ПРОБЛЕМИ ОБЛІКУ І АУДИТУ
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КЛАСИФІКАЦІЯ ВІРТУАЛЬНИХ АКТИВІВ ДЛЯ ЦІЛЕЙ БУХГАЛТЕРСЬКОГО ОБЛІКУ У ФРАНЦІЇ ТА УКРАЇНІ

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Анотація. У статті досліджується трансформаційна роль віртуальних активів, їхній вплив на глобальну фінансову систему та нові методологічні виклики для бухгалтерського обліку. Основна увага приділяється порівнянню правових та облікових засад для криптоактивів у Франції та Україні в контексті регуляторного ландшафту Європейського Союзу та тіньової економіки.

Основною метою дослідження є аналіз регламенту щодо ринків криптоактивів (MiCA), чинного французького законодавства та українських законопроєктів щодо класифікації віртуальних активів з метою пропонування уніфікованої моделі їх класифікації. Крім того, на основі аналізу французького Плану рахунків, дослідження має на меті запропонувати власні аналітичні субрахунки для українського Плану рахунків та змоделювати потенційні бухгалтерські проведення для операцій з віртуальними активами.

Методологія дослідження ґрунтується на системному підході до вивчення економіко-правових явищ. Метод порівняльно-правового аналізу використовується для зіставлення положень MiCA, законів Франції та українських законодавчих ініціатив (таких, як Закон № 2074-IX та Законопроєкт № 10225-д). Для створення уніфікованої моделі класифікації застосовуються синтез і концептуальне моделювання. Бухгалтерське моделювання сприяє інтеграції нових аналітичних рахунків у національні системи та формуванню типових кореспонденцій рахунків, тоді як абстрагування й системне узагальнення використовуються для формулювання концептуальних висновків щодо різних облікових моделей.

У дослідженні розроблено уніфіковану модель класифікації, яка поєднує європейську правову архітектуру - категоризацію активів на токени електронних грошей (EMT), токени, прив'язані до активів (ART), та загальні криптоактиви - зі специфічними національними фіскальними аспектами. Аналіз продемонстрував, що тоді як Франція використовує повністю функціонуючу систему з виділеними фінансовими рахунками (наприклад, рахунок 522 для утримуваних токенів) і спеціальними транзитними рахунками, Україна потребує перехідного концептуального підходу. У статті запропоновано спеціалізовані аналітичні субрахунки в межах української системи (зокрема, до рахунку 127 "Інші нематеріальні активи" для EMT, ART, унікальних криптоактивів та загальних криптоактивів), чітко уникаючи рахунків грошових коштів. Водночас окремо обґрунтовано, що EMT та ART, які згідно зі статтями 39 і 49 MiCA надають держателю договірне право вимоги викупу до емітента, відповідають визначенню фінансового активу і тому перебувають поза сферою дії IAS 38, а також що оцінка за справедливою вартістю, покладена в основу моделі, наразі не передбачена НП(С)БО 8, у зв'язку з чим модель пропонується de lege ferenda разом із пропозицією внести зміни до п. 19 НП(С)БО 8 та наказу № 291. Також було сформовано комплексну матрицю типових бухгалтерських проведень, яка деталізує процедури капіталізації, переоцінки та закриття рахунків для обох юрисдикцій.

Наукова новизна дослідження полягає у синтезі наднаціональних правових норм зі специфічними національними податковими режимами.

У теоретичному плані дослідження долає розрив між абстрактними теоретико-правовими основами та практикою ведення бухгалтерського обліку. Запропонована теоретична модель демонструє, як українські підприємства можуть практично інтегрувати сучасну європейську таксономію та пов'язані з нею фіскальні стимули в межах чинних національних стандартів бухгалтерського обліку (як нематеріальні активи) до моменту офіційного прийняття комплексного спеціалізованого законодавства.

Ключові слова: віртуальні активи, класифікація активів, бухгалтерський облік, криптоактиви, план рахунків, МСФЗ, нематеріальні активи, оподаткування цифрових активів.

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CLASSIFICATION OF VIRTUAL ASSETS FOR ACCOUNTING PURPOSES IN FRANCE AND UKRAINE

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Abstract. The article explores the transformative impact of virtual assets on the global financial system and the resulting methodological challenges for accounting. It focuses on comparing the legal and accounting frameworks for crypto-assets in France and Ukraine within the European Union's regulatory landscape and the shadow economy.

The primary aim of the study is to analyze the Markets in Crypto-Assets (MiCA) regulation, existing French legislation, and Ukrainian draft laws on the classification of virtual assets, and to propose a unified classification model. Furthermore, based on an analysis of the French Chart of Accounts, the research aims to propose custom analytical sub-accounts for the Ukrainian national chart of accounts and to model potential accounting entries for operations involving virtual assets.

The research methodology relies on a systemic approach to studying economic and legal phenomena. The method of comparative legal analysis is used to contrast the provisions of MiCA with French laws and Ukrainian legislative initiatives (such as Law No. 2074-IX and Draft Law No. 10225-d). Synthesis and conceptual modeling are applied to create the unified classification model. Accounting modeling facilitates the integration of new analytical accounts into national frameworks and the development of a matrix of journal entries, while abstraction and systemic generalization are used to formulate conceptual conclusions across different accounting models.

The study developed a unified classification model that bridges the European legal architecture - categorizing assets into Electronic Money Tokens (EMTs), Asset-Referenced Tokens (ARTs), and general crypto-assets - with specific national fiscal dimensions. The analysis demonstrated that while France utilizes a fully functioning framework with dedicated financial accounts (e.g., Account 522 for held tokens) and specific transit accounts, Ukraine requires a transitional conceptual approach. The authors proposed specialized analytical sub-accounts within the Ukrainian framework (specifically under account 127, "Other intangible assets," for EMTs, ARTs, Unique Crypto-Assets, and General Crypto-Assets), explicitly excluding cash accounts. It is separately substantiated, however, that EMTs and ARTs, which under Articles 39 and 49 of MiCA confer upon the holder a contractual right of redemption against the issuer, satisfy the definition of a financial asset and therefore fall outside the scope of IAS 38, and that the fair-value measurement embodied in the model is not currently permitted by NAS 8, so that the model is advanced de lege ferenda together with a proposal to amend paragraph 19 of NAS 8 and Order No. 291. A comprehensive matrix of typical accounting entries was also formulated, detailing capitalization, revaluation, and closing procedures for both jurisdictions

The scientific novelty of the research lies in synthesizing supranational legal norms with specific national tax regimes.

Theoretically, the study bridges the gap between abstract theoretical-legal frameworks and practical corporate accounting. In practice, the proposed theoretical model demonstrates how Ukrainian enterprises can integrate the modern European taxonomy and its associated fiscal stimuli into current national accounting standards (as intangible assets) until comprehensive specialized legislation is officially adopted.

Keywords: virtual assets, asset classification, accounting, crypto-assets, chart of accounts, IFRS, intangible assets, digital assets taxation

Introduction. Virtual assets are currently emerging as a primary driver of transformation within the architecture of the global financial system. Despite the multitude of associated risks, the inherent advantages - such as decentralization, adaptability, confidentiality, and convenience - appear to outweigh the drawbacks for users significantly. Consequently, an increasing number of countries are striving to regulate transactions involving digital assets within their legal frameworks and to formalize their circulation. This global trend presents a novel challenge for accounting professionals, particularly concerning the accurate reflection of such transactions in financial statements, which is inextricably linked to their correct classification.

