Taxonomy and Typology of Crypto-Assets: Approaches of International Organizations

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Abstract. Subject of research: current doctrinal and legal-technical issues of taxonomy and typology of crypto-assets by international organizations. In the paper the author analyzes approaches to taxonomy and typology of crypto-assets by standard-settings bodies such as IOSCO, FSB, FATF, IMF. Besides the global crypto-asset regulatory landscape, the author pays attention to the regulation of crypto-assets at the EU level, especially ESMA policy activities. Special attention is paid to legal regulation of investment tokens and regulatory approaches to a new type of intermediaries in the crypto-market such as crypto-asset trading platforms. The first and foremost issue for regulators to consider is the legal status of crypto-assets and, as a result, it is determined whether financial services rules are likely to apply and, if so, which piece of legislation provides the adequate level of protection to investors. Therefore, the author also concentrates on the legal qualification of crypto-assets. The results of the study of problematic issues of crypto-assets' regulation at the global level and in the EU form the ground for developing the position on the opportunities to adopt the international regulatory experience to facilitate the development of Russian civil law.

Keywords: Digital assets · Digital law · Standard-setting bodies · Virtual currencies · Token · Financial instrument

1 Introduction

Over the past two years, the world has come to understand that without global, even soft-legal regulation of new digital entities in the form of crypto assets, it is very difficult to track and minimize the risks associated with their circulation. The lack of a common understanding between global regulators creates a field for regulatory arbitration, as well as the emergence, maintenance and translation of systemic risk.

Today, we are experiencing a period of intense and productive reflection of the scientific community, global and national regulators, representatives of the crypto community over the problems of digitalization of the economy and the release and circulation of crypto assets.

The need for legal regulation of crypto assets at both the supranational and national levels is caused by such risks of their circulation as violation of financial integrity (financial integrity), protection of the rights of consumers and investors (investor and consumer protection), laundering of criminal proceeds and financing of terrorism (AML/CFT).

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This study focuses on summarizing the positions of global regulators serving the securities market, since global and national regulation of digital assets is shifting from cryptocurrencies (payment tokens) to securities tokens (investment tokens, asset tokens, digital securities) and crypto derivatives and smart contracts.

2 Methodology

When analyzing and generalizing the positions of global regulators in the context of the topic under discussion, the formal legal and comparative legal research methods were used. When discussing the problems of taxonomy and typology of digital assets, the following methods were used: historical and legal, the method of interpretation of legal norms, as well as some logical methods: analysis, synthesis, induction, deduction and analogy (traduction). Based on the data obtained, key conclusions are formulated that made it possible to reasonably apply the terms and establish the need for systemic improvement, primarily, of Russian legislation.

3 Results

3.1 Evolution of the Problems of International Regulation of Digital Assets in Documents of International Organizations

One of the first international regulators to issue an official document on virtual currencies back in 2014 was FATF. The same organization received an informal mandate to formulate a global approach to understanding the essence of a virtual asset and requirements for service providers of virtual assets from the Group of Twenty in 2028. And since June 2019, the updated FATF virtual assets guide [14], together with the new updated Recommendation 15 of its standard [13], are both reference points for other global standard-setting bodies and basic elements of the virtualization model for virtual assets at the national level.

The Financial Stability Board (hereinafter referred to as FSB), established in 2009, is focused on monitoring the vulnerabilities of the global financial system for the generation and translation of systemic risk. Acting as an aggregator of global financial standards and a conductor of G20 initiatives, the Financial Stability Board has compiled a compendium of 15 key global financial standards. In recent years, the focus of FSB has been on digitalization of the financial sector. Initially, the attention of FSB was drawn to fintech credit and possible risks to global financial stability from this type of activity [20, 21].

