Essays

Bitcoin: Civil Law Topics and Issues

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Abstract

The essay aims to examine some legal issues in the civil sphere related to a new digital asset, Bitcoin, also in light of the most recent italian case-law that has dealt with the matter in order to propose adequate regulatory proposals pending the comprehensive regulation of these innovative technological assets.

I. From the Origins of Bitcoin: What it is and How it Works

The crisis that has damaged the world in recent years has led to a progressive erosion of the trust traditionally placed in national institutions, first and foremost, in legal tender, inducing the community to re-appropriate functions traditionally falling within the realm of national sovereignty. Hence the birth of privately regulated payment instruments, among which the most famous is Bitcoin, which aim to create a parallel economy managed by the community itself and without any intermediation by public authorities.[1]

Bitcoin is a digital and complementary[2] currency based on cryptography (so-called cryptocurrency). Its main characteristics are: the use of cryptographic techniques for its coining (ie 'mining'); the decentralization of the possibility to

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[1] Bitcoin was originally designed to overcome the shortcomings of the trust-based banking system that gives banks and States a prominent role. Satoshi Nakamoto, the pseudonym used in the original Bitcoin proposal, saw these institutions as being inherently corrupt. His goal was to eliminate the need for them by creating a peer-to-peer system in which transactions are proven by a decentralized network of computers rather than intermediaries: 'commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust-based model. Completely non-reversible transactions are not really possible, since financial institutions cannot avoid mediating disputes. (...) What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party', S. Nakamoto, 'Bitcoin: A Peer-to-peer Electronic Cash System', available at https://tinyurl.com/2p9dt2cv, 1. M.R. De Ritis, 'Bitcoin: una moneta senza frontiere e senza padrone? Il recente intervento del legislatore italiano' *giustiziacivile.com*, 9 (2018), writes that Bitcoin is 'un sistema monetario privato (...) che intende attribuire al 'popolo' un potere sottrattogli da tempo'.

[2] Complementary currencies are defined as currencies that are intended to complement official money.

create new money; and the absence of central authorities and financial institutions responsible for the control and management of the creation and exchange of the virtual currency. Its advent is linked to two needs: on the one hand, creating a universal unit of account able to keep up with the globalization of trade and, on the other, availing of an alternative to legal tender whose value cannot be determined through monetary policies.

In traditional payment systems, a monetary authority guarantees the quantity, the quality and the value of money, while banks and other intermediaries exercise control to prevent the risk of double spending.

The Bitcoin system offers an alternative option based on the decentralization of these functions, which are entrusted to cryptographic technology and network users. IT makes it possible to reproduce on the digital level some characteristics of real currencies such as limitedness (or scarcity) and purity (or homogeneity), avoiding the need in this way to ascertain the qualities of the transferred asset.[3] The users monitor and authorize each exchange through a distributed system of control (Distributed Ledger Technology, also known as DLT) made possible by the blockchain, a public register shared by the 'nodes' in the network updated as soon as someone makes a change.[4]

However, the real peculiarity of Bitcoin is the following: it is a global and self-referential currency because it represents nothing else but itself. Unlike other tokens in circulation, Bitcoin does not entail a claim against those who have generated it or third parties (so-called second class token) and nor does it confer other different rights (so-called class three token) but rather grants an economic purchasing power that can be exercised against those who decide to join this innovative payment system.[5]

[3] The advent of minting, which is a different concept from that of monopoly, has its roots precisely in the need to guarantee the weight and purity of the precious items used as the first form of money (so-called commodity money). The imprint of sovereign power to the commodity means of exchange allowed the transition from weighing to counting, thereby significantly reducing transaction costs in trade. However, using gold and silver coins had serious drawbacks: first of all, the risk of theft and for example the difficulty of trading with distant markets. The next step was therefore the advent of banknotes, a monetary certificate that those who deposited gold with a merchant received, which attested to the possession of a given quantity of precious metal. Letters of exchange, by committing the issuer who had received a certain sum of money to return an equivalent of the local currency by means of its representative in the place and date agreed, allowed merchants to make payments in places located in different commercial zones without the need for excessive stocks of money.

[4] Nodes are the computers connected to the Bitcoin network that are responsible for storing and distributing an updated copy of each block. For more information on DLT and blockchain see M. Lehmann, 'Who Owns Bitcoin? Private Law Facing the Blockchain', available at https://tinyurl.com/2p8mnhkd (last visited 31 December 2021); A. Wright and P. De Filippi, 'Decentralized Blockchain Technology and the Rise of Lex Cryptographia', available at https://tinyurl.com/ycka3m8m (last visited 31 December 2021).

[5] According to the most widely accepted although not unanimously agreed terminology, it is possible to distinguish between three types of tokens depending on the 'function' performed by cryptographic tokens:

Although twelve years have passed since its appearance, Bitcoin is a phenomenon that continues to be characterized by a disorganized, deficient and difficult regulatory framework. And this is not by chance. Bitcoin was born away from public regulation precisely in order to escape it. The multifaceted and changing nature of this new digital asset – sometimes used as a medium of exchange, sometimes as an investment asset – on the other hand does not make things easier for lawmakers.

The absence of intermediaries prompted European and Italian legislators to extend customer due diligence obligations under anti-money laundering laws to exchangers and web wallet providers in order to prevent their possible use for illegal purposes.[6] However, regulation under the general law is still lacking. It can thus be problematic to identify the characteristics of Bitcoin and the applicable rules, especially if the legal classification of Bitcoin is still unclear.

This essay aims to examine some civil issues related to this new digital asset in the light of the Italian legal system. After examining the main arguments denying the monetary nature of Bitcoin (Section 2), contrary to the view espoused in this work, we will proceed to examine the Italian case-law that has dealt with the matter and in particular: the pecuniary obligation expressed in cryptocurrencies (Sections 3-4); the deposit (Section 5) and the sale of Bitcoin (Section 6). Furthermore, although there have not yet been any rulings on the matter, some issues related to succession involving cryptocurrencies will be addressed (Section 7). The essay will be wrapped up with some concluding remarks on the case-law to date (Section 8), which testifies to a significant openness by the Italian courts towards considering Bitcoin to be monetary in nature.

- Payment tokens (also called class one tokens): means of payment that allow the purchase of goods and services on a plurality of online platforms, including different from the one on which the token originates. These tokens have no embedded rights or liabilities and perform a similar function to traditional currencies, although their volatility sometimes determines their use for investment purposes (an example is Bitcoin).

- Utility tokens: digital currencies with limited expendability, which allow the purchase of goods and services only within the system from which they originate. These tokens are often issued to facilitate the development of innovative projects. The token taker, through the purchase of the token, assumes at the same time the role of financier and that of future user, providing the company with a suitable customer base to support its development. These assets have been compared to vouchers.

- Security tokens (also known as class three tokens): digital tokens representing economic rights (such as the right to participate in the distribution of future dividends) and/or administrative rights (such as the right to vote on certain matters). These assets have been compared to financial instruments (stocks and bonds). On this point FINMA, 'Practical Guidance for the handling of applications relating to subordination in respect of initial coin offerings (ICOs)', edition of 16 February 2018, available at https://tinyurl.com/jh8cw5sv.

[6] See decreto legislativo 25 May 2017 no 90 and European Parliament and Council Directive 2018/843/EU of 30 May 2018 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, and amending Directives 2009/138/EC and 2013/36/EU.

II. Legal Classification of Bitcoin: Towards a Functional Notion of Money

Although Bitcoin acts in practice as a means of payment, the Italian academic community has long been reluctant to recognize its legal standing as money. Some authors view Bitcoin as new form of property, others as an IT document and others again as an asset like gold.[7]

The objections raised to classifying Bitcoin as money are mostly linked to an institutional conception of money. For example, in a decision the Supreme Court ruled that only a universally accepted means of payment that is an expression of public power could be classified as 'money'.[8] This reconstruction is not persuasive for two reasons. First of all, it postulates that money is a universally accepted means of payment. However, because a good endowed with universal use does not exist, it would be more accurate to use a theory of relative currency.[9] Moreover, some currencies do not enjoy general recognition even in their issuing country, where there may be a preference to resort to more stable currencies.[10] Furthermore, a

[7] Compare P.L. Burlone and R. De Caria, 'Bitcoin e le altre criptomonete. Inquadramento giuridico e fiscale', 4 (2014), available at https://tinyurl.com/2p9es4ah (last visited 31 December 2021), who believe that 'in assenza di creazione di una apposita figura giuridica ad opera del legislatore nel diritto italiano attuale Bitcoin possa correttamente essere inquadrato come una nuova categoria di bene immateriale'. In this vein also M. Krogh, 'Transazioni in valute virtuali e rischi di riciclaggio. Il ruolo del notaio' *Notariato*, 158 (2018) and, recently, M. Cian, 'La crittovaluta. Alle radici dell'idea giuridica di denaro attraverso la tecnologia: spunti preliminari' *Banca borsa titoli di credito*, 315 (2019). For S. Capaccioli, *Criptovalute e Bitcoin: un'analisi giuridica* (Milano: Giuffrè, 2015), 142, Bitcoin is a 'new property'. G. Arangüena, 'Bitcoin una sfida per policymakers e regolatori' *dimt.it*, 29 (2014), writes that Bitcoin could be considered an IT document 'recante dati e informazioni giuridicamente rilevanti e sottoscritto da una progressione di firme elettroniche attestanti (…) l'avvenuta validazione della propria o dell'altrui legittimazione al perfezionamento di una certa transazione'.

[8] Corte di Cassazione 2 December 2011 no 25837, *Giustizia civile*, 29 (2011): 'può essere qualificata "moneta" soltanto il mezzo di pagamento universalmente accettato che è espressione delle potestà pubblicistiche di emissione e di gestione del valore economico'. In this vein also B. Inzitari, 'La natura giuridica della moneta elettronica', in S. Sica, P. Stanzione and V. Z. Zencovich eds, *La moneta elettronica: profili giuridici e problematiche applicative* (Milano: Giuffrè, 2006), 25.

[9] L. Mosco, *Gli effetti giuridici della svalutazione monetaria* (Milano: Giuffrè, 1948), 27, writes 'la storia economica ci insegna che le cose assunte come danaro nel mondo degli affari sono svariatissime secondo i tempi e i luoghi'.

[10] Recently, to this effect, Berlin Court of Appeal judgment of 25 September 2018, available at https://tinyurl.com/pxm46m7c (last visited 31 December 2021), which with regard to the comparability of Bitcoin to foreign currencies notes that 'Ferner ist die Voraussetzung einer allgemeinen Anerkennung nicht herleitbar. Es gibt Devisen, die sich keiner allgemeinen Anerkennung erfreuen. Es ist allgemein bekannt, dass es teilweise Fremdwährungen gibt, die selbst im Ausgabestaat nur ungern angenommen werden, da man eher auf stabilere Fremdwährungen (z. B. US-Dollar) zurückgreifen möchte. Diese Fremdwährungen erfreuen sich auch in Form von Devisen keiner allgemeinen Anerkennung Diese Fremdwährungen erfreuen sich auch in Form von Devisen keiner allgemeinen Anerkennung. Selbst das vom Gesetzgeber genannte Beispiel des ECU belegt dies. Dieser war nicht allgemein anerkannt. Er wurde nur vielmehr von einem bestimmten Kreis von Personen und Einrichtungen genutzt. Für den allgemeinen Rechtsverkehr war er mehr oder weniger bedeutungslos. Der Rechtsverkehr nutzte vielmehr die jeweiligen nationalen Währungen. Demnach müsste es genügen, dass eine

sovereign imprint does not constitute an indispensable requirement of the concept of money.[11] The issuance monopoly is a relatively recent development. The option of granting a single entity the power to coin money was still at the center of a heated debate in the first half of the 19th century between three currents of thought: the classical banking school, the currency school (or metallism) and the free banking school.[12] The notion of money does not presuppose a necessary connection with a government, as it is just something that circulates and that is used for exchange. Money is 'normally' but not 'necessarily' subject to a State monopoly: when it is, it is 'currency', a form of non-refusable payment under penalty of public sanctions.[13] The difference between money and currency lies in the type of

bestimmte Gruppe die fragliche Einheit nutzt. Eine allgemeine Anerkennung ist nicht zu fordern. Eine solche beschränkte Gruppe von Nutzern von Bitcoin lässt sich erkennen. Allein die Tatsache, dass einige Händler Bitcoin zu Zahlungszwecken akzeptieren belegt dies'.

[11] F.A. Mann believes that only money issued by the State can be defined as so. His thinking on the matter is reported by C. Proctor, *Mann on the Legal Aspect of Money* (Oxford: Oxford University Press, 2012), 15. In Italy Mann's line of thinking seems to be endorsed by B. Inzitari, 'La moneta', in B. Inzitari, G. Visentini and A. Di Amato eds, *La moneta-la valuta* (Padova: CEDAM, 1983), 6. The statist theory of currencies is contrasted by the Savigny theory, later developed by Nussbaum, according to which society decides which currency to adopt (cf. A. Nussbaum, *Money in the Law* (Chicago: Foundation Press, 1939), 28. In truth, the contrast between the two views is more apparent than real considering that even the most rigorous defenders of the statist theory, like Knapp, argue that the State is the regulatory source and the oldest organizer of a payment community (G.F. Knapp, *The State Theory of Money* (London: Macmillan & Company Limited, 1924), 128, writes: 'any other payment community may create money of its own'). Just as the proponents of the society theory of money are forced to recognize the centrality of the State in the promotion and defense of money.

