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LA RIVISTA DI DIRITTO BANCARIO SELEZIONA I CONTRIBUTI OGGETTO DI PUBBLICAZIONE SULLA BASE DELLE NORME SEGUENTI.

I CONTRIBUTI PROPOSTI ALLA RIVISTA PER LA PUBBLICAZIONE VENGONO ASSEGNATI DAL SISTEMA INFORMATICO A DUE VALUTATORI, SORTEGGIATI ALL'INTERNO DI UN ELENCO DI ORDINARI, ASSOCIATI E RICERCATORI IN MATERIE GIURIDICHE, ESTRATTI DA UNA LISTA PERIODICAMENTE SOGGETTA A RINNOVAMENTO.

I CONTRIBUTI SONO ANONIMIZZATI PRIMA DELL'INVIO AI VALUTATORI.

LE SCHEDE DI VALUTAZIONE SONO INVIATE AGLI AUTORI PREVIA ANONIMIZZAZIONE.

QUALORA UNO O ENTRAMBI I VALUTATORI ESPRIMANO UN PARERE FAVOREVOLE ALLA PUBBLICAZIONE SUBORDINATO ALL'INTRODUZIONE DI MODIFICHE AGGIUNTE E CORREZIONI, LA DIREZIONE ESECUTIVA VERIFICA CHE L'AUTORE ABBA APPORTATO LE MODIFICHE RICHIESTE.

QUALORA ENTRAMBI I VALUTATORI ESPRIMANO PARERE NEGATIVO ALLA PUBBLICAZIONE, IL CONTRIBUTO VIENE RIFIUTATO. QUALORA SOLO UNO DEI VALUTATORI ESPRIMA PARERE NEGATIVO ALLA PUBBLICAZIONE, IL CONTRIBUTO È SOTTOPOSTO AL COMITATO ESECUTIVO, IL QUALE ASSUME LA DECISIONE FINALE IN ORDINE ALLA PUBBLICAZIONE PREVIO PARERE DI UN COMPONENTE DELLA DIREZIONE SCELTO RATIONE MATERIAE.

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Big Tech and E-money Token

SOMMARIO: 1. Introduction – 2. Some remarks on the notion of stablecoins – 3. An overview of the e-money token: notes on its function as a means of payment – 4. Big Tech and stablecoins: the implications of a convergence of the two phenomena – 5. Big Tech and e-money token: is there a possible influence? – 6. Stablecoins as a medium of exchange: some brief opinions on the future perspectives

Currency, in all its forms, as an intermediate instrument of trade, has come into existence and continues to exist because of a living economy that needs it.

After describing the main arguments and characteristics of the new “monetary language” of cryptocurrency, the author analyses the new legal framework of e-money tokens in the light of the development of new forms of money and exchange, seeking to identify a point of contact between the legislator’s intention and the proliferation of new cryptographic resources within the new markets of Big Tech. The complex legal configuration of crypto-activities and their possible use as a means of payment forces the interpreter to consider the phenomenon in the light of private regulatory law and to deal with a reality that – whether it is positive or negative – is definitely not neutral.

1. Introduction

Currency, in whatever form it evolves, is the engine of all economic and social relations. It is at the same time a regulating principle of world trade and an indicator of it; it develops, changes, collapses and rises in relation to and depending on the socio-economic activity of a *community*¹.

¹ See, among the most recent literature on the history of money, F. MARTIN, *Denaro. La storia vera: quello che il capitalismo non ha capito*, Torino, 2014; GRAEBER, *Debito. I primi 5000 anni*, Milano, 2012; BARCELLONA, *Ius monetarium. Diritto e moneta alle origini della modernità*, Bologna, 2012; INGHAM, *La natura della moneta*, Roma, 2016; GOETZMANN, *Denaro. Come la finanza ha reso possibile la civiltà*, Milano, 2017; SEARL - FERRARIS, *Il denaro e i suoi inganni*, Torino, 2018; further back in time see, also, NORTH, *La storia del denaro. Una storia dell'economia e della società europea di oltre mille anni*, Casale Monferrato, 1998. First of all, see

The centuries-old need to enable and facilitate trade between subjects within increasingly advanced economies has influenced today's consideration of currency and all observed monetary phenomena.

Tracing the evolution of monetary forms over time, it is clear that both the economy itself and its movements have always created a different “monetary language”² to suit its needs.

In ancient times, barter, the direct exchange of goods for other goods, dominated primitive economies.

However, the unavoidable differences in the value of the various exchangeable goods and the practical complications of managing such relations soon led to the need for a technical instrument of intermediation, i.e. a means of payment properly understood.

The overcoming of barter was thus concretized in the use of so-called primitive coins³, which took on completely different forms depending on the place of reference.

The primitive coin, in its innumerable forms, constituted a real currency, understood as a medium of exchange with its own intrinsic value, a characteristic appropriate to its function.

T. ASCARELLI, *La moneta. Considerazioni di diritto privato*, Padova, 1928; *Id.*, *Studi giuridici sulla moneta*, Milano, 1952; *Id.*, *Obbligazioni pecuniarie*, in *Comm. c.c. Scialoja e Branca*, Bologna-Roma, 1959; DI MAJO, *Obbligazioni pecuniarie*, in *Enc. dir.*, vol. XXIX, Milano, 1979; QUADRI, *Le obbligazioni pecuniarie*, in *Trattato Rescigno*, vol. IX/I, Torino, 1984; S. SPOTO, *Moneta*, in *Digesto italiano*, XV, Torino, 1906, 673-718; PAPI, *Moneta*, in *Novissimo digesto italiano*, X, Torino, 1964, 853-866; STAMMATI, *Moneta*, in *Enc. dir.*, XXVI, Milano, 1976, 746-778; BOFFITO, *Moneta*, in *Enc. Dir.*, IX, Torino, 1980, 491-518; CARBONETTI, *Moneta*, *Quaderni di ricerca giuridica*, 2, Roma, Banca d'Italia, 1985; DE VECCHIS, *Moneta e carte valori. Profili generali e diritto privato*, in *Enc. giur.*, Roma, 1990, 1-23; B. INZITARI, *La moneta*, in *Trattato di diritto commerciale e di diritto pubblico dell'economia*, Galgano (diretto da), vol. VI, Padova, 1993; RUGGIERO, *Moneta, cambio, valuta*, in *Digesto delle discipline pubblicistiche*, vol. X, Torino, 1995, 5-12; CAPRIGLIONE, *Moneta*, in *Enc. dir.*, agg. III, Milano, 1999, 747-772; N. DE LUCA, *Moneta*, in *AA.VV.*, *Diritto commerciale*, N. ABRIANI (a cura di), Milano, 2011, 533-556.

² For the conception of “money as a language” see F. BRAUDEL, *Civiltà materiale, economia e capitalismo*, 1967.

³ See, for example, C. M. CIPOLLA, *Moneta e civiltà mediterranea*, Bologna, 2020, 41 ss.

With the transition to the use of precious metals as a material for the production of money⁴, the function of the medium of exchange was more guaranteed, both for its intrinsic value and for the imperishability that characterized it.

The world monetary structure, through the universal use of precious metals, thus began to take shape and gradually adapt; monetary policy began to attract or reject a particular precious metal.

The constant progress of the economy and trade, as well as the expansion and integration of the markets, determined the need to calculate the value of currencies, to fix prices and to account for trade.

It was in this context, and as a result of the very complexity of the monetary structure, that the “imaginary”⁵ currency was born. It was an “ideal unit”⁶ of measurement which solved the problems arising from the progressive development of trade and which, unlike the “real” currencies which were used only for actual payments, had purposes of negotiation and accounting.

The concept of an “imaginary” currency, which was the result of the need for a dualism between the level of effectiveness and that of abstraction, anticipated the idea of a currency “sign”⁷, devoid of any

⁴ Dating back to the 6th century B.C.

