Audit Financiar, XXI, Nr. 3(171)/**2023**, *526-551*
ISSN: 1583-5812; ISSN on-line: 1844-8801

Cryptoassets – Perspectives of Accountancy Recognition in the Technological Era

Univ. Prof. Ovidiu-Constantin BUNGET, Ph. D.,
West University of Timisoara, Romania,
e-mail: ovidiu.bunget@e-uvt.ro

Ec. Georgiana-Iulia TRIFA,
e-mail: georgiana_trifa@yahoo.com

To cite this article:
Bunget, O. C., Trifa, G.-I., (2023), Cryptoassets – Perspectives of Accountancy Recognition in the Technological Era, *Audit Financiar*, vol. XXI, no. 3(171)/2023, pp. 526-551, DOI: 10.20869/AUDITF/2023/171/019

To link this article:
http://dx.doi.org/10.20869/AUDITF/2023/171/019
Received: 19.04.2023
Revised: 16.05.2023
Accepted: 15.06.2023

Abstract

The growth of the cryptoassets phenomena, along with the lack of applicable accounting rules, offers difficult issues for financial reporting specialists in Romania. Therefore, handling the accounting of cryptoassets requires a detailed understanding of both cryptoassets technology and operation, as well as key accounting concepts. In the absence of steps made to control this sort of transactions through accounting standards, holders of cryptoassets are unable to apply the proper accounting treatment for the activity in which they are involved.

The regulatory international framework for cryptoassets needs to be consistent and standards should be developed to safeguard holders. The European Economic and Social Committee believes it is important to treat non-financial products based on blockchain technology as physical assets, and not as financial instruments, following the principle of "same activity, same risk, same rules". Others, argue that digital currencies should be recorded as: cash equivalents or cash, inventories, financial or intangible assets.

As a result, the purpose of this article is to overview the accounting treatment perspectives given by the IFRS in comparison with the Order of the minister of public finance no.1802/2014 regarding the possible treatments of cryptoassets. Furthermore, the authors believe this article can contribute to accounting research by providing a direction to accounting regulators.

Based on the review of specialised literature, existing standards and legislation, the paper indicates that the relevant accounting approaches to cryptoassets are as intangible assets, stock or fixed assets held for sale. However, they could also be seen as means of payment, like foreign currency, even if they do not meet the characteristics of cash.

The perspectives on the taxation of cryptoassets are provided by analysing the types of taxes and the VAT regime applicable to cryptoassets, according to the Romanian Fiscal Code, the existing ANAF rules and the VAT Directive at European level.

At the same time, the authors analysed and presented certain statistical data, such as the market capitalisation of cryptoassets, the degree of acceptance and the usage degree of cryptocurrencies worldwide, which show that there is a tendency to increase their use.

Key words: *cryptoassets; cryptocurrency; accounting; IFRS; OMPF; regulation;*

JEL Classification: *M41, M42*

Introduction

Once we enter a new era, the technological era, along with the proliferation of digitalisation, new challenges arise in terms of the evolution of transactions and investments on various digital platforms, and there is a pressing need to regulate new financial infrastructure models involving cryptoassets and cryptocurrencies. Their hybrid nature, which gives them the element of novelty, and the rapid development of technology, make them difficult to classify and comply with current legislation.

Due to the growing notoriety and attention they have gained globally, cryptoassets have reached a peak in 2021. The overwhelming growth of the market attracts more and more investors and increases the number of cryptoassets offered to them. These cryptoassets are called "virtual currencies", "cryptocurrencies" or "digital tokens" (Von Brockdorff, P., & Grabo, L., 2022). Moreover, the prices of cryptocurrencies such as Bitcoin and Ether increased according to public awareness and financial market participants have turned their attention to this phenomenon. Simultaneously, a new wave of cryptoassets has arisen the interest of the regulatory authorities in this process, as they are speculative assets, highly volatile and risky, and can lead to significant financial losses among holders and investors in cryptoassets (National Bank of Romania, 2021).

The study of the classification of cryptoassets, from the accountancy perspective, according to the purposes for which they are used by investors, is closely related to how they will be recognised in accountancy by accounting professionals. For a deeper understanding, it starts from the macroeconomic vision that takes into account the degree of acceptance and usage of cryptoassets worldwide, as well as their classification according to IFRS, so that then, the area is narrowed down to the national level and to compliance with OMPF no.1802/2014.

The ultimate goal is that the recognition in accountancy to be in accordance with the guidance provided by regulatory bodies in the branch. Since the issue has arisen interest all over the world, different points of view have been translated into a number of scientific publications, which study the compliance of the accountancy of cryptoassets with the current legislation, but also open new perspectives for legislators.

Therefore, the objective established in this scientific article consists in the qualitative analysis of specialised publications, which have as subject the need for specific regulation of cryptoassets, in the field of accountancy, through the lens of the keywords mentioned by the authors. The results of the analysis aim to clarify the accounting classification of cryptoassets, depending on the way and purpose in which they are used by their owners.

Consequently, the authors propose that the added value of this article to be pragmatically reflected by effective guiding, legislatively, accounting professionals, holders and other intermediaries, regarding the business strategy which involves cryptoassets and their recognition in accountancy. The categorisation of cryptoassets as intangible assets or inventories is considered appropriate, but requires improvement and updating by introducing a new category of intangible assets: cryptoassets.

Research methodology

The authors believe that the present study, based on the analysis of scientific publications that have as their theme the need for a regulation in the field of the accountancy of cryptoassets, can contribute to the accountancy research by offering a direction to the regulatory bodies to improve the legislation, but also to the researchers interested in this subject.

Motivation and establishment of the research topic. Accurate reporting of accounting information is an important duty for the accounting professionals. To carry out this task accurately and transparently, showing professionalism and competence, the entries they make in the accounts must comply with applicable laws and standards. As a result of correct financial reporting, the financial statements will properly reflect the company's financial year-end results. Financial-accounting information helps to determine the state of an entity from the financial point of view, which can attract the attention of a series of users such as: managers, auditors, investors, creditors, buyers, suppliers, fees and tax collectors, regulatory bodies, the state.

For this reason, it is considered important to have an up-to-date regulation that provides direction for the correct classification of cryptoassets. The lack of such legislation leaves room for interpretation, which is a risk for the participants operating in this new, ever-developing market. Not all participants in the cryptoasset market correctly and fully understand the impact of their activity and how it is perceived by the authorities.

The documentation. In order to support the understanding of the definition of concepts and the classification of cryptoassets, several specialised publications were analysed from a theoretical point of view, both of those published at the international and national level, on the proposed topic. The materials used for the analysis focus on blockchain technologies, newly emerging in the online environment, which have the potential to significantly influence the way of recognition in accountancy, to challenge professional accountants to exercise their professional judgment or auditor practitioners in the formation of an audit opinion, in the absence of clear legislative guidelines.

Moreover, both the International Financial Reporting Standards (IFRS) and OMPF no. 1802/2014, at national level, were taken into consideration in order to carry out a comparative analysis and to determine a compliance of the characteristics of cryptoassets with them.

Research strategy. The research process consists of the qualitative analysis of publications, the interpretation of certain aspects, the comparison of the opinions of various authors and the analysis of certain existing trading platforms that aim to bring clarity to the theoretical concepts, which can be put into practice.

First of all, the characteristics of cryptoassets are exposed, from the theoretical point of view, after the analysis of several electronic sources. Furthermore, it follows the analysis and presentation of certain statistical data, such as the market capitalisation of cryptoassets, the degree of acceptance and usage of cryptocurrencies worldwide, which results in an increase in their use.

As a result, because it is necessary to account for transactions that include cryptoassets, were defined the international standards where they could be included, with the analysis of the characteristics of the selected IFRS standards and the presentation of the authors' conclusions. In the same way it was done the analysis from the perspective of OMPF no. 1802/2014, at Romanian national level. In the evaluation of the standards and regulations were presented the points of view of other authors who approached similar topics in the field of cryptoassets and cryptocurrencies. The perspectives on the taxation of cryptoassets are introduced by analysing the types of taxes and the VAT regime applicable to cryptoassets, according to the Fiscal Code, the existing ANAF rules and the VAT Directive at European level, with its exceptions.

Finally, the authors' conclusions were presented, accompanied by some future research directions in this field.

Information processing. The data and information were presented in summary in order to obtain a point of view regarding the topic addressed: prospects for recognition in the accountancy of transactions with cryptoassets and the need for specific regulations.

Communication of results. The analysis carried out led to certain conclusions and allowed the formulation of solutions that would improve the practical implementation and the accountancy approach of operations with cryptoassets. Also, future directions of research in the field are offered, taking into account the ecological side that the activity related to cryptoassets affects and the impact that their sustainability has on the environment.

Analysis of specialised literature

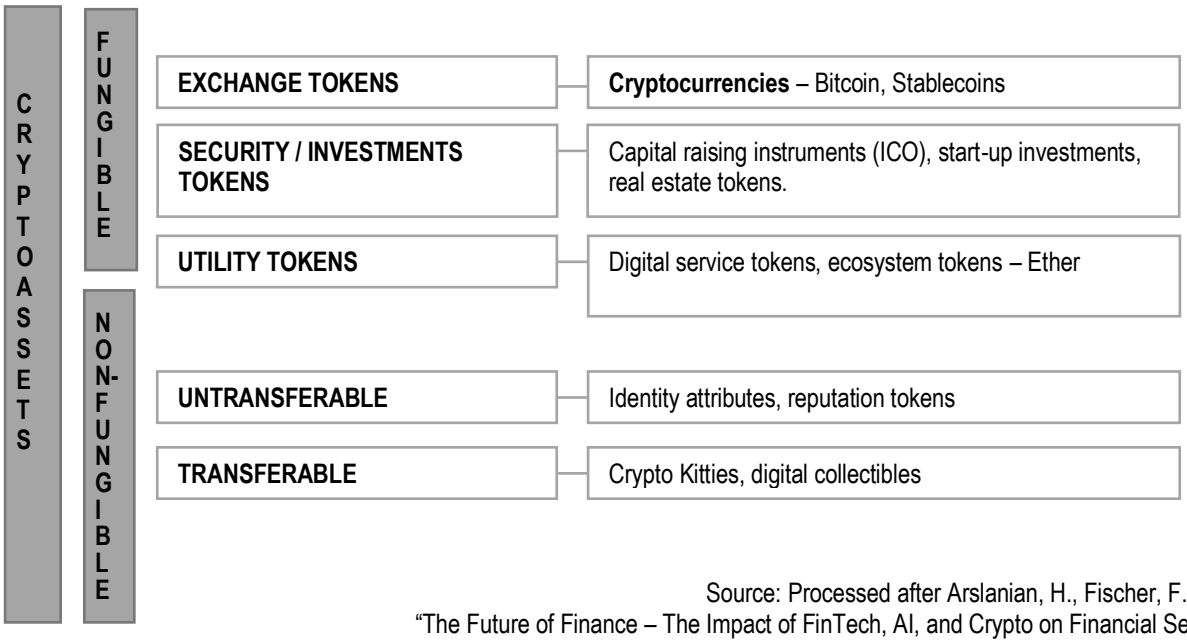
As information and research on cryptoassets and, also, virtual currencies circulate rapidly as technology evolves, an analysis of scientific publications that provide different directions in this field is necessary.

