

ECONOMIC AND LEGAL PRINCIPLES OF INTRODUCING VIRTUAL ASSETS INTO CIVIL CIRCULATION IN THE CONCEPT OF REFORMING CIVIL LEGISLATION IN UKRAINE

Semen Reznichenko¹, Anna Ilina², Anatoly Nikitin³

Abstract. The study *focuses* on the conceptual, theoretical, empirical and methodological foundations of economic and legal principles for introducing virtual assets into civil circulation, as part of the reform of civil legislation in Ukraine. *Methodology.* General and special methods of cognition were employed throughout the study. The dialectical method was employed to differentiate the nature and varieties of virtual and digital assets in terms of their economic and legal basis. The analysis identified the characteristic features of virtual assets, digital things, and other digital objects in view of current and prospective Ukrainian civil legislation and scientific research of a legal and economic nature. The synthesis created the prerequisites for generalizing the characteristic features of digital objects in their diversity, taking into account the classical approach to determining the nature of civil rights and an innovative approach to their determination. The formal-legal method provided an opportunity to correctly interpret the content of international and Ukrainian current and prospective legislation and judicial practice, which determine the legal regime of digital objects. The *purpose* of the article is to determine the economic and legal principles of introducing virtual assets into civil circulation in the concept of reforming civil legislation in Ukraine. The *findings* of the study demonstrated that, within the context of the information era, society was confronted with the challenge of formulating a response to numerous challenges of diverse origins. Among these challenges, the introduction of digital objects into civil circulation emerged as a primary concern. The present study established the foundations for the delineation of prospective enhancements to civil legislation with regard to the legal regulation of social relations concerning digital objects of various etymologies. *Conclusion.* It is argued that virtual assets in modern society effectively reproduce the achievements of the information gap of its existence, a proposition that is fully consistent with the formational approach to the characterisation of the development of humanity. It has been demonstrated that the influence of information, and its digital form of presentation, exerts a significant impact on macroeconomic indicators of societal and state development. The following global trends in the digitalisation of economies and society have been noted: the development of entrepreneurial innovations; increased production productivity; intensification of the labour market; activation of globalisation processes; global and regional economic growth; improvement of various aspects of societal, business and state life processes; and the creation of an optimal space for satisfying private interests and forming a public-private partnership compromise mechanism. Analysing the digitalisation of all spheres of social life as a process of introducing information and telecommunications products into the economy has revealed the formation of a set of measures by the state and society in response to the needs of the information age in the development of civilisation. Alongside organisational, socio-economic, technological, material and technical, financial and resource measures, it has been established that legal instruments are of the greatest importance in this context. Among these legal instruments, the mechanisms for determining the legal regime of digital objects are of primary importance. It is noted that the introduction of digital (virtual) assets into the legal field is primarily socio-economically justified and is driven by the need to establish public order and

¹ Odesa State University of Internal Affairs, Ukraine (*corresponding author*)

E-mail: srez@ukr.net

ORCID: <https://orcid.org/0000-0003-2311-349X>

² Odesa State University of Internal Affairs, Ukraine

E-mail: muffinka0137@gmail.com

ORCID: <https://orcid.org/0000-0001-6401-6990>

³ Odesa State University of Internal Affairs, Ukraine

E-mail: ugsbeplumvs@gmail.com

ORCID: <https://orcid.org/0000-0002-1376-6764>



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law in the area of implementing the content of social relations, in which various digital products act as objects. The legal nature of these digital objects is determined by comparing them with the categories of "digital good", "digital thing" and "digital environment". The standardisation of the specified terms in the current and prospective civil legislation of Ukraine is analysed, which made it possible to note the problems of legal regulation of private relations, the objects of which are digital goods. The approach of decomposing the legal nature of a digital good in the context of its perception as program code – that is, in a purely technical (logical-mathematical) sense with a digital basis – or as a property or non-property good (e.g., cryptocurrency, NFTs, digitised drawings on websites, digital signatures, etc.) that satisfies the relevant consumer interests, is significant for private law science. The discussion on determining the place of digital objects among other goods within the scope of civil law is supported, taking into account the established classification of such goods as tangible or intangible, property or non-property, and real or obligatory. Proposals are made to supplement the existing draft of the updated Civil Code of Ukraine with relevant provisions.

