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Robo-Advice as a digital finance platform*

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ABSTRACT: This paper is about automated financial advice, known as Robo-Advice. Its origin and development are analysed as a prominent Fintech activity. After tackling its legal nature as a service platform and showing how it is different from traditional human advice, its legal framework is addressed, particularly in the European Union, to conclude with some legislative policy proposals to regulate it as a digital finance platform.

Keywords: Robo-Advice, Fintech, digital finance platform, Customer evaluation (KYC), client protection, civil liability, legal certainty.

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1. INTRODUCTION

The main objective of this paper is to determine the nature of what is known in the market as "Robo-Advice". Once the concept and legal nature of the so-called "Robo-Advice" have been outlined, we will consider whether is a regulated activity or service from the perspective of European Unión financial regulation, to conclude that this is a new activity, to be regulated as digital finance platform[1].

The term "Robo-Advice" is a case of amphibology, that is, of ambiguity or double meaning. It is literally an automated advice, that is, carried out by robots. From this perspective, the main regulators[2] and the dominant doctrine[3] start from the traditional concept of financial advice to frame the Robo-Advice and apply the regulation of traditional advice to it. This approach starts from the consideration of Robo-Advice as if it were a development of traditional human advice. This approach is not shared here. This article starts from the conceptual analysis of the Robo-Advice to conclude that it is not currently true advice[4]. It is a new animal in the financial ecosystem[5], not a mere variety of traditional advice. What is raised here is the consideration of the improperly called "Robo-Advice", as a new digital finance platform that combines financial guidance, asset allocation, execution of operations and portfolio management.

Regarding this idea, it is useful to distinguish between the activity or service (Robo-Advice), the subject (Robo Advisor) and the infrastructure through which the service is provided (Robo-Advice Platform). We will start by considering it a financial service to assess the best way to regulate it. From this perspective, Robo-Advice is a financial service provided through financial platforms accessible online. It is characterized by being a complex data-driven service incorporating applications based on intelligent

[1] See ZETZSCHE, D. A., BIRDTHISTLE, W. A., ARNER, D. W., & BUCKLEY, R. P. "Digital finance platforms: Toward new regulatory paradigm", *University of Pennsylvania Journal of Business Law*, 23(1), 2020, pp. 273-340, arguing that "law and regulation must respond to the emergence of digital finance platforms in asset management" (p. 339).

[2] See, for all, European Securities & Markets Authority (ESMA), *Guidelines on certain aspects of MiFID II suitability requirements*, 2018, ESMA35-43-1163 EN; Division of Investment Management, SEC, *IM Guidance Update: Robo-Advisors* no. 2017-2, 2017.

[3] For all, MAUME, P., 2021, *Robo-Advisors: How do they fit in the existing EU regulatory framework, in particular with regard to investor protection?*, Publication for the committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg.

[4] SCHOLZ, Peter (edited by), *Robo-Advisory: The Rise of the Investment Machines*, 2021, passim.

[5] We use Posner's analogy, from United States Court of Appeals for the Seventh Circuit, Nos. 16-2009, -2077, & -2980, ILLINOIS TRANSPORTATION TRADE ASSOCIATION, et al., Plaintiffs-Appellants, v. CITY OF CHICAGO, OCTOBER 7, 2016.

algorithms. It is among the most prominent financial technology activities.[6]

The financial crisis at the turn of the century uncovered practices contrary to customers' interests, causing reputational damage to institutions. Fintech offers a different picture opening the way to new data-driven finance[7]. It restores confidence in the sector and offers the opportunity to move towards sustainable finance. Robo-Advice is a Fintech activity with specific risks that materialise as the market develops. It is characterised by a combination of profiling, advice, performance, management and other ancillary or peripheral services in accordance with the chosen business model. Passive investment strategies using indices or model portfolios are commonly used[8]. It is a new form of advice with advantages and disadvantages, which has great potential, and is complementary to face-to-face advice.

Robo-Advice emerged in the field of investment and its scope was soon extended to credit and insurance[9]. In this paper we will **focus on investment Robo-Advice**, as it is the one that is most developed and has received the first responses from supervisors. However, many of the considerations we will make can also apply to credit and insurance advice. We take the European Union as a reference, because of its proximity and since it is at the forefront of data finance[10]. To decide which regulation preserves safety without harming innovation, one must first identify the nature, economic function and risks of the new activity, and then ask about the applicable regulation, which may

[6] According to Statista, "Assets under management in the Robo-Advisors segment are projected to reach US$987,494m in 2020", with "224,522.7 thousand users", from https://www.statista.com/outlook/337/100/robo-advisors/worldwide. All links cited in this paper were consulted on 31 August 2020.

[7] See Dirck ZETSCHE, Ross BUCKLEY, Douglas W. ARNER & Janos N. BARBERIS, "From FinTech to TechFin: The regulatory challenges of data-driven finance", *New York University Journal of Law and Business*, no. 14, 2017, pp. 393-446, who consider "it is a pressing need to adequately regulate "data intermediaries" in addition to financial intermediaries given that both pose similar risk to individuals and society" (p. 445).

[8] According to Jung D., Glaser F., Köpplin W., "most robo-advisors rely on passive index investment strategies in combination with amendments of the modern portfolio theory introduced by Markowitz (1952), thus relying on a scientific approach" in Dominik JUNG, Florian GLASER & Willi KÖPPLIN, "Robo-Advisory: Opportunities and Risks for the Future of Financial Advisory", in *Advances in Consulting Research: Recent Findings and Practical Cases*, Switzerland: Volker NISSEN (ed.), Springer International Publishing, 2019, p. 424.

