

THE «WILD WEST» OF DIGITAL FINANCE – DO WE NEED AN(OTHER) EU «SHERIFF»? –

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«Today we put order in the Wild West of crypto assets and set clear rules for a harmonised market»

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ABSTRACT: *This paper addresses two areas of regulatory deficiencies identified within the Digital Finance Package. Against the background of empirical data on market performance, we claim that the current legal framework which emerges from the Commission’s Digital Finance Strategy fails to strike a balance between doing enough and doing too little. While the MiCAR regime unveils the risk of regulatory overkill, certain crucial aspects in the area of consumer protection remain untouched by any legislative activity.*

SUMMARY: 1. Preliminary remarks. – 2. Scope of the paper. – 3. Data analysis. – 4. Background: a quick overview of the legal framework. – 5. Markets in Crypto-Assets Regulation (MiCAR). Problematic issues. – 6. The unaddressed risks of financial exclusion.

1. Financial markets have been traditionally permeable and receptive to digital innovation. Historically, the financial sector has reacted with ease and agility to

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technological advances with the development of new business models, and the provision of new products and services and the accommodation of existing structures, procedures, and transactional schemes. The second wave of digital transformation, fueled by the convergence and the synergetic combination of transformative and disruptive technologies (artificial intelligence, internet of things, platforms, big data, augmented reality, virtual reality, distributed ledger technologies, etc) is also swiftly and extensively permeating the market as evidenced by promising adoption rates among users, expanding presence of fintech⁷⁰ firms and the emergence of new market players, and the growing use of digital finance solutions by incumbents. The impact of this second generation of digital technologies is impacting on the business models, the market conditions, and the sector structure,⁷¹ but it is also, and significantly, challenging regulatory strategies.⁷²

On the one hand, a burgeoning, increasingly sophisticated, and dynamic fintech market has forced to reconsider the regulatory perimeters and the contours of the supervision sphere in the financial sector. A careful reflection is needed to strike the right balance between promoting innovation, and unleashing the benefits of digital finance. and ensuring market stability, integrity and transparency and protecting consumers' rights without raising undesired barriers to entry and creating inefficiencies. Emerging business models, actors, and products are challenging traditional regulatory perimeter. Whether expanding or not the regulatory perimeter to capture all emerging models constitutes a crucial policy decision with substantial

⁷⁰ Fintech is used as an umbrella term describing “technology-enabled innovation in financial services that could result in new business models, applications, processes or products, with an associated material effect on the provision of financial services” – FSB, Financial Stability Implications from Fintech 7 (2017), <https://www.fsb.org/wp-content/uploads/R270617.pdf>.

⁷¹ World Economic Forum, *The Future of Financial Services. How disruptive innovations are reshaping the way financial services are structured, provisioned and consumed, An Industry Project of the Financial Services Community prepared in collaboration with Deloitte*, Final Report, June 2015.

⁷² As described in RODRÍGUEZ DE LAS HERAS BALLELL, *The Layers of Digital Financial Innovation: Charting A Regulatory Response*, Fordham Journal of Corporate & Financial Law, vol. XXV, pp. 381-421, 2020.

effects on the European competitiveness, the social and economic growth and the citizens' rights and interests.

On the other hand, while the first wave of digital transformation has proved to complete a cycle from disintermediation to reintermediation – with the rise and expansion of digital (centralized) platforms -, the second wave is pushed by technologies that enable decentralized models and distributed schemes. Decentralization is a challenging feature to be embraced and effectively addressed by regulation (and legislation, generally). Decentralised schemes questioned many assumptions of legacy regulatory solutions. A fresh approach is needed and a prudent and thoughtful response is advisable. No action might not necessarily be the optimal policy option to be finally chosen. But certainly, there are issues to carefully pondered. Crypto markets are conspicuous examples of the decentralizing trend. The regulatory response is neither straightforward nor innocuous. While no or too-late regulatory intervention may leave the market foundations seriously touched and disequilibrate the whole sector, a too-early intervention may asphyxiate growth and stifle innovation. But not only timing is critical. It is also a matter of how and how much. Regulation may be insufficient or excessive, may allocate incentives wrongly, put too much pressure on incumbents, raise unintendedly barriers to entry for new entrants, or interfering in market competition or in product innovation. Therefore, demarcating the regulatory scope and, in the case of crypto markets, determining who to regulate are instrumental decisions in the policy making.

The European Union is deploying an extraordinary regulatory action programme in the building of a Digital Single Market with an ambitious and expansive agenda on the platform economy, the data economy, the use of artificial intelligence. The adoption of a number of very relevant pieces of legislation and promising proposals and initiatives is paving the path for a pioneered comprehensive legal framework for the expanding digital economy. A hoped-for transversal and cross-sectoral legal framework that has to be accompanied, elaborated on and specified by sector legislation and regulation. At this point, a strong case has to be

made for the need of ensuring consistency, coherence, and alignment of policy goals and solutions, filling gaps, avoiding overlaps, and refining deficiencies.

With all the particularities of the sector, the economic implications, and the policy considerations, the Digital Finance Strategy is and can be regarded as a piece of this macro-strategy for the digital future of the European Union. Under such a systemic approach, the digital finance market might benefit from positive spillovers of the intensive consumer protection and citizen/human-centric approach emanating from the Digital Single Market strategy.

2. Given the above, this paper intends to address two areas of regulatory deficiencies identified within the Digital Finance Package⁷³.

