

CRYPTO-CURRENCIES – A BET OF THE FUTURE

Ph.D. Professor, Elena ENACHE

"Constantin Brâncoveanu" University of Pitești, Romania

E-mail: e_enache2005@yahoo.com

Ph.D. Associate Professor, Sorin ENACHE

"Danubius" University of Galați, Romania

E-mail: enache_sorin_2005@yahoo.com

Cristian MOROZAN

"Constantin Brâncoveanu" University of Pitești, Romania

E-mail: cgmro@yahoo.com

Abstract: *Although people are used to using money in physical form or through accounts, since 2009 a surprising and skeptical currency variant has emerged, called virtual currency, digital currency or cryptocurrency. In other words, with the advent of the virtual currency called bitcoin, the financial world has changed. The change is accepted in the real world, the proof being that after bitcoin many other currencies of this kind have appeared and appear constantly, many people look at them with confidence, invest in them and accept them as a means of payment. However, their existence is not yet regulated, and it is known that the currency is currently defined as a means of payment issued and guaranteed by a sovereign State or by the European Union through national banks or through the European Central Bank. For cryptocurrency no one guarantees! For now! More and more investors are wondering what cryptocurrencies are, how they can buy bitcoin, ethereum and others, what is the best time to buy them, where to learn about them, about ICOs, electronic wallets (wallet) and how they can turn virtual currencies into real money.*

Keywords: *money, cryptocurrency, virtual currency, electronic commerce, tehnology.*

JEL Classification: *E42, E44.*

1. Short presentation. Definition; Traits

According to the website of the National Bank of Romania (<https://bnr.ro>), it must be said from the beginning that there is no definition of crypto-goods (the whole spectrum of virtual currencies was thus included). They are not issued or guaranteed by a central bank or public authority. Depending on their characteristics, they can be used as a means of payment, as an investment method or means of access to goods or services.

According to Wikipedia, cryptocurrency (<https://rowikipedia.org>) is a surrogate currency, a type of digital, virtual, non-bank currency, used as a means of payment. The cryptocurrency name indicates that this means of payment uses cryptography and is decentralized to control transactions and prevent double expense, a current problem for digital currencies.

The word cryptography (<https://www.descopera.ro>) comes from the Greek language, from the joining of two words: "kryptos", with the meaning of hidden, secret and "graphein", used to denote the action of writing. The advantage of cryptograms is given by the way they work, instead of physically hiding a signal, they allow the transmission of information without a third party being able to find it out. A cryptogram is based on a systematic method of manipulating its contents, called an algorithm. Applying an algorithm to a text results in a mixture of signs that, in the absence of a decryption key, will seem absurd.

The Directive (EU) 2018/843 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing (AMRD V) provides that „virtual currency” means a digital representation of value which is not issued or guaranteed by a central bank or public authority, it is not necessarily linked to a legally established currency and does not hold the legal status of currency or money, but it is accepted by natural or legal persons as a means of exchange and which can be transferred, stored and traded electronically.

The mistake to consider the virtual currency (cryptocurrency) as an electronic currency is often made. According to the law, this is not an electronic currency. Thus, in Romania, Article 4(f) of Law 127/2011 on the activity of issuing electronic money (<https://lege5.ro>) defines electronic money as „an electronically stored, including magnetic monetary value, representing a claim on the issuer, issued on receipt of funds for the purpose of making payment transactions and which is accepted by a person other than the electronic money issuer”. In short, electronic currency is the electronic version of banknotes and coins, which can be stored on an electronic payment device (e-money). It is usually used to make small electronic payments.

What is not regulated, can not be forbidden!

Cryptocurrencies are technology, so the authorities can't ban it, but they can regulate the way they're trading. If we accept the most popular paradigm, that "bitcoin is used by criminals", then we must create that system of tracking and dismantling crimes. If we recognise that dollars, euros or even totally unexpected things like shoes used as currency by criminals cannot be stopped, then there is necessary to make clear anti-money laundering (AML) regulations.