[9] According to a US Treasury report, "Digital financial planning can offer advice with respect to securities, loan products, or insurance products", in U.S. Department of the Treasury, *A Financial System That Creates Economic Opportunities Nonbank Financials, Fintech, and Innovation*, 2018, p. 162; BAKER, Tom; DELLAERT, Benedict, "Regulating robo advice across the financial services industry", Iowa L. Rev., 2017, vol. 103, p. 745.

[10] Douglas W. ARNER, Dirk A. ZETZSCHE, Ross P. BUCKLEY & Rolf H. WEBER, "The Future of Data-Driven Finance and RegTech: Lessons from EU Big Bang II", *Stanford Journal of Law, Business & Finance*, vol. 25, no. 2, 2020, pp. 245-288, according to whom, "The experiences of Europe in this process provide insights for other societies in developing regulatory approaches to the intersection of data, finance and technology" (p. 246).

be the existing regulation, adaptation of it or a new regulation[11]. In particular, we must assess whether the innovative nature of the new activity means that it requires specific regulation in view of its function, risks and nature. As with other Fintech activities, Robo-Advice regulation is going through various phases as the different business models mature and regulators learn. There is a succession of regulatory approaches, from experimentation, to accommodation, through incorporation or assimilation of new phenomena[12]. These are the steps that have been taken in the European Union to regulate digital payment services or crowdfunding, and they are the steps that should be taken to regulate Robo-Advice. To be clear, **we propose an EU Robo-Advice platform regulation to reinforce competition preserving stability and consumer protection with legal certainty.**

2. WHAT IS ROBO-ADVICE?

The term "Robo-Advice" refers to a robot that gives advice. But there is neither a robot[13] as a subject that replaces the advisor, nor is there personal advice in the strict sense, as there is no face-to-face relationship between the client and their advisor. The advisor has been replaced by a web-based application. It is an anticipatory financial service that goes beyond traditional advice. A new concept in which advice and portfolio management converge. Algorithms are used to profile the customer, anticipating their wishes. Artificial intelligence shapes their behaviour and future decisions. They guide their interests. In Robo-Advice, decisions are made by the customer, but guided by artificial intelligence, reducing individual autonomy. The decision is prejudiced by artificial intelligence, which in principle is more efficient than human intelligence. Accordingly, this new service is close to management activity, in which the manager decides on the composition of the portfolio. In fact, the most characteristic feature of Robo-Advice is that it combines advice with portfolio management in an asset allocation activity. They may also automatically rebalance client portfolios to stay within target allocations and engage in tax-loss harvesting[14].

Authenticity must be guaranteed in the provision of the service. The customer has a right to know the nature of the service provided and the risks associated with contracting the service[15]. Providers of Robo-Advice services should include references to the limited

[11] As Riccardo GHETTI highlights, in order to make a correct legal classification of a phenomenon not defined by the legislature, it is necessary to have "*una sicura mappa concettuale del suo funzionamnento*", in *"Robo-advice: automazione e determinismo nei servizi di investimento"*, *Banca Borsa e Titoli di Credito*, 2020, LXXIII (4), p. 542.

[12] See Saule T. OMAROVA, "Dealing with Disruption: Emerging Approaches to Fintech Regulation", Cornell Legal Studies Research Paper, no. 20-17, 2020, pp. 27 et seq

[13] According to Buchanan, "the term is misleading and doesn't involve robots at all. Instead, robo-advisors are algorithms built to calibrate a financial portfolio to the user's goals and risk tolerance", in Bonnie BUCHANAN, "Artificial intelligence in finance", The Alan Turing Institute, 2019, p. 13.

[14] "According to Lee REINERS, "Regulation of Robo-Advisory services", in Fintech, Edward Elgar Publishing, 2019, p. 355.

[15] In the same sense, according to Art. 52.1 of the Proposal for a Regulation on Artificial Intelligence, 2021/0106 (COD) of 21 April 2021, "Providers shall ensure that AI systems intended to interact with natural persons are designed and developed in such a way that natural persons are informed that they are interacting

scope of the advice in their name[16]. The supervisor "should ensure that where there is a mention of 'advice' that there is actually advice provided".[17]Offering the Robo-Advisor service as if it were traditional investment advice creates confusion among clients.[18] This is a complex, financial guidance service using algorithms, combining a management background with trade execution. This combination generates conflicts of interest that should be brought to the attention of clients. Trade execution, when carried out by intermediaries within or linked to the advisor's group, creates incentives that may compromise the best execution of transactions. In designing algorithms for trade execution, biases may be introduced by channelling contracts to associated intermediaries, even if the fees they charge are higher than those charged by competitors. There is a lack of adequate reaction by supervisors to ensure the authenticity of the service with adequate prevention of conflicts of interest.[19] However advice and management have a common basis in assessing the suitability to provide a value-added service.[20] Robo-Advice provides automated suitability assessment with the result of providing a recommendation that can lead to asset allocation. It is a service that combines recommendation and management with a variety of business models. Hence the need for specific regulation to facilitate the development of the activity with adequate customer protection.

2.1. BENEFITS AND RISKS

Like all Fintech services, Robo-Advice has advantages and risks. It aids access to digital advisory management services and immediate service delivery at low cost.[21] It

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with an AI system, unless this is obvious from the circumstances and the context of use".

[16] Thus, among the institutions that have made use of the FCA's Advice Unit, only one includes advice in its name (AdviceBridge). See https://www.fca.org.uk/firms/advice-unit/advice-unit-firms-accepted-feedback. If they do not actually provide advice, they should not present themselves in the market with this professional designation.