According to a Chainalysis report [27], Ukraine ranks among the top ten countries globally in crypto-asset adoption, which also signals the presence of a substantial shadow economy. The legalization of this market is perceived as a priority objective for the Government, as it will not only enhance the country's investment attractiveness but also unlock an additional source of state budget revenue through the taxation of corresponding transactions. This imperative has already materialized in a series of draft laws now in the final stages of approval. Therefore, establishing a robust accounting methodology for these assets, which will soon acquire legal status in Ukraine, has become one of the most pressing issues on the professional community's agenda.

In the context of mitigating the shadow economy, France serves as one of the most exemplary models for Ukraine within Europe. Although the absolute size of its shadow economy is considerable, it accounts for merely 6.7% of its GDP [28], representing the sixth-best performance globally. French practices regarding both the legislative regulation of virtual assets and their corresponding accounting treatments serve as a prime example of the successful implementation of the MiCA (Markets in Crypto-Assets) regulation, which aims to harmonize the legal landscape across Europe.

Task statement. The rapid development of distributed ledgers and cryptoeconomy has transformed virtual assets from a niche technological phenomenon into an integral component of the global financial system. Research confirms a high degree of interconnectivity between crypto-assets and traditional financial markets, with their volatility and significance being particularly amplified during periods of macroeconomic instability and global crises [3, pp. 549-550]. Despite their increasing prevalence, the harmonization of global approaches to accounting and auditing of virtual asset transactions remains a pressing issue [2, p. 125].

Most researchers, quite logically, focus on implementing existing International Financial Reporting Standards (IFRS) for accounting for digital assets. As noted by A. Ozeran and N. Gura, in accordance with the clarifications of the IFRS Interpretations Committee (IFRIC), cryptocurrencies are recommended to be accounted for under IAS 38 "Intangible Assets" or, if held for sale in the ordinary course of business, under IAS 2 "Inventories" [2, p. 128]. The scientific literature acknowledges that a separate international standard exclusively for crypto-assets is not expected soon; therefore, the application of existing intangible asset accounting rules is a reality [1, p. 993].

Given this, the specifics of identifying and evaluating such assets shift into the realm of managerial accounting and national accounting practices. S. Labunska's work highlights the challenges of accurately valuing smart contracts, emphasizing that their relatively short useful

life necessitates the development of more refined amortization methods within the framework of intangible asset accounting [5, p. 29]. Furthermore, discrepancies have been identified between financial accounting and asset valuation in management accounting, where the actual value of assets should incorporate all associated costs. [5, pp. 30-31].

Resolving these accounting dilemmas is also impossible without a clear legal classification. H. O. Sevim functionally divides digital assets into payment, utility, and investment tokens [6, pp. 4-5]. Concurrently, scholars recognize the European MiCA (Markets in Crypto-Assets) Regulation as the most comprehensive regulatory framework, introducing a unified classification of crypto-assets into electronic money tokens (EMTs), asset-referenced tokens (ARTs), and other crypto-assets [6, pp. 5-6].

The successful implementation of such supranational classifications directly depends on the adaptability of national accounting systems. In France, the accounting profession is undergoing a profound transformation due to digitalization and state requirements to dematerialize processes [4, p. 2]. This creates an environment for the rapid integration of MiCA requirements into national accounting practice. Conversely, for Ukraine, optimizing enterprises' resource potential by increasing the share of innovative intangible assets (including crypto-assets) is a strategic tool for post-war recovery [5, p. 32].

However, despite thorough studies of European legislation (MiCA) and a consensus on the application of basic IFRS standards (such as IAS 38), the problem of how to reflect virtual assets, specifically through the lens of national standards and national charts of accounts, remains unresolved in contemporary scientific literature. Currently, there is a lack of comprehensive scientific developments that would simultaneously integrate supranational classification (MiCA), consider specific national tax incentives (such as the French exemption limits or Ukrainian legislative initiatives), and directly translate them into working charts of accounts and typical accounting entries.

The study aims to analyze the European MiCA regulation, French legislation, and draft laws in Ukraine regarding the classification of virtual assets, and to propose a unified classification model for such assets. Building upon this and examining the French chart of accounts, the study further aims to propose supplementary sub-accounts for the Ukrainian national chart of accounts and to model potential accounting entries utilizing them.

Attention should be focused on the following objectives:

1. To conduct a comparative legal analysis of Ukrainian and French legislation concerning the terminology and classification principles of virtual assets, thereby formulating a generalized classification model.
2. To translate the identified categories of these assets - based on their economic purpose - into the frameworks of the French and Ukrainian charts of accounts by proposing appropriate specialized accounts and sub-accounts.
3. To develop a matrix of standard accounting entries for transactions involving virtual assets in both jurisdictions, utilizing the proposed sub-accounts within their respective charts of accounts.

The research methodology is based on a systemic approach to studying economic and legal phenomena, employing a combination of general scientific and specific methods. The foundational method is comparative legal analysis, which contrasts the provisions of the European MiCA regulation, current French legislation, and Ukraine's regulatory initiatives to identify discrepancies in approaches to classifying digital assets. Using synthesis and conceptual modeling, an original unified classification model was developed that organically combines supranational European norms with specific national tax regimes. The transition from a theoretical legal classification to practical corporate accounting was achieved through accounting modeling, enabling the integration of analytical accounts into the national charts of accounts of France and Ukraine and the formulation of a matrix of standard accounting entries. In the final

stage, the methods of abstraction and systemic generalization were utilized to formulate conceptual conclusions regarding the fundamental differences between the statutory French accounting model and the proposed Ukrainian one.

Results. It is appropriate to commence the analysis of the regulatory framework for virtual assets with Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 (Markets in Crypto-Assets (MiCA)). This comprehensive document has been designed to regulate the activities of natural and legal persons within the European Union by addressing the following key aspects [10]: setting uniform requirements for public offerings and admission to trading on trading platforms for the three main asset categories: electronic money tokens, asset-referenced tokens, and other crypto-assets; defining explicit rules and operational standards for entities providing crypto-asset services (e.g., crypto exchanges, digital wallet providers, etc.); ensuring the comprehensive protection of the interests of both crypto-asset holders (during issuance, offering, and admission to trading) and the clients served by crypto-asset service providers; introducing effective measures to prevent insider dealing, the unlawful disclosure of inside information, and market manipulation.

