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DECENTRALIZED FINANCE (DEFI), BLOCKCHAIN AND THEIR IMPACT ON THE ACCOUNTING AND TAXATION OF DIGITAL ASSETS

Summary

Relevance. Problem statement. The rapid development of Decentralized Finance (DeFi) and the expansion of blockchain technologies within the digital economy and the broader process of financial digitalization complicate the application of traditional approaches to accounting and taxation of digital assets. The absence of clear criteria for interpreting the economic substance of DeFi and its implications for the recognition, measurement, and disclosure requirements of digital assets leads to heterogeneity in accounting practices, reduced comparability of financial reporting, and increased risks for auditors and investors. Consequently, there is a need to identify accounting-relevant characteristics of DeFi that can serve as a basis for accounting decisions regarding digital assets and for establishing a unified approach to their classification and measurement in accordance with International Financial Reporting Standards (IFRS).

The purpose of the article is to provide a conceptual justification and structured generalization of the impact of DeFi and blockchain technologies on the methodology of accounting for digital assets through the identification of accounting-relevant characteristics that determine the specific features of their recognition, measurement, and disclosure in financial statements in accordance with IFRS, as well as their implications for the formation of tax liabilities within the DeFi environment. **Methodology.** The research objectives were addressed using general scientific and specialized methods, including analysis, synthesis, induction, deduction, comparison, abstraction, and a systems approach, which ensured an appropriate level of substantiation of the proposed arguments and the formulation of well-grounded conclusions.

Results. The findings indicate that the transactional transparency of blockchain is accompanied by new valuation risks that affect asset measurement and revenue recognition. Existing tax regulations often fail to account for the specific characteristics of the DeFi ecosystem. Accounting-relevant characteristics of DeFi have been systematized, demonstrating that their influence extends beyond the accounting treatment of digital assets to the specific features of the protocol-based financial architecture within which economic rights and obligations are executed through algorithmic mechanisms without a

centralized counterparty. Their systemic impact on the application of control criteria, the determination of the existence of contractual rights to claims, the selection of measurement models, the identification of the timing of revenue and liability recognition, and the scope of risk disclosures under IFRS has been substantiated. The theoretical contribution of the results lies in shifting from a descriptive analysis of blockchain technology to a structured accounting interpretation of DeFi from the perspective of control, measurement, and risk management concepts.

Practical significance. The identification of accounting-relevant characteristics of DeFi is essential for developing a systematic approach to accounting for digital assets in a decentralized environment, as the protocol-based ecosystem of DeFi fundamentally alters the nature of the emergence of rights and obligations as well as the accrual of income, directly affecting the application of IFRS requirements. Such an approach ensures conceptual consistency between technological innovations and the regulatory framework of accounting and enhances the quality of financial information under conditions of financial system digitalization. The practical significance of the study lies in establishing a basis for updating corporate accounting policies and developing tax instruments that promote transparency and reduce risks in the digital asset sector.

Prospects for further research. Future research should focus on improving disclosure standards and developing algorithmic models for the automated identification of economic transactions and tax events based on on-chain data.

Keywords: Decentralized Finance (DeFi), blockchain, digital assets, accounting for digital assets, taxation of digital assets, recognition, measurement, asset valuation, disclosure requirements, risk management.

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ДЕЦЕНТРАЛІЗОВАНІ ФІНАНСИ (DEFI), БЛОКЧЕЙН ТА ЇХНІЙ ВПЛИВ НА БУХГАЛТЕРСЬКИЙ ОБЛІК І ОПОДАТКУВАННЯ ЦИФРОВИХ АКТИВІВ

Анотація

Стрімкий розвиток децентралізованих фінансів (Decentralized Finance, DeFi) та поширення блокчейн-технологій у цифровій економіці істотно ускладнюють застосування традиційних підходів до бухгалтерського обліку й оподаткування цифрових активів. Відсутність чітких критеріїв інтерпретації економічної сутності DeFi та їх впливу на визнання, оцінювання і розкриття інформації про цифрові активи зумовлює неоднорідність облікових практик, зниження порівнянності фінансової звітності та підвищує ризики для інвесторів і аудиторів. Постає потреба виділення обліково-

релевантних ознак DeFi, що будуть покладені в основу прийняття облікових рішень щодо цифрових активів та формування уніфікованого підходу до їх класифікації й оцінювання відповідно до міжнародних стандартів фінансової звітності (IFRS).