Today, FSB carries out important work on the aggregation of information collected at the level of supranational and national regulation of crypto assets, and its conceptualization, considering the initiatives and priorities of the Group of Twenty. In this regard, two documents issued by the Council should be mentioned: “Crypto-assets: Work underway, regulatory approaches and potential gaps” [23, 25], which summarizes the work of global standard setters in the cryptocurrency market, and “Crypto-assets regulators directory” [24], which summarizes information on national authorities

with competence in the crypto market. According to the FSB work programme for 2020 [26], the Council will pay special attention to the FinTech sector, global stablecoins, cross-border payment systems. However, the Council will continue to work to ensure the security of the derivatives market.

One of the international organizations, which is a key global standard-setter in the field of the securities market, is the International Organization of Securities Commissions (hereinafter – IOSCO). In November 2017, IOSCO made a statement in which it informed its member national regulators about the risks of initial coin offering (ICO) and analyzed various approaches to ICOs' members. After that, in January 2018, IOSCO issued a statement to the general public, which outlined its concerns regarding ICO [28]. The IOCCO's important initiatives are to create the ICO Consultation Network first, through which participants discuss events and share their concerns, and then the ICO Support Framework as an educational resource for participants to help deal with ICO risks in their own jurisdiction. One of the most important documents issued by IOSCO is the Consultation Report of May 2019 [29], in which the regulator examined the problems and risks associated with trading crypto assets on specialized platforms (Crypto-Asset Trading Platforms, CTPs).

Next, we pay attention to the development of cryptocurrency market regulation issues in the European Union, drawing on the experience of Switzerland, the UK and the USA.

The EU crypto market regulation, as in many other jurisdictions, started with warnings from supranational regulators about the risks rooted in crypto assets and actions for their sale, conversion, initial placement. Among the European financial services market regulators, there are the European Securities Market Supervision Authority (ESMA) and the European Banking Supervision Authority (EBA) which are actively involved in communication with market participants regarding the risks arising in the crypto asset trading and ICO. So, in November 2017, ESMA made a Statement [7] and informed investors about the potential threats contained in ICO and reminded the companies involved in ICO that their actions could be subject to current EU legislation. In February 2018, after a request from the European Commission, all three European supervisory authorities in the EU financial market (ESMA, EBA, EIOPA) issued a warning to investors and users about the risks associated with the purchase of crypto assets [9].

Entering a new level of reflection regarding not only risks, but also the innovative potential of the cryptocurrency market, ESMA [10] and EBA [6] published two Reports on January 9, 2019 assessing the regulatory coverage of crypto assets in the EU countries, as well as made recommendations for the European Commission regarding potential regulatory initiatives.

These reports emphasize, among other things, the need for a technologically neutral approach to the regulation of crypto assets, suitable for homogeneous activities and types of assets. It is also noted that most of the crypto assets are not regulated by the current EU legislation on financial services or there are gaps and shortcomings in the legislation, and in different EU countries crypto assets are classified differently as financial instruments, which creates problems for the control and regulation of this sector. ESMA recognizes that the existing regulatory framework for the functioning of the EU securities market is developed without considering the crypto assets market.

Thus, if crypto assets are considered as financial instruments of The Markets in Financial Instruments Directive (MiFID), then there are significant gaps and problems with the application of the regulatory framework to this sector.

One of the priorities in activities not only of ESMA, but also of other European financial regulators is “promoting supervisory convergence”, based on the principle of universal, template management of similar risks (“one-size fits all” approach), which should contribute to the creation of a single supervisory field in the EU in relation to both the securities market as a whole and the crypto market, as well as its parts.

Currently, only part of the crypto assets will qualify as financial instruments in the understanding of MiFID. Therefore, many crypto assets will not be subject to the provisions of the EU financial services legislation. According to ESMA, this means that there is virtually no protection for investors and consumers from the risks of fraud, cyber-attacks, money laundering and market manipulation.

