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Tetiana Yatsyk
PhD Student (Economics), Lecturer,
Taras Shevchenko National University of Kyiv
90A Vasylkivska Str., Kyiv, 03022, Ukraine
tetiana.yatsyk@gmail.com
ORCID ID: https://orcid.org/0000-0002-7294-5973

Viktor Shvets
D.Sc. (Economics), Professor,
Taras Shevchenko National University of Kyiv
90A Vasylkivska Str., Kyiv, 03022, Ukraine
v_shvets@ukr.net
ORCID ID: https://orcid.org/0000-0001-8403-1813

Cryptoassets as an emerging class of digital assets in the financial accounting

Abstract
Introduction. Currently, there is no single, unified framework for the classification of cryptoassets. Consequently, there is no generally applied definition of neither cryptoassets, nor digital tokens, due to the variety of features and bespoke nature of the transactions in practice. *The objective* of this paper is to define the essence of cryptoassets in the financial accounting, identify attributes for its taxonomy and provide a multipurpose overview of cryptoassets market environment.
Methods. In a comprehensive overview of cryptoassets market environment, the authors have used statistical monitoring, as well as dynamic, comparative and structural analysis. The selected sample includes daily data of cryptoassets market capitalization. Data were gathered from multiple sources at various time points during February 2016 - July 2020.
Results. According to the conducted research, the countries with the largest number of registered cryptoassets exchanges are: the UK, Hong Kong, Singapore and the US, however, about 17% of exchanges still stay with unknown countries of registration. It is expected that the number of such exchanges will reduce soon, due to the adoption of certain legislative frameworks regarding cryptoassets. The authors define the essence of such terms as: cryptoassets, cryptocurrency, digital tokens and propose a cryptoassets taxonomy, based on the token's functionality and characteristics. Four main types of cryptoassets have been identified and defined, namely: cryptocurrency (payment tokens), security tokens, utility tokens, asset-backed tokens and hybrid (or mixed) tokens. The authors suggest possible financial accounting treatment for each type of the cryptoassets.
Conclusions. The cryptoassets market capitalization reacted to the factors such as global financial fluctuations due to macroeconomic factors and the COVID-19 pandemic as well as increasing digital asset regulations in early 2020. Cryptoassets remain largely a self-regulated industry and they still have no legal definition. The authors define cryptoassets as transferable digital assets recorded with a distributed ledger technology, which prohibits their copying or duplication. Due to the plethora amount of types of cryptoassets, a case-specific review should be required to determine the corresponding financial accounting treatment. The methodology of cryptoassets accounting treatment require further research.
Keywords: Cryptoassets; Distributed Ledger Technology (DLT); Cryptocurrency Financial Accounting; Intangible Asset; Digital Token; Initial Coin Offering (ICO)
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Яцик Т. В.
аспірантка, викладачка, кафедра обліку та аудиту,
Київський національний університет імені Тараса Шевченка, Київ, Україна
Швець В. Г.
доктор економічних наук, професор, кафедра обліку та аудиту,
Київський національний університет імені Тараса Шевченка, Київ, Україна

Криптоактиви як новий клас цифрових активів у фінансовому обліку
Анотація. На сьогодні не існує єдиної методики класифікації криптоактивів та їх загальноприйнятого визначення. Метою даної роботи є аналіз сутності криптоактивів у фінансовому обліку, ознак їх таксономії та аналітичний огляд ринкового середовища криптоактивів. У статті надано визначення ряду фінансових категорій: криптоактиви, криптовалюта, цифрові токени. Авторами запропоновано таксономію криптоактивів, виходячи з їх функціональності та внутрішніх характеристик. Ідентифіковано й визначено чотири основні типи криптоактивів: криптовалюта (платіжні токени), інвестиційні токени, службові токени, токени, що забезпечені активами, і гібридні (або змішані) токени. У статті запропоновано методику фінансового обліку кожного з виокремлених видів криптоактивів.
Ринкова капіталізація криптоактивів на початку 2020 року відреагувала на такі фактори, як глобальні фінансові коливання через макроекономічну ситуацію, пандемію COVID-19, а також посилення нормативно-правового регулювання криптоактивів на міжнародному рівні. Таким чином, криптоактиви визначаються як передавані цифрові активи, що функціонують за допомогою технології розподіленої книги, що унеможливлює їх копіювання чи дублювання. Зважаючи на велику кількість видів криптоактивів, методика їх фінансового обліку має формуватися відповідно до внутрішніх характеристик кожного окремого виду. Методика обліку криптоактивів потребує подальшого дослідження.
Ключові слова: криптоактиви; технологія розподіленої книги (DLT); фінансовий облік криптовалюти; нематеріальний актив; цифровий токен.