Мета статті полягає у концептуальному обґрунтуванні та структурованому узагальненні впливу децентралізованих фінансів (DeFi) і блокчейн-технологій на методологію бухгалтерського обліку цифрових активів через ідентифікацію обліково-значущих характеристик, що визначають специфіку їхнього визнання, оцінки та розкриття у фінансовій звітності відповідно до МСФЗ, а також впливають на формування податкових зобов'язань у середовищі DeFi.

Результати дослідження свідчать, що трансакційна прозорість блокчейну супроводжується новими ризиками, що впливають на оцінку активів і визнання доходів. Існуючі податкові норми часто не враховують специфіки децентралізованих протоколів. Систематизовано обліково-релевантні ознаки DeFi, що впливають на визначення контролю над цифровими активами, наявність контрактного права вимоги, вибір моделі оцінювання активів і обсяг розкриття ризиків відповідно до IFRS. Теоретичне значення результатів полягає у переході від описового аналізу технології блокчейн до структурованої бухгалтерської інтерпретації DeFi з позицій концепції контролю, оцінювання та управління ризиками.

Практичне значення результатів криється у формуванні концептуальних засад для оновлення облікових політик підприємств і підходів до обліку та оподаткування цифрових активів. Подальші дослідження доцільно спрямувати на вдосконалення стандартів розкриття інформації та розроблення алгоритмічних моделей для автоматичної ідентифікації господарських операцій і податкових подій на основі on-chain-даних.

Ключові слова: децентралізовані фінанси (DeFi), блокчейн, цифрові активи, бухгалтерський облік цифрових активів, оподаткування цифрових активів, визнання, оцінювання, оцінка активів, вимоги до розкриття інформації, управління ризиками.

Кількість джерел: 25; кількість таблиць: 1; кількість рисунків: 1.

Problem Statement. The rapid expansion of the decentralized finance (DeFi) market, the diversification of digital assets, and their increasing integration into global financial flows generate substantial challenges for accounting systems. DeFi, blockchain technology, and asset tokenization are shaping a new architecture of financial relations in which digital assets increasingly exhibit characteristics of financial instruments, intangible assets, or specific objects subject to fair value measurement. The emergence of algorithmically determined rights and obligations, automated income-accrual mechanisms, smart contracts, and multi-protocol token interactions transforms the economic substance of financial transactions and affects the criteria for their recognition, measurement, asset valuation, and disclosure requirements in financial reporting. Traditional accounting approaches

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developed for centralized institutional environments prove insufficiently adapted to the specific features of programmable and decentralized financial instruments, thereby highlighting the need for their methodological reconsideration within the framework of the International Financial Reporting Standards (IFRS) and contemporary approaches to risk management.

Despite the intensive development of DeFi and blockchain technologies, methodological uncertainty persists in the accounting of digital assets due to the absence of a structured approach to interpreting their economic substance in accordance with existing IFRS requirements. The core problem lies not so much in the lack of regulatory provisions per se as in the absence of clearly defined accounting-relevant characteristics of the DeFi environment that would enable the proper transformation of the technical features of blockchain protocols into criteria for the recognition, measurement, and disclosure of digital assets. Particular attention should be paid to issues such as determining control over digital assets, the existence of contractual rights to claims, the timing of revenue recognition and tax liabilities, as well as the assessment of volatility and liquidity risks within DeFi ecosystems. The identification and systematization of such characteristics as a methodological basis for decision-making regarding recognition, measurement, and disclosure constitute the central scientific problem. Addressing this problem will enhance the reliability, consistency, and transparency of the financial reporting of entities conducting operations within decentralized finance environments and will also contribute to the development of a coherent approach to the tax regulation of digital asset transactions.

Analysis of Recent Research and Publications. A review of the existing literature indicates that the academic community generally agrees on two fundamental propositions: (1) current accounting standards do not fully regulate the reporting of digital assets and DeFi transactions; and (2) DeFi generates specific techno-economic challenges related to smart contracts, automated income generation, and fragmented liquidity, which complicate the application of traditional principles of recognition, measurement, and disclosure. These conclusions are supported by the systematic

review conducted by N. Romero-Castro, M. A. Lopez-Cabarcos, V. Vittori-Romero, and J. Pineiro-Chousa (2025).