As for the European Commission, it gradually came to understand the importance of the innovative potential of new digital technologies, including blockchain technology, which was manifested in several documents of a strategic and conceptual nature. So, first, attention should be paid to the FinTech Action Plan approved by the European Commission in March 2018 [11]. In it, the European Commission indicates that at the EU level, some measures to counter the risks of virtual currency circulation have already been taken (5AMLD, GDPR, statements by ESAs, etc.). However, new financial services do not always fully fall within the existing EU regulatory framework; moreover, the existing national regulation in the EU countries is incompatible with each other. The Commission is in favor of assessing the applicability of the current EU regulatory framework with respect to ICOs and, more broadly, the turnover of crypto assets. The Commission advocates a reasonable balance between measures to minimize the risks associated with crypto assets and the use of their high potential for the development of the EU economy. This is especially true for blockchain technology in general.

The development of these ideas took place in the blockchain report published by the European Commission’s Joint Research Center (JRC) in July 2019 [12]. The report is optimistic about the transformational potential of distributed ledger technology. The document notes a significant influx of investment in the industry. However, the position regarding the prospects of cryptocurrencies is more restrained.

3.2 Key Taxonomy

The main taxonomic issues in the field of legal regulation of digital technologies are concentrated around the basic product of distributed registry technology – the “digital asset”/“crypto asset” in its different interpretation. The vocabulary of international and national financial regulators migrated from the concepts of “cryptocurrency” and “virtual currency” to a wider class – “assets” (“digital”, “crypto”, “virtual”). The Cambridge Center for Alternative Finance draws attention to this trend in its report [2].

The concept of “asset” can be understood in the categories of domestic civil law and, in particular, in the context of “objects of civil rights”. An increasing number of researchers and regulators (for example, CFTCs) agree that they are dealing with a “new asset active” [3]. This asset may be tangible or intangible, representing a thing or

property right. It can be recognized that the concepts of "digital asset" and "crypto-active" are used today as identical, since the digital form of the existence of such an asset is based on the technology of a distributed registry, such as blockchain.

A narrower concept in relation to the concepts of digital asset/crypto-asset is the concept of token, which departs from the concept of coin. The term "crypto assets" is used as the base term by the Council on Financial Stability and EU regulators [22]. Having abandoned the term "virtual currencies", the term "virtual assets", as already mentioned, now it is used by FATF. The term "digital assets" is popular in the vocabulary of US regulators and professional communities.

First, you need to pay attention to the ratio of the concepts of "digital asset", "crypto-active" and "token". According to the well-established opinion of the crypto community, they are correlated in volume from a wider to a narrower one. This understanding is most detailed, although somewhat outdated, reflected in one of the early ESMA documents [8]. It uses the term "crypto assets" as a generic term for cryptocurrencies, virtual currencies, virtual assets, and digital tokens. The term "token" is declared more neutral, since it does not carry the claim to the legitimacy inherent in the "currency". It is a broad term that encompasses various virtual assets, and which can be defined by contrasting its assets based on accounts. The abbreviation ICO is used in the ESMA document for the initial offer of any crypto asset. Thus, the concept of "crypto assets" is the broadest for ECMA in this document, the concept of "virtual currency" is narrower, the concept of "cryptocurrency" is even narrower.

In a later Report [10], ESMA uses the term "crypto assets" as a base term for itself, more clearly reducing it to distributed registry technology: "crypto asset" is a type of private asset that is mainly based on cryptography and distributed ledger technology (DLT) or similar technology as part of their perceived or inherent value. The regulator stipulates that unless otherwise specified, ESMA uses this term to mean both the so-called "virtual currencies" and "digital tokens".

At the same time, the "digital token" here is any digital representation of interest, which may be cost, the right to receive benefits or perform certain functions, or may not have a specific purpose for use. Moreover, it seems that in the ESMA taxonomy the adjective "digital" is redundant, tautological. It is not supported by any major national or other supranational regulators.

The British Crypto Asset Task Force, consisting of the Treasury, the Financial Conduct Authority (FCA) and the Bank of England, refers to "crypto assets" as a cryptographically secure digital representation of value or obligations created using distributed ledger technology that can be transferred, stored or traded in electronic format. FATF uses the term "virtual asset" to refer to a digital representation of value that can be traded digitally and can be used for payment or investment purposes, including a medium of exchange, unit of account and/or storage of value.