This research adopts a Law and Economics perspective and takes data provided by the Italian securities and markets authority (Consob) in the summer of 2022⁷⁴ as an analytical point of departure. We highlight the main challenges and concerns that Digital Finance appears to impose on the market structure and players, as well as on the prudential supervision mechanism. As we do not intend to offer a

⁷³ As a result of the Commission's Digital Finance Strategy, currently MiCAR and DORA are being discussed and negotiated between the Commission, the Parliament and the Council with the aim of reaching final agreements in late 2022 or early 2023, while the DLT Regulation has already been approved and has entered into force in late June 2022. These acts, referred to as the Digital Finance Package, are aimed at: (i) making Europe fit for the digital age and building a future-ready economy that works for the people; (ii) further enabling and supporting the potential of digital finance in terms of innovation and competition; (iii) mitigating the risks arising out of the digital transition of finance. On the Digital Finance Package see *inter alia* ANNUNZIATA, *La disciplina del mercato mobiliare*, Turin, 2021, p. 28-31; BUSCH, *The future of EU financial law*, EBI Working Paper No. 93/2021, p. 16 ff.; ID., *EU financial regulation in times of instability*, in *Financial stability amidst the pandemic crisis: on top of the wave*, edited by Gortsos and Ringe, EBI Book Series, 2021, p. 117 ff.; ZETZSCHE – ANNUNZIATA – ARNER – BUCKLEY, *The Markets in Crypto-Assets regulation (MiCA) and the EU digital finance strategy*, in *Capital Markets Law Journal*, 2021, p. 203-206; CIOCCA, *Pacchetto Finanza Digitale - Audizione della CONSOB presso la VI Commissione permanente (Finanze) della Camera dei Deputati*, 2021, available at www.consob.it.

⁷⁴ See, recently, *Comunicazione della Banca d'Italia in materia di tecnologie decentralizzate nella finanza e cripto-attività*, Rome, June 2022, available at www.bancaditalia.it. Also see C. BIANCOTTI, *What's next for crypto?*, in *Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers)*, September 2022.

detailed dogmatic analysis of the legal state-of-play, our aim is to highlight and explore two issues which we identify as emerging regulatory flaws of the Digital Finance Strategy's implementation. On the one hand, (i) we explore highlight its deficiencies, gaps and disincentives that follow from the MiCAR regime and identify the risk of regulatory overkill in that respect. On the other hand, (ii) we explain an imminent regulatory gap regarding the protection of consumers that do not actively participate in the digital revolution in financial services provision.

3. As recently pointed out by Consob⁷⁵, data that refers to investment in crypto-assets is remarkable.

The Italian Authority shows that:

(i) since 2020, the number of crypto-currencies and other crypto-assets has been growing: over 10,300 as of April 2022 (from around 2,400 in 2020)⁷⁶;

(ii) decentralised finance applications (Decentralised Finance or DeFi) have been growing as well: in fact, it must be underlined that «the value locked in DeFi applications (used as a size proxy) increased from 16.5 billion USD at the end of 2020 to about 56 billion USD in May 2022 (peaking at over 95 billion USD at the end of 2021)»⁷⁷;

(iii) since 2021, the number of crypto-asset owners has increased and, «among the major European economies, it ranges from 5% in the UK to 2% in Italy»⁷⁸.

The importance of such data is convincingly displayed in the following charts:

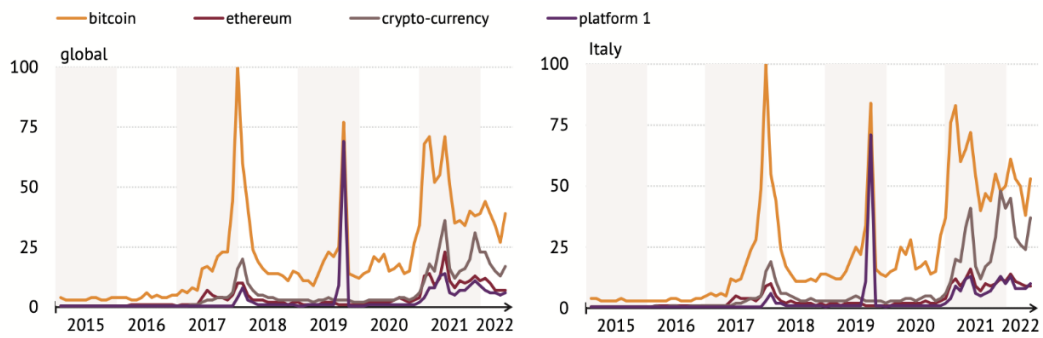
Chart 1: Interest in crypto-currencies over time based on web searches (monthly data up to May 2022)

⁷⁵ CONSOB, *Emerging trends in sustainable investing and cryptoasset markets*, Rome, June 2022, p. 7, available at www.consob.it, which is also the source of Charts 1, 2, 3, 4 and 6 below.

⁷⁶ CONSOB, op. cit., p. 6.

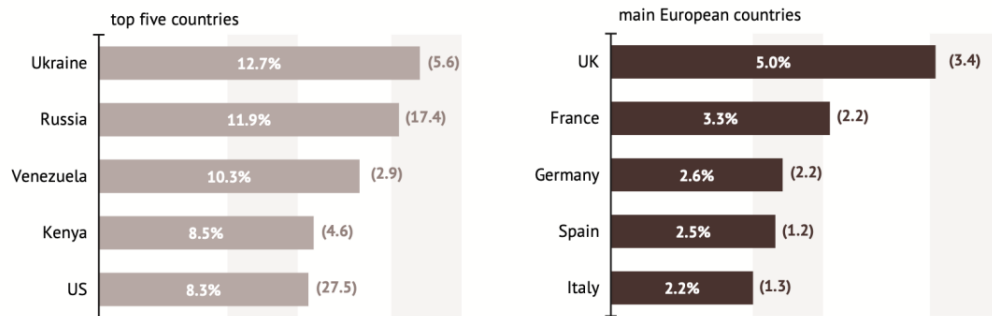
⁷⁷ CONSOB, op. cit., p. 7.

