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BLOCKCHAIN: A REGULATORY OVERVIEW

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(I) DEFINING BLOCKCHAIN

Blockchain is an "*open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way. The ledger itself can also be programmed to trigger transactions automatically*"[1]. The abovementioned "distributed ledger" gained a substantial amount of recognition with the general public through the role that it played as the technology behind Bitcoin and other cryptocurrencies.

As a result of the rise in recognition of cryptocurrencies, in general, both the private and public sectors of the economy are seeking out other potential applications of the blockchain. Accordingly, other applications of the above technology are currently being tested (and, increasingly, marketed) in the form of supply-chain management to smart contracts,

[1] IANSITI M., LAKHANI K.R., "The Truth about blockchain", *Harvard Business Review*, January-February 2017.

use and consumption on the internet market, fintech, e-voting, and the payment of municipal fees, as examples[2]. As part of a pilot project, Daimler AG and Landesbank Baden-Württemberg used the blockchain technology to float a € 100 million German loan instrument (Schuldschein)[3].

Today a growing number of services and businesses rely on the blockchain or on crypto tokens (representing tradable assets and utilities or transaction units on a blockchain).

While it is difficult to forecast the impact that the new "tokenized ecosystems" will have on society at large, during the 2018 CryptoValley Conference (held in Zug, Switzerland) Swiss Federal Councillor Mr. Schneider-Ammann predicted that "*blockchain will penetrate every part of our economy*".

(II) THE DEBATE ON THE REGULATION OF BLOCKCHAIN

Regulators, both in Italy and elsewhere, have been slow to react to the new challenges posed by the blockchain technology and by the new tokenized ecosystems.

Due to their sometimes protean nature, crypto tokens do not fit easily within existing legal definitions. Moreover, the definition of theabove

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[2] The municipality of Zug in Switzerland already accepts payment of certain fees in bitcoin and only a few days ago local authorities announced that the latest trial in blockchain voting was successful (see MAYER D., "Blockchain voting notches another success", *Fortune*, 3 July 2018). While the Swiss authorities may be at the forefront in the public sector, the number of private businesses (including retailers) which accept payments in cryptocurrencies has been rising constantly in recent years.

[3] "*The entire transaction — from the origination, distribution, allocation and execution of the Schuldschein loan agreement to the confirmation of repayment and of interest payments — was digitally carried out via blockchain technology*". Press release "Successful utilization of blockchain. Joint pilot project of Daimler and LBBW", available at: https://www.daimler.com/investors/refinancing/blockchain.html.

tokens vary depending on the institution in which it is described (e.g., are defined differentlyproperty[4], securities[5], money, means of payment and commodities[6]) due to the differing legal interests and treatment of cryptocurrencies among the varying legal institutions.

The task of regulators is complicated by the fact that while tokenization is in some cases simply a means of digital securitization, while in other cases crypto tokens may represent actual utilities (entitling users to access to products or services).

A helpful contribution to the ongoing effort to accurately categorize (and consequently regulate) digital tokens is provided by a Swiss law firm, MME. In a recent paper[7] they identify three categories of blockchain

[4] In 2014 the US Internal Revenue Service published a notice in which it stated that virtual currency such as Bitcoin is treated as property for federal tax purposes.

[5] According to the US Securities and Exchange Commission, initial coin offerings may be considered securities offerings (and consequently fall within the scope of federal securities laws and under the jurisdiction of the SEC). In the UK, the Financial Conduct Authority holds that while "*cryptocurrencies are not currently regulated by the FCA* […] *cryptocurrency derivatives are, however, capable of being financial instruments under the Markets in Financial Instruments Diretive II (MiFID II), although we do not consider cryptocurrencies to be currencies or commodities for regulatory purposes under MiFID II)*".

[6] In 2015, the US Commodity Futures Trading Commission held that "*Bitcoin and other cryptocurrencies are properly defined as commodities*" (see "A CFTC primer on virtual currencies", 17 October 2017).

[7] MME, "Conceptual Framework for Legal and Risk Assessment of Crypto Tokens", 1 May 2018, available at: https://www.mme.ch/en/magazine/magazine-detail/url_magazine/conceptual_framework_for_blockchain_crypto_property_bcp/.

Crypto Property: (i) native utility tokens[8]; (ii) counterparty tokens[9]; and (iii) ownership tokens[10].