The most difficult is taxonomy of American regulators. American regulators and the crypto community are very pluralistic about naming new digital entities. For example, the terms "convertible virtual currencies" (FinCEN terminology), "virtual currencies" (IRS and CFTC terminology), "digital assets" (SEC and primarily American expert community terminology), and "cryptocurrency" (IRS terminology) are used in parallel. However, in the 2019 Joint Document, CFTC, FinCEN and SEC use the most universal term "digital assets" in the American expert environment. According to this document,

digital assets include instruments that can be qualified in accordance with the current legislation of the United States as securities, commodities or security-or commodity-based instruments, such as futures or swaps [32].

This definition for the American cryptocurrency market should be recognized as consensus, basic. It should be noted that American regulators use an approach focused on the economic meaning and purpose of a financial instrument, regardless of its name ("label").

3.3 Actual Questions of Typology of Tokens

Typology of tokens allows regulators to customize/fine-tune legal regulation tools to the specifics of crypto assets and the types of activities associated with crypto assets. First, it is about determining the features of the civil law regime of tokens-securities and service tokens [4, 30].

One of the main criteria for classifying tokens is functional. In this regard, the basic classification of tokens from international and national regulators is their division into 3 categories: exchange or payment tokens, they are also cryptocurrencies; utility tokens; security tokens. This classification is adhered to by the British regulators FCA [15], HMRC [27], European Union regulators EBA [6], ESMA [10].

At the same time, quite unexpectedly, in its final guide to crypto assets [16], the UK Financial Conduct Authority (FCA) introduces, along with the aforementioned, "electronic money tokens", allowing itself a mixture of fundamentally different in nature types of money: electronic and digital.

The Swiss regulator FINMA classifies tokens with small nuances: along with payment tokens and utility tokens, it allocates asset tokens.

Some American authors offer a wider, alternative classification of digital assets: "pure cryptocurrencies" – bitcoin, lightcoin (decentralized storage of value); privacy-focused coins – monero, Zcash; general-purpose digital currencies, platform currencies, (platform) – Etherium, NEO, RavenCoin. It is the latter that allow you to create new digital assets called service tokens and security tokens. American experts are conducting a deeper classification of tokens. So, in their report, experts from the U.S. Digital Chamber of Commerce draw attention to combinations of different types of tokens that are carried out in a single transaction. In this regard, they distinguish three specific types of tokens: placeholder tokens, mutable tokens, and dividend-paying tokens [31, 34].

A separate legal issue is hybrid tokens. For example, in the United States, for a security token, which is also a payment token, regulators and courts may provide for various types of legal regulation.

The American Bar Association draws attention to hybrid tokens, citing service tokens as an example, which can act simultaneously as a means of payment (for example, Ether) [1].

There are theoretical questions regarding payment tokens, which experts divide into functioning in account-based payment systems and token-based payment systems. This is especially evident in the implementation of "central bank digital currencies" (CBDC).

A separate legal problem is security tokens: first, the issue is being resolved regarding whether to extend existing legislation to a new class of objects or to accept new ones. EBA and ECMA in their documents refer to these tokens as "investment-type crypto-assets", British and American regulators as "security tokens", FINMA as "asset tokens". The documents of the American SEC and FINRA also mention "digital asset securities" as products of tokenization of existing securities. A separate group of assets is occupied by crypto derivatives, which we consider below.

European regulators EBA, ESMA describe the "investment-type crypto asset" as a type of crypto asset similar to a financial instrument. From FINMA's perspective, "asset tokens" are debt instruments or equity claims on the issuer. However, they can be both digital and digital.

Based on this aspect, today one of the most pressing issues requiring scientific reflection and legal registration is the issue of asset tokenization. First, two types of tokens can receive a different legal regime: primary digital assets, i.e. assets that exist in digital form only within the boundaries of the information system creating them), as well as tokens issued by tokenization of existing assets, including rights.

According to the FINMA definition, asset tokens representing intangible assets are digital assets because they exist exclusively in a computer system. Asset tokens that allow you to trade physical assets on the blockchain are digital representations of physical assets. Therefore, they are digitized assets [18].