The concept of cryptoassets, which include cryptocurrencies, was first encountered in 2009, when the virtual currency Bitcoin was made public. Some authors define digital currency as a chain of digital signatures (Satoshi Nakamoto, 2008). Each holder transfers the coin to another holder by digitally signing the hash (code) of the previous transaction and the public key of the next holder, then adding this data to the end of the coin code.

Cryptoassets are digital assets that use blockchain technology, are secured by cryptography and are recorded on a distributed, public ledger (Daniel, G., & Green, A., 2018). Daniel and Green (2018) mention that this public ledger, distributed without the need for any permission, facilitates the registration of transactions in a computer network. So cryptoassets are not private. They are not issued or guaranteed by any central bank or public authority (European Parliament, 2022). Such issues challenge traditional beliefs about money and investments, calling into question the adequacy of their financial reporting.

Figure no. 1 shows the main categories of cryptoassets, which in the authors' projection, are divided into fungible and non-fungible.

Figure no. 1. Types of cryptoassets by fungibility



Source: Processed after Arslanian, H., Fischer, F., 2019, "The Future of Finance – The Impact of FinTech, AI, and Crypto on Financial Services"

Fungible cryptoassets refer to cryptoassets with identical characteristics that are interchangeable, i.e. they have equal value regardless of their origin, such as assets that are traded on organised and regulated markets (Civil Code, 2011, art.543). Keeping this principle in mind, cryptocurrencies of the same type can also be exchanged with each other because they are equal and worth the same (for example, 1 BTC is equal in value to 1 BTC or 1 BTC is equal to 0.2 BTC and 0.8 BTC).

Fungible cryptoassets are divided into:

- **Exchange tokens** – this category mainly includes cryptocurrencies (Bitcoin, Litecoin, Ether, Polkadot and others). They use distributed ledger technology platforms and are not issued by a central authority. They do not grant the rights or access that security or utility tokens give, but are used as a means of trading or investment. Stablecoins can also be mentioned here, which benefit from mechanisms to minimize price fluctuations, which is where the stability of this type of currency comes from (Taskforce, 2018).
- **Security/Investment tokens** – these are equivalent to a specific investment and can provide ownership rights, repayment of a sum of money or the right to dividends. They can be transferable securities or financial instruments, as the Taskforce report (2018) mentions.
- **Utility tokens** – which can be redeemed for access to a specific product or service provided on a platform that uses distributed ledger technology (for example, the Ethereum ecosystem).

Non-fungible cryptoassets, in the view of some authors, represent those digital tokens that have a unique character, a single owner, cannot be divided, cannot be reproduced and cannot be exchanged for others (they are not interchangeable and cannot be substituted) (Cryptopedia, 2021). Such unique assets, referred to as NFTs, are: digital art, music, video games (including skins, video game items), digital items, digital collections, photos, videos, web domains, etc. These can be **transferable**, purchasable, or **non-transferable**, which confirm the holder's identity, such as logging into a particular platform.

Cryptocurrencies are the most representative examples of cryptoassets. Cryptocurrencies are digital or virtual currencies backed by cryptographic systems. They are built on a technology called blockchain, i.e. network blocks that record all cryptocurrency transactions. They allow safe online payments without using other intermediaries, as users interact directly, without being controlled by a central authority. The decentralised structure allows them to exist outside the control of governments or authorised central structures (Frankenfield, J., Murry, C., & Kvilhaug, S., 2023).

Each transaction must be validated in order to be part of the official list of transactions in the registry. Validation is performed by the special group of users in the network, called miners or validators, so no one can cheat the system. Anyone using the system can become a miner or validator, hence the decentralised nature of the network.

However, in the opinion of some authors, cryptocurrency transactions may involve the inevitable risk of fraud in a certain percentage (example: the case of FTX, Terra Coin etc.). This insecurity can only be avoided by using fiat currencies (Satoshi Nakamoto, 2008).

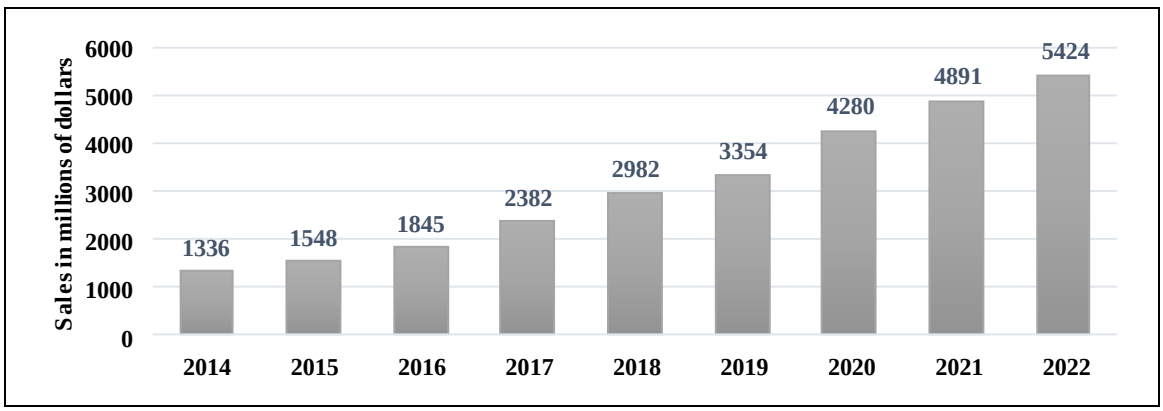
A concise definition of cryptocurrencies is provided by White (2015), who states that cryptocurrencies are transferable digital assets secured by cryptography (White, L., 2015).

In the view of the European Central Bank (2012), virtual currency differs from electronic currency, to the extent that virtual currency does not have a legal counterpart. The absence of a distinct legal framework leads to significant oversights. One of these is that traditional financial actors, including central banks, are not involved. The issuer of the virtual currency and the owner of the cryptoasset is usually a non-financial private company where supervisory arrangements are not applicable. Another oversight is that the connection between virtual currency and traditional currency is not regulated by law, which could raise problems or higher costs when redeeming funds. Finally, the fact that the currency is named differently (i.e. not Euro, US dollar, etc.) means that the entire control of the virtual currency rests with its issuer, who governs and manages the supply of virtual currencies as they wish.

In his study on digital currencies, Venter (2018) mentions that digital currencies should not be confused with electronic money (such as online bank accounts at banks). An online bank account, at any bank, shows the amount of money held in that account, being tied to fiat currencies (physical money). In contrast, digital currencies are a form of exchange that can only exist digitally and cannot be transposed into fiat currencies. This is because digital currencies are not backed by any form of immobilisation and do not exist in physical form. Their value is derived from the supply and demand relationship.

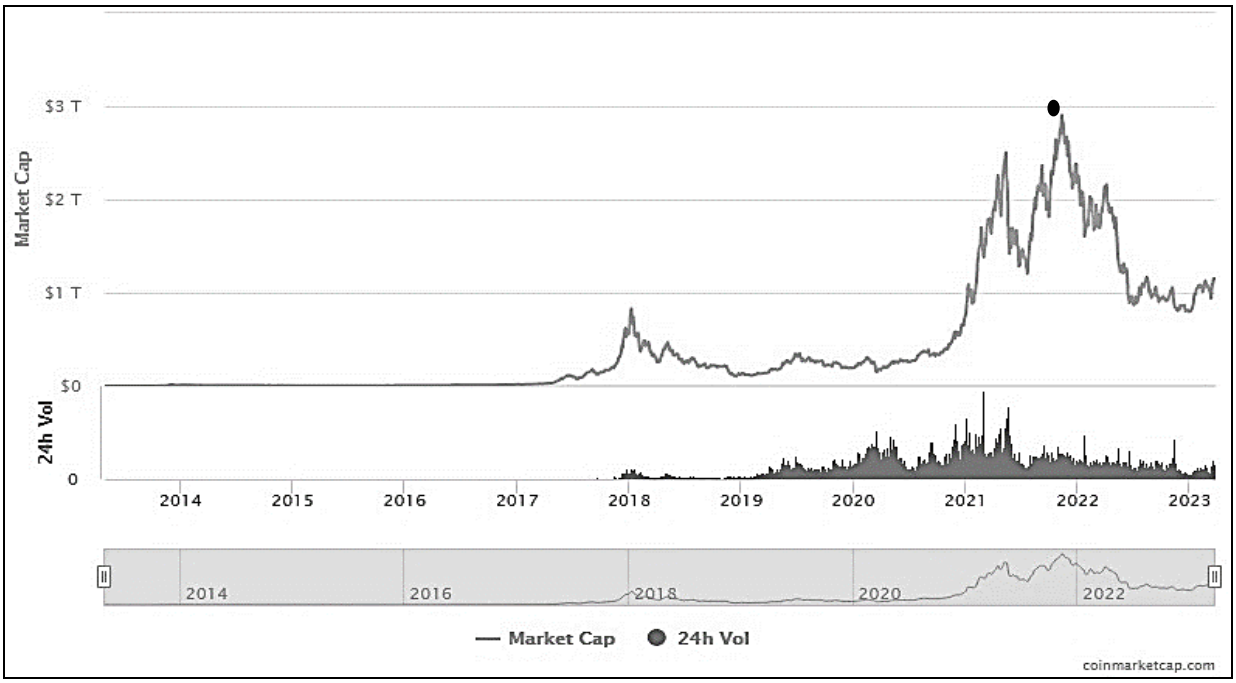
Although, initially, interest in the purchase of cryptocurrencies was low, the possibility of speculation was perceived related to their unit value which, through trading, could have increased greatly. This was an incentive that arose the interest of early investors, similar to other innovations (Polasik, M., et al., 2015). Later, their value began to increase, especially due to online commerce, where digital currencies could be used. The online retail market is very dynamic and recorded a share of 18% of total global retail sales in 2020. ***Figure no. 2*** illustrates the growing amounts recorded globally from online trade, in the period 2014 – 2022. Similarly, ***Figure no. 3*** shows the upward trend, from the same period, of the capitalisation of cryptocurrencies. Capitalisation on this market reached the maximum level of 2,904 billion dollars in 2021. The impact of the Covid pandemic on online sales can also be perceived, which since 2019 boosted virtual purchases.

Figure no. 2. Sales from online commerce, worldwide, between 2014-2022 (millions of dollars)



Source: Adapted after International Trade Administration, 2021, "eCommerce Size and Sales Forecast"

Figure no. 3. Cryptocurrency market capitalisation, worldwide, between 2014-2023 (dollars)



Source: Capture after Catalyst by CoinMarketCap, 2023, "Total Cryptocurrency Market Cap"

In **Table no. 1**, 10 of the best rated digital currencies are presented, comparatively, in different years. The highest-rated cryptocurrency in November 2022 was Bitcoin, with a market capitalisation of $ 314 million, followed by Ethereum, whose market capitalisation was $ 149 million, which is half that of Bitcoin. The following cryptocurrencies in the ranking had values below $ 100 million: Tether, USD Coin, BNB etc. Comparatively, in February 2023, the value of Bitcoin increased to $ 476.45 million, followed by Ethereum whose capitalisation is $ 207.38 million. The following places in the ranking are occupied by: Tether, BNB, USD Coin, XRP etc.