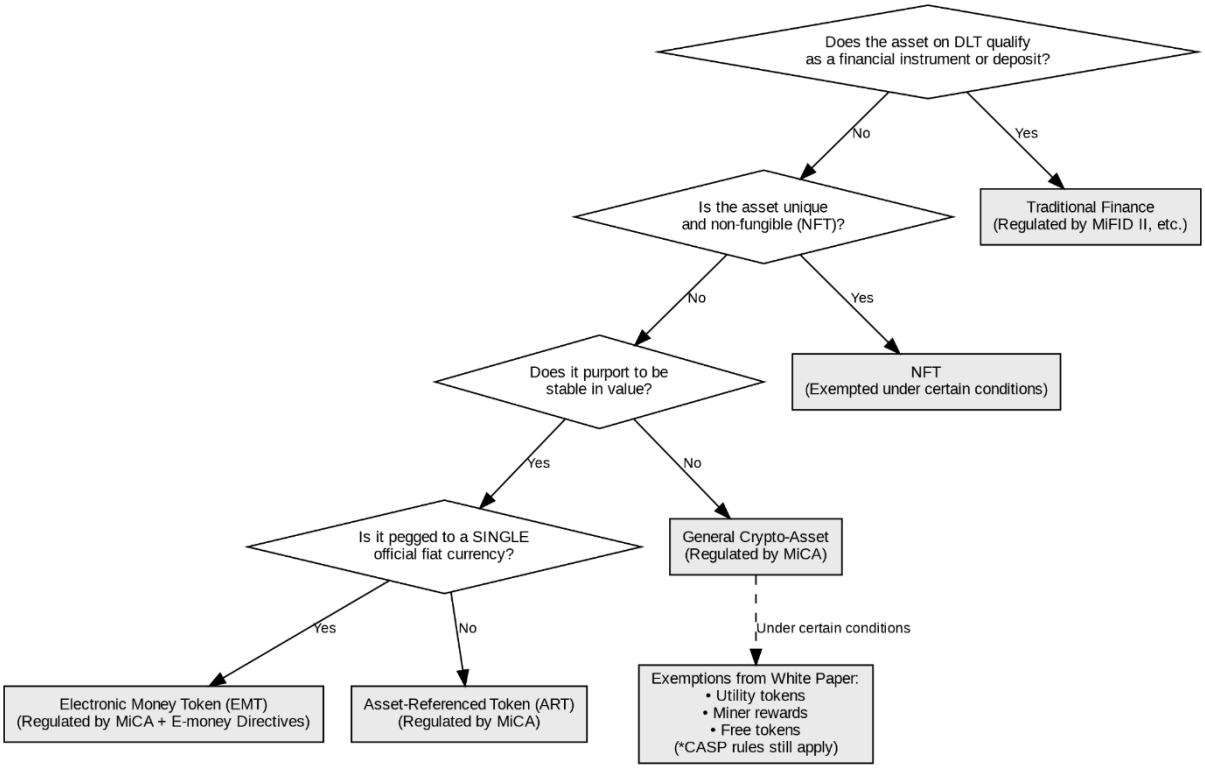

Fig. 1. Classification of Crypto-Assets under the MiCA Regulation [10]

In turn, the legalization of virtual assets in France was pioneered by the 2019 PACTE Law, which initially established the groundwork for regulating the sector. However, the French legal landscape has since evolved to integrate the European MiCA regulation into its national codes fully. Currently, under the Monetary and Financial Code (CMF), the primary terminology used is also «crypto-assets», which are legally treated as negotiable intangible assets. Assets that qualify as traditional financial instruments (instruments financiers) are strictly excluded from this crypto-asset classification and remain governed by conventional financial laws [7, 8].

In line with European alignment, the French framework relies on the standard MiCA categories: Electronic Money Tokens, Asset-Referenced Tokens, and other general crypto-assets. However, France applies a unique, highly specific tax framework to these standard crypto-assets, as defined by the General Tax Code. Under this general tax regime, the law provides significant benefits for individuals, including a complete tax exemption if the total sum of their annual crypto-asset sales does not exceed €305. Furthermore, the law introduces a tax deferral

mechanism for crypto-to-crypto exchanges, meaning that exchanging one standard crypto-asset for another without involving fiat currency does not trigger an immediate taxable event [7, 9].

In addition to the standard categories, the French General Tax Code explicitly isolates Unique and Non-Fungible Crypto-Assets (NFTs) under an exceptional regime. The law clearly states that non-fungible crypto-assets fall outside the standard €305 exemption and the crypto-to-crypto tax deferral rules. Instead, any profits from the sale of NFTs are taxed under the specific legal and tax regime applicable to the underlying goods or rights they represent. The classification of crypto-assets under French legislation is illustrated in Figure 2 [7].

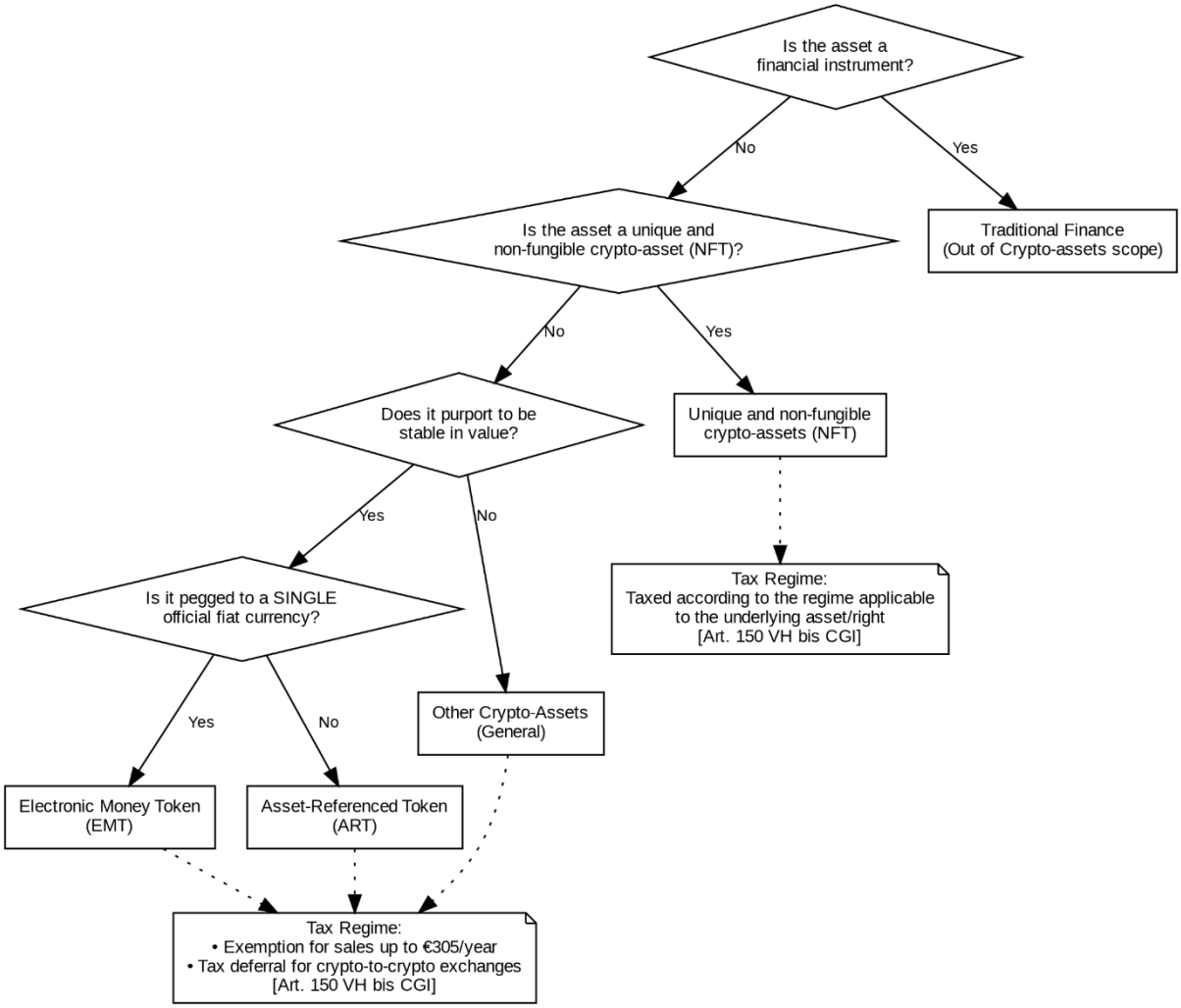

Fig. 2. Classification of Crypto-Assets under French Legislation [7]

In Ukraine, the situation is somewhat more complex, as the legislative regulation of cryptocurrencies is currently undergoing active development. At present, the primary framework is established by the Law of Ukraine No. 2074-IX "On Virtual Assets", which operates with the concept of "virtual assets", defining them as intangible goods that represent an object of civil rights, possess value, and are expressed as a set of data in electronic form. The law divides virtual assets into two main categories: unsecured and secured. Unsecured virtual assets do not certify any property or non-property rights. In contrast, secured virtual assets certify property rights, including the right of claim to other objects of civil rights. Within the secured category, the legislation specifically identifies financial virtual assets, which are further subdivided into two types: those backed by currency values and those backed by securities or derivative financial instruments. The classification of virtual assets under the Law of Ukraine No. 2074-IX "On Virtual Assets" is depicted in Figure 3 [12].