⁵ See EINAUDI, *Teoria della moneta immaginaria nel tempo da Carlomagno alla rivoluzione francese*, in *Rivista di storia economica*, 1, 1936, 1-35; NUSSBAUM, *Money in the Law National and International. A Comparative Study in the Borderline of Law and Economics*, Brooklyn, 1950; FORTE, *La moneta immaginaria e la moneta manovrata nel pensiero di Luigi Einaudi*, in *Note economiche*, 6, 1974, 5-24; AMATO, *Il bivio della moneta. Problemi monetari e pensiero del denaro nel Settecento italiano*, Milano, 1999; FANTACCI, *Complementary currencies: a prospect of money from a retrospect on premodern practices*, in *Fin. Hist. Rev.*, 12, 2005, 43-61; *Id.*, *The dual currency system of Renaissance Europe*, in *Fin. Hist. Rev.*, 15, 2008, 55-72.

⁶ See NUSSBAUM, *Money in the law*, Foundation Press, 1939. The theory of money as an ideal unit, a term introduced by Nussbaum, begins to take shape with the introduction of banknotes, which make it difficult to recall a certain amount of metal as a unit of measurement.

⁷ About the origins of the currency, see SCHAPS, *The Invention of Coinage and the Monetization in Ancient Greece*, Ann Arbor, 2004; GRIERSON, *The Origins of Money*, in *Research in Economic Anthropology*, Vol. 1, 1978, 2 ss.; VON REDEN, *Money in the Ancient Economy: a Survey of Recent Research*, in *Klio84*, Vol. 1, 2002, 141 ss.; PEA COCK, *The Origins of Money in Ancient Greece: the Political Economy of Coinage and Exchange*, in *Cambridge Journal of Economics*, 2006, 637 ss.; KIM, *Archaic Coinage as Evidence for the Use of Money*, Meadows-Shipton (ed.), *Money and its Uses in the Ancient Greek World*, Oxford, 2001, 9 ss.

actual intrinsic content in precious metals. The “ghost coins” of the Middle Ages, which no one ever saw but everyone named⁸, were a sign that any currency could be taken as the basic unit of a system of accounts.

At the end of the Middle Ages, the development of world trade made it necessary to introduce instruments to overcome the limitations of an economy based on a single metallic currency.

It was thus inspired, in the footsteps of ancient practices⁹, by the convenience of the circulation of paper means of payment, representative of certain quantities of precious metals, which were instead deposited with subjects who received a wide confidence: the banking activity was born.

It is necessary to point out that currency, in all its forms, as an intermediate instrument of trade, came into existence and continues to exist because of a living economy that needs it.

It cannot be studied without considering the monetary economy as the basis of its very nature; the constant change of the latter is identified as the main driving force behind currency movements and developments.

The ever-changing economy, which has led to the development of increasingly complex relationships, has determined a radical metamorphosis in the way in which “communication” takes place within a socio-economic reality: techniques for managing money have shaped (and continue to shape) the response of the currency to the needs of the specific constraints of trade, which must change over time.

From barter, where money took the primitive form of a “commodity”, to capitalism, where it took many forms, to today’s achievement of a “third generation” of means of payment¹⁰ (most

⁸ See C. M. CIPOLLA, *Moneta e civiltà mediterranea*, Bologna, 2020, 77 ss.

⁹ Currency exceedances through the use of writings and notes constitute old practices that arise from the “imperfections” of an economy based only on the exchange of money and commodities. See F. BRAUDEL, *Civiltà materiale, economia e capitalismo*, 1967.

¹⁰A. DI MAJO, *Obbligazioni pecuniarie*, Enc. dir., XXIX, Milano, 1979, that recalls V. SPADA, *Carte di credito, terza generazione dei mezzi di pagamento*, in *Riv. dir. civ.*, 1976, I, 483, in which the third generation of means of payment is the set of means whose purpose is concretized in the «concentration of fulfillments», hypothesis known is that of credit cards.

recently electronic money), money management techniques have been transformed as more “languages” have been added.

It is therefore the idea of the currency as a “language” that makes it possible to overcome the traditional regulatory schemes of the market and explains its constant transformation and redefinition of its role.

If, as in the case of the «dollars of the Middle Ages»¹¹, the three fundamental elements that make up the «currency» – in any state and to any degree – are the high unitary value, the intrinsic stability and the support of an economy that is «strong, healthy and at the same time predominant in the international trading system»¹², this does not mean that the long-term increase of the currency cannot be addressed by the development of new credit instruments or forms of currency. In other words, it’s a matter of reversing the perspective – traditionally conceived – that identifies «money» as the fundamental force on which the credit and debit system is built: instead, it’s the social technology of credit that underpins the monetary reality¹³.

The progressive development of information technology, in particular the development of cryptography and the increasingly effective use of the media as a place for economic exchange, has led to the emergence of virtual communities.

Twenty years ago, the euro became a legal currency circulating in the Member States of the euro area¹⁴: the fact that the euro is now twenty years old makes it necessary to look at “currency” in the light of the digital challenges¹⁵. That is, despite all the fragility of the euro

¹¹ C. M. CIPOLLA, *Moneta e civiltà mediterranea*, Bologna, 2020, 41 ss.

¹² C. M. CIPOLLA, *op. cit.*, 53.

¹³ See F. MARTIN, *Denaro. La storia vera: quello che il capitalismo non ha capito*, Torino, 2014, 9 ss.

¹⁴ For an overview of the evolution and modification of the legal framework of the euro see L. F. PACE, *L'euro compie vent'anni: un "progetto" essenziale per la stabilità del processo d'integrazione ma dalla struttura giuridica "fragile"*, soon to be published on *La comunità internazionale*, fasc. 2/22, 2022.

See the following report EUROPEAN CENTRAL BANK, *The international role of the euro*, June 2021; Christine Lagarde, 20th anniversary of the entry into circulation of euro banknotes and coins, speech at the plenary session of the European Parliament, Strasbourg, 14 February 2022.

¹⁵ See R. DE BONIS-G. FERRERO, *Tecnologia, finanza, moneta e istituzioni*, in *Rivista di politica economica. La trasformazione digitale: sfide e opportunità per l'economia italiana*, n. 1-2020; F. HUIBERS, *Distributed Ledger Technology and the Future of Money and Banking, Accounting, Economics, and Law: A Convivium*, 2020;

system¹⁶, the European history of the last twenty years has shown how the euro has been an instrument to guarantee the unity of the (single) market and the process of European integration in a period of repeated crises¹⁷. Faced with the expansion of digital innovations and the proliferation of new digital resources (i.e. cryptocurrencies) that challenge the “fiduciary currency”, the euro’s task today is to adapt to the changing “language” over time and to contribute, as it has done so far, to the achievement of the Union’s general objectives¹⁸.

It is not by chance that currency has been defined as a social institution based on the collective intention of individuals and as a social phenomenon with relevant cultural components¹⁹: one need only think of the evolution of the “coin” from the stone discs of various sizes of the island of Yap²⁰ to the new “monetary language” of cryptocurrency.

E. S. PRASAD, *The Future of Money: how the Digital Revolution Is Transforming Currencies and Finance*, 2021, *passim*.

¹⁶ For an analysis of the light and shadow of the legal framework of the single currency, see the reflections on the path of the euro twenty years after its birth made by L. F. PACE, *op. cit.*

¹⁷ See L. F. PACE, *op. cit.*

¹⁸ About the ability of the euro to contribute to the general objectives of the Union – that is the promotion of peace and the well-being of European citizens within the Member States in the context of a framework of common values (Art. 3 c. 1 TEU) – see L. F. PACE, *op. cit.*

¹⁹ R. DE BONIS-M.I. VANGELISTI, *Moneta. Dai buoi di Omero ai Bitcoin*, Bologna, 2019, 161 ss. See, also, E. S. PRASAD, *op. cit.*, 354 ss.; S. JOHNSTONE, *Rethinking the Regulation of Cryptoassets. Cryptographic Consensus Technology and the New Prospect*, 2021, 283.