Table no. 1. Top 10 digital currencies – comparison between November 14, 2022 and February 18, 2023

No.	Digital currency	Market Capitalisation – (millions of dollars)* (November 2022)	Market Capitalisation – (millions of dollars) (February 2023)
1	Bitcoin	314.22	476.45
2	Ethereum	149.80	207.38
3	Tether	66.32	70.30
4	USD Coin	44.08	41.84
5	BNB	43.86	49.92
6	Binance USD	23.26	13.23
7	XRP	18.29	20.05
8	Dogecoin	11.23	11.74
9	Cardano	11.13	14.07
10	Polygon	7.86	12.98

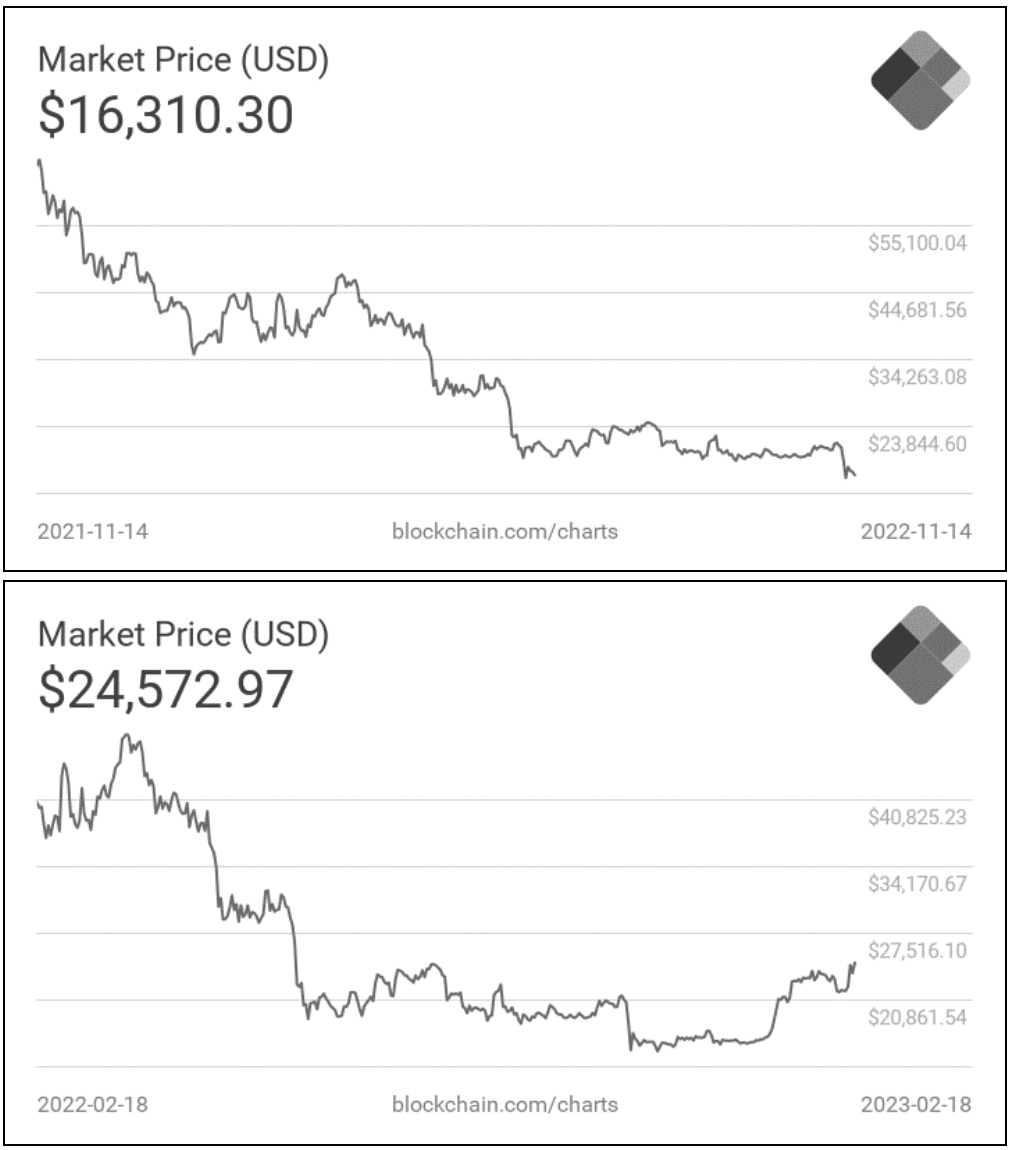
**The total dollar (USD) value of the currency supply in circulation, calculated at the daily market price, at the main currency exchange level.*

Source: Adapted after data on Catalyst by CoinMarketCap, 2023

Cryptocurrencies are developed and held for different purposes: as a means of payment (similar to money), for speculative purposes (as short-term investments) or for investment (through their long-term appreciation). These purposes depend on how their holder wants to benefit from them: he wants to benefit only from low trading costs or to profit in the long term due to the increase of their market value.

The speculative nature of cryptocurrencies, in the analysed case – Bitcoin, is demonstrated by the volatility of its value. ***Figure no. 4*** illustrates the volatility of Bitcoin, compared over the course of one year, for two different periods (the period November 2021-2022 and the period February 2022-2023). The average market price represents how much one Bitcoin (BTC) can be sold for. The price fluctuates depending on the demand and supply of cryptocurrency.

Figure no. 4. Average market price of Bitcoin, in USD, on major exchanges, over the course of a year

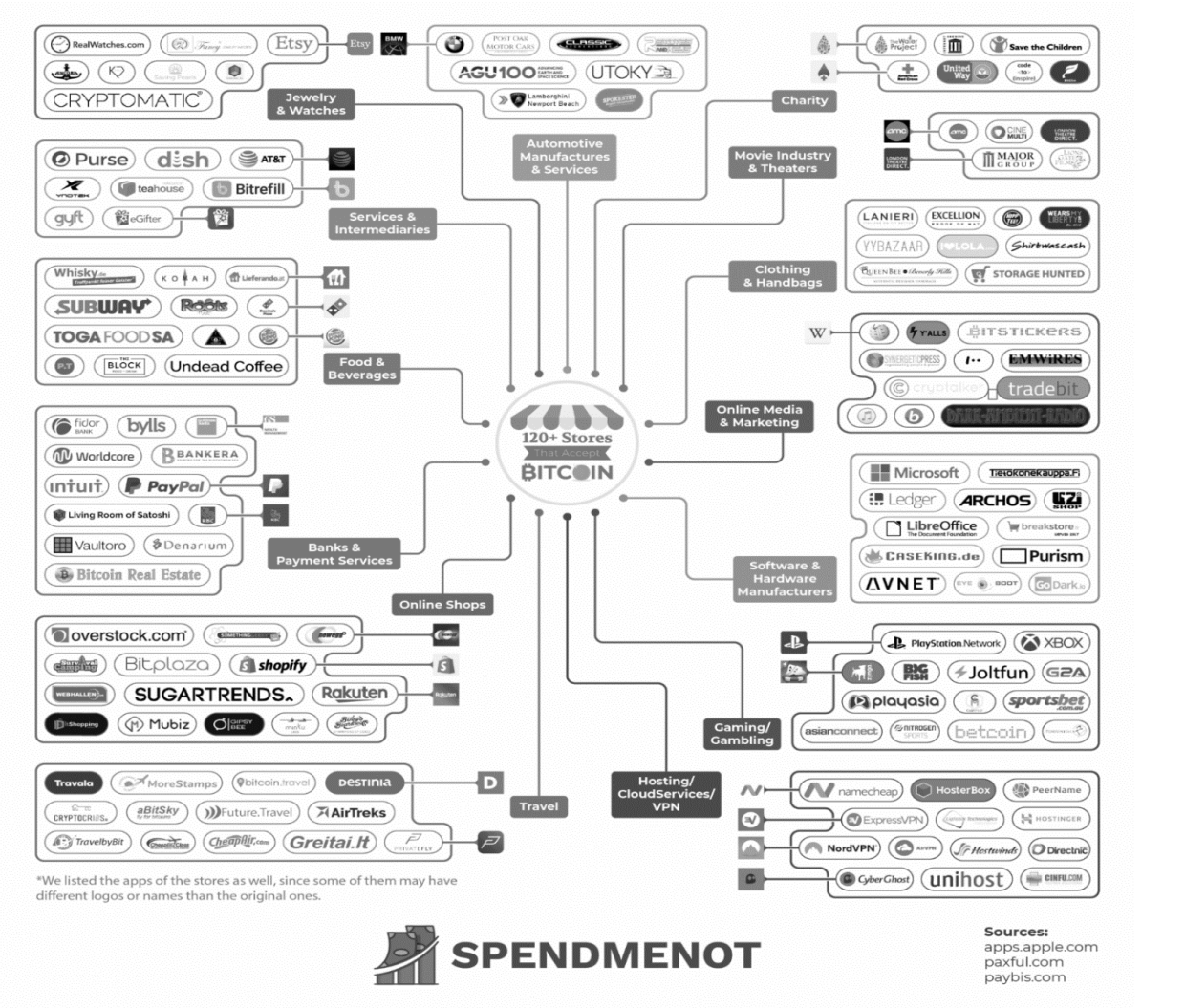


Source: Capture after Blockchain.com, 2023

Regarding the use of cryptocurrencies at national level, when purchasing Bitcoin, the Revolut application warns that the price of cryptocurrencies is extremely volatile and can even drop to zero, which means that investors could lose all the money invested in cryptocurrencies. Moreover, the cryptocurrencies in the investors' portfolio are not protected by the Financial Services Compensation Scheme (FSCS). Also, in relation to the cryptocurrencies held, no complaints can be made to the Financial Ombudsman Service, because digital currencies are only regulated for the purpose of being in compliance with anti-money laundering rules (Revolut, 2022).

More than that, on spendmenot.com website there is a list in which the companies that currently accept payment with Bitcoin are mentioned. A diagram taken from this website is shown in ***Figure no. 5*** (Chapkanovska, E., 2023). It can be mentioned that these Bitcoin payments are, in fact, a transaction, as Bitcoin cryptocurrencies are converted into their physical equivalent, fiat currency, and the payment is completed with electronic currency. Therefore, cryptocurrencies could not represent a valid general means of exchange in transactions between market actors.