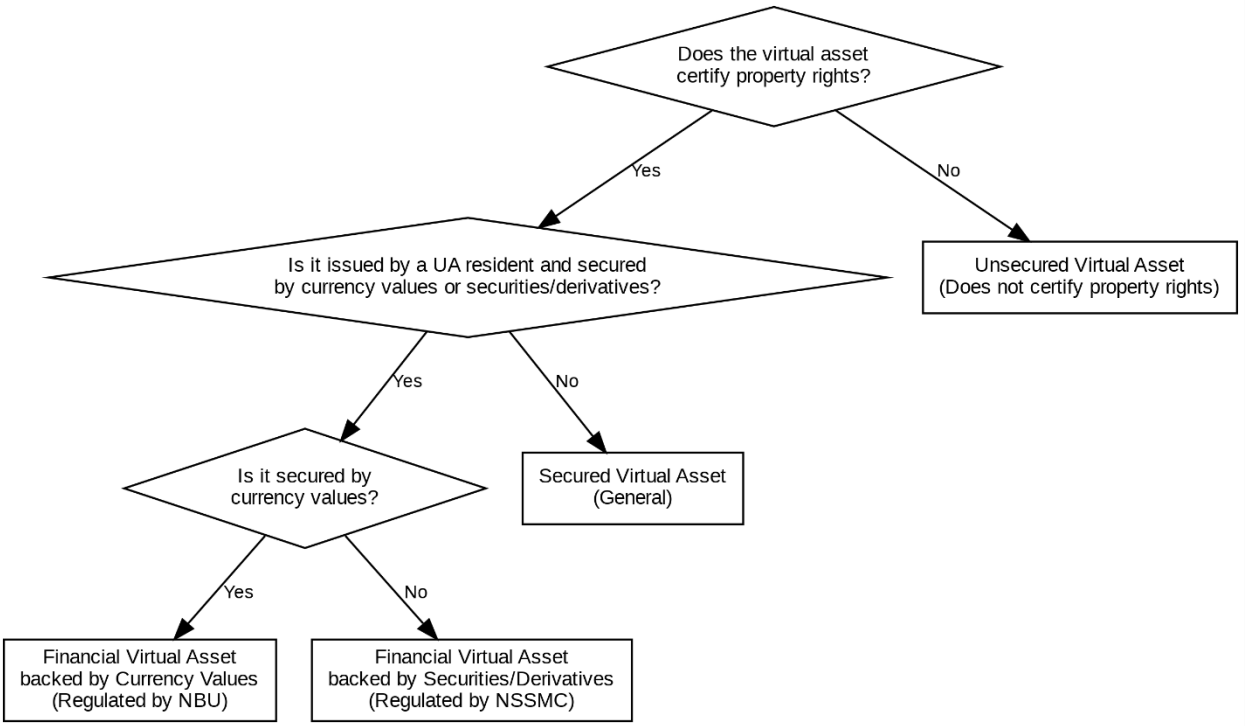

Fig. 3. Classification of Virtual Assets under the Law of Ukraine No. 2074-IX [12]

However, the Law will enter into force only after the implementation of the corresponding amendments to the Tax Code of Ukraine, which are currently set out in Draft Law No. 10225-d. This draft law introduces a fundamental shift in terminology and classification to synchronize with the European Union's standards. Under this new framework, a virtual asset is defined as a type of "digital thing" created, transferred, and stored electronically using distributed ledger technology or similar technologies [11].

Mirroring the MiCA regulation, the draft law categorises virtual assets into three distinct types: Electronic Money Tokens, Asset-Referenced Tokens, and All Other Tokens. This updated classification is presented in Figure 4 [11].

The draft law also explicitly defines exclusions. Digital assets that are classified as traditional financial instruments, deposits, securitization positions, insurance products, pension products, or other regulated financial services are excluded from the definition of virtual assets. Furthermore, the digital money of the National Bank of Ukraine is explicitly excluded from the definition of virtual assets. Additionally, unique assets determined by individual characteristics (NFTs) are exempt from the standard rules regarding public offers and admission to trading [11].

Finally, the associated amendments to the Tax Code propose a specific taxation regime for these assets to facilitate market growth. Notably, the draft introduces tax exemptions for the exchange of one virtual asset for another, as well as an annual tax-free threshold for the sale of virtual assets if the generated income does not exceed one minimum wage [11].

As of the date of this study, Draft Law No. 10225-d has passed its first reading in the Verkhovna Rada (3 September 2025) and is being prepared for its second reading. For corporate accounting purposes, four of its provisions are decisive and have hitherto escaped scholarly attention. First, transactions in virtual assets are prohibited for single-tax payers, and service providers are barred from the simplified regime, which confines the entire accounting problem to entities on the general system of taxation. Second, corporate income taxation is to be effected not through a separate tax but through tax differences adjusting the pre-tax financial result, by analogy with the regime for securities transactions; the accounting treatment therefore directly determines the tax base. Third, a transitional preferential rate of 5% is envisaged for assets

acquired before the law enters into force and disposed of during the first year of its operation, which will require a distinct analytical section for legacy holdings. Fourth, the definition employed in the Tax Code amendments operates with “assets determined by individual characteristics” (NFTs), a category absent from the underlying Law on Virtual Assets Markets — an internal inconsistency identified by the Main Scientific and Expert Department of the Verkhovna Rada, which leaves NFTs, in the Ukrainian construct, in the same regulatory limbo they occupy under MiCA [11].