[17] Austrian Financial Market Authority, *Digitalisation in the Austrian Financial Market Call for Input: Results*, 2020, p. 12. Available online: https://www.fma.gv.at/download.php?d=4342

[18] See Rosanna MAGLIANO, "*Dall'iperonimo Fintech all'iponimo Robo Advisor: Ricognizioni dei rischi e delle opportunità per il 'comsumatore' di strumenti finanziari*", in CORAPI, Elisabetta and Lener, Rafaelle (dirs*.), I diversi settori del Fintech. Problemi e prospettive*, CEDAM, 2019, p. 197.

[19] According to Dan Tammas-Hastings, "Despite these issues, the regulator and consumer bodies are likely to further support growth in the digital advice sector", in Dan TAMMAS-HASTINGS, "The Financial Conduct Authority asks robo-advisors for more", LSE Business Review, 25 May 2018. Available online: https://blogs.lse.ac.uk/businessreview/2018/05/25/the-financial-conduct-authority-asks-robo-advisors-for-more/; Financial Conduct Authority, *Automated investment services*, 2018. Available online: https://www.fca.org.uk/publications/multi-firm-reviews/automated-investment-services-our-expectations

[20] Riccardo GHETTI speaks of "*il valore aggiunto creato dall'operazione di valutazione che fonda la personalizzazione tanto del cosiglio quanto della scelta gestoria*", in "*Robo-advice: automazione e determinismo nei servizi di investimento*", *Banca Borsa e Titoli di Credito*, 2020, LXXIII (4), p. 549, and ultimately "*i due servizi hanno en comune l'elemento valutativo; esclusivo della gestione è invece l'elemento volitivo*" (p. 550).

[21] Michael REHER & Stanislav SOKOLINSKI, "Does FinTech Democratize Investing?", 2020. Available online: https://ssrn.com/abstract=3515707, according to whom, "FinTech, in the form of robo-advising, can democratize investing by bringing middle-class households into the market for asset management and the

thus contributes to financial inclusion.[22] It can also be a tool to improve the quality of advice. Artificial intelligence algorithms can segment products and services to an extent that is beyond the reach of humans.[23] The risk analysis of portfolios and asset reallocations take place in milliseconds.[24]

With Robo-Advice as a networked service, the service is provided en masse at low cost. Once the algorithm has been designed and placed on the market, the service offer can be extended at a decreasing residual cost. In addition, it can be combined with other services to enhance its profitability. Automation **aids access** to trading, simplifies the gathering of customer information and the subsequent assessment of their profile, makes it cheaper to send personalised recommendations, and enables model portfolios to be offered and assets to be allocated at low cost. **It expands the services** of traditional advice and changes the way it is provided. The digital medium offers the additional service of automatically channelling customer orders to the firms responsible for executing them in the market through so-called Smart Contracts.[25] New technologies also aid monitoring of investments in order to be able to warn of any mismatch between the client's portfolio and their profile and, if necessary, issue new recommendations aimed at restructuring the portfolio to fit their profile. These portfolio restructuring recommendations can also be generated in an automated manner. In addition to these services, other services such as tax consultancy can be added.

Fintech services, including Robo-Advice, are presented in the market as customer-friendly innovations, in some cases neglecting to mention an analysis of their risks. In this sense, Robo-Advice is presented under the halo of modernity as a customer experience-focussed service that overcomes the conflicts of interest that affect human advisors. However, it should be noted that the application of artificial intelligence to finance creates **specific risks and challenges**. The use of algorithms creates a herd effect[26]. In turn, the opacity of models using artificial intelligence makes them difficult to

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stock market itself", p. 32.

[22] Contributing to overcoming the "financial advice gap" highlighted by the FCA. See Philipp MAUME, "Regulating robo-advisory", *Texas International Law Journal*, 55(1), 2019, pp. 50-51, who considers that "Robo-advisors have the potential to open financial advisor services to the broad public" (p. 87).

[23] Financial Stability Board, *Artificial intelligence and machine learning in financial services. Market developments and financial stability implications*, 2017, which may contribute to reducing the risk of correlation "if machine learning powered robo-advisors give more customised advice to individuals, their investment activities may become more tailored to individual preferences and perhaps less correlated with other trading strategies", p. 30.

[24] See Emilios AVGOULEAS and Aggelos KIAYIAS, "The Architecture of Decentralised Finance Platforms: A New Open Finance Paradigm", Edinburgh School of Law Research Paper, no. 2020/16, 2020, p. 11. Available online: https://ssrn.com/abstract=3666029

[25] See Nick SZABO, "Winning Strategies for Smart Contracts," Blockchain Research Institute, 4 Dec. 2017.

[26] Saule T. OMAROVA, "Technology v. Technocracy: Fintech as a Regulatory Challenge", *Cornell Legal Studies Research Paper, no. 20-14*, 2020. The materialisation of systemic risk in automated trading has led to one-off crises (a flash crash) that prompted regulation. Andrei KIRILENKO, Albert S. KYLE, Mehrdad SAMADI, Tugkan TUZUN, "The flash crash: High-frequency trading in an electronic market", *The Journal*

monitor.[27]

The easy access and simplicity of onboarding is an advantage, but also poses a **risk of hasty decision-making**. Rapid decision-making can be detrimental to customers. Taking out a mortgage loan, an insurance policy or a pension plan is complex and important for financial health, so it deserves a period of reflection. Platform designs can exploit customers' cognitive biases to their advantage.

