

TRENDS AND PERSPECTIVES IN RECOGNIZING CRYPTOCURRENCIES ACCORDING TO INTERNATIONAL ACCOUNTING REGULATION

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Abstract. *In this paper, the topic of accounting treatment of cryptocurrencies is examined through the lens of International Financial Reporting Standards (hereinafter: IFRS). An overview of the current body of research in this area is presented, along with recommendations for further improvements in cryptocurrency accounting records. This paper is based on a systematic review of scientific and professional literature as well as the current IFRS framework. Specifically, the systematic review is designed to investigate the issue of recognizing cryptocurrency and evaluate its confirmation and evidence in the available literature and IFRS framework. While crypto markets grew rapidly initially, they have enjoyed great investor interest over the past decade, despite the high risk and volatility of earnings, which raised the issue of institutional regulation of cryptocurrencies. The paper attempts to identify the most appropriate accounting treatment of cryptocurrency transactions under existing IFRS, as there is no specific regulation in place.*

Key words: *recognition, transaction, financial reporting, crypto market*

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1. INTRODUCTION

During the past decade, cryptocurrencies (hereinafter: CC or CCs) have experienced a tremendous expansion in the world economy, resulting in a number of issues, such as the accounting treatment of digital transactions involving CCs. There are several major challenges facing crypto market participants, such as unequal treatment of this currency as a means of trade and payment in some countries, a lack of legal regulation and an adequate taxation system, as well as a lack of coverage by the IFRS framework. CC is a form of virtual currency with electronic money characteristics that are not supervised by central banks. CCs are not backed by gold or any other material asset; they do not fall under institutional or regulatory jurisdiction, but are based on crypto market supply and demand. Therefore, CCs oscillate greatly in short time intervals. The paradox is that CCs do not fulfill any function of money, although that is why they were created. The most commonly used CCs are Bitcoin, Ethereum, Tether, XRP, USD Coin, BNB, Cardano, Dogecoin, Tron, etc. There are more than 23.000 CCs. That is a far cry from a decade ago, when there were just seven.

As CCs lack tangibility, security and data protection remain the biggest challenges. CCs are not printed, but are created by mining - solving mathematical algorithms by miners to record transactions. CC miners are legal or natural persons paid for their work with newly created CCs. Their primary costs are the high electricity consumption, software licenses, and sophisticated equipment that is either bought or rented to solve the mathematical algorithms that occur each time a transaction is made.

In blockchain technology, two related parties can make CC payments electronically without a third party's involvement (bank, clearinghouse, intermediary). It is a digital public register in which data appears in the form of blocks and in the form of transactions. In addition to being powered by decentralized software and electricity, blockchain is maintained and managed by numerous users - miners. The equipment keeps a record of crypto market transactions that can be viewed by participants. Among the features of blockchain technology that instill confidence and provide security and protection in transactions with CCs are the inability of retroactively altering transactions, their transparency, as well as protection against fraud, corruption, copying, inflation, and human error.

This paper focuses on the problem of (adequate) accounting inclusion of CC transactions. The regulation of CCs can be viewed from several aspects: institutional, legal, tax and accounting. Despite the fact that every aspect of regulation is challenging for the world's biggest economies and international institutions, the authors of this paper will attempt to provide an accounting scope model within the existing IFRS framework.

2. RECOGNITION OF CRYPTO TRANSACTIONS

IFRS does not provide specific guidance on CC accounting, and there is no clear practice among entities, so accounting of CCs could be governed by different standards (Leopold & Vollmann, 2019, p. 4). Although there is no standard or guidance issued by IFRS for CCs accounting treatments, IAS 8 clarifies the requirements for accounting treatment of transactions in the absence of an IAS for those transactions (Shehada & Shehada, 2020, p. 3). According to IAS 8, "management shall use its judgment in developing and applying an accounting policy, in the absence of IFRS that specifically applies to a transaction, other event or condition". Selected policy shall produce information that is relevant to the users' economic

decision-making needs and will be reliable. To make its “judgment, management shall refer to and consider the following sources in descending order:

- The requirements in IFRS dealing with similar and related issues;
- The definitions, recognition criteria and measurement concepts for assets, liabilities, income and expenses in the Framework” (Procházka, 2018, p. 164).

The paper discusses whether CCs can be recognized as:

- Cash (money, currency) or cash equivalent according to IAS 7 and IAS 21;
- Financial instruments (financial assets) according to IAS 32 and IFRS 9;
- Intangible assets according to IAS 38;
- Inventories according to IAS 2; and
- Investment property according to IAS 40.