⁷⁸ CONSOB, op. cit., p. 7.



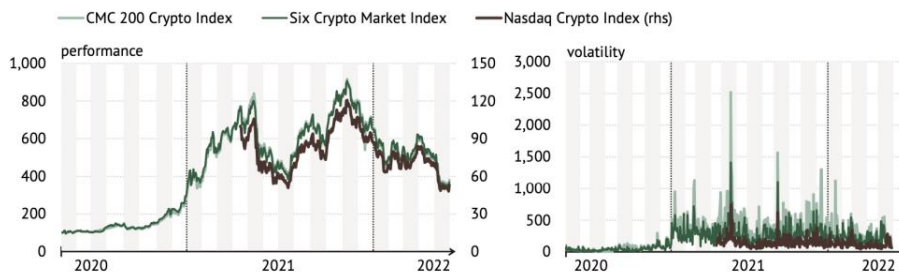
Source: Google Trends. Volume of searches made on Google of the words 'bitcoin', 'ethereum', 'cryptocurrency' and the name of the largest crypto exchange platform (platform 1 in the graphs). Indices are calculated as the ratio between the number of searches on a topic and the total number of searches made in each geographical area over the period considered. Indices range between 0 and 100, where 100 represents the highest frequency of searches detected.

Chart 2: Owners of crypto-assets by country (data as of 2021, share of country population in percentage; millions of owners in brackets)



Source: TripleA; <https://triple-a.io/crypto-ownership/>.

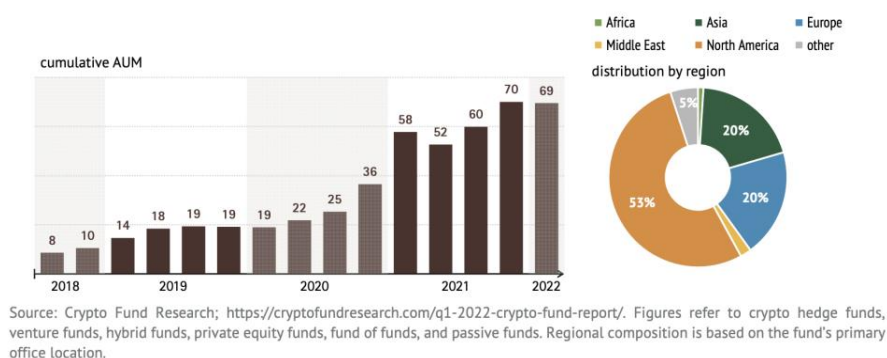
Chart 3: Trends in Cryptocurrency Markets (daily data up to 31 May 2022; 29 April 2020=100)



Source: calculations on Refinitiv data. Nasdaq crypto index tracks the performance of digital assets traded in US\$; its current composition is: Bitcoin (weight equal to 67%), Ethereum (weight equal to 30%), Litecoin (weight equal to 0.75%), ChainLink (weight equal to 0.64%), Uniswap (weight equal to 0.35%), Bitcoin cash (equal to 0.44%), Stellar Lumens (weight equal to 0.32%), Filecoin (weight equal to 0.3%), Axie Infinity (weight equal to 0.36%), Sandbox (weight equal to 0.27%). CMC 200 Index includes first 200 cryptocurrencies by market capitalisation. Six Swiss 10 crypto index includes the first 10 cryptocurrencies by market capitalisation traded on Swiss Stock Exchange. Figure on the right reports volatility computed as the difference between the highest and the lowest price recorded during each day (range based indicator).

Turning to the mutual funds sector, the investments in products dedicated to crypto-assets have increased as follows:

Chart 4: Assets under management of funds investing in crypto-assets (amounts in billions of USD)



Based on the above data, we can conclude that – even after the market turbulence surrounding crypto-assets in the past months – the dissemination of such assets is still very relevant, especially in certain countries and population segments. The regulators and supervisors cannot ignore this trend and are currently facing great challenges, in terms of determining both the scope of the upcoming regulatory framework and the instruments that should feature it. Finding an efficient point of equilibrium between market freedom and the protection of investors and consumers will not be an easy task. However, as explained below in greater detail, the EU lawmaker has already made comprehensive legislative proposals as regards the matters at hand. As currently «national frameworks governing crypto-assets diverge quite extensively»⁷⁹ the aim is to grant greater legislative consistency and harmonization.

4. As displayed by the above data and the current market trends, Digital

⁷⁹ EUROPEAN CENTRAL BANK (ECB), *Licensing of crypto-asset activities*, Supervision Newsletter, August 2022, available at www.bankingsupervision.europa.eu.

Finance gathers momentum in the technical, economic, and legal context. Such growth is bringing up pressing questions on the policy and regulatory engagement with the said phenomenon. Furthermore, the anticipation of future supervisory positions and approaches raises important issues. In particular, Decentralized Finance and crypto-assets have been identified *inter alia* as key elements to be addressed to evaluate the resilience and risk-tolerance of the markets and their players.

Consequently, lawmakers and authorities are progressively providing operators and practitioners with an increasingly massive number of provisions and official positions. The final goal is to make the system compliant with rules that intend to provide a detailed regulation of the subject matter and to enlighten the “dark side” of the above-mentioned assets. Efficiency goals coincide with social-policy-based safety concerns.