Яцык Т. В.
аспирантка, преподаватель, кафедра учета и аудита,
Киевский национальный университет имени Тараса Шевченко, Киев, Украина
Швец В. Г.
доктор экономических наук, профессор, кафедра учета и аудита,
Киевский национальный университет имени Тараса Шевченко, Киев, Украина
Криптоактивы как новый класс цифровых активов в финансовом учете
Аннотация. На сегодняшний день не существует единой методики классификации криптоактивов и их общепринятого определения. Целью данной работы является анализ сущности криптоактивов в финансовом учете, признаков их таксономии и аналитический обзор их рыночной среды. В статье приведены определения следующих финансовых категорий: криптоактивы, криптовалюта, цифровые токены. Авторами предложена таксономия криптоактивов, исходя из их функциональности и внутренних характеристик. Идентифицированы четыре основных вида криптоактивов: криптовалюта (платежные токены), инвестиционные токены, служебные токены, токены, которые обеспечены активами, и гибридные (или смешанные) токены. В статье предложена методика финансового учета каждого из выделенных видов криптоактивов.
Рыночная капитализация криптоактивов в начале 2020 года отреагировала на такие факторы, как глобальные финансовые колебания из-за макроэкономической ситуации, пандемии COVID-19, а также усиления нормативно-правового регулирования криптоактивов на международном уровне. Таким образом, криптоактивы определяются как передаваемые цифровые активы, которые функционируют с помощью технологии распределенной книги, что делает невозможным их копирование или дублирование. Несмотря на большое количество видов криптоактивов, методика их финансового учета должна формироваться в соответствии с внутренними характеристиками каждого отдельного вида. Методика учета криптоактивов требует дальнейшего исследования.
Ключевые слова: криптоактивы; технология распределенной книги (DLT); финансовый учет криптовалют; нематериальный актив; цифровой токен.

1. Introduction

Cryptoassets, including cryptocurrencies such as Bitcoin, have experienced a significant breakout year in early 2018, when the market capitalization has reached almost USD 284822 million (Coindesk, 2020). More companies today are beginning to accept cryptocurrencies, including stablecoins as a means of payment despite of the rapid changes in value and high volatility. The attention to an emerging class of digital assets, such as cryptoassets, enhanced by the increase of public's awareness of a new phenomenon – distributed ledger technology (DLT) and development of ICO as a new form of crowdfunding. Despite the general macro-economic decline, caused by the COVID-19 pandemic, cryptoassets continue to evolve, with Bitcoin dominance of 61.1% (Coinmarketcap, 2020). As activity in cryptoassets has increased, it has attracted regulatory scrutiny across multiple jurisdictions. Nevertheless, the research on the industry is still scarce.

Many scientists have been engaged in solving the problem of cryptoassets definition for financial accounting purposes, however the majority of research focused mostly on cryptocurrency, rather than on a diverse taxonomy of these new digital assets. The authors performed a

comprehensive analysis of cryptoassets' current economic environment, then continued to consider the unified definition of cryptoassets and its taxonomy in the financial accounting.

Research methodology. In a comprehensive overview of cryptoassets market environment, the authors have used statistical monitoring, as well as dynamic, comparative and structural analysis. The selected sample includes daily data of cryptoassets market capitalization. Data were gathered from multiple sources at various time points during February 2016 - July 2020 (Coindesk, 2020; Coinmarketcap, 2020). The methods of accounting, probability theory, financial management and financial analysis are used in this paper.

2. Brief Literature Review

In recent years, there has been an increasing amount of literature on Blockchain and distributed ledger technologies and how they could be applied in different areas of economy. Thus, Atlas et al. (2020) investigated the different forms the information can take on due to the tokenization: such as types of ownership, identity, any kind of transaction, or an agreement between two parties.

Numerous studies have attempted to define cryptoassets (Sixt, Elfriede, & Himmer, 2019; Ankenbrand et al., 2020). Himmer et al. (2019) investigatesd the differential impact of the rights associated with the cryptoassets on its financial accounting, the authors identify and apply the appropriate commercial and tax accounting rules for a new digital class of assets.

Ankenbrand, Bieri and Cortivo (2020) define 14 attributes, that represent different characteristics of cryptoassets, and use them for classification purposes of a new digital assets class. Such an approach is an extension of existing taxonomy frameworks, while authors draw our attention to a significance of unified terminology. Difficulties arise, however, when an attempt is made to classify absolutely new types of tokens, which can include combined characteristics.

Arslanian and Fischer (2019) analyzed a general cryptoasset ecosystem and concluded, that cryptoassets require an ecosystem to flourish, however, distributed ledger technology enables a significant reduction in the number of intermediaries in the financial ecosystem.

Caporale et al. (2020) and Fahmi et al. (2018) have developed a regression model for analysis of Bitcoin price prediction. Caporale et al. (2020) investigated the role of the frequency of Bitcoin price overreactions in the crypto-market for the period 2013-2018.

Alqaryouti et al. (2020) measured the impact of cryptocurrency usage on users' perceived behavior and benefits using the technology acceptance model. Author examined the main factors, which could influence cryptocurrency usage, among which are: perceived ease of use and benefits, and usage behavior. However, it should be mentioned, that they did not find any significant relationship between the perceived benefit and usage behavior.

Nabilou and Prüm (2018) investigated the differential impact of cryptocurrencies on banking, financial, and analyzed monetary systems and approach to regulating cryptocurrencies by local governments.

Brukhanskyi and Spilnyk (2019) studied the possibility of integration cryptoassets into the financial accounting and reporting system and emphasis, that there is a considerable need to generate a separate accounting status of cryptoassets.

