy, the EU should introduce a comprehensive framework by 2024 that will enable the use of DLT and crypto-assets in the financial sector. At the same time, it should address the risks related to these technologies. The Commission, as the proponent of these measures, is fully aware that crypto-assets and related blockchains can bring significant opportunities for the financial industry, such as potentially cheap and fast payments, especially in cross-border and international transactions, new financing options for small and medium-sized enterprises and more efficient capital markets (European Commission, 2020).

The legal acts contained in the Digital Finance Package presented by the Commission were gradually adopted after long discussions (the last legislative process was completed on 20 April 2023), and the current framework of the Union (international) legal regulation of crypto-asset markets is formed (apart from the above-mentioned AML Directive) by the following legal regulations:

11 This step was preceded by the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Shaping Europe's Digital Future, which the Commission followed up on and presented in the Digital Finance Package in September of the same year. Thus, in a relatively short period of time after the announcement, the Commission also presented to the public specific measures that it is interested in taking in the area.

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 (the MiCA Regulation),

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 (the DORA Regulation),

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 (the DLT Regulation), and

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 (the MiFID II Directive).

We consider the MiCA Regulation to be a fundamental pillar of the regulation of crypto-asset markets, which follows from the very name of the legal act in question. However, this issue must be seen within the complex of the other legal acts mentioned above, even if they only deal with certain partial issues related to crypto-assets, which, however, cannot be perceived negatively. The DORA regulation was also part of the Digital Finance Package. This creates uniform requirements for the security of networks and information systems of companies and organizations operating in the financial sector, as well as important third parties that provide them with services related to information and communication technologies, such as cloud platforms or data analysis services. The DLT regulation, in turn, introduces a pilot regime for market infrastructures based on DLT, the aim of which is to test the trading and settlement of transactions with crypto-assets that qualify as financial instruments (so-called tokenized financial instruments). Although the MiFID II Directive was adopted before the aforementioned initiatives, it certainly has its place in the financial-legal framework of crypto-asset markets, and some crypto-assets that meet the characteristics of a financial instrument will be subject to its regime.

Based on the above, we conclude that hypothesis H1 – the crypto-assets market needs to be regulated by legal acts of a European nature – has been confirmed. More than 25,000 different types of crypto-assets have already been issued. The issuers of these assets are located in the territories of different countries (even outside the EU), and individuals buy them worldwide. In the digital space and the world of digital finance, borders are no barrier. The various unilateral approaches of the EU Member States did not achieve the effect they intended, and, as the Commission stated in several documents, they only led to market fragmentation. Another group of Member States, on the other hand, was restrained and in the field of crypto-asset markets proceeded to regulate only certain issues in the interest of fulfilling the Union's obli-

gations, which flowed, for example, from the AML Directive. The adopted legislative acts will certainly be an impetus for the adoption of further legislation at the national level in the field of crypto-asset markets, despite the fact that the regulations are directly applicable and enforceable in all Member States. Only further application in practice will show whether this problem does not go beyond the EU framework and whether the European consensus will be sufficient.

2. The MiCA Regulation: The right step towards the regulation of crypto-asset markets?

The MiCA regulation can be described without any exaggeration as a basic pillar of the regulation of crypto-asset markets and is the result of long discussions that ended on 20 April 2023, although the draft of this act was already presented to the public in 2020 as part of the Digital Finance Package (also see Bočánek, 2021; Srokosz, 2021). Is this the right step towards the regulation of crypto-asset markets? We will try to answer this question in the context of the most key measures introduced by the MiCA regulation in order to eliminate risks and protect consumers. The Commission, as the proposer of this legal act, formulated four goals to be achieved with the MiCA regulation, namely achieving legal certainty, promoting innovation, adequate protection of consumers, investors and market integrity and, finally, financial stability.