Keywords: virtual assets, digital assets, economic principles, legal principles, digital things, digital goods, digital objects, civil legislation update, macroeconomic indicators, index, civil turnover.

JEL Classification: E22, K11, K12, K15, L15

1. Introduction

The global community has been confronted with the challenge of formulating a response to the challenges posed by the information age, which have their origins in various factors. One such challenge is the creation and implementation in all spheres of life of objects that are created using digital technologies or that themselves represent a digital reflection in the economic turnover of a complex of property and non-property goods.

The digital economy has assumed a position of prominence within the global socio-economic and legal landscape, catering to the prevailing demands of contemporary society. This development is particularly salient from the perspectives of both private individuals and public administration bodies. Statistical data pertaining to the evolution of the digital economy within the European Union underscores the prioritization of this issue by international associations, wherein the indicated indicators are instrumental in determining the well-being of the population and serve as a pivotal component in the formulation of the Digital Economy and Society Index (DESI) (2022).

The global penetration of digital technologies into all spheres of life has caused relevant changes in positive law, reflected in international and national legislation at the appropriate level. International conventions and treaties have established a legal framework for the distribution of digital products as objects of certain social relations, outlining the fundamental principles of legal status in the context of digitalisation.

The above processes have provoked irreversible phenomena in the socio-economic and legal field of each modern country. Ukraine also did not remain aloof from the above, which is reflected in a number of legislative acts, including the Laws of Ukraine "On Stimulating the Development of the Digital Economy in Ukraine" (The Law of Ukraine "On Stimulating the

Development of the Digital Economy in Ukraine") and "On Virtual Assets" (The Law of Ukraine "On Virtual Assets").

In the contemporary context, Ukraine is progressing towards the subsequent phase of reforming private law, the principal provisions of which are delineated in the Concept of updating the Civil Code of Ukraine (PRAVO.ua portal, 2020). It delineates the primary substantive and structural transformations of civil legislation, which comprehensively reflect the responses of the Ukrainian legislator to contemporary challenges, including in the domain of legal regulation of digital assets. In the course of developing the concept of updating the Civil Code of Ukraine, the entire series of books pertaining to the updated Code has been prepared and submitted for public discussion. This process serves as a foundation for economic stability and growth of the Ukrainian state and society.

The economic and legal foundations for the introduction of virtual assets into civil circulation have been examined by numerous scholars. In particular, several studies have addressed issues of a predominantly economic nature, including the quantitative and qualitative characteristics of the digital economy (Popova, 2025); global trends in the digitalisation of economies and societies (Zaichenko, 2023); the relationship between the incorporation of digital objects into economic circulation and macroeconomic indicators of societal development (Makedon, 2022); the conceptualisation of economic digitalisation in the context of implementing the results of creative and intellectual activity (Khaustov, 2020); comparative perspectives on the digitalisation of international and national economies (Khaustova, Kriachko, & Bondarenko, 2024); trends in the development of the digital economy in Ukraine (Kotelevets, 2022); and the impact of digital transformation on societal development and the adaptation of various spheres

of life to contemporary demands (Koval & Lyshak, 2024).

The legal nature of digital objects has been the subject of study by representatives of various branches of law, with the vast majority of these scholars being private law experts. The following problems have been addressed: distinguishing the characteristic features of digital objects of civil rights (Fedosenko, 2025); distinguishing digital things and other digital goods from the objects of civil rights (Michurin, 2025); the nature of digital assets in civil law (Batsutsa, 2022); the legal regime of digital things in the context of the Ukrainian concept of property rights (Slipchenko, Slipchenko, 2024); and virtual assets as digital things (Nekit, 2023).