Several studies investigating financial accounting of cryptoassets have been carried out in Ukraine. Thus, Petruck and Novak (2017) studied the essence of cryptocurrency and its representation and disclosure in the financial statements. Derun and Skliaruk (2018) examined some attributes for cryptocurrency taxonomy. The authors analyze cryptocurrency basic characteristics. Fostolovich (2018) reported on the necessity to define a unified approach for cryptocurrency accounting. Yatsyk (2018) studied the methodology of financial accounting of cryptocurrencies according to the international financial reporting standards (IFRS).

Much of the current literature on cryptoassets accounting pays particular attention to forecast cryptocurrency exchange rate, in particular, Tarasova, et al. (2020) proposed their own formal mathematical model to forecast Bitcoin price, however in the module they use such a variables as number of days in terms of which data from Google search engine are obtained, caution must be applied, as the findings might not be representative due to the limitation of a small sample size.

3. The purpose of the research is to examine the essence of cryptoassets in the financial accounting, identify attributes for its taxonomy and provide a comprehensive overview of cryptoassets market environment with market capitalization forecast of Bitcoin price.

4. Results

Since there are no accounting standards that specifically address cryptographic assets, one must look at the existing IFRS and apply a principles-based approach. We highlight some of the accounting issues that are currently being debated and give the definition of cryptoassets, cryptocurrencies and tokens for financial accounting purposes.

Previously, the majority of research focused only on cryptocurrency - that is only one type of cryptoassets, rather than on a diverse taxonomy of these new digital assets. Nowadays, cryptoassets continue to evolve, with Bitcoin dominance of 61.1% (Figure 1 and Figure 2).

As shown in Figure 1, by the end of 1H 2020 the countries with the largest number of registered exchanges were the UK (50 exchanges), Hong Kong (27 exchanges), Singapore (26 exchanges), and the US (26 exchanges) (Figure 1). According to the international Bitcoin flows analytics report covered the period of 2013 - 1H 2020 and published by Bitfury Crystal (2020), in 1H 2019, the total volume of Bitcoin directly transferred between exchanges was USD 24.5 billion. That is 48% of the almost USD 51.6 billion transferred in all of 2019. Thus, far in 1H 2020, the total volume of Bitcoin directly transferred between exchanges was almost USD 33 billion, an increase of 35% from the same period a year. 45% of the volume moved between exchanges in 2020 was transferred by G20 countries, while Seychelles transferred about 31% of the total volume of Bitcoin exchanges in 1H 2020. This volume is in majority made up of transactions related to Binance and Huobi exchanges (Bitfury Crystal, 2020). As at the date of this research, the majority amount of exchanges still stay with unknown countries of registration (about 17% from total population), however it is expected that the number of exchanges operating with unknown countries of origin will reduce, as most countries have now adopted certain legislative frameworks regarding cryptoassets, and this is mainly driven by anti money laundering regulations. Thus, to operate successfully in 2020 a cryptoassets exchange needs to be fully compliant and licensed.