Figure no. 5. Companies accepting payment with Bitcoin, as of July 9, 2022, by business sector

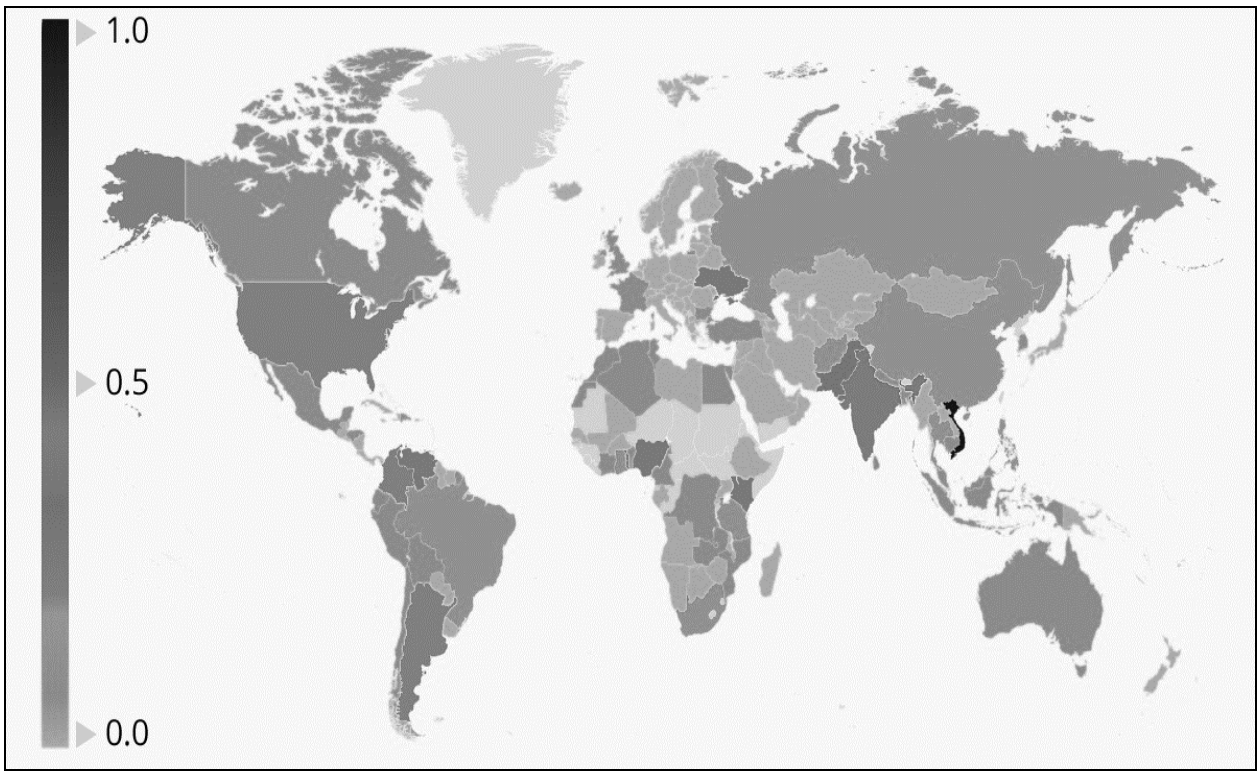


Source: Capture after Chapkanovska, E., 2023, "*Who Accepts Bitcoin? – The Complete Guide*"

To emphasize the fact that the degree of usage of cryptocurrencies worldwide is still low, although their presence is felt on all continents, **Figure no. 6** can be consulted, based on the Chainalysis report "The 2021 Geography of Cryptocurrency Report" (2021). Viewing this map, on a scale from 0.0 to 1.0, most P2P users (peer-to-peer: refers to computer users sharing their resources or data directly, without the need for a central server, i.e. decentralised) of cryptocurrencies were registered in Vietnam. According to the report, the high degree of usage of cryptocurrencies among the population, in Vietnam, is justified by the fact that they are used for trading or investment purposes, as immobilised active, to the detriment of other goods.

Among the developing countries where individuals choose to trade or invest in cryptocurrencies, we can list: Ukraine, Pakistan, Venezuela, Argentina, Nigeria, Kenya. It should be mentioned that the purpose of holding cryptoassets is not commercial or speculative. Also, the USA, Canada, Russia, China, India, Australia are the developed countries where cryptocurrency trading is very common. In these countries, the purpose of these transactions could be tax evasion (avoidance of various taxes) or avoidance of centralisation, which would be achieved through banking institutions, due to distrust in state institutions (Buchholz, K., 2022).

Figure no. 6. Global cryptocurrency usage, July 2021



Source: Capture from Buchholz, K., 2022, "Where Cryptocurrency Is Most Heavily Used"

Also, on analyticsinsight.net website, the top 10 countries with the highest percentage of crypto asset holders, out of the total population, can be consulted. **Table no. 2** illustrates this top, where Thailand registers a proportion of 20.1% holders of the total population. Other countries such as: Nigeria, Philippines, Turkey, Argentina, Indonesia, Brazil and Singapore present proportions between 15% – 19% of the total population. A smaller proportion, approximately 13% of the total population, is the number of cryptoasset holders in South Korea and Malaysia.

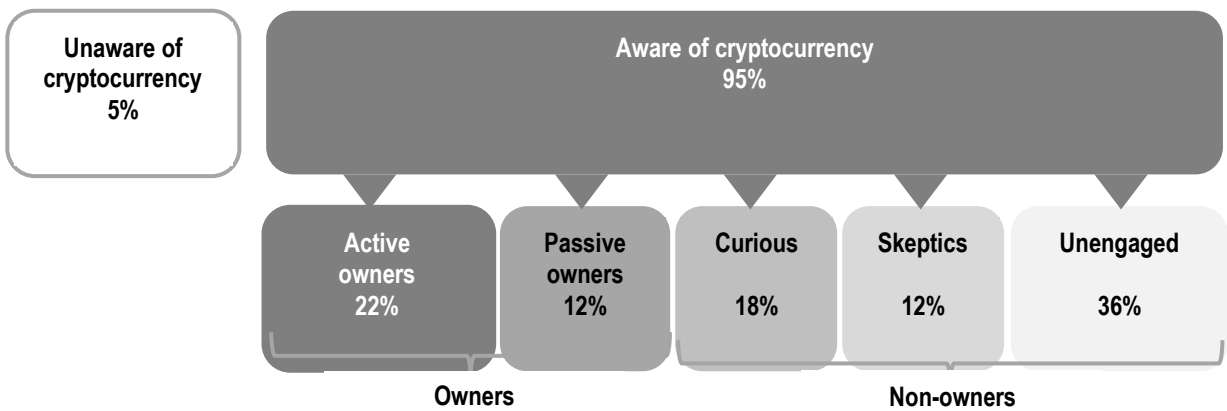
Table no. 2. Top 10 cryptoactive user countries, 2022

No.	Country	Proportion of cryptoasset holders
1	Thailand	20.1%
2	Nigeria	19.4%
3	Philippines	19.4%
4	Turkey	18.6%
5	Argentina	18.5%
6	Indonesia	16.4%
7	Brazil	16.1%
8	Singapore	15.6%
9	South Korea	13.4%
10	Malaysia	13.2%

Source: Adapted after data from Analytics Insight, 2023

According to the study carried out, in 2022, by Visa Global Crypto & Fintech group of Visa Inc., **Figure no. 7** and **Table no. 3** show the level of awareness of cryptoassets among adults in developed and developing countries. The developed markets which were taken into consideration are: Australia, Canada, France, Germany, Hong Kong, the United States of America and the United Kingdom. Emerging markets include: Argentina, Brazil, Mexico, Indonesia, Nigeria and South Africa. As it can be seen, the proportion of people who are aware of cryptocurrencies is 95%. From these people 22% have traded cryptocurrencies, so they are active holders, and 12% do not use the cryptocurrencies they hold in transactions (passive holders). The share of people who do not own cryptocurrencies is divided into: people curious about these assets – 18%, skeptical people – 12% and persons who are aware of the existence of cryptocurrencies but do not want to get involved – 36% (Visa Global Crypto & Fintech, 2022).

Figure no. 7. Population awareness of cryptocurrencies, globally, 2022



Source: Processed after Visa Global Crypto & Fintech, 2022

Observing **Figure no. 7**, it is considered that the population can be divided in two categories: **owners** and **non-owners of cryptocurrencies**.

Cryptocurrency owners can be:

1. **Active owners** are people who have a good opinion of cryptocurrencies, consider them easy to use and use them to trade, buy goods or accept payments at least once.
2. **Passive owners** are people who consider cryptocurrencies to be safe, easy to use and have purchased them for the purpose of investing, but have not made transactions with them.

Among the **non-owners of cryptocurrencies** are:

1. **Curious –** people who have studied the phenomenon of cryptocurrencies and have a positive opinion about them, do not consider them risky, but have not yet purchased.
2. **Skeptics –** people who have studied the phenomenon of cryptocurrencies, but do not have a positive opinion about them, have not yet purchased and consider them to be high risk.
3. **Non-involved –** people who have not studied the phenomenon of cryptocurrencies or are indifferent to them (*Visa Global Crypto & Fintech, 2022*).

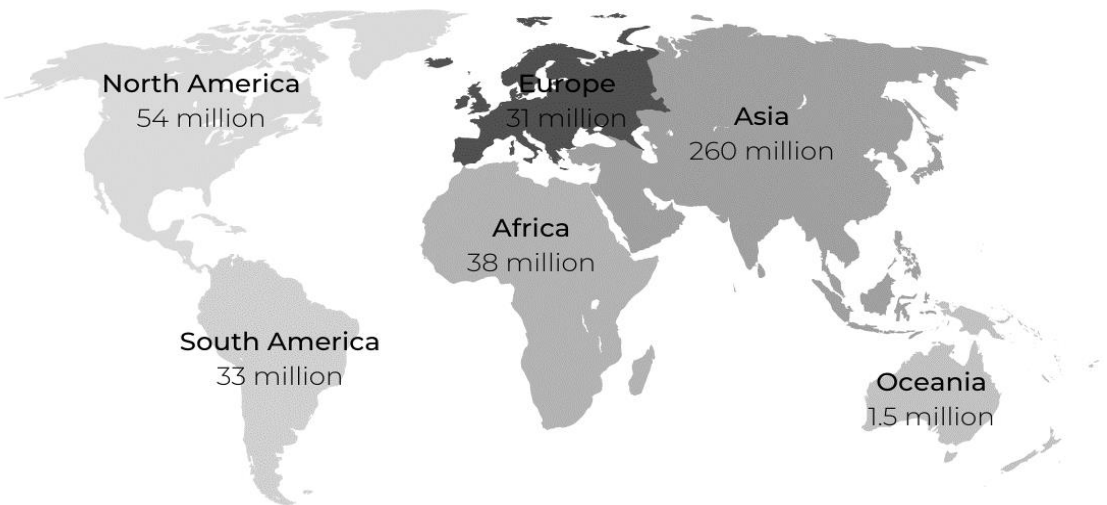
Regarding the degree of awareness on different markets, from **Table no. 3** it can be deduced that the interaction with cryptocurrencies is more frequent in developing markets, thus in Indonesia there are 36% active owners, unlike in the USA, where their proportion is 25%. Also, the percentage of active owners from emerging markets is double that of passive owners. Therefore, it is easy to deduce that the percentage of cryptocurrency owners is higher than the percentage of non-owners in developing markets. Then, in developing markets, there is a higher percentage of people who choose to learn about the subject of cryptoassets than in developed markets. This phenomenon assumes that the percentage of most skeptics and non-involved people is found in developed markets.