Prior to the adoption of the MiCA regulation, there were several legal-regulatory issues related to crypto-asset markets that we could identify. Specifically, these were about the problem of defining crypto-assets and individual subcategories of crypto-assets; uniform conditions for the provision of crypto-asset services within the EU; and supervision of and control over the activities of crypto-asset service providers and issuers. The adoption of the MiCA regulation brought with it several changes, also in relation to these problematic areas. But are such changes sufficient and have the problems really been eliminated? Due to restricted space, we limit ourselves in the following text to answering the questions we have outlined, even though there are other problems associated with crypto-assets.

A crypto-asset, within the meaning of Art. 3 Paragraph 1 Point 2 of the MiCA regulation, is 'a digital representation of value or rights which may be transferred and stored electronically, using distributed ledger technology or similar technology' (MiCA 2023). The regulation further specifies the definitions of individual subcategories of crypto-assets, namely asset-referenced tokens, electronic money tokens and utility tokens. The definition of crypto-assets seems to us to be legally vague and ambiguous. It follows from the definition that crypto-assets in the sense of MiCA will be based on DLT, or similar technology. Union legislators should have been more precise in this respect and should have specified other similar technologies (in addi-

tion to DLT). Furthermore, the current definition of subcategories of crypto-assets under the MiCA regulation does not cover all current crypto-assets, especially those that are not pegged to the value of another currency (typically bitcoin). Even after the adoption of the MiCA regulation, these crypto-assets have so far only remained in the limited regime of legal regulation (Štrkolec, 2022, p. 113). The variety of terminology used within the Union legal acts can also be evaluated negatively; it is possible to point to the AML directive, which does not use the term 'crypto-asset' but 'virtual currency'. It would be appropriate to unify the terminology used.[12]

Since the MiCA regulation regulates markets with crypto-assets, the question of whether crypto-assets can be classified as financial-market instruments with this new legal regulation is logically raised here.[13] Some crypto-assets were considered financial instruments in the context of the MiFID II directive and were subject to the regime of that legal act. This can also be deduced from Art. 2 Paragraph 2 of the MiCA regulation, which stipulates that crypto-assets considered financial instruments under the MiFID II regime will not be governed by the MiCA regulation. Here we also encounter the problem of non-harmonized legislation on securities within EU Member States. One and the same crypto-asset may be assessed or qualified differently in different states, which may raise the question of whether a given crypto-asset is governed by MiFID II or the MiCA regulation. This can also lead to different interpretations and speculative actions on the part of the addressees of legal norms in an effort to choose the most benevolent regulation in a specific situation.

Another problem that we defined above is the creation of uniform conditions for the provision of crypto-asset services. In this area, two groups of EU Member States can be observed. The first is a group of states that have adopted rules for the provision of crypto-asset services (e.g. the Slovak Republic) regulating partial issues, and the second is states that have adopted relatively complex legislation for crypto-asset service providers (e.g. Malta).[14] These facts have raised concerns in the eyes of the EU institutions regarding the fragmentation of rules within the single internal market.[15]

12 Currently, we have noticed a shift in that the Commission already adheres to the terminology introduced by the MiCA regulation in its proposal for the DAC 8 directive, which we evaluate very positively.

13 Using the example of the Slovak Republic, it can again be pointed out that the current version of Act No. 566/2001 Coll., on Securities and Investment Services does not consider crypto-assets as financial instruments (Paragraph 5 Section 1).

14 Malta has taken a very progressive approach to crypto-assets, positioning itself as a global leader in crypto regulation (Comply Advantage, 2023).

15 The Slovak Republic also belongs to the category of states that have not adopted their own regulation applicable to crypto-asset service providers, except for that which was necessary for the fulfilment of Union obligations (for example, within the framework of Act No. 455/1991 Coll., on Trade Business (Trade Act) as amended in later regulations). However, the stipulated conditions were insufficient and too benevolent. The legislation did not take into account all aspects of the regulated issue, which is why it appears to us to be not very effective.

These concerns are justified, but we consider the global nature of crypto-assets to be a more important reason for joint and coordinated action in this area.