In the context of updating civil legislation to align it with international and European standards, the following issues are being considered: the legal nature and classification of virtual assets (Tsukan, 2023); the differentiation and combination of virtual assets (Savchenko, 2024); the place of digital assets within the scope of civil rights (Zozuliak, Maksymiv, 2024); the general principles for updating legal regulations governing civil legal relations (Makovii, Kuchuk, Filianina, 2023); and the perception of virtual assets as a novel subject of property rights (Davydova, Zhurylo, Tserkovna, Herasymchuk, Tokareva, 2022).

The above studies lay the theoretical groundwork for examining the economic and legal implications of introducing virtual assets into civil circulation within the context of reforming civil legislation in Ukraine, a topic that this work focuses on.

2. Economic Principles of Introducing Virtual Assets into Civil Circulation

In contemporary society, virtual assets serve to reproduce the information deficit that characterises human existence, thereby aligning with the formational approach to the study of human development. Indeed, the specified approach is predicated on economic contradictions between productive forces (technology, labour) on the one hand and production relations (property and its distribution) on the other, where information resources and relevant forms of their embodiment find their place and influence the mechanism of the emergence and development of the specified processes.

The impact of information, and the digital form of its presentation, is of great importance to macroeconomic indicators of societal and state development. The mentioned DESI index, using the example of the economies of European countries, reproduces complex indicators of the effectiveness of digital technologies in the structure of the economy of these states and reconciles them with the level of development of society in all its components, where the determining

parameters are: 1) technical (the degree of access to broadband Internet and the quality of its service); 2) sociological (level of digital skills of the population, level of investment in digital education); 3) communicative (multidirectionality of Internet use in public life); 4) introduction of digital technologies into the public and private spheres (use in business and public services); 5) implementation of the content of administrative services using digital technologies (Hubarieva, Buka, Bielikova, 2023).

In addition to the DESI index, the ICT Development Index (IDI) (2023), the E-Government Development Index (EGDI) (2022), the Global Cybersecurity Index (GCI) (2025) and the Open Data Maturity Index (2025) are relevant for reflecting the impact of digitalisation on economic processes. The IDI index serves as an indicator of the development of information and communication technologies, reflecting the level of communication among various sectors of the economy. This, in turn, exerts a direct influence on the primary macroeconomic indicators of societal development. Consequently, there is a correlative impact of digital tools and technologies on the well-being of the population and the individual, as well as on the acceleration of all processes in an organic combination of public and private interests. The EGDI index is a composite index that effectively combines such parameters of societal development and the introduction of digital technologies as the provision of online services, communication capabilities within various social segments, and human potential. In the context of the given indicator of the digitalisation of the state and society, the tools of operational solutions to problems in the provision of administrative services, the administration of certain spheres of life of a specific person and community, the widest possible coverage of the population with public services and the creation of preconditions for the combination of qualitative and quantitative components of the latter are significant for the population. In such circumstances, the focus is on the acceleration and enhancement of public-private partnerships, which consequently leads to the improvement of this domain of public life.

The global spread of digital tools is a positive development for society. However, it also creates preconditions for certain negative phenomena to manifest, particularly dangerous threats of a relevant nature. In response, humanity has developed a set of cybersecurity measures aimed at minimising these threats, which, in quantitative and qualitative terms, form the GCI index. GCI is a global indicator of cybersecurity threats, which reproduces the signs of digital products being introduced into relevant areas of the economy and public life on a global scale.

The Open Data Maturity Index directly reflects the penetration of digital products into all segments

of society. It shows how open data is currently being developed, used and distributed among all parts of the global economy. At the same time, the Open Data Maturity structure considers the level of implementation of digital tools in both the static and dynamic planes, where information is processed and used alongside digital tools.

In practice and scientific research, the indicators of the introduction of digital tools into segments of society and the economy are significantly supplemented and interpreted, taking into account the needs of humanity and the achievement of the main goal: reflecting the processes of the digitalisation of social existence. This will enable a unified approach to be developed for assessing the qualitative and quantitative characteristics of this phenomenon, as well as an effective digital response mechanism to requests of a socio-economic, organisational and legal nature from individuals and society.