Table no. 3. Population awareness of cryptocurrencies, by market, 2022

Market type	Owners		Non-owners		
	Active owners	Passive owners	Curious	Skeptics	Non-involved
Developed markets					
Australia	18%	10%	12%	10%	49%
Canada	16%	9%	10%	14%	50%
France	12%	8%	12%	15%	54%
Germany	15%	10%	16%	17%	41%
Hong Kong	24%	12%	16%	15%	34%
Great Britain	17%	9%	13%	12%	48%
USA	25%	10%	12%	11%	42%
Developing markets					
Argentina	25%	13%	24%	9%	29%
Brazil	19%	13%	27%	9%	32%
Indonesia	36%	16%	19%	8%	20%
Mexico	23%	10%	26%	11%	31%
Nigeria	27%	16%	24%	14%	20%
South Africa	32%	16%	23%	7%	22%

Source: Processed after Visa Global Crypto & Fintech, 2022

Figure no. 8. Number of cryptoasset users, globally, 2023



Source: Image from Triple-a.io, 2023

Despite the ambiguities and legislative confusion in the field of cryptoassets, in 2023, the number of cryptoasset owners is over 420 million. From **Figure no. 8** it can be seen that Asia is the world leader in holding cryptoassets, with 260 million owners. North America follows, with a number almost 5 times smaller, 54 million owners. In Europe, South America and Africa there are approximately 30 million owners, while the Australia – Oceania area registers a number of 1.5 million cryptoasset owners.

Perspectives of cryptoassets accountancy

Cryptoassets are an evolving, fast-growing, but still relatively new asset class. As a result, not many authors have expressed their point of view regarding the accountancy of such assets. In many cases, they challenge the established beliefs about money, economic relationships and investments, thus raising questions about their appropriate financial reporting.

The nuanced, ever-evolving nature of the cryptoasset phenomenon, coupled with the lack of relevant formal accountancy statements, presents complex challenges for professionals who prepare and report financial information.

Consequently, the **potential problems** that may arise in the activity of the professional accountant refer to:

a) the way in which they are **classified and recognised in accountancy**: for the purpose of being traded, similar to cash or as investments, similar to fixed assets;

b) the fact that **their value can fluctuate** significantly within one year, as can be seen in ***Figure no. 4***, which represents a challenge on how to evaluate them;

c) **the legislation** regarding cryptoassets **is limited**, although there are legislative proposals and regulations that refer to particular aspects or specific elements.

International perspectives according to IFRS

Due to the innovative character of cryptoassets, their accounting highlighting raises questions among practitioners at international level. So, it is easy to appreciate that if, from a theoretical point of view, the International Financial Reporting Standards (IFRS) do not include specific guidance on the accounting of cryptoassets, there cannot be a clear approach in practice either. Hence it follows that this type of asset could follow the accounting recognition rules existing in different standards. To determine the accounting model to be followed, it is necessary to consider the purpose and utility for which the entity holds the cryptoassets (Leopold, R., & Vollmann, P., 2019).

Taking into account the debates on this topic at international level, in 2018, the Australian Accounting Standards Board (AASB) launched the paper "Digital currency – A case for standard-setting activity" (Venter, H., 2018). This paper examined IFRS Standards and assessed how digital currencies could be accounted for: as cash or cash equivalents (1), financial instruments (other than cash) (2), tangible assets (3), intangible assets (4), fixed assets held for sale (5) or inventories (6).

Subsequently, the International Accounting Standards Board (IASB) requested, in 2019, a clarification on the accounting of cryptocurrencies, and as a result, the IFRS Interpretations Committee published an interpretation of how to account for cryptocurrencies that have the following three characteristics:

a) "are cryptocurrencies, digital or virtual currencies registered on the basis of distributed ledger technology that uses cryptography for security;

b) are not issued by a central authority or another third party;

c) do not involve a contract between the owner and another interested party" (IFRS Foundation, 2019).

To determine the accounting treatment of an item purchased by the entity it is important to know the reason behind the purchase. In this way, it will be correctly represented in the financial statements and will adequately reflect the entity's financial position and performance. Thus, cryptocurrencies that are used as means of payment will be recognised in one way and those purchased for investment purposes, in another way (Prochazka, D., 2018). For example, a real estate investor considers a new building built for the purpose of sale as stock, but the client who will buy that building considers it an investment, therefore tangible immobilisation.

In the absence of clear legislative stipulations, applicable to certain operations or events, IAS 8 *Accounting policies, changes in accounting estimates and errors*, recommends the application of professional judgment in order to use accounting policies that are relevant and similar to the situations in question (IAS 8, pt.10). Analysing the

information from the specified paper and the IFRS Standards, punctually, the following aspects can be distinguished:

(1) First of all, at the moment, it is considered that digital currencies should not be perceived as **cash or cash equivalents** in accordance with IAS 7 *Statement of cash flows*. Specifically, it has been commented that a digital currency is not widely accepted as a medium of exchange because it is not issued by a central bank (Venter, H., 2018).

From the perspective of IAS 7 *Statement of cash flows*, **cash** is defined as: "cash on hand and at banks and demand deposits" (IAS 7, pt.6), and **cash equivalents** are, by definition: "short-term, highly liquid investments which are easily convertible into known amounts of cash and which are subject to an insignificant risk of change in value." (IAS 7, pt.6).

Going deeper, IAS 32 *Financial instruments: presentation* brings a definition of cash as the medium of exchange through which the value of transactions is evaluated and recognised in the financial statements. Cash deposits held at banks or financial institutions are considered financial assets because they give the depositor the contractual right to receive cash or issue checks to creditors from the account balance to pay financial liabilities (IAS 32, pt.AG3).

However, as highlighted in a report by PricewaterhouseCoopers (PwC) from 2019, published by Leopold, R. and Vollmann, P., in Venezuela it was proposed, by President Nicolas Maduro, in December 2017, the controversial cryptocurrency Petro (PTR), with the aim of revitalising the country's economy. Unlike the other cryptocurrencies which are very volatile, it is assumed that the stability of the petrocurrency was supported by the reserves of oil, natural gas and mineral resources. Another characteristic that differentiates petrocurrency from other cryptocurrencies is centralization, because it is a cryptocurrency issued by the government. Since one of the main defining characteristics of cryptocurrencies is decentralization, a digital currency directly controlled by the government of a country would be contrary to the principles of this type of cryptoasset (Frankenfield, J., Chavarria, A., & Munichiello, K., 2022).

On national level, there is the cryptocurrency Roncoin (RONC), whose conversion is 1 to 1 with the Romanian leu (RON). This aspect ensures its low volatility, because it is supported by the Romanian fiat currency, its counterpart in reality (Roncoin, 2018).

From an economic point of view, cash or cash equivalents can be any instruments accepted as means of payment in commercial transactions. In the event that digital currencies will be used as means of exchange, they could be recognised in the financial statements as cash (Prochazka, D., 2018). In this case, we can accept the idea that cryptocurrencies could meet this condition in the future, replacing fiat currencies, as more and more economic operators accept digital currency payments.

Therefore, the authors believe that cryptocurrencies would meet the requirements of cash or cash equivalents if they had a shorter payment term from the transaction date or if they had a specified date on which to convert to cash. Since most digital currencies do not meet the conditions of being easily convertible, because transactions with them can only exist digitally, cannot be transposed into Fiat currencies and present a very high risk of fluctuation in value, being volatile, they are not yet considered, according to IAS 7, cash or cash equivalents.

Taking into account the above, the authors of this article have come to the conclusion that since digital currencies are not issued or held by a central banking unit, from where the owner can withdraw the money in liquid form whenever he/she requests it, they cannot be considered cash, in the light of the definition given by IAS 32, but their future is unpredictable. However, similar to the acceptance of Prochazka (2018), if they were used as a means of payment, they could be classified as foreign currency, converted at the spot rate.

(2) Secondly, a digital currency cannot be considered a **financial instrument** according to IAS 32 *Financial instruments: presentation* or IFRS 9 *Financial instruments*, because there is no contractual relationship that gives a financial resource for one of the parties to the transaction

and a financial liability for the other party (Venter, H., 2018).

To define the **financial instrument**, the authors consider IAS 32 *Financial instruments: presentation*, according to which this is the contract that brings both a financial resource to an entity and a financial liability or equity to another entity (IAS 32, pt.11). Moreover, through IFRS 9 *Financial instruments* it is established that a financial asset or liability is recognised in accounting only if the entity is one of the parties involved in the stipulations of the contract regarding the financial instrument (IFRS 9, pt.3.1.1). It is known that digital currencies are acquired for speculative purposes, generally in the short term, in order to obtain future earnings. Therefore, this kind of transaction does not define a financial asset, although it is similar to transactions with financial instruments (Prochazka, D., 2018).

According to the studied standards, there must be a mutual relationship, between two parties, who commit themselves through a contract, to transactional actions with well-defined economic consequences. One of the parties has a contractual obligation to deliver cash or financial assets to another entity that has the authority to receive the financial debt due to providing a service or selling assets from its property (IAS 32, pt. 11). The opinion that this type of assets does not comply with the definition of the financial instrument is also expressed by Leopold, R. and Vollmann, P. (2019).

Therefore, the authors consider that the possession of cryptocurrencies does not result from such a contractual relationship, because they are built on blockchain technology, through mining, so they can be produced without taking into account a certain contractual relationship, thus, not qualifying as financial instruments.

(3) Thirdly, we consider that cryptographic assets cannot be **tangible assets**, according to IAS 16 *Tangible assets*, because they do not have the characteristic of being tangible (Leopold, R., & Vollmann, P., 2019).

(4) Fourthly, studying IAS 38 *Intangible assets*, digital currencies, held on long term, for investment purposes and to increase their market value, seem to have a profile similar to intangible assets. According to this standard, **intangible assets** are identifiable non-monetary assets that do not have physical substance (IAS 38, pt.8).

Analysing the criteria underlying an intangible asset, from IAS 38, one of them is the identifiable character. This means that the assets can be separated from the company, sold, transferred, exchanged or can result from contractual rights or other legal rights (IAS 38, pt.12 a,b). In this case, it can be confirmed that digital currencies are identifiable and can be sold separately on different trading platforms.

Cryptocurrencies are non-monetary, as they do not meet the conditions of cash or cash equivalents, as noted by the analysis of IAS 7 *Statement of cash flows*. Moreover, since they are digital currencies, they exist without a physical economic background, which means that they do not exist in material, physical form.

The entity that produces or sells cryptocurrencies, controls the asset, having the ability to obtain future economic benefits from the sale and can restrict the access of others to these benefits (IAS 38, pt.13). The ability of producers to verify the future economic benefits obtained from cryptocurrencies results from the ownership rights acquired from the creation of cryptocurrencies, which they can then trade.

The economic benefits generated by cryptocurrencies may include sales revenue and other benefits resulting from their use by society. For example, they can be used as a means of payment in relation to entities that accept this, as exemplified in ***Figure no. 5*** (IAS 38, pt.17).

From the point of view of lifetime, an intangible asset has an indefinite useful life if the period of time in which it will bring benefits to the entity does not have an established limit and there are no factors that impose a limit (IAS 38, pt.88). This characteristic can also be applied to cryptocurrencies, in which case, if they have an indefinite lifetime, they will not be depreciated (IAS 38, pt.107). However, according to IAS 36, cryptocurrencies will be tested for impairment, comparing their recoverable value with the value recorded in accounting, at certain periods (IAS 38, pt.108) and the conditions of inclusion in the indefinite period will be reviewed periodically (IAS 38, pt.109).