Some features of the cryptocurrency

It is necessary to list them for certain clarifications. Such:

- although it is called a virtual currency, it should not be confused with electronic currency governed by Law No 1/2002. 127/2011 from Romania or the world financial legislation;

- although pursuing the same purposes as ordinary currencies, it does not enjoy the support of a government or other state body;

- it does not provide for attached rights (such as the right to receive dividends);

- it is used as a means of payment for the purchase or sale of goods or services between two third-party different persons to the issuer of the currency; investment method; stock storage (bitcoin, litecoin, etc.);

- they aim to fulfil the role of facilitating payments for purchases or other financial transactions, aiming to represent an alternative to currencies issued by central banks on the basis of the sovereignty of States;

- the potential benefits are: the possibility to make transfers without geographical limitations; low trading costs; the possibility of public transaction verification.

A token is used attached to a cryptocurrency. We use the name "token" for numismatic objects other than coins and banknotes. Token:

- is found in casinos as chips, but also as vouchers, gift cards or in board games where they play the role of currency or points.

- has a connection to computer networks, as cryptographic proof of access rights. Entering a token is actually ensuring data security, like a jam token. For example, because bitcoin is a virtual currency, then token is a virtual token.

- it is called a device for generating unique codes - the older physical equivalent of the Google Authenticator app, used, for example, to secure online bank accounts.

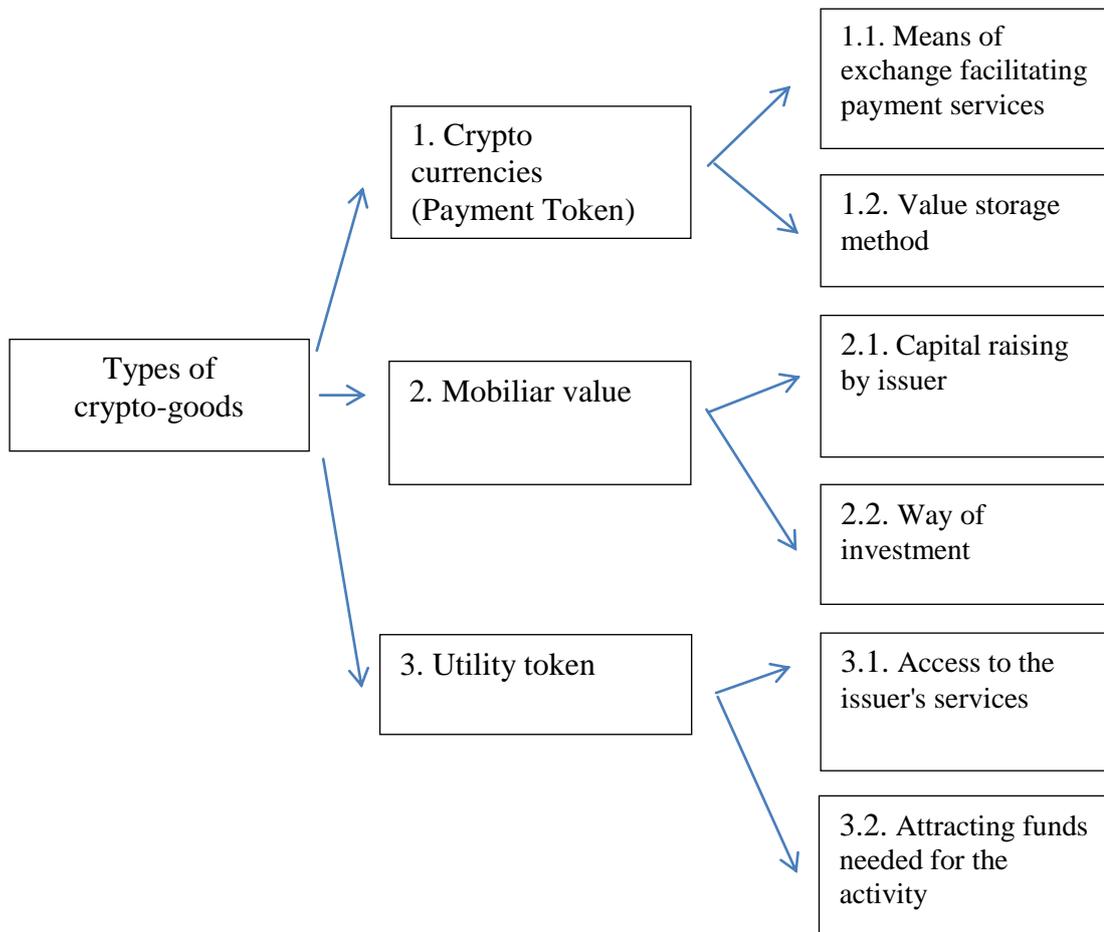
- it can play the role of money. It can usually be paid strictly for certain types of specified services. The most common such token is related to a project, company or person. Traditional money is being replaced. A rapid, decentralised understanding based on intelligent regulatory agreements using block technology is allowed.