Thus, in the context of ranking the digitalisation of the economy, the formation and implementation of tools is proposed to ensure the monitoring of this phenomenon in certain economic sectors (banking, insurance, healthcare and education) at regional and national levels, with subsequent integration into the relevant global index. This would also cover the introduction of specific digital products, such as artificial intelligence, blockchain and the Internet of Things, into the national, regional and global economy (Popova, 2025).

In the context of global trends in the digitalisation of economies and society, it is imperative to acknowledge the following observations: the emergence of entrepreneurial innovations, the augmentation of production productivity, the intensification of the labour market, the activation of globalisation processes, the promotion of global and regional economic growth, and the enhancement of various facets of societal, business, and state life (Zaichenko, 2023). In addition to this, it is essential to establish an optimal space for addressing private interests and to develop a compromise mechanism for public-private partnerships, particularly in contexts where human rights and freedoms are paramount.

In order to establish correlative relationships between the introduction of digital objects into economic turnover and the macroeconomic indicators of societal development, it is necessary to identify the stages of the phenomenon of integrating information products into social life. Digitalisation is the logical extension of the previous two periods: automation and informatics. Concurrently, the advent of digitalisation has engendered a paradigm shift within the business environment, empowering enterprises to harness a substantial proportion of the nation's IT infrastructure and informational resources, in conjunction with intellectual technologies, for the purpose of processing

information. It is evident from the aforementioned conditions that the digitalisation of the economy is contingent upon the tools available to the business environment for accessing a substantial quantity of digital data in both static and dynamic contexts. Consequently, this ensures an enhancement in productivity, economic efficiency, and the overall growth of macroeconomic indicators (Makedon, 2022).

The approach according to which the concept of the digital economy includes three areas of implementation – doing business, supporting communications and providing services – is no less valuable for determining the place of digitalisation in the modern economy (Khaustov, 2020). In summary, the focus of this study is the enhancement of the process of administering entrepreneurial activity within the context of the globalised world economy. This enhancement exerts a direct influence on the relevant macroeconomic indicators of human development, regional formations and specific countries. Communication has been identified as the defining characteristic of societal development, particularly in the context of the information civilisation. Consequently, the reformatting of this sphere has been shown to lead to a geometric progression in the qualitative indicators of economic segments. The development of the private or public service sector exerts a functional impact on the general state of the economy and its segmental components. Therefore, it is appropriately noted among the parameters that determine the relationship between the process of digitalization of the economy and social life. As previously mentioned, all of the aforementioned elements undergo a particular transformation when considering the commercialisation of intellectual property objects. This is achieved by the introduction of digital products into specific economic sectors of modern society. This distinguishes this stage of the development of the information society from others.

A comparison of the digitalisation process of the international and Ukrainian economies indicates an average level of digitalisation of the latter and the presence of significant potential for its implementation in the near future. Promising areas for the implementation of digital products in Ukraine include the following: electronic services in the context of convenience and prevalence among a wide range of users; investing in education and training to increase the digital literacy of the population; creating favourable conditions for the development of new technologies; and introducing such technologies into the widest possible range of segments of the country's economy (Khaustova, Kriachko, Bondarenko, 2024).

In the context of the digital economy in Ukraine, it is imperative to emphasise the following trends: the assurance of high-quality Internet coverage, the provision of professional training in information and

telecommunications technologies, the establishment of innovative digital infrastructure, the development of digital services, the enhancement of business entities' capacity to master and implement information technologies, the generation of novel digital products, and the formation of a responsive response to consumer needs using digital tools (Kotelevets, 2022).

The impact of digital transformation on societal development and the adaptation of all spheres of life to current needs creates the prerequisites for consolidating all economic sectors and allocating resources to constructing an optimal model of state and societal public administration, as well as economic activity administration. This comprehensive approach meets public and private interests while ensuring the innovative development of any country's economy and its integration into the global information society economy (Koval, Lyshak, 2024).