There is a change of dimension in the risk of **conflicts of interest**. Advice is an activity that in many jurisdictions is confused with commercial activity. In fact, there are employees and agents of firms who present themselves as customer advisors, when in fact they are salesmen of their own products. Advisors' remuneration may depend on the distributor of the product being advised on, recommending products that maximise the advisor's income to the detriment of the client. With an algorithm this risk eventually disappears. In the absence of human interaction, the risk of misadvice due to incentive-seeking is reduced. After the form has been filled in, the recommendation is automatically generated without human intervention. However, bias can be carried over into the design of the algorithm. For some authors: "It would be naive to simply assume that intermediaries will always choose the algorithms and choice architecture that are best for consumers rather than those that are best for the intermediaries".[28] A programmer whose income depends in any way on the producer or distributor of the product being recommended may be biased towards the principal to the detriment of the client. Thus, the risk of conflicts of interest materialising is not reduced, it is amplified, as the bias will apply to all customers making use of the automated service. This can even create a systemic risk to market stability.[29] Artificial intelligence "comes with a number of very substantial technical, ethical and legal challenges that can undermine the objectives of financial regulation, from the standpoint of data, cybersecurity, systemic risk, and ethics, in particular in the context of black box issues".[30]

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of Finance, vol. 72, no. 3, 2017, pp. 967-998. "We can imagine similar problems with robo-advisors, in which one AI may front-run another AI advisor's recommendation", ZETZSCHE, Douglas W. ARNER, Ross P. BUCKLEY & Brian TANG, "Artificial Intelligence in Finance: Putting the Human in the Loop", University of Hong Kong Faculty of Law Research Paper, no. 2020/006, 2020, p. 19.

[27] According to Financial Stability Board, *Artificial intelligence and machine learning in financial services*, 2017, p. 34. Available online: https://www.fsb.org/wp-content/uploads/P011117.pdf

[28] BAKER, Tom; DELLAERT, Benedict, "Regulating robo advice across the financial services industry". *Iowa L. Rev.*, 2017, vol. 103, p.732.

[29] See Authority for the Financial Markets, *The AFM's view on robo advice. Opportunities, duty of care and points of attention, 2018.* Available online: https://www.afm.nl/~/profmedia/files/onderwerpen/roboadvies-sav/view-robo-advice.pdf According to Wolf-Georg RINGE & Christopher RUOF "robo advice and recommendations based on algorithms can became a source of new systemic risk ("Robo advice - Legal and regulatory challenges", in CHIU, Iris H-Y & DEIPENBROCK, Gudula (Ed.), *Routledge Handbook of Financial Technology and Law*, 2021, chapter 11, conclusion). For Better Finance, "the analysis of algorithms uncovers concerning divergences between the advertised expected returns and the equity allocation provided by the different platforms", in Response to EU Commission, *Consultation on a new digital finance strategy for Europe / FinTech action plan*, 2020, question 11. See also U.S. Chamber of Commerce, *Response to the European Commission's White Paper on Artificial Intelligence: A European Approach to Excellence & Trust*, 2020, according to which financial services regulators "are best placed to interpret and apply a risk framework to a specific context".

[30] Dirk A. ZETZSCHE, Douglas W. ARNER, Ross P. BUCKLEY & Brian TANG, "Artificial Intelligence in Finance: Putting the Human in the Loop", University of Hong Kong Faculty of Law Research

There are also **corporate governance risks**. The most common business model is to raise savings for investment in exchange-traded funds. Savers investing in this way have no voting rights in the listed companies in which ETFs invest, which creates a governance problem. It is a well-known risk that Robo-Advice can aggravate.[31]

Moreover, advice platforms present **challenges for regulatory compliance and supervision**. The technical capacity resides in the Fintech industry. Supervisors are lagging behind innovations.[32] To bridge this gap, regulators and supervisors need to modernise by incorporating Fintech tools into both the legal framework (RegTech) and the supervisory process (SupTech). Their knowledge and skills depend on the lessons they learn from their participation in the innovation facilitators.[33] These systems allow them to stay in touch with the industry and understand their business models. From this perspective, a safe harbour is provided for open testing of products with end customers.[34]

2.2. MAIN FEATURES

Robo-Advice is a **contractual process** that begins with offering the service, identifying the advisor and the conditions for the provision of the service, and continues with knowledge of the client through forms, the basis for evaluation of the client, aimed at guiding them towards transactions considered suitable for their profile.[35] In turn, the

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Paper, no. 2020/006, 2020, p. 48.

[31] "Robo-advisors rely on passive ETFs to construct client portfolios, which means investors do not hold voting rights in the stocks that make up a given ETF. Instead, the voting rights are held by the ETF provider, the largest being BlackRock, Vanguard, and State Street. This means that these firms effectively control an ever-growing share of the stock market, which has led to concerns around declines in corporate governance and corporate accountability", in Lee REINERS, "Regulation of Robo-Advisory services", in *Fintech*, Edward Elgar Publishing, 2019, p. 361.

[32] As the FSB recognises, "On the supervisory side, auditing of models may require skills and expertise that supervisory institutions may not currently have", in Financial Stability Board, "Artificial intelligence and machine learning in financial services", 2017, p. 34. Available online: https://www.fsb.org/wp-content/uploads/P011117.pdf.

[33] Innovation facilitators contribute to this learning. See ESAs, *FinTech: Regulatory sandboxes and innovation hubs*, JC 2018 74, according to whom: "Learnings from innovation facilitators should be disseminated to relevant functions of the authority/ies concerned". Available at https://esas-joint-committee.europa.eu/Publications/Reports/JC%202018%2074%20Joint%20Report%20on%20Regulatory%20Sandboxes%20and%20Innovation%20Hubs.pdf In addition to having a Regulatory Sandbox, the FCA has an Advice Unit that "provides regulatory feedback to firms developing automated models to deliver lower cost advice and guidance to consumers", whose services are being used by 46 firms (see https://www.fca.org.uk/firms/advice-unit/advice-unit-firms-accepted-feedback).