- can be used as a cryptographic confirmation of property, for example, shares of companies.

Such tokens are called security tokens and are a kind of titles. They are often issued under the Initial Coin Offering (ICO). The Blockchain startup function issues digital tokens and then sells them as blocks to fund the project.

Various tokens can be created on different platforms (e.g. ethereum, EOS, NEO). Each has its own standard. The most popular platform on which most chips rely is ethereum (<https://tradesilvania.com>). The most popular standard is ERC20 (many known crypt accounts, for example, OmiseGO, Golem, Augur, SunContract, Holo). The new standards are dynamically developed, which correspond to the need for tokenization of securities, real estate or unique marking elements (e.g. CEC-721).

Figure 1. Types of crypto-goods



Source: www.bnr.ro

2. About investment

Classic currencies, from the U.S. dollar to any other currency issued by the national bank of a state, come and are linked to a country or community of countries. Geographically, their use is limited, with the exception of the U.S. dollar. Nor can they be used for payment wherever we want. Traveling to a foreign country requires the use of accepted money in that country, so bank exchange in that currency, or at best in dollars or euros.

Under these circumstances, more and more people are wondering why not use cryptocurrencies? The arguments would be that:

- they are valid all over the world;
- they are most often converted into globally accepted currencies (dollar, euro, Japanese yen);
- they are relatively stable;

- they have no geographical constraints;
- they can be stored online and offline in crypto-wallets;
- there are around 1500 different available coins.

Experts say investing in cryptocurrencies would be one of the most advantageous in the world.

It can be done in two different ways: either invest in a known currency or choose a new one, just launched.

Investing in bitcoin is not necessarily recommended as the most profitable choice just because bitcoin is the most well-known currency of its kind. As a surprise, the recommendations are for new cryptocurrencies, which would be released through the ICO, because they would have much higher yields. The cryptocurrency market exceeds \$500 billion, and investors are looking for opportunities to access a piece of the world's new "El Dorado" (<https://www.zf.ro>).

If the first option is chosen, that buying something already known, this is done through exchange platforms. The buyer initially needs a virtual wallet (wallet) with unique private code/key. In order not to be vulnerable to cyber attacks the wallet must be secured. If a user loses their private key, no one can give them access to it, and the wallet becomes totally inaccessible.

For caution, but also motivated by the fight against money laundering, platforms must have customer information. Some ask for a picture of their ID card and taking a "selfie" photo in which the user must appear with his bank card in his hand, leaving the last four digits on the card to be seen. But, for now, this is not a uniform procedure, although it is regulated.

The second investment variant is the one in a digital currency ready to be launched, a procedure called iCO. ICO has two thresholds called "*Softcap*" (the first capital threshold, reached without problems) and "*Hardcap*" (the total capitalization threshold that the company wants to accumulate).

There are three stages of the purchase: "*Private sale*" (authorized investors and big players chat with the team behind the cryptocurrency and become the first investors), "*Pre-sale*" in which the number of digital currencies desired is made using a blank contract, and the last one, "*Crowdsale*" or the purchase itself.