The formation of the theoretical foundation for the study of decentralized finance and digital assets is associated with the work of S. Nakamoto (2008), which substantiated the architecture of Bitcoin as a decentralized payment system based on a distributed consensus mechanism. The further development of the concept of blockchain ecosystems is reflected in the works of D. Tapscott and A. Tapscott (2023), who consider the technology as an institutional infrastructure for the transformation of financial markets. The theoretical and analytical interpretation of DeFi is presented in the studies of J. R. Jensen, V. von Wachter, and O. Ross (2021), as well as B. Szrajber, I. Alon, and S. Levy (2025), where the structural elements of decentralized protocols and their economic models are identified. The bibliometric analysis by M. Bedeir and R. Essam (2026) demonstrates the rapid growth of interest in DeFi within business research, while J. Schwiderowski, A. B. Pedersen, J. K. Jensen, and R. Beck (2023) focus on value-creation mechanisms in NFT markets. Behavioral aspects of the functioning of crypto markets and DeFi assets are examined by I. Yousaf and L. Yarovaya (2022), highlighting the significant volatility and riskiness of digital instruments as a factor contributing to accounting uncertainty.

The accounting of digital assets has become an actively researched topic in both international and national scholarly discourse. N. Alsalmi, S. Ullah, and M. Rafique (2023), as well as S. Smith (2021), analyze the conceptual challenges of applying IFRS to cryptocurrencies and DeFi transactions, whereas I. Georgiou, S. Sapuric, P. Lois, and A. Thrassou (2024) systematize directions for the development of accounting and auditing in a blockchain-based environment. Issues related to the auditing of decentralized protocols are further elaborated by S. Bhambhwani and A. Huang (2024), who substantiate the necessity of integrating on-chain analytics into verification procedures. Scholars such as M. Skoryk and I. Kovalchuk (2024), Y. Myskin, V. Kraevskyi, and A. Kiselova (2025), O. Romashko (2025), and O. Fomina (2022) examine the classification, measurement, and taxation aspects of reporting digital

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assets within the framework of IFRS and European integration. The regulatory dimension is addressed in the documents of the Organisation for Economic Co-operation and Development concerning the Crypto-Asset Reporting Framework (CARF) (Organisation for Economic Co-operation and Development [OECD], 2023), which establish international standards for the automatic exchange of information on crypto-assets. At the same time, the issues discussed in the works of Yu. Manachynska (2025), A. Vdovichen, Yu. Korolyuk, and D. Vdovichen (2025), as well as S. Korol and Ye. Polovyk (2019), concerning the alignment of financial and non-financial reporting requirements with the digitalization of accounting processes and the consideration of cybersecurity challenges, form an important theoretical basis but do not provide a comprehensive vision of integrating decentralized finance into the accounting system. The absence of a systematized approach to identifying accounting-relevant characteristics of DeFi and their correlation with IFRS requirements for reporting digital assets necessitates further comprehensive research and determines the relevance of this study.

Formulation of the Article's Objectives. The objective of this article is to provide a theoretical substantiation and systematization of the impact of decentralized finance (DeFi) and blockchain technologies on the accounting and taxation of digital assets by identifying and structuring accounting-relevant characteristics that determine the specific features of their recognition, measurement, and disclosure in financial reporting in accordance with the requirements of IFRS and tax regulation.

The study employs a combination of general scientific and specialized research methods that ensured the coherence and methodological soundness of the results obtained. The theoretical foundation was developed using methods of analysis and synthesis to decompose the economic and legal nature of digital assets within the DeFi environment. Inductive and deductive methods made it possible to formulate generalizations regarding the transformation of accounting approaches and methods under the influence of distributed ledger technology, while abstraction and generalization

were applied to identify the key characteristics of DeFi relevant to accounting, financial reporting, and taxation. The comparative analysis method was used to compare provisions of the regulatory framework. A systems approach was applied to examine the interdependence between the requirements of financial regulation, the operational mechanisms of DeFi protocols, and the accounting procedures of business entities conducting transactions with digital assets based on blockchain infrastructure.