[34] This strategy was criticised by SEC Commissioner Hester M. Peirce: "SEC's role is not to hand out permission slips for innovation", "the beach, not the sandbox, is my preferred approach", in "Beaches and Bitcoin: Remarks before the Medici Conference", 2 May 2018, available at https://www.sec.gov/news/speech/speech-peirce-050218.

[35] According to the Swedish Bankers' Association: "For companies providing investment services that is not labelled advice (but rather guidance) there is a risk of misselling when no suitability assessment is performed, and the customers' investment preferences are not clearly established", in European Commission, *Consultation on a new digital finance strategy for Europe / FinTech action plan*, 2020.

best trade execution can be automated by means of algorithms.[36] The client's relationship with the advisor is established and developed through the platform through which the service is provided.

Robo-Advice is a normative, complex, depersonalised and inclusive service. It is a **normative contract** as it sets up a contracting framework that determines the contents and outcome of the contractual performance. It is a contractual process in which the algorithm plays a normative role, shaping the contents and quality of the service provided. [37] The programming of the algorithm determines the contents of the questionnaires, the data analysis, the issuance of the recommendation and its linkage to trade execution. The well-designed algorithm suppresses the customer's cognitive biases, recreates the customer's interests and aids recommendation of the most suitable products. However, the quality of the data collected through the questionnaire determines the quality of the recommendation generated through the algorithm.[38]

Robo-Advice is a **complex service** that combines various data-driven financial services, with a unit of interest and trading function that is coordinated through a platform. The core service is the allocation of assets after digital profiling. It is marketed as "advice", but in reality it is merely guidance for the client, linked to execution and monitoring services. However, it is possible that the development of algorithms with artificial intelligence will help to provide personalised advice tailored to customers' needs.

It is in some ways a **depersonalised service**, a feature that hinders but does not prevent the offering of recommendations tailored to the client's profile. [39] The main characteristic of traditional advice is its personal character, *intuitu personae*. It is a service of a fiduciary nature, focused on the client's needs.[40] This feature is challenged in

[36] Solving the problem of adequate control. See Emilios AVGOULEAS & Aggelos KIAYIAS, "The Architecture of Decentralised Finance Platforms: A New Open Finance Paradigm", Edinburgh School of Law Research Paper, no. 2020/16, 2020, p. 38. Available online: https://ssrn.com/abstract=3666029

[37] The algorithm is not a regulation. Even the algorithms used by financial authorities to monitor Fintech do not constitute regulations. See HUERGO LORA, Alejandro José, "Una aproximación a los algoritmos desde el derecho administrativo", in *La regulación de los algoritmos*, Valencia: Aranzadi Thomson Reuters, 2020. p. 64-67. In general, there is an attempt to turn technology into a regulatory tool, reflected in the expression "code as law". See Laura AMMANNATI, "Regulating or not regulating digital platforms?", *Public Law and the Challenges of New Technologies and Digital Markets*, p. 2. Available online: http://www.academia.edu/download/59957275/AMMANNATI-Regulating_digital_platforms20190708-80893-1847pzz.pdf, who prefers to emphasise the gatekeeping function of platforms.

[38] According to Raffaele LENER, the game is not being played "*sull campo della quantità (e della qualità) delle informazioni racolte*", in *La consuelenza digitalizzata*, *I Quaderni di Minerva Bancaria*, January January 2021, pp. 57 and 58.

[39] Howell E. JACKSON & Margaret E. TAHYAR consider that "the lack of human involvement that many perceive to be robo-advising's greatest weakness should instead be seen as its greatest strength" as "empirical research has demonstrated that human advisers are susceptible to a surfeit of biases, suggesting that dispassionate robo-advisers should be able to match customers to investments at least as well as-if not even better than-human advisers" (in *Fintech Law: The Case Studies*, July 2020, pp. 77−79).

[40] The fiduciary nature of financial advice (digital or non-digital) has been clearly interpreted by the SEC.

Robo-Advice, in particular in pure advice, which lacks human interaction. Robo-Advice is a technological innovation applied to finance that challenges the autonomy of investors to rationally make their own investment decisions. In an increasingly complex financial market, making decisions without the aid of a digital navigator is risky. In a sense, the rational investor is compelled to use and follow the Robo-Advisor's recommendations. There is great controversy between those who consider that Robo-Advisors, in their current business model, can fulfil the fiduciary duties of the financial advisor, and those who maintain the opposite.[41] This is an aspect discussed in a Harvard Law School case, which concluded that with well-designed algorithms Robo-Advice can meet the suitability requirements of a fiduciary relationship.[42] We share the position of considering that, from a technical point of view, with algorithms enriched with artificial intelligence, it is possible to design a service that complies with the fiduciary standards required of the advisor by the different legal systems.[43] It is a different matter if, in an area plagued by conflicts of interest, with supervisors who are sometimes too permissive, algorithms are programmed with biases in favour of some institutions to the detriment of customers.[44]

Robo-Advice is an **inclusive service**. One of the main features of Robo-Advice is convenience. It allows access anytime, anywhere with an internet connection, at low cost. The automated service can be used by sections of the population that were previously unable to access financial advice. Those who are familiar with new technologies can take advantage of their digital literacy to use this service, without access being conditional upon having a particular portfolio size.[45] A sense of control and privacy appeals to both small investors and those with large assets. It is attractive

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See SECURITIES AND EXCHANGE COMMISSION, *Regulation Best Interest*, Release No. 3486031 (June 5, 2019), commented on by Melanie L. FEIN, "Regulation, Best Interest and the Standards of Conduct for Securities Broker-Dealers and Investment Advisers", 2019. Available online: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3505649. In the European Union, MiFID II establishes principles of a fiduciary nature and leaves their implementation to the Member States.