Among such provisions, specific attention must be paid to a recent turning point for the EU regulation on the subject matter: on June 30, 2022, the EU Council Presidency and the European Parliament negotiators finally reached a final political agreement on the regulatory framework to be applied to the crypto-asset markets, namely the already mentioned MiCAR. Through this new legal framework, the European Union intends to take the lead in the crypto-assets regulatory landscape and so to become the «Sheriff» of this new aspect of the Digital Finance revolution.

Reference made to this topic, it must be remembered that, as institutionally pointed out, Digital Finance has quite a broad horizon: Digital Finance «is the term used to describe the impact of new technologies on the financial services industry. It includes a variety of products, applications, processes, and business models that have transformed the traditional way of providing banking and financial services»⁸⁰. Consequently, the identification of capacities to efficiently supervise such a nebulously defined market appears to be an enormous challenge.

⁸⁰ EUROPEAN COMMISSION, *Digital finance*, available at https://finance.ec.europa.eu/digital-finance_en.

In order to better understand the evolution of the topic, it is also crucial to pay attention to its background. Digital Finance has a brief but intense history. With the aim of modernizing the European economy and turning Europe into one of the global digital players, on September 24, 2020, the European Commission (EC) adopted the above-mentioned Digital Finance Package and issued its Digital Finance Strategy⁸¹. It was mainly intended to (i) address the problem of fragmentation in the Digital Single Market; (ii) ensure that the EU regulatory framework facilitates digital innovation in the interest of consumers and market efficiency; (iii) create a European financial data space to promote data-driven innovation, building on the European Data Strategy; and (iv) address challenges and risks associated with the digital transformation, in particular, to promote resilience, data protection and appropriate prudential supervision.

Importantly, for European lawmakers, Digital Finance is crucial for the general transition of the economic and financial system, even more after the crisis of recent years⁸².

In fact, as pointed out by the Commission, «boosting digital finance would therefore support Europe’s economic recovery strategy and the broader economic transformation», opening «new channels to mobilize funding in support of the Green Deal and the New Industrial Strategy for Europe»⁸³. Moreover, it is being emphasized that Digital Finance «accelerates cross borders operations, it also has the potential to enhance financial market integration in the banking union and the capital markets union, and thereby to strengthen Europe’s Economic and Monetary Union».

5. Following the above analysis of the main market data and the general

⁸¹ EUROPEAN COMMISSION, *Questions and Answers: Digital Finance Strategy, legislative proposals on crypto-assets and digital operational resilience, Retail Payments Strategy*, 2020, available at https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_1685.

⁸² See, on this topic, CAPRIGLIONE, *The financial system towards a sustainable transition*, in this *Review*, 2021, p. 1 ff.

⁸³ EUROPEAN COMMISSION, *Digital finance package - Press release*, available at https://ec.europa.eu/info/publications/200924-digital-finance-proposals_en.

overview of the MiCAR framework – that as well-known intend to provide a brand-new uniform and Europe-based regulation for (not all the) cryptos – stemming out of the Digital Finance Package, it is crucial to focus on some pivotal aspects. More specifically, we intend to pay attention to the following main aspects: (i) problems related to regulatory intervention; (ii) critical analysis of the incentives and disincentives of the framework; (iii) AML profiles^{84,85}; and (iv) link with the topic of non-financial sustainability.

As confirmed in the proposal, MiCAR has one key target: it intends to discipline crypto-assets falling outside existing EU financial services legislation (namely, that under the Markets in Financial Instruments Directive or MiFID), as well as e-money tokens. In light of the above, the proposal provides the operators with a definition of crypto-assets, that are «digital representation of value or rights which may be transferred and stored electronically, using distributed ledger technology or similar technology»⁸⁶. In that regard, it must be underlined that «Crypto-assets can take on different forms and have various characteristics» and that, «a *summa divisio* can be made between cryptocurrencies on the one hand, and tokens on the other hand»⁸⁷.

⁸⁴ On this topic see MINTO, *Disciplina antiriciclaggio e obbligo di adeguata verifica della clientela: aspetti normativi e regolamentari legati all'outsourcing ad external service providers*, in Banca impresa soc., 2022, p. 295 ff.

⁸⁵ With reference to the AML profile, it is worth recalling the position of the Luxembourg CSSF, that on March 3, 2022, in the document *Faq Virtual Assets – Undertakings for Collective Investment*, to the question «*What is expected from Luxembourg Investment Fund Managers in terms of AML/CFT Due Diligence on Virtual Assets?*» answered that «Depending on the type of investment (direct or indirect), the type of virtual asset (for example cryptocurrency, utility token, etc...) and the way of acquisition (exchange platform, ITO, ICO, etc...), the level of ML/TF risk as well as the due diligence will vary», but «The key outcome of the due diligence on virtual assets is to understand where the virtual assets are coming from and/or where they are going to (buy/sell side) in order to mitigate the risk of the investment fund being abused by money launderers or terrorist financing».

⁸⁶ See the Proposal for a Regulation on Markets in Crypto-Assets (MiCAR). On MiCAR see ZETZSCHE - ANNUNZIATA – ARNER – BUCKLEY, op. cit., p. 203 ff.; TOMCZAK, *Crypto-assets and crypto-assets' subcategories under MiCA Regulation*, in *Capital Markets Law Journal*, 2022, p. 365 ff.