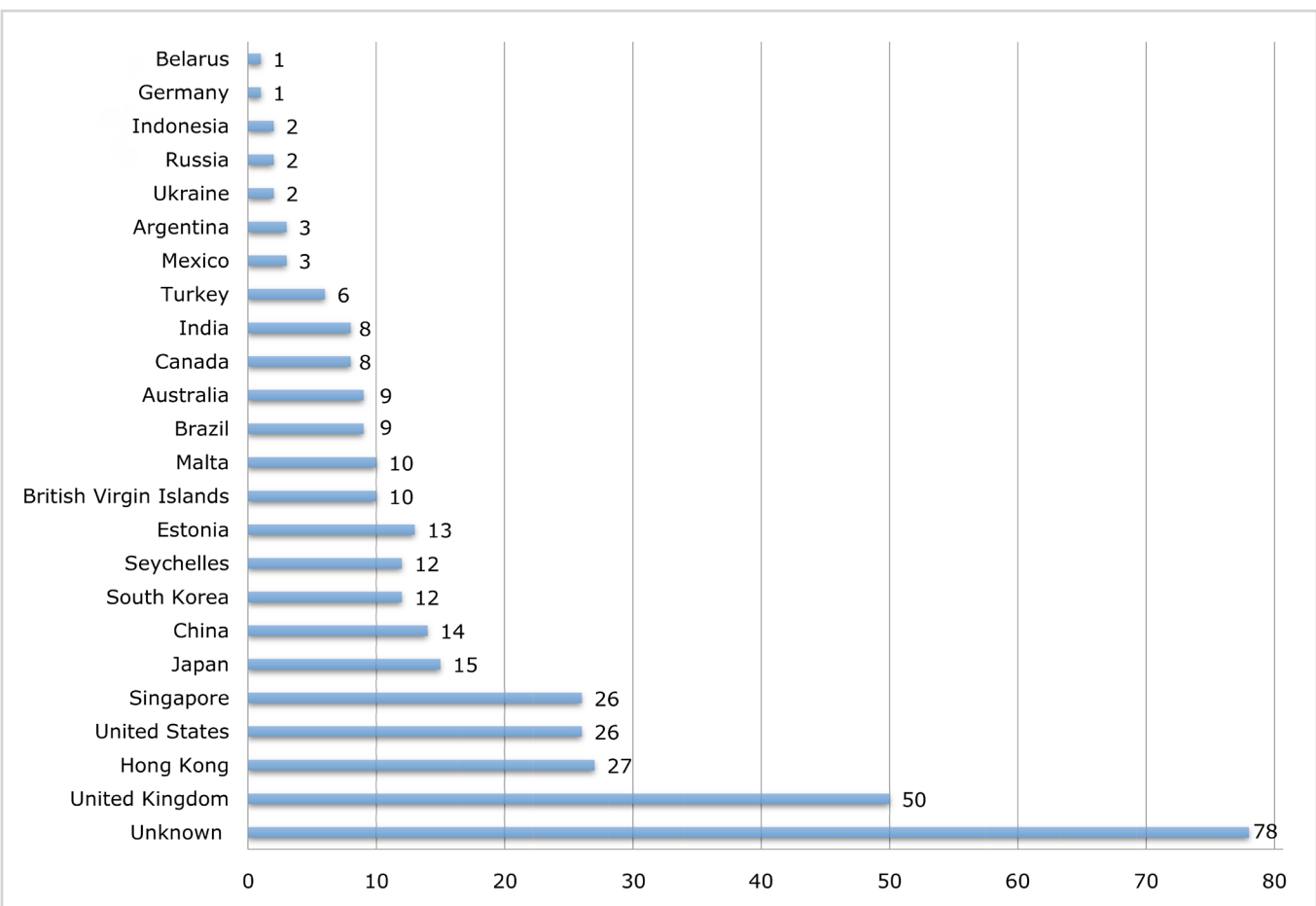

Figure 1:
Number of exchanges by country of registration
Source: Compiled by the authors based on data from Coindesk (2020); Coinmarketcap (2020)

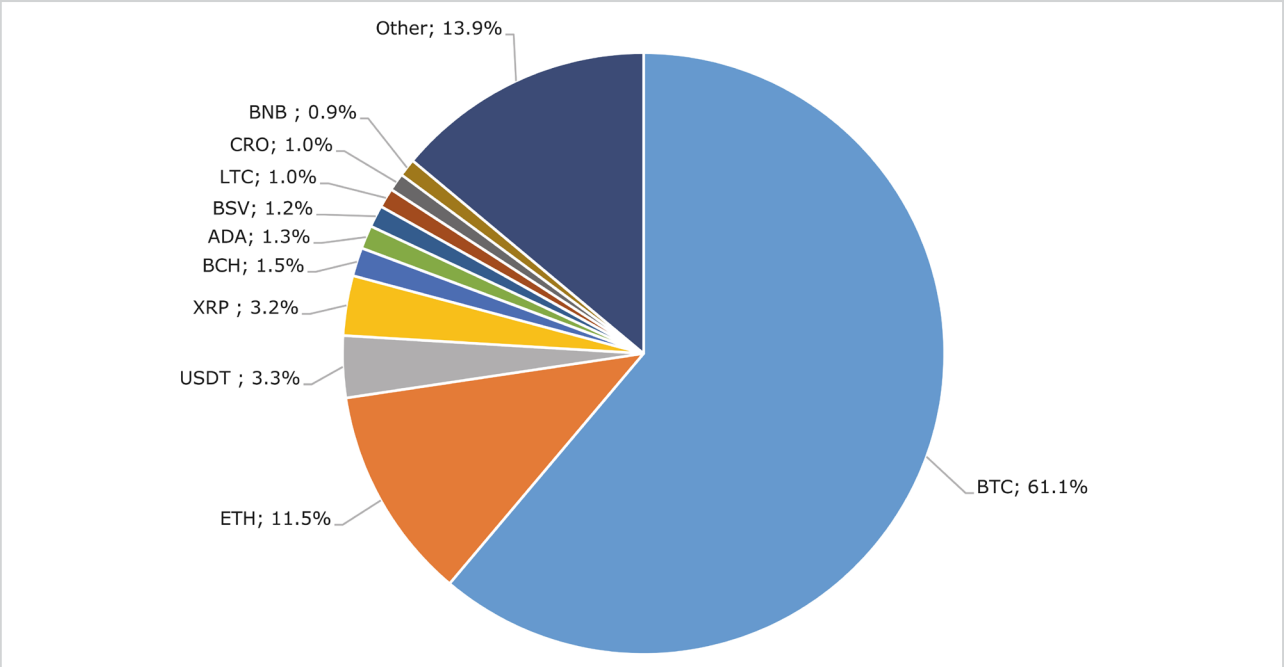

Figure 2:
Cryptoassets structure by Market Capitalization
Source: Compiled by the authors based on data from Coindesk (2020); Coinmarketcap (2020)

According to coinmarketcap.com (2020), there are more than 5 784 different types of cryptoassets, including cryptocurrency and tokens with total market capitalization more than USD 300 089 million (as of July 2020), that is shown in Table 1.

In January 2020, the European Union introduced the 5th Anti Money Laundering Directive (5AMLD) with legislative measures that further define cryptocurrencies and now require relevant digital asset businesses to complete obligatory customer due diligence. The new legislation also gives the Financial Intelligence Units (FIU) mandates to obtain the addresses and identities of digital asset owners and requires all cryptocurrency exchanges to be registered (Bitfury Crystal, 2020).

The cryptoassets market capitalization has reacted to the factors such as global financial fluctuations due to the COVID-19 pandemic as well as increasing digital asset regulations in early 2020 (shown in Figure 3).

