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ADVANCES IN GLOBAL SERVICES AND RETAIL MANAGEMENT

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The Regulation Problem of Cryptocurrencies

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Abstract

The purpose of this article is to analyze the difficulties associated with the lack of regulations in cryptocurrencies. Indeed, the absence of a uniform and international common regulation brings many legal conflicts. This lack of legal framework partly slows down the development of cryptocurrencies. Investors who wish to invest in this type of currency or asset are often discouraged due to the lack of legal framework. In order to highlight the difficulties caused by the lack of regulation, this paper proposes to analyze the different approaches and the beginning of a legal text developed by certain countries to respond to these difficulties. Cryptocurrencies, although they have their own strengths, are trying to integrate into the classic monetary system. Cryptocurrencies are the fruit and results of a new technology that has been developing at high speed since 2010. However, there are many obstacles to the development of the blockchain ecosystem. Many countries do not want to miss the blockchain revolution but remain skeptical in its applications and dissemination. Beyond cryptocurrencies, creating a legal environment favorable to the development of this new technology will allow the distribution of crypto-assets which are a fundamental economic stake for countries wishing to perpetuate their financial attractiveness.

Keywords: blockchain, crypto currency, regulation, crypto-asset, international finance regulation

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Introduction

Digitization is one of the consequences of technological development. This digitization has also affected the monetary system. The development of cryptocurrency is revealing of this craze for the digital world (Almıaçık, 2019). Access to cryptocurrency from anywhere and especially at any time of the day is one of the main factors for the success of this new technology. Financial institutions aware of these advantages have implemented a whole series of measures facilitating access to cryptocurrency (Almıaçık, 2019). The success of cryptocurrencies can also be explained by the use of an extremely secure technological medium (Kaplanhan, 2018). The use of a mathematical coding basis currently ensures the security of cryptocurrency (Nakamoto, 2008). In other words, cryptocurrency is a unit of digital and virtual currency that uses cryptography (Kaplanhan, 2018). Paradoxically, a number of investors opt for cryptocurrencies due to the total

absence of central governance, while other investors consider this lack of supervision to be a brake on the development of cryptocurrency. The cryptocurrency known to the general public and which has highlighted the strengths of blockchain technology is undoubtedly bitcoin. This cryptocurrency was presented to the public in 2008 in an article entitled "Bitcoin: A Peer-to-Peer Electronic Cash System" authored by a certain Satoshi Nakamoto (Karakas, 2018). Bitcoin is not the only crypto currency that exists in the financial system. However, digital security and the simplicity of transactions seem to be one of the reasons why bitcoin has appealed to investors, individuals and the monetary system as a whole.

Advantages and Disadvantages

When Satoshi Nakamoto presents in his article this cryptocurrency that he calls Bitcoin, he highlights the advantages of using this new technology which is the blockchain. This cryptocurrency, which therefore has no physical support, is devoid of any regulation, not being attached to any governance or central bank and therefore escapes all regulation. The abbreviation proposed by Nakamoto (2008) for this new cryptocurrency is: "BTC". The reliability of the system is put forward as a positive argument for cryptocurrencies. Indeed, for those who are raving about cryptocurrencies, the use of cryptography and mathematical algorithms is a guarantee of a safe transaction and at a lower cost. The low transaction costs combined with the viability and speed of the transaction; it seems that cryptocurrencies have a certain future. The anonymous nature of the transaction also assures all those who would like their transactions to be made in the utmost secrecy. Each approved and valid transaction is added to the data already existing in the system (Çarkacıoğlu, 2016). The digital platform that uses blockchain technology has internal memory and records every transaction carried out there (Çarkacıoğlu, 2016). The transparency and accessibility offered by blockchain technology is another factor in its success. However, the traceability of transactions is almost impossible which results in many legal problems in the event of disputes or non-compliance with the contract.

