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FUNCTIONS OF THE VIRTUAL ASSETS MARKET

Abstract. Purpose. The objective of the present study is to delineate the functions of the virtual asset market to enhance the efficiency of developing measures for improving the legal framework for its functioning. **Research methods.** The purpose was achieved by using a set of methods of scientific knowledge: the formal logical approach was employed to examine the fundamental concepts and evaluate the legal instrument governing the operation of the virtual asset market. The system-structural method was applied to identify and analyze specific characteristics of the virtual asset market with a particular focus on defining its functions. The formal legal method was used to develop pertinent proposals for incorporation into legislative and enforcement activities. **Results.** The author examines the principal doctrinal approaches to specifying market functions and analyses the general and specific functions of various markets. **Conclusions.** Based on the study, the author proposes to divide the functions of the virtual asset market into general and specific ones. The general functions, which are inherent in all markets but manifested in the virtual asset market, include: regulatory, stimulating, distributive, rehabilitative, allocative, informational, integrating, mediating, and pricing. Using a synthesis of the scientific literature, the author presumes that the specific functions of the virtual asset market are as follows: ensuring the issuance, sale of virtual assets and the provision of intermediary services related to virtual assets; ensuring the storage or management of virtual assets or virtual asset keys; the function of exchange and transfer of virtual assets; and the investment function. Furthermore, the author proposes to include the function of redistribution of property through transactions with virtual assets among the special functions of the virtual asset market. The study has led to the conclusion that the fundamental special function of the virtual asset market can be generalized as ensuring the turnover of virtual assets. In order to streamline and formalize the functions of the virtual asset market, the author proposes to consolidate the functions of the virtual asset market within the concept or strategy for the development of the virtual asset market. In order to ensure that the virtual asset market fulfils each of its specific functions, it is necessary to formulate an appropriate action plan. The author states that further scientific research should be aimed at identifying strategies enhancing the regulatory framework governing the operation of the virtual asset market.

Key words: virtual assets, cryptoassets, virtual asset market, market functions, legal regulation of the market.

1. Introduction

Legal relations in the turnover of virtual assets constitute the market, the efficiency of which depends on determining the completeness of the market's function performance. While studying the functions of the credit market, H. V. Myskiv noted that they contribute to the consolidation of the market as an integral phenomenon and the separation of the market from other economic phenomena into an independent category (Myskiv, 2014, p. 43). The above mentioned remains pertinent to the virtual asset market. S.O. Hrytsai posited that using all macroeconomic variables would facilitate the proliferation of cryptocurrencies in

Ukraine, thereby precipitating a period of accelerated growth and advancement within the digital economy. Regrettably, the regulatory apparatus governing the crypto-economy has yet to be fully developed (Hrytsai, 2023, pp. 198-199). R.V. Lukianchuk observed that the digital industry, within the context of the real force majeure regime, continues to fulfill contracts, export services, provide foreign exchange earnings, and support the national digital economy. In this context, one of the priorities for public policy is to create a legal framework for crypto companies to operate legally in Ukraine and do business (Lukianchuk, 2023, p. 114-115). From the above, it can be seen that when developing

statutory frameworks, it is necessary to take into account the current economic component of the market in which the following market functions play an important role.

The legislative framework governing the regulation of the virtual assets market in Ukraine is currently undergoing development. The Law of Ukraine "On Virtual Assets" was adopted on 17 February 2022. However, its implementation is contingent upon the adoption of the Law of Ukraine on Amendments to the Tax Code of Ukraine concerning the particulars of taxation of transactions with virtual assets. As yet, no such law has been adopted. In the meantime, neither the extant version of the Law of Ukraine "On Virtual Assets" nor any other regulatory instrument contains any fixed market functions. Consequently, the legal framework for regulating relations in the virtual assets market requires improvement.

Certain legal issues of the virtual asset market have been the subject of research by many representatives of legal science. In particular, these issues are highlighted in the studies by T.S. Hudima, B.V. Derevyanko, A.A. Kud, A.S. Ovcharenko, V.A. Ustyenko, and others. Some aspects of the functions of virtual assets ecosystem have been covered by experts of the Financial Stability Board (The Financial Stability Board, 2022). However, science has not formed a unified understanding of the essence and list of functions of the virtual asset market, which undoubtedly affects the state of legal support for the market's functioning.