[41] Melanie L. FEIN, *Robo-Advisors: A Closer Look*, 2015; Megan JI, "Are Robots Good Fiduciaries? Regulating Robo-Advisors Under the Investment Advisers Act of 1940", Columbia Law Review, vol. 117, no. 8, 2017, *passim*. FINRA questions using a "digital advice tool" "as a substitute for the requisite knowledge about the securities or customer necessary to make a suitable recommendation".

[42] See Howell E. JACKSON and Margaret E. TAHYAR, *Fintech Law: The Case Studies*, July 2020, pp. 73−86. Available at https://projects.iq.harvard.edu/files/fintechlaw/files/fintech_law_the_case_studies.pdf).

[43] See John LIGHTBOURNE, "Algorithms & fiduciaries: Existing and proposed regulatory approaches to artificially intelligent financial planners", Duke LJ, 2017, vol. 67, pp. 651-679, concluding that "robo-advisers are no less likely to meet this fiduciary standard than human advisers" (p. 678).

[44] "It is unknown whether algorithms work in good faith backing users/consumers or whether they work prevailingly in favour of commercial interests of their owners", in Laura AMMANNATI, "Regulating or not regulating digital platforms?", *Public Law and the Challenges of New Technologies and Digital Markets*, p. 12. Available online: http://www.academia.edu/download/59957275/AMMANNATI-Regulating_digital_platforms20190708-80893-1847pzz.pdf

[45] "Regardless of age, most early roboinvestors simply like the impersonal approach", according to Andrea L. -EIDT, Noula ZAHARIS and Charles, JARRET, "Paying Attention to That Man behind the Curtain: State Securities Regulators' Early Conversations with Robo-Advisers", *University of Toledo Law Review*, vol. 50, no. 3, 2018, p. 509.

because of the robot's coldness to emotions, the diversification it allows and transparency free of conflicts of interest that affect human advisors;[46] although clients appreciate the possibility of access to a human advisor for support.

2.3. BUSINESS MODELS

There are **pure** Robo-Advice models, with no interaction between the end client and humans, and models that combine digitalisation with the human relationship, called "**bionic** advice".[47] However, the Canadian regulation excludes pure Robo-Advice, making the service conditional on verifying the suitability of the recommendation by a human advisor.[48] It should be noted that human activity is essential in any Robo-Advice model. The design of the algorithm, the updating of its content and revision in the face of unforeseen changes or unintended consequences are all activities that are the result of human programming. Even in pure Robo-Advice, human activity is essential in shaping the service.[49] The algorithm is a useful tool for service delivery. Programming activities can be carried out directly by the financial institution or through third parties in an increasingly frequent outsourcing process. Robo-Advice may be product advice, but it can also be comprehensive advice as takes place in financial planning.[50] It is set to play a key role in channelling retirement savings.[51]

2.4. NEW ANIMAL IN THE FINANCIAL ECOSYSTEM

"Robo-Advice" is a term used by authorities, analysts and Fintech scholars in both

[46] See Andrea L. SEIDT, Noula ZAHARIS & Charles JARRET, "Paying Attention to That Man behind the Curtain: State Securities Regulators' Early Conversations with Robo-Advisers", *University of Toledo Law Review*, vol. 50, no. 3, 2018, p. 510.

[47] See Securities & Exchange Commission, *Investor Bulletin: Robo-Advisers*, Feb. 23, 2017. Available online: https://www.investor.gov/introduction-investing/general-resources/news-alerts/alerts-bulletins/investor-bulletins-45.

[48] According to *Avis 31-342 du personnel des ACVM. Indications à l'intention des gestionnaires de portefeuille relativement aux conseils en ligne, Autorité des marché fi nanciers*, 2015, p. 2 and 3, commeneted on by Anne Shirley LEBEL, Ivan TCHOTOURIAN & Marc LACOURSIÈRE, "*Défi de l'encadrement juridique de l'intelligence artifi cielle dans l'industrie bancaire et des valeurs mobilières: l'exemple des services de paiement et des conseillers-robots*", *Les Cahiers de propriété intellectuelle,* Volume 30, no. 3, October 2018, pp. 1014, 1018-1020; a model considered too restrictive by Riccardo GHETTI in "*Robo-advice: automazione e determinismo nei servizi di investimento*", *Banca Borsa e Titoli di Credito*, 2020, LXXIII (4), p. 567.

[49] See Carlotta RINALDO, "*Le analisi finanziarie robotizzate: consulenze, ratings, classificazioni*", in CIAN, Marco & SANDEI, Claudia (dirs.), *Diritto del Fintech*, CEDAM, 2020, p. 366 et seq.

[50] See John LIGHTBOURNE, "Algorithms & fiduciaries: Existing and proposed regulatory approaches to artificially intelligent financial planners", *Duke LJ*, 2017, vol. 67, pp. 651-679.