²⁰ Yap had a highly developed monetary system, the currency itself was extremely unusual. It was composed of large, thick wheels of massive stone with a diameter varying between one and twelve feet, with a hole in the center depending on the diameter of the stone, in which a large and robust pole could be inserted to support its weight and allow its transport». The value of these coins depended mainly on the size, but also on the fineness of the grain and the whiteness of the limestone. See F. MARTIN, *op. cit.*, 10 ss.; R. DE BONIS/M.I. VANGELISTI, *op. cit.*

2. Some remarks on the notion of stablecoins

The proliferation of cryptocurrencies – which has led to the implementation of a complex ecosystem²¹ – has resulted, in addition to a number of more general concerns, in the development of new and diverse opportunities (among others) in both payments and financial services. Moreover, payment systems are «the arteries that carry the lifeblood of finance»²²: the greatest impact of the new technologies will – inevitably – be in this area.

The latter are undergoing a transition towards a dimension characterized by increasingly accessible products that exploit the potential of new technologies²³: behind crypto-activities, in particular, there's blockchain (a subset of distributed ledger technology – DLT²⁴)

²¹ About the ecosystem development see S. JOHNSTONE, *Rethinking the Regulation of Cryptoassets. Cryptographic Consensus Technology and the New Prospect*, 2021, 213; J. LEE-F. L'HEUREUX, *A Regulatory Framework for Cryptocurrency*, in *European Business Law Review*, 3, 2020, 423-446.

²² E. S. PRASAD, *op. cit.*, 45; see also F. HUIBERS, *op. cit.*

²³ BASEL COMMITTEE ON BANKING SUPERVISION, *Implications of fintech developments for banks and bank supervisors*, on Sound Practices of Bank for International Settlements, February 2018; J. EHRENTAUD-D. GARCIA OCAMPO-C. QUEVEDO VEGA, *Regulating fintech financing: digital banks and fintech platforms*, *FSI Insights on policy implementation No 27 of Bank for International Settlements*, August 2020; S. CHEN-D. D'SILVA-F. PACKER-S. TIWARI, *Virtual banking and beyond*, *BIS Papers No 120 of Monetary and Economic Department of Bank for International Settlements*, January 2022; EUROPEAN BANKING AUTHORITY, *Report on the Impact of fintech on payment institutions' and e-money institutions' business models*, July 2019; FINANCIAL STABILITY BOARD, *Financial Stability Implications from FinTech: Supervisory and Regulatory Issues that Merit Authorities' Attention*, FSB Report, 2017; G. BARBANAVARETTI-G. CALZOLARI-A.F. POZZOLO, *Fintech and Banks: Friends or Foes*, in *European Economy*, 3, 2017, 9-30; T. PHILIPPON, *The FinTech Opportunity*, NBER Working Paper n. 22476, 2016; *European Banking Authority*, *Report on the use of digital platforms, in the EU Banking and Payments Sector*, September 2021; E. MACCHIAVELLO, *The European Crowdfunding service Providers Regulation: The Future of Marketplace Lending and Investing in Europe and the 'Crowdfunding Nature' Dilemma*, in *European Business Law Review*, 3, 2021, 557-604; D. WANG, *Blockchain Technology and Law: Lessons for Law Firms*, in *Business Law Review*, Vol. 42, Issue 2, 2021, 75 – 78; E. CARLETTI-S. CLAESSENS-A. FATÁS-X. VIVES, *Digital money, payments and banks*, in *The Bank Business Model in the Post-Covid-19 World*, 2020, 91 ss.

²⁴ M. RAUCHS-A. GLIDDEN-B. GORDON ET AL., *Distributed Ledger Technology Systems: A Conceptual Framework*, in *SSRNA Electronic Journal*, 2018; J.

which has attracted the attention of regulators for its potential use as a tool for faster and cheaper payments; this would go beyond the benefits offered to consumers in terms of fast, cheap, efficient and inclusive means of payment.

A key component of the increase in the market capitalization of crypto-assets – which is closely linked to the phenomenon’s attractiveness to public authorities – is, among other things, the development of so-called stablecoins. A viable medium of exchange requires a stable value more than absolute anonymity or a fully decentralized validation mechanism: from this conviction, a number of cryptocurrencies have emerged to fill this gap that characterizes almost all cryptocurrencies.

The term *stablecoin* refers to a very diverse set of cryptographic resources²⁵. While on the one hand all types of stablecoins aim to maintain a stable value relative to a specific asset (typically the dollar) or a “basket” of assets, on the other hand they can be divided into different categories according to the nature and quality of their reserve and their price stabilization mechanisms.

Therefore, reference is made to “cash-based stablecoins” to indicate the category of instruments that are fully backed by liquid and secure assets, are redeemable by the issuer at face value and whose reserves are usually held with regulated entities (such as banks). The latter

SCHNEIDER-A. BLOSTEIN-B. LEE-S. KENT-I. GROER-E. BEARDSLEY, *Blockchain Putting Theory into practice, Profile of innovation*, in *Goldman Sachs*, 2016; A. KAOSBA-A. MILLER-E. SHI-Z. WEN ET AL., *Hawk: the Blockchain model of cryptography and privacy preserving smart contracts*, in M. Locasto (eds.) *IEE Symposium on Security and Privacy (SP)*, 2016; FANNING-CENTERS, *Blockchain and Its Coming Impact on Financial Services*, in *Journal of Corporate Accounting & Finance*, 2016, 53 ss.

²⁵See P. MAUME-L. MAUTE-M. FROMBERGER, *E-money Tokens, Stablecoins, and Token Payment Services*, in *The Law of Crypto Assets*, 2022; *President’s Working Group on Financial Markets, the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency, Report on Stablecoins*, November 2021; B. MIZRACH, *Stablecoins: Survivorship, Transactions Costs and Exchange Microstructure*, 2021; D. W. ARNER-R. AUER-J. FROST, *Stablecoins: Risks, Potential and Regulation*, *BIS Working Paper no. 905*, 2020, University of Hong Kong Faculty of Law Research Paper No. 2021/57; BANK FOR INTERNATIONAL SETTLEMENTS, *G7 Working Group on Stablecoins, Investigating the impact of global stablecoins*, October 2019; FINANCIAL CONDUCT AUTHORITY, *Guidance on Cryptoassets, Feedback and Final Guidance to CP 19/3, PS19/22*, July 2019, para. 3.12, 18;

generally provide a higher level of transparency, such as a detailed indication of reserve assets and a “clear” regulation of redemption rights²⁶. In addition, the category of “asset-based stablecoins” includes those instruments that are backed by both non-liquid assets (e.g. corporate bonds, commercial paper or commodities) and liquid assets.

Issuers in this case generally guarantee immediate redemption of such stablecoins at face value, but in some cases, especially during periods of market stress, they may delay redemption, offer redemption in kind or impose higher redemption fees²⁷.

Finally, the term “crypto-asset-based stablecoin” refers to the type of instrument that is backed by other crypto-assets. These stablecoins are typically decentralized, unguarded and considered part of the so-called De-fi, that is, decentralized finance²⁸.

Although there is a general consensus on the characterization of the different categories of stablecoins, their regulation (or non-regulation) varies considerably from one jurisdiction to another, which has raised several concerns: one only has to think of the possible consequences of regulatory gaps, treatment and regulatory arbitrage that may result from such an imbalance.