The analysis of the digitalisation of all spheres of social life as a process of introducing information and telecommunications products into the economy indicates the formation of a set of measures by the state and society in response to the needs of the information age in the development of civilisation. Alongside organisational, socio-economic, technological, logistical, financial and resource measures, legal instruments acquire the greatest importance in this context. Of particular importance are the mechanisms for determining the legal regime of digital objects, indicating the direction of further research within the framework of this work.

3. Introduction of Virtual Assets into Civil Circulation in the Concept of Reforming Civil Legislation in Ukraine

The introduction of digital (virtual) assets into the legal field is, first and foremost, justified on socio-economic grounds. It is driven by the need to determine public law and order in the sphere of implementing the content of social relations, where various digital products (things, services, results of creative and intellectual activity, etc.) are the objects.

The Law of Ukraine "On Virtual Assets" is a reflection of the legal regime of virtual assets, which are defined as intangible goods that are objects of civil rights, have value and are expressed by a set of data in electronic form. This regulatory legal act formally recognises the fundamental principles governing the exchange of virtual assets as a distinct set of legal relations, encompassing interactions among participants in the virtual assets market and their respective interactions with state authorities. The aforementioned definition could be expanded to encompass all public administrations, not only the state, within the ambit of participants in the aforementioned relations. This is associated with the possibility of providing

public services through digital tools and other entities.

In addition to the aforementioned legislation, the Law of Ukraine "On Stimulating the Development of the Digital Economy in Ukraine" establishes the framework for conducting transactions with digital and non-digital objects in the digital environment through the utilisation of appropriate digital technologies. Concurrently, the unification of all digital products involved in the implementation of the content of public relations using digital tools or in relation to digital objects should be reflected in the fundamental law of private law – the Civil Code of Ukraine (The Civil Code of Ukraine as amended on December 1, 2025, No. 435-IV). The current version of this regulation, as set out in the Civil Code of Ukraine, lacks systematic structure and could be improved by streamlining the process.

Consequently, the prevailing methodology for differentiating between objects as either property or non-property, tangible or intangible, tends to distort the nature of digital objects. In accordance with the Law of Ukraine "On Virtual Assets", digital objects are classified as intangible assets, resulting in specific legal ramifications. Concurrently, Part 2 of Article 177 of the Civil Code of Ukraine establishes the categorisation of all objects as either material or digital, that is, non-digital. However, Chapter 15 of the same regulatory legal act refers to intangible objects as the results of intellectual, creative activity, information, personal non-property goods, and speaks of digital objects only in the context of the electronic display of information (any information and/or data). Furthermore, Article 1791 of the Civil Code of Ukraine introduces the concept of a digital thing, defined as a good that is created and exists exclusively in a digital environment and has property value. Concurrently, within the digital realm, virtual assets, digital content and other commodities are recognised, to which the aforementioned provisions pertain, that is, creation and existence in the digital environment. It is evident that digital entities are regarded as objects in the physical realm, as delineated in Article 179 of the Civil Code of Ukraine. As demonstrated above, the definition under consideration permits the existence of the corresponding object of civil rights in two forms: firstly, in the digital environment alone, and secondly, in both the material and digital environments. Such contradictory regulation of the nature of digital objects and their types in Ukrainian civil legislation contradicts the principle of legal certainty, which the European Court of Human Rights interprets as part of the right to a fair trial, as set out in Art. 6 of the European Convention on Human Rights and Fundamental Freedoms (Denysova, Blaga, Makovii & Kaliuzhna, 2022).

The following considerations are available in science on this subject. In comparison with traditional legal

categories as objects of property rights and obligations, it is proposed to distinguish the characteristic features of digital assets. Of particular note in this regard are crypto currencies, tokens and NFTs. The necessity to ascertain the legal status of the latter is substantiated by the imperative to enhance law enforcement and to safeguard the rights of participants in pertinent social relations. It is noteworthy that the prevailing opinion is that the legal framework for digital assets should be of a complex origin, taking into account legal, economic and technological aspects (Fedosenko, 2025).