2.1. Selecting a Cryptocurrency Recognition Model

2.1.1. Cash (money, currency) or cash equivalent

The IAS 7 (SAAA, 2019, p. 601-602) defines cash as “cash on hand and demand deposits, and cash equivalents as short-term highly liquid investments that can be converted to cash quickly and without risk”. To be equivalent to cash in the short term (up to three months), the investment should be convertible into a known amount of cash and there should be no risk of its value changing. CC obviously “does not correspond to the definition of the cash equivalent. In most cases, CC is not a short-term operation and is aimed at the long-term period” (Lapitkaia & Leahovcenco, 2020, p. 111). Therefore, CCs for now do not meet the requirements to be considered cash or cash equivalents (Milutinović et al., 2020, p. 5).

However, there are other opinions. For example, Procházka (2018) is of the opinion that CCs should be “presented in financial statements as cash if it is acquired in a business transaction as a medium of exchange, i.e. as a means of payment received for goods or services sold by an entity. IAS 21 should be applied in such cases. Under current development, CCs are not generally accepted as a medium of exchange. Therefore any payment received in CCs should be treated as a transaction in foreign currency, translated into functional currency by applying a spot exchange rate at the transaction date. Any holdings of CCs are monetary items, and, in preparation of financial statements, they shall be translated using a closing rate” (Procházka, 2018, p. 166).

2.1.2. Financial instruments (financial assets)

According to IAS 32 (SAAA, 2019, p. 980-983), “financial asset is cash, an equity instrument of another entity, a contractual right or a contract that will or may be settled in the entity's own equity instruments”. Some CCs “cannot be used as a medium of exchange, as they have a limited medium of exchange compared to most traditional fiat currencies. The use of CCs has also been banned by a number of financial institutions around the world, as they represent an increased risk in financial transactions” (Lapitkaia & Leahovcenco, 2020, p. 111). A financial liability can be a contractual obligation or a contract that will or may be settled in with the entity's own equity instruments. Equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities.

The provisions of IAS 32 cannot be applied to CCs since they cannot be recognized as financial assets, financial liabilities, or equity instruments (Milutinović et al., 2020, p. 5). Furthermore, they cannot be recognized as financial instruments, since IFRS 9 (SAAA, 2019, p. 264) allows a financial instrument to be recognized when there “is a contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity”. Finally, it should be pointed out that CCs can fall within the scope of IFRS 9 if they are recognized as (any kind of) assets and are designated as a hedged item under hedge accounting, assuming they are reliably measurable. “Similarly, transactions with CCs may directly fall under IFRS 9 when short-selling CCs and other derivative-like contracts, such as CFDs (Contract for Difference), margin trading, or liquidity swaps” (Prochazka, 2018, p. 168).

2.1.3. Intangible assets

According to IAS 38 (SAAA, 2019, p. 1098-1102), “intangible assets are non-monetary assets which are without physical substance and identifiable, while an asset is a resource that is controlled by the entity as a result of past events and from which future economic benefits are expected”. Based on the definition, there are three basic conditions for intangible assets: “a) identifiability; b) control; c) future economic benefits. Intangible asset is identifiable when it is separable or arises from contractual rights”. Control means an entity's ability to obtain future economic benefits arising from an intangible asset and to limit others' access to those benefits. Future economic benefits may refer to sales revenue, cost savings, and other benefits from assets that the entity uses. For an asset to be recognized as an intangible asset, it does not have to meet all requirements from the definition.

In addition to having no physical substance, CCs can be identified and exchanged, they provide economic benefits to the entity and others cannot access those benefits. Additionally, CCs meet the non-monetary criteria, because their value is neither fixed nor determinable given the wide fluctuations in the crypto market. Therefore, CCs can be recognized as intangible assets with few exceptions (Milutinović et al., 2020, p. 6). “As CCs are digital currencies, not having a physical form, some authors prefer to recognize CCs as an intangible asset on the balance sheet statement, with the cost model as a basic treatment and the revaluation model (fair value) as an available alternative” (Berchowitz, 2017). “However, if the estimated disposal value is lower than cost, the CC should be measured using the estimated disposal value, the difference between the carrying amount should be recognized as a loss. This loss should not be reversed in subsequent periods” (Yatsyk, 2018, p. 58).

“If an active market for the CC exists, such CC should be measured using the market price at the balance sheet date, while the difference between the carrying amount should be recognized as a gain or loss” (Yatsyk, 2018, p. 58). The revaluation model, however, can only be applied if there is an active market for the determination of fair value. Thus, CCs can be defined as intangible assets with an indefinite service life, if there are no factors to indicate a definite useful life (Lapitkaia & Leahovcenco, 2020, p. 112). Having determined that depreciation is not calculated for CCs because they have an indefinite useful life, all that remains is to test them for impairment and record the impairment in the profit or loss statement according to IAS 36.