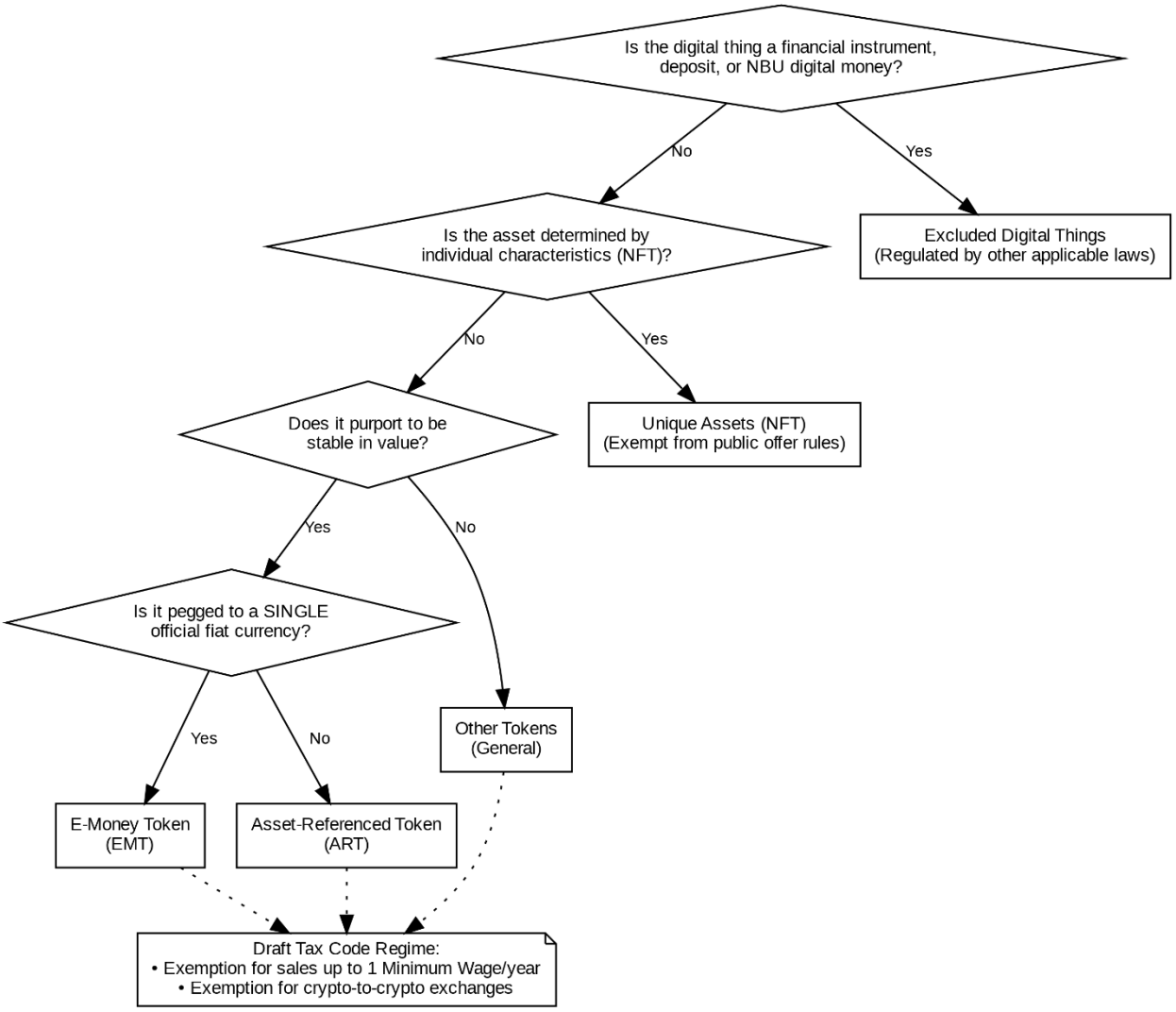

Fig. 4. Classification of Virtual Assets under Draft Law of Ukraine No. 10225-d [11]

Furthermore, given that Draft Law No. 10225-d is currently in the preparatory stage for its second reading in the Verkhovna Rada of Ukraine, various state authorities and institutions have formulated expert recommendations to clarify terminology and overall classification approaches, which are systematized in Table 1 [11].

Table 1

Expert recommendations on virtual asset terminology and classification in Ukraine

Recommending Body	**Summary of Recommendation Regarding Classification and Terminology**
Committee on Digital Transformation	Proposals replacing the lengthy term "virtual assets determined by individual characteristics" with "non-fungible virtual assets". Recommends adding the new term "underlying asset" to clarify the link between a token (such as an asset-referenced token) and the asset it represents. Also suggests introducing the term "trusted country" to differentiate regulatory approaches for entities from specific jurisdictions.
Main Scientific and Expert Department of the Verkhovna Rada	Criticizes the proposed definition of a virtual asset as a "digital thing" tied to distributed ledger technology, recommending the FATF and EU AML Directive approach, defining it by its economic substance as a "digital representation of value". Points out a legal discrepancy: the Tax Code draft introduces unique assets (NFTs), but the base Draft Law on Virtual Assets does not classify them as a separate category. Suggests clarifying other terms such as "distributed ledger" (recommending "information-communication system"), "trust", and "retail holder"
European Business Association	Recommends aligning the definitions of "goods" and "services" for VAT purposes with EU Directive 2006/112/EC. Since virtual assets are not tangible property, they cannot be defined as "goods", and operations involving their sale or exchange should be classified strictly as the "supply of services" rather than the "supply of goods»
Committee on Ukraine's Integration into the EU	Emphasizes that classifying the sale or exchange of virtual assets as a "supply of goods" directly contradicts EU law (specifically Directive 2006/112/EC and the CJEU ruling in Skatteverket v David Hedqvist). Recommends that under European standards, virtual assets act as a means of payment, and their exchange must be classified as a "supply of services"

Having analyzed MiCA, the legislation of France, and the draft laws of Ukraine regarding the circulation of crypto-assets, a unified classification model has been formed, the scientific novelty of which lies in synthesizing supranational legal norms with specific national tax regimes (Fig. 5) [7, 8, 9, 10, 11, 12].

While the European standard provides a foundational legal architecture based on the economic substance of assets (categorizing them into electronic money tokens, asset-referenced tokens, and general crypto-assets), it lacks a critical fiscal dimension. This model bridges that gap by directly superimposing local tax incentives - such as the French €305 exemption and crypto-to-crypto tax deferral, alongside Ukrainian proposals for tax-free sales up to one minimum wage - onto the pan-European foundation. Furthermore, the model visualizes the regulatory anomaly of non-fungible tokens (NFTs), showing that their exemption from standard financial oversight necessitates applying tax rules based on the underlying assets they represent.

Ultimately, this proves that a comprehensive understanding of crypto-assets requires inextricably linking their legal status with their fiscal lifecycle, making the developed decision tree a fundamentally novel tool for comparative legal and economic research.