Put before the regulatory challenges posed by crypto tokens, some regulators are considering the possibility of taking a tough stance. In a recent speech, the Chairperson of the European Banking Authority outlined a strategy "*built around three pillars: (i) full application of customer due diligence obligations under the anti-money laundering and counter terrorist financing (AML/CFT) regulations – a point that has now been included under the revised Anti-Money Laundering Directive (AMLD5); (ii) warnings to consumers that investments in these assets are not protected by any regulation and, therefore, by any safety net, so that they may lose all the money invested – a step that has been accomplished through a recent warning we issued jointly with ESMA and EIOPA; and (iii) preventing regulated financial institutions from buying, holding or selling these products – and possibly also from establishing direct or indirect connections with managers of crypto-currencies –, so as to segregate the two sets of players and avoid contagion. This strategy would avoid granting any official recognition to a sector that is still very heterogeneous, changing fast and, as such, difficult to regulate and supervise*"[11]. The prohibition to hold crypto assets on the books proposed by the EBA seems a rather blunt tool to address concerns about balance sheet risks which may be hard to determine (and to insure against).

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[8] I.e. tokens that "*can be transferred on a decentralized ledger from user 1 to user 2, but do not grant any rights towards a counterparty*".

[9] I.e. tokens "*which include any form of a relative right against a third-party. The relative right might be a (legal) right to use the Token generator's services, a right to receive a financial payment, a right to receive an asset or a bundle of shareholder's rights*".

[10] I.e. tokens which provide "*technical,* [Smart Contract Systems] *based ownership rights in assets*". The purpose of this class of tokens is to "*transfer rights of associated assets by transferring the token*".

[11] Speech given on 9 March 2018 at the Copenhagen Business School.

It is worth pointing out that while the regulators' concerns seem to arise (largely) from the volatility of the exchange rate between cryptocurrencies and fiat money, in countries characterized by lack of trust towards the government crypto assets are increasingly seen as a useful tool to protect against runaway inflation and to store value.

In its guidelines published on 16th February 2018 FINMA, the Swiss financial markets supervisory authority announced how it intends to apply financial market legislation in handling inquiries from the organizers of initial coin offerings (ICOs)[12]. FINMA draws a distinction between payment tokens (which have no further functions or links to other projects), utility tokens (intended to provide digital access to an application or service) and asset tokens (functionally analogous to equities, bonds or derivatives, and representing assets such as participations in real companies or the entitlement to dividends or interest payments)[13].

Jurisdictions such as the State of Wyoming in the US[14] and Liechtenstein have tabled "Blockchain laws", while in Delaware the law of the land allows private corporations to track the issuance and transfer of shares with blockchain.

In the EU, the Fifth Anti - Money Laundering Directive[15] acknowledged the growing importance of crypto tokens by providing a definition of virtual

[12] ICOs are a blockchain-based form of public fund-raising for a business or a project. In an ICO, digital tokens representing future units of currency are sold to investors in exchange for money or for other cryptocurrencies.

[13] FINMA, "Guidelines for enquiries regarding the regulatory framework for initial coin offerings (ICOs)", 16 February 2018, available at: https://www.finma.ch/en/news/2018/02/20180216-mm-ico-wegleitung/.

[14] Interestingly, House Bill 70 should exempt various kinds of crypto assets from the application of securities laws.

[15] Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 amending Directive (EU) 2015/849 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, OJ L156, 19 June 2018.

currency. Pursuant to the Directive, a virtual currency is "*a digital representation of value that is not issued or guaranteed by a central bank or a public authority, is not necessarily attached to a legally established currency and does not possess a legal status of currency or money, but is accepted by natural or legal persons as a means of exchange and which can be transferred, stored and traded electronically*" (art. 1, 2 (d)).

In order to remedy the contradictory nature of much of the current regulation, the principle of "functional equivalence" is put forward as a guide for regulators. According to this principle, insofar as the applicable laws attach "*the validity of legal transactions or the existence of a legal institution to substantive or formal requirements, these requirements shall be deemed to be fulfilled if a digital system can functionally replace the legal protection concerns behind these requirements on an equivalent basis*"[16].

New and different regulatory problems are bound to arise as new potential applications of the blockchain are found. For example, the use of this technology to process personal data in the EU seems hard to reconcile with the General Data Protection Regulation[17] (e.g. it is not clear who should be considered the controller in a decentralized system, nor how the data subject could exercise the right to the erasure of the data, since blocks cannot be deleted from the chain).

In April 2018 Ms Christine Lagarde, Managing Director of the IMF, described her views on the blockchain technology, arguing that "*a*

[16] FURRER A., MÜLLER A., "Funktionale Äquivalenz digitaler Rechtsgeschäfte - Ein tragendes Grundprinzip für die Beurteilung der Rechtsgültigkeit von Rechtsinstituten und Rechtsgeschäften im schweizerischen Recht", MME, Jusletter, 18 June 2018.