⁸⁷ See HOUBEN – SNYERS, *Crypto-assets. Key developments, regulatory concerns and responses*, Study for the Committee on Economic and Monetary Affairs, Policy Department for Economic,

More particularly, «Cryptocurrencies (or coins), such as Bitcoin and Litecoin, are those crypto-assets that are designed or intended to perform the roles of currency, i.e. to function as a general-purpose medium of exchange, a store of value and a unit of account.

They are intended to constitute a peer-to-peer alternative to government-issued legal tender», whereas «Tokens, on the other hand, are those crypto-assets that offer their holders certain economic and/or governance and/or utility/consumption rights»⁸⁸.

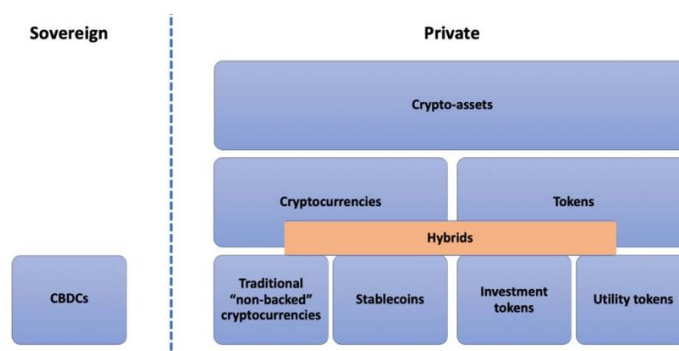


Chart 5: Taxonomy of crypto-assets⁸⁹

Through MiCAR, EU lawmakers and authorities intend to score four somehow antithetical goals, and so to (i) provide citizens with a legal certainty on crypto markets; (ii) support the innovation of such assets, in a safe and regulated system; (iii) protect consumers and investors; and (iv) ensure financial stability. The «sum» of such goals would be, if realized, the creation of an efficient digital financial ecosystem that.

Scientific and Quality of Life Policies, European Parliament, 2020, available at <http://www.europarl.europa.eu/supporting-analyses>. On this topic see also SCIARRONE ALIBRANDI, *Il testo unico finanziario alla prova del fintech*, in *Il Testo Unico Finanziario*, directed by Cera and Presti, 2020, I, p. 29 ff.; PELLEGRINI, *Transparency and circulation of cryptocurrencies*, in *Open Review of Management, Banking and Finance*, 2021, p. 1 ff. For a general introduction see also MAUME – MAUTE – FROMBERGER, *The law of crypto assets. A handbook*, Munich, 2022.

⁸⁸ See HOUBEN – SNYERS, op. cit., p. 18.

⁸⁹ See HOUBEN – SNYERS, op. cit., p. 23.

In order to realize its targets, the proposal lays down uniform and quite heavy rules for (i) transparency and disclosure requirements for the issuance and admission to trading of crypto-assets; (ii) authorization and supervision of crypto-asset service providers and issuers of asset-referenced tokens and issuers of electronic money tokens; (iii) operation, organization and governance of issuers of asset-referenced tokens, issuers of electronic money tokens and crypto-asset service providers; (iv) consumer protection rules for the issuance, trading, exchange and custody of crypto-assets; and (v) measures to prevent market abuse to ensure the integrity of crypto-asset markets.

Concerning another aspect, it must be noted that supervisory activity according to MiCAR follows two paths. First, the new framework wishes to impose specific and heavy requirements on crypto-assets issuers (other than asset-referenced tokens or e-money tokens). Under Article 4 of MiCAR an issuer shall not offer such assets to the public in the Union, or seek an admission of such assets to trading on a trading platform for crypto-assets, unless (the relevant issuer) (i) is a legal entity, (ii) has drafted a crypto-asset white paper in accordance with Article 5⁹⁰, (iii) has notified such crypto-asset white paper in accordance with Article 7, and (iv) publishes the crypto-asset white paper in accordance with Article 8⁹¹, (v) complies

⁹⁰ Stating *inter alia* that «The crypto-asset white paper referred to in Article 4(1), point (b), shall contain all the following information: (a) a detailed description of the issuer and a presentation of the main participants involved in the project's design and development; (b) a detailed description of the issuer's project, the type of crypto-asset that will be offered to the public or for which admission to trading is sought, the reasons why the crypto-assets will be offered to the public or why admission to trading is sought and the planned use of the fiat currency or other crypto-assets collected via the offer to the public; (c) a detailed description of the characteristics of the offer to the public, in particular the number of crypto-assets that will be issued or for which admission to trading is sought, the issue price of the crypto-assets and the subscription terms and conditions;(d) a detailed description of the rights and obligations attached to the crypto-assets and the procedures and conditions for exercising those rights; (e) information on the underlying technology and standards applied by the issuer of the crypto-assets allowing for the holding, storing and transfer of those crypto-assets; (f) a detailed description of the risks relating to the issuer of the crypto-assets, the crypto-assets, the offer to the public of the crypto-asset and the implementation of the project; (g) the disclosure items specified in Annex I».

⁹¹ Stating that «1. Issuers of crypto-assets, other than asset-referenced tokens or e-money tokens, shall publish their crypto-asset white paper, and, where applicable, their marketing communications, on

with the requirements laid down in Article 13. Indeed, exclusions and limitations apply, whereby the above requirements do apply in relation to specific situations which justify a differentiated treatment, in accordance with Article 4, par. 2⁹².

Second, specific attention must be paid to the arrangement of supervisory techniques that – for sure – will lead to a more complex and expensive (and therefore, probably economically inefficient) playing field. In that regard, it must be underlined that MiCAR offers a detailed regime on the powers of competent authorities and cooperation between competent authorities, the European Banking Authority (EBA) and ESMA (see art. 81 and following).