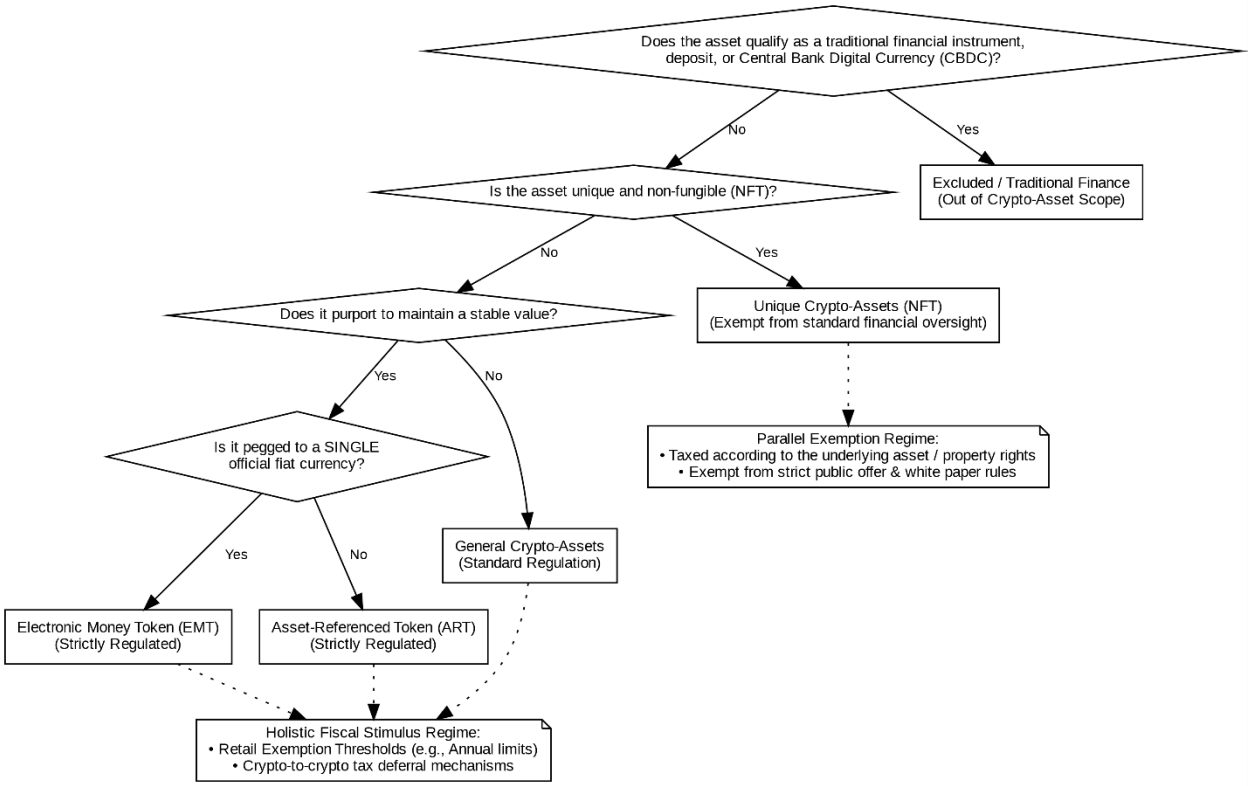

Fig. 5. Unified Classification Model of Crypto-Assets Combining MiCA and National Tax Regimes [7, 8, 9, 10, 11, 12]

A caveat of the first order must be attached to this model. The fiscal incentives superimposed onto the MiCA taxonomy - the French €305 annual threshold and the crypto-to-crypto deferral under Article 150 VH bis of the CGI, as well as the Ukrainian proposal for a tax-free disposal of up to one minimum wage - belong to the regime of personal income taxation and are unavailable to legal entities. A French société holding tokens is taxed under the corporate income tax (impôt sur les sociétés) based on its statutory accounts, while Draft Law No. 10225-d introduces, for Ukrainian corporate taxpayers, a system of tax differences adjusting the pre-tax financial result by analogy with the regime for securities transactions and simultaneously prohibits single-tax payers from transacting in virtual assets altogether. The unified model, therefore, operates on two distinct levels: the classification layer (MiCA categories) is common to both natural and legal persons, whereas the fiscal layer bifurcates. This bifurcation itself carries an accounting consequence of considerable practical weight: because, under Article 619-12 of the PCG, unrealized revaluation differences on held tokens are recorded in balance-sheet transit accounts and never transit through the income statement, they do not enter the taxable result of a French company - the accounting rule of prudence thus produces, indirectly, a deferral of corporate taxation on latent gains. The Ukrainian model proposed below, by routing revaluations through accounts 710 and 940, would produce the opposite outcome - the taxation of unrealized gains - unless a corresponding tax difference is legislatively provided for. Accordingly, aligning the accounting mechanics with Article 141 of the Tax Code is a precondition for the model's practical viability [23].

Before descending to the level of national charts of accounts, the international benchmark must be established. In June 2019 the IFRS Interpretations Committee issued its agenda decision Holdings of Cryptocurrencies, concluding that a holding of cryptocurrency meets the definition

of an intangible asset under IAS 38 - being an identifiable non-monetary asset without physical substance - and that it constitutes neither cash (it is not a medium of exchange giving rise to a monetary unit of account under IAS 21) nor a financial asset (it embodies no contractual right to receive cash). Where cryptocurrency is held for sale in the ordinary course of business, IAS 2 applies, and a broker-trader may measure it at fair value less costs to sell, with changes recognized in profit or loss. The practical consequence of this framework is a well-documented asymmetry: an entity applying the IAS 38 cost model must recognize every impairment yet may recognize no subsequent recovery above cost [16]. Tesla Inc. illustrated the resulting distortion in 2021, recording an impairment charge of USD 101 million on its Bitcoin holdings during a period in which the market price had, by year-end, recovered - a loss that was economically fictitious yet accounting-mandatory [24]. It was precisely this distortion that prompted the FASB to issue ASU 2023-08 (Subtopic 350-60), which, for fiscal years beginning after 15 December 2024, requires in-scope crypto-assets to be measured at fair value with all changes recognized in net income [15]. Three paradigms therefore coexist today: the IFRS intangible-asset model (cost with asymmetric impairment), the US GAAP fair-value-through-earnings model, and the French statutory model (fair value with asymmetric prudence via transit accounts). Ukraine, in choosing among them, is not innovating in a vacuum but selecting from an existing menu - and the model proposed in this study is closest to the French one in mechanics and to the American one in economics.

The value-added tax dimension, although outside the strict perimeter of the chart of accounts, determines whether a token disposal generates a tax liability at all and, therefore, whether VAT appears in the entries modeled below. In Skatteverket v. David Hedqvist (Case C-264/14), the Court of Justice of the European Union held that the exchange of traditional currency for bitcoin constitutes a supply of services for consideration which is exempt under Article 135(1)(e) of Directive 2006/112/EC; France applies this exemption directly. The Ukrainian draft, by treating virtual assets as “digital things” within the regime of movable property, risks characterizing their disposal as a supply of goods — an approach which both the European Business Association and the Verkhovna Rada Committee on Ukraine’s Integration into the EU have identified as directly contrary to EU law. The accounting consequence is immediate: a “supply of goods” characterization would require the VAT accounts (641, 643) in every disposal entry, whereas the “supply of services” characterization, which we regard as the correct one, does not [25].

A further layer of requirements, absent from the current Ukrainian debate, arises from the OECD Crypto-Asset Reporting Framework (CARF) and Council Directive (EU) 2023/2226 (DAC8), which introduces the automatic exchange of information on crypto-asset transactions from 2026–2027. These instruments presuppose that reporting entities can identify the counterparty, reconstruct the full transaction history of each asset, and apply a consistent cost-flow assumption (FIFO or weighted-average cost). None of these obligations can be discharged based on a synthetic account alone; they require precisely the analytical structure proposed below, and they convert what might otherwise appear to be a methodological refinement into a compliance necessity [26].

In accounting practice, France's national chart of accounts is significantly better adapted to reflecting transactions involving virtual assets, given that the relevant legislation is already fully operational. The accounts suitable for recording such assets are systematised in Table 2 [14].