Caentano (2015) in this work stipulate that all people who own bitcoins are obliged to keep their cryptocurrency in a wallet. There are currently four types of wallets. These are the online, desktop, mobile and hardware wallet (Caentano, 2015). These four wallets are classified into hot and cold wallets according to the internet connection speed. Caentano (2015) describes these four portfolios as follows: The online wallet as its name suggests is a wallet accessed through a web browser or mobile application. Desktop wallets are directly connected to the bitcoin network and for this reason people could have more control over the system, but this also presents a risk, people who use this type of wallet should save their transaction if they do not want to lose them in the event of technical problems. Mobile wallets are wallets present directly on the user's mobile phone through various applications that allow access. The Hardware Wallet, seems to be one of the most secure as they are often stored in "classic" hard drives such as USB sticks. This ensures that its owner has access to their cryptocurrencies at all times, even if there is no internet connection. This is why the hardware wallet is classified in the cold category.

System Under Cryptocurrencies: Blockchain Technology

Blockchain technology has experienced spectacular success and growth in recent years. For Belotti et al. (2019) this new technology is a source of significant opportunity, whether in the economic, banking or financial field. But not only according to Belotti et al. (2019) this also

represents a source of job creation and opportunity for added value for IT companies. Gai et al. (2020) describe blockchain technology as the backbone of the internet of the future. For these authors it is certain that this emerging technology will durably disrupt the entire web infrastructure.

Blockchain technology is a data structure that combines blocks into a chain (Nakamoto, 2019). As a result, the simplicity of its structure ensures systematic system verification and data storage service in a fully hierarchical fashion (Kim et al. 2020). The use of cryptography also ensures that data is not tampered with (Kim et al, 2020).

Blockchain technology is being tackled as one of the disruptive technologies that are expected to affect next generation web usage habits (Yang et al. 2021). Beyond cryptocurrencies the field of application of blockchain technology seems to be endless. Since in the context of cyber protection, disaster management, post-market compensation, arbitration, mediation (AMF, 2017) supply chain responsibility, trade finance, securities registers, payment processing, credit processing, correspondence and paper verification (Hawaii House of Representatives, 2015) are just a few of the areas where blockchain could be used (Blemus, 2017). Each cryptocurrency could also use its own blockchain for its transactions.

The decentralized payment system implemented modern blockchain implementations as well as additional features that made it possible to distribute small pieces of code directly on the blockchain and execute in a decentralized manner by all nodes in the network (De Filippi and Hassan, 2016).

Smart contracts are a term used to describe certain types of agreements (SC) because they allow people to enter into contractual relationships with other people (or machines) through a simple blockchain transaction. The goal of smart contracts is to mimic the logic of contractual clauses (De Filippi and Hassan, 2016). This computer application that facilitates contract negotiation, validates and enforces contract compliance, or eliminates the need for a separate binding agreement between the parties. Smart contracts, in reality, can use built-in compliance mechanisms to automatically implement the terms of a contract and include unstable transactions (Szabo, 1997; De Filippi and Hassan, 2016). Within the same blockchain ecosystem, smart contracts can interact with humans and other smart contracts (e.g. Ethereum).

A complex series of smart contracts can be generated in certain situations, allowing various parties to communicate with each other. A decentralized autonomous organization (or DAO) is a smart contract system that is autonomous and governed by an unbreakable set of rules, which is only enforced in the form of a SC (De Filippi and Hassan 2016; De Filippi and Wright, 2015). This DAO is "decentralized" in the sense that it is not governed by anyone or by any legal entity; it is "autonomous" (Rodrigues, 2018).

In the context of blockchain technology, miners are the ones who approve and validate transactions. The frequency of these validations is approximately every 10 minutes. In other words, a number of blocks accumulate in a chain and this accumulation is ultimately validated by a miner. This validation is carried out via the resolution of the complex mathematical problem, the first minor that solves the problem validates the transaction (Alniaçık, 2019). Therefore, each cryptocurrency transaction accumulates in the chain and once valid cannot be reversed

(Kakavand et al. 2017). Once the transaction is validated, the information is stored and recorded in the databases and its dissemination is immediate and transparent (Alniaçık, 2019). From a legal point of view, the US federal regulator responsible for the security and soundness of US national banks, the Office of Comptroller of the Currency ("OCC") published in March 2016 the very first guide dedicated to the blockchain technology and cryptocurrencies (Cermeño, 2016).