[12] According to those who espouse the latter view (the free banking school, in particular Hayek, who wrote the famous book *Denationalisation of Money* (London: Institute of Economic Affairs, 1976) and Friedman, whose theories are expressed in the book 'Should There Be an Independent Monetary Authority?', in L.B. Yeager ed, *In Search of a Monetary Constitution* (Cambridge Massachusetts: Harvard University Press, 1962) the issuance of banknotes had to be free and the banking system had to function according to the principles of free trade even on crucial issues such as the issue of monetary means convertible into gold. It was hoped that all banks would have issuing power and the role of a central monetary authority (central bank) was not recognized. This extreme approach was refuted both by the members of the classical banking school (Fullerton, Tooke and John Stuart Mill) and from those of the metallism school (a doctrine born in Great Britain in the first half of the nineteenth century, advocated by a group of statesmen and economists including R. Torrens, S.J. Lloyd, McCulloch and Lord Overstone), both in favor of the establishment of a central bank with monopoly power over the issue of money.

However, while the latter proposed the establishment of certain rules of proportionality between the variations in the quantity of banknotes in circulation and gold reserves, the former did not consider it necessary because it was considered sufficient to simply maintain the gold convertibility rule in order to keep the price level constant. Undeniably, the Bitcoin project has its roots in Hayek's thinking. However, it differs from this in that the value of the free currency is not guaranteed by an underlying (gold). In this respect, Bitcoin evokes the Keynesian proposal advanced during the Bretton Woods agreements, which provided for the creation of a supranational entity that would issue a universal circulation currency, the bancor, which is not convertible into gold, from which it differs, precisely, because of the absence of an issuing center. For further information on the historical evolution of money, refer to C. Pernice, *Digital currency e obbligazioni pecuniarie* (Napoli: Edizioni Scientifiche Italiane, 2018), 9-34 and further bibliography there.

[13] In Italy the refusal to accept legal tender coins, originally punished with the stigma of

underlying consent: social in one case, legal in the other. This does not mean that the two phenomena cannot overlap: if a State granted legal tender status to an asset already used as medium of exchange in society, the two concepts would intertwine. Historical and economic experience shows that legislative decision did not determine the classification of a given good as money but rather afforded official recognition to a good that already served as such.[14] This is what happened in Japan where Bitcoin has been recognized as a means of payment since April 2017, and in San Salvador, the first country in the world that recently announced its intention to use Bitcoin as legal tender.

Money is primarily a social and economic institution that arose spontaneously among people, who, in the course of history, have identified goods to serve as a store of value to be used as a medium in the exchange of goods. It was born out of a need to overcome the practical inconveniences of bartering, without an agreement expressed by people and without a legislative act.[15] Nonetheless, historical evidence confirms the will, or perhaps the need, to acquire control of this choice, which ended up leading to the imposition of 'fiat money'.[16] However, nothing rules out that the

criminal law, is today punished with an administrative sanction pursuant to Art 33(a) of legge 24 November 1981 no 689, which decriminalized Art 693 of the Criminal Code. C. Viterbo, 'Debito in valuta estera e clausola oro' *Giurisprudenza civile commentata*, 195 (1957), writes as follows in this regard: 'È un pregiudizio antico, di cui la letteratura economica si è liberata solo in tempi recenti, e quella giuridica non ancora del tutto, quello secondo il quale la moneta sarebbe tale perchè lo Stato gli conferisce il corso legale. La moneta è invece un fenomeno puramente economico, indipendente da ogni intervento statale o legislativo. Per convincersene basti pensare che l'oro è giunto ad esser moneta senza l'intervento della legge o dello Stato, e spesso seguita ad esserlo anche contro la volontà degli organi costituiti. La moneta è soltanto quel bene che, giunto ad avere attraverso ad un processo storico, che potremmo chiamar di sublimazione, un valore di scambio tanto prevalente su quello d'uso da far passar questo in seconda linea, circola al solo fine di facilitare la circolazione, cioè lo scambio, degli altri beni. In questa definizione, che è modernissima e che ritengo esatta e completa, lo Stato e la legge non c'entrano per nulla, come si vede. Perciò il corso legale non costituisce affatto un elemento essenziale della moneta, almeno nel senso che non possa esistere moneta senza che lo Stato le abbia conferito il corso legale. Il corso legale conferisce solamente alla moneta un plus: il cosiddetto potere liberatorio'.

[14] L. Mosco, n 9 above, 28, who talks about the 'social creation' of money and remarks that: 'lo Stato, almeno normalmente e salve le eccezioni che si possono verificare in tempi eccezionali, attribuisce la qualità di denaro ad un bene che già nel commercio ha acquistato tale funzione'. T. Ascarelli, *La moneta* (Padova: CEDAM, 1928), 13, 44 and 50, observes that money 'ha natura necessariamente convenzionale' and 'l'obbligo di accettazione proprio delle valute è uno degli strumenti tecnici attraverso i quali lo Stato considera una determinata merce denaro o meglio valuta'.

[15] On the origin of money, see C. Menger, *Il metodo nella scienza economica* (Torino: UTET, 1937), 110 and Id, *Principi di economia politica* (Torino: UTET, 1976), 345.

[16] The entire history of money cannot be outlined here. However, it may be useful to briefly explain the reasons that led to the advent of fiat money and the monopoly of issue. The birth of fiduciary money can be traced back to the thirteenth century when banks, increasing the practice of granting loans to the State during wars in the form of bearer bonds, appropriated the right to expand credit without a matching increase in deposits. This power granted to banks, which made them arbitrators of circulation and monetary stability and therefore custodians of a function of public interest, gave rise to a series of problems whose solution was gradually identified in the course of the nineteenth century in establishing the monopoly of issue. However, the most crucial step taken by governments in the evolution and spread of paper money came with the affirmation of

community can contribute to the exercise of monetary sovereignty by according trust to a means of exchange other than legally imposed ones. Moreover, the principle of subsidiarity, currently a facet of positive law, provides for the devolution of sovereign functions to the levels of government closest to the citizens.[17] And also in this sense, empirical experience confirms this possibility. On a national level there have been attempts to establish local currencies, such as the Sardex, the Neapolitan Scec, the Messina Zanclon, the Ecoroma, the Promessa of Pisa, the Palanca of Genoa, the Venetex, the Lombard Link, and some regulatory attempts as well.[18] In Europe, following the Great Recession, since 2008 the experiences of complementary currencies that have as their common denominator the promotion of the local economy have multiplied, often on a municipal basis, like the Swiss Wir or the German Planet Heart. Over the last few years, well over 5,000 complementary currencies with distinct functions and purposes have been created worldwide, and some today propose to avail of to this tool to overcome the Covid-19 emergency.

> 'If money serves only (as such, that is, regardless of any competing uses) as an instrument of exchange, if its usefulness is entirely in the possibility of exchange',

then it is clear that the status of money cannot be denied to anything that fulfills this function.[19]

So, it is preferable to accept a functional definition of money, which focuses on the typical utility associated with the asset in question. Moreover, as one

forced currency (ie inconvertibility) and with the attribution of the nature of legal money to notes issued by institutions (ie non-refusable form of payment). From that moment on, the value of money came to depend solely on the policy of the State.

[17] The principle of subsidiarity is codified in Italian law (Art 118 of the Constitution) and in EU law (Art 5 TEU).

[18] At Italian level, an attempt to regulate complementary currencies initially took place with the proposal of an amendment to decreto legge 23 December 2013 no 145 (which, after defining Bitcoin' complementary electronic cryptocurrency used as a means of exchange without the purpose of a store of value on electronic communication networks', required that for transactions exceeding 1,000 euro in value the Bitcoin payment operation had to come under anti-money laundering law). Subsequently, through a bill presented on 30 July 2014 on 'delegation of authority to the government to regulate the issue and circulation of complementary currencies', which can be consulted at www.camera.it. Today there are hundreds of complementary currency systems around the world such as the Berkshares of Berkshire (Massachusetts), the Toronto dollar, the Salt spring dollar, the Ithaca hour, the Fureai kippu. See 'Dossier sulle monete complementari', at https://tinyurl.com/eud39h2p (last visited 31 December 2021); G. Lemme, 'Criptomoneta e distacco dalla moneta legale: il caso Bitcoin' *Rivista di diritto bancario*, 5 (2016); F. Di Vizio, 'Le cinte giudiziarie del diritto penale alla prova delle valute virtuali degli internauti' *dirittopenalecontemporaneo.com* (2018).

[19] T. Ascarelli, *La moneta* n 14 above, 51-56, who believes that money is by definition such only for the fact of carrying out the aforementioned task 'sicché nessun oggetto può aprioristicamente e necessariamente venire incluso, così nessuno può venire escluso da questa categoria'. G. Stammati, 'Moneta' *Enciclopedia del diritto* (Milano: Giuffrè, 1976), XXVI, 474, observes that the definition of money as anything that generally functions as a medium of exchange, derived from the definition of the main monetary function, which is intermediation of exchanges.

authoritative author has stated,

> 'things, (...) are not considered abstract, but (...) are appreciated and differentiated with regard to their aptitude to satisfy the needs of social life'.[20]

In order to properly classify entities/things, it is necessary to ascribe to them

> 'the classification best suited to a certain appreciation of their suitability to satisfy human needs, and therefore of the economic-social function proper to them as goods'.[21]

The difference between money and other goods is that it does not satisfy the immediate need of the counterparty: its advantage is that it can be used as a medium in the trade of goods and services. Money is neither a consumer good (not immediately fulfilling an individual need) nor a capital good (not used for the production of other goods) but a good that offers solely the utility that it can be used as a medium of exchange. Currencies were born to be exchanged: this is their very value and nature. Therein is the root of its relevance for legal purposes and therein lies the distinction between pecuniary debts and common debts of things. Contrary to other goods, money postpones the immediate satisfaction of the counterparty's need: its utility lies in the possibility to use it for a subsequent purchase of goods or services due to its high level of acceptance.

Therefore, money can be defined as any good chosen by a given community to convey internally a lasting credit[22] and that, due to its common acceptance as a

[20] E. Betti, *Teoria generale del negozio giuridico* (reprint, Napoli: Edizioni Scientifiche Italiane, 2002), 232.

[21] E. Betti, *Istituzioni di diritto romano* (Padova: CEDAM, 1947), I, 352.

[22] The economic and legal literature is actually divided between those who classify money as a means of exchange (this was the concept established by the Physiocrats and since then generally adopted by economists: money is an intermediate commodity used for the purpose of indirect exchanging) and those who show that at its origins is the need to have proof of a credit (in this sense G. Boccardo, *Biblioteca dell'economista* (Torino: UTET, 1879), VI, 21: 'finché le cose permutate sono d'ugual valore, non vi ha alcun bisogno di moneta. Se accadeva che fossero uguali gli scambi di prodotti o servigi tra coloro che vi addivenivano, la cosa era fatta. Ma spesso doveva accadere che quando taluno abbisognava un prodotto o un servigio dal suo vicino, questi non abbisognasse nello stesso tempo di un'ugual quantità di prodotti o di servigi, o fors'anche di nulla avesse bisogno (...). Se dunque tra di essi avveniva un'operazione con disuguaglianza di risultato, restava una certa quantità di prodotto o servizio dovuto dall'uno all'altro, e ciò costituiva un debito del quale il creditore avrebbe desiderato avere prova'. Boccardo refers that: E. Burke, *Reflections on the Revolution in France* (London: James Dodsley, 1790), defines gold and silver as the two metals recognized as representatives of the lasting and conventional credit of mankind; N. Baudeau, *Introduction à la Philosophie économique* (Paris: Libraire Paul Geuthner, 1771), states that currency is a kind of bill of exchange, payable at the request of the bearer; according to A. Smith, *Wealth of Nations* (London: Edwin Cannan, 1776), II, 2, a Guinea can be considered as a bill of exchange for a certain amount of necessary things and useful things traded on all the merchants in the neighborhood; E. Torton, *An inquiry into the nature and effect of the paper credit of Great Britain* (London: George Allen & Unwin, 1802), 260, writes that money, of

medium of exchange, usually satisfies the other tasks traditionally expected of money: common measure of value and store of value.[23]

The growing spread of Bitcoin confirms that it can be characterized as a collectively recognized medium of exchange. The interest of those who receive or transfer a virtual currency is the same as those who make transactions through legal currencies: to obtain or to grant purchasing power *vis-à-vis* those who decide to join the circuit. The utility conferred by virtual currency is to function as an medium of exchange, similar to what happens for legal currency.[24] The difference is linked to the type of guarantee recognized, which in this case is not legal but real, ie given by the market.

If there are no doubts that Bitcoin can be considered as a medium of exchange, that is not so as regards treating it as money in light of two functions traditionally performed by the latter. In this regard, the extreme volatility of its value does not allow the cryptocurrency to serve as a unit of account or a store of value. However, if the instability of Bitcoin exposes the holders to high risks,[25] this also happens

whatever nature, is an order on commodities representing the lasting and conventional credit of mankind). Both approaches appear to be correct, explaining two typical functions of the asset in question: as a functional entity, money is everything that is exclusively recognized as an exchange asset; as a share of conventional wealth, it represents a lasting credit that can be spent within a specific social body. That is, money is a means of exchange that incorporates the right to a service, which consists in the provision of a fraction of all the goods and services produced by the social body that recognizes that money as a means of exchange.