Fair value accounting of CCs is possible only if an active market exists, so it can be measured correctly. Accounting according to the revaluation method is more complex:

“increases in fair value are reflected in other comprehensive income (OCI), while decreases are registered in profit or loss. The provisions of IFRS 13 are used to determine the fair value of CC. However, the current application of IAS 38 and the measurement of CCs at cost do not correspond to the economic substance and does not provide relevant information to users of financial statements” (Lapitkaia & Leahovcenco, 2020, p. 112).

2.1.4. Inventories

According to IAS 2 (SAAA, 2019, p. 565-567), “inventories include assets held for sale in the ordinary course of business”, which means that CCs acquired for resale can be recognized as inventories if the entity is registered for trading/intermediary activity. Inventories are short-term current assets that meet the following conditions cumulatively: a) there is control or ownership of that type of asset; b) acquisition of the asset resulted in an expense; c) ownership of that asset is expected to provide future benefits. CCs acquired for resale meet all three cumulative conditions. The standard does not apply to the measurement of inventories of intermediary traders - who buy goods for resale and who measure their inventories at fair value less sales costs. In these cases, inventories are acquired with the intention of reselling them in the near future and making a profit based on fluctuations in price or margin. These inventories are not subject to the measurement requirements of this standard if they are measured at fair value, less costs to sell. Changes in fair value less sales costs are recognized in profit or loss in the period in which the change occurred. Therefore, when CCs are held for resale as part of an entity's core business, they can be considered inventories (Milutinović et al., 2020, p. 6).

“Regarding the accounting treatment of CCs acquired by mining, the IAS 2 guidance on the cost of conversion shall be applied. The cost of inventories shall comprise all costs of conversion incurred in bringing the inventories to their present location and condition. The costs of conversion of inventories include costs directly related to the units of production as well as a systematic allocation of fixed and variable production overheads that are incurred in converting materials into finished goods. Typical direct costs are electricity and labour (if any) directly related to mining. Indirect production overheads will be formed by depreciation of hardware and mining software, depreciation of the mining “factory” (if any) and other mining equipment (e.g., fans to cool the spaces), wages of programmers and service workers, etc.” (Prochazka, 2018, p. 171).

2.1.5. Investment property

According to IAS 40, investment property “is real estate that is owned by an individual or legal entity and generates income from rental payments. The investment property may be held under a contract”. Since IAS 40 explicitly applies only to land, building, or both which are held to earn capital appreciation, it is very clear why CC cannot be equated with investment property. On the other hand, “some entities may purchase CCs for themselves in order to earn income and increase the value of CC. But nevertheless, this cannot make them real estate, so the CC cannot be addressed by IAS 40” (Niftaliyev, 2023, p. 83). In particular, “the CC could be investment property acquired in the nature of transaction and any future gain or loss must be recorded in accordance with the IAS 40. It should be noted that some entities hold CCs for capital appreciation, but CCs are not property as specified in the definition of investment property. Therefore, it does not seem that CC is investment property” (Lapitkaia & Leahovcenco, 2020, p. 114).

2.1.6. Fair value issues

The provisions of IFRS 13 (SAAA, 2019, p. 370) may also be applied to transactions with CCs when other standards require or allow fair value valuations of specific items. Fair value can be applied in different situations, such as: inventories of CCs held by brokers and intermediary traders applying fair value less costs of sale, CCs recognized as intangible assets in cases where the revaluation model is used, disclosures about the fair value of CCs held on behalf of others, CCs acquired in business combinations, CCs held by investment funds and service charges paid in CCs (Leopold & Vollmann, 2019, p. 16). Shehada's (2020, p. 7) study showed that "fair value accounting is the most relevant source of useful information for users of financial statements when CCs are acquired for investment purposes".

2.2. Disclosure of Cryptocurrencies

CCs and related transactions are not subject to any specific disclosure requirements. In any case, entities should comply with all financial statement disclosure requirements in the standards they choose to apply to transactions involving CCs. The disclosure requirements are found in the aforementioned IAS 38, IAS 2, and IFRS 13. As CCs have very specific and complex characteristics, entities should consider whether additional disclosures are required beyond those covered by the aforementioned standards. Disclosures that may also be relevant in this case are (CPA Canada, 2018, p. 12; CPA Canada, 2019, p. 11):

- Description of CC, its characteristics and purpose of holding (e.g. whether the purpose of holding is investment or purchase of goods and services);
- The number of units of CCs that the entity owns at the end of the reporting year;
- The manner in which the accounting policy for CCs is established;
- The amount of the fair value of CCs together with the appropriate disclosures from IFRS 13 in the case of using the cost value model;
- Information about the market risk associated with holding CCs (e.g. historical volatility information).