Distributed ledger technology is listed in this report as a technical advancement that "has the potential to transform the way transactions are processed and executed" (OCC, 2016). Additionally, in December 2016, the US Federal Reserve's (FED) Business Department Research and Statistics and Monetary published an article on Distributed Ledger Technologies (FED, 2016). According to the Federal Reserve's report, blockchain technology offers "potential opportunities" in the areas of payment, commerce and payments, in particular "*a new [asset independent] medium of storage, registration and transfer [of any type] of digital assets*"(Blemus, 2017).

The Place of Cryptocurrencies in Legal Systems

This new technology also brings many questions to which it is important to provide clear and precise answers quickly, otherwise the craze for this new technology may become ephemeral. Cryptocurrencies are accepted by a number of merchant and other financial institutions. But what is the legal framework for these cryptocurrencies? Do institutions that accept cryptocurrencies offer legal guarantees? Why are some countries banning the use of cryptocurrencies? And why are other countries trying to create their own cryptocurrencies?

In short, each country has different approaches to cryptocurrencies and this can help to understand the legal issues that cryptocurrencies bring and the solutions being considered or imagined by states to address them.

The advantages offered by blockchain technology are important, but a number of disadvantages are also a field of discussion to which lawyers have not yet found a solution. Cryptocurrencies for example provide an environment conducive to a considerable number of crimes including internationally sensitive issues such as money laundering, terrorist financing, tax evasion and many illegal activities (Narayanan et al. 2016). The anonymity of the transaction and the absence of any regulator and mediator exposes financial markets that accept transactions through cryptocurrencies to a number of illegal activities (Durdu, 2018). Are cryptocurrencies full-fledged currencies? Goods? Or a piece of equipment for the international financial system?

Remember that money is a medium of exchange, a unit of value and a store of value (Krugman and Wells, 2012). So, one of the questions is, do cryptocurrencies perform all three of these functions? According to Alniaçık (2019) cryptocurrencies in particular Bitcoin is not a store of value because the means of store of value are used as a guarantee of security by financial institutions and this prospect seems remote for bitcoin.

At the same time, some countries consider (due to their jurisdiction) cryptocurrencies as a commodity. There is also the question of the competent institutions and courts in the event of litigation. Different jurisdictions bring different rights to fellow citizens creating uncertainty about cryptocurrencies internationally.

Virtual currencies are regulated at the federal and state levels in the United States. He focused on many different compliance topics at the federal level (Blemus, 2017). The Financial Crimes Enforcement Network ("FinCEN") released the first US federal statement on virtual currencies in March 2013, along with an interpretive guide to explain the scope of US bank secrecy law to "convertible virtual currencies" (FinCEN, 2013; Cermeño, 2016). According to FinCEN, certain convertible virtual currencies (such as Bitcoin) considered to be "valuable" must be accepted and transmitted in accordance with US money laundering regulations. The Internal Revenue Service ("IRS"), a US federal financial agency, issued a notification on virtual currency in March 2014. The reported position of the IRS remains constant (IRS, 2014). Additionally, "cryptocurrencies will be treated as property for federal tax purposes," according to the US federal tax institution. New York State was the first to introduce a systematic system. In June 2015, the New York State Department of Financial Services (NYDFS) finalized "BitLicense," (Guégan and Sotiropoulou, 2017) a set of special licensing rules dedicated to virtual currency operations. It is therefore important to obtain a special license from NYDFS, namely BitLicense, in order to submit an application which must meet a set of criteria (such as anti-money laundering, cybersecurity, etc.).