[23] An essential requirement of money is its suitability to serve as an instrument of exchange. Naturally, it has an accessory role, albeit immanent to the functions of measure of value and store of value. The necessity or desirability of their coexistence has been debated, and although the three functions tend in fact to concentrate on the same object, historically they have not always coexisted. According to T. Ascarelli, *La moneta* n 14 above, 50, a consistent and rigorous consideration of money should first and foremost 'fissare un fine che serva da elemento discretivo nell'indagine e rispetto al quale gli altri rimangano subordinati: voler tener contemporaneamente e sullo stesso piano conto di tutte le funzioni che in una determinata epoca compie un determinato oggetto-denaro è certo doveroso ai fini di molte indagini economiche, ma è pretesa inconciliabile con la coerenza del sistema quando si voglia formulare un concetto del denaro che abbia valore metastorico, ciò che non può farsi se non postulando un determinato fine come essenziale'. In particular, Ascarelli refers to the works of Menger who tends to place the function of medium of exchange at the forefront and to define money in relation to this function. So on p. 53 he writes: 'a me sembra come il concetto del denaro proprio nel nostro diritto positivo sia quello di strumento di scambio, (...) finché pertanto venga assolta la funzione di strumento di scambio, può anche venir assolta quella di misuratore di valore'. Similarly, V. Lojacono, *Aspetti privatistici del fenomeno monetario* (Milano: Giuffrè, 1955), 17, according to whom money is both a means of exchange and a means of payment, but it is a means of payment only because and as long as it is an instrument of exchange.

[24] See Case C-264/14 *Skatteverket* v *David Hedqvist*, judgment of 22 October 2015, available at www.curia.europa.eu, para 49: 'Transactions involving non-traditional currencies, that is to say, currencies other than those that are legal tender in one or more countries, in so far as those currencies have been accepted by the parties to a transaction as an alternative to legal tender and have no purpose other than to be a means of payment, are financial transactions', and paragraph 52 'it is common ground that the 'Bitcoin' virtual currency has no other purpose than to be a means of payment and that it is accepted for that purpose by certain operators'.

[25] On the risks of virtual currencies see ECB, 'Virtual currency schemes', available at

with legal currencies, although to a different extent. Think of the German monetary crisis, when the paper mark lost its function as a measure of value or the extraordinary inflation in Europe after World War II. As has recently been noted by the German courts, there are also extremely weak and volatile currencies in the world, but this does not prevent them from being considered as currencies.[26] Among other things, unlike legal currencies, Bitcoin is deflationary so it could be a better store of value than legal currencies susceptible to inflation.

It is also undeniable that through its unit of account Bitcoin offers the possibility of expressing goods and services in a reference framework making them comparable. When money is accepted as an medium of exchange, a relationship arises with the traded good that expresses a measure of value.[27] Therefore, it can be concluded that Bitcoin is money (not currency) and consequently we can point to certain effects and obligations of paying in Bitcoin as pecuniary obligations. With this, it should be borne in mind, it is not intended to advocate the *exclusive* or *wholesale* application of the rules predicated on pecuniary obligations. Depending on each specific case and the associated protection required, all the rules in the legal system, even though they well have been designed for other contexts,[28] may

https://tinyurl.com/2wm47htk (last visited 31 December 2021); ECB, 'Virtual currency schemes – a further analysis', available at https://tinyurl.com/uae49ny9 (last visited 31 December 2021); Banca d'Italia, 'Avvertenza sull'utilizzo delle cosiddette 'valute virtuali", available at https://tinyurl.com/w8ah4xu7 (last visited 31 December 2021); FATF, Virtual currencies key definitions and potential AML/CFT Risks, available at https://tinyurl.com/3kjnyzee (last visited 31 December 2021).

[26] Berlin Court of Appeal judgment of 25 September 2018 n 10 above: 'Es gibt demnach auch äußerst schwache oder wertunbeständige Devisen. Dass diese ungern und deswegen selten international verwendet werden, ändert nichts an ihrer Einordnung als Devisen. Der Gesetzgeber hat keine Vergleichbarkeit zu „wertstabilen Devisen" oder "häufig und gern verwendeten Devisen" vorausgesetzt. Eine Vergleichbarkeit mit Devisen ist also nicht schon deswegen abzulehnen, weil Bitcoin erheblichen Wertschwankungen unterliegen'.

[27] B. Inzitari, 'Obbligazioni pecuniarie', in A. Scialoja and G. Branca eds, *Commentario al Codice Civile* (Bologna-Roma: Zanichelli, 2011), 3, writes that 'in quanto strumento di scambio il danaro manifesta la capacità di esprimere, rispetto ai beni con i quali è posto in relazione (…) equazioni omogenee in termini di valore'.

[28] E. Betti, *Teoria generale dell'interpretazione* (Milano: Giuffrè, 1955), II, 824, writes 'la ricognizione della valutazione originaria immanente e latente nella lettere della legge e costituente la *raio iuris* della norma è indispensabile per accertare in quale misura essa abbia subito modificazioni col sopravvenire di mutamenti nell'ambiente sociale (...) giacché solo attraverso il tramite di essa (...) è legittimo procedere ad un adattamento ed ad una trasposizione del testo legale nella viva attualità, e bilanciare giustamente l'interesse statico alla stabilità, conservazione e certezza con l'esigenza dinamica di rinnovamento nell'indirizzo sociale. (...) così l'interpretazione della legge viene a trovarsi dinanzi a un duplice compito: a) ricercare la valutazione originaria immanente alla norma nella sua concatenazione con l'intero ambiente sociale in cui fu emessa (...) b) ricercare se la norma ha maturato un esito sociale ulteriore, ancorché non intenzionale, consistente nel comporre il conflitto fra altre categorie d'interessi all'infuori di quelli previsto'. In making the original idea of the legislative wording coincide with the present reality, the interpreter 'deve cercare di conoscere quali interessi in gioco siano stati considerati, raffrontati e comparativamente valutati nello loro entità tipica e quali di essi abbiano determinato la composizione del conflitto nel senso statuito'.

operate to the extent that that are compatible and appropriate to the disputed case.[29]

III. Bitcoin and Art 1278 of the Civil Code

In particular, when Italian law applies,[30] Bitcoin can be regulated by Art 1278 of the Civil Code, which governs pecuniary obligations expressed in money that does not have legal tender standing in the State. The Civil Code does not use the expression 'debt of foreign currency', unlike other legal systems. Art 1278 uses broader wording: 'money that is not legal tender in the State' can include not only foreign legal currency but also: 1) money originally legal tender in the State but no longer in circulation (this case is regulated under Art 1277, para 2, of the Civil Code); 2) money with intrinsic value but not in circulation when the debt arose;[31] 3) and contractual money that is not associated with a specific currency system.[32]

[29] On the compatibility assessment and on the distinction between compatibility and adequacy criteria, see G. Perlingieri, *Profili applicativi della ragionevolezza nel diritto civile* (Napoli: Edizioni Scientifiche Italiane, 2015), 91, especially note 230; Id, 'Il patto di famiglia tra bilanciamento dei principi e valutazione comparativa degli interessi' *Rassegna di diritto civile*, 190 (2008); Id, 'La scelta della disciplina applicabile ai c.dd. "vitalizi impropri". Riflessioni in tema di aleatorietà della rendita vitalizia e di tipicità e atipicità dei contratti' *Rassegna di diritto civile*, 532 (2015); Id, *L'inesistenza della distinzione tra regole di comportamento e di validità nel diritto italo-europeo* (Napoli: Edizioni Scientifiche Italiane, 2013), especially 85 and 118. In a nutshell, it can be said that while a judgment as to compatibility calls for a formal (or logical-rational) evaluation and entails a duty to avoid the coexistence of contradictory rules with respect to the same case and at the same time, on the other hand a judgment as to adequacy must be made on a functional and axiological basis. On the possibility of applying, for example, the law governing the offer of financial products, see C. Pernice, *Digital currency e obbligazioni pecuniarie* n 12 above, 272 and *infra* in the text.

[30] Art 1278 of the Civil Code is applied if three conditions are met: that the law that governs the relationship is Italian; that the currency payable is not Italian; and that the payment is to take place in Italy. The literature on this point is almost unanimous. Cf T. Ascarelli, 'Obbligazioni pecuniarie', in A. Scialoja and G. Branca eds, *Commentario al Codice Civile* (Bologna-Roma: Zanichelli, 1959), 368; B. Inzitari, *La moneta* n 11 above, 159; D. Sinesio, *Studi su alcune specie di obbligazioni. Artt. 1277-1320 codice civile* (Napoli: De Frede, 2004), 27; U. Breccia, 'Le obbligazioni', in G. Iudica and P. Zatti eds, *Trattato di diritto privato* (Milano: Giuffrè, 1991), 295; Corte di Cassazione 7 November 1956 no 4174, *Foro italiano*, 600 (1956).

[31] The hypothesis of currency with intrinsic value and legal tender is in fact regulated by Art 1280 of the Civil Code.

[32] Art 1278 of the Civil Code states that if a monetary obligation is expressed in a money that is not legal tender in the State, the obligor has the option to pay in legal currency, at the exchange rate on the day of the expiry and the place established for the payment. Similarly, albeit with reference to currency, Art 6.1.9 (Currency of payment) of the Unidroit Principles states: '(1) *If a monetary obligation is expressed in a currency other than that of the place for payment, it may be paid by the obligor in the currency of the place for payment unless*

(a) that currency is not freely convertible; or

(b) the parties have agreed that payment should be made only in the currency in which the monetary obligation is expressed.

(2) If it is impossible for the obligor to make payment in the currency in which the monetary obligation is expressed, the obligee may require payment in the currency of the place for payment,

On the other hand, it is significant that the most widespread interpretation adopted by Italian scholars and case-law, influenced no doubt by the Minister of Justice's report accompanying the Civil Code,[33] sees Art 1278 of the Civil Code as exclusively linked to debts expressed in a foreign currency.[34] However, this is a narrow view that is not reflected in the actual wording and that neglects the historical *precedents* of the provision in question. In fact, Art 39 of the Commercial Code of the Kingdom of Italy of 1882 (a rule considered applicable also in civil matters, which the legislator of 1942 clearly took inspiration from) provided that it was possible to pay with the currency of the country, not only when the currency indicated in the contract had a mere 'commercial' form (Art 39) but also when the currency had no form at all.[35] In a meeting of 30 May 1940 concerning the regulation of pecuniary obligations it was highlighted that there was no reason to prohibit contracting with a currency that is not legal tender in the territory of the State, since the law must also refer to contracts where the services were expressed in crazie, Tuscan shields, Lucca shields, Paoli etc (ie non-State coins).[36] Moreover, a specific reference to 'foreign currencies' was present both in the wording of the law on cheques and in the one on bills of exchange, just prior to the adoption of the Civil Code.[37] If the legislator had wanted to limit

even in the case referred to in paragraph (1)(b).

(3) Payment in the currency of the place for payment is to be made according to the applicable rate of exchange prevailing there when payment is due.

(4) However, if the obligor has not paid at the time when payment is due, the obligee may require payment according to the applicable rate of exchange prevailing either when payment is due or at the time of actual payment' (emphasis in italics added).

[33] See *Relazione d'accompagnamento*, para 592, 126: 'la possibilità di prestare moneta diversa da quella dedotta è anche considerata quando il debito pecuniario è espresso in moneta estera; in tal caso il codice civile, come già l'art. 39 cod. comm., autorizza, nell'atto di pagamento, la sostituzione della moneta straniera con moneta nazionale (art. 1278). La moneta straniera diviene infungibile solo per volontà delle parti, cioè quando queste convengono la clausola "effettivo" (art. 1279)'.

[34] See A. di Majo, 'Le obbligazioni pecuniarie' *Enciclopedia del diritto* (Milano: Giuffrè, 1979), XXIX, 279; T. Ascarelli, 'Divisa e divisa estera' *Novissimo digesto italiano* (Torino: Utet, 1938), V, 88; Id, 'Obbligazioni pecuniarie' n 30 above, 368; E. Quadri, 'Le obbligazioni pecuniarie', in P. Rescigno ed, *Trattato di diritto privato* (Torino: UTET, 1984), IX, 503; Corte di Cassazione 2 December 2011 no 25837, *Giustizia civile*, 29 (2012).

[35] Art 39 stated: 'Se la moneta indicata in un contratto non ha corso legale o commerciale nel Regno e se il corso non fu espresso, il pagamento può essere fatto colla moneta del paese, secondo il corso del cambio a vista nel giorno della scadenza'. About this rule compare T. Ascarelli, *La moneta* n 14 above, 107; C. Vivante, *Trattato di diritto commerciale* (Milano: Vallardi, 1906), IV, 71, which, however, links the commercial form to market trading (ie those resulting from an official stock exchange list). *Contra* G. Pacchioni, 'Appunti critici sui pagamenti dei debiti convenuti in moneta estera' *Diritto commerciale*, 27 (1923), who notes that the commercial form is not always supported by the main market.

[36] This is the opinion expressed by Barcelona, which Asquini disagreed with. See Lavori preparatori del codice civile (anni 1939-1941). Progetti preliminari del libro delle obbligazioni, del codice di commercio e del libro del lavoro. Volume II. Progetto preliminare del libro delle obbligazioni (Roma: Libreria dello Stato, 1942), 24.

[37] See Art 47 of Regio decreto no 1669 of 1933 and Art 39 of Regio decreto no 1736 of 1933.

the scope of Art 1278 of the Civil Code only to money having legal tender in other States, it could have stated so expressly. Therefore, the expression used in Art 1278 cannot probably be considered entirely casual.

In reality, as has rightly been observed, Art 1278 of the Civil Code codifies the principle according to which in these cases the debtor has the option of paying his or her debt using the national currency instead of the agreed one (*una in alia solvi potest*).[38] The rationale of the rule is to simplify the debtor's position when the creditor has not disclosed an interest in obtaining the monetary medium of a specific economic system thanks to the so-called 'effectivo clause'.[39]

This principle seems to be applicable beyond the cases of foreign debt because it strikes the best balance between the parties' interests every time the object of the obligation is a currency that is not legal tender in the State.

Therefore, Art 1278 of the Civil Code can regulate contractual payment systems and cases in which the exchange takes place between an asset with a use value and one with just an exchange value but not subject to a monopoly by any sovereign authority. In these cases there is no barter in which the exchange value is based on the use-value of the goods traded, but there is a sale because the utility to the seller is given by the advantages that subsequent purchases can provide.