Taking into account the mentioned aspects, the authors conclude that, without a doubt, cryptocurrencies have the characteristics of intangible assets and could be considered as such.

If cryptocurrencies are considered intangible assets, there are two variants of recognition in accounting (Grant Thornton, 2018):

The cost-based model **Initial valuation at cost (fair value)**	**The revaluation model** **Subsequent assessment at reassessed value**
Cost is initially included and they are often valued at cost net of accumulated depreciation* or any impairment losses. **The cost, in the case of cryptocurrencies, as an intangible asset, is made up of the acquisition cost, non-refundable taxes at the time of purchase, without any discount and any other cost that can be directly attributed to it in order to be used (IAS 38, pt.27).**	Assumes the **revalued value**, i.e. the fair value on the revaluation date without accumulated depreciation* or any subsequent impairment loss (IAS 38, pt. 75). *This treatment is permitted where the fair value can be determined by reporting the value of the asset to an active market and this is possible in the case of cryptocurrencies traded on different platforms.*
** Cryptoassets have an indefinite life and cannot be depreciated. However, they must be tested for impairment by comparing the recoverable amount with their average annual value or whenever there are indications of impairment (Grant Thornton, 2018).*	

The option to value cryptocurrencies according to the fair value revaluation model gives entities better control over reducing their volatility. Also, the accounting of this type of digital assets at fair value, in contrast to the reduced cost model with depreciations, gives users relevant and updated information on the value of the assets from the moment the financial statements are drawn up (ISDA, 2022).

(5) Fifthly, it is possible to analyse the classification of cryptoassets as **non-current assets held for sale**, according to IFRS 5. The standard recommends that non-current assets, tangible or intangible, should not be recognised as current assets (inventories), until the moment in which they cannot, firstly, be allocated as assets held for sale (IFRS 5, pt.3).

This IFRS states that the carrying amount of an asset held for trading purposes must be recoverable from a sale transaction, the asset must be immediately sold as it is and the sale must be highly probable, usually completed during a year. In order to make the sale quickly, there must be a promotion plan to attract a buyer (IFRS 5, pts.6 – 8).

Therefore, the authors appreciate that intangible immobilisations of the type of cryptoassets that are going to change their destination as for sale can be classified in accordance with IFRS 5, by transfer.

(6) Finally, depending on the purpose for which they are held, cryptoassets could be considered either intangible assets, as an investment, or **stocks**, if they are kept to be sold, in the short term. In this regard, IAS 2 *Inventories* was examined, which states that "stock is the asset:

a) kept for the purpose of being sold during the course of the activity;

b) in production for the purpose of sale; or

c) in the form of materials and consumables that will be used in production or in the provision of services." (IAS 2, pt.6)

Therefore, in the case of the **trading cryptoassets**, according to IAS 2 *Inventories*, commodity broker-traders are persons who trade commodities on behalf of other people or for themselves. The stocks held by them are purchased with the aim of selling them and generating profit from price changes or from the commission of the broker-traders (IAS 2, pt.5). Changes are recognised in profit or loss in the period in which they occur (IAS 2, pt.3b). If stocks are valued at fair value minus selling costs, they are excluded only from the conditions of IAS 2 and are not excluded from their classification as stocks. As IAS 2 does not clearly define inventories, transactions with Bitcoin and other cryptocurrencies represent a relevant and reliable economic model. Moreover, cryptocurrency brokers are similar to broker-traders,

through the operations they undertake: they buy and sell digital currencies on different platforms, on behalf of other people (Prochazka, D., 2018).

In this situation, the valuation of the stock may be at net realisable value, the estimate being based on available evidence at the time of valuation, taking into account changes in price or value that are related to subsequent events (IAS 2, pts.30-31).

In the case of **producing cryptoassets**, mining cryptocurrencies is a complex process by which certain information in a blockchain is validated by finding a cryptographic answer to specific problems. Finding the correct answer results in the miner being rewarded with other cryptocurrencies. The resulting cryptocurrency is included in the blockchain and once a block in the sequence is complete, it is validated and encrypted (Frankenfield, J., Brown, J., & Kazel, M., 2023). This whole process consumes a lot of electricity and is considered by some to be unsustainable. The waste of electricity seems unjustified in light of the fact that, at the moment, only a part of the population has access to this type of asset, not bringing benefits to the whole society.

The costs of this type of inventory include the conversion costs required for digital currencies to exist. Conversion costs include: direct costs of production units (electricity expenditure, wages directly attributable to crypto miners) and indirect fixed and variable production costs (depreciation of hardware and software, indirect wages of programmers and other employees) (IAS 2, pt.12). It should be taken into account the fact that in case of cryptocurrency mining, only one of the miners will win the competition of obtaining the cryptocurrency by guessing the hash, from all the persons who mine for the same cryptocurrency. According to Prochazka (2018), these costs can be recorded as expenses of the period that will not be included in the production of stocks (IAS 2, pt.16a).

As a result of generating cryptocurrencies, if they are immediately converted into fiat currencies, the sale will be recorded as income for the period, but if they are stored to be sold later (for speculative purposes), the inventories will be valued at fair value less costs for sale or at net realisable value (Prochazka, D., 2018).

However, in the situation in which the stock of cryptoassets is held for investment purposes, over a longer period of time, it will probably no longer fit the definition of stock, having a much too high turnover rate (Leopold, R., & Vollmann, P., 2019). As a result, the destination of these stocks will be changed, being able to be classified as intangible assets.

Similarly, the "IFRS Viewpoint" series made under the auspices of Grant Thornton (2018) highlights the fact that cryptocurrencies do not have a physical form, thus being an exception to the characteristics of tangible stocks and believes that this aspect could be seen by some as inappropriate.

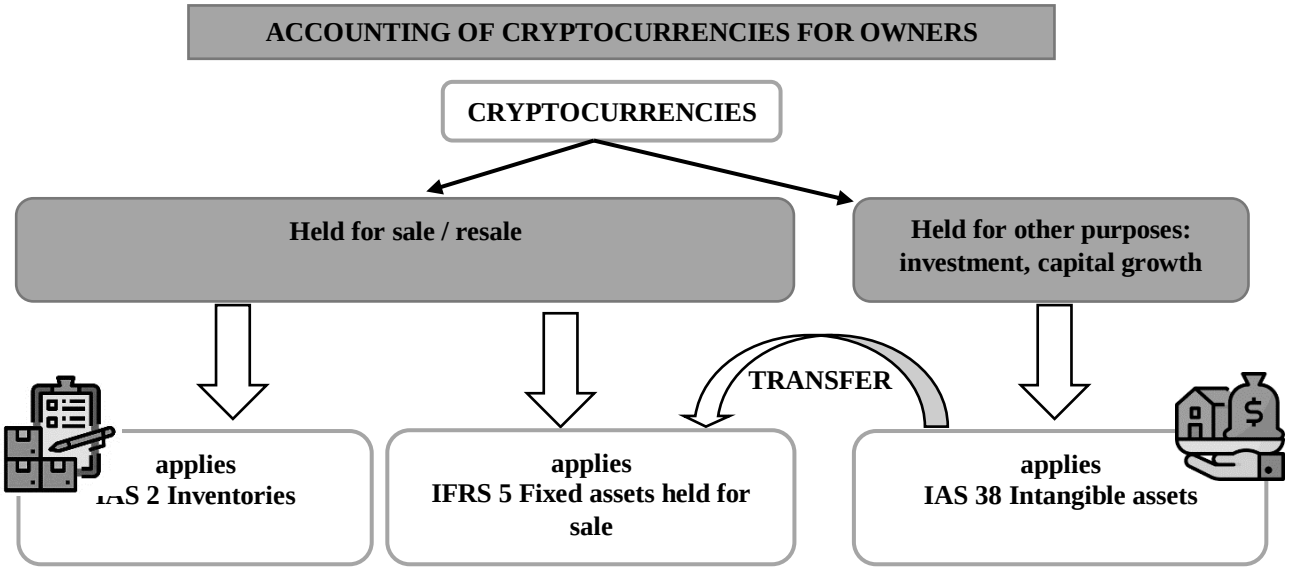
Therefore, we consider that in case of recognition of cryptoassets as stocks, according to IAS 2, regardless of their method of acquisition, they can be valued at fair value minus selling costs or at net realisable value.

In addition to the way of recognition in accountancy, the challenge of establishing the monetary value at which cryptocurrencies will be registered must also be taken into account. In this sense, IAS 21 *Effects of variation in exchange rates* will be considered. Thus, at the time of initial recognition, cryptocurrencies will be recorded using the spot exchange rate between the fiat currency from the state in which the cryptocurrency trading entity operates and the transaction value of the cryptocurrency at that time. Subsequently, according to IAS 21, at the end of the year, cryptocurrencies can be recognised as non-monetary items: using the historical cost of a certain currency converted at the exchange rates from the date when the transaction took place or if they were valued at fair value, it will be converted using the exchange rate available at the time the fair value was measured (Grant Thornton, 2018).

At the same time, Leopold, R. and Vollmann, P., insist on the fact that it is very important to understand the nature and characteristics of cryptocurrencies and the operations carried out with them within the entity, because in this way the consistent application of the same accounting methods to similar transactions is ensured.

Taking into account the IFRS standards and the research analysed, the authors of this article conclude that both IAS 2 and IAS 38 or IFRS 5 do not provide complete information, but are the most relevant in their application by professionals involved in financial reporting that must reflect transactions with cryptocurrencies. A reflection of the conclusions of the conducted study can be found in ***Figure no. 9***, which proposes the accounting of cryptocurrencies for owners.

Figure no. 9. Accounting of cryptocurrencies for owners under IFRS



Source: Authors' projection.

In agreement with other studies, it is recommended that digital currencies be recognised at their fair value and changes in fair value be included in profit or loss; the authors consider this reflection in accounting to be the closest to reality. It is obvious and imperative that these standards be updated, taking into account the technological evolution and newly emerging concepts.

National perspectives according to OMPF no. 1802/2014

The Romanian legislation does not provide concrete regulations regarding the financial reporting of cryptoassets. As the authors demonstrated in the **International perspectives according to IFRS** section, paragraph (1) of this article, these cryptoassets, because they are digital, differ from other types of assets, and cryptocurrencies are different from cash or cash equivalents, as they do not meet their characteristics, but it is interesting to consider this aspect from the OMPF no.1802/2014 perspective too.