For the science of private law, it is significant to consider the approach that splits the legal nature of a digital good in the context of its perception as software code, i.e., in a purely technical (logical-mathematical) sense with a digital basis. Alternatively, it can be considered as a property or personal non-property good, such as cryptocurrency, NFTs, digitised drawings on websites and digital signatures, which satisfy the relevant interests of consumers. The above justifies the need for a definition of a digital good, which is a special case of a digital thing. Such an object of civil rights is characterised by the following features: it is a product of information technology; it is intangible; it is determined to belong to someone through absolute access rights, which are determined using technical tools such as logins and passwords; it can be traded or be directly related to the person who carries it (Michurin, 2025). Indeed, the delineation between objects of civil rights, digital things and other digital goods in the aforementioned interpretation is entirely congruent with contemporary needs; however, it gives rise to a number of inquiries regarding their nature, particularly in terms of their categorisation within the framework of existing classifications of goods as objects of civil law.

To a certain extent, the aforementioned classification, which is supported by the aforementioned evidence, indicates a prioritisation of the consumer nature of digital objects. This is consistent with their information-technological and economic-legal nature as opposed to the features of creation, storage or distribution. This approach constitutes the foundation for the recognition of digital assets, such as cryptocurrency and tokenized assets (e.g., NFTs), as economic entities subject to accounting and taxation. Consequently, these assets are regarded as transactions within the domain of economic activity. Concurrently, the legal nature of digital assets instigates their perception as the latest manifestation of property rights, which are expressed by a set of data in electronic form, distributed in a specific manner, and endowed with their own value, which is not tied to real financial assets (Batsutsa, 2022). To some extent, the above narrows the perception of digital civil rights to only certain types of them. This is far from a fully unified approach to the legal nature of digital goods.

The scientific position of the perception of the nature of digital things through the essence of the proprietary concept in the Ukrainian civil doctrine is considered to be quite solid. Consequently, the nullity of establishing a legal regime of property rights for digital things in the context of the proprietary concept should be supported. Concurrently, the legal framework governing tangible assets and digital assets exhibits a pronounced dichotomy, particularly with regard to the nature, essence and social characteristics of the latter as intangible assets. This is why the above conclusions lead to the categorical rejection of the legal regime of property rights (the regime of things) for digital assets. This has created legal uncertainty in the regulation of this category and in the further application of this legal institution (Slipchenko, Slipchenko, 2024). The scientific considerations analysed fully confirm the above with regard to the violation of the principle of legal certainty and the relevant principle of the rule of law resulting from such norm-setting.

The opposite judgement justifies the extension of the Ukrainian concept of property rights to digital goods through the use of a legal fiction, whereby the object in question is recognised as property despite lacking material content. This legal construction is intended to facilitate the civilised introduction of digital goods into civil circulation and simplify the process. Such an assumption indicates an analogy between the legal regime of a digital entity and that of a physical entity, since the former is fully correlated with the latter in terms of features and properties, albeit within the confines of the digital (imaginary) realm (Nekit, 2023). Clearly, there is a rational basis to this judgement. It is also worth mentioning the aforementioned classification of the characteristics of digital goods, where the digital form of objectification is decisive, as opposed to the material objectification of anything in the classical sense. The above has enabled the legal regime of cryptocurrencies as digital assets to be defined in more detail. These assets are characterised by high volatility, randomness, a cryptographic and decentralised nature, anonymity, insecurities and privacy features, and features of turnover and irreversibility in the event of alienation. The proposed approach to determining the legal regime for digital assets has several positive aspects. However, it is contradictory in its focus on describing the specific characteristics of a particular type of digital asset, which calls into question the conclusions drawn about the generic characteristics of all digital assets.