A crypto-asset service provider (CASP) is 'any person whose occupation or business is the provision of one or more crypto-asset services to third parties on a professional basis' (MiCA 2023). The number of CASPs has grown in direct proportion to the increase in market capitalization crypto-assets, because a number of subjects have seen the potential in the area for the realization of their business intentions. Crypto-asset services are the services and activities calculated in Art. 3 Paragraph 1 Point 9 of the MiCA regulation, which are related to crypto-assets (e.g. custody and administration of crypto-assets on behalf of third parties, operation of a trading platform for crypto-assets, exchange of crypto-assets for fiat currency that is legal tender, and others). After entry of provisions of MiCA into force, crypto-asset services will only be able to be provided on the basis of a permit issued by the competent authorities of the EU Member States after meeting the established prerequisites, while CASPs will be registered in the central register maintained by ESMA. This step is very positive, but in order to evaluate the mentioned question (status of CASP), it is necessary to take a closer look at the established conditions.

At first glance, the established conditions are very strict, and as soon as the MiCA regulation begins to apply (after 18 months from the entry into force, i.e. from 29 June 2023), a number of entities that have provided crypto-asset services up to now will have problems fulfilling them.[16] The applicant for a permit for the provision of crypto-asset services will have to prove in the application the fulfilment of the conditions established in Art. 54 Paragraph 2 of the MiCA regulation. For our purposes, we have divided the individual assumptions into three groups, namely:

Material requirements: the existence of material requirements was very desirable. For legal entities that provide crypto-asset services, there have been mainly legal conditions regarding the amount of capital depending on the specific form of the business.[17] In many cases, however, it can be an 'empty entity', i.e. subjects without a real material background. We therefore rate the condition according to Art. 54 Paragraph 2 in conjunction with Art. 60 of the MiCA regulation very positively, which stipulates that CASPs must always have prudent security guarantees in the amount of capital requirements mentioned in Annex IV or amounting to a quarter of the previous year's fixed costs, which are reviewed annually. Capital requirements are tiered depending on the CASP and depend on the other crypto-asset services it provides.[18]

16 The adoption of the AML Directive already meant increased administrative requirements for such entities, but it is questionable how many CASPs fulfilled the letter of the relevant AML regulations.

17 Here, too, differences between the commercial legal regulations of individual EU Member States can be observed due to the fact that these issues are left under the responsibility of states.

18 They are graduated to the amounts of EUR 50,000, EUR 125,000 and EUR 150,000.

Prudential security guarantees must either take the form of their own funds or an insurance policy covering the EU territory where they actively provide crypto-asset services, or a comparable guarantee.

Personnel requirements: the formulated personnel requirements appear to us as another positive step. We can see here the effort of the rule makers to emphasize both the integrity of the entities owning the CASP[19] and the expertise of the persons in its governing bodies or the persons who provide advice related to crypto-assets.[20]

Administrative requirements: this category of the fulfilment of several requirements (e.g. an activity plan, a description of the management system, a description of the internal control mechanism, descriptions of information systems and security mechanisms, etc.) can cause problems for many entities. The development of the necessary documentation will cause the applicants higher costs (for legal, accounting or other related consulting services), which will certainly create another filter that will 'cleanse' the market of some risky entities.

Despite the evident shift in the legal-regulatory level, we have certain reservations in relation to the formulated criteria and requirements. Our first reservation refers to prudential security guarantees. In the event that these requirements are fulfilled in the form of the CASP's own resources, their established minimum amount cannot be ignored (see above). If we look at the volume of capital traded within crypto-asset markets and the risk arising from them (due to high volatility), the capital requirements are rather symbolic in nature. This is all the more true because this assumption can also be fulfilled by an insurance contract or other similar guarantee. Riskiness in the area of crypto-asset markets not only results from volatility, but also from the fact that many entities provide services, but not on a professional basis due to the absence of professional requirements of the personnel basis. Although professional requirements are introduced with the MiCA regulation, we are concerned that the wording used is not satisfactory due to its generality.[21] Only application in practice will show whether these concerns will take on real shape and whether they will lead the Union's lawmakers to reevaluate the accepted requirements for CASPs.