Since 2012, European organizations have engaged in a similar mechanism to address this issue at regional level in the European Union. The European Central Bank ("ECB") shared its statement on cryptocurrencies in October 2012 that it is *"a type of unregulated digital currency, which is issued and generally controlled by its developers, and used among members of a specific virtual community"* (ECB, 2012). This ECB report, together with a comment from the European Banking Authority ("EBA") in December 2013 and an EBA opinion to European institutions and national regulators published in January 2014, both called for a long-term holistic virtual approach with the aim of developing a currency regulation strategy (EBA, 2013). The EBA has cast doubts on the economic gains of the cryptocurrency and noted many possible threats. As the new regulatory mechanism would inevitably take time, EBA urged EU lawmakers and regulators to take urgent short-term action, including declaring players in the virtual currency market, such as virtual currency exchange platforms and depository wallet providers, such as "obligated institutions" which are subject to the EU Anti-Money Laundering Directive (Blemus, 2017). In a political environment dominated by terrorist threats, the European Commission ("EC") accepted the EBA proposal in July 2016, recommending the extension of the scope of the EU's Fourth Anti-Money Laundering Directive ("LBC") No. 2015/849 to cover market players in virtual currencies (EC, 2015). The EC presented a classification of "virtual currencies" which was similar to the EBA's 2014 opinion *"virtual currencies refer to a digital representation of value that is neither issued by a central bank or public authority, nor necessarily attached to fiat currency, but is accepted by natural or legal persons as a means of payment and can be transferred, stored or exchanged electronically"* (Blemus, 2017). In October 2015, the judicial institution of the European Union has taken the most important step towards regulating virtual currency in the EU. The EU Court of Justice has consolidated the views of EU member states on value, eliminating legal uncertainty. Previously, several EU member states had adopted various approaches to the treatment of value added tax (or VAT) for virtual currencies. In addition, this decision was translated to apply to all virtual currencies, not only to bitcoin (Rose Norton, 2015). In December 2013, the French Central Bank (Banque Centrale Française), the conversion of a virtual currency into legal tender must be considered as an offer of financial facilities which require a specific agreement with a payment institution (Blemus, 2017). Vondrackova (2016) recommends a clarification of the terminology, otherwise within the framework of the European legislation difficulties of interpretation may appear. The French central bank changed its position

somewhat in 2016, calling virtual currencies a “parallel mechanism of money creation” (Banque de France, 2016). After 2017, the current French presidency appears to be taking a more balanced approach to bitcoin, with the Ministry of Economy and Finance issuing a statement in October 2017 classifying bitcoin, dubbed the “first decentralized electronic monetary currency” in the report, as an alternative payment method for the first time (French Ministry of the Economy and Finance, 2017).

It seems that a standardization of the legal bases governing cryptocurrencies is a necessity for the sustainability of these virtual currencies. At present the different regulations and legal bases are confusing for those who wish to invest in cryptocurrencies. For example, a new regulation that came into force on April 16, 2021 prohibits transactions in crypto assets in Turkey (RG, N: 31456, 04.16.2021). The absence of any taxation on crypto assets seems to be the main motivation for this new regulation. It is obvious that in the long term all countries will harmonize their jurisdictions in order to integrate these cryptocurrencies and assets into a regulatory circle in order to tax these transactions and these gains and specially to fight against money laundering, terrorist financing and tax evasion.

Cryptocurrencies as a Subject of Tax Law

Some countries consider cryptocurrencies to fall under tax law and therefore should be incorporated into tax legal texts. The tax rate also varies from country to country for those who have taxed these crypto assets. For example, Argentina believes that the absence of any regulator is an obstacle to the legalization of cryptocurrencies. Argentina therefore does not consider cryptocurrencies to be legal currencies, yet its inhabitants are not completely hostile to the use of these cryptocurrencies. Argentina refusing to consider cryptocurrencies as legal currencies has decided to regulate cryptocurrency transactions through the rules of commodity sales (Cryptocurrency Regulation Report, 2018). The cryptocurrency regulation report released by Argentina’s financial authorities highlights their concerns about money laundering and anti-terrorist financing issues and has put in place a system for reporting suspects or suspicious transactions. In order to fight tax evasion Argentina has also implemented a tax system applied to crypto assets (Cryptocurrency Regulation Report, 2018). Besides Argentina, Israel considers virtual currencies a subject of capital gains tax.

Money Laundering and Terrorist Financing in Cryptocurrency

The characteristics of cryptocurrencies easily form a basis for money laundering. First, you have to describe what money laundering is. Money laundering is a crime and in order to qualify as a crime, the act (in other words the commission of the crime) must take place. Once the crime has been committed there must be economic gain in value and this illegal gain must be intercepted (Karakas, 2018). According to a study carried out by Fanusie and Robinson (2018) about 1% of transactions carried out in the context of the transfer or acquisition of Bitcoin are carried out within the framework of an illegal activity (in particular money laundering) (Fanusie and Robinson, 2018). The anonymity that surrounds transactions via blockchain technologies, combined with the absence of any supervision and any regulator / administrators / mediator, make it difficult to dismantle this type of malicious network.