In the Romanian accounting research, a number of authors addressed the challenges launched with the phenomenon of cryptoassets and their financial reporting. Among them we mention the article published in *Ceccar Business Review* (2020) by Păunescu, M., Popa, A. and Ciobanu, R., who propose the introduction of new accounts in the Chart of Accounts from OMPF no.1802/2014, which would meet the need for a correct accounting of cryptoassets, together with the accounting monographs applicable in the most common cases in practice. The accounts mentioned are:

204	**Cryptocurrencies**
372	**Cryptocurrency stocks – with proposed analytics:**
3721	Cryptocurrency stocks held for investment purposes
3723	Cryptocurrency stocks – other than those held for investment purposes
653	**Expenses with cryptocurrencies – with proposed analytics:**
6531	Expenses regarding cryptocurrencies held for investment purposes
6532	Expenses on the fair value of cryptocurrencies
6533	Expenses on cryptocurrencies – other than those held for investment purposes
713	**Revenues related to the costs of cryptocurrencies**
753	**Cryptocurrency revenue – with proposed analytics:**
7531	Income from cryptocurrencies held for investment purposes
7532	Earnings from the fair value of cryptocurrencies
7533	Income from cryptocurrencies – other than those held for investment purposes

(Păunescu, M., Popa, A., & Ciobanu, R., 2020)

According to OMPF no.1802/2014, the most accurate classifications of cryptoassets and, implicitly, of cryptocurrencies are in the category of intangible assets or stocks, depending on their use by the owner. However, the possibility of recognising cryptocurrencies as monetary elements will also be considered.

(1) First, since cryptocurrencies are also included within cryptoassets, also called virtual or digital currencies, their classification as **monetary elements** will be analysed. Cryptocurrencies are not issued by a central bank; this characterises them as non-bank currencies.

Next, the functions of physical currencies are considered, namely: they are a means of exchange for the purchase of goods, they are a unit of account for setting prices, and they are a means of stockpiling for saving.

The first function, that currencies are means of exchange for the purchase of goods resonates with the definition given in OMPF no.1802/2014 to **monetary elements**, that they are cash, cash equivalents, assets, or liabilities to be received or payable in amounts of fixed or determinable values. Therefore, the basic characteristic of the monetary element is the right to acquire or pay a fixed amount or which can be determined by monetary units (OMPF no.1802/2014, pt.315-1). Examples include different forms of **cash** settlement. Cash is money on hand that can serve directly for payment. The differences between cash and cryptocurrencies are analysed in **Table no. 4**.

Table no. 4. Differences between cash and cryptocurrencies

FUNCTIONS	CASH	CRYPTOCURRENCIES
Ensuring freedom and autonomy	• Cash (banknotes and coins) is the only form of money that citizens can hold without the involvement of third parties. • Cash payments do not require access to equipment, internet or electricity, even in the event of a power outage or card loss.	• Cryptocurrencies are assets that the owner can keep in a private electronic wallet, provided by a third party, on various platforms. • Cryptocurrency wallets are devices or programs that store the private keys of the cryptocurrency owner, allow interactions with the blockchain and ensure sending and receiving of cryptocurrencies. • Because these transactions require access to equipment, internet and electricity, they cannot be used during power outages or when access to the internet or equipment is limited.
Legality as a means of payment	• Creditors and suppliers, such as shops and restaurants, cannot refuse cash receipts unless they have previously agreed with their customers on another payment method.	• Cryptocurrencies are not a valid general medium of exchange, as there is a small number of merchants that accept payments in this form (see ***Figure no. 5***).
Privacy protection	• Cash transactions respect the right to privacy, the protection of personal data and identity in financial activities.	• Cryptocurrency operations involve the provision of personal data for the purpose of creating accounts, virtual wallets or allowing access to various trading platforms.
The integrative character	• Cash offers payment and savings opportunities for those who have limited or no access to digital currencies. • It can be used inclusively by vulnerable groups, such as: the elderly and people with low incomes.	• The use of virtual currencies is only possible for a small number of people who have access to the internet through various electronic means and who have researched and understood what it takes to use these trading tools.
Cost recording	• Cash controls spending, making it impossible to go over budget.	• Virtual currencies can be spent keeping in mind the available spending limit. "Available spending limit" is the difference between the total spending limit and the expenses already made.
Rapidity	• Banknotes and coins allow immediate settlement of payments.	• Cryptocurrencies allow the rapid transfer of digital currencies between two accounts.
Safety	• Cash is immune to fraud, counterfeiting and cybercrime. • As it represents the currency of the central bank, it does not involve any financial risk for the originator or recipient of the payment.	• Virtual currencies are a decentralized alternative to the centralized banking system, this means that transfers are made without the supervision of a central authority. • There is a high risk of volatility, fraud, counterfeiting and cybercrime.
Means of stockpiling	• Cash is more than just a means of payment. Liquid money allows citizens to hold money to save without the value fluctuating too much from the benchmark.	• Cryptocurrencies are assets whose availability and difficulty of obtaining is higher than that of liquid money. They fluctuate a lot, from a very high value to zero.

Source: Authors' projection after European Central Bank, 2022, "The Role of Cash"

Since digital currencies refer to a form of exchange that can only be carried out in digital form, they cannot be easily converted directly into cash and have a high risk of value fluctuations, it can be said that they are not fixed and determinable, so they could not be considered, taking into account OMFP no.1802/2014, cash elements.

Moreover, according to the studied order, the monetary element can be represented by a contract by which something is received or provided, so contractual reciprocity must exist. A party must deliver a variable number of equity instruments or a variable number of assets of the entity, whose fair value is a fixed number or which can be determined by monetary units (OMFP no.1802/2014, pt.315-2). In contrast, ownership of cryptocurrencies does not result from such a contractual relationship, because they are built on blockchain technology, through mining, so they can be produced regardless of a certain contractual relationship.

Therefore, an important characteristic of non-monetary elements is that there is no contractual right to receive monetary units in a fixed or determinable value and no obligation to deliver them. Examples: amounts paid in advance for goods and services; intangible assets; inventories; fixed assets; provisions for non-monetary assets (OMFP no.1802/2014, pt.315-3). Following this analysis, authors deduce that cryptocurrencies represent non-monetary elements which could be classified as intangible assets.

(2) Secondly, the recognition in accounting of cryptoassets as **intangible assets** is as long as they meet the basic conditions of this type of immobilisation. According to the general stipulations regarding intangible assets, they are: "identifiable non-monetary assets without physical form." (OMPF no.1802/2014, pt.144)

Cryptocurrencies are non-monetary elements, as they do not meet the conditions of monetary elements, as demonstrated in the previous point. An example of a non-monetary item includes intangible assets.

The authors analysed the characteristics that define an asset as an intangible asset, and one of them is the identifiable character. This means that the asset can be separated from the entity and sold, transferred, assigned, exchanged or otherwise created as a result of a contract or other right legally, alone or with another contract (OMPF no.1802/2014, pts.149-150). Thus, it can be stated that digital currencies are identifiable and can be sold separately on different platforms.

Analysing further the features of an intangible immobilisation, it is mentioned that a company controls a resource when it has the ability to obtain future economic benefits from it and prevents others from obtaining those advantages (OMPF no.1802/2014, pt.151). The ability of the producers to dispose of the economic advantages generated by cryptocurrencies comes from the legal property rights they acquire following the creation of cryptocurrencies.

Future economic benefits resulting from cryptocurrencies may include revenue from their sale and other benefits resulting from their usage by the entity. For example, they can be used as means of payment in relation to entities that accept this.

Regarding the initial valuation of intangible assets, they are recorded at the cost of acquisition or production (OMPF no.1802/2014, pt.156).

The production cost in the case of cryptoassets, although difficult to calculate, could be represented by the expenses associated with the asset, for example: electricity expenses, necessary equipment expenses, telecommunications expenses, software expenses (OMPF no.1802/2014, pt.7).

The acquisition cost represents the price to be paid and related expenses, less any discounts for acquisition costs. In this case, the purchase cost of cryptoassets consists of the purchase price, taxes and other charges, as well as other costs directly attributable to the purchase of these assets (trading platform commissions and other non-recoverable costs directly attributable to these assets) (OMPF no.1802/2014, pt.8.6).

To exemplify a recording, the following case is proposed, regarding the **acquisition** of cryptocurrencies as an **intangible asset**:

- 100 DOT cryptocurrencies are purchased for long-term storage, worth €6/cryptocurrency, with a 2% commission on the purchase from the platform. The National Bank of Romania (BNR) exchange rate on the date of purchase is 5 lei/€.

Solution:

Acquisition price = 100 cryptocurrencies x €6/cryptocurrency x 5 lei/€ = 3000 lei
Platform commission = 3000 lei x 2% = 60 lei

Acquisition cost = acquisition price + platform commission = 3000 lei + 60 lei = 3060 lei

- purchase registration at purchase cost:

3060 lei	204 *Cryptocurrencies*	=	462 / 404 *Various creditors /* *Immobilisation suppliers*	3060 lei

Taking into account the mentioned aspects, it can be concluded that, without a doubt, cryptocurrencies have the characteristics of intangible assets and could be considered as such. The only peculiarity that could be attributed to cryptoassets is that they could not be amortised, as their value fluctuates daily and their lifetime is indefinite.

However, OMPF no.1802/2014 specifies at point 273 that when there is a change of use of tangible assets (in the present case of intangible assets), this means that when improvements are made for sale, the transfer from tangible assets (or intangible) to stocks, is recorded in accounting as soon as the decision to change the use is made (OMPF no.1802/2014, pt.273).

(3) Similar to the IFRS definition, OMPF no.1802/2014 provides: "Inventories are current assets:

a) held for sale in the ordinary course of business;

b) in the course of production for sale in the normal course of business; or

c) in the form of raw materials, materials and other materials that are used in the production process or services." (OMPF no.1802/2014, pt.272)

Therefore, owned cryptoassets that are intended for sale in the course of business could be classified as inventories. If they benefit from this accounting treatment, the gains related to the sale of cryptoassets will be recorded at the time of sale. In this way, the financial reports will faithfully reflect the monthly situation in the case of these assets whose value fluctuates frequently.

In order to address a case regarding the **purchase** of cryptocurrencies as **stock**, the following application is proposed:

- 100 DOT cryptocurrencies are purchased for short-term storage, worth €6/cryptocurrency, with a 2% commission on the purchase from the platform. The BNR exchange rate on the date of purchase is 5 lei/€.

Solution:

Acquisition price = 100 cryptocurrencies x €6/cryptocurrency x 5 lei/€ = 3000 lei
Platform comission = 3000 lei x 2% = 60 lei

Acquisition cost = acquisition price + platform comission = 3000 lei + 60 lei = 3060 lei

- purchase registration at purchase cost:

3060 lei	372 *Cryptocurrency* *stocks*	=	462 / 401 *Various creditors /* *Suppliers*	3060 lei

Cryptocurrency accounting operations involve the application of the exchange rate, as their prices are quoted against the dollar or other currencies. Thus, the change in the exchange rate has two components: the increase in the cryptocurrency rate in relation to the given currency and the increase due to the exchange rate (Păunescu, M., Popa, A., & Ciobanu, R., 2020).

Considering OMPF nr.1802/2014 and the researches analysed, the authors of this article conclude that the classification of cryptoassets as intangible assets or stocks is appropriate, but requires improvements and updates by introducing a new category of intangible assets: cryptoassets. Currently, the classification as intangible assets or inventories can be used by experts involved in financial reporting that must reflect cryptocurrency transactions.

Perspectives on the taxation of cryptoassets

Tax related to cryptoassets

Looking at the case of cryptocurrency transactions from a fiscal perspective, the gain is subject to taxation according to the tax legislation of each individual state. In order to resolve the problem related to the tax treatment of the income of **private persons** from the transfer of virtual currencies, ANAF offers its own clarification in a brochure.