Permits issued by the competent authority of an EU Member State will be of great importance from several points of view. On the one hand, conditions across

19 This applies only to owners who directly or indirectly own 20% or more of the capital or voting rights.

20 When consulting about crypto-assets, a real problem can arise in practice, since the MiCA regulation aims at personalized services and consulting. It is quite likely that such entities will try to avoid CASP obligations under the guise of providing generic, non-personalized services.

21 It is possible to point to the wording of one of the professional requirements in Art. 54 Paragraph 2 Letter g of the MiCA regulation, according to which 'the natural persons involved in the management body of the applicant crypto-asset service provider collectively possess sufficient knowledge, skills and experience to manage that provider and […] those natural persons are required to commit sufficient time to the performance of their duties'.

EU Member States are unified, as already mentioned. States that already have their own unilateral solutions for the regulation of crypto-asset markets will have to align their legislation with European legislation, while in the case of setting stricter criteria, we may run into limits set by EU primary law which could potentially lead to the initiation of proceedings at the EU Court of Justice. Despite the increased requirements for entities, uniform rules regarding the provision of crypto-asset services will benefit CASPs in the sense that they will be able to provide services on the basis of a single licence in the territory of EU Member States, without the need for an in-depth analysis of local legislation before starting their business activities.

CASPs will have to fulfil several obligations that already flow from the aforementioned AML sphere (Haffke et al., 2020) or from GDPR (Iaia, 2021), but they will also have to deal with new obligations in accordance with the MiCA regulation. This is a whole catalogue of obligations, which the EU legislator divides (also systematically) into two groups, namely general obligations (applicable to all CASPs) and special obligations (applicable to CASPs depending on the type of crypto-asset services provided[22]). The general duties of CASPs include, for example, the obligation to act honestly, fairly and professionally in the best interests of clients and to provide information for clients, the obligation to comply with prudential requirements (see above), the obligation to comply with organizational requirements, and others. Therefore, we consider the 18-month deadline for the MiCA regulation to become applicable as also extremely important for CASPs, who will have to adapt to the new conditions when it comes to the provision of crypto-asset services.

The fundamental issue introduced by the MiCA regulation is supervision in the field of crypto-assets, which has been completely absent until now. It follows from this legal act that EU Member States have the obligation to designate a responsible authority for the performance of functions and duties in accordance with the MiCA regulation, and they must inform ESMA and the EBA about this fact. It is not excluded that the functions and obligations arising from the MiCA regulation will be fulfilled by several authorities, but in such a case, one of them will have to be designated as a single point of contact, which is important from the point of view of cross-border cooperation. The list of competent authorities of the EU Member States will be published on the ESMA website; these authorities will also be equipped with several powers, which derive primarily from Titles II, III, IV and V of the MiCA regulation (e.g. the right to request information and documents from entities, the right to suspend the provision of services, the right to publish essential information, and

22 One can point to the example of CASPs' custody and management of crypto-assets on behalf of third parties. These subjects are (among other things) obliged, pursuant to Art. 67 Paragraph 1 of the MiCA regulation, to enter into an agreement with their clients, in which their obligations and tasks are determined in detail, while it must contain at least the elements required by the regulation.

others). Powers can be exercised by the competent authorities of the Member States either directly, in cooperation with other authorities, by delegation or by submitting a proposal to the competent judicial authority. In addition, the competent authorities have several information obligations towards the Commission, the EBA and ESMA. We consider cooperation with the authorities of third countries to be more than just problematic, as the MiCA regulation does not have any legal effect on those countries, and it is only up to them how they stand in relation to potential cooperation.

The MiCA regulation also introduces other measures regarding crypto-assets, such as providing information on environmental and climate footprints, introducing a public register of non-compliant CASPs, determining the liquidity reserve of stablecoin issuers,[23] limiting the development of asset-referenced tokens based on non-European currencies, and other measures, but due to limited space we will not go into them here.