Nevertheless, like any innovative financial and monetary phenomenon, virtual currencies present clear challenges in deciding how and whether to regulate new services or products generated by technological innovation, as the potential technical implementations of the blockchain – although still in the discovery and development phase – are impressive. The problems of regulating the impact of technology – at the European level – can be illustrated by the Commission’s so-called Fintech Action Plan²⁹.

²⁶See International Monetary Fund 2021, *Global Financial Stability Report. COVID-19, Crypto, and Climate: Navigating Challenging Transitions*, Washington, DC, October, 47.

²⁷See International Monetary Fund 2021, *op. cit.*, 48.

²⁸ See International Monetary Fund 2021, *op. cit.*, 48; JOHNSTON-YILMAZ-KANDAH-BENTENITIS-HASHEMI-GROSS-WILKINSON-MASON, *The General Theory of Decentralized Applications*, Dapps, 2017, *passim.*; AMF, *Discussion Paper on Initial Coin Offerings (ICOs)*, 2017, 5 ss.

²⁹ See COM (2018) 109 final – FinTech Action plan: For a more competitive and innovative European financial sector.

3. *An overview of the e-money token: notes on its function as a means of payment*

It was emphasized³⁰ that the technology that characterizes the crypto ecosystem has the potential to improve the fundamental aspects of the macroeconomy, through financial services that ensure greater inclusion.

However, public authorities need to strike a balance between financial innovation, enhanced competition and a commitment to open and free markets on the one hand, and challenges to consumer protection³¹ and financial integrity and stability on the other.

Indeed, global finance has undergone disruptive changes in recent years, and regulators have often been confronted with different techniques depending on the specificity of the phenomena: wait and study the phenomenon to verify the need to intervene (*wait and see*); apply the existing regulatory framework (*same business, same risks, same rules*); introduce new rules to capture the specificities of new phenomena (*new functionality, new rules*)³².

These techniques are usually intertwined or at least follow each other: this is the case of stablecoins in Regulation (EU) 2023/1114 on Markets in Crypto-assets (MiCAR), which, after a study and monitoring phase, an overall assessment of the adequacy (or inadequacy) of the current legislation towards crypto-activities in general and the possibility (or impossibility) of attributing them to products or services already regulated (primarily financial instruments or electronic money), were precisely the subject of a regulatory proposal, approved and published in June 2023 and which will soon apply³³.

³⁰ See K. CROXSON/J. FROST/L. GAMBACORTA/T. VALLETTI, *Platform-based business models and financial inclusion*, in *BIS Working Papers No 986*, January 2022; F. HUIBERS, *op. cit.*

³¹ For an overview on general terms and conditions with implication for user contracts see P. MAUME-L. MAUTE-M. FROMBERGER, *Intermediaries of Secondary Crypto Trade*, in *The Law of Crypto Assets*, 2022.

³² See M. AMSTAD, *Regulating Fintech: Objectives, Principles and Practices*, in M. Amstad-B Huang-P. Morgan-S. Shirai (eds), *Fintech in Asia*, ADBI press, 2019; A. FATÁS, *The Economics of Fintech and Digital Currencies*, 5 March 2019.

³³ Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets and amending Regulations (EU) No

In line with the Commission's priorities, several business plans have been implemented, behind which it is possible to discern a common engine: in particular, the digital finance "package" (Digital Finance Strategy)³⁴, of which MiCAR is a part, and also, among others, the Regulation on a "pilot regime" for market infrastructures based on ledger technology³⁵ which will make it possible to test the application of DLT in the financial market.

MiCAR aims to establish a comprehensive and holistic European framework for stablecoins, capable of mitigating financial stability risks. Of particular interest among the regulated categories is the discipline dedicated to so-called e-money tokens, which are "a type of crypto-asset that purports to maintain a stable value by referencing the value of one official currency"³⁶.

Another European Commission initiative that seems to be part of the same regulatory design is the Retail Payments Strategy³⁷. It sees payments as a fertile ground for innovation, both in the financial and retail sectors, and proposes a series of measures to promote a competitive and innovative payment system that supports increasingly digital and instant payment solutions – at European level – exploiting the potential of PSD2³⁸, which is already the subject of a forthcoming revision.

1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937. See Report on the proposal for a regulation of the European Parliament and of the Council on markets in crypto-assets and amending Directive (EU) 2019/1937 (COM (2020)0593 – C9-0306/2020 – 2020/0265(COD)), Committee on Economic and Monetary Affairs, 17 March 2022.

³⁴See COM (2020) 591 final – Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a Digital Finance Strategy for the EU.

³⁵See Regulation (EU) 2022/858 of the European Parliament and of the Council of 30 May 2022 on a pilot regime for market infrastructures based on distributed ledger technology, and amending Regulations (EU) No 600/2014 and (EU) No 909/2014 and Directive 2014/65/EU

³⁶See article 3 (7) of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets.

³⁷See COM (2020) 592 final – Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a Retail Payments Strategy for the EU.

³⁸ See S. SICA-B. M. SABATINO, *Disintermediazione finanziaria e tutela del cliente e dell'utilizzatore*, in *Il diritto dell'informazione e dell'informatica*, 1, 2021.

The common driver behind these regulatory initiatives is, among other things, the use or potential use of crypto-activity as a means of payment.

In particular, MiCAR concerns crypto-activities that are not regulated by the current European Union legislation on financial services and aims to provide legal certainty by establishing uniform rules for issuers and service providers of crypto-assets other than financial instruments (as well as e-money, structured deposits and securitization), irrespective of the nature of the “value” embedded in crypto-activities, that allow to overcome regulatory arbitrage and that give the possibility to all issuers and service providers of crypto-activities to benefit from an “EU passport”.

A number of critical comments³⁹ have been made on the structure of the Regulation⁴⁰. These include (i) the legislator’s decision to regulate technology rather than services, which is reflected in the broad definition of crypto-activity: “a digital representation of a value or of a right that is able to be transferred and stored electronically using distributed ledger technology or similar technology”⁴¹; (ii) the current taxonomy of crypto-activities and the approach focused on the concept of “issuer”, which excludes activities based on distributed ledger technology (DLT) of the De-fi type⁴²; (iii) the obvious reference to the structure of MiFID II⁴³ as regards, inter alia, the authorization regime and the discipline regulating the activity of issuers and service providers

³⁹ See, among others, G. FERRARINI-P. GIUDICI, *Digital Offerings and Mandatory Disclosure: A Market-Based Critique of MiCA*, in *European Corporate Governance Institute - Law Working Paper No. 605/2021*, 2021.

⁴⁰ Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937.

⁴¹ See article 3 (5) of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets.

⁴² See JOHNSTON-YILMAZ-KANDAH-BENTENITIS-HASHEMI-GROSS-WILKINSON-MASON, *The General Theory of Decentralized Applications*, Dapps, 2017, *passim*; GLASER-BEZZENBERGER, *Beyond Cryptocurrencies - A Taxonomy of Decentralized Consensus Systems*, 23rd European Conference on Information Systems (ECIS), Münster, 2015; EC, Report of Investigation pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO, July 2017.

⁴³ See Directive 2014/65/Eu of the European Parliament and of the Council on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU.

for crypto-activities and the consequent “financialization” of all types of crypto-activities; (iv) furthermore, the system of sanctions, which particularly affects all addressees of the rules, due to the broad powers granted to the competent authorities⁴⁴.

However, beyond the possible reflections (and criticisms) on the structure of the aforementioned Regulation, the MiCAR provides a precise guideline for crypto-activities, based on their tripartition⁴⁵ which, despite its apparent link to the traditional one in *cryptocurrencies*, *utility token* and *investment token*, departs from it, at least in part.

On the one hand, it refers to the idea of a token⁴⁶ – accepted in the academic world – for which this term means a digital instrument containing digital rights or assets, issued by subjects that are not traceable to the various institutional systems of the market.