[17] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, OJ L 119, 4 May 2016

judicious look at crypto-assets should lead us to neither crypto-condemnation nor crypto-euphoria". Ms Lagarde believes that regulators "*should keep an open mind and work toward an even-handed regulatory framework that minimizes risks while allowing the creative process to bear fruit*".

Regulators argue that cryptocurrencies are not money, since they do not have a central bank behind them[18] and they do not appear to fulfil the functions of money: (i) being a unit of account; (ii) being a means of exchange; and (ii) being a reserve of value. Some argue that - due to the volatility of their exchange rate with fiat money - cryptocurrencies cannot be used as a reserve of value, and that they are rarely used as a unit of account. Since in most jurisdictions there is no legal definition for "money", most regulators rely on its functional definition.

In a report published in February 2015, the European Central Bank stated that "*from a legal perspective, money is anything that is used widely to exchange value in transactions. The term currency is used for 'minted' forms of money; nowadays usually taking the form of coins and banknotes. In a more conceptual sense, a (particular) currency refers to the specific form of money that is in general use within a country. Given that* [virtual currency schemes] *are not used widely to exchange value, they are not legally money, and – in the absence of minted versions – they are not currency either, and no virtual currency is a currency*"[19].

[18] The Bitcoin scheme devised by the mysterious Satoshi Nakamoto and the other cryptocurrencies which are vying for acceptance have given new relevance to the notion of private moneys put forward by Friedrich von Hayek in his "The Denationalization of Money" (1976). However, cryptocurrencies based on the decentralized blockchain are very different from the private moneys issued by financial institutions advocated by Hayek.

[19] European Central Bank, "Virtual currency schemes – a further analysis", February 2015, available at: https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemesen.pdf.

In a judgment concerning the VAT status of the exchange of traditional currencies for bitcoin, the Court of Justice of the EU held that the "*bitcoin virtual currency with bidirectional flow* […] *cannot be characterised as 'tangible property' within the meaning of Article 14 of the VAT Directive, given that* […] *virtual currency has no purpose other than to be a means of payment*"[20]. The Court therefore defined "*the bitcoin virtual currency* [as] *a contractual means of payment*"[21].

One of the most significant characteristics of cryptocurrencies is that in some cases they can have both capital appreciation properties and payment properties. Therefore, regulators have been called to clarify whether cryptocurrencies should enjoy the same fiscal status of fiat money.

According to the Court of Justice of the EU ruled that "*Article 135(1)(e) of Directive 2006/112*[22] *must be interpreted as meaning that the supply of services such as those at issue in the main proceedings, which consist of the exchange of traditional currencies for units of the 'bitcoin' virtual currency and vice versa, performed in return for payment of a sum equal to the difference between, on the one hand, the price paid by the operator to purchase the currency and, on the other hand, the price at which he sells that currency to his clients, are transactions exempt from VAT, within the meaning of that provision*"[23].

[20] Court of Justice of the EU (Fifth Chamber), Case C-264/14, judgment of 22 October 2015, *Skatteverket v. David Hedqvist*, ECLI.EU.C.2015.718, §24.

[21] Court of Justice of the EU (Fifth Chamber), Case C-264/14, judgment of 22 October 2015, *Skatteverket v. David Hedqvist*, ECLI.EU.C.2015.718, §42.

[22] Pursuant to Article 135 (1) (e) of Directive 2006/112, "*Member States shall exempt the following transactions:* […] *(e) transactions, including negotiation, concerning currency, bank notes and coins used as legal tender, with the exception of collectors' items, that is to say, gold, silver or other metal coins or bank notes which are not normally used as legal tender or coins of numismatic interest*".

[23] Court of Justice of the EU (Fifth Chamber), Case C-264/14, judgment of 22 October 2015, *Skatteverket v. David Hedqvist*, ECLI.EU.C.2015.718.

(III) CRYPTOASSETS IN ITALY

Under Italian law, there is little doubt that provisions which refer specifically to legal tender (such as Article 1277 of the Civil Code, which states that monetary obligations are discharged by paying in legal tender, and Article 693 of the Criminal Code, which makes it a crime to refuse payment in legal tender at its face value) may not be construed as applying to cryptocurrencies.

However, under Article 1278 of the Civil Code the contracting parties may agree to the discharge of monetary obligations in money which is not legal tender in Italy. While the letter of the law refers specifically to "money" (and most regulators in Italy and in Europe do not consider crypto assets to be money), it could be argued that this provision leaves open the possibility to use cryptocurrencies as a contractual means of payment.

It appears therefore that cryptocurrencies may be employed to discharge monetary obligations under Italian law on an exclusively voluntary basis (i.e. if so agreed by the contracting parties).