Thus, in February 2020, before the global lockdown, the Bitcoin market capitalization was USD 189717 million, comparing to USD 96905 million in March 2020 (Coinmarketcap, 2020). Such a trend demonstrated an incredible influence of external macro-economic factors on the rate of cryptocurrencies and as a consequence, their market capitalization (Table 2). Described issue predetermines financial accounting treatment of fair value changes in Profit or Loss statement (P&L) or other comprehensive income statement.

Table 1:
TOP 10 Cryptoassets by Market Capitalization

Rank	Name	Short Name	Market Cap., USD million	Price, USD	Vol., USD million	Circulating offer, million units	Change, (24 h)	Structure, %
1	Bitcoin	BTC	183 471	9 948.0	21 307	18	3.84%	61.1%
2	Ethereum	ETH	34 505	308.3	13 218	112	8.90%	11.5%
3	Tether	USDT	9 952	1.0	30 834	9 998	-0.48%	3.3%
4	XRP	XRP	9 656	0.2	1 597	44 849	3.97%	3.2%
5	Bitcoin Cash	BCH	4 589	248.4	1 911	18	2.63%	1.5%
6	Cardano	ADA	3 768	0.1	802	25 927	9.71%	1.3%
7	Bitcoin SV	BSV	3 517	190.4	1 650	18	3.57%	1.2%
8	Litecoin	LTC	3 147	48.3	2 684	65	1.98%	1.0%
9	Crypto.com Coin	CRO	2 861	0.2	88	18 422	4.55%	1.0%
10	Binance Coin	BNB	2 843	19.7	287	144	-0.06%	0.9%
	Other	Other	41 779		-	-		13.9%
	Total		300 089		-	-		100.0%

Source: Compiled by the authors based on data from Coinmarketcap (2020)

Cryptoassets industry remains largely a self-regulated industry and there is no legal definition of cryptoassets in various jurisdictions, nevertheless a new compliance requirements constantly arise. Nowadays this industry regulates mostly by a Know Your Client («KYC») and Anti Money Laundering («AML») perspective. Furthermore, the Australian Accounting Standards Board (AASB) has submitted a discussion paper on «digital currencies» to the International Accounting Standards Board (IASB) (EY, 2018), and the Accounting Standards Board of Japan (ASBJ) has issued an exposure draft for public comment on accounting for «virtual currencies». Further, the IASB discussed certain features of transactions involving digital currencies during its meeting in January 2018, and will discuss in future whether to commence a research project in this area (EY, 2019).

One of the problems which caused difficulties with standard setting procedures for an emerging class of digital assets in the financial accounting is the absence of unified cryptoasset taxonomy. Due to the plethora amount of types of cryptoassets, which have diverse characteristics, it is difficult to form a general accounting treatment. Therefore, there is an increasing need for the accounting guidance for cryptoassets.

After a comprehensive analysis of scientific literature (EY, 2019) we can conclude, that cryptoassets are transferable digital assets recorded with a distributed ledger technology, which prohibits their copying or duplication. Recently, the market focuses on tokens issued in Initial Coin Offering (ICOs), however there are a number of other types of cryptoassets. An ICO is the process