The foregoing indicates the relevance of the issue and the expediency of its elaboration.

The **purpose of the article** is to specify the functions of the virtual asset market, which will have a positive impact on the efficiency of developing measures to improve the legal framework for its functioning.

Methods. The formal logical method was used to study the basic concepts and analyze the legal act regulating the functioning of the virtual asset market. The system-structural method was used to identify and analyze certain characteristics of the virtual asset market, in particular, to specify its functions. The formal legal method was applied to formulate relevant proposals intended for lawmaking and law enforcement activities.

2. Specifying the general functions of markets in economic theory

The word "function" is understood as the purpose, role of something (Dictionary of the Ukrainian language, 1979, p. 653). According to one definition, the "function of the market" is a list of tasks it performs and goals it achieves (Okhrimenko, Paska, 2015, p. 6).

Many representatives of economic science have summarized the functions of the market. One of the approaches developed by economic theory states that the market functions include the following: regulation (the market regulates all economic processes); incentives (the market encourages producers of goods and services to reduce costs, improve the quality and consumer properties of goods); distribution (producers' and consumers' incomes are differentiated through prices); rehabilitation (the market cleanses the economic environment of uncompetitive businesses and supports the most efficient ones); allocative (the market ensures the production of the optimal combination of goods and services using the most efficient combination of resources); informative (the market informs participants through prices what is profitable to buy and what is not); integration (the market unites economic actors into one whole, contributing to the formation of a single economic space) (Bazylevych, 2007, p. 195).

Husarina N.V., Hratiotova G.O., Bradul K.S. adhere to a similar approach, defining the main functions of the market as regulatory; distribution; information; integration and stimulating (Husarina, Hratiotova, Bradul, 2023, p. 25).

V. Horlachuk identifies the main functions as regulatory, stimulating, economic selection, integration, distribution, allocation, information, intermediary, and sanitation. V. Horlachuk adds only one function to the above mentioned – the function of economic selection, but renders it through the ability of the market to get rid of economically weak, unviable enterprises through competition (Horlachuk, 2010, p. 172-173), and therefore, duplicates the function of sanitation.

O.Y. Shchekhlova, in addition to the already mentioned informational and regulatory functions, also distinguishes the intermediary function (the market acts as an intermediary between the producer and the consumer); and the pricing function (the price is formed in the market based on the interaction of supply and demand) (Shchekhlova, 2011, p. 150).

From the above, we can draw an interim conclusion that the common functions of all markets include the following: regulatory, incentive, distribution, rehabilitation, allocation, information, integration intermediation, and pricing. It seems that each of the above functions inherent in all markets will be exercised in the virtual asset market.

3. Special functions of markets

Researchers who have analyzed the functions of specific markets point out that such markets perform not only general functions but

also certain special functions. Thus, while studying the functions of the financial services market, M.V. Dubyna and D.V. Bondarenko refer to the main ones: transformational, servicing, market, social, information and analytical, risk minimization, and regulatory (Dubyna, Bondarenko, 2016, p. 167). It is also believed that the financial market performs the functions of pricing, liquidity, and cost savings (Yukhymenko, 2010, p. 415). S. Moshenskiy also proposed to add the following to the above-mentioned functions: the provision of risk management methods; provision of reliable information to market participants; as well as the function of solving the problem of incentives (Moshenskiy, 2008, p. 34).

Another market that can be given as an example is the insurance market. Yu. M. Klapkiv classified insurance market functions as cognitive, interpretive, prognostic, heuristic, communicative, applied, ideological, and educational as general. At the same time, he also pointed out special functions that reveal the peculiarities of the purpose of the insurance services market, which are due to their focus on the development of insurance as a special socio-economic type of economic activity that has its own nature and development trends, in particular: risk (compensation), accumulative (savings), warning (preventive), investment, control (Klapkiv, 2017, p. 62-63).

Y.M. Pavlyuchenko, in turn, summarized the functions of the agricultural market and proposed their division into basic (social, market price discovery, stimulating, selective, coordination and management, information) and additional (pricing, technical and economic, sanitation, control, distribution, allocation, communication, agricultural ecologization, etc.) (Pavlyuchenko, 2019).