Table 2

French chart of accounts applicable to transactions with virtual assets

Account Code	Account Name	Type of account	Short Description
4742	Evaluation differences on held tokens - Asset	Active	Records unrealized losses on held tokens due to valuation differences at the end of the period.
4746	Evaluation differences of tokens on liabilities - Asset	Active	Records unrealized losses related to tokens classified as liabilities.
4752	Evaluation differences on held tokens - Liability	Passive	Records unrealized gains on held tokens due to valuation differences at the end of the period.
4756	Evaluation differences of tokens on liabilities - Liability	Passive	Records unrealized gains related to tokens classified as liabilities.
4871	Prepaid income on issued tokens	Passive	Records deferred revenues or prepaid income specifically related to the issuance of tokens by the entity.
522	Held tokens	Active	Used to record tokens acquired and held by the entity.
523	Self-held tokens	Active	Used to record the entity's own issued tokens that it currently holds.
524	Borrowed tokens	Active / Passive	Used to record tokens that the entity has borrowed from third parties.
6674	Net charges on sales of tokens	Active (Expense)	Records of net financial charges or losses incurred from token sales.
7674	Net income on sales of tokens	Passive (Revenue)	Records the net financial income or gains generated from the sale of tokens

Since the Ukrainian Chart of Accounts does not yet explicitly include crypto-assets (unlike the French one), we consider it appropriate to propose custom sub-accounts and analytical accounts to record transactions involving virtual assets. Given the regulatory consensus in Ukraine that crypto-assets are not considered legal tender or cash equivalents, this model intentionally avoids cash accounts, such as accounts 31, "Accounts in banks," and 33, "Other funds." Instead, it classifies all digital assets strictly as intangible assets within the existing national framework (Table 3) [13].

Table 3

Proposed custom analytical sub-accounts for virtual assets in the Ukrainian chart of accounts

Account Code	Account Name	Type of account	Short Description
1271	Unique Crypto-Assets (NFTs)	Active	Analytical account under 127 "Other intangible assets" — records unique tokens tied to the Parallel Exemption Regime, as they are exempt from standard financial oversight.

Table 3 (Continued)

1272	Electronic Money Tokens (EMT)	Active	Analytical account under 127 "Other intangible assets". Records strictly regulated tokens pegged to a single official fiat currency.
1273	Asset-Referenced Tokens (ART)	Active	Analytical account under 127 "Other intangible assets". Records strictly regulated tokens that maintain stable value via multiple assets.
1274	General Crypto-Assets	Active	Analytical account under 127 "Other intangible assets". Records all other standard crypto-assets subject to standard regulation.
3771	Settlements on Crypto-to-Crypto Exchanges	Active / Passive	Analytical account under 377 "Settlements with other debtors". Transit account to record the exchange of one crypto-asset for another, enabling the crypto-to-crypto tax deferral mechanism.
7101	Income from fair value change of Crypto-Assets	Passive	Sub-account of 710 "Income from initial recognition and from change in value of assets measured at fair value". Records unrealized gains from the revaluation of crypto-assets.
7121	Income from the realization of Crypto-Assets	Passive	Sub-account of 712 "Income from realization of other current assets". Records revenue generated from the sale of crypto-assets.
9401	Expenses from fair value change of Crypto-Assets	Active	Sub-account of 940 "Expenses from initial recognition and from change in value of assets measured at fair value". Records unrealized losses (impairment) due to market devaluation.
9491	Cost of realized Crypto-Assets	Active (Expense)	Sub-account of 949 "Other expenses of operating activity". Records the carrying amount of crypto-assets during their sale or disposal.

It must be clearly recognized that the proposed model intentionally deviates from the current wording in NAS 8, Intangible Assets [20]. According to NAS 8, an intangible asset is valued either at historical cost less depreciation and impairment, or at the revaluation model, but only where there is an active market, with a revaluation surplus recognized directly in equity (sub-account 412) and not in profits or losses. Accounts 710 and 940 were, in turn, introduced into the chart of accounts to maintain NAS 30 "Biological Assets" [20] and were officially reserved for assets whose fair value measurement is expressly provided for in the national standard. It should be noted that accounts 710 and 940 also record income and expenses arising from changes in the fair value of financial instruments. This produces a bifurcation within the proposed model itself: for e-money tokens and asset-referenced tokens — which, as demonstrated below, constitute financial assets in substance — the fair-value routing through accounts 710 and 940 already possesses a normative basis under NAS 13 [21]. It is only for general crypto-assets and non-fungible tokens, which are genuinely intangible, that the proposed measurement exceeds the current wording of NAS 8. The de lege ferenda element of this study is therefore narrower, and correspondingly more realistic, than it might first appear. What is required is not a wholesale reconstruction of the national standards, but a targeted amendment to paragraph 19 of NAS 8 extending fair-value measurement to intangible assets quoted on an active market. Without such an amendment, an entity applying national standards would be

limited to a cost model that, given the volatility of crypto-assets, would render the balance economically meaningless. This tension between the legal form of the account and the economic essence of the asset is, in our opinion, the central methodological problem of crypto-accounting in Ukraine, and it was this problem that the French regulator solved by creating a special section (Articles 619-1 to 619-19) of the PCG. [17, 18, 19]

Furthermore, this proposed structure seamlessly integrates the newly developed holistic taxonomy, systematically categorizing assets into Electronic Money Tokens (EMTs), Asset-Referenced Tokens (ARTs), Unique Crypto-Assets (NFTs), and General Crypto-Assets. It also incorporates specialized transit and off-balance accounts to practically track specific fiscal stimuli, such as crypto-to-crypto tax deferrals and annual retail exemption thresholds.

Two off-balance-sheet accounts are required to complete the structure. The first, proposed as analytical account 0801 “Client crypto-assets in custody” (within account 08), records assets held on behalf of clients by a crypto-asset service provider; it reproduces, without inflating the balance sheet, the safeguarding-asset and safeguarding-liability logic applied to Coinbase Global under SEC Staff Accounting Bulletin No. 121, and it addresses what will be, for any licensed Ukrainian provider, the single largest item under its control. The second, analytical account 0901 “Cumulative annual disposals of crypto-assets within the exempt threshold” (within account 09), maintains a running total of disposals measured against the annual exempt threshold — one minimum wage in Ukraine and €305 in France — and thereby enables the taxpayer to evidence entitlement to the exemption before the tax authority. Without these two accounts, the fiscal layer of the unified model has no carrier in the accounting system.

A crucial qualification must be introduced at this point, which the existing literature has largely overlooked. Article 49 of the MiCA Regulation confers upon holders of e-money tokens a claim against the issuer and a right of redemption at par value, at any moment, at the nominal value of the referenced currency; Article 39 establishes an analogous, albeit more complex, redemption right for asset-referenced tokens [10, Art. 39, 49]. From an accounting perspective, this transforms the economic substance of EMTs and ARTs: they cease to be self-standing digital commodities and become a contractual right to receive cash from an identified counterparty — that is, they satisfy the definition of a financial asset under IFRS 9 and NAS 13. They are therefore expressly excluded from the scope of IAS 38. It follows that the widespread practice of accounting for all crypto-assets uniformly as intangible assets is defensible only for the residual MiCA category (general crypto-assets, such as Bitcoin or Ether, which embody no claim against any issuer) and for non-fungible tokens. For EMTs and ARTs, a "receivable" logic is methodologically superior. We therefore propose a bifurcated model: sub-accounts 1271 and 1274 remain within account 127 "Other intangible assets", whereas sub-accounts for EMTs and ARTs are more appropriately located under account 377 (or account 35 for tokens acquired for resale), with impairment tested against the issuer's credit risk rather than against market price alone. The collapse of TerraUSD in May 2022 — a nominally "stable" token that lost its peg within seventy-two hours — demonstrates that the risk carried by an EMT holder is, in substance, issuer credit risk, and that presenting such an instrument as an intangible asset conceals the very exposure that financial reporting is meant to reveal. For the present model, EMTs and ARTs are nevertheless retained within account 127 for two pragmatic reasons: no licensed issuers of such tokens are yet authorized in Ukraine, and Draft Law No. 10225-d does not vest holders with an enforceable statutory redemption right equivalent to Articles 39 and 49 of MiCA. Until the regulator authorizes the first issuers, the redemption claim remains contractual rather than statutory, and the presentation of intangible assets is a defensible transitional expedient. Once such issuers appear, the migration of sub-accounts 1272 and 1273 to account 377 will become mandatory rather than optional — and, in our view, this constitutes the principal forthcoming methodological task for the Ministry of Finance of Ukraine.