Some countries that recognize or at least do not restrict cryptocurrencies have integrated these cryptocurrencies into their anti-money laundering and anti-terrorist financing regulations. Some countries like Australia are tempted to incorporate the legal bases of cryptocurrencies into both tax laws, anti-money laundering regulations and the fight against terrorist financing. But just as the Senate Committee pointed out, it is important to avoid double taxation that could result from transactions in crypto assets and cryptocurrencies (Cryptocurrency Regulation Report, 2018).

Canada, which has a positive approach to cryptocurrency and assets, does not recognize cryptocurrencies as a means of payment. Indeed, according to the Canada Revenue Agency, transactions related to cryptocurrency are barter transactions (Cryptocurrency Regulation Report, 2018). Since 2014, the regulations consider cryptocurrency as “money service business”. All companies that carry out cryptocurrency transactions must on the one hand “keep and keep records” and on the other hand register with the Financial Transactions and Reports Analysis Center of Canada (Fintrac) (Duhaime, 2014).

Apart from the EU and the United States, the positions of regulators have so far been extremely diverse across the world. Several developed countries - such as India (Government of India, Ministry of Finance, 2017) - are forming expert and / or intergovernmental commissions to review the regulatory system for virtual currencies, or have expressed political will to enact a law on cryptocurrency and mining operations (Financial Times, 2017). In addition, a growing number of countries, such as Australia (Australian Senate Legal and Constitutional Affairs Legislation Committee, 2017), Canada (Statutes of Canada 2014) and Singapore (Monetary Authority of Singapore, 2014), provide virtual mediators in convertible currencies under anti-money laundering regulatory regimes to provide greater legal clarity in transactions involving such assets. International institutions, on the other hand, have taken a different position. The Bank for International Settlements (“BIS”) published a report in 2015 claiming that “digital currencies could reduce the role of central banks” (Bank for International Settlements, 2015), but has since authorized the publication of reports advocating that central banks create cryptocurrencies (Bech and Garratt, 2017). Unlike the BIS, the International Monetary Fund (“IMF”) has supported the development of cryptocurrencies in some of its official reports and speeches since 2016 (IMF Staff Discussion Note, 2016; Adriano and Monroe, 2016; Lagarde, 2017). As previously mentioned, the tax treatment of virtual currency transactions regularly discussed would be subject to capital gains tax in Israel (PerkinsCoie LLP, 2017; Piper, 2017).

Some countries like Switzerland approach virtual currencies as a property. The Swiss government has published a report on virtual currencies which describes the economic issue, legal treatment and risks. According to this report, virtual currencies are not considered legal tender when they have a role like money instead, they consider them as property (Federal Council Report, 2014). Cited above the risks of cryptocurrencies as money laundering, terrorist financing and adding investor protection The Swiss Federal Council takes these risks into account and warns them against them, but also, it warns focus on the benefits and new technologies that accompany virtual currencies. In short, Switzerland assesses the pros and cons of virtual currencies and warns of the risks. About the regulations on money laundering; in Switzerland, they apply the anti-money laundering law for those who accept deposit assets or aid for professional investment from third parties or the transfer of such assets in this regard, virtual currencies are generally covered by this law (Geldwaschereigesetz, 1997). Recently they have started to accept bitcoin as an administrative fee payment and they have accepted bitcoin as a tax

payment. Belarusian law allows people to buy, sell and trade the cryptocurrencies that this approach presents with the presidential decree and this effect also regulates taxation, exchange control and transactions with cryptocurrencies (Cryptocurrency Regulation Report, 2018).

Regarding the taxation of cryptocurrencies in Belarus, the presidential decree applies exempt from income tax. This decree also exempts value added tax for the sale of tokens (RG, RU, 2017). These tokens are not considered taxable income. On anti-money laundering regulation, the National Bank of Belarus has regulated this topic and brings the extension for crypto platform operators and cryptocurrency exchange operators, those-ci are treated as a high-risk customer and are classified among lottery and casino game operators (RG, RU, 2018). Other countries such as Bangladesh (the Telegraph, 2014) or Vietnam (The State Bank of Vietnam, 2017) are rather resistant to cryptocurrencies and assets. But it is quite possible that these two countries will change their approach in the medium to long term. Indeed, with regard to the flow of transactions and the gains in value, the economic and financial stake can prove to be crucial. China as an example which did not recognize cryptocurrencies (in order to protect their investors and minimize the risks of money laundering and tax evasion) is preparing to launch its own cryptocurrency on the financial markets (Xiaochuan, 2018). Some governments view cryptocurrency as a currency and others as a commodity (Peters et al. 2015). But it is certain that this new technology has attracted the attention and interest of all financial and political actors.