While studying the legal regulation of securities circulation, O. Yavorska noted that the securities market performs a set of functions: 1) accumulates temporarily free cash resources and directs them to the development of the sectors of the economy in need; 2) services the public debt; 3) redistribution of property through transactions is carried out in the securities market; 4) normal functioning of the securities market ensures stable financial profit for the securities holder and financial intermediaries through speculative transactions (Yavorska, 2015, p. 28).

4. The virtual asset ecosystem and its functions

Scientists identify a specific set of functions in each market due to the peculiarities of its functioning, and therefore it is necessary to move directly to the specifics of the turnover of virtual assets.

Indeed, virtual assets are a relatively recent phenomenon. There is no consensus

among scholars and national regulators even on the functions of virtual assets. For example, J. Abate, N. Branzoli, and R. Gallo noted: "Two possible classification criteria that have caused confusion among authorities around the world relate to the intended and the actual economic function of crypto-assets. The former relates to crypto-asset economic function foreseen by its issuer/distributor, such as whether the crypto-asset should be used as a means of payment, an investment asset, or to grant holders access to a service or product or other. The latter relates to the most common use of the crypto-asset by its holders. A well-known example of crypto-asset for which the intended and actual economic function differ is Bitcoin, which has been created to provide a means of payment but it is mainly used as a speculative asset. Tax authorities have often treated Bitcoin as a currency, thus following the intended economic function, while financial authorities have often considered it broadly similar to an investment asset, thus following the actual economic function" (Abate, Branzoli, Gallo, 2023, p. 357).

Financial Stability Board experts noted that the virtual asset ecosystem has a wide range of functions and activities, many of which resemble those of the traditional financial system. These researchers identify certain functions of the virtual asset ecosystem:

First, "Creation, issuance, distribution, redemption and underlying infrastructure". This function is exercised in the following activities: creating, issuing, and redeeming crypto-assets, distribution, underwriting, placement, market-making, marketing and sales, operating infrastructure and validating transactions;

Secondly, the virtual asset ecosystem performs the function of "Wallets and custody", which is exercised in the provision of custodial (hosted) wallet and custody services, provision of non-custodial (unhosted) wallets;

Thirdly, the ecosystem performs the function of "Transfer and transactions", which is exercised in the provision of payment for/of goods, services, gifts and remittances, exchange between crypto-assets or against fiat currencies, clearing and settlement;

Finally, fourthly, the virtual asset ecosystem performs the function of "Investment, leverage and risk management". This is exercised in the provision to borrow/purchase other crypto-assets, trading/borrowing/lending of crypto-assets, insurance, direct/outright exposures to crypto-assets, synthetic/derivative exposures to crypto-assets [Financial Stability Board, 2022, p. 4].

It should be added that the study defines the "crypto-asset ecosystem" as "the entire ecosystem that encompasses all crypto-as-

set activities, market and participants", while the "crypto-asset market" is defined as "any place or system that provides buyers and sellers the means to trade crypto-assets and the associated instruments, including lending, structured investment products, and derivatives" [Financial Stability Board, 2022, p. 71]. According to provisions of Ukrainian law, which state that the virtual asset market is a set of virtual asset market participants and legal relations between them regarding the turnover of virtual assets (clause 10, part 1, article 1 of the Law of Ukraine "On Virtual Assets"), it can be concluded that the understanding of the concept of "virtual asset market" in Ukrainian law actually corresponds to the concept of "virtual asset ecosystem" in the study by the Financial Stability Board.

5. Extrapolation of the terminology of Ukrainian legislation to the functions of the virtual asset ecosystem

Taking into account the Financial Stability Board's opinion on the functions of the virtual asset ecosystem and applying the terminology of the Ukrainian legislator on the types of activities in the virtual asset market, it can be concluded that the virtual asset market has the following functions: 1) ensuring the issuance, sale of virtual assets and the provision of intermediary services related to virtual assets; 2) ensuring the storage or administration of virtual assets or virtual asset keys; 3) the function of exchange and transfer of virtual assets; 4) investment function.

It seems that the functions allocated by the Financial Stability Board are special functions specific to the virtual asset market and take into account its internal structure, reflecting the processes taking place in this market.

Nevertheless, it appears that the virtual asset market also fulfills the function traditionally attributed to the securities market – namely, the redistribution of property through transactions. Consequently, it is proposed that the redistribution of property through transactions with virtual assets be included among the special functions of the virtual asset market.