Within this framework, it is stated that NCAs shall have many supervisory and investigative powers, as those to collect (ask and obtain) information; to disclose, or to require a crypto-asset servicer provider to disclose all material information which may have an effect on the provision of the crypto-asset services in order to ensure consumer protection or the smooth operation of the market; and in urgent cases, to order the immediate cessation of the activity without prior warning or imposition of a deadline, where there is a reason to assume that a person is providing crypto-asset services without authorization. To reach such targets, it is also confirmed that competent authorities shall have specific supervisory and investigatory powers, likewise that one to request the freezing or sequestration of assets, or both and to

their website, which shall be publicly accessible, by no later than the starting date of the offer to the public of those crypto-assets or the admission of those crypto-assets to trading on a trading platform for crypto-assets. The crypto-asset white paper, and, where applicable, the marketing communications, shall remain available on the issuer's website for as long as the crypto-assets are held by the public. 2. The published crypto-asset white paper, and, where applicable, the marketing communications, shall be identical to the version notified to the relevant competent authority in accordance with Article 7, or, where applicable, modified in accordance with Article 11».

⁹² Affirming that the requirements under points (ii)-(v) above shall not apply where «(a) the crypto-assets are offered for free; (b) the crypto-assets are automatically created through mining as a reward for the maintenance of the DLT or the validation of transactions; (c) the crypto-assets are unique and not fungible with other crypto-assets; (d) the crypto-assets are offered to fewer than 150 natural or legal persons per Member State where such persons are acting on their own account; (e) over a period of 12 months, the total consideration of an offer to the public of crypto-assets in the Union does not exceed EUR 1 000 000, or the equivalent amount in another currency or in crypto-assets; (f) the offer to the public of the crypto-assets is solely addressed to qualified investors and the crypto-assets can only be held by such qualified investors».

impose a temporary prohibition on the exercise of professional activity.

The above framework, briefly summarized, clearly shows a «huge intervention» of the public authorities in the crypto market. It seems justified to assert that the regulatory intervention generates the risk of causing a deep distortion of the fundamental characteristics of the subject matter. As rightly noted in the literature, from a regulatory standpoint, «Based on the subjective qualities of the issuer itself (art. 4), on the presence of an informative white-paper (art. 5) and a minimum content for marketing communications (art. 6), the MiCAR is building the pillars for seeking to prevent the most common information asymmetries, as well as the provision of the right of withdrawal would protect consumers from their own irrational decisions (art. 12)»⁹³. This expresses the principle of ‘same activity, same risk, same rules and same supervision’, which dictates «a clear commitment on policy makers to promote a regulation for a market that effectively supports negotiations based on high-tech mechanism, in order to ensure that such market will reach an equilibrium that complies with the levels of safety, stability, transparency and protection that qualifies the EU internal market»⁹⁴.

However, the huge powers conferred to the supervisory authorities paired with some disclosure mechanisms provided by the MiCAR framework, appear to violate the *raison d’être* of crypto-assets. While a safer system for investors is probably provided, the nature of the phenomenon that is being regulated seems at risk. It is worth underling that – at the present day – crypto-assets do already find their own “market rules”, which evidently find their efficiency in those (assumed) critical elements (de-centralization) that the regulatory intervention would like to solve.

It follows that the excessive regulatory intervention in this regard could paradoxically and apodictically centralize a system whose decentralized defines its

⁹³ On this topic see LEMMA, *The public intervention on cryptocurrencies between innovation and regulation*, in *Open Review of Management, Banking and Finance*, 2022.

⁹⁴ On this topic see LEMMA, *The public intervention on cryptocurrencies between innovation and regulation*, in *Open Review of Management, Banking and Finance*, 2022.

nature. Further, it will probably lead to a shrinking of the market and its related growth prospects, given only by virtue of its “sheltering”, the market could find the hoped-for development.

This topic is fundamental, as it underlines two pivotal topics of economic law: the (not so easy) relationship between economic (and technological) development and law, and the need to strike a balance between private autonomy and public regulation. Moreover, it shows the importance of clearly questioning the efficiency of a centralized system with respect to a decentralized one. It should also be noted that the strive for decentralization is not limited to DeFi, as it is a key social and political trend of the current years, strictly linked to a general feeling of mistrust in central schemes and organizations, which led to events of great magnitude, such as a period of deep Euro-skepticism which led *inter alia* to Brexit and widespread political turmoil across the EU.

In addition, the new regulatory framework on crypto-assets could negatively affect the European markets, which will be characterized by far more detailed and penetrating regulations than other markets. Against the backdrop that efficient models of supervisory cooperation with third countries are missing, a softer regulatory approach would certainly be more capable of attracting non-EU investments. Consequently, both (i) the EU innovative but hard approach to the subject matter and (ii) the envisaged presence, in crypto markets, of an EU «Sheriff» could lead to serious competitive disadvantages for the European economy.