This view, suggested a couple of years ago in one of the first writings dealing with the topic, was recently adopted also by Italian scholars and case-law.[40] For example, the *Marcianise* arbitration award of 14 April 2018.[41] The case concerned a price to be paid in part in cryptocurrencies. The arbitrator found a similarity between the case of foreign currency debt, regulated by Art 1278 of the Civil Code, and that of cryptocurrencies debt, not subject to specific regulation,

Both provisions in the first paragraph refer generally to the possibility of paying the cheque or bill in 'currency that is not the currency of the place of payment' and then establish in paragraph 2 that 'the value of the foreign currency is determined by the customs of the place of the payment'. It would seem that only the rule on the determination of the value is limitedly designed solely for foreign currencies. However, it should be noted that paragraph 3 of both provisions, in recalling 'the previous provisions', refers verbatim to the 'effective payment clause in foreign currency'.

[38] B. Inzitari, 'Obbligazioni pecuniarie' n 27 above, 182.

[39] See the comment under Art 6.1.9 (Currency of payment) of the Unidroit Principles: 'As a general rule, the obligor is given the alternative of paying in the currency of the place for payment, which may have definite practical advantages and, if that currency is freely convertible, this should cause no difficulty to the obligee. If, however, the currency of the place for payment is not freely convertible, the rule does not apply. *Parties may also exclude the application of the rule by agreeing that payment is to be made only in the currency in which the monetary obligation is expressed (effectivo clause). If it has an interest in the payment actually being made in the currency of account, the obligee should specify this in the contract*' (emphasis in italics added). On the distinction between *money of contract* and *money of payment*, see A. di Majo, 'Le obbligazioni pecuniarie' n 34 above, 243; B. Inzitari, ibid 188, which refers to N. Nussbaum, *Das geld in Theorie und Praxis des deutschen und auslandichen Rechts* (Tu¨bingen: Mohr, 1925), 360; E. Quadri, 'Le obbligazioni pecuniarie' n 34 above, 505.

[40] Now, in this sense M.F. Campagna, 'Criptomonete e obbligazioni pecuniarie' *Rivista di diritto civile*, 183 (2019).

[41] At www.giustiziacivile.com, with a note by M.R. De Ritis, 'Obbligazioni pecuniarie in crittovalute'.

and stated that, in the absence of explicit regulation, Art 1278 of the Civil Code could also apply to pecuniary obligations expressed in cryptocurrencies. This is because both cases concerning pecuniary obligations have to be paid in currencies that are not legal tender in Italy. Consequently, while the creditor of a sum determined in cryptocurrency cannot request payment in Italy's legal tender, the debtor can pay in the agreed currency or legal currency.[42]

One aspect that was not investigated by the arbitral award but which would nevertheless be interesting to investigate is how the rule should operate in such circumstances, also provided for by Art 1278 of the Civil Code, further to which the payment in legal currency must take place 'at the exchange rate on the day of expiry and in the place established for the payment' given that there is no 'official' exchange rate for Bitcoin. In this regard, it should be noted that just as there are no theoretical obstacles to bringing contractual currencies within the scope of application of Art 1278 of the Civil Code, likewise there is nothing in the wording that would preclude interpreting the 'exchange rate' as the one used in commercial practice. Any solution espoused by authoritative literature, which in the past had opted for an extensive interpretation of 'money not having legal tender in the State' and which consistently affirmed that

> 'the reference in Art 1278 to the 'exchange rate' must be understood as referring to a market rate of coins resulting from free (but legitimate) negotiations in which the coins are considered as commodities (against a price in currency)'.[43]

In the event that there is no official exchange rate, pursuant to Art 1278 of the Civil Code one could well refer to the exchange rate practiced on the markets.

This solution is supported not only by the previous rules contained in Art 39 of the Commercial Code[44] but also by the rules governing bills of exchange and cheques. In fact, Art 47 of Regio decreto no 1669 of 14 December 1933 and Art 39 of Regio decreto no 1736 of 21 December 1933 provide that when the currency of the security is not the one in effect at the place of payment, the sum can be paid in the currency of the country at the value of the expiry day 'determined by the customs of the place of payment', where the reference to customs obviously dispenses with the need for an official rate exchange. Rather, it must be said that since cryptocurrencies are traded in virtual markets that apply significantly different exchange rates, it could be difficult to identify a reference market.

[42] On the need to consider the obligations regulated by Art 1278 of the Civil Code optional and not alternative, refer to C. Pernice, *Digital currency e obbligazioni pecuniarie* n 12 above, 60 and further bibliography there.

[43] T. Ascarelli, 'Obbligazioni pecuniarie' n 30 above, 377. On the need to consider the currency exchange contract as a purchase contract, refer to C. Pernice, *Digital currency* n 12 above, 64 and further bibliography there, as well as more recently M. Cian, 'La crittovaluta' n 7 above, 331.

[44] Art 39 in fact stated that in the absence of an exchange rate, reference should be made to 'corso della piazza più vicina' (prices of the closest exchange).

Presumably the only reasonably applicable criterion would be to apply the average exchange rate of the platforms 'lawfully' located where the obligation must be fulfilled.[45]

Lastly, it is necessary to determine the moment at which to refer to the exchange rate, a question that could appear of no small importance in view of the fluctuations in value that virtual currencies sometimes encounter even during the same day. Assuming that the payment is timely,[46] there are three viable solutions: when the payment is made; the average rate on the day of maturity; and the exchange rate at the beginning of the expiry day.

The first solution would seem to find support in Art 39 of the Commercial Code, which referred to money not having legal tender as 'exchange rate at sight on the day of maturity' and in para 592 of the report accompanying the Civil Code that reads

> 'The possibility of lending a currency other than the one envisaged is also considered when the pecuniary debt is expressed in foreign currency; in this case the Civil Code, as already Art 39 of the Commercial Code did, authorizes *in the act of payment* the replacement of the foreign currency with the national currency (Art 1278 of the Civil Code)' (emphasis in italics added).

Except that in Art 1278, or rather the report that accompanied its adoption, does not refer to the moment of the *exchange* but to that of the *choice*, which according to case-law can operate even during the course of the relationship and without the need for a specific form.[47]

[45] See Art 6.1.9 of the Unidroit Principles (in note 31) which refers to 'the applicable rate of *exchange prevailing* there when payment is due'. For textual references to the 'average of exchange rates' and to 'free and lawful negotiations', see T. Ascarelli, 'Corsi di cambio e parità della lira' *Foro italiano*, 704 (1953); Corte d'Appello di Genova 8 September 1952, ibid; Corte d'Appello di Roma 15 May 1952, and Corte d'Appello di Roma 26 February 1952, *Foro italiano*, 1413 (1952). In this regard, it should be remembered that Italian law requires 'service providers relating to the use of virtual currency' to register in a special section of the currency exchange register.

[46] Due to the vastness and complexity of the subject, for further analysis of the damage caused by the delay in performance of the obligations expressed in non-legal tender currency, reference should be made to C. Pernice, *Digital currency e obbligazioni pecuniarie* n 12 above, 66 and further bibliography there. Compare the Unidroit Principles (in note 33).

[47] Corte di Cassazione 22 January 1998 no 55, available at *De Jure online*: 'in tema di adempimento di obbligazioni pecuniarie determinate in valuta estera, l'art. 1278 c.c., nel limitarsi ad attribuire al debitore la facoltà alternativa di pagare in moneta avente corso legale, non indica anche le specifiche modalità secondo cui tale facoltà abbia ad essere esercitata, restando, per l'effetto, rimessa al debitore ogni determinazione circa i tempi e le forme della relativa scelta, con la conseguenza che, svincolata da ogni rapporto di contestualità con l'effettivo pagamento, quest'ultima ben può manifestarsi *per facta concludentia*, posti in essere in qualunque tempo dall'obbligato prima del concreto adempimento, purché risulti inequivoca, secondo il prudente apprezzamento del giudice di merito, la volontà di pagare in moneta nazionale anziché estera. Deve, pertanto, ritenersi espressione legittima della ricordata facoltà di scelta l'offerta (non formale), in corso di causa, da parte del debitore, di una somma di denaro in moneta nazionale – sempreché non ostino alla inequivocità di tale manifestazione di volontà altri elementi che ne

However, the wording of Art 39, although apparently more problematic, is not insurmountable. In fact, numerous reasons militate in the opposite direction. Before dwelling on the point, it is necessary to digress a little in order to clear the field of possible misunderstandings. One could in fact think that by anchoring the moment of the exchange to that of payment, one could offer the debtor room for trickery as he or she could select the most convenient moment to exercise the *facultas solutionis* in order to pay a smaller sum than the one contractually agreed. Apart from the observation that such a conclusion would postulate unlikely predictive capabilities,[48] it must be noted that in truth the problem is more apparent than real given that when the debtor pays he or she will always offer the creditor a sum in legal currency suitable for purchasing the equivalent in virtual currency (and the other way around). The decrease in the debtor's assets, whatever the chosen means of payment and the time selected for fulfillment, will always be the same.

For example, the obligation provides for the payment of one hundred Bitcoins on 1 May. At 09:00 a Bitcoin is worth ten euros; at 18:00 a Bitcoin is worth one euro. If the debtor fulfills at 9:00 he or she will have to give the creditor one hundred Bitcoins or a thousand euros. If he or she pays at 18:00 he or she will transfer one hundred Bitcoins or one hundred euros. The circumstance that the value of Bitcoin changes during the day has a relative impact since both at 09:00 and at 18:00 the debtor will send the creditor an equivalent purchasing power expressed in legal currency provided for the agreed amount in contractual currency. For his or her part, the debtor will be impoverished by the same value at any time he or she fulfills. Because even if the debtor paid at 18:00 (when the exchange rate is apparently favorable to him or her) in national currency, he or she would not gain a greater advantage than if he or she decided to pay in contractual currency. The economic strain on him or her would be the same. To be clear, if the *facultas solutionis* were not used or, for example, the effective payment clause was envisaged, if the debtor did not possess the Bitcoins, the debtor would always spend one hundred euros to buy them and send them to the creditor. In other words, whatever the currency and the chosen moment, the debtor will in any case provide the creditor with the same economic purchasing power.

It is a corollary of the nominalistic principle – which also applies to obligations expressed in currencies not having legal tender (including foreign currencies)[49] and

contrastino la apparente significazione – così che il giudice di merito, vincolato a detta scelta, dovrà, in sede di emanazione della sentenza, disporre necessariamente il pagamento in valuta nazionale, senza che possa spiegare influenza, sul contenuto della pronuncia, la richiesta – formulata dall'attore in citazione e non modificata per tutto il corso del procedimento – di pagamento in valuta estera, così come originariamente convenuto tra le parti'.

[48] No one can know if the exchange rate during the day will change to one's advantage or disadvantage.

[49] On the applicability of the nominalistic principle to the cases referred to in Art 1278 of the Civil Code, see T. Ascarelli, 'Messa fuori corso della valuta e debiti pecuniari' *Foro italiano*, 73 (1953); Id, *La moneta* n 14 above, 284; M. Giuliano, 'Considerazioni sul principio nominalistico in obbligazioni pecuniarie di moneta straniera nel caso di rinnovamento monetario' *Temi*, 897

which basically characterizes all relationships entailing obligations and not only pecuniary ones – given that, unless otherwise provided, in contracts envisaging deferred performance, the '*nomen*' of the promised performance is what counts rather than the value of the agreed assets.[50] This does not mean that an excessive change in the value of the services covered by an obligation is always irrelevant. The system offers various remedies in this regard, both legal (like supervening excessive onerousness)[51] and contractual (reference to indexation clauses), and it simply means that the feared 'risk' is inherent in any relationship entailing an obligation. A similar problem could also arise in the reverse hypothesis, that is, when the debtor decides to fulfill in contractual currency. Even in this case the system could

(1963); F. Mastropaolo, 'Obbligazioni pecuniarie' *Enciclopedia giuridica* (Roma: Treccani, 1990), XXI, 11, which in this regard cites D. Barbero, *Sistema del diritto privato italiano* (Torino: UTET, 1962), II, 44; E. Quadri, 'Le obbligazioni pecuniarie' n 34 above, 509; Corte di Cassazione 30 March 1966 no 842, *Foro italiano*, 1539 (1966); Corte di Cassazione 16 September 1980 no 5275, *Giurisprudenza italiana*, 1678 (1981); Corte di Cassazione 25 February 2005 no 4076, *Diritto dei trasporti*, 638 (2006).

[50] C. Viterbo, n 13 above, 196-197 writes: 'il principio nominalistico della moneta, di cui tanto spesso si ragiona come di un principio speciale, non è in fondo che l'applicazione nel campo della moneta del principio secondo il quale le variazioni nelle qualità, anche essenziali, della cosa nella obbligazione a termine durante il decorso del termine stesso non affettano il contratto se non vi è vera e propria trasformazione della cosa stessa, o se le trasformazioni non sono avvenute per colpa del debitore. E ciò che vale per una cosa determinata, vale naturalmente anche per il *genus*, quando cause generali ne modifichino la qualità: come sarebbe ad esempio, se l'eccezionale umidità della stagione modificasse il potere dolcificante di tutto lo zucchero esistente. Del resto, gli stessi principi si applicano alle merci acquistate dai commercianti per rivenderle, cioè in considerazione del loro valore, analogamente a quanto avviene per la moneta, senza ricorrere al principio nominalistico; pur senza che si sia mai pensato che l'aumento o la diminuzione di valore delle medesime potesse avere una influenza sul contratto'.