On the other hand, the distinction between “native tokens” and “on-chain tokens” is that the former are only part of the protocol of the blockchain network to which they belong and are therefore defined as

⁴⁴ See “Title VII: Competent Authorities, EBA and ESMA” of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets.

⁴⁵ According to the EBA Report on crypto assets released on 2019, investment tokens may be issued in the context of an ICO which allows business to raise capital for the projects by issuing digital tokens in exchange for fiat currency or other crypto assets; utility tokens typically enables access to a specific product or service often provided using a DLT platform but are not accepted as a means of payment for other products or services; and e “digital currencies” – according to the Financial Action Task Force (FATF) – “can mean a digital representation of either virtual currency (non-fiat) or e-money (fiat) and thus is often used interchangeably with the term ‘virtual currency’”. See also FRIDGEN-REGNER-SCHWEIZER-URBACH, *Don’t Slip on the Initial Coin Offering (ICO) – A Taxonomy for a Blockchain-Enabled Form of Crowdfunding*, presented at Twenty-Sixth European Conference of Information Systems (ECIS2018), Portsmouth, 2018.

⁴⁶ See G. GITTI, *Emissione e circolazione di criptoattività tra tipicità e atipicità nei nuovi mercati finanziari*, in *Banca borsa tit. cred.*, 1, 2020, 13 ss.; OLIVEIRA-ZAVOLOKINA-BAUER-SCHWABE, *To Token or not to Token: Tools for Understanding Blockchain Tokens*, *Zurich Open Repository and Archive*, University of Zurich, 2018, 5 ss.; EULER, *The Token Classification Framework: A multi-dimensional tool for understanding and classifying crypto tokens*, 2017; MOUGAYAR, *Tokenomics – A Business Guide to Token Usage, Utility and Value*, 2017; LENA-OXANA, *What are you token about? Blockchain token economics and rights*, 2017.

“native”, as opposed to “on-chain tokens” which are instead issued after the intervention of a smart contract⁴⁷.

Based on this main distinction, a dichotomy has emerged between *utilities* and *investment tokens*, both of which are considered “on-chain tokens”, while only *cryptocurrencies*, understood as digital currencies with the ambition of being a means of payment, are considered “native tokens”⁴⁸.

This doctrinal construction has been explained by the absence of a definition of crypto-activity and of a real taxonomy of tokens, both at national and supranational level.

In fact, MiCAR today proposes a different vision of crypto-activities, distinguishing: (i) *utility tokens*, defined as crypto-activities issued for the purpose of providing digital access to a good or service, available on a network (DLT) and accepted exclusively by the issuer of that token; (ii) *asset-referenced tokens*, crypto-assets that purport to keep their value stable by referencing to the value of legal tender currencies, one or more commodities or one or more crypto-assets, or a combination of such assets; (iii) and finally, *e-money tokens*, crypto-assets whose primary (though not sole) purpose is to be used as a medium of exchange for goods and services and which purport to

⁴⁷ See MAUGERI, *Smart contracts e disciplina dei contratti*, Bologna, 2021; S. RIGAZIO, *Smart contracts e tecnologie basate su registri distribuiti nella l. 12/2019*, in *Il diritto dell'informazione e dell'informatica*, 2, 2021; E. BATTELLI, *Le nuove frontiere dell'automatizzazione contrattuale tra codici algoritmici e big data: gli smart contract in ambito assicurativo, bancario e finanziario*, in *Giustizia civile*, 4, 2020; C. CIPOLLINI, *Blockchain and Smart Contracts: A Look at the Future of Transfer Pricing Control*, Intertax, Vol. 49, Issue 4, 2021, 315 – 332; B. CAPIELLO, *Dallo “smart contract” computer Code allo smart (legal) contract. I nuovi strumenti (para) giuridici alla luce della normativa nazionale e del diritto internazionale privato europeo: prospettive de jure condendo*, in *Rivista del commercio internazionale*, 2, 2020, 477 ss.; B. CAPIELLO, *Cepetleges in legibus. Cryptoasset and cryptocurrencies private international law and regulatory issues from the perspective of eu and its member states*, in *Rivista del commercio internazionale*, 3, 2019, pp. 561 et seq.; GLASER, *Pervasive Decentralisation of Digital Infrastructures: A Framework for Blockchain enabled System and Use Case Analysis*, presented at Proceedings of the 50th Hawaii International Conference on System Sciences, 2017.

⁴⁸ See also European Central Bank (ECB), *Virtual Currency Schemes: A Further Analysis*, Frankfurt am Main, ECB, 2015, p. 25.

maintain a stable value by reference to the value of a legal tender fiat currency⁴⁹.

They will therefore remain outside the scope of application of the investment token discipline – it being clearly established that the regulation will cover crypto-activities that are not covered by current financial services legislation – and those crypto-activities that are automatically generated by mining⁵⁰.

The particular focus – if not the main focus – of the Regulation is clearly on stablecoins and this seems to stem from the concerns that the proliferation of these “currencies” could threaten financial stability, monetary policy transmission or monetary sovereignty. With particular reference to the euro area, the creation of the euro has meant that Member States are no longer able to conduct monetary policy in their exclusive interest⁵¹: this means that the ECB is obliged to formulate its monetary policy in the interest of the euro area as a whole, and – today – stablecoin competition becomes part of the interest of “European monetary policy”.

In particular, the discipline reserved for e-money tokens is peculiar. It is immediately clear that this is again the result of a “financialization” of crypto activities, since they are subject to a regulation very similar to that of the public offering of financial instruments⁵², which provides for the obligation of the issuer to publish a White Paper⁵³ – in which a

⁴⁹ Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets. For a general overview on the tripartition see P. MAUME-L. MAUTE-M. FROMBERGER, *op. cit.*

⁵⁰ See article 4 (3) of the “Title II: Crypto-Assets other than asset-referenced tokens or e-money tokens” of the Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets. See also M. HOBZA/A. VONDRÁČKOVÁ, *Crypto-Asset Services under the Draft MiCA Regulation*, Charles University in Prague Faculty of Law Research Paper No. 2021/III/4, 2021.

⁵¹ See L. F. PACE, *op. cit.*

⁵² See Directive 2014/65/Eu of the European Parliament and of the Council on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU.

⁵³ See article 6 of the Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets; JOHNSTON-YILMAZ-KANDAH-BENTENITIS-HASHEMI-GROSS-WILKINSON-MASON, *op. cit.*; AMF, Discussion Paper on Initial Coin Offerings (ICOs), 2017, pp. 5 ss.; FRIDGEN-REGNER-SCHWEIZER-URBACH, *Don't Slip on the Initial Coin Offering (ICO) – A Taxonomy for*

series of information relating to the issuer, the project, the underlying technology, the rights and obligations of the holders must be included⁵⁴ – and a liability similar in part to that of the “prospectus”⁵⁵, for which compensation by the issuer or its administrative body is expressly provided for in the event of damage caused by information breaches, with the burden of proof for the breach and its impact on the decision to buy, sell or exchange tokens⁵⁶.

At the same time, however, e-money tokens are explicitly treated as electronic money itself, although they are exempted from almost all relevant legislation (Directive 2009/110/EC - the Electronic Money Directive) and are subject to the provisions of the (forthcoming) Regulation⁵⁷.

In particular, the issuer must be authorized as a credit institution or an “electronic money institution”; holders may at any time request the reimbursement of amounts paid in legal tender currency at face value in exchange for the return of the tokens held (reimbursement may be subject to a commission only if expressly provided for in the White Paper); the latter may be issued only for the legal tender value of the

a Blockchain-Enabled Form of Crowdfunding, presented at Twenty-Sixth European Conference of Information Systems (ECIS2018), Portsmouth, 2018; AMF, Discussion Paper on Initial Coin Offerings (ICOs), 2017, pp. 5 et seq.