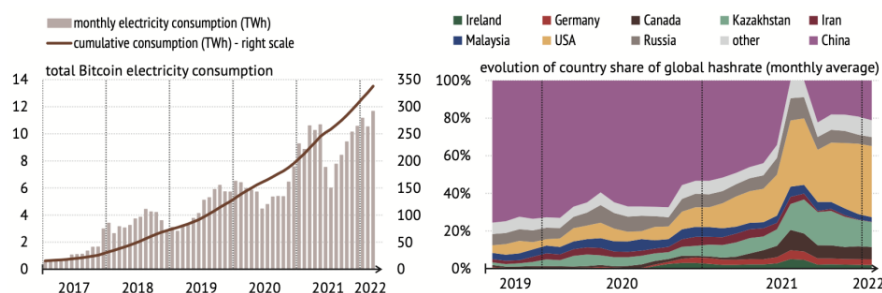
In terms of the supervisory effort that will encompass the MiCAR regime, it can be argued that the capacities of an EU «watchdog» would certainly be better allocated in different areas, for example, AML.

Reference made, in the end, to the link between crypto-assets and non-financial sustainability⁹⁵, the current provisions seem to forget – or at least not to pay

⁹⁵ On this topic see CAPRIGLIONE, *The financial system towards a sustainable transition*, cit., p. 1 ff. See also MACCHIAVELLO – SIRI, *Sustainable finance and fintech: Can technology contribute to achieving environmental goals? A preliminary assessment of 'Green FinTech'*, in EBI Working Paper

enough attention to – the strong impact of Digital Finance on the environment, not focusing nor formulating any clear and strong link between MiCAR and the EU legal framework for sustainable finance. It is worth recalling that despite well-known evidence concerning the energy consumption related to Digital Finance, the positive impact that the so-called Green Fintech could have on the sustainable transition is of high importance.

Moreover, it must be briefly noted that – forgetting for a while the environment aspect and especially thanks to the technological evolution – at least the “S” factor of the ESG seems to be at least reachable in a context in which the technological evolution itself seems to allow an easier access to finance by the EU citizens.



Source: Cambridge Energy Consumption Index. In the left graph, monthly electricity consumption figures are the sum of daily consumption figures calculated by assuming constant power usage over 24 hours at the daily best-guess estimate of Bitcoin's network power demand. The cumulative consumption is the sum of monthly totals. In the right graph, hashrate measures the total computing power in proof-of-work network like Bitcoin.

Chart 6: Total Bitcoin Energy Consumption and hash rate by country

6. In its Digital Finance Strategy, the Commission unequivocally asserts that the future of finance is digital ⁹⁶. This is being understood as a positive development not only for businesses but also for consumers. Interestingly, the Commission states that the people and businesses of Europe are ready for this revolution. This forward-

No. 71/2020; BODELLINI – SINGH, *Sustainability and finance: utopian oxymoron or achievable companionship?*, in this *Review*, 2021, p. 163 ff.

⁹⁶ EUROPEAN COMMISSION, *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*, 24.9.2020, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0591>.

looking enthusiasm seems to provoke assumptions as regards consumers' adjustment abilities. The strong notion of consumers' alleged "readiness" to shift their financial matters to the digital space most probably lies at the core of the apparent regulatory gap the Digital Finance Package leaves unattended.

When examining the fourth priority of the Digital Finance Strategy it becomes evident that the notion of consumer protection within this document is narrow. It only covers the challenges and risks that arise for the *active* participants of Digital Finance. Consumers who are affected by the digital revolution but fail to become its active participants remain completely outside the scope of regulatory efforts. Consequently, the risks of digital exclusion in the area of financial services are neither addressed nor debated. This must seem quite surprising, as the problem of digital exclusion has long been identified both in academic and popular debate⁹⁷. As a result, the Commission fails to engage with the fundamental topic of consumer heterogeneity⁹⁸.

A substantial feature of Digital Finance is the replacement of on-site financial services provision. The abandonment of the traditional means of rendering basic financial services is emblematically reflected in the empirical data on the steady decrease in the number of bank branches across Europe⁹⁹. The switch from on-site to digital services certainly increases the overall accessibility of financial services for the average consumer. However, this narrative erodes when examining the access to financial services in reference to specific customer groups, which raises the alarm of potential discrimination. The use of online banking platforms requires basic proficiency in electronic devices and the nature of financial services. Market

⁹⁷ MCKILLOP – WILSON, *Financial exclusion*. Public Money and Management, Vol. 27, No. 1. 2007, p. 9; KOSSECKI – BORCUCH, *Digital, Social and Financial Exclusion Among Elderly People. Demographic Problems of Europe. Polish Example*, 17.08.2014), available at: <https://ssrn.com/abstract=2482052> or <http://dx.doi.org/10.2139/ssrn.2482052>.

⁹⁸ MÖSLEIN, *Behavioural analysis and socio-legal research: is everything architecture?* In *Research Methods in Consumer Law - A Handbook*, directed by Micklitz, Sibony and Esposito, Edward Elgar, 2018, p. 446.

⁹⁹ BENNET, *Bank branches: why are they closing and what is the impact?*, 2019, available at: <https://commonslibrary.parliament.uk/research-briefings/cbp-8740/>

behavior, preferences, access to digital devices, and, most importantly, the cognitive abilities of consumers vary. Consequently, the digitalization of finance can actually limit access to financial services for certain consumer groups. In particular, this phenomenon is being detected amongst the elderly¹⁰⁰. Due to their specific characteristics, the elderly value personal contact when taking care of their financial issues¹⁰¹. Existing research clearly shows that digital skills and financial literacy are lower amongst the elderly than in other age groups¹⁰².