As evidence of enormous interest in such acquisitions, some ICOs close the Crowdsale period after 30 seconds. Success is measured in the subsequent yield, and we choose only one example: at launch the ethereum currency had the price of \$0.314, the return on investment reaching after two years at 340,000%.

ICO releases are many each week, but not all of them have the expected success. As criteria of choice, the project team matters a lot, so that you know to whom to entrust the money, then the marketing of the project, the idea behind the project because, after all, a promise is being bought, its blockchain technology is being bought and so on.

The best time to buy is the one that applies to any purchase, i.e. when the market is down, when the price is low. For sale, obviously it's the opposite of this situation.

This market is very flexible, versatile, but also unsafe. If someone scares uninformed investors with an announcement, they will start selling, to the satisfaction of the experienced, who take advantage of the situation and buy at low prices.

So, we find that the vulnerability of the market is due to the lack of experience and financial education of newcomers. As in any other market it is necessary to document, otherwise everything will be guided by greed ("*to buy for myself, why others only*") and fear ("*oh, I'm losing money, let me sell immediately*").

There are two examples circulated in the online environment, namely September 2017 and January 2018, concerning the two emotions. In September, news emerged

showing a desire by some states to regulate the cryptocurrency market, followed by a scare of unsavory investors who sold immediately, leaving the greedy ones to increase demand by 50% on some currencies.

You can learn and there are people willing to be teachers. For example Intel DevTechnologies, is a company that provides education and consulting, or Bitcoin platforms (<https://bitcoin.org>), Kriptomat (<https://kriptomat.io>) or many others. And "students" will learn "emotion management", macroeconomics and technical analysis of graphs (important, but less relevant than in the case of stock markets).

What matters most is that one shouldn't forget for a moment that cryptocurrencies are not shares, they're not regulated, they don't offer any guarantees. So said, whoever invests must be prepared to lose that money.

3. The most popular cryptocurrencies

Undoubtedly, Bitcoin is the first created and also the most popular cryptocurrency, the leading in terms of market capitalization.

The amount being said to be around \$175 billion invested so far, with 12.5 bitcoins being issued every 10 minutes and the last bitcoin issued in 2140.

It is increasingly present in the world's retail market as a currency, and the fact that in January 2021 an American football player, Russell Okung, was transferred with bitcoin (<https://www.playsport.ro>) and receives half his salary in bitcoin also says a significant thing about the future of this currency and financial markets.

Standards are set after bitcoin, it is the basis for all the other ones created later as alternatives to bitcoin.

Note, however, that bitcoin is not anonymous, as desired. Transactions are stored publicly and permanently on the network, so you can see your balance and transactions. Being in the experimental stage, operationalization develops continuously and increases the experience of users, who seek solutions for anonymity. One would be, using an address once.

The unwritten consensus says that all that have emerged are *alternative coins* or "*Alt-currencies*". Not all of them will pass the test of time and market resistance!

Ripple - could be the next bitcoin, thanks to a rapid increase in value and popularity in a very short time. They're capitalized in about \$50 billion.

Ethereum - the concept at its base is called "smart contract", it offers an exchange of services – coins that run automatically directly proportionally.

But the easiest way is to follow them in the table below, the top 20 cryptocurrencies (<https://kriptomat.io>).

Tabel nr. 1. Top 20 cryptocurrencies

Sygn	Name	Cod	Purpose and specialty	Maximum Coin Offer
	Bitcoin	BTC	The first and most popular decentralized cryptocurrency. It is best accepted, it has the highest volume and the largest market share.	21,000,000
	Ethereum	ETH	Ethereum is a blockchain platform and Ether is the token that powers the network built on that platform. The blockchain platform is open source and serves as the basis for the	There is no current limit