Some countries pay more attention to the drawbacks in an effort to protect their investors and their economies but even the latter mostly end up creating their own cryptocurrency. The creation of cryptocurrency by the legal authorities (Central Bank etc.) is perhaps a solution to the absence of a regulator. But it is not guaranteed that these cryptocurrencies created under the effigy of a bank or central authority will be well received by current users of cryptocurrencies.

Turkey's Approaches to Cryptocurrencies

To understand Turkey's approaches to cryptocurrency, one must first understand the cryptocurrency statue, is it considered a means of payment, a commodity, or other things?

In terms of Turkish criminal law there is no particular regulation for cryptocurrencies, but some criminal actions under criminal law could cover cryptocurrencies as some of these crimes could be committed with the use of crypto. -currencies and for this reason, criminal law might have an area of applicability. There are two points that are important; counterfeiting and money laundering. Apart from counterfeiting money there should be money to commit the crime it is the material element and the Turkish penal code lists what is considered a currency and in these lists the cryptocurrencies are not considered a subject of the crime of counterfeiting money because they do not meet the definition of equal currency or materials in the penal code (Durdu, 2018).

Like all other countries, Turkey does not have a common opinion on cryptocurrencies and their legal status is uncertain. The Banking Regulatory and Supervision Agency has a statement regarding bitcoins, they said bitcoins could not be considered electronic money because the structure of bitcoin was not included in the scope of regulations which regulated the subject (Durdu, 2018). According to a statement published in 2013 in an official letter from the Banking Regulation and Supervision Agency (BDDK), *"Bitcoin is not considered electronic money within the limits of the law due to its nature and its current operation "and" it is not considered possible*

to supervise and control it within the framework of the law". The inability to identify the identity of those involved in Bitcoin and other virtual currency transactions provides an ideal environment for their use in illegal activities. In addition, Bitcoin is vulnerable to threats such as too unpredictable market valuation, theft, destruction or misuse of digital wallets without the owners' knowledge, as well as technical failures due to irreversibility of transactions. or violence from malicious sellers, according to the BDDK statement. (BDDK, 2013). For this reason, Turkey's approaches to cryptocurrency are situation dependent and there are no regulations that restrict cryptocurrencies or certain considerations and allow. Girasa (2018) notes *"that new methodologies are being developed to allow government entities to bypass secret private keys used by customers of virtual currencies"*.

Conclusion

After reviewing the approach of different countries, it seems that one of the main advantages advocated by defendants of the blockchain ecosystem is confusing. Indeed, the absence of any supervision discourages people and states that are averse to risk. The blockchain ecosystem based on cryptographic technology associates the user and therefore the principal in the issuance process of this cryptocurrency (Chohan, 2017). This decentralization, which is one of the factors of its success, may turn out to be the reason for its decline. Indeed, we see that states that believe in the future of cryptocurrencies end up adopting their own cryptocurrency. The success of "State" cryptocurrencies (that is, created by a central bank or any other federal institution) is not guaranteed. It is possible, as the report of the Directorate-General for Enterprises (2021) suggests, to set up lock systems. This system of locks could be under the control of a legal regulator such as the Central Bank. The risks associated with cryptography seem to be almost identical for each country and yet there is a heterogeneity of practices, particularly at the tax level. All countries agree to report the risk of money laundering and terrorist financing, but they disagree on the very definition of crypto assets. It is therefore vital to give a clear and precise definition of cryptocurrencies and assets for a standardization and internationalization of regulations in terms of blockchain technology. A shared common definition seems to be the crucial starting point for international regulation. In addition, the fiscal policy that will be adopted by the countries seems to be a factor that will positively or negatively influence the development of this new technology in the financial field.

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