Presentation of the Main Research Material. The initial application of the concept of a "token" in the crypto environment is associated with the transformation of the idea of digital money into a broader representation of value within a distributed ledger. The fundamental foundation was laid in the work of the author or group of authors operating under the pseudonym Satoshi Nakamoto, in which the concept of "peer-to-peer electronic cash" (P2P) (Bitcoin) was described in 2008, where the principal object of circulation is the coin as the unit of a payment network (Nakamoto, 2008). Subsequently, the idea of "Colored Coins" (approximately 2012) emerged, enabling the addition of attributes or specific metadata to units recorded on a blockchain and thereby allowing various rights to be "tokenized" within an existing chain. A decisive shift from "coins" to a universal token model occurred with the emergence of the Ethereum platform, where smart contracts made the issuance and programmable logic of tokens technically straightforward. The standardization of token interfaces on Ethereum through EIP, introduced by Fabian Vogelsteller (ERC-20), during 2015–2016 effectively consolidated the term "token" as both a technical and an economic category suitable for large-scale issuance and trading.

The creation of the cryptocurrency Bitcoin represented not only an innovation in the sphere of money as the first digital asset without a centralized issuer and without intrinsic backing, but also a fundamental breakthrough in the implementation of blockchain technology as a mechanism of distributed consensus. Earlier concepts of decentralized digital currencies, including b-money by Wei Dai, reusable proofs of work by Hal Finney, and Hashcash by Adam Back, established important theoretical foundations; however,

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it was the combination of cryptographic techniques with the "proof-of-work" algorithm that enabled the practical realization of ledger state agreement without a trusted intermediary and provided protection against Sybil attacks. The subsequent development of this architecture expanded the functionality of blockchain beyond payment transactions to include asset tokenization, smart property, non-fungible assets, and smart contracts. The Ethereum platform integrated a fully Turing-complete programming language enabling the encoding of arbitrary state transition functions. From a techno-economic perspective, cryptocurrency may be interpreted as a state transition system in which a consensus algorithm (proof-of-work or the alternative proof-of-stake) ensures the validity and immutability of updates to the distributed ledger, thereby forming the institutional foundation for the operation of decentralized financial ecosystems.

Thus, the term "coin" initially denoted the native unit of value of a network (for example, bitcoin in the Bitcoin network). The emergence of coloring mechanisms and smart contracts expanded the meaning of the concept of a "token", which consequently ceased to refer solely to a payment unit and evolved into a universal digital marker capable of representing ownership rights, access to services, voting rights, a share in revenues, or a linkage to a real-world asset. Academic studies (Schwiderowski et al., 2023) and practical classifications (Yousaf & Yarovaya, 2022) emphasize the multidimensional nature of tokens, highlighting several analytical dimensions: function (utility vs. payment vs. security), value-backing mechanism (asset-backed, algorithmic), technical category (fungible vs. non-fungible), and legal status. Such frameworks make it possible to systematize tokens for accounting and regulatory purposes.

Today, DeFi has moved beyond a niche phenomenon and is transforming into a global, technologically programmable, and gradually regulated sector characterized by significant volumes of total value locked and a broad geography of use. With the growth of institutional participation, the strengthening of cybersecurity standards, and the emergence of clearer regulatory frameworks, the DeFi ecosystem is acquiring the features of an alternative financial infrastructure. Its instruments and protocols are increasingly being

integrated both into retail financial practices and into the activities of professional investors, indicating the gradual formation of DeFi as a component of the architecture of the open digital economy (Burnett & Kinder, 2026).

As of early 2026, the global ecosystem of DeFi demonstrates recovery following a period of crisis-induced decline and shows clear signs of institutionalization. Total Value Locked (TVL) is a key indicator in the DeFi sector and reflects the aggregate amount of crypto assets deposited by users in protocol smart contracts (staking, liquidity pools, lending). Accordingly, a higher TVL indicates greater trust in the project and higher liquidity. In 2025, TVL stabilized at approximately USD 130–140 billion, with the Ethereum network dominating (around 68%) and with the continued development of a multichain architecture (Solana, BNB Chain, Arbitrum, and others) (Burnett & Kinder, 2026).

The core of liquidity is formed by leading protocols (Lido, Aave, EigenLayer, Uniswap, Maker), while on-chain lending accounts for the majority of the crypto-collateralized loan market, and the segment of tokenized real-world assets (RWA) demonstrates multiple-fold growth. The deepening role of stablecoins and decentralized exchange (DEX) platforms further strengthens the settlement and credit infrastructure of DeFi. At the same time, the expansion of regulatory frameworks – particularly the implementation of MiCA in the European Union – the growth of cyber risks (more than USD 3.1 billion in losses from DeFi-related incidents in 2025 (Burnett & Kinder, 2026), and the increasing involvement of institutional and venture capital create the preconditions for further structural transformation of the market and its scaling in the medium term.