The legislative interpretation that is applied assumes that the income obtained by private persons from virtual currency transfers represents taxable income and the stipulations of Chapter X "Income from other sources" of Title IV "Income tax" of the Fiscal Code (ANAF, 2021) apply. The Fiscal Code states that the income from other sources is the income determined as taxable, which includes income from virtual currency transfers (Fiscal Code, art.114 pp.(2) letr.(m)).

The declaration of income from the transfer of cryptocurrencies is mandatory, and the beneficiaries must complete and submit every fiscal year the "Unique Declaration on income tax and social contributions owed by private persons". The deadline is the 25th of May of the year following the realisation of the income; this date is also the payment deadline (ANAF, 2021). **The income tax** due for this type of gain is 10% and is calculated by the taxpayer.

For a clear identification of the gain or loss from cryptocurrencies, the purchase price must be correctly calculated as:

Purchase Price = Purchase Price or Cost + Direct Transaction Costs + Comissions

According to art. 116 pp. (2) letr. c) from the Fiscal Code, the earnings from cryptocurrencies represent the positive difference between the price at which it is sold and the purchase price, i.e. the direct transaction costs (trading platform commissions). However, earnings below the level of 200 lei/transaction are not taxable, provided that the total income for the fiscal year does not exceed 600 lei (ANAF, 2021). However, expenses arising from the decrease in the fair value of cryptocurrencies or losses resulting from their sale, transfer or use are deductible (Păunescu, M., Popa, A., & Ciobanu, R., 2020).

Cryptoasset profit = Selling price – Buying price

Earning from cryptoassets or cryptocurrencies can be realised when the surplus is collected or when the surplus is used to purchase goods or services with traditional currency using cryptocurrencies. The earned income is settled in fiat currencies when the winnings are transferred to a bank account. However, some trading platforms allow holding a fiat wallet. In this case, the gain will be taken into account after the transfer to a wallet where fiat currency is available and must be declared, regardless of whether it is then transferred to a bank account or used for other transactions on the platform (Bontaş, R., & Barbu, C., 2019).

In addition to this tax, people who exceed through the income obtained during a year, the threshold indicating the limit for the payment of the social health insurance contribution, must pay 10% of the annual calculation base, as social health insurance contribution.

Regarding social insurance contributions in the public pension system, according to the Fiscal Code, art.137, it can be understood that no pension contribution is due for income from other sources, where income from cryptocurrencies is included.

Moreover, on the one hand, there are cryptocurrency **transactions** that are **taxed**, but on the other hand, there are cryptocurrency transactions that are untaxed.

Taxed transactions include (Legge, M., 2022):

- sale of cryptocurrencies in exchange for fiat currency – 10% tax on any profit generated;
- transactions (exchanges) between cryptocurrencies – 10% tax on any profit generated;
- the purchase of goods and services with cryptocurrencies – 10% tax on the favorable difference between the purchase cost of the cryptocurrency and the market price at the moment of exit from the record;
- rewards from cryptocurrency mining – 10% tax on the value on the date of receipt;
- rewards from the cryptocurrency pledge – 10% tax on the value on the date of receipt;
- obtaining new tokens – 10% tax on the value on the date of generation.

These transactions are taxed because a gain or loss may result from that transaction, in which case the gain will be subject to income tax. Cryptocurrency losses are tax deductible. In the case of obtaining new cryptocurrencies, they are considered additional income, which will be taxed both at the time of receipt (the value of the coins on the date of receipt will be taxed) and when they generate a profit from various transactions (using the formula of profit from cryptoassets as difference between the selling/trading price and the value at the time of receipt).

Tax-free transactions include:

- buying cryptocurrencies;
- holding cryptocurrencies;
- the transfer of cryptocurrencies between personal wallets.

This could also include the donation of cryptocurrencies, but there is no clear regulation in this regard from ANAF (Legge, M., 2022).

In the case of **legal entities**, two current situations can be analysed.

1) First, there is the situation of **legal entities paying the tax on the income of microenterprises**. Starting from 2023, the tax rate for these entities is 1% of the company's income, provided that it has at least one full-time employee. Income from any source is taxed according to the tax base, as specified in art. 49 and art. 53 of the Fiscal Code.

Therefore, if the income comes from trading cryptocurrencies activities, this income will be taxable. However, if cryptoassets were considered stocks, the entire income resulting from their sale or disposal should be taxed, but if the assets were held for investment purposes, only the gain should be taxed.

2) Secondly, the authors analysed the situation of **legal entities which are paying profit tax**. In this case, the profit tax is charged at a rate of 16% on the taxable profit from any source, regardless of whether it is in Romania or outside it (Fiscal Code, art.14). According to art. 19 pp.(1) of the Fiscal Code, the fiscal result is the difference between revenues (including those from cryptocurrencies) and expenses. The 16% tax will be applied on the positive fiscal result and the negative fiscal result will be considered a fiscal loss (Fiscal Code, art. 19 pp.(1)).

Furthermore, we believe that when cryptoassets were considered stocks, the entire income resulting from their sale or disposal should be taxed, but if the assets were held for investment purposes only the gain should be taxed and the expenses from the decreases in their fair value or the losses should be deductible, as stated by Păunescu, M., Popa, A. and Ciobanu, R. (2020) in the article dedicated to this topic.

The VAT regime applicable to cryptoassets

In order to formulate a view on the VAT regime applicable to cryptoassets, the famous **Skatteverket – Hedqvist case**, known as **Case C-264/14 Hedqvist** resolved by the Court of Justice of the European Union, can be mentioned. The case concerned the subjection or not to the value added tax of the exchange of Bitcoin for conventional currencies or vice versa, carried out through a company (Judgment of the CJEU in Case C-264/14, Skatteverket/David Hedqvist, 2015). The recommendations resulting from the settlement are not considered to have legislative power, but they can provide direction with the aim of unifying and harmonising legislation at the level of the European Union, with the VAT Directive.

In the VAT Directive art.135 pp.(1) letr.(e) it is mentioned that in the EU states the operations with "coins, banknotes and coins used as a legal means of payment" are exempt from the point of view of registration for VAT purposes (Directive 2006 /112/CE). Even if these are non-traditional currencies and do not have a well-established legal usage

framework, if they are accepted by the parties involved in the transaction as "an alternative means of payment to the legal means of payment and have no other purpose than that of a means of payment, constitute financial operations" (Judgment of the CJEU in Case C-264/14, Skatteverket/David Hedqvist, 2015). Therefore, in this case, the Bitcoin cryptocurrency is accepted as a means of payment by some economic operators.

Consequently, art. 135 pp.(1) letr.(e) from the VAT Directive can also refer to the provision of services involving the exchange of fiat currencies with cryptocurrencies and vice versa, these operations being exempt from VAT. Following such an exchange, the difference between the price at which the holder of cryptocurrencies buys them and the price at which he resells them to customers is the margin or profit from cryptoassets. In this case, the exemption provided by the mentioned article aims to reduce the ambiguity regarding "the establishment of the tax base, as well as the amount of the deductible VAT that appear in the taxation of financial operations" (CJEU Decision in Case C-264/ 14, Skatteverket/David Hedqvist, 2015).

Conclusion

The evolution of the cryptoasset phenomenon and the lack of relevant formal accounting statements present complex challenges for professionals involved in financial reporting. Therefore, managing the accounting of cryptoassets requires a detailed understanding of both the technology and operation of cryptoassets, as well as the relevant accounting concepts. In the absence of measures taken to regulate this type of transaction through accountancy standards, holders of cryptoassets are unable to apply the appropriate accounting treatment for the activity in which they are involved.

In the paper were exposed the characteristics of cryptoassets, from a theoretical point of view, after the analysis of several electronic sources. At the same time, it was aimed to analyse and present certain statistical data, such as the market capitalisation of cryptoassets, the degree of acceptance and usage of cryptocurrencies worldwide, which results in an increase in their use.

As a result, finding it necessary to account for transactions that include cryptoassets, the authors defined the international standards where they could be included, then were analysed the characteristics of the selected IFRS standards and presented the conclusions. In the same way it was done the analysis of the perspective of OMPF no.1802/2014, on the Romanian national level. In the evaluation of the standards and regulations were also presented the points of view of other authors who approached similar topics in the field of cryptoassets and cryptocurrencies. The perspectives on the taxation of cryptoassets are presented by analysing the types of taxes and the VAT regime applicable to cryptoassets, according to the Fiscal Code, the existing ANAF rules and the VAT Directive at the European level, with exceptions.

Based on the examination of the specialised literature, the comparisons made, the accounting models analysed in relation to the existing legislation (IFRS and OMPF no.1802/2014) and the characteristics of cryptoassets, the present study concludes that the most relevant accounting approach to cryptoassets is as intangible asset at fair value. Another plausible approach is to classify them as inventory at net realisable value or fair value less costs to sell or non-current asset held for sale.

A problem noticed by the authors and which has a long-term impact is related to the mining of cryptocurrencies. Entities that mine cryptocurrencies use large amounts of energy in solving algorithms through the blockchain system. Upon completion of the algorithm, the mining program issues the cryptocurrency that is added to the electronic portfolio of the entity that initiated the entire process (Shehada, F., & Shehada, M., 2020). The process is considered by some to be unsustainable and the waste of electricity seems unjustified because cryptoassets, at the moment, are accessible only to a part of the population, not bringing benefits to the whole society. Consequently, this topic remains open for discussion.

The legislative framework for cryptoassets and cryptocurrencies is required to be coherent and set standards based on conditions of fair competition to protect customers. The European Economic and Social Committee (EESC) supports innovation in the European Union. Therefore, it is important that non-financial common blockchain-based instruments are not treated as financial instruments, but as physical assets. Thus, the "same activity, same risk, same rules" principle is followed. For that reason, in the recommendations of the "Section for Economic and Monetary Union and Economic and Social Cohesion", the EESC calls for a legislative and operational framework aimed at improving the monitorisation of financial transactions and compliance with fiscal obligations for cryptoassets (Von Brockdorff, P., & Grabo, L., 2022).

On national level, the authors conclude that it is necessary to amend the current legislation, in the sense of improving and completing it, in order to clarify the accounting recognition of operations with cryptoassets. They are necessary due to the fiscal importance arising from these transactions. The establishment and analysis of the way of usage or the purchase purpose of cryptocurrencies influences their classification as: intangible assets, stocks or exchange currency, although, according to the existing legislation, they do not meet the characteristics of cash, the study possibilities being open on this topic. For this reason, a unitary and coherent legislative framework is necessary to be used by experts involved in financial reporting that must reflect cryptocurrency transactions.

The limitations of the study consist in the fact that, at the moment, the practice in the field of accounting recognition of cryptoassets is at the beginning, so the confrontation with the specialised literature does not include factual aspects, but only the opinions of the authors who investigated this topic.

The result of the paper suggests that legislators have not focused enough attention towards providing a legislative direction regarding new blockchain techniques and technologies that challenge, in a practical way, the knowledge of professional accountants and the expression of auditors' opinion. The future evolution of cryptoassets is unpredictable, especially taking into account the legislative and declaration part, but they could be seen as an alternative to financial transactions.

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