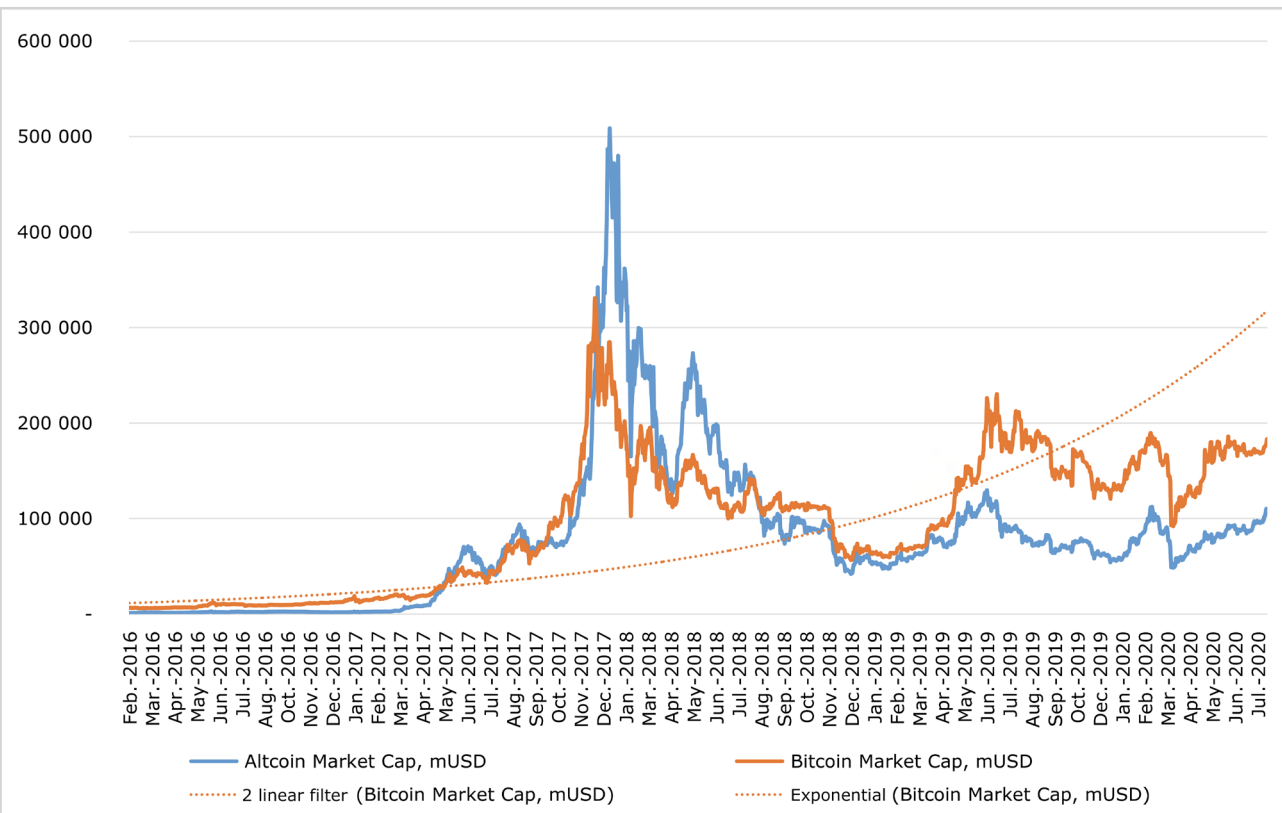

Figure 3:
Cryptoassets' Market Capitalization, USD million (historical)
Source: Compiled by the authors based on data from Coindesk (2020)

Table 2:
Cryptoassets average market capitalization change during the last five years (2016-2020)

Year	Average Altcoin Market Cap, USD million	Average Bitcoin Market Cap, USD million	Altcoin Market Cap Change, %	Average Bitcoin Market Cap Change, %	Average Bitcoin price, USD	Average Bitcoin price Change, %
2016	2 052	9 385	-	-	566	-
2017	61 239	67 138	2 884%	615%	3 952	598%
2018	163 342	128 940	167%	92%	7 562	91%
2019	75 663	131 882	-54%	2%	7 351	-3%
2020	81 156	156 918	7%	19%	8 568	17%

Source: Compiled by the authors based on data from Coinmarketcap (2020)

by which some of them could be brought to market, but tokens are not only a capital-raising tool. ICO is the first issue of a digital token to the public, that is generally used as a funds raising method for new projects and investments search. When an ICO is undertaken, the issuer receives consideration in the form of fiat currency or another type of cryptoasset. It should be mentioned, that ICOs might be subject to local securities law (as in USA), and significant regulatory considerations (IFRS Interpretations Committee, 2019).

It is difficult to create a unified taxonomy of crypto-assets in such a fast-tokenized business environment, however, it is possible to create a unified approach, on how such assets could be classified. It should be mentioned, that there should be similar financial accounting treatment for similar types of cryptoassets. There are two main factors that should be analyzed during the classification: the main purpose of the crypto-asset; and the way it derives its inherent value. Thus, cryptoassets may be divided into two main sub-groups: cryptocurrency (sometimes called payment tokens) and digital tokens (other than cryptocurrency) (Figure 4).

A digital token refers to any cryptographically secured digital representation of value that can be transferred, stored or traded electronically (PWC, 2019). A digital token is a digital representation of a token holders' right to receive a benefit or to perform specified functions. This right is generally described in whitepaper or similar document during the ICO, where a whitepaper is a concept paper authored by the developers of a platform, to set out an idea, aim, rights and obligations and other terms to prospective investors. In the whitepaper developers generally outline the development roadmap and key objectives that the project team expects to meet.

Cryptocurrencies, such as Bitcoin and ether, constitute the earliest and best-known examples of cryptoassets, they are mainly used as a means of exchange, however crypto-market continues to evolve, producing new types of assets that are generally called tokens. Some scientists (Sixt et. al, 2019; Nabilou & Prum, 2018) define cryptocurrencies as payment tokens, because of a digital right to use them as a means of payment for real goods or services that they represent. Cryptocurrencies operate independently of a central bank or any government and are intended to function as a medium of exchange. As it was mentioned before, their inherent value based mostly on demand and supply.

It has become commonplace to distinguish four main types of digital tokens based on the token's functionality, such as: security token, utility token, assets-backed tokens and hybrid (or mixed) tokens.

A security token is a digital token that provides the owner equity or an interest to a specified or implied degree of control or economic entitlement. It can be a kind of investment in an entity. Sometimes security token provides the ability to vote in company decisions. Generally, security tokens are accounted for as a form of debt or equity, depending on the rights and obligations created by the token. Interest or dividend derived by the owner of the security token will be taxed