Analysis of the regulatory framework and scientific views on the issues of determining the legal regime of digital assets and introducing them into civil circulation indicates the need to improve the legal regulation of these social relations. This need was identified by the authors of the Concept for updating the Civil Code of Ukraine and is reflected in the draft of the first book

of the updated Civil Code (The Draft Law on Amendments to the Civil Code of Ukraine in Connection with the Update (Recodification) of the Provisions of Book One on September 21, 2025, No. 14056).

In Section III "Objects", the developers of the first book of the updated Civil Code of Ukraine deviated from the contentious definition of the digital environment as a form of existence of objects of civil rights, instead incorporating digital things as a variety of objects of private legal relations, which are characterised by common features shared with such goods: personal and/or property value. The concept of a digital thing is fully preserved in the current version. Furthermore, the establishment of a legal fiction is wholly upheld, thus extending the corresponding legal regime to the digital form of existence of a digital thing, in a manner analogous to that of a thing from the material environment.

In the context of the revision of the Civil Code of Ukraine, the opinions of scientists regarding the nature of digital objects and their introduction into civil circulation are also diverse. It is particularly noteworthy to advocate for the notion that private law should serve as a compromise solution to the issue of the ratio of public and private interests in terms of encompassing a comprehensive array of social relations with regulatory provisions that reflect the contemporary needs of both the individual and society, as well as the state in its entirety (Makovii, Kuchuk, Filianina, 2023). This statement underscores the necessity to ascertain the legal nature of digital objects of civil (private) rights within the framework of civil legislation, chiefly the Civil Code of Ukraine. In the context of objects pertaining to civil rights or civil legal relations, it is imperative to consider the pertinent regulatory provisions outlined in Section III "Objects" of the draft Book One of the updated Civil Code of Ukraine, which, to a certain extent, has been reproduced in it.

From the perspective of updating civil legislation and bringing it into line with international and European standards, an opinion is expressed regarding the legal nature and classification of virtual assets. This opinion indicates the imperfections of international and European legislation in terms of legal regulation of certain types of virtual assets. With regard to Ukrainian legislation, the opinion expresses concerns regarding the uncertainty and ambiguity of the conceptual and categorical apparatus in this area (Tsukan, 2023). It is possible to concur with this and draw attention to the necessity of bringing the terminology of digital objects of civil legal relations into the scope of legal certainty in the content of the draft book of the first updated Civil Code of Ukraine and special legislation, on the example of the Law of Ukraine "On Virtual Assets".

In the field of civil legislation, which is concerned with the regulation of the legal regime of digital

objects, the ongoing consideration of updates has identified a proposal for the differentiation of such objects and the combination of virtual assets. Concurrently, common features of digital things, digital assets, virtual assets and digital tokens are identified, including existence in a digital environment and the presence of economic value, which is measured in monetary terms. Digital assets and digital things are distinguished from virtual assets and digital tokens by a number of generic and specific characteristics. Conversely, the delineation of digital assets and objects is characterised by their inherent nature, while their identification is predicated on their essence. Digital assets are thus considered to possess an economic nature, and are expressed as objects and units of accounting. In contrast, digital things are regarded as having a legal origin, and thus act as objects of civil law. A logical-structural chain of generic and specific affiliations is constructed for the specified categories: digital things, digital assets, and virtual assets, and then digital tokens (Savchenko, 2024). These considerations should largely be supported, as they attempt to systematise digital goods within the structure of social relations as a subject of legal regulation. However, it is necessary to make a few comments. Yes, all of the above categories have an appropriate reflection in the digital environment and are undoubtedly perceived as objects of civil rights (private legal relations). Can digital assets be considered digital things in these circumstances, and if so, under what conditions? Furthermore, the above approach is inconsistent with international and European legislation, the implementation of which prompted the update of Ukrainian civil legislation.