Hypothesis H2 – that adopted EU legal acts regulating the crypto-assets market are adequate and sufficient – has not been confirmed. In the area of regulation of crypto-asset markets, we have seen increasing legislation in recent years (mainly at the Union level), but the regulation of the crypto-assets market did not undergo a major change until 20 April 2023, with the adoption of the MiCA regulation. This regulation (in the context of other legal acts such as the DORA regulation, the DLT regulation and others) can be evaluated as a positive step towards establishing at least a minimum level of protection for individuals. In the areas we address (definition of crypto-assets, CASPs and supervision), we have identified several shortcomings that in practice may disrupt the effective application of the adopted legal act and the real enforceability of the introduced measures.

3. Further development trends of the financial-legal regulation of crypto-asset markets

Crypto-assets, and business in the field of crypto-assets, are an interdisciplinary issue, not only in the sense that they are the object of research from several scientific disciplines, but because they must also be seen in the context that this is an issue that is (or should be) regulated by several legal branches, not only in the area of private law, but also of public law, which also follows from the previous parts of this article. It is therefore necessary to examine the outlined questions comprehensively, not selectively.

23 A stablecoin is a type of crypto-asset, where its digital value is linked to a reference asset, which is usually a fiat currency (EUR, USD, etc.) but can also be commodities traded on the stock exchange (e.g. gold) or another crypto-asset.

Despite the fact that today we already know the final form of the MiCA regulation, it can be stated that the financial-legal regulation of crypto-assets is not fully completed. On the contrary, we can expect a further increase in legal acts (national or European) that will address this issue, or amendments to the MiCA regulation will be adopted. In some countries, there have even been voices saying that the use of crypto-assets should be banned (e.g. China has banned its citizens from mining or owning crypto-assets) (Openiazoch, 2022), which would automatically mean the impossibility of providing services (doing business) in the given area.

We are not supporters of the idea that crypto-assets should be completely banned. Rather, we lean towards the opinion of the vice-governor of the Czech National Bank, who has repeatedly presented his position on crypto-assets – not to help, not to protect, not to harm and not to lead by the hand (Wolf, 2017). Such an attitude is, in our opinion, legitimate and justified. In our opinion, restrictive measures regarding the crypto-assets market would not be appropriate, and if any of the EU Member States resorted to such a step, it would be possible to consider them in conflict with primary EU law (see below).

Not helping crypto-assets can be interpreted in the sense that, taking into account the multiple risks associated with crypto-assets, it is not necessary or even desirable to accept an adjustment that could be characterized as favourable (one that would, for example, allow easier access to crypto-assets or simplify the conditions for doing business in a given area). In comparison to other investment instruments, crypto-assets do not have deposit protection mechanisms, which is natural due to their decentralized nature and the absence of supervision by any institution (usually a central bank).[24] On the other hand, this regulation should not be harmful and should not create obstacles for individuals if they decide to buy or dispose of crypto-assets. Ultimately, it is their money, and they have to bear the associated risk of losing it.

The prohibitions regarding crypto-assets could cause alternative (speculative) ways of buying crypto-assets to be sought, but this does not solve the problem at all. As we have already stated earlier, such actions by an EU Member State could disrupt the realization of freedoms in the EU's single internal market and would thus be a clear contradiction of primary EU law. This would be due to the fact that a consensus regarding the prohibition of crypto-assets will most likely not be reached across the Member States, and therefore there would be a certain disadvantage for entities within the state that has enacted such a prohibition in its national legislation. Therefore, we do not see further trends in the development of the financial-legal regulation of crypto-assets (within the EU states) towards the adoption of prohibitive measures. For this reason, the EU tries rather to present an alternative to crypto-assets

24 With the arrival of the MiCA regulation, there will be changes in this area, as follows from the previous sections of this article.

to the public in the form of the digital euro. Central digital currencies were already mentioned in a general way in several explanatory reports to legal acts, thus creating space on the part of the EU institutions for the introduction of the digital euro. The digital euro is currently under investigation, which was supposed to last until 2023. It is highly unlikely that the earlier deadlines will be met. After this 'preparatory' phase, the digital euro should be introduced in real life. It was originally estimated that this step should occur in 2025, according to the European Central Bank, but given the current progress of preparatory and research work, we are very sceptical and rather assume that this moment will occur much later.