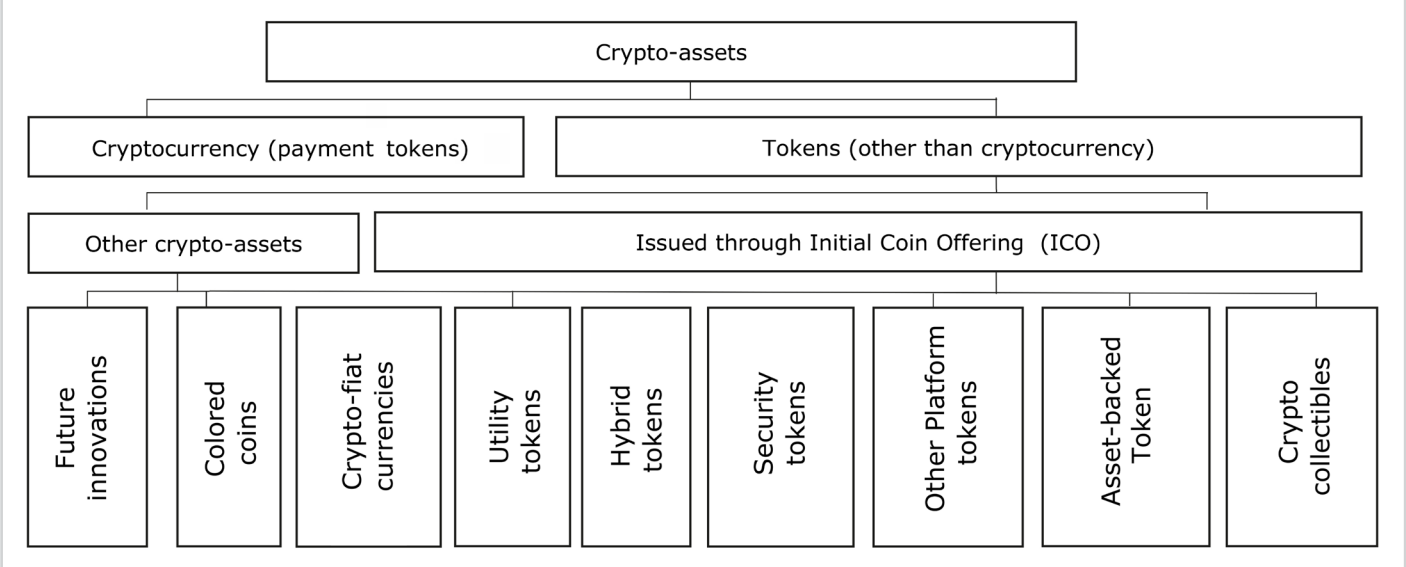

Figure 4:
Crypto-assets taxonomy
Source: Compiled by the authors using information by EY (2019) and PWC (2019)

accordingly. Where the security token is disposed by the owner, tax treatment of the gain/loss on disposal will depend on whether the security token is a capital or revenue asset to the owner, and accordingly, whether the gain/ loss is capital or revenue by nature PWC (2019).

While a utility token - is a digital token, that gives the owner a specified or implied right to use or benefit from services in exchange for that token, in other words it represents a right to a good or service. It can come in different forms - a voucher (to entitle the holder to future services from the ICO company), or a key (to entitle the holder to access the ICO company's platform). Utility token provides users with special access to a platform or a product, deriving their value from that right. Compared to payment tokens, they are not primarily used as a medium of exchange.

It should also be noted, that ongoing innovation in the cryptoasset industry and fast-growing tokenized economy continue to produce new hybrid (mixed) tokens that contain elements of two or more of the identified types. Thus, to incorporate such types of cryptoassets into business models, companies need a professional advice. Professionals from the international auditing company PWC (2019) in their report have highlighted another type of cryptoassets that called asset-backed token that derives and signifies its value from real physical assets such as natural resources: gold or oil. Thus, asset-backed token derives its value based on the underlying asset.

According to the white paper issued by the American Institute of CPAs (AICPA), cryptoassets cannot be classified as «cash or cash equivalents» on GAAP financial statements because they are not backed by a sovereign government or considered legal tender. They cannot be classified as a financial instrument or a financial asset because they are not cash and do not represent any contractual right to receive cash or another financial instrument. Additionally, since cryptocurrencies are intangible, they do not clearly meet the definition of inventory and cannot be treated as inventory on the balance sheet either (EY, 2018).

The IFRS Interpretations Committee (2019) discussed how IFRS standards apply to holding of cryptocurrencies in March 2019. The committee noted that a range of cryptoassets exists. For the purpose of its discussion, the Committee considered a subset of cryptoassets - cryptocurrencies - with the following characteristics:

- a cryptocurrency is a digital or virtual currency, that is recorded on a distributed ledger and uses cryptography for security;
- a cryptocurrency that is not issued by a jurisdictional authority or other party;
- a holding of a cryptocurrency that does not give rise to a contract between the holder and another party.

The Committee concluded that IAS 2 Inventories applies to cryptocurrencies when they are held for sale in the ordinary course of business. If IAS 2 is not applicable, an entity applies IAS 38 Intangible Assets to holdings of cryptocurrencies.

The paper of IFRS Interpretations Committee (2019) further found that a digital currency meets the definition of intangible assets, as defined in IAS 38 Intangible Assets, because a digital currency is an identifiable nonmonetary asset without physical substance. Paragraph 3 of IAS 38 includes a scope exception for intangible assets held for sale in the ordinary course of business. Such intangibles are subject to IAS 2 Inventories and, hence, are accounted for at the lower of cost and net realizable value (except for inventories held by commodity broker-traders, as discussed below) rather than using the cost or revaluation model under IAS 38.11 The paper of IFRS Interpretations Committee (2019) commented, however, that it is not necessarily clear how «held in the ordinary course of business» should be interpreted in the context of digital currencies more broadly. For example, it is not necessarily clear if entities that accept digital currencies as a means of payment should be considered to hold them for sale in the ordinary course of business.