A radically different approach to the subject under discussion is reflected in the scientific analysis of the legal nature of digital assets and their classification as objects of civil rights. Thus, the concept of digital goods as an object of civil rights is proposed for consolidation in civil legislation. These goods have the following features: they are intangible, they can have a property and non-property nature, they exist in the digital environment and they are subject to turnover. A classification of the legal regimes applicable to digital goods has been carried out based on their intended use. The list of digital goods is not exhaustive and includes digital items, the results of intellectual and creative activity, information, and other intangible objects that can be transferred in a digital space (Zozuliak, Maksymiv, 2024). The above significantly supplements the provisions of the first updated draft of the Civil Code of Ukraine. However, it introduces a number of contradictory statements by defining the movement of specified objects in a digital environment as their defining characteristic. Clearly, the preservation of the relevant properties of such objects during use is an important consideration, and this should also

encompass the so-called movement, which is purely technical in nature.

The notion of virtual assets as an innovative object of property rights is a relatively original perspective that forms the corresponding conclusions. The following proposal is put forward: that a view of digital objects should be considered from the standpoint of the established concept of a virtual asset and its legal status. The issue of the correlation of the legal nature of virtual assets as objects of property rights and intellectual property rights has been further developed. The legal regime of virtual property is separately noted, where the essence of virtual property itself and rights to it are highlighted. It is acknowledged that the question of extending the legal regime of property to virtual assets is a pertinent one, and that such an extension would create the prerequisites for constructing a legal mechanism for protecting the rights of authorised entities. The following characteristics are indicative of a virtual asset: value, turnover, existence in a digital environment, implementation of payment and investment purposes (Davydova, Zhurylo, Tserkovna, Herasymchuk, Tokareva, 2022). This scientific position should be endorsed, given the universality of the approach in determining the legal regime of digital goods, as well as the necessity to establish legal protection for objects of a similar nature.

4. Conclusions

The study of the economic and legal principles involved in introducing virtual assets into civil circulation as part of the reform of Ukrainian civil legislation provided the following conclusions.

In modern society, virtual assets actually reproduce the acquisitions of the information gap of their existence. This is fully consistent with the formational approach to characterising the development of humankind.

The impact of information, and the digital form of its presentation, is of great importance to macroeconomic indicators of societal and state development. In the context of global trends towards the digitalisation of economies and society, several notable developments have been observed. These include the emergence of entrepreneurial innovations, the enhancement of production productivity, the intensification of the labour market, the acceleration of globalisation processes, the promotion of economic

growth at both the global and regional levels, the enhancement of various aspects of societal life, commercial activities, and the state. These developments have collectively contributed to the creation of an optimal environment for the satisfaction of private interests, as well as the establishment of a compromise mechanism through public-private partnerships.

Analysing the phenomenon of the digitalisation of all spheres of social life, as a process of introducing information and telecommunications products into the economy, indicates that the state and society are forming a set of measures in response to the needs of the information age. In the given context, legal instruments are of the utmost importance alongside organisational, socio-economic, technological, material and technical, financial and resource measures. The mechanisms for determining the legal regime of digital objects are of primary importance among these legal instruments.

The introduction of digital (virtual) assets into the legal field is primarily justified on socio-economic grounds and is driven by the need to establish public order and law in the area of implementing the content of social relations, in which various digital products act as objects.

The legal nature of digital objects in social relations is determined by comparing them with the categories of "digital goods", "digital things" and "digital environments". Analysing the standardisation of these terms in current and prospective Ukrainian civil legislation revealed issues with the legal regulation of private relations involving digital goods.

The approach of decomposing the legal nature of a digital good in the context of its perception as program code – that is, in a purely technical (logical-mathematical) sense with a digital basis – or as a property or non-property good (e.g., cryptocurrency, NFTs, digitised drawings on websites, digital signatures, etc.) that satisfies the relevant consumer interests, is significant for private law science.

The discussion on determining the place of digital objects among other goods within the scope of civil law is supported, taking into account the established classification of such goods as tangible or intangible, property or non-property, and real or obligatory. Proposals are made to supplement the existing drafts of the updated Civil Code of Ukraine.

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