It is not, however, clear how the Italian legal system will deal with thorny issues such as the legal status of cryptocurrencies, the purchase of real estate by paying in cryptocurrencies, trading in cryptocurrencies or the inheritance of crypto assets.

III.1 TAXATION OF CRYPTOCURRENCIES

The Italian Revenue Agency (Agenzia delle Entrate) provided some guidance – on specific cases – with regard to the fiscal status of cryptocurrency transactions.

In 2016, the Agenzia delle Entrate remarked that "*the circulation of bitcoins as a means of payment relies on their voluntary acceptance by*

the market players, who accept them as payment for goods and services, thus recognizing their exchange value (in the absence of any legal obligation)". Having established that a professional activity consisting of the exchange of traditional currencies for units of virtual currencies falls within the scope of the rules on VAT and income taxes, the Agenzia delle Entrate argued that activities similar to those examined by the Court of Justice are "*exempt from VAT pursuant to Article 10 (1) (3) of Presidential Decree (d.P.R.) n. 633 of 26 October 1972*" [24].

More recently[25], the Agenzia delle Entrate clarified (among other things) that the exchange of cryptocurrencies for traditional currencies does not produce taxable revenues, provided that it does not have a professional or speculative dimension and that the average total deposits in all the wallets of the taxpayer do not exceed 51.645,59 euro for at least seven days in a row within the fiscal period.

However, it should be noted that the taxable status of cryptocurrencies remains open in other jurisdictions (such as the US), and should continue to be followed for new advances in this area.

III.2 CONSUMER PROTECTION AND FINANCIAL REGULATION

The Commissione nazionale per le società e la borsa (CONSOB), the Italian securities markets regulator, joined the European Securities and Market Authority, the European Banking Authority and the European Insurance and Occupational Pensions Authority in warning consumers on

[24] Agenzia Entrate, Risoluzione 2 September 2016, n. 72. Pursuant to Article 10 (1) (3) of d.P.R. n. 633 of 26 October 1972 "*operations concerning foreign currencies enjoying the status of legal tender and credits in foreign currencies* […] *including transactions covering exchange risks"* are exempt from VAT.

[25] Agenzia delle Entrate, Interpello n. 956-39/2018.

the risks of virtual currencies (i.e. extreme volatility, insufficient regulation, lack of price transparency and exit options)[26].

The CONSOB intervened in more than one occasion to prevent unauthorized subjects from advertising or offering to the public the opportunity to invest in crypto assets and virtual currencies in general.

In early 2017, the CONSOB ordered a foreign company and the unidentified administrators of a website from advertising (via said website) to the Italian public the possibility to invest in "*cryptocurrency mining packages*"[27]. The website administrators allegedly violated Legislative Decree n. 58 of 24 February 1998 (Testo Unico della Finanza) by advertising its financial products without having published a prospectus.

On December of the same year, the CONSOB ordered a foreign company – whose name seemed to suggest that it was active in crypto trading – to refrain from offering to the Italian public investment opportunities. The company in question promised "*monthly returns on investment between 17,7 and 29,7%*"[28] and failed to publish a prospectus (which should have been preemptively approved by the CONSOB).

Even more recently, the CONSOB prohibited two websites (which might have been administered by foreign companies but included pages in Italian) from offering to the Italian public the possibility to invest in cryptocurrencies. These websites did not appear to be administered by parties authorized to offer financial services to the public[29] and one of

[26] "ESMA, EBA and EIOPA warn consumers on the risks of Virtual Currencies", February 2018, available at: https://www.eba.europa.eu/documents/10180/2139750/Joint+ESAs+Warning+on+Virtual+Currencies.pdf.
[27] Delibera CONSOB n. 19968 of 20 April 2017.
[28] Delibera CONSOB n. 20207 of 6 December 2017.
[29] Delibera CONSOB n. 20346 of 21 March 2018.

them promised monthly returns on investment "*up to 38%*" and offered "*cryptocurrency mining packages*"[30].

On 30 January 2015, the central bank of Italy published its own warning to investors with regard to the use of virtual currencies. Moreover, officials of the Banca d'Italia have been openly critical of bitcoin on the national press[31]. In spite of its critical stance on virtual currencies, the Banca d'Italia organized in 2016 a symposium on blockchain[32] and has emphasized the importance of the alternative applications of the blockchain technology for the financial sector.