According to forecast estimates, by 2029 the decentralized finance (DeFi) market may approach USD 180 billion as a result of expanding institutional participation and increasing regulatory clarity. By 2030, its value is expected to reach USD 256.4 billion, exceeding the 2025 level by more than six times. The compound annual growth rate (CAGR) for 2026–2030 is projected at 43.3% (Burnett & Kinder, 2026), positioning DeFi as the most dynamic segment of financial services. This remarkable growth trajectory is driven by the scaling

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of smart contract mechanisms, the active tokenization of assets, and the gradual formation of decentralized financial infrastructure as an alternative to traditional models of financial intermediation. DeFi is increasingly transitioning from an experimental model to a parallel financial infrastructure characterized by a high degree of tokenization, automated liquidity management, and growing requirements for the accounting of digital assets, particularly with respect to fair value measurement, the recognition of protocol-generated revenues, the disclosure of smart contract risks, and the reporting of tokenized real-world assets in financial statements.

Permissionless blockchain technologies constitute the institutional and technological foundation of DeFi, within which the provision of financial services occurs without the involvement of centralized intermediaries and is based on the transparent and deterministic execution of smart contracts. A blockchain functions as a distributed ledger in which transactions are grouped into ordered blocks and verified through cryptographic instruments and consensus protocols that ensure the integrity, state consistency, and security of the network through mechanisms of economic incentives. An integrated virtual machine enables the execution of program code within a shared computational environment, where resource usage is subject to market-based pricing mechanisms, thereby minimizing the risks of congestion and misuse. On this basis, a multi-layered DeFi architecture is formed, encompassing the issuance of base digital assets, the creation of complex financial instruments and application services (including trading, lending, derivatives, asset management, and insurance), as well as aggregators and user interfaces that provide direct access to protocols. The design of such systems relies on the toolkit of algorithmic financial engineering and game theory to construct efficient incentive models, while governance tokens institutionalize mechanisms for user participation in decision-making processes and protocol development, reflecting the open and decentralized nature of this financial paradigm (Jensen et al., 2021).

Thus, based on an in-depth analysis of academic sources, the essence of the concept of «Decentralized Finance» (DeFi) can be defined as a form of financial system that:

1. Is built on blockchain technology and distributed ledger systems – forming the foundational infrastructure that ensures transparency, integrity, and automated recording of transactions.
2. Provides financial services without the involvement of centralized intermediaries (such as banks or brokers) – with smart contracts automatically executing the rules governing interactions.
3. Is open in nature, enabling direct peer-to-peer (P2P) interactions and non-custodial control over assets – meaning that users retain control over their own funds rather than transferring them to a centralized issuer or custodian.
4. Creates a new financial ecosystem that includes lending, exchange, derivatives, and other services, reproducing the core functions of traditional financial systems but in a decentralized form.

It should be emphasized that DeFi is not a formal legal term; rather, it describes a new technological and economic paradigm for the provision of financial services that operates beyond the boundaries of centralized systems. Despite differences in wording across various sources, they consistently highlight the key characteristics of DeFi: directness, transparency, automation, and the absence of centralized control.

It is important to distinguish three levels of influence on accounting:

- *Blockchain* affects accounting primarily through mechanisms for recording and verifying transactions (proof of existence, transaction timestamp, and control via a private key).
- *Digital assets* influence accounting at the object level, since their economic nature (the presence or absence of contractual claims, the degree of liquidity, volatility, and the functional purpose of a token (Semenova, 2024) determines the criteria for recognition, classification, and measurement in accordance with IFRS.
- *DeFi* alters the very mechanism of the formation of rights and obligations: income is generated automatically, control is exercised algorithmically, and risks are protocol-based.

Without identifying accounting-relevant characteristics of DeFi, a methodological conflation of technological and economic attributes

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occurs, complicating the application of accounting standards and leading to incorrect interpretations in the exercise of professional judgment. Therefore, DeFi requires a separate categorization (Fig. 1).