[51] On the possibility of applying the arrangement to monetary inflation, see E. Betti, *Teoria generale del negozio giuridico* n 20 above, 489, especially note 12; A. Riccio, 'Dell'eccessiva onerosità', in A. Scialoja and G. Branca eds, *Commentario al Codice Civile* (Bologna-Roma: Zanichelli, 2010), 135; R. Franceschelli, 'La svalutazione monetaria come causa di risoluzione dei contratti per eccessiva onerosità' *Temi*, 130 (1949); E. Favara, 'Svalutazione monetaria ed eccessiva onerosità' *Giurisprudenza completa della Corte suprema di Cassazione – Sezioni civili*, 278 (1953); R. Granata, 'Brevi cenni in tema di eccessiva onerosità dipendente da eventi di portata generale e in specie da svalutazione monetaria' *Giurisprudenza completa della Corte suprema di Cassazione – Sezioni civili*, 58 (1954); E. Quadri, 'Congiuntura economica e svalutazione monetaria: osservazioni in tema di risoluzione per eccesiva onerosità' *Diritto e giurisprudenza*, 809 (1975); Id, 'Le obbligazioni pecuniarie' n 34 above, 464 (with particular reference to the possibility of resorting to additional tools such as good faith or unjustified enrichment); M. Lipari, 'La risoluzione del contratto per eccessiva onerosità: la struttura del giudizio di prevedibilità e la rilevanza dell'inflazione' (cited in Corte di Cassazione 15 December 1984 no 6574) *Giustizia civile*, 2795 (1985); F. Macario, 'Inflazione, fluttuazione del mercato ed eccessiva onerosità' (cited in Corte di Cassazione 13 February 1995 no 1159) *Corriere giuridico*, 595 (1995); O. Cagnasso, 'Appunti in tema di sopravvenienza contrattuale e svalutazione monetaria (nota a Trib. Torino, 14 dicembre 1979)' *Giurisprudenza italiana*, 416 (1980); N. Irti, 'Inflazione e rapporti tra privati' *Giustizia civile*, 310 (1981); P. Greco, 'Debito pecuniario, debito di valore e svalutazione monetaria' *Rivista di diritto commerciale*, 108 (1947); R. Pardolesi, 'Indicizzazione contrattuale e risoluzione per eccessiva onerosità' *Foro italiano*, 2147 (1981); A. di Majo, 'Il controllo giudiziale del principio nominalistico (profili comparatistici)', in C.M. Mazzoni and A. Nigro eds, *Credito e moneta* (Milano: Giuffrè, 1982), 773.

detect the trend in value within the day, and it is all too obvious that if the creditor requested the service at 09:00 he or she would obtain a 'real' value very different from what he or she would receive if he or she made the request at 18:00.

What leads one to reject the exchange-rate-at-the-time-of-payment argument is rather a need for certainty in legal transactions, the same that animates the nominalistic principle (now endorsed by most of the world's legal systems):[52] if the moment of the exchange were linked to that of payment, both the debtor and the creditor would not be able to assess the exact amount of the performance due. This circumstance also explains why the proposal, albeit authoritatively suggested, to refer to the average of the exchange rate on the day of expiry, is difficult to implement.[53] And also why it is difficult to implement the proposal, again authoritatively suggested, of distant reference to the average of the exchange rate on the day of maturity. The benchmark would be reconstructed only *ex post* with inevitable damage to the security of relationships.

Indeed, considering that the service becomes payable on a given day, and that fulfillment can be requested from the beginning of the same, the most reasonable solution appears to be the exchange rate at the beginning of the day of expiry, regarding the estimated value of the platforms located in *locus solutionis*.[54] Moreover, this is the practice used for bank transfers, which in determining the date of execution of the transfer refer to the currency of the beginning of the day of the transfer.

IV. The Acceptance Obligations of Virtual Currencies

If, with reference to the cases referred to in Art 1278 of the Civil Code, scholars and the courts believe that the nominalistic principle can be applied, it is certain that for currencies other than those having legal tender in the State the so-called debt discharge principle cannot operate,[55] given the principle of strict

[52] In France, for example, this principle is codified in Art 1343 of the French Civil Code.

[53] T. Ascarelli, 'Obbligazioni pecuniarie' n 30 above, 384, note 6.

[54] Corte di Cassazione 25 September 2015 no 19084, available at cortedicassazione.it, has applied the 'exchange rate in force at the maturity of the obligation, that is, at the time (...) in which the credit matured and became collectable, with consequent tendential irrelevance of the subsequent fluctuations in the exchange rate'.

[55] The debt discharge principle requires the acceptance of legal currency also by those who do not adhere to the national economic circuit pursuant to an explicit legislative provision designed to safeguard the legal value of money in a system in which the State guarantees its usefulness (interesting in this regard is the passage contained in Tribunale di Ivrea 24 February 1947, *Foro italiano*, 520 (1947): 'la moneta corrente, sebbene sia economicamente priva di apprezzabile valore intrinseco, è pur sempre un bene in quanto assume, in forza di un atto d'imperio dello Stato, funzione di mezzo di scambio, così come gli altri beni i quali a tal funzione possono adempiere invece in virtù della loro connaturata utilità'). This explains the inadmissibility of exceptions to the operation of the rule in question, considered to belong to the fundamental principles of monetary public order that distinguish every modern economic system. On this aspect M. Semeraro, *Pagamento e forme di circolazione della moneta* (Napoli: Edizioni Scientifiche

legality that governs all sanctions under public law, be they criminal or administrative.[56] The debt discharge principle requires acceptance of legal currency also by those who do not adhere to the national economic circuit under penalty of the infliction of administrative sanctions. In contractual payment systems, the sanction could thus only be civil, although the legal basis for the non-refusal of cryptocurrency may be different. In this regard, four hypotheses must be distinguished.

The first occurs when the parties have explicitly and previously agreed that the fulfillment must be achieved through the giving of cryptocurrencies. In this case, there are no doubts regarding the dutiful acceptance of this form of payment. The refusal to receive the cryptocurrency by the creditor would be unlawful and the provisions under Arts 1206 *et seq* of the Civil Code would be applicable (*mora credendi*).

A further case could be that in which the debtor is about to make a purchase from a retailer that advertises Bitcoin as a payment tool. In this circumstance, the indication of the possible solution of fulfillment takes the form of an offer to the public concerning executable contracts, as regards the payment of the price, through the sponsored means of payment. Once the agreement is finalized, in this case contemporaneously with the purchase, the merchant will not be able to revoke the consent previously expressed in this regard, so that even in this case the Bitcoin payment can no longer be refused. Unlike the case examined above, however, the offeror can freely revoke the consent given to the payment in Bitcoin as long as the agreement has not been validly concluded, according to the time rules set out in Art 1328, para 1, of the Civil Code, and in compliance with the formal requirements referred to Art 1336 of the Civil Code. The debtor, however, should be given the right to pay his or her debt in legal tender currency in accordance with Art 1278 of the Civil Code.

Italiane, 2008), 26; P. De Vecchis, 'Moneta e carte valori' *Enciclopedia giuridica* (Roma: Treccani, 1990), XXIII, 14.

[56] In criminal matters, the *nulla poena sine lege* principle is recognized in Art 25 of the Constitution, Art 1 of the Criminal Code, Arts 5 and 7 ECHR and Art 49 of the Nice Charter. As for administrative sanctions, Art 1 of legge 24 November 1981 no 689, headed 'Principio di legalità', provides as follows: 'Nessuno può essere assoggettato a sanzioni amministrative se non in forza di una legge che sia entrata in vigore prima della commissione della violazione. Le leggi che prevedono sanzioni amministrative si applicano soltanto nei casi e per i tempi in esse considerati'. The most recent legislative developments and case-law that have ruled out equating Bitcoin with legal currencies must therefore be interpreted in this perspective. Reference is made in particular to the Fifth Anti-Money Laundering Directive (on this aspect see C. Pernice, 'Crittovalute e Bitcoin: stato dell'arte e questioni ancora aperte', in F. Fimmanò and G. Falcone eds, *Fintech* (Napoli: Edizioni Scientifiche Italiane, 2020), 533; Id, 'Crittovalute: tra legislazione vigente e diritto vivente' *rivistsaianus.it*, 43-80 (2020); V. De Stasio, 'Le monete virtuali: natura giuridica e disciplina dei prestatori dei servizi connessi', in M. Cian and C. Sandei eds, *Diritto del Fintech* (Vicenza: CEDAM, 2020), 216 and to the Berlin Court of Appeal judgment of 25 September 2018, n 10 above. In the ruling of the German court it is evident that the lack of equivalence is dictated by the principle of determinacy and typicality that governs criminal prosecution ('jedenfalls aus strafrechtlicher Sicht unter Beachtung des Bestimmtheitsgebots').

Another case again is that in which the buyer wants to make a payment in Bitcoin to a person who normally uses cryptocurrencies, but who has not assumed an explicit obligation to receive them as payment or who has not sponsored this form of payment. The question that arises is to understand whether in the absence of an express contractual obligation, where the payment method has not been specified, the creditor may or may not be 'forced' to accept the digital currency. In other words, one might ask whether the payment in virtual currency can be relevant for the 'fulfillment', with all that follows in terms of *mora debendi* and discharge of the obligation. All parties assume that the payment will be made in a legal currency which is accepted by the State. It is true that '(w)here a monetary obligation is not expressed in a particular currency, the payment must be made in the currency of the place where the payment has to be made',[57] but in this regard, it is also necessary to bear in mind that in order for a payment in Bitcoin to be made, the debtor must know the creditor's public key (similar to what happens for bank transfers). Where the parties have not agreed on the basis of an agreement prior to or coeval to the exchange, the key can be known only when the creditor has communicated it on other occasions.

However, in these cases, it could be argued that joining the Bitcoin economic circuit allied to the principle of good faith means that this form of payment cannot be refused just like in the first two hypotheses examined above. In its objective meaning, in fact, good faith requires the parties to model their behavior according to the rules of loyalty, honesty and correctness, obliging them to behave in a manner which although not entailing an 'appreciable personal sacrifice' still ensures that the other party will be able to properly fulfill his or her obligation.[58] If the creditor has the necessary tools to carry out transactions with the cryptocurrency and has not expressed the desire to obtain a particular currency, it may have no legitimate grounds to refuse this form of payment. The interest of the creditor of a debt of money takes the form of gaining an abstract economic interest. The fact that this is conferred through pecuniary means other than legal tender currency entails an effort for the recipient that nonetheless falls within the limits of its good faith duty to safeguard the interests of the debtor. This is because if the creditor wishes to obtain a specific currency, it can do by exchange.[59]

[57] See Art 6.1.10 of the Unidroit Principles (Currency not expressed): 'Where a monetary obligation is not expressed in a particular currency, payment must be made in the currency of the place where payment is to be made'.

[58] Under this principle, each person is therefore required to carry out all legal and/or material acts that are necessary to safeguard the interest of the counterparty to the extent that they do not involve an appreciable sacrifice on their own part. It consists of the effort that each party must make, without going so far as to make an appreciable sacrifice, so that the other party can perform correctly. Amongst many, Corte di Cassazione 9 March 1991 no 2503, *Foro italiano*, 2077 (1991), and Corte di Cassazione 16 October 2002 no 14726, *Danno e responsabilità*, 174 (2003).

[59] On the subject see Tribunale di Verbania 18 June 1982, in P. Cendon ed, *Commentario al codice civile* (Torino: Giuffrè, 2009), 1827: 'l'oro, sia sotto forma di monete che di lingotti, deve ritenersi un mezzo di pagamento alla stregua delle valute aventi corso legale nei rispettivi Stati';

From a different interpretative perspective, it could then perhaps be argued that joining the Bitcoin system constitutes acceptance of an open regulatory contract with which the parties accept to receive the cryptocurrency as payment for the exchange of goods and services. In this sense Bitcoin, although it is not legal tender according to the traditional understanding of the term, could be considered legally current in the community that has chosen the medium itself to convey credit internally. In this regard, the definition offered by the English Oxford Dictionary is interesting, which describes currency as a money system in widespread use in a particular country, placing the emphasis not on State issuance but on its use as a medium of exchange within a given territory.[60]

Finally, when the parties usually settle their own trading operations in Bitcoin, it may also be recognized as a trade custom pursuant to Art 1340 of the Civil Code.

V. Deposit on Exchange Platforms

Bitcoin, like fiat currencies, is a fungible and consumable legal asset whose value in use rests entirely in its utility as a medium of exchange.[61] In this regard, the objection of those who assert that the computer code that uniquely identifies each virtual currency would make each piece of cryptocurrency unique and unrepeatable is not persuasive.[62] The fact that a generic good can be recognizable does not detract from the fact that it is perfectly replaceable with others of the same kind. Consider

Corte di Cassazione 9 December 1983 and 15 December 1987, ibid: 'la normativa valutaria considera mezzi di pagamento non soltanto quelli la cui circolazione è imposta dalla legge, come i biglietti di Stato e quelli di banca a corso legale, ma anche ogni altro innominato mezzo valutario tra cui i metalli preziosi e le monete auree, ed infine ogni altra *res* avente una quotazione ufficiale in un consistente mercato, tale da consentire la sua pronta convertibilità in biglietti di banca od in merce o servizi equivalenti al suo valore intrinseco, obiettivamente determinato dalle quotazioni di mercato'; Tribunale di Milano 24 April 1992, *Orientamenti della giurisprudenza del lavoro*, 313 (1992) holding that a cashier's check (like legal tender currency) could not be refused under Art 1277 of the Civil Code due to its easy transformation into legal tender currency; Corte di Cassazione-Sezioni unite 18 December 2007 no 26617, *Foro italiano*, 503 (2008), with a note in favor by G. Lemme, 'La rivoluzione copernicana della Cassazione. La moneta legale, dunque, non coincide con la moneta fisica' *Banca borsa titoli di credito*, 553 (2008) according to which the expression 'money having legal tender in the State' referred to Art 1277, paragraph 1, of the Civil Code it must be understood with reference 'to all the means of payment in use in the State', including therefore also bank money. See T. Ascarelli, 'Messa fuori corso della valuta' n 49 above, 72 note 2, that in regard to the *facultas solutionis* pursuant to Art 1278 of the Civil Code writes: 'La facultas solutionis (...) si fonda sulla considerazione che il denaro viene sempre considerato come strumento di scambio, sì che (salvo clausola contraria) può ammettersi che per il creditore sia indifferente ricevere la specie pattuita o il suo equivalente in valuta'.