Sygn	Name	Cod	Purpose and speciality	Maximum Coin Offer
			development of many other solutions.	
	Ripple	XRP	XRP is not called Ripple, but XRP is Ripple's native digital asset. Ripple Labs develops different solutions for the financial sector, and XRP is designed to help speed up cross-border payments and reduce trading costs. The network can process payments in seconds.	100 Billion
	Bitcoin Cash	BCH	Bitcoin derivative (or fork in terms of blockchain), which manages to use its blockchain platform to process more data volumes faster, mainly due to larger blocks. Keep in mind that this is not necessarily an improvement over Bitcoin.	21,000,000
	Litecoin	LTC	If they say Bitcoin is the gold standard in the cryptocurrency world, then Litecoin is often silver. It is characterized by higher speeds and transaction security.	4,000,000
	Neo	NEO	A platform also known as the Chinese Ethereum, due to its similar features and proposed improvements – especially in terms of security.	100,000,000
	Cardano	ADA	Their team is developing a blockchain technology that exploits the latest research and engineering practices to build a system that will safely run decentralized applications and smart contracts.	45 Miliarde 45 Billion
	Stellar	XLM	It is similar to Ripple, as the platform is intended for financial transactions, but it also allows for faster currency conversion – crypto and real	There is no current limit

Sygn	Name	Cod	Purpose and specialty	Maximum Coin Offer
	IOTA	MIOTA	A platform designed to support the "Internet of Things" that connects all types of imaginable devices and support transactions between these devices.	2.78 Quadrillion
	Monero	XMR	A cryptocurrency whose characteristic is transaction encryption – the result is extreme security and anonymity, with almost no tracking mode.	18,400,000
	Dash	DASH	The name Dash is derived from the words Digital Cash. It's an improvement over Bitcoin in terms of transaction speed and greater anonymity.	18,000,000
	NEM	XEM	Blockchain cryptocurrency that uses a different way of mining and transaction validation.	8,999,999,999
	Ethereum Classic	ETC	O furculiță a Ethereum-ului. A început ca rezultat al gândirii și al filozofiei diferite. A fork of the Ethereum. It began as a result of different thinking and philosophy.	210-230 Millions
	Nano	NANO	Known as Raiblocks, it is a platform for faster transactions without commission for intermediaries.	133,248,290
	Lisk	LSK	A platform similar to Ethereum. JavaScript knowledge is sufficient to develop solutions.	There is no current limit
	Qtum	QTUM	Chinese platform for developing smart solutions and contracts with your own blockchain, where app data is stored.	100,000,000
	Bitcoin Gold	BTG	Bitcoin derivative (fork) with the same characteristics, but another mining algorithm that protects low-profile miners.	21,000,000
	Zcash	ZEC	Bitcoin upgrade with a public blockchain that manages better, completely anonymous transactions.	21,000,000

Sygn	Name	Cod	Purpose and speciality	Maximum Coin Offer
	Verge	XVG	A cryptocurrency that aims to become a currency for everyday use, with a focus on reliability, security, speed and privacy.	16,555,000
	Steem	STEEM	A blogging and social networking platform that allows online content creators to monetize their content through a reward system from their users.	

4. Advantages and disadvantages

As in any situation or field, there are a number of strengths and weaknesses that characterize cryptocurrencies. The most important, selected by Wikipedia are:

Advantages:

- The system is decentralised, there is no central authority, such as a central bank
- Personal user data is hidden and cannot be accessed
- You can create an encrypted backup of the virtual currency
- Payment can be made without personal data being associated with the transaction
- Users are always in control of transactions
- Very fast transfer anywhere in the world
- There is no limit on the amount of transfers
- Variable fees

Disadvantages:

- reduced use
- volatility due to the fact that the currency is in limited quantity and its value is given by supply and demand
- the irreversibility of transactions, cancellation being impossible
- prohibition of the use of certain cryptocurrencies in some countries
- the uneven distribution of the cryptocurrency between first and current users
- requires a high level of security
- not all merchants accept the cryptocurrency as a payment method.