⁵⁴ See – about the e-money token – art. 51 of the “Title IV: E-money tokens” of the Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets.

⁵⁵ See – about the e-money token – art. 52 of the “Title IV: E-money tokens” of the Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets; see, also, ZANOTTI, *Falsità del prospetto (ex art. 18 l. 216/1974) e tutela dell’informazione penale societaria*, in *Banca borsa tit. cred.*, 1989, 2, 622 ss.; GIACOMANTONIO, *La responsabilità da prospetto informativo*, in *Danno resp.*, 2001, 505 ss.

⁵⁶ See – about the e-money token – art. 52 of the “Title IV: E-money tokens” of the Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets.

⁵⁷ Art. 48 describes that no e-money tokens shall be offered to the public in the Union or admitted to trading on a crypto-asset trading platform unless the issuer is authorized as a credit institution or as an ‘electronic money institution’ within the meaning of Article 2(1) of Directive 2009/110/EC. Article 43 also states that ‘e-money tokens’ are deemed electronic money for the purpose of Directive 2009/110/EC.

tokens they represent; and, finally, it is prohibited to provide for any interest in favor of the holders⁵⁸.

It is therefore important to emphasize the function of e-money tokens as a means of exchange (i.e. payment): the Regulation states that “such crypto-assets are electronic surrogates for coins and banknotes and are likely to be used for making payments”⁵⁹.

In addition to the monetary policy considerations that may arise, there is still the possibility (if not the risk) that e-money tokens, due to their practical use – together with the systemic importance that they may acquire – will be effectively equated to payment instruments.

In the ECB’s opinion on the proposed regulation⁶⁰, the function of e-money tokens (and, to some extent, of asset-referenced tokens), which provide for the execution of transfer orders, could indeed be considered equivalent to that of a “payment system”⁶¹. Similarly, the function of e-money token devices, which establish standardized and common rules for the execution of payment transactions between end-users, could be considered a “payment scheme”⁶².

It is no coincidence that the ECB has called for the possibility to consider the creation of a specific category of “payment tokens”⁶³ with subsequent retail prudential regulation and its adaptation for the purposes of the Eurosystem’s oversight policy framework and a

⁵⁸ See the discipline provided from art. 48 of the “Title IV: E-money tokens” of the Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets.

⁵⁹ See Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets, p. 5.

⁶⁰ See European Central Bank, Opinion of the European Central Bank of 19 February 2021 on a proposal for a regulation on Markets in Crypto-assets and amending Directive (EU) 2019/1937 (CON/2021/4).

⁶¹ See paragraph 2.2.2 of European Central Bank, Opinion of the European Central Bank of 19 February 2021 on a proposal for a regulation on Markets in Crypto-assets and amending Directive (EU) 2019/1937 (CON/2021/4).

⁶² See paragraph 2.2.3 of European Central Bank, Opinion of the European Central Bank of 19 February 2021 on a proposal for a regulation on Markets in Crypto-assets and amending Directive (EU) 2019/1937 (CON/2021/4).

⁶³ See paragraph 2.1.4 of European Central Bank, Opinion of the European Central Bank of 19 February 2021 on a proposal for a regulation on Markets in Crypto-assets and amending Directive (EU) 2019/1937 (CON/2021/4).

possible reference to the potential interaction with the PSD2⁶⁴. In this respect, depending on the different design of the specific token business model, «the respective operator or service provider may also provide payment services under the PSD2»⁶⁵; this may be considered a payment service even if it is provided together with other services (financial or investment). Whether or not a payment service subject to authorization exists depends on both the business model and the specific contractual arrangements between the parties involved⁶⁶.

4. *Big Tech and stablecoins: the implications of a convergence of the two phenomena*

Thus, in this context of a clear tendency to promote strong innovation and, at the same time, the attempt to reconcile blockchain technology with payment systems⁶⁷ – bearing in mind, among other things, the project of a digital euro⁶⁸ – it is worth noting the proliferation

⁶⁴ An example of the potential interplay between the proposed regulation and the PSD2 would be where a service provider is contracting with a payee to accept crypto-assets other than e-money tokens. In such a case it would need to be clarified whether such providers would need to meet the same requirements on consumer protection, security and operational resilience as regulated payment service providers. Ultimately, it would need to be clarified whether such activities can be tantamount to the ‘acquiring of payment transactions’, as defined under PSD2.

⁶⁵ P. MAUME-L. MAUTE-M. FROMBERGER, *op. cit.*, 260.

⁶⁶ See P. MAUME-L. MAUTE-M. FROMBERGER, *op. cit.*

⁶⁷ See F. HUIBERS, *Distributed Ledger Technology and the Future of Money and Banking, Accounting, Economics, and Law: A Convivium*, 2020.

⁶⁸ See EUROPEAN CENTRAL BANK, *Report on a digital euro*, October 2020. About the Central Banks Digital Currencies see also S. GRUNEWALD-C. ZELLWEGE-GUTKNECHT-B. GEVA, *Digital euro and ECB powers*, in *Common Market Law Review* 58, 2021, 1029–1056; U. BINDSEIL, *Tiered CBDC and the financial system*, ECB Working Paper Series 2315, 2020, 1–41; C. BARONTINI-H. HOLDEN, *Proceeding with caution – A survey on central bank digital currency*, BIS Papers No.101, January 2019; I. AGUR-A. ARI-G. DELL’ARICCIA, *Designing central bank digital currencies*, ADBI Working Paper Series No. 1065, 2019. See also E. DIJMARESCU, *Towards a Fiduciary Digital Currency*, in *Romanian Journal of European Affairs*, vol. 21, no. 1, December 2021; M. ZEMLER/J. KRONICK, *Two Sides of the Same Coin: Why Stablecoins and a Central Bank Digital Currency Have a Future Together*, in *C.D. Home Institute Commentary 613*, 2022; W. BOLT-V. LUBBERSEN-P. WIERTS, *Getting the Balance Right: Crypto, in Stablecoin and CBDC*, *De Nederlandsche Bank Working Paper No. 736*, 2022.

of new forms of currency, which are increasingly challenging banks through the spread of decentralized financial platforms⁶⁹, and the presence of so-called *Non-bank financial Intermediaries*⁷⁰, which are growing rapidly.

Accordingly, the possibility of a convergence of two trends – if not regulated – could lead to even more disruptive and potentially risky changes.

The Big Tech companies⁷¹ or even called *Gafas* (i.e. Google, Amazon, Facebook and Apple) have long since gained a foothold in payments and have begun to offer financial services (including payment services, electronic money and the provision of credit and, in some cases, also insurance and asset management services)⁷²: given their “size”, their large customer base and their access to unique information, they are becoming increasingly important global players in the markets, competing with existing financial institutions⁷³.

⁶⁹ See S. CLAESSENS-J. FROST-G. TURNER-F. ZHU, *Fintech credit markets around the world: size, drivers and policy issues*, in *BIS Quarterly Review*, September 2018, 29–49; J. FROST-L. GAMBACORTA-Y. HUANG-H. S. SHIN-P. ZBINDEN, *BigTech and the changing structure of financial intermediation*, in *BIS Working Papers No 779*, April 2019; EBA, *Report on the impact of fintech on payment institutions’ and e-money institutions’ business models*, July 2019.

⁷⁰ See ECB, *Non-bank financial intermediation in the euro area: implications for monetary policy transmission and key vulnerabilities*, in *Occasional Paper Series No 270*, September 2021; K. CERA-M. GIUZIO-R. GOURDEL-A. GRASSI-S. KÖRDEL-J. METZLER, *The role of bank and non-bank interconnections in amplifying recent financial contagion*, in *Financial Stability Review*, May 2020; I. ALDASORO/W. HUANG/E. KEMP, *Cross-border links between banks and non-bank financial institutions*, in *BIS Quarterly Review*, September 2020.