[51] See Julie AGNEW & MITCHELL, Olivia S. (ed.), "The Disruptive Impact of FinTech on Retirement Systems", Oxford University Press, 2019, according to whom, "The advent of a computerized approach to financial advice offers huge promise to provide people access to data they need to make smart retirement plans at very low cost", p. 2; PARACAMPO, Maria-Teresa. "*I servizi di consulenza nel settore assicurativo e previdenziale tra nuove tecnologie e sistemi automatizzati. Dai siti di comparazione al Robo Insurance/Pension Advice*", in PARACAMPO, Maria-Teresa (Ed.) Fintech. *Introduzione ai profili giuridici di un mercato unico tecnologico dei servizi finanziari. Seconda edizione riveduta e aggiornata.* Volume I, 2021, pp. 310−316.

economic literature and legal doctrine. There is a lack of clarity in the use of the term "Robo-Advice" highlighted by Better Finance, which recommends regulators to move towards standardised terminology in the use of concepts such as "investment advice", "personal recommendations", "product selling", "guidance" and "planning".[52]

Robo-Advice identifies a variety of trade execution and management services offered under the umbrella of advice and delivered through portals or applications using algorithms. The Financial Stability Board defines it as: "Applications that combine digital interfaces and algorithms, and can also include machine learning, in order to provide services ranging from automated financial recommendations to contract brokering to portfolio management to their clients. Such advisors may be standalone firms and platforms or can be in-house applications of incumbent financial institutions".[53] It is automated advice, hence the name "Robo-Advice". Automated advice is variously referred to as "Digital Advice" and "Automated Advice", with the term "Robo-Advice" being the one that best identifies the activity.[54] The terms "adviser" and "advisor" are used interchangeably, with "advisor" being more formal.[55] In order to approach the concept, it would be useful to start by looking at what "advice" is and then consider its automation. After clarifying the concept of financial advice, we will be able to better tackle what changes when it is automated and the needs for regulation.

"Financial advice" is an **activity defined in the sectoral laws** with a degree of inconsistency, a framework that is difficult to understand in light of market practices. Unfortunately, there has been frequent behaviour that has put institutions' interests before

[52] In Response to EU Commission, *Consultation on a new digital finance strategy for Europe / FinTech action plan*, 26/6/2020, question 5).

[53] Financial Stability Board (FSB), "Financial Stability Implications from FinTech. Supervisory and Regulatory Issues that Merit Authorities Attention", 2017, p. 34. Available online: https://www.fsb.org/wp-content/uploads/R270617.pdf. According to B. G. BUCHANAN, "A robo-advisor is an algorithm based digital platform that offers automated financial advice or investment management services" (*"Artificial intelligence in finance",* The Alan Turing Institute, 2019, p. 13). In this sense, Wolf-Georg RINGE & Christopher RUOF "use the term to refer to applications that combine digital interfaces and algorithms in order to provide services ranging from automated financial recommendations to portfolio management to their users" ("Robo advice - Legal and regulatory challenges", in CHIU, Iris H-Y & DEIPENBROCK, Gudula (Ed.), *Routledge Handbook of Financial Technology and Law*, 2021, chapter 11, paragraph 1). In turn, according to Lee REINERS, "Robo-advisors combine insights from portfolio theory and behavioural economics with modern technology" ("Regulation of Robo-Advisory services" in *Fintech*, Edward Elgar Publishing, 2019, p. 354).

[54] The Australian ASIC authority uses "Digital advice (also known as robo-advice or automated advice)". See Australian Securities & Investments Commission, *Providing digital financial product advice to retail clients*, 2016. Available online: https://asic.gov.au/regulatory-resources/find-a-document/regulatory-guides/rg-255-providing-digital-financial-product-advice-to-retail-clients/. In turn, the Spanish Securities and Exchange Commission (CNMV) refers to automated advice as "robo-advice". See http://www.boletininternacionalcnmv.es/ficha.php?menu_id=1&jera_id=391&cont_id=763.

[55] See Merriam Webster, *"'Advisor' vs. 'Adviser': Who Will Win?"* Available online: https://www.merriam-webster.com/words-at-play/advisor-vs-adviser-who-will-win. The term "robo-advisor" is commonly used instead of "robo-advice". The FCA has an "Advice Unit" with guidance for robo-advisors and its Regtech activities include an "Intelligent Regulatory Advisor - an intelligent (Robo-advisor) front-end to a regulatory handbook that guides an applicant through the authorisations process by providing basic automated advice" (see https://www.fca.org.uk/firms/innovation/regtech/our-work-programme).

the interests of the client, recommending the purchase of products for commission-based profit, regardless of their suitability.[56] In the European Union, MiFID II defines it as "the provision of personal recommendations to a client, either upon its request or at the initiative of the investment firm, in respect of one or more transactions relating to financial instruments".[57] There are other definitions of advice in the credit market, in the insurance market and in the pension fund market. MCD defines "advisory services" as "the provision of personal recommendations to a consumer in respect of one or more transactions relating to credit agreements and constitutes a separate activity from the granting of a credit and from the credit intermediation activities".[58] IDD defines "advice" as "a personal recommendation to a customer, either upon their request or at the initiative of the insurance distributor, in respect of one or more insurance contracts".[59] In turn, PEPP defines "advice" as "a personal recommendation provided by the PEPP provider or PEPP distributor to a PEPP customer in respect of one or more PEPP contracts".[60] This diversity of definitions is an obstacle to the development of automated advice.[61] In order to aid the development of advice in the crypto-asset market, the proposal for an EU regulation on the subject contains a broad definition of advice, which is limited to assessing the compatibility of crypto-assets with clients' needs, in what appears to be a return to the MiFID I concept, with a mere warning of unsuitability.[62]

From the point of view of users, "financial advice" is a **vague concept** that is not clearly distinguishable from marketing. There is an important discrepancy between the legal provisions and the practice of the industry. It is common to consider that a bank gives advice and does so free of charge. But banks are not obliged to advise, nor are customers obliged to seek advice. In fact, customers are more interested in seeking

[56] See European Parliament's Committee on Economic and Monetary Affairs (ECON), *Studies in Focus: Mis-selling of Financial Products*, 14 September 2018. Available online: https://www.europarl.europa.eu/RegData/etudes/ATAG/2018/626061/IPOL_ATA(2018)626061_EN.pdf

[57] Art. 4.1.4) Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments (MiFID II).