An analysis of the special functions of the virtual asset market reveals that its fundamental special function is to ensure the turnover of the virtual assets.

It is important to note that these functions are ensured by the provisions of regulatory legal acts. Therefore, it seems that the functions of the virtual asset market can serve as a basis and guideline for implementing measures aimed at improving the legal support for its functioning. It is therefore recommended that the functions of the virtual asset market be consolidated at the level of a regulatory legal act. Such an act

could, for example, be a concept or strategy for the development of the virtual asset market. In order to implement this strategy, it would be necessary to develop an appropriate action plan. This would ensure that the virtual asset market performs the special functions that it is intended to fulfil. Regulatory consolidation of the functions of the virtual asset market would also contribute to the formation of a more stable understanding of their content in practice.

6. Conclusions

The study indicates that the functions of the virtual asset market can be divided into two categories: general and special. The general functions include regulatory, incentive, distribution, rehabilitation, allocation, informational, integration intermediary, and pricing. The special functions are those that ensure the issuance, sale of virtual assets and provision of intermediary services related to virtual assets; ensure the storage or administration of virtual assets or virtual asset keys; the function of exchange and transfer of virtual assets; investment function; and redistribution of property through transactions with virtual assets. A generalization of the special functions of the virtual asset market allows us to conclude that the fundamental special function of the virtual asset market can be formulated as ensuring the turnover of virtual assets.

In order to enhance the efficiency and formalize the operations of the virtual asset market, it is proposed to consolidate the functions of the virtual asset market within a comprehensive concept or strategy for its development. To this end, an action plan must be designed to ensure that the virtual asset market fulfils each of the designated special functions.

The aforementioned issues do not exhaust the problematic aspects of the virtual asset market legal regulation. Consequently, further research should be aimed at identifying potential improvements to legislation governing the functioning of the virtual asset market.

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ФУНКЦІЇ РИНКУ ВІРТУАЛЬНИХ АКТИВІВ

Анотація. Мета. Метою дослідження є конкретизація функцій ринку віртуальних активів, що позитивно позначиться на ефективності розробки заходів з удосконалення правового забезпечення його функціонування. **Методи дослідження.** Досягти поставленої мети вдалось завдяки застосуванню комплексу методів – за допомогою формально-логічного методу досліджувалися основні поняття та проводився аналіз нормативно-правового акту, яким регулюється функціонування ринку віртуальних активів. Системно-структурний метод застосовувався для виділення та аналізу певних характеристик ринку віртуальних активів, зокрема для конкретизації його функцій. За допомогою формально-юридичного методу підготовлено відповідні пропозиції для використання у законотворчій та правозастосовній діяльності. **Результати.** Проаналізовано основні доктринальні підходи до розкриття функцій ринків, проаналізовано загальні та спеціальні функції різних ринків. **Висновки.** До загальних функцій, які притаманні усім ринкам, але мають свій прояв на ринку віртуальних активів віднесено: регулюючу, стимулюючу, розподільчу, санацій, алокаційну, інформативну, інтеграційну посередницьку та ціноутворюючу. На підставі узагальнення наукової літератури конкретизовано, що спеціальними функціями ринку віртуальних активів є: забезпечення емісії, продажу віртуальних активів та надання посередницьких послуг, пов'язаних з віртуальними активами; забезпечення зберігання або адміністрування віртуальних активів чи ключів віртуальних активів; функція обміну та переказу віртуальних активів; інвестиційна функція. Запропоновано включити функцію перерозподілу власності через вчинення правочинів з віртуальними активами до спеціальних функцій ринку віртуальних активів. Крім того, дослідження дозволило зробити висновок про можливість узагальнити базову спеціальну функцію ринку віртуальних активів як забезпечення обороту віртуальних активів. З метою упорядкування і формалізації запропоновано закріплення функцій ринку віртуальних активів у концепції або стратегії розвитку ринку віртуальних активів, для виконання якої потрібно розробляти відповідний план заходів для забезпечення виконання ринком віртуальних активів кожної з спеціальних функцій. Як напрям подальших наукових досліджень запропоновано пошук шляхів удосконалення законодавства з питань функціонування ринку віртуальних активів.

Ключові слова: віртуальні активи, криптоактиви, ринок віртуальних активів, функції ринку, правове регулювання ринку.

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