⁷¹ See N. BILOTTA/S. ROMANO (a cura di), *The Rise of Tech Giants. A Game Changer in Global Finance and Politics*, Bern, 2019.

⁷² See G. CORNELLI-J. FROST-L. GAMBACORTA-R. RAU-R. WARDROP-T. ZIEGLER, *Fintech and big tech credit: a new database*, in *BIS Working Papers No 887*, Monetary and Economic Department, September 2020.

⁷³ R. ZAMIL-A. LAWSON, *Gatekeeping the gatekeepers: when big techs and fintechs own banks – benefits, risks and policy options*, in *FSI Insights on policy implementation No 39*, January 2022; E. CARLETTI-S. CLAESSENS-A. FATÁS-X. VIVES, *Challenges to banks’ business model*, in *The Bank Business Model in the Post-Covid-19 World*, 2020, 23 ss.; J.C. CRISANTO-J. EHRENTAUD-M. FABIAN, *Big techs in finance: regulatory approaches and policy options*, *FSI briefs No 12*, March 2021; FSB, *BigTech in finance Market developments and potential financial stability implications*, December 2019; A. CARSTENS-S. CLAESSENS-F. RESTOY-H. S. SHIN,

Despite the fact that some consider them «BAADD - big, anti-competitive, addictive and destructive to democracy», others⁷⁴ believe that their entry into the banking sector can bring benefits to both investors and the real economy, allowing companies to diversify their sources of funding, including cross-border funding; promoting risk-sharing and thus reducing the impact of country- or bank-specific shocks, thereby strengthening financial stability.

In this context, there is a proliferation of digital resources such as crypto-assets and, in particular, stablecoins⁷⁵.

If Big Tech were to start issuing their own stablecoins at any moment (and until recently it was thought that Facebook would issue its own Diem currency, formerly Libra)⁷⁶, the two trends would converge, potentially transforming global financial markets.

In particular, the risks of contagion and volatility would increase⁷⁷: the ability of the Big Tech to access data from a broad customer base would be a clear advantage over traditional financial intermediaries and could allow them to challenge the role of the banks, creating risks of dominant position and abuse of market power, as well as raising data protection and consumer protection issues⁷⁸.

Regulating big techs in finance, in *BIS Bulletin No 45*, August 2021; *The Economist*, *Big Tech takes aim at the low-profit retail-banking industry*, November 2019. See also J. LEE-M. VAN DE LOOVERBOSCH, *Property and Data: A Confused Relationship*, Lee-J. Darbellay A. (eds), *Data Governance in AI, FinTech and RegTech: Law and Regulation in the Financial Sector*, Cheltenham, 2022.

⁷⁴ See F. PANETTA, *Stay safe at the intersection: the confluence of big techs and global stablecoins*, in *Bancaria Online*, 10, 2021, 12 ss.

⁷⁵ J. CARAMICHAEL/G. LIAO, *Stablecoins: Growth Potential and Impact on Banking*, *International Finance Discussion Paper No. 1334*, 2022.

⁷⁶ See G. A. JAFARI-M. GRUBER, *The Case of Diem: A Distributed Ledger Technology -based Alternative Financial Infrastructure Built by a Centralised Multisided Platform*, *Forthcoming*, in *Journal of Intellectual Property, Information Technology and Electronic Commerce Law “JIPITEC”*, 2021; SANDNER/GROSS/GRALE/SCHULDEN, *The Digital Programmable Euro, Libra and CDC: Implications for European Banks*, *Frankfurt School Blockchain Center*, 2020.

⁷⁷ See F. PANETTA, *op. cit.*, 12 ss.

⁷⁸ C. NECATI PEHLIVAN/I. ISIDRO READ, *Blockchain and Data Protection: A Compatible Couple?*, in *Global privacy law review*, Vol. 1, Issue 1, 2020, 39 – 48; P. YEOH, *An International Regulatory Perspective of Digital Banks*, in *Business Law Review*, Vol. 41, Issue 6, 2020, 204 –213.

An example of concern about the expansion of Big Tech in the banking sector is the European Commission's case against Apple Pay⁷⁹: in particular, the Commission believes that Apple is abusing its power in the market for smartphone payments⁸⁰.

Beyond the implications for global payments and for the impact on the financial landscape, the confluence of these two dynamics would mean that stablecoins, whose use is so far limited (although growing), could, if issued by a Big Tech, rapidly expand globally – relying on the large base of existing users – both a potential change in the way money and credit are created⁸¹.

5. Big Tech and e-money token: is there a possible influence?

In light of the above, it therefore seems possible to assume that there is a link between the European legislator's thrust to regulate crypto activities – through the MiCAR – and the potential issuance of stablecoins by global actors capable of influencing the markets.

This is especially true if one considers the provision in the Regulation for a specific rule of “significant tokens”⁸², identified by a set of criteria and size thresholds for customers, market capitalization, number and value of transactions, and the relevance of cross-border

⁷⁹ See EUROPEAN COMMISSION, *Antitrust: Commission sends Statement of Objections to Apple over practices regarding Apple Pay*, Brussels, 2 May 2022.

⁸⁰ See *The Economist*, *Trustbusters take aim at Apple's clout in contactless payments*, May 2022.

⁸¹ See F. PANETTA, *op. cit.*, 12 ss.

⁸² See article 57 of “Title IV: E-money tokens” of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets. As provided for the *asset-referenced tokens*, the category of significant *e-money tokens* is subjected to a more restrictive regime with regard to capital requirements, the interoperability of requirements and liquidity management policy. This qualification can be assigned also by the EBA, at the end of a procedure aimed at verifying the characteristics of the token subject to offer or negotiation or at the request of the same issuer (see F. MATTASSOGLIO, *Le proposte europee in tema di crypto-assets e DLT. Prime prove di regolazione del mondo crypto o tentativo di tokenizzazione del mercato finanziario (ignorando bitcoin)?*, in *questa Rivista*, II, I, 2021, 440 ss.).

activities⁸³: the European legislator has planned and regulated the possible use of a large-scale token that could disrupt the global market.

It should also be noted that Amazon, among others, has already set up an e-money institution under European law⁸⁴, operating with multiple functions (Amazon Pay, Amazon Go, Amazon Coins, Amazon Cash, etc.).

In fact, beyond the need - highlighted in particular by the ECB - to adapt the framework for the purposes of Eurosystem oversight and the possible reference to the possible interaction with the PSD2, the specificity of e-money tokens and their particularly strict regime inevitably lead the interpreter to ask whether the European legislator wanted to anticipate (and limit) the possible issuance of stablecoins by actors - such as who, because of their stability and relevance, are potentially able to channel the market by establishing a means (essentially) alternative to the “fiduciary currency” and, consequently, to place such an instrument under the control of the public authorities.

This explains, on the one hand, the push by the European legislator to regulate the cryptocurrency phenomenon and the expansion of the innovative scope of distributed ledger technologies (DLT), in particular blockchain technology, which – through the “tokenization” of assets and rights – has given rise to a new market on the borderline between financial and capital markets. Moreover, the latter has been partially covered by specific rules at national level (think of France, Germany and Malta, which have established different national regimes, and Italy, which has taken a step forward in the field of money laundering with the creation of the special section of the “OAM register”⁸⁵).

⁸³ See article 43 of “Title III: Asset-referenced tokens” of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets.

⁸⁴ See on the subject R. DE BONIS-M.I. VANGELISTI, *Moneta. Dai buoi di Omero ai Bitcoin*, Bologna, 2019.