Yatsyk (2018) highlights "the following disclosures:

- The balance sheet amount of virtual currencies held by the entity on its own behalf or of virtual currencies held by the virtual currency dealer held on behalf of its customers.
- For virtual currencies held by the entity on its own behalf, showing separately those with an active market and those without an active market, the quantity and amount of each type of virtual currency. Virtual currencies with immaterial balance sheet amounts can be aggregated.

Disclosures may be omitted if the balance sheet amount of virtual currencies (in the case of a virtual currency dealer, the total of virtual currencies held on its own behalf and virtual currencies held on behalf of its customers) is immaterial compared to the total assets of the entity" (Yatsyk, 2018, p. 9).

There is at least one other reason why entities should consider additional disclosures. Bearing in mind the goal of general purpose financial reporting, which forms the basis of the Conceptual Framework for Financial Reporting (SAAA, 2019, p. 4), the focus is on providing investors, lenders and other creditors with useful financial information about the entity before making decisions regarding the entity's financing. Entities should consider

materiality or importance of the information resulting from the CCs disclosure when determining the scope and type of disclosure. Prior to preparing notes to the financial statements, the entity's management should consider these principles and user requirements (Milutinović et al., 2020, p. 7).

3. CONCLUSION

Numerous factors have prevented the institutionalization of CCs. They include unregulated financial reporting of CCs, the unresolved tax treatment of transactions with CCs, the lack of legal-regulatory frameworks in many countries, as well as issues of origin, security, and (il)legal flows of CCs. Although international professional bodies have not yet adopted global guidelines, instructions, or directives on transactions with CCs, the existing IFRS framework, i.e. international accounting regulation, can be applied.

There is no agreement about a specific accounting model for CCs. IFRS permit certain CCs to be recognized as intangible assets or inventories, depending on the characteristics and purposes of their holding. In spite of this, CCs partially or completely fail to meet the provisions of financial reporting standards applicable to cash and cash equivalents, financial instruments, and investment property. CCs are most similar to intangible assets and in certain cases inventories, so the majority of entities in the world, which started recording transactions from the crypto market, applied the current financial reporting standards pertaining to intangible assets and inventories as a temporary solution. CCs that have an ascertainable market price can be measured either at cost or at fair value. As the more common CCs generally all have an active market, it is important to emphasize that this option or recognition decision may have a significant impact on a financial result of the entity. However, it should be noted that Accounting Standards Board of Japan in its issue *Accounting for Virtual Currencies* (from 2018) proposed to classify CCs as a new independent category of assets, giving the following argument: Virtual currencies did not fit into any of the existing categories. It is a new independent category of assets. A temporary solution would certainly be better than no accounting records and financial reporting on CCs until professional bodies adopt a specific set of entirely new standards for transactions with CCs.

Entities face the following challenges when recording transactions with CCs: the issue of accounting estimates, the issue of measuring CCs (fair value or cost value), unregulated legal nature of CCs, decentralized nature of CCs (without central bank management) and a lack of specific accounting and tax regulations. In view of the fact that this is a growing area of accounting that has yet to be fully developed, entities should pay close attention to developments in this field in order to ensure that their records and reporting of CCs are aligned with the expectations of investors, markets, regulatory bodies and the general public. This paper proposes accounting treatment of CCs for entities performing or planning to perform transactions on the crypto market.

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TRENDOVI I PERSPEKTIVE U PRIZNAVANJU KRIPTOVALUTA PREMA MEĐUNARODNOJ RAČUNOVODSTVENOJ REGULATIVI

Rad obrađuje temu računovodstvenog tretmana kriptovaluta prema Međunarodnim standardima finansijskog izveštavanja. U radu je prikazan trenutni korpus istraživanja u ovoj oblasti i rezimirane su najvažnije preporuke za dalja unapređenja računovodstvenog tretmana kriptovaluta. Rad prati proces sistematskog pregleda naučne i stručne literature i trenutno važećeg okvira za finansijsko izveštavanje. Glavna svrha pomenutog sistematskog pregleda jeste da se pozabavi pitanjem priznavanja kriptovaluta tražeći potvrdu i dokaze u dostupnoj literaturi i aktuelnom okviru za finansijsko izveštavanje. Nakon početne faze nagle ekspanzije, na kripto tržištu već celu jednu deceniju vlada veliko interesovanje investitora i pored velikog rizika i oscilacija u zaradi, što je pokrenulo pitanje regulacije kriptovaluta na institucionalnom nivou. Istraživačka namera rada ogleda se u izboru najprikladnijeg računovodstvenog tretmana priznavanja transakcija u kojima učestvuju kriptovalute u odnosu na postojeće Međunarodne standarde finansijskog izveštavanja, a u odsustvu namenske računovodstvene regulative.

Ključne reči: priznavanje, transakcija, finansijsko izveštavanje, kripto tržište.