5. National Criptocurrency and aspects regarding legality

It may be hard to believe, precisely because there are no regulations in the field, but some states have taken cryptocurrencies seriously and, out of the need for fiduciary money, have launched their own national cryptocurrencies:

- Estonia: Estcoin
- Great Britain: RSCoin
- Portugal: CryptoEscudo
- Russia: CryptoRuble
- Sweden: E-Krona
- Dubai, (EAU): Emcash
- Iran: Crypto-rial
- Turkey: Turkcoin
- Venezuela: Petro
- Japan: J-Coin
- China: Digital Currency Electronic Payment (DCEP)

- Tunisia: e-Dinar
- West African Economic and Monetary Union (UEMOA): eCFA
- Marshall Islands: Sovereign (SOV)

Not everyone trades cryptocurrencies for noble purposes. There are many illegal, criminal, hard-to-demonstrate activities around them, such as: capital theft, money laundering, the use of mining software agents, illegal betting, the sponsorship of illicit or terrorist activities using cryptocurrencies.

What does mining mean, what does cryptocurrency mining mean?
(<https://criptomonede.info>)

Started in 2009, this activity involves the use of equipment with which to process blockchain transactions in exchange for a reward. It works by the existence of bitcoin farms to which anyone can connect online with their own equipment and thus contribute to the processing power.

More equipment means more processing power and more rewards. What exactly does the mining device do? The device once plugged in uses computing power to process as many transactions on the Bitcoin network using a cryptographic algorithm.

Cryptocurrency mining causes newly created bitcoins to be produced through an effort, unable to be copied, gaining real value. The process is called "mining", following the analogy with the production of gold (digging, extracting ore, purifying). In this way, bitcoin, though digital, is as rare as gold and hard to obtain.

Their use can be criminalised and the closure of exchanges and the peer-to-peer economy in a given country can constitute a de facto ban. The legal status of cryptomenes varies substantially from country to country and is still undefined or changing in many of them.

Creating a legislative framework is a challenge because cryptocurrency activity takes place online from any place on the planet. It is extremely difficult, if not impossible, for all states to agree on a unified way of regulating. And then the question arises: must regulation be on states or territories (group of states)?

The regulations and prohibitions that apply to bitcoin, which is as we claimed, the most evolved currency, probably extend to similar cryptocurrency systems.

For example, the specialty literature specifies an "absolute ban" on the trading or use of cryptocurrencies which applies in nine countries: Algeria, Bolivia, Egypt, Iraq, Morocco, Nepal, Pakistan, Vietnam and the United Arab Emirates. A "default ban" applies in 15 other countries: Bahrain, Bangladesh, China, Colombia, Dominican Republic, Indonesia, Kuwait, Lesotho, Lithuania, Macao, Oman, Qatar, Saudi Arabia and Taiwan.

A different attitude is in Iran, a country that in October 2020 announced pending regulations that would require Iran's bitcoin miners to sell bitcoin to the Central Bank of Iran, and the latter will use it for imports. Iran, in October 2020, issued more than 1,000 bitcoin mining licenses.

The Iranian government initially took a stance against the cryptocurrency, but later changed it after seeing that the digital currency could be used to circumvent sanctions. The U.S. Office of Foreign Asset Control listed two Iranians and their bitcoin addresses as part of its list specifically designated by citizens and people blocked for their role in the 2018 Atlanta cyber attack, whose ransom was paid in bitcoin.

There is still no consensus in Europe on the legal use and classification of crypto-goods. The inclusion of crypto-goods in the existing regulatory framework is difficult and it is appropriate to have a balance between the free development of technology and the need for regulation.

The approach so far at European level has been to try to extend the application of regulated legal concepts to crypto-goods, but given the rapid technological development in this area, the solution seems to be the adoption of separate regulations.

6. Conclusion

Far from having finished the subject, one can clearly see an increasing interest in virtual currencies. The goals are different, some open and sincere to carry out legal transactions, to invest in a new currency, perspective, others less legal, with hidden and criminal purposes.

With advantages and disadvantages identified, the field is a pioneering one and forecasts show a future that will certainly attract our attention!

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