In 2017, the Autorità garante della concorrenza e del mercato (AGCM), the Italian competition and consumer protection authority, applied a 2.6 million euro fine to several subjects, including foreign companies[33]. The parties involved in the proceedings were promoting the sale of a virtual currency among the general public, describing in considerable detail the significant benefits available to potential investors. The AGCM deemed that the information provided by the promoters of the scheme was insufficient and potentially misleading. According to the AGCM, the model adopted for the promotion of the cryptocurrency in question constituted a pyramid scheme.

In a recent ruling, the Court of Verona[34] declared that a contract signed by a private individual with a platform administered by an Italian company which exchange bitcoins with fiat currency was null and void. In its judgment, the Court held that the private individual acted as a

[30] Delibera CONSOB n. 20381 of 13 April 2018.
[31] ANSA, "Bitcoin: Rossi, criptovalute sono una bolla di sapone", available at: http://www.ansa.it/sito/notizie/economia/criptovalute/2018/05/07/bitcoin-rossi-criptovalute-sono-una-bolla-di-sapone_ff258434-67bc-483e-a0e2-c1e00c7d88fd.html.
[32] Banca d'Italia, "La tecnologia blockchain: nuove prospettive per i mercati finanziari", Rome 21 June 2016.
[33] AGCM, Case PS10550, decision n. 26708 of 25 July 2017.
[34] Tribunale di Verona, judgment n. 195/2017.

consumer, that the professional involved provided financial services and that the latter had failed to provide the necessary pre-contractual information.

In spite of a growing body of case-law and enforcement decisions, there is still considerable uncertainty as to the legal nature (and regulatory status) of crypto tokens. By way of example, pursuant to Article 1.2 of the Testo Unico della Finanza "*means of payment are not financial instruments*". Therefore, it seems possible to argue that while "pure" payment tokens should not be considered financial instruments, this definition would apply to asset tokens (i.e. tokens which involve the investment of capital, the assumption of risks and the expectation of gains).

Equally unclear is the status of ICOs under Italian law, since the CONSOB has not provided guidance in this matter. However, it is reasonable to assume that if the tokens constitute financial products and they are described and offered to investors located in Italy the ICO will have to abide by all the laws which discipline the offer of financial products to the public.

This uncertainty can only be removed by the intervention of the Italian regulators, and to this end the guidelines adopted by FINMA could represent a useful model.

III.3 ANTI – MONEY LAUNDERING LEGISLATION

The Fifth Anti - Money Laundering Directive[35] states that "*the anonymity of virtual currencies allows their potential misuse for criminal purposes*" and consequently provides that "*Member States shall ensure that*

[35] Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018, OJ L156, 19 June 2018.

providers of exchange services between virtual currencies and fiat currencies, and custodian wallet providers, are registered"[36].

However, even before the adoption of the Fifth AML Directive, the Italian legislator had amended Legislative Decree n. 231/2007, inserting references to "*virtual currencies*" (Article 1) and extending the applicability of AML obligations to "*providers of services related to the use of virtual currencies, only with regard to the exchange of virtual currencies for fiat money"* (Article 5(5)(i)).

Finally, on February 2018 the Italian Finance Ministry launched a public consultation on the procedure which virtual currency services providers will have to follow to notify the Ministry about their activities. The purpose of this measure is to prepare a census of the players active in this field.

III.4 SMART CONTRACTS AND DEBT RECOVERY

While Italian regulators have focused largely on cryptocurrencies, other applications of the blockchain are likely to pose significant challenges in the future.

Smart contracts are (often blockchain-based) computer protocols that allow parties to verify, perform and even enforce a contract. A blockchain can be even programmed to trigger transactions or the enforcement of contract automatically. These protocols (as well as the Ethereum platform on which many of them are based) are becoming increasingly popular, as new applications of smart contracts are tested.

It is conceivable that in the future a significant number of contracts (in Italy and abroad) will be written in the programming language Solidity. However, at present it is difficult to define how smart contracts will fit

[36] Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018, OJ L156, 19 June 2018, §29.

within the Italian civil law framework, or what the role of notaries will be in a society where a growing number of contracts is verified through a permanent, distributed ledger.

Finally, crypto assets represent a serious challenge for the existing debt recovery procedures.

While in principle, attachments and seizures should be possible where crypto assets are concerned, creditors are likely to face serious practical obstacles. Even leaving aside the difficulty of ascertaining whether the debtor holds a crypto wallet, the only way to attach cryptocurrency would be to obtain the private key from the wallet provider or from the debtor itself (and it remains to be seen whether the tools which the Code of Civil Procedure offers to compel the debtor to deliver the key – such as periodic penalty payments – would be applicable or effective in this case).

The attachment of cryptocurrencies might prove to be less problematic in the presence of smart contracts, which could trigger the automatic recovery of a sum from the debtor's wallet.

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