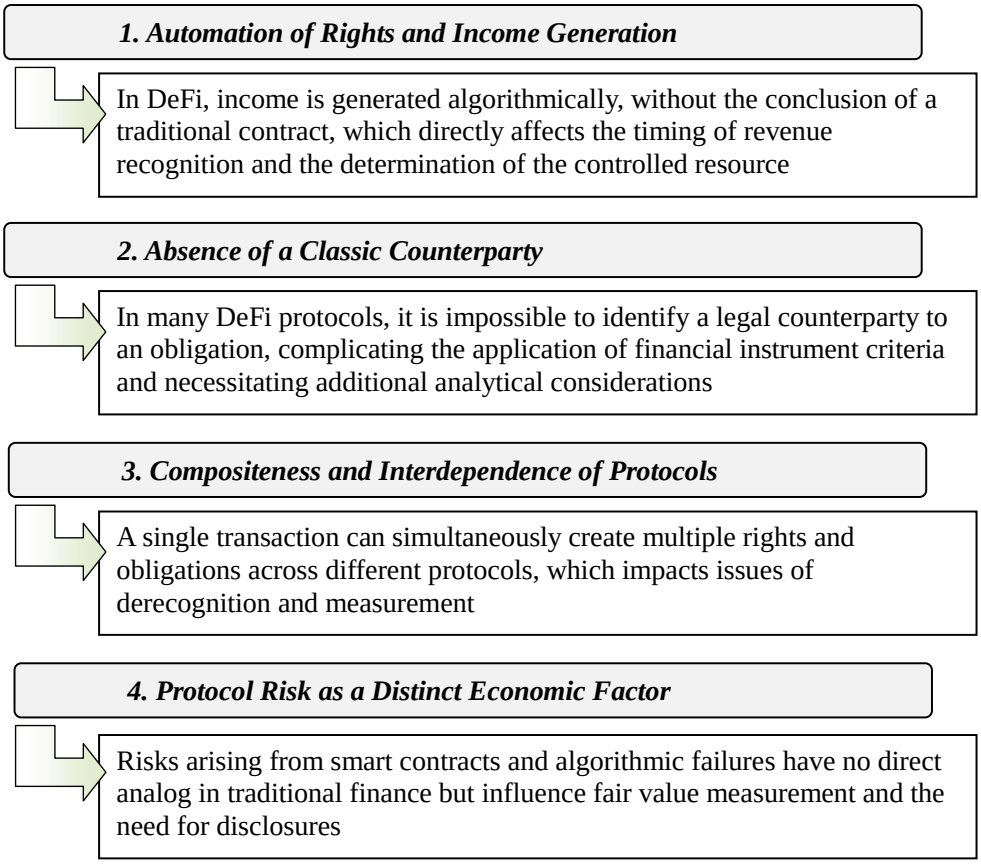

*Figure 1. Justification for the Need to Categorize DeFi Separately**

*Source: prepared by the author on the basis of (Yousaf & Yarovaya, 2022; Bhambhwani & Huang, 2024).

Thus, DeFi does not merely introduce a new financial instrument but establishes a new mode of functioning of financial relations, which necessitates the identification of a distinct analytical category within accounting methodology.

Operations in DeFi also create significant challenges for the tax administration system due to their automated, decentralized, and often pseudonymous nature. The determination of a taxable event,

the calculation of the tax base, and the identification of tax residency under such conditions require the adaptation of traditional tax concepts. International coordination initiatives, particularly the Crypto-Asset Reporting Framework, demonstrate substantial potential; however, they require further refinement to effectively capture DeFi transactions that occur without centralized intermediaries (Atree & Tripathy, 2025). Effective administration of the DeFi environment therefore requires flexible, technologically oriented tax rules and enhanced international cooperation.

An analysis of the materials of the International Accounting Standards Board (IASB) indicates a gradual evolution in approaches to regulating the accounting treatment of crypto-assets. In particular, the document "AP30C: Towards an Exposure Draft – Cryptocurrency" (International Accounting Standards Board [IASB], 2022) emphasizes the conceptual justification for the possible development of a draft standard and outlines general directions for regulatory responses to the phenomenon of cryptocurrencies. In contrast, "AP30C: Other Issues Raised – Cryptocurrency" (IASB, 2024) focuses on the systematization of specific technical issues and practical uncertainties arising in the application of existing IFRS, without initiating the development of a separate standard. This trajectory of the discussion indicates the persistence of a fragmented regulatory approach and the absence of a comprehensive methodology for accounting for digital asset transactions within a decentralized environment. In this context, the identification of accounting-relevant characteristics of DeFi, proposed in this study, assumes the role of a systematizing instrument that enables the transformation of the technological and protocol-level characteristics of decentralized finance into formalized criteria for the recognition, measurement, and disclosure of digital assets within the existing IFRS paradigm.