[60] www.oed.com.

[61] M. Semeraro, n 55 above, passim, believes that because money has no use value (ie is unsuitable for immediately and directly satisfying a human need), it cannot be classified as a legal good.

[62] G. Gasparri, 'Timidi tentativi giuridici di messa a fuoco del "Bitcoin": miraggio monetario crittoanarchico o soluzione tecnologica in cerca di un problema?' *Diritto dell'informazione e dell'informatica*, 428 (2015).

that each banknote is identified with a serial number: this circumstance does not in any way undermine the undisputable definition of money as a fungible asset.[63] Bitcoin, in fact, represents the first form of cash in the digital age. From which it follows, where the recipient has the power to use them, there is the possibility of classifying the deposit of cryptocurrencies as an irregular deposit, similar to what happens for bank current accounts.

Although cryptocurrencies arose with the aim of creating a medium of exchange as an alternative to fiat currency without the intermediation typical of traditional payment systems, it is frequent for users to turn to platforms that offer preparatory services for the use and exchange of virtual currencies. The digital currency network has thus seen the proliferation of third parties and commercial companies engaged in brokerage services in the use of cryptocurrencies that offer remunerated custody and mediation services in the transfer, purchase and management of virtual currencies.[64] For this reason, in order to cover all possible areas of development of virtual currencies and in an attempt to offer an initial embryonic regulation of the phenomenon, Italian and EU laws have adopted a particularly broad notion of 'providers of services relating to the use of virtual currency' which includes internally any natural or legal person who provides third parties, amongst others, 'services functional to the use, exchange, storage of virtual currency and their conversion from or into legal tender currencies'.[65] In combining, and therefore distinguishing, the following services, the legislator has evidently taken note of the ecosystem that has been created around cryptocurrencies: exchange platforms that offer the possibility of creating virtual wallets (web wallets) to keep cryptocurrencies (*rectius* the keys that allow its handling);[66] companies that provide services to

[63] On the point, A. Caloni, 'Bitcoin, Profili civilistici e tutela dell'investitore' *Rivista di diritto civile*, 159 (2019), especially note 41.

[64] On the point, N. Busto, 'Bitcoin tra "disintermediazione" e "iperintermediazione"' *Ciberspazio e diritto*, 320 (2016).

[65] Art 1(2)(f) of decreto legislativo no 231 of 2007, as amended by decreto legislativo no 125 of 4 October 2019, defines 'prestatori di servizi relativi all'utilizzo di valuta virtuale: ogni persona fisica o giuridica che fornisce a terzi, a titolo professionale, *anche online,* servizi funzionali all'utilizzo, allo scambio, alla conservazione di valuta virtuale e alla loro conversione da ovvero in valute aventi corso legale *o in rappresentazioni digitali di valore, ivi comprese quelle convertibili in altre valute virtuali nonché i servizi di emissione, offerta, trasferimento e compensazione e ogni altro servizio funzionale all'acquisizione, alla negoziazione o all'intermediazione nello scambio delle medesime valute*' (in italics the parts introduced by decreto legislativo no 125 of 2019). With a view to a more incisive oversight of operators in virtual currencies, through the latest anti-money laundering directive the EU legislator has instead chosen to omit the requirement of 'professionalism' in the exercise of activities subject to authorization and supervision.

[66] See the definition offered by the Fifth Anti-Money Laundering Directive of 'custodian wallet provider' referred to Art 1(2)(d) ('means an entity that provides services to safeguard private cryptographic keys on behalf of its customers, to hold, store and transfer virtual currencies') and today implemented in Art 1(2)(*ff-bis*) of decreto legislativo no 231 of 2007 ('prestatori di servizi di portafoglio digitale: ogni persona fisica o giuridica che fornisce, a terzi, a titolo professionale, anche online, servizi di salvaguardia di chiavi crittografiche private per conto dei propri clienti, al fine di detenere, memorizzare e trasferire valute virtuali'). A greater awareness of the phenomenon immediately emerges. The activity carried out by these persons falls within the scope of safeguarding

facilitate transactions, or sell equipment to enable payment through electronic funds transfer or that offer security services for virtual currency deposits.[67]

These are extremely opaque activities that are totally unregulated from a legal point of view (except for the obligations of registration and customer due diligence in accordance anti-money laundering law),[68] although – already *prima facie* – the similarities between these activities and those carried out by authorized operators and intermediaries in the banking and financial sector appear evident.

In this regard, in a previous study,[69] this author already highlighted the partial groundlessness of the opinion of those who object to the impossibility of equating web wallets with payment accounts due to the fact that

> 'while in the case of the payment account the money enters the full availability of the service provider, the quantity of virtual currency present in the digital wallet remains in the exclusive domain of the owner, holder of the address and private encryption keys'.[70]

As for the alleged difference between payment accounts and web wallets, it is true

private cryptographic keys on behalf of their customers, in order to hold, store and transfer virtual currencies: therefore, not custody of cryptocurrencies but, indeed, of private keys.

[67] Art 1(2)(ff) of decreto legislativo no 231 of 2007 addresses and therefore distinguishes use, custody, exchange and conversion. The definition is probably dictated by the need to cover all possible areas of development of virtual currencies, but in practice it is not easy to decipher. As regards custody, strictly speaking, the keys that allow the virtual currencies' movement are stored in web wallets, but not the virtual currencies themselves. But paper wallet or hardware wallet custody services are also conceivable. Conversion refers to the 'exchange' of virtual and fiat currencies. More problematic is ascribing an independent meaning to the terms 'use' and 'exchange'. 'Functional services for the exchanges' could perhaps include intermediation activities in the trading of virtual currencies against virtual currencies and sites that allow the acquisition of goods or services in cryptocurrencies. But the same activities could also fall within the concept of 'functional services for the use' of virtual currencies. On the subject, see the draft decree of 31 January 2018 adopted by the Ministry of Economy and Finance which can be consulted at *dt.tesoro.it*, which in Art 2(2) brings 'commercial operators who accept virtual currency as consideration for any performance relating to goods, services or other utilities' under the umbrella of service providers relating to the use of virtual currencies.

[68] Regarding this matter, there is a further difference between the original rules set out in the amended decreto legislativo no 231 of 2007 and the Fifth Anti-Money Laundering Directive. Pursuant to Art 3(5)(i) of decreto legislativo no 231 of 2007 (original version) 'Service providers relating to the use of virtual limited to the performance of the conversion of virtual currencies from or into fiat currencies' are obliged to comply with anti-money laundering legislation. The Fifth Anti-Money Laundering Directive, on the other hand, took care to extend the obligations of providers engaged in exchange services between virtual currencies and fiat currencies also to 'custodian wallet providers'. Following the reform made by decreto legislativo 4 October 2019 no 125, which introduced subparagraph *i-bis* into Art 3, likewise Italian law expressly provides that 'custodian wallet providers' are subject to the obligations set forth in the field of anti-money laundering.

[69] C. Pernice, *Digital currency* n 12 above, 273 and recently, Id, 'Crittovalute e Bitcoin' n 56 above, 528.

[70] L. D'Agostino, 'Operazioni di emissione, cambio e trasferimento di criptovaluta: considerazioni sui profili di esercizio (abusivo) di attività finanziaria a seguito dell'emanazione del D. Lgs. 90/2017' *Rivista di diritto bancario*, 14 (2018).

that cryptocurrencies (present, mostly, in the blockchain) are less often deposited in digital wallets but rather private keys. However, this circumstance often grants the manager of the web wallet the economic availability of the values held.[71] After all, the web wallet is not that different from the functioning of a bank account: the public key is similar to IBAN; the private key to the code that the account holder must enter from time to time to move money. The available balance is only virtually present on the account, just like the Bitcoins are not really placed in the web wallet. The system of custody of values and management of the transaction register is different: not centralized and institutional but distributed and private.[72]

These views have been endorsed in Court of Florence judgment no 18 of 21 January 2019.[73]

The case before the court originated from the fraudulent theft of a very significant amount of cryptocurrencies from an exchange platform called Bitgrail managed by the company BG Services s.r.l. Following the shortfall and having ascertained the inability of the company managing the platform to return the value of what had been stolen, the plaintiff creditor noted the state of insolvency of the company and requested that it be declared bankrupt. For its part, the defendant debtor argued that it could not be considered to owe the value of the stolen cryptocurrencies just because it had put them on the exchange platform as a regular deposit since the platform manager had no right to use the sums deposited by users. The defendant added that BG Services s.r.l. had put in place all the measures required by ordinary diligence.

In its judgment the Florentine court classified virtual currencies as fungible goods

> 'because (...) they are of the same nature and the same quality, belonging to the same IT protocol' – similar to money – and as 'consumable because of their use (when they are spent) and (...) subject to the same *ratio* as other assets that allow payments to be made'.[74]

[71] M. Krogh, 'La responsabilità del gestore di piattaforme digitali per il deposito e lo scambio di criptovalute' *Diritto internazionale*, 150 (2019), notes that 'è possibile che all'esterno *l'exchange* si presenti come gestore decentralizzato ma di fatto abbia la possibilità di ingerirsi nella gestione dei portafogli (*wallet*) attraverso la conoscenza delle chiavi private dei clienti stessi'.

[72] The web wallet service provider recalls the figure of the ancient private banker. This is another aspect that recalls the ideology of denationalization of money advocated by Hayek on the basis of which the idea of creating decentralized currencies was developed.

[73] Tribunale di Firenze 21 January 2019 no 18, *Le Corti Fiorentine*, 90 (2019), with a note by this author, 'Piattaforme digitali e deposito di crittovalute: il Tribunale di Firenze decide sul fallimento di Bitgrail'.

[74] Similarly, in a case of capital contributions of virtual currencies the Corte d'Appello di Brescia in its judgment 30 October 2018, *Società*, 26 (2019), with notes by F. Murino, 'Il conferimento di token e di criptovalute nelle S.r.l.' and F. Felis, 'L'uso di criptovaluta in ambito societario. Può creare apparenza?', stated that 'cryptocurrency must be equated on a functional level to money, in fact it serves as the euro, to shop'.

The court found that the exchange could have access to the sums it held, concluding that the relationship between the exchange and the user had to be classified in terms of irregular deposit with the consequent applicability of Art 1782 of the Civil Code according to which

> 'If the deposit has as its object a quantity of money or other fungible things, with the right for the depositary to use it, the latter acquires title thereto and is required to return as many of the same kind and quality'.

Therefore, the exchange had obtained ownership of the cryptocurrencies deposited and the ensuing obligation, in respect of the deposits made by users on the platform, to return the *tantundem eiusdem generis*. It was able to claim in its defense, unlike what happens for regular deposits, that it had adopted all the measures required by ordinary diligence.

It is interesting to note in the reasoning of the judgment, the constant reference to the lexicon of banking relationships: the court-appointed expert compares the user to the account holder, the transactions to wire transfers and the hash, ie the signature, to the 'CRO code' typical of electronic funds transfers.[75] While the court itself, in investigating the relationship between exchange and user, cited the case-law on the deposit of money.[76]

[75] The court-appointed expert explains that 'Ogni volta che il nodo riceveva una richiesta di eseguire una transazione da BitGrail, ne generava il codice, lo firmava con le chiavi private e segrete in esso memorizzate e la trasmetteva verso gli altri nodi della rete, propagando così pubblicamente la transazione e "attivando" quindi la transazione così come un bonifico viene "attivato" nel momento in cui viene comunicato, come minimo, al destinatario dei fondi. Nel mondo della *blockchain* distribuita, il "bonifico" viene comunicato a tutti i nodi che, chi prima chi dopo, lo segnano nella loro, *blockchain* in locale e propagano ulteriormente la notizia del trasferimento così che tutti i nodi vengono raggiunti e aggiornati'.

[76] One can read in the judgment that 'le richieste di prelievo da parte degli utenti BitGrail comportavano una sorta di "bonifico" dal conto unico generale BitGrail al conto indicato dall'utente (...). Alla luce di tali circostanze, deve affermarsi la natura irregolare del deposito, in quanto BG Services S.r.l. aveva facoltà di disporre della cosa depositata *ex* art. 1782 c.c. e ne acquisiva conseguentemente la proprietà non sussistendo apposita clausola derogatoria sul punto (cf Corte di Cassazione 22 March 2013 no 7262: "in caso di deposito irregolare di beni fungibili, come il denaro, che non siano stati individuati al momento della consegna, essi entrano nella disponibilità del depositario, che acquista il diritto di servirsene e, pertanto, ne diventa proprietario, pur essendo tenuto a restituirne altrettanti della stessa specie e qualità; e ciò, salvo che al negozio sia stata apposta un'apposita clausola derogatoria") (...). Proprio in ragione della loro fungibilità (...) le valute (ovviamente divise per specie) non recavano elementi distintivi circa la loro appartenenza ai singoli utenti, dando così luogo ad un deposito irregolare, cui consegue lo specifico obbligo per il depositario di mantenere sempre a disposizione dei depositanti la quantità integrale, con un coefficiente di cassa del 100%'.