The division of tokens into digital assets and digitized assets is supported in large part by the American crypto community. So, experts indicate that a "digital asset" is an electronic record in which an individual has a right or interest. A term does not include an underlying asset or liability, unless the asset or liability is an electronic record. That is, the digital asset is just a code. In this case, the "digitized asset" is the asset (which may be a security or a physical asset), the ownership of which is presented in an electronic record. An example of the digitized asset is an electronic record of ownership of real estate held in the distributed registry [1]. In this regard, the focus of both the market and regulators is gradually shifting from the Initial Coin Offering (ICO) model to the Security Token Offering (STO) model.

According to widespread belief, STO is the next evolutionary step after the boom Initial Coin Offering (ICO), which defines the vector of industry development towards a more regulated and transparent market. A distinctive feature of STO is that this type of token placement is supposed to be in full compliance with the requirements of the securities legislation. This should provide more protection of investor rights and lower regulatory risks for token issuers. In addition, STOs are guided by a different target audience – only professional (accredited) investors can participate in such a placement.

Another current focus of attention of regulators and the crypto community is derivatives of securities based on crypto assets, or crypto derivatives. In this case, the main risk stimulating the development of regulations in this area is the risk of violation of the rights of consumers and investors.

So, in its Consultative Document [15], published on July 3, 2019, the FCA announced that it will begin a consultation process to ban the sale, advertising and distribution to retail consumers of derivatives and exchange-traded bonds (ETNs) that mention certain types of crypto assets. The American regulator CFTC allows listing new virtual currency derivatives contract and details their regulation [3]. In the

document, the regulator indicates that it sees it necessary to promote innovations arising from virtual assets. However, it intends to do so within the framework of the basic principles of trade professed by the Commission.

3.4 The Issue of Adjustable Perimeter

The key issue of typology of tokens according to their functional purpose is the solution of questions: a) whether the tokens fall into the adjustable perimeter; b) whether it is necessary to create new legislation for them or to apply the existing one. For regulators, it is important whether a new tool is included under the adjustable perimeter. These issues are decided by US SEC and CFTC in relation to the Securities Law (SEA) and the Commodity Exchange Act (CEA), EU regulators – in relation to MiFID II, other directives and regulations. The legal regime of crypto assets is the main problematic issue, since "crypto assets" are not defined in the EU legal acts on securities. Clarity in legal regulation is required both at the EU level and at the level of individual states.

Currently, ESMA considers the provisions of MiFID II as the main document for crypto assets. In the event that cryptocurrencies are regarded as financial instruments, ESMA indicates that the following legal provisions apply: Prospectus Regulation (PR3); Transparency Directive; The Market in Financial Instruments Directive framework (MiFID II/MiFIR); Market Abuse Regulation (MAR); Short Selling Regulation; The Central Securities Depositories Regulation (CSDR); Settlement Finality Directive; Alternative Investment Fund Managers Directive (AIFMD); Investor-compensation Schemes Directive; Anti-Money Laundering Directive V (AMLD5). It is expected that the EMIR and GDPR directives will also be adapted to the cryptocurrency market.

The situation is similar in the UK. So, in the already mentioned FCA Guide, it is explained that the regulated perimeter includes: Security tokens, which are regulated for the reason that these tokens provide rights and obligations similar to those specified in the Regulated Activities Order, RAO; E-money tokens, which meet the definition of electronic money according to the UK Electronic Money Regulations; These tokens include some form of stablecoins. Outside the adjustable perimeter are Exchange tokens, Service tokens. FCA notes that, however, some activities that use unregulated tokens can be regulated, for example, when they are used to facilitate regulated payments. In addition, the Anti-Money Laundering Directive V (AMLD5) introduces AML/CFT for exchange tokens.

Although the FCA Guide is more a political statement in form, market participants should use it as a basis for understanding how FCA will treat certain crypto assets. The FCA's position in the Guide, while not binding, may be a convincing factor in litigation.