Based on the proposed sub-accounts and the French chart of accounts, we shall examine the matrix of standard accounting entries for transactions involving virtual assets (Table 4) [13, 14].

Table 4

Matrix of standard accounting entries for transactions involving virtual assets in Ukraine and France

No.	Operation Description	Ukrainian Chart of Accounts		France Chart of Accounts	
		Debit	Credit	Debit	Credit
1	Purchase of a General Crypto-Asset (e.g., Bitcoin) from a supplier or exchange, recording the initial cost before commissioning	154 (Capital investments in intangible assets)	631 / 685 (Settlements with suppliers / other creditors)	522 (Held tokens)	401 / 512 (Suppliers / Banks)
2	Incurring related acquisition costs (e.g., expert fees). In Ukraine, these are capitalized; in France, they are expensed immediately.	154 (Capital investments in intangible assets)	631 / 685 (Settlements with suppliers / other creditors)	6226 (Honoraria / Fees)	401 / 512 (Suppliers / Banks)
3	Commissioning the General Crypto-Asset into operation at its accumulated historical cost	1274 (General Crypto-Assets - custom proposed)	154 (Capital investments in intangible assets)	— (No entry required, already recognized in 522)	—
4	Purchase of an Electronic Money Token (e.g., Tether/USDT) classified as a stablecoin, recording the initial cost	154 (Capital investments in intangible assets)	631 / 685 (Settlements with suppliers / other creditors)	522 (Held tokens)	401 / 512 (Suppliers / Banks)
5	Commissioning the Electronic Money Token into operation	1272 (Electronic Money Tokens - custom proposed)	154 (Capital investments in intangible assets)	— (No entry required)	—

Table 4 (Continued)

6	Write-off of lost or stolen crypto-assets (e.g., due to a hacker attack), recognizing the loss	947 (Shortages and losses from spoilage of valuables)	1272 / 1274 (EMT / General Crypto)	678 (Other exceptional expenses)	522 (Held tokens)
7	Revaluation of the reporting date reflects an increase in fair value (unrealized gain).	1274 (General Crypto-Assets - custom sub-account to 127)	7101 (Income from fair value change - custom sub-account to 710)	522 (Held tokens)	4752 (Evaluation differences on held tokens - Liability)
8	Revaluation of the reporting date reflects a decrease in fair value (unrealized loss).	9401 (Expenses from fair value change - custom sub-account to 940)	1274 (General Crypto-Assets - custom sub-account to 127)	4742 (Evaluation differences on held tokens - Asset)	522 (Held tokens)
				6865 (Allocations to financial provisions)	1518 (Other provisions for risks)
9	Closing of income accounts at the end of the period to determine the financial result (transferring recognized revenues and gains).	7101 / 7121 (Income accounts)	791 / 793 (Financial results)	7674 (Net income on sales of tokens)	120 (Result of the financial year - profit)
10	Closing expense accounts at the end of the period to determine the financial result (transferring recognized losses, thefts, and expert fees).	791 / 793 (Financial results)	9401 / 947 / 9491 (Expense and shortage accounts)	129 (Result of the financial year - loss)	6674 / 678 / 6226 / 6865 (Net charges / Exceptional / Fees / Provisions)

A qualification of substance must be attached to the French entries in the matrix below. The transit accounts 4742 and 4752 do not neutralize revaluation differences symmetrically. Under Article 619-12 of the PCG, a latent gain is recorded against account 4752 and never reaches the income statement, whereas a latent loss, although recorded against account 4742,

obliges the entity to recognize a provision for risk (debit to account 6865 “Charges to provisions — financial”, credit to account 1518 “Provisions for risks”), which is charged to the result of the period. This asymmetry is not an incidental technicality but the codified expression of the prudence principle: the French statutory accounts may understate, but may never overstate, the position of the entity. The Ukrainian model proposed above, by routing both directions of revaluation symmetrically through accounts 710 and 940, embodies the opposite philosophy — that of information neutrality — and the choice between the two is ultimately a choice between the protection of creditors and the protection of investors [17, 19].

Conclusions. The comparative analysis highlights a fundamental methodological distinction between the statutory French framework and the theoretical model proposed for Ukraine. France operates under a codified, fully functioning system that directly recognizes tokens in dedicated financial accounts and strictly enforces the prudence principle. This principle relies on specific balance sheet transit accounts (such as 4742 and 4752) to isolate unrealized "paper" profits or losses from revaluations, This isolation is, however, deliberately asymmetric: pursuant to Article 619-12 of the PCG, latent gains are neutralized through account 4752 and never reach the income statement, whereas latent losses, although routed through account 4742, must be matched by a provision for risk charged to expenses. The French statutory accounts are thus permitted to understate, but never to overstate, the entity’s position. Conversely, because Ukraine’s specialized crypto-asset legislation is still pending, the Ukrainian approach presented here is conceptual, relying on the strategic adaptation of the existing Intangible Assets framework and a fair-value methodology. The study concludes that successfully integrating the modern European taxonomy (MiCA) and its associated fiscal stimuli into the Ukrainian system requires introducing custom analytical and off-balance accounts. By doing so, this theoretical model demonstrates how Ukraine can practically track asset lifecycles, crypto-to-crypto tax deferrals, and retail exemption thresholds within current national standards until comprehensive legal alignment is officially achieved.

Two further methodological implications emerge from the analysis. First, the uniform treatment of all crypto-assets as intangible assets — the approach prevailing in the Ukrainian literature — is defensible only for general crypto-assets and non-fungible tokens; e-money tokens and asset-referenced tokens, by virtue of the redemption rights conferred by Articles 39 and 49 of MiCA, are in substance claims against an identified issuer and therefore fall within the perimeter of financial instruments. The de-pegging of TerraUSD demonstrated that the dominant risk borne by their holders is issuer credit risk, which the intangible-asset presentation conceals rather than reveals. Second, the fair-value mechanics proposed for Ukraine cannot be implemented within the existing wording of NAS 8; the model is accordingly advanced de lege ferenda and presupposes a targeted amendment to paragraph 19 of NAS 8 and to Order No. 291 of the Ministry of Finance. In the absence of such an amendment, Ukrainian entities remain confined to a cost model whose informational value, given the volatility of the underlying assets, approaches zero.

Given that the regulatory landscape in Ukraine is currently undergoing active transition, further research should focus on the practical implementation and adjustment of the proposed accounting models once Draft Law No. 10225-d and the corresponding amendments to the Tax Code of Ukraine are officially adopted and enter into force. Additionally, given the highlighted complexities in identifying and assessing digital assets, future studies should explore the alignment between external financial accounting and internal managerial accounting. Specifically, further research should address the proper allocation of associated acquisition costs (such as expert and legal fees) and the development of refined depreciation methods for short-term smart contracts, which are vital for accurately evaluating an enterprise's innovative potential.

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