⁸⁵ See the Decree of the MEF 13 January 2022, no. 40 of 17.02.2022, whereby providers of services related to the use of virtual currency – as well as providers of digital portfolio services – operating or intending to operate in Italy are obliged to register in a special section of the register held by the Agents and Mediators (the “OAM”), a condition now necessary to operate legally on Italian territory. The Decree lays down the procedures and the timing by which providers of services relating to the use of virtual currency and providers of digital portfolio services are required to

On the other hand, however, the thrust of the European legislator – apparently – is moving in a “defensive” direction.

Certainly, an effective regulatory framework for Big Tech can be characterized by requirements based on the entity and therefore on the issuer; and in this sense, the European Union is exploiting the advantages of this approach, focusing on issues such as competition and operational resilience in order to limit risks, possible abuses and criminal phenomena.

Indeed, institutions will have to monitor and manage risks by strengthening reporting requirements and controlling reserves. For this reason, attention needs to be focused on money laundering and terrorist financing profiles and their interaction with antitrust and privacy profiles⁸⁶.

Although it can be observed that the ability of large platforms to adopt different strategies in different jurisdictions would limit the possibility of regulatory initiatives triggering the so-called “Brussels effect”⁸⁷ (as already pointed out in connection with the Digital Market Act and the Digital Service Act⁸⁸) if not coordinated internationally, both with the entry into force of the Regulation and with the possible use of large-scale e-money tokens as a payment instrument and system,

communicate their operations on the national territory to the OAM in accordance to the article 17-bis, paragraph 8-ter of Legislative Decree 13 August 2010, n. 141.

The provision of additional requirements and charges to operators in virtual currencies, therefore, goes hand in hand with the anti-money laundering obligations provided by Legislative Decree No. 231/2007, already long applicable to the same operators.

⁸⁶ See, among those who pointed out the risks involved, BELLINO, *I rischi legati all’ecosistema Bitcoin: i nuovi intermediari*, in *questa Rivista*, 4, 2018; 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*, in *questa Rivista*, 1, 2018; N. MANCINI, *Valute virtuali e Bitcoin*, in *AGE*, 2015, 131 ss.; P. GONZÁLEZ, *Criptomonedas: naturaleza jurídica y riesgos en la regulación de su comercialización*, in *Rev. der. merc. val.*, 22, 2018.

⁸⁷ M. EIFERT/A. METZGER/H. SCHWEITZER/G. WAGNER, *Taming the giants: the DMA/DSA package*, in *Common Market Law Review* 58, 2021, 987–1028.

⁸⁸ See COM (2020) 825 final – Proposal for a Regulation of the European Parliament and of the Council on a Single Market for Digital Services (Digital Services Act) and amending Directive 2000/31/EC; COM (2020) 842 final – Proposal for a Regulation of the European Parliament and of the Council on contestable and fair markets in the digital sector (Digital Markets Act).

the interpreter must consider – at the national level – the negotiation and exchange of crypto-assets in the light of the traditional categories of civil law.

In the dynamics of contractual relations between private individuals, the e-money token – even more so when projected in the dimension of Big Tech – has the potential to interfere in a disruptive way in the obligatory relations. And then it will be necessary to determine how this will relate to currency and to what extent it will fit into the discipline of obligations, especially monetary ones.

More generally, the phenomenon must be considered in the light of private regulatory law, if not even at the level of general regulation, in order to be able to apply to the crypto-activity an observation already made⁸⁹: these are not or (better) should not necessarily be considered as positive or negative factors, but - certainly - are not neutral factors.

6. Stablecoins as a medium of exchange: some brief opinions on the future perspectives

Finally, the widespread use of crypto-activities as a means of payment fits into a scenario in which the era of cash is coming to an end, or rather very limited, and money, banking and finance are on the verge of a transformation⁹⁰; digital platforms are not replacing commercial banks, but they are starting to offer services and products generally attributed to traditional intermediaries⁹¹, thus doubling the opportunities for consumers and alternative channels. Indeed, on the one hand, fintech is changing the world of finance by providing more direct channels linking savers and borrowers, as digital platforms are able to bring together a very diverse set of data, which is likely to lead

⁸⁹ See M. STUCKE/A.EZRACHI, *Virtual Competition: The Promise and Perils of the Algorithm-driven Economy*, 2016.

⁹⁰ See E. CARLETTI-S. CLAESSENS-A. FATÁS-X. VIVES, Challenges to banks' business model, cit., 23 ss.; M. MIDIRI, *Le piattaforme e il potere dei dati (Facebook non passa il reno)*, in *Il diritto dell'informazione e dell'informatica*, 2, 2021.

⁹¹ See F. PANETTA, *op. cit.*, 12 ss. See S. CLAESSENS-J. FROST-G. TURNER-F. ZHU, *Fintech credit markets around the world: size, drivers and policy issues*, in *BIS Quarterly Review*, September 2018, 29–49; J. FROST/L. GAMBACORTA/Y. HUANG/H. S. SHIN/P. ZBINDEN, *BigTech and the changing structure of financial intermediation*, in *BIS Working Papers No 779*, April 2019; EBA, *Report on the impact of fintech on payment institutions' and e-money institutions' business models*, July 2019.

to the production of financial products and services that better meet the specific needs of consumers and businesses, as it cannot be excluded that new forms of intermediation – based on public consensus mechanisms rather than trust in official or private institutions – will be created.

At the same time, digital platforms (especially Big Tech) are increasingly being used in the field of payments, among others⁹².

In this context, cryptocurrencies have emerged precisely to serve as a medium of exchange that does not require the involvement of the state (i.e. financial intermediaries)⁹³ and even if in practice decentralized cryptocurrencies have proven to be inefficient as a medium of exchange for making payments and have instead come to be regarded as stores of value⁹⁴, the only cryptocurrencies that have shown a lack of ability to function as a reliable medium of exchange are those that are backed by reserves of, in particular, fiat currencies: i.e. stablecoins.

Therefore, assuming that cryptocurrencies – even if they are not a reliable medium of exchange – can easily aspire to be a means of payment, this is even more true when considering stablecoins.

On the one hand, cryptocurrencies don't seem to be able to flourish without the trust embedded in institutional frameworks, but it's also true that government recognition of crypto-assets – in whatever form, and therefore also through the aforementioned Regulation⁹⁵ – even if it stops far short of any kind of endorsement⁹⁶, seems to strengthen consumer confidence in these assets.

Thus, the regulation of e-money tokens seems to be a window of opportunity for cryptocurrencies to be used as an alternative to money,

⁹² See EUROPEAN BANKING AUTHORITY, *Report on the use of digital platforms, in the EU Banking and Payments Sector*, September 2021; K. CROXSON-J. FROST-L. GAMBACORTA-T. VALLETTI, *op. cit.*

⁹³ See BECK-CZEPLUCH-LOLLIKE-MALONE, *Blockchain - The Gateway to trust-free cryptographic transactions*, ECIS 2016 Proceedings, Research Papers, 2016, 3 ss.

⁹⁴ See International Monetary Fund 2021, *Global Financial Stability Report. COVID-19, Crypto, and Climate: Navigating Challenging Transitions*, Washington, DC, October, *passim*.

⁹⁵ Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937.

⁹⁶ See E. S. PRASAD, *op. cit.*, 354 ss.

especially if they are considered in the dimension of Big Tech, which – due to its increasing expansion – can reach a wide range of consumers.

Moreover, the entry of crypto activities into payment systems increases the need for effective enforcement of contractual and property rights at the national level, but even earlier within private regulatory law.

In conclusion, the development of new ecosystems – such as that of cryptocurrencies – can be more or less fragmentary or subject to uniform waves of innovation, which are also recognized by public institutions. But in any case, despite the need for regulatory intervention, this is probably less relevant than the recognition that in practice – that of cryptocurrencies – it is taking the form of a “polymorphic ecosystem”⁹⁷. And that is why a more fundamental debate about reform needs to be put on the global discussion agenda.

⁹⁷ See S. JOHNSTONE, *op. cit.*, 283.