4 Discussion

As you know, in the first of the “digital” laws adopted in Russia, namely, Law 34-FL [17], by applying the civil law debate concept “right to right” in Article 128 of the Civil Code of the Russian Federation, the concept of “digital rights” was introduced as a new object of civil rights, attributed by the legislator – along with cashless funds and non-documentary securities – to property rights, and disclosed in the new article 141.1 as follows: “Obligations specified in such capacity in the law are recognized as digital rights and other rights, the contents and conditions of which are determined in accordance with the rules of the information system that meets the statutory criteria” [33].

At the same time, “digital financial assets”, as the second of the basic “digital” concepts, are not conceived by the legislator, as could be assumed, the object of digital rights, but they are defined in paragraph 2 of Art. 1 of the Draft Federal Law “On Digital Financial Assets” [5]: “Digital rights are recognized as digital financial assets ….”, which poses serious challenges for lawyers to logically interpret the laws envisaged for adoption.

In this regard, we need a complex taxonomic structure, taken as a basis for creating a domestic model of legalization of a new class of assets. If there were a more thorough study of international and foreign experience in legalization of new digital entities in Art. 128 of the Civil Code of the Russian Federation, than “digital rights” could sound “digital assets” (or “digital financial assets”). The same as “electronic rights” are not applied to cashless funds and non-documentary securities in Article 128 of the Civil Code of the Russian Federation [33].

In August 2019, the second package of “digital” laws was adopted – the so-called “The Law on Crowdfunding” [16], which introduced the concept of “utilitarian digital rights”, which includes: the right to demand the transfer of things; the right to demand the transfer of exclusive rights to the results of intellectual activity and (or) the rights to use the results of intellectual activity; the right to demand the performance of work and (or) the provision of services. It should be noted that this law does not provide for the possibility of investing through cryptocurrencies. In addition, the law does not allow the exercise of utilitarian digital rights outside of Russian specialized sites.

The concept of “utilitarian digital rights” is not supported by the vocabulary of the new “digital” articles of the Civil Code of the Russian Federation, as well as the bill on digital financial assets, which will raise the problem of the correlation of basic concepts and the construction of a “taxonomic tree” of new digital legislation.

In October 2019, the Ministry of Finance proposed dividing “cryptocurrencies” into three types: technical tokens, virtual assets and digital financial assets [19]. The Deputy Minister of Finance of the Russian Federation A. Moiseev explained that tokens are needed exclusively for the functioning of certain systems; “virtual assets” are bitcoin and similar tokens; “digital financial assets” are tokens that appear as a result of ICOs.

Considering the proposal of the Ministry of Finance through the prism of the international and foreign regulatory vocabulary considered above, we can assume that in this classification, the Ministry of Finance means “utility tokens”, “virtual assets” – payment tokens”, and “digital financial assets” – “security tokens”. It should also be said that this classification is problematic with the concepts of “utilitarian digital rights”

given in the Crowdfunding Law, which, of course, does not contribute to the consistency of the legislation regulating the cryptocurrency market. In addition, this position does not correspond to the definition of "virtual assets" by FATF, because the latter - being wide in scope – includes all three types of tokens known to the world (payment, service, token-securities), while in the position of the Ministry of Finance "virtual assets" – and this is nonsense – turn out to be a kind of "cryptocurrency".

5 Conclusion

Thus, we can conclude that conceptualization and legalization of the basic elements of the crypto market regulation - taxonomy and typology of crypto assets - has reached a new level of maturity and formal certainty. Global regulators infiltrate their standards with cryptographic issues, publish specialized guidelines, form a common understanding and a uniform legal field. Soon, one should expect a high level of perception of the approaches of global regulators by national legal systems. At the same time, transformation of civil legislation and modernization of civilistic doctrine will play a significant role in this process. It seems that it is advisable for the domestic legislator to pay serious attention to international approaches and foreign experience in conceptualization and legalization of crypto assets when finalizing/adopting "digital" legislation.

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