The identification of accounting-relevant characteristics of DeFi is methodologically necessary, as the impact of decentralized finance on the accounting treatment of digital assets cannot be reduced either to the technological specifics of blockchain infrastructure or to the conventional characteristics of digital assets themselves. DeFi

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establishes a distinct level of economic reality—a protocol-based financial architecture within which algorithms replace traditional contractual mechanisms, and financial functions are executed through smart contracts without a centralized counterparty. It is precisely this level that generates new conditions for the recognition, measurement, and disclosure of information in financial reporting.

The identification of accounting-relevant characteristics of DeFi provides methodological clarity in the interpretation of IFRS and in the application of professional judgment; ensures the appropriate delineation of accounting standards for reporting digital assets in accordance with the economic substance of transactions; enhances the transparency of disclosures; enables the integration of on-chain evidence into control systems; and facilitates the alignment of blockchain's technical capabilities with the requirements of accounting, taxation, and audit assurance. At the same time, it establishes a foundation for further standardization (Table 1).

Accounting-relevant characteristics of DeFi form a set of criteria that enable the transformation of the technical nature of digital assets into categories applicable to accounting and financial reporting. Unlike traditional financial instruments, where legal form usually clearly determines accounting classification, in DeFi the economic substance of the transaction is of primary importance. This substance is determined through the analysis of control, the existence of a contractual claim, programmable triggers, and the structure of cash flows.

The systematization of these characteristics demonstrates that, for the purposes of IFRS, the key determinants are:

1) the criterion of control as the basis for asset recognition;

2) the presence or absence of a contractual claim as the boundary between the application of specific IFRS and IAS standards;

3) fair value as the dominant measurement model in an environment of high volatility;

4) the algorithmic nature of income and obligations, which affects the timing of their recognition;

5) the cross-border nature of transactions, which intensifies tax implications and disclosure requirements.

Table 1

Accounting-Relevant Characteristics of DeFi and Their Impact on the Recognition, Measurement, and Disclosure of Digital Assets*

No.	*Accounting-Relevant Characteristics*	*Economic Substance*	*Impact on Recognition*	*Impact on Measurement*	*Impact on Disclosure and Risks*
1	Control over the asset or custody	Actual ability to dispose of a digital asset through a private key or other access mechanism	Determines whether the asset meets the control criterion (Conceptual Framework; IAS 38)	If control exists – initial measurement at cost or fair value	Disclosure of custody policy, risk of loss of access, internal controls
2	Existence of a contractual claim	Whether the token creates a legally enforceable right to cash flows	If such a right exists – application of IFRS 9 (financial instruments); if not – IAS 38 (intangible assets)	Amortized cost or fair value model (IFRS 9)	Disclosure of cash flow characteristics and credit risk
3	Programmability through smart contracts	Automatic creation of rights or obligations through code	Determines the timing of revenue or liability recognition (IFRS 15, IAS 37)	Initial measurement at fair value at the date of the on-chain event	Disclosure of algorithmic triggers and liquidation conditions
4	Composability of protocol functions	Ability to reuse the asset across multiple protocols	Requires analysis of derecognition of the underlying asset	Separate measurement of the underlying asset and derivative rights	Disclosure of complex structures and interrelated risks
5	Non-custodial structure	Absence of a centralized custodian	Confirms control but increases operational risk	Assessment of potential impairment (IAS 36)	Disclosure of private key loss risk and insurance coverage
6	Presence of an active market and liquidity	Sufficient trading volume to determine fair value	Provides grounds for applying the revaluation model (IAS 38)	Application of IFRS 13 fair value hierarchy (Levels 1–3)	Disclosure of pricing sources and sensitivity analysis
7	Volatility	Significant price fluctuations	Does not affect recognition but affects accounting model selection	May lead to frequent revaluation or impairment	Disclosure of market risk (IFRS 7)