Reasoning similar to that found in the Florentine judgment appears in a recent ruling by the Tribunal de Commerce de Nanterre of 26 February 2020. The case concerned a Bitcoin loan, granted by Paypium, a French exchange platform, in favor of Bitgrail, a British market-maker company operating in the field of cryptocurrencies. With regard to the legal classification of the relationship between Bitspread and Paymium, the French Court, given the fungible and consumable nature of Bitcoin, applied the regime governing consumer loans. In French law there are two

VI. The Sale of Virtual Currencies

The sale of Bitcoin, as is the case with precious metals, can fall within two distinct legal cases: sale of movable property or sale of financial products.[77] It is

types of loan. Pursuant to Art 1874 of the French Civil Code 'Il y a deux sortes de prêt: Celui des choses dont on peut user sans les détruire. Et celui des choses qui se consomment par l'usage qu'on en fait. La première espèce s'appelle 'prêt à usage'. La deuxième s'appelle 'prêt de consommation". The *prêt de consommation* pursuant to Art 1892 of the French Civil Code is 'un contrat par lequel l'une des parties livre à l'autre une certaine quantité de choses qui se consomment par l'usage, à la charge par cette dernière de lui en rendre autant de même espèce et qualité'. The *prêt à usage*, so-called *commodat*, pursuant to Art 1875 of the French Civil Code is 'un contrat par lequel l'une des parties livre une chose à l'autre pour s'en servir, à la charge par le preneur de la rendre après s'en être servi'.

As for consumption, the Court of Nanterre notes that 'BTC is 'consumed' during its use, both to pay for goods or services, and to exchange it for other currencies or lend it, just as it happens for fiat currencies, although it is not legal tender. BTC is therefore consumable by reason of its use'.

On fungibility it states that BTCs are fungible because they are of the same species and of the same quality, in the sense that the BTCs all come from the same IT protocol and are subject to an equivalence relationship with the others to BTC allowing one to make a payment pursuant to the old Art 1291 of the French Civil Code, which became Art 1347-1 of the same code, which provides in its second paragraph: 'Obligations involving a sum of money are fungible, even in different currencies, provided that they are convertible or have as their object a quantity of things of the same type'. For more information on this case and, more generally, on the rules governing digital resources in the French legal system refer to C. Pernice, 'Le risorse digitali nell'ordinamento giuridico francese' *Diritto del mercato assicurativo e finanziario*, 265 (2020).

[77] Although Bitcoin was conceived as a means of payment, it is often used as an investment tool. Recital 10 of the Fifth Anti-Money Laundering Directive: 'Although virtual currencies can frequently be used as a means of payment, they could also be used for other purposes and find broader applications such as means of exchange, investment, store-of-value products or use in online casinos'. The possibility of using the same good for different purposes is a fairly frequent possibility. In fact, different hopes can be placed in the same good since it can be used for different purposes. This is the case of money that can be used as an instrument of exchange, as a commodity (think of numismatic coins) or as a speculative good.

T. Ascarelli, 'Obbligazioni pecuniarie' n 30 above, 581, underlines the decline of the conception of money as a good set aside for future exchange for consumption purposes. The prevailing view excludes the possibility of bringing the trading of virtual currencies within the category of transactions involving financial instruments as the list contained in Section C of Annex I of the Financial Services Law is considered as exhaustive. On the other hand, many question the possibility of resorting to the atypical notion of financial products which includes, pursuant to Art 1(1)(u) of the Financial Services Law in addition to financial instruments, also 'any other form of investment of a financial nature'.

On financial instruments and the relationship between them and the category of atypical financial products, see F. Annunziata, 'Sub art. 94', in P. Marchetti and L. Bianchi eds, *La disciplina delle società quotate* (Milano: Giuffrè, 1999), 86; R. Costi and L. Enriques, 'Il mercato mobiliare', in G. Cottino ed, *Trattato di diritto commerciale* (Padova: CEDAM, 2004), VIII, especially 34; V. Comporti, 'La sollecitazione all'investimento', in A. Patroni Griffi, M. Sandulli and V. Santoro eds, *Intermediari finanziari, mercato e società quotate* (Torino: UTET, 1999), 553; L. Salamone, 'La nozione di strumento finanziario tra unità e molteplicità' *Rivista di diritto commerciale*, 712 (1998); A. Lupoi, 'I prodotti finanziari nella realtà del diritto: rilevanza del rischio finanziario quale oggetto dell'operazione d'investimento' *Rivista trimestrale di diritto dell'economia*, 69 (2017); A. Niutta, 'Prodotti, strumenti finanziari e valori mobiliari nel t.u.f. aggiornato in base alla MIFID (con il d.lgs. n. 164/2007)' *Rivista trimestrale di diritto dell'economia*, 807 and

no coincidence that the most recent notion of virtual currencies provided by domestic legislation refers to the possibility of using cryptographic tokens both as a means of exchange and as investment instruments.[78] The point that we now intend to develop is to understand when an offer of Bitcoin can constitute an investment proposal subject to the rules of the Financial Services Law (decreto legislativo 24 February 1998 no 58). To do this, it is necessary to first specify what is meant by financial product. The exact definition of the concept is of primary importance because the offer to the public of financial products is subject to precise rules of conduct whose non-observance can lead to the application of administrative and even criminal sanctions.

According to the public authority responsible for regulating Italian financial markets, Consob, whose rules in this regard have been upheld by the Supreme Court,[79] an atypical financial product is any investment of a financial nature implying the coexistence of the following three elements: (i) the investment of capital; (ii) the expectation of a return of a financial nature; and (iii) the assumption of risk directly connected to or related to the investment of capital.

More in detail, the supervisory authority contrasts financial investments (ie atypical or unnamed financial products) to 'consumption investments': the former occur every time 'the saver (...) confers his or her money with an expectation of profit', income that must be promised upon the establishment of the contractual relationship and must be uncertain, that is, subject to risks related to the activity that the investment concerns; the latter, on the other hand, include

> 'the purchase of goods and the provision of services which, even if concluded with the intention of investing one's own assets, are essentially aimed at procuring the investor the enjoyment of the asset, transforming one's cash into real assets suitable for directly satisfying the non-financial

especially 833 (2009); V.V. Chionna, 'Strumenti finanziari e prodotti finanziari nel diritto italiano' *Banca borsa titoli di credito*, 1 (2011); Id, *Le forme dell'investimento finanziario* (Milano: Giuffrè, 2008), 189; A. Pomelli, 'I confini della fattispecie "prodotto finanziario" nel Testo unico della finanza' *Giurisprudenza commerciale*, 103-120 (2010); E.M. Mastropaolo and S. Praicheux, 'Qualità degli strumenti finanziari e loro applicazione ad altri beni e contratti, nel diritto francese e italiano' *Banca borsa titoli di credito*, 196 (2002).

[78] As has been observed 'La definizione giuridica del Bitcoin sembrerebbe variare a seconda dei contesti e dei modi in cui tale valuta virtuale viene impiegata, quindi le riflessioni convergono nell'ammettere che senza una valutazione del caso concreto sia impossibile concettualizzare – a priori – una definizione generale e sempre valida delle valute virtuali' (G.M. Nori, 'Bitcoin, tra moneta e investimento' *Banca Impresa Società*, 18 (2020)).

[79] Amongst many, Consob DAL/97006082 of 10 July 1997, DIS/98082979 of 22 October 1998, DIS/99006197 of 28 January 1999, DIS/36167 of 12 May 2000, DIN/82717 of 7 November 2000, DEM/1043775 of 1 June 2001 and DTC/13038246 of 6 May 2013, available on the supervisory authority's website. Corte di Cassazione 19 May 2005 no 10598, available at ilcaso.it; Corte di Cassazione 15 April 2009 no 8947, *Giustizia civile – Massimario*, 626 (2009); Corte di Cassazione 17 April 2009 no 9316, *Giurisprudenza commerciale*, 103 (2010); Corte di Cassazione 5 February 2013 no 2736, *Contratti*, 1105 (2013); Corte di Cassazione 12 March 2018 no 5911, *dirittoegiustizia.it* (2018).

needs of the saver himself or herself'.

There is a further step, however, which is often not properly highlighted in studies dedicated to the topic: the notion of financial product does not include operations that lead to the purchase of material assets for investment purposes where this is achieved through an increase in the value of the asset itself over time (as in the case, for example, of investment funds in works of art and precious metals) and not as a result of management by others or of a repurchase obligation by the issuer or third parties. The circumstance, therefore, that a *res* can be appreciated as a result of the trend of the asset's prices over time is not sufficient to denote the existence of a financial return, as the operation must be included in an economic initiative conducted by others.[80] On the basis of that view, the supervisory authority, called upon to resolve some disputes concerning virtual currencies, has, for example, suspended the activities of a company that remunerated the holders of cryptocurrencies against term deposits.[81] Similarly, again on the subject of cryptocurrencies, Consob considered that the sale of extraction packages with the obligation to repurchase by the selling company constituted a financial investment.[82]

However, just some months ago, there was news of a landmark judgment of the Supreme Court that allows the sale of Bitcoin advertised with information suitable to enable savers to evaluate whether or not to join in the initiative and accompanied by promotional messages with particular emphasis on the profit achievable from investing in cryptocurrencies.[83] The decision deserves attention and clarification. It is no coincidence that in the aftermath of the news, *rectification* comments appeared regarding the alleged revolutionary significance of the decision. In fact, at first glance the Supreme Court would seem to have included currency exchange operations among financial products but on closer examination this is not actually the case. From the text of the judgment it is not possible to know with absolute certainty the type of activity carried out by the convicted person. However, on a key point there can be no doubt: the conversion of Bitcoin into legal currency

[80] See Corte di Cassazione 5 February 2013 no 2736, 79 above, according to which, the purpose of a financial contract presupposes 'la prospettiva dell'accrescimento delle disponibilità investite, senza l'apporto di prestazioni da parte dell'investitore diverse da quelle di dare una somma di denaro'; Tribunale di Verona 23 May 2019, *Giurisprudenza italiana*, 2450 (2019), with a note by B. Petrazzini, 'Diamanti da investimento: la responsabilità della banca collocatrice', where it is specified that in financial investments 'il capitale investito (...) viene gestito da colui che ha proposto l'investimento'; M. Miola, 'Sub art. 94', in G.F. Campobasso ed, *Testo Unico della finanza. Commentario* (Torino: UTET, 2002), 798, which defines a financial investment as 'un investimento del risparmio' aimed at 'aspettativa di un reddito, non influenzabile in modo decisivo dall'investitore e con assunzione di un rischio pur esso finanziario, in quanto derivante dalla stessa operazione di impiego di capitali'.

[81] Consob Resolution 29 May 2019 no 20944, available on the supervisory authority's website.

[82] Consob Resolution 1 February 2017 no 19866 and 20 April 2017 no 19968, both available on the supervisory authority's website.

[83] Corte di Cassazione 17 September 2020 no 26807, *dirittobancario.it* (2020).

(and vice versa) cannot be equated to the sale of financial products.

Exchange contracts, in fact, are reconstructed as sales contracts due to the fact that in relation to the interest of the buyer, money does not perform the function of price.[84] Indeed, legal counsel for the appellant before the Supreme Court claimed that for the currency exchange, decreto legislativo no 90 of 2017 contains special provisions that remove this activity from the scope of application of the legislation on financial instruments. This is because self-referential virtual currencies, as also confirmed by European case-law,[85] are a means of payment, although their trading may in certain cases constitute an investment offer. But for this to happen, it is not enough that the sale be carried out through advertising campaigns that place a particular emphasis on the income that can be earned from Bitcoin purchases. It is necessary, and this is the point we wish to underline, that there be a 'transfer in space and time of purchasing power',[86] a constraint on the enjoyment of the asset, a repurchase obligation. An example will better help clarify the concept.

Let's examine cases on the sale of precious items. The fact that an operator proposes an investment in gold or diamonds by leveraging the particular profitability of these assets, whose value is presumably destined to appreciate over time, does not therefore only determine the application of the Financial Services Law. As stated before: the circumstance that a *res* may increase its value due to the trend of the asset's prices is not sufficient to affirm that there is a 'financial return'. And the result is no different even in the event that the sale is proposed to the 'public' by disclosing the purchase conditions. We have seen, in fact, that the financial nature of an operation presupposes management by others, a reliance on the sums invested, which in the present scenario is not the case. In order for there to be a financial investment, the operation must be structured in such a way as to 'tie up' the resources used not entailing just the mere use of capital (a recurring circumstance in any sale).[87]

[84] On the need to consider a currency exchange contract as a contract, refer to C. Pernice, *Digital currency* n 12 above, 64 and further bibliography there, as well as, more recently, M. Cian, 'La crittovaluta' n 7 above, 331. In a nutshell, it can be noted that the exchange contract is a peculiar one as from a structural point of view there is an exchange of money for money. Therefore, prima facie, it would not seem to fall within either barter (good for good) or sale (good for money). However, this contract is treated as a purchase and sale since, on the one hand, money is considered as an asset in kind and not as consideration and, on the other hand, money acts as a price. And as it has been authoritatively argued that what characterizes a sale is the existence of 'consideration for a price'. In other words, there is a sale if the money performs its function as a price or as a measure of the economic value of the consideration or performance by the other party (Cf P. Perlingieri, 'Cessione del credito', in A. Scialoja and G. Branca eds, *Commentario al Codice Civile* (Bologna-Roma: Zanichelli, 1982), 60; G.B. Ferri, 'La vendita', in P. Rescigno ed, *Trattato di diritto privato* (Torino: UTET, 2000), XI, 183; D. Rubino, 'La compravendita', in A. Cicu and F. Messineo eds, *Trattato di diritto civile e commerciale* (Milano: Giuffrè, 1962), XXIII, 234; C.M. Bianca, 'La vendita e la permuta', in F. Vassalli ed, *Trattato di diritto civile* (Torino: UTET, 199), VII, 1017.