It is true that the digital euro is associated with a number of technological and also legal issues, which European institutions must deal with before the first digital euro is issued. One issue is the fundamental basis on which the digital euro is supposed to function (blockchain is also being considered), and there are also fundamental questions of a legal nature which come into consideration, such as the legal basis for the issuance of the digital euro (it will be different depending on its purpose, whether legal tender, a monetary policy instrument, an instrument made available to private entities as well as a settlement unit), a specific regulation within the framework of secondary legal acts, and others.

EU primary law and related legal acts create a sufficient legal basis and mandate for the Union's legislators to introduce the digital euro, except for certain reservations (see Hrabčák, 2021). Taking into account that this is a very dynamically developing area, it will be necessary to monitor how the legal-regulatory framework will develop, which will already specifically regulate the status and nature of the digital euro. But at the same time, we are also of the opinion that the digital euro (also taking into account its declared properties) will never be a sufficient alternative in relation to crypto-assets, and it is very naïve to think that the demand for crypto-assets from the public will decrease.

Conclusion

The law will never be able to foresee all situations, and there will always be certain facts to which it will have to react in time. It was no different even with the arrival of phenomena that define the industrial (digital) revolution 4.0, such as crypto-assets, digital services or the shared economy. Crypto-assets have an interdisciplinary nature, and at the legal level, questions arise here in the fields of tax law, financial law, civil law or other legal branches.

Within the framework of this article, the aim of which was to analyse the state of legal regulation of the crypto-assets market while pointing out problematic issues with *de lege ferenda* proposals, we focused primarily on the financial-legal aspects of crypto-assets or crypto-asset markets. Due to the breadth of the issue, we focused

primarily on the development of the regulation of crypto-asset markets, with a special emphasis on the MiCA regulation, and we also pointed out possible further directions of the legislation in this research area.

We have come to several conclusions, which we have formulated in relation to the raised hypotheses: firstly, the crypto-assets market needs to be regulated by legal acts of a European nature. A relatively long period has already passed since the moment when the first crypto-assets were introduced into real life. At the beginning, almost no attention was paid to this issue from the point of view of states and or of international institutions (especially in the EU). It was not until 2018 that the first legislative activities (with certain exceptions) that dealt with this problem were brought together, which was caused by the increase in capital invested in crypto-assets. These activities were primarily of a tax nature (in view of potential tax revenues for state budgets). Due to the fact that crypto-assets (and their use) have practically no geographical boundaries, we are of the opinion that more complex financial-legal regulation is necessary, and it is desirable to find a consensus at least at the European level, even if national regulation also has an invaluable place (conditions for the performance of business activities by commercial law regulations). We can therefore conclude that hypothesis H1 has been confirmed.

Secondly, the hypothesis that the adopted EU legal acts regulating the crypto-assets market are adequate and sufficient: as part of this paper, we examined the current financial-legal framework of the crypto-assets market formed by legal acts adopted at the European level. The recently adopted MiCA regulation , which is supposed to be the basic pillar of the financial-legal regulation of crypto-asset markets within the EU Member States, demanded attention. For other development trends, we focused mainly on EU regulation, because it is at this level that several changes can be expected in the future, either with the MiCA regulation or in connection with the regulation of other associated issues. In the areas we addressed (definition of crypto-assets, CASPs and supervision), we have identified several shortcomings that in practice can disrupt the effective application of the adopted legal act and the real feasibility of the introduced measures, which lead us to the conclusion that hypothesis H2 has not been confirmed.

The industrial (digital) revolution 4.0 is a very strong driving force that also affects the legal sphere. Therefore, it is more than clear that financial-legal regulation will always have particular shortcomings, which will need to be responded to in a certain way; however, the goal is not to adopt a perfect legal regulation, which is not even possible in reality. It will be sufficient if the competent authorities proceed with a real solution to this problem and that it is not just an 'external' effort to solve a problem that actually exists.

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