Financially excluded people are exposed to the loss of direct benefits associated with access to certain services and products, including essential services (e.g., cash withdrawal)¹⁰³. Most importantly, financial exclusion may affect their quality of life and cause social marginalization. Further it can lower the individual's self-esteem due to the need for outside help in order to complete daily tasks¹⁰⁴. In addition, financial exclusion of specific social groups affects the economy as a whole, including suboptimal market functioning, inadequate allocation of capital, increased burdens on the social welfare system, and slower economic growth¹⁰⁵. Financial

¹⁰⁰ SANDERS - SCANLON *The Digital Divide Is a Human Rights Issue: Advancing Social Inclusion Through Social Work Advocacy*, (2021) *J. Hum. Rights Soc. Work* 6, p. 130–143; SVENSSON – BÄCKMAN – ODLÖW, *The Capabilities Approach and the Concepts of Self-Determination, Legal Competence and Human Dignity in Social Services for Older People*, in: *A Multidisciplinary Approach to Capability in Age and Ageing*, directed by Erhag, Lagerlöf., Rydberg Sterner, Skoog, Springer 2022, p. 176; CARTWRIGHT, *The Vulnerable Consumer of Financial Services: Law, Policy and Regulation*, (2015) 38 *Journal of Consumer Policy* (2015) 38, p. 119.

¹⁰¹ KESBY, *Narratives of Aging and the Human Rights of Older Persons*, (2017) *Human Rights Review*, Vol. 18, p. 378.

¹⁰² OEHLER – WENDT, *Good Consumer Information: the Information Paradigm at its (Dead) End?*, (2017) *Journal of Consumer Policy* Vol. 40. No. 2, p. 179-191; FINKE – HOWE - HUSTON, *Old Age and the Decline in Financial Literacy*, (2017) *Management Science*, Vol. 63, p. 213–320

¹⁰³ MUBARAK - SUOMI, *Elderly forgotten? Digital Exclusion in the Information Age and the Rising Grey Digital Divide*, *The Journal of Health Care Organization, Provision, and Financing*, 26.04.2022, available at: <https://journals.sagepub.com/doi/full/10.1177/00469580221096272>; FRIEMEL, *The digital divide has grown old: Determinants of a digital divide among seniors*, (2016) *New Media Soc.* Vol. 18(2), p. 313-331.

¹⁰⁴ WALSH – SCHARF – KEATING, *Social exclusion of older persons: a scoping review and conceptual framework*, (2017) *European Journal of Ageing*, Vol. 14(1), p. 81–98.

¹⁰⁵ COOPER, *The Ageing Population and Financial Services*, available at: www.fca.org.uk/publication/research/future-horizons-ageing-population-financial-services.pdf; LUSARDI, *Financial Literacy and Financial Decision-Making in Older Adults*. *Generations: Journal of the American Society on Aging*, (2012) Vol. 36, no. 2, 2012, p. 25–32.

exclusion also affects key socio-economic factors, such as inflation, national income, unemployment, supply, demand, and components related to the quality of life¹⁰⁶.

The capacity to execute payments for goods and services is crucial in handling basic needs. Consequently, financial exclusion gravely affects all areas of consumers' societal involvement. While the digitalization in the area of distribution of goods and the rendering of other non-financial services still did not extinguish "traditional" on-site alternatives, Digital Finance incrementally discards these alternatives permanently and abruptly.

The discrimination in terms of access to financial products and services is currently governed mainly by the general prohibition of discrimination, particularly in the form of Art. 21 EChFR as interpreted by the ECJ. However, due to its vagueness, Art. 21 EChFR is an inefficient measure for protecting vulnerable consumers from the unwanted effects of the digital revolution. Specific needs of specific consumer groups were one of five priority areas distinguished by the Commission in the New Consumer Agenda 2020-2025: (1) ecological transformation, (2) digital transformation, (3) redressability and enforcement of consumer rights, (4) specific needs of specific consumer groups, (5) international cooperation.

As noted in the Agenda: "The elderly and people with disabilities have special consumption needs. It is important to ensure easy access to clear and consumer-friendly information both online and offline in accordance with EU requirements for accessibility of products and services. A fair and non-discriminatory approach to digital transformation should take into account the needs of older consumers, consumers with disabilities, and offline users in general, who may be less familiar with digital tools". Although clearly, the Commission has identified the need to protect seniors both through education and by providing specific mechanisms to counter exclusion due to the dynamic digitalization of commerce, no legislative initiatives have yet been taken in this regard.

¹⁰⁶ AYALON, *There is nothing new under the sun: ageism and intergenerational tension in the age of the COVID-19 outbreak*, (2020) *International Psychogeriatrics*, Vol. 32(10), p. 1–4.

The case for legislative intervention regarding the financial exclusion of consumers vulnerable to financial exclusion within the framework of the Digital Finance Package is supported by a growing tendency to view access to the financial market (the right to financial inclusion) as a human right¹⁰⁷. Another important argument stems from the transforming societal expectations regarding the role of financial institutions in a new economic and social reality. The assumption that financial institutions carry a particular social responsibility is thus critical when considering the potential legal strategies the Commission could adopt¹⁰⁸.

Consequently, seeking legal mechanisms to mitigate the risk of financial exclusion seems highly desirable. It is therefore surprising, that the allegedly complex assessment of the digital finance phenomenon by the Commission in its Digital Finance Strategy did not encompass a broader discussion of the interconnected “downsides” for non-digitalized consumers.

¹⁰⁷ KUMAR, *Access to Finance and Human Rights*, (2014) Munich Personal RePEc Archive Paper No. 80336, p. 13.

¹⁰⁸ MAYER, *Prosperity: Better Business Makes the Greater Good*, Oxford University Press 2018, p. 22; LENTER – SZEGEDI – TATAY, *Corporate Social Responsibility in the Banking Sector*, *Public Finance Quarterly*, (2015), Vol. 1, p. 95-103.