[85] Case C-264/14 n 24 above.

[86] E. Franza, 'La commercializzazione di oggetti preziosi presso gli sportelli bancari' *dirittobancario.it*, 5 (2017).

[87] 'La vendita di oggetti preziosi non è riconducibile ad un'attività d'investimento di natura

Thus, in the case of diamonds, the Supreme Court has classified as an investment contract the purchase and deposit of precious items to be returned at the end of the calendar year with the payment of the amounts originally paid for them together with an additional sum for the custody carried out.[88] These 'ready to run' operations are deemed to be of financial nature not because of the type of asset involved but because of the purpose of the contract. It is not then Bitcoin (nor the diamond rather than gold) in itself that constitutes an instrument or a financial product, since it could, if anything, constitute the underlying of such transactions.[89] The volatility of the value of Bitcoin poses protection requirements, especially as regards information, similar to those found pertaining to financial investments, so this characteristic alone cannot warrant a broad interpretation of the notion of financial product relying solely on the effects of the transaction on the market. A series of constitutional principles would be violated, such as that of legal certainty and *nulla poena sine lege stricta*.[90]

But the thesis already falters on the empirical level. What rules should in fact be applied to the sale of goods whose original stable value becomes oscillating

finanziaria, se non quando al trasferimento di proprietà del bene (...) è collegato un contratto che riconosce una o più opzioni dell'acquirente', Tribunale di Verona 23 May 2019, n 80 above.

[88] Corte di Cassazione 5 February 2013 no 2736, n 79 above, where one can read that 'l'investimento di natura finanziaria comprende ogni conferimento di una somma di denaro da parte del risparmiatore con un'aspettativa di profitto o di remunerazione, vale a dire di attesa di utilità a fronte delle disponibilità investite nell'intervallo determinato da un orizzonte temporale, e con un rischio. Ora, quel che nella specie la società Diamond proponeva al pubblico era proprio il "blocco" di parte dei risparmi per un anno con la prospettiva del "guadagno" in conseguenza di ciò. Il meccanismo negoziale attraverso cui si perveniva a questo risultato veniva descritto come la consegna in affidamento di un diamante del valore ipotetico di 1.000 euro, chiuso in un involucro sigillato, contro il versamento in denaro della stessa somma e l'impegno della società, dopo dodici mesi, di "riprendersi" il diamante, restituendo il capitale di 1.000 euro e corrispondendo l'importo di 80 euro a titolo di custodia. La causa negoziale è, dunque, finanziaria, in quanto la ragione giustificativa del contratto, e non il suo semplice motivo interno privo di rilevanza qualificante, consiste proprio nell'investimento del capitale (il "blocco" dei risparmi) con la prospettiva dell'accrescimento delle disponibilità investite, senza l'apporto di prestazioni da parte dell'investitore diverse da quella di dare una somma di denaro'. Similarly, on the subject of gold bars and coins, see Consob Resolution 11 September 2018 no 20576. On the subject of selling works of art, see Corte di Cassazione no 5911 of 12 March 2018 n 79 above.

[89] Tribunale di Verona 23 May 2019, n 80 above: 'il diamante non può essere considerato uno strumento finanziario'. On the inapplicability of the rules dictated by Arts 21 *et seq*. of the Financial Services Law to the sale of diamonds as not qualifying as an investment service, see Tribunale di Parma 26 November 2018 and 21 January 2019, *dirittobancario.it* (2019).

[90] Corte di Cassazione of 15 April 2009 no 8947, n 79 above: 'gli investimenti di natura finanziaria, per essere assoggettati ai controlli (...) in quanto prodotti finanziari, debbono rispondere a caratteristiche economico-giuridiche che, se pur non tali da consentirne la riconduzione alla gamma delle fattispecie tipiche (di strumenti finanziari) elencate nel citato comma 2 (dell'art. 1 del TUF), siano quanto meno oggettivamente analoghe'. This is to avoid that, given 'l'estrema genericità della previsione normativa, che in palese contrasto con il principio di legalità e tipicità dell'illecito amministrativo dettato dalla L. 689 del 1981, art. 1', might 'assoggettare a sanzione amministrativa, a mera discrezione della Consob, una vasta gamma di condotte di operatori commerciali, ogni qual volta le offerte (o richieste) rivolte al pubblico prospettassero la particolare remunerativitá di operazioni negoziali finalizzate al conseguimento di un reddito qualsiasi'.

(and vice versa)? A more careful study of the case recently decided by the Supreme Court confirms the assumption. The *indicted* platform did propose the sale of Bitcoin as an investment, but mentioned the so-called contract for difference derivative instruments through which other financial products are traded. The portal therefore did not function as a simple intermediary for the sale of crypto currencies, but played an active role in informing and proposing investments, among other things extremely risky, associated with virtual currencies. From this perspective, the Supreme Court judgment is to be endorsed.

VII. Bitcoin and Succession Law

The problems that Bitcoin poses in regard to the development of the law are many and interesting. If on the one hand there are no doubts that the economic nature of this new digital good means that it can fall within succession law, on the other hand, the absence of a specific regulatory framework leaves doubts as to the exact rules applicable to it.

From a legal point of view one could ask whether Bitcoin can be considered as money also for the purpose of the rules on hotchpot, and therefore whether Art 751 of the Civil Code or rather Art 750 of the Civil Code, respectively dedicated to the collation of money or different goods, should apply. The problem is not only theoretical but determines important practical consequences. Just consider that according to the prevailing case-law in the former case the nominalistic principle would operate whereas in the latter case the value of the good upon the date of death should be taken into account.[91] Similarly, one might ask whether Bitcoin can be considered money for inheritance tax purposes. In this regard, Art 9 of the Capital Acquisitions Tax Law (decreto legislativo 31 October 1990 no 346) provides that 'money, jewelry and furniture are considered included in the hereditary assets for an amount equal to 10 per cent of the total net value'.[92]

From an operational point of view the main problem concerns how the heirs can access the funds that are part of the deceased's estate. The only title that allows one to transfer (ie to use) Bitcoin is the private key. Even if it is possible to trace the Bitcoin holder through the address/public key, the deceased's heirs cannot spend it without the private key. In this regard it is important to specify

[91] Compare A. Albanese, 'Due (antiche) questioni in tema di collazione: l'intestazione in nome altrui; i frutti del bene ereditario' *Famiglia, Persone e Successioni*, 249 (2008); Corte Costituzionale 17 October 1985 no 230, *Rassegna di diritto civile*, 473 (1986), with a note by C. Licini, 'Reintegrazione della quota di legittima, collazione del denaro donato e principio di razionalità'; Corte Costituzionale 21 January 1988 no 64, *Giurisprudenza costituzionale*, 181 (1988); Corte Costituzionale 27 July 1989 no 463, *Giurisprudenza costituzionale*, 2145 (1989); Corte di Cassazione 28 February 1987 no 2147, *Vita notarile*, 747 (1987); N. Cipriani, 'Collazione del denaro e illegittimità dell'art. 751 c.c.' *Rassegna di diritto civile*, 1 (2013).

[92] See R.M. Morone, 'Criptovalute e successione italiana', in F. Fimmanò and G. Falcone eds, *Fintech* (Napoli: Edizioni Scientifiche Italiane, 2020), 458.

that if an owner loses his or her public key, it is possible to recreate it using the private key. On the contrary, it is impossible to regenerate the private key from a public key or an address. If the owner loses his or her private key, any Bitcoin found at this public address will be inaccessible. So to ensure that the Bitcoins pass to the heirs the deceased must disclose the private key to them.

Unfortunately, however, it is difficult to transmit this key without exposing it to persons other than the designated recipients. For example, the insertion of the key in a will could be problematic since it must be shown to all heirs, and by them to further persons for the purposes of attending to bureaucratic formalities on many occasions.

A solution could be to insert the key of a further encrypted file containing the key of the Bitcoin wallet in a will or to leave potential heirs a key that can unlock the funds only if used in conjunction with the one in possession of a designated executor. Another solution could be to form a paper wallet and hence print the keys and keep them in a place accessible, after the death of the deceased, only to the heirs.

The situation is even more complicated when the deceased leaves no instructions regarding the private key. In this case, the issues concerning how the heirs can access the funds forming part of the deceased's estate are more complex because the pseudonymity of the addresses (public key) could make the identification of the deceased owner problematic. In this regard, it is necessary to distinguish between situations in which the cryptocurrencies are directly or indirectly held.

When the cryptocurrencies are stored in a web wallet, the access to the private key of the Bitcoin wallet can be obtained with the collaboration of the wallet provider, who is obliged to cooperate with the user's heirs to put them in possession of that which is theirs by succession law. Since wallet providers are – under the recent Directive 2018/843/EU – subject to the customer due diligence obligations further to anti-money laundering law, the risk of anonymity is practically excluded. In this case, for the heirs who do not know the account access credentials, it will be sufficient to contact the portfolio manager to recover the private key, as long as they know the public address or at least the manager who holds the cryptocurrencies. The heirs will be able to prove their status and take possession of the funds held by contacting the intermediary or the depositary, exactly as occurs for depository banks regarding sums of money. The intermediaries, in turn, will be required to deliver the sums (*rectius* the keys) only after the proof of submission of the declaration of succession to the tax authorities. Many legal systems give the successor a claim against the third party to turn over possession to them.[93]

[93] In Italy, for example, see Art 460 of the Civil Code further to which the person called upon to accept an inheritance but who has not yet accepted it and is therefore not yet the possessor, can bring a possessory actions to protect the estate, without any need for material possession. The heir may also carry out acts of preservation, supervision and temporary administration, and may obtain authorization from the courts to sell assets which cannot be preserved or the preservation of which involves serious expense. The heir may not perform the acts indicated in the preceding

However, this is not sufficient. One must also combat the risk that the person in possession of the private key first uses it for a self-serving transfer before handing it over to the heir or representative. This can easily be achieved by supplementing the obligation to transfer the private key with the obligation to refrain from any use, disposition or sharing of the information with third parties.

Where the keys are communicated in apps on the phone, on the computer (software wallet) or on flash drives (hardware wallet), or printed in a paper wallet, in the absence of instructions from the deceased the heirs will be able to access the funds forming part of the deceased's estate only if they are able to find a way to access the devices in which the Bitcoins are stored. Otherwise, there will be no way to fully get hold of the tokens that they have legally inherited, and they will never be able to use them again.

To overcome this problems, there are some services that aim to manage the inheritance of Bitcoin with a 'keep-alive' system that sends emails to the account owner and transfers the funds to another (previously specified) wallet in case of no response within a given period. Some are studying smart contracts that in case of the owner's death automatically transfer the keys to the Bitcoin address of the designated heir. However, this mechanism risks clashing with the prohibition against succession agreements under Art 458 of the Civil Code. In this case, in fact, there are those who, in line with prevailing Italian literature and case-law, detect signs of a prohibited succession agreement pursuant to Art 458 of the Civil Code: the existence of an agreement aimed at regulating a future succession, the irrevocability of the transfer (a circumstance implicit in smart contracts whose execution is unstoppable) and the existence of a residual.[94]

VIII. Conclusion

These are some of the issues and problems regarding Bitcoin that an interpreter is called to solve in the absence of a clear regulatory framework, an arduous task indeed. However, those who wish to simplistically relegate the phenomenon to the 'mysterious', placing it in a sort of forgotten corner of financial regulation are guilty of unqualified laziness. In order to offer adequate protection to the interests involved in this new virtual reality in the absence of specific legislation on the matter, the only solution is to resort to the correct use of the interpretative tools that take account of reality. The absence of public regulation does not mean a 'regulatory void'.

First of all, there are the general principles and in any case, pending more developed legal thinking, nothing excludes the possibility of applying existing

paragraphs when a receiver has been appointed under Art 528 of the Civil Code. Where the inheritance has been accepted, the heir will take over the contractual actions formerly vested in the deceased.

[94] Corte di Cassazione 16 February 1995 no 1863, *Giustizia civile*, 1501 (1995).

rules in so far as they are compatible. The focus is on understanding which are the most suitable, and this choice, at this moment, can only be made on the basis of an analysis of the *ratio iuris* underlying existing law and the facts of each case. Until such time as laws are enacted, one must hope for the reasonableness of national courts in applying their domestic law to Bitcoin. In this regard, the case-law outlined above testifies to a significant readiness by the Italian courts to treat Bitcoin as money.

The recurring argument is that it, like fiat money, serves only to make purchases and hence its utility lies entirely in its function as medium of exchange. This does not mean advocating the *exclusive* or *wholesale* application of the rules laid down in the matter of pecuniary obligations. Because of the specifics and protection needs underlying each individual case, all the rules present in the legal system compatible and appropriate to regulating Bitcoin should apply. Thus, by way of example, Art 1277 of the Civil Code will not be applicable as regards the part thereof enshrining the principle that the offer of legal tender discharges one's debt, given the principle of strict legality that governs all sanctions under public law. Art 1277 should by contrast apply as regards the part thereof codifying the nominalistic principle, which is a general principle of relations entailing an obligation. Also applicable is Art 1278 of the Civil Code which governs pecuniary obligations expressed in a currency not having legal tender in the State. Furthermore, Bitcoin, like traditional money, lends itself to being held and used as an investment, in which case, respectively, the rules on irregular deposits and on sale of financial products should come into play.

The hope for the future is that the regulation of the virtual currency market will be conducted in a rational and proportional manner, respecting the flexibility that characterizes peer-to-peer money, so as to strengthen the price stability of virtual currencies and the confidence that users place in them.[95]

[95] G. Lemme, 'Criptomoneta' n 18 above, 39, argues that with a State imprimatur a virtual currency could be considered a currency in all respects.