We agree, that depending on the rights associated with a cryptoassets, they meet the definition of an intangible asset under IAS 38 if:

- it is a resource controlled by an entity (that is, the entity has the power to obtain the economic benefits that the asset will generate and to restrict the access of others to those benefits) as a result of past events and from which future economic benefits are expected to flow to the entity;
- it is identifiable, because it can be sold, exchanged or transferred individually;
- it is not cash or a non-monetary asset;
- it has no physical form.

However, by treating cryptoassets as intangible assets, GAAP financials fails to communicate the high liquidity of cryptoassets (PWC, 2019).

Furthermore, IAS 2 does not apply to the measurement of inventories held by commodity broker-traders who measure their inventories at fair value less costs to sell and recognize changes in fair value less costs to sell in profit or loss in the period of the change. Broker-traders are those who buy or sell commodities for others or on their own account. However, it is not necessarily clear whether digital currencies should be considered a commodity in the context of IAS 2. There is currently a lack of accounting guidance around intangible assets and commodities held for investment purposes.

5. Conclusion

According to the research, the countries with the largest number of registered cryptoassets exchanges were: the UK (50 exchanges), Hong Kong (27 exchanges), Singapore (26 exchanges), and the US (26 exchanges), however, about 17% of exchanges still stay with unknown countries of registration. It is expected that the number of exchanges operating with unknown countries of origin will reduce, as most countries have now adopted certain legislative frameworks regarding cryptoassets, and this is mainly driven by anti money-laundering regulations.

There are more than 5784 different types of cryptoassets, including cryptocurrency and tokens with total market capitalization more than USD 300089 million (as at July 2020). The cryptoassets market capitalization has reacted to external factors such as global financial fluctuations due to the COVID-19 pandemic as well as increasing digital asset regulations in early 2020.

Cryptoassets industry remain largely a self-regulated industry and there is no legal definition of cryptoassets in various jurisdictions, nevertheless a new compliance requirements constantly arise. Nowadays this industry regulates mostly by a Know Your Client («KYC») and Anti Money Laundering («AML») perspective.

Cryptoassets are transferable digital assets recorded with a distributed ledger technology, that prohibits their copying or duplication. The problem, which caused difficulties with standard setting procedures for an emerging class of digital assets in the financial accounting, is the absence of unified cryptoasset taxonomy. Due to the plethora amount of types of cryptoassets, which have diverse characteristics, it is difficult to form a general accounting treatment. Thus, a case-specific review should be required to determine the corresponding financial accounting treatment.

The market focuses on tokens issued in Initial Coin Offering (ICOs), however there are a number of other types of cryptoassets. ICO is the first issue of a digital token to the public, that is generally used as a funds raising method for new projects and investments search. ICOs might be subject to local securities law.

It is difficult to create a unified taxonomy of crypto-assets in such a fast-tokenized business environment, however, authors created a unified approach, on how such assets could be classified. In terms of taxonomy, two main factors of cryptoassets should be analyzed: the main purpose of the cryptoasset; and the way it derives its inherent value. Thus, it is proposed to divide all the cryptoassets into two main sub-groups: cryptocurrency (sometimes called payment tokens) and digital tokens (other than cryptocurrency). Cryptocurrency is a digital currency that is secured by the cryptography mechanism, which makes it nearly impossible to forge, and an incredible amount of which are decentralized networks based on blockchain technology - a distributed ledger (DLT) enforced by a disparate network of computers.

Digital tokens represent transferable units generated within DLT, created, distributed and circulated through the standard initial coin offering process. Digital tokens should be divided in four main groups: security tokens, utility tokens, hybrid tokens, asset-backed tokens.

Security tokens are digital tokens, which give the holder a right to cash flows, based on the platform's future profits or a residual interest in the net assets. Such rights might be accompanied by the control, which represents the ability to vote and to impact decisions relating to the project. A contractual right to cash or another financial asset arises, thus these security tokens meet the definition of a financial asset and should be accounted in accordance with IFRS 9.

Utility tokens are digital tokens, which give the holder a right to future goods or services. These tokens meet the definition of a prepayment for goods or services and, therefore, might meet the definition of an intangible asset, thus IAS 38 could be applied. If it does not meet the definition of an intangible asset, it should be accounted as other prepaid assets.

Asset-backed tokens are tokens, which used to transfer the ownership of underlying assets without their physical movement. This significantly minimize a transaction cost. As a result, asset-backed tokens should be treated in financial statements as the underlying asset by its nature.

Due to the fast-tokenized business environment, there are new types of digital tokens, exhibiting elements of two or more subclasses, called hybrids. Such types of cryptoassets require further analysis, as there is a significant need of judgement to determine the applicable accounting treatment.

Currently, the IFRS Interpretations Committee tend to apply IAS 38 for accounting treatment of cryptocurrencies, however after the classification of these digital assets as an indefinite life intangible assets, they should be tested for impairment. This means that in case of market price decrease at the end of the reporting period a company have to write off that amount as an impairment loss on the income statement. Otherwise, if the market price increases, standard does not allow marking up the value of the asset. Therefore, the current accounting practice needs to be improved.

Another problem, which needs a further research, is a cryptoassets valuation in the financial accounting. Currently, there is no methodology to value digital tokens.

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