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8	Temporal restrictions (lock-up, vesting)	Restrictions on access to the asset	Affects classification as current or non-current asset	May require discounting in measurement	Disclosure of terms and duration of restrictions
9	Governance rights	Voting or protocol management rights	May be recognized as an intangible asset	Measurement at fair value or cost	Disclosure of impact on risk management and decision-making
10	Cross-jurisdictional nature	Absence of clear geographical identification	Affects tax recognition and deferred taxes (IAS 12)	Currency translation at the exchange rate on the transaction date	Disclosure of tax risks and uncertainties
11	On-chain transparency and traceability	Public availability of transaction history	Facilitates verification of asset existence	Confirmation of transaction date and value	Integration of blockchain evidence into audit procedures
12	Automated rewards (yield, staking rewards)	Income generation without a direct counterparty	Recognition of income upon obtaining control	Measurement at fair value at the date of receipt	Disclosure of methodology for determining the taxable event
13	Presence of algorithmic or protocol-related risk	Risk of coding errors, hacking, or algorithm modification	May require recognition of a provision or contingent liability (IAS 37)	Incorporation of risk premium into fair value measurement	Disclosure of technological risks, smart contract audits, cyber risk
14	Tokenization of real-world assets (RWA)	Digital representation of rights to an underlying physical or financial asset	Requires analysis of the substance of the underlying asset to determine the applicable standard	Measurement may be based on the value of the underlying asset	Disclosure of rights structure and mismatch risk between token and underlying asset
15	Token minting and burning mechanisms	Algorithm-driven dynamic change in digital asset supply	Affects timing of initial recognition and derecognition	Impacts valuation through inflationary or deflationary effects	Disclosure of issuance policy, value impact, and dilution risk

*Source: prepared by the author on the basis of (IASB, 2022, 2024; OECD, 2023; Schwiderowski et al., 2023; Smith, 2021; Szrajber et al., 2025).

As a result of the study, it has been established that digital assets within the DeFi environment require particular attention as objects of accounting, since their functioning within decentralized

blockchain infrastructure transforms the economic characteristics of traditional assets and liabilities. A key driver of this transformation is the presence of specific accounting-relevant characteristics that influence the application of IFRS. The systematization of the identified interrelated characteristics enables a transition from a descriptive analysis of the technology to a structured model for the accounting interpretation of digital assets.

The proposed characteristics provide a logical and analytical transformation of technical parameters – such as programmability, composability, algorithmic issuance mechanisms, the tokenization of real-world assets, and protocol-related risks – into practical decisions regarding the application of relevant standards (IFRS 9, IAS 38, IAS 36, IAS 37, IFRS 13). The integration of on-chain tracing and the analysis of algorithmic mechanisms into the accounting control system enhances the reliability of verification and the credibility of financial information.

The practical significance of the study lies in improving the comparability, transparency, and reliability of the financial statements of entities conducting transactions with digital assets within the DeFi environment, as well as in establishing a methodological basis for the further harmonization of accounting standards with the digital economy.

Conclusions. The conducted study confirms that the impact of DeFi and blockchain infrastructure on accounting and the taxation of digital assets is not limited to a technological dimension but is systemic in nature, altering recognition criteria, measurement approaches, and the content of disclosure. The expediency of distinguishing between the infrastructural (blockchain), object (digital assets), and protocol (DeFi) levels of influence has been established, which makes it possible to avoid conflating technical characteristics with the economic substance of transactions. It is precisely the protocol level that gives rise to specific accounting challenges associated with algorithmic income generation, programmable obligations, composability structures, and protocol-related risks.

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Accounting-relevant characteristics of DeFi have been substantiated and systematized, each having a clearly defined impact on the recognition, measurement, and disclosure of digital assets in accordance with IFRS. The proposed approach enables the formalization of professional judgment when selecting among applicable accounting standards depending on the economic substance of the digital asset and the mechanism of its operation within the protocol. Particular importance is attached to the integration of on-chain tracing as an element of the evidentiary basis, which enhances the verifiability of accounting estimates and facilitates the adaptation of auditing procedures to a decentralized environment. Accordingly, the identification of accounting-relevant characteristics of DeFi ensures methodological consistency between the technological nature of blockchain protocols and the requirements of financial reporting and tax regulation, improves the consistency of digital asset classification, reduces the risk of misapplication of standards, and provides a foundation for updating the accounting policies of business entities as well as for the harmonization of standards under conditions of the digital transformation of the financial system.

Further development of the regulatory framework will require interstate coordination, adaptation of regulatory regimes and financial reporting standards, and the integration of technological expertise into the system of public oversight. DeFi is emerging not merely as a technological phenomenon but also as a significant challenge to the architecture of global financial regulation and to the use of digital assets. In addition, prospects for further research should focus on the development of algorithmic models for the automated identification of economic transactions and tax events based on on-chain data.

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