[58] Art. 4.21 Directive 2014/17/EU of the European Parliament and of the Council of 4 February 2014 on credit agreements for consumers relating to residential immovable property (MCD).

[59] Art. 2.1.15 Insurance Distribution Directive (EU) 2016/97 of 20 January 2016 (IDD).

[60] Art. 2(31) Regulation (EU) 2019/1238 of 20 June 2019 on a pan-European Personal Pension Product (PEPP) defines "advice" as "a personal recommendation provided by the PEPP provider or PEPP distributor to a PEPP customer in respect of one or more PEPP contracts".

[61] See PARACAMPO, Maria-Teresa. *"I servizi di robo advisory tra algoritmi, evoluzioni tecnologiche e profili normativi"*, in PARACAMPO, Maria-Teresa (Ed.) *Fintech. Introduzione ai profili giuridici di un mercato unico tecnologico dei servizi finanziari. Seconda edizione riveduta e aggiornata*. Volume I, 2021, p. 238.

[62] Art. 1.17 Proposal for a Regulation on Markets in Crypto-assets, 2020/0265 (COD)) defines advice, which comprises: "offering, giving or agreeing to give personalised or specific recommendations to a third party, either at the third party's request or on the initiative of the crypto-asset service provider providing the advice, concerning the acquisition or the sale of one or more crypto-assets, or the use of crypto-asset services", with a mere warning of unsuitability (see Art. 73).

financial products that meet their interests than in seeking advice.[63] The fact is that the increasing complexity of financial products and services requires that the functioning of the product and its risks be explained to the customer.[64] However, advice should not be confused with technical explanations of the product being purchased. Advice arises from the opinion given, from the personalised recommendation. Although it is endowed with a certain degree of autonomy, it is still an activity under construction. It arose as an ancillary activity until it was enshrined in MiFID II as an investment service, qualifying its independence.[65]

Financial advice is now an **autonomous service** that can be provided in combination with other services. For example, it is common for the advisor to be responsible for executing the transaction decided by the client following the recommendation received.[66] Investment advice is sometimes combined with portfolio management, in what Spanish doctrine calls "advisory management".[67] However, advice and management are different in nature and, in principle, are mutually exclusive activities. The advisor recommends the transaction, and it is the client who makes the decision. Conversely, the manager makes the decision on the basis of the general investment criteria communicated by the client. In both cases, whether management or advice, it is necessary to get to know the client, and assess their profile based on their knowledge and experience, asset situation and investment objectives, in order to adapt the service to the client's profile. However, management and advice differ in the contents of the service: advising on the transaction, when advice is given, and managing by taking decisions in accordance with general investment criteria, when management takes place. The fact that the business model combines different investment services complicates the analysis but does not affect the nature of the activities carried out. Conflicts of interest arise from combining them, which must be prevented to avoid harming the client's interests.[68]

[63] See Bob FERGUSON, "Robo Advice: an FCA perspective", 2017, according to whom, "Customers search for product words such as ISA or pensions, not financial advice". Available online: https://www.fca.org.uk/news/speeches/robo-advice-fca-perspective.

[64] This is stated by the Dutch financial authority AFM: "In view of the complexity of financial products and the customer's situation, financial well-being often starts with a sound financial advice" in Authority for the Financial Markets' *The AFM's view on robo advice Opportunities, duty of care and points of attention*, 2018, p. 4. Available online: https://www.afm.nl/~/profmedia/files/onderwerpen/roboadvies-sav/view-robo-advice.pdf?la=en

[65] Who will assess a sufficient range of financial instruments available on the market that is sufficiently diversified with a prohibition on retrocessions and other incentives (see Art. 24.7 MiFID II and Art. 53 Delegated Regulation 2017/565).

[66] However, financial advice firms (*empresas de asesoramiento financiero* - EAF) may not engage in the receipt or execution of trades on behalf of their clients (art. 143.5 of the Spanish Stock Market Act - LMV).

[67] See Alberto J. TAPIA HERMIDA, "Capítulo 5. Asesoramiento y gestión discrecional de carteras", in F. ZUNZUNEGUI (ed.), *Regulación financiera y Fintech*, Madrid, 2020, pp. 125-161. This author classifies "gestión asesorada" as "combining the investment advice service and the subsequent services of executing investment orders made by the investor, once he/she has been advised" (p. 128). This category is included in the Supreme Court Judgments, Civil Chamber, Plenary Session 244/2013 of 18 April; Plenary Session 460/2014 of 10 September; and 666/2016 of 14 November.

[68] Emilios Avgouleas and Aggelos Kiayias highlight "the problem of conflict of interests that may arise due to possible full integration of investment advice via Robo-advisors and trading and execution services", in Emilios AVGOULEAS & Aggelos KIAYIAS, "The Architecture of Decentralised Finance Platforms: A New Open Finance Paradigm", Edinburgh School of Law Research Paper, no. 2020/16, 2020, p. 38. Available online: https://ssrn.com/abstract=3666029

In traditional advisory services, the focus is on personalised recommendations based on the client's profile. The provision of information with risk warnings takes second place, as it is a fiduciary service in which the clients put themselves in the hands of the advisor. "Fiduciary" is understood as a relationship of trust in which the clients put themselves in the hands of the professional.[69] The client decides whether to follow the recommendation of the advisor, a professional in whom he/she trusts. However, it is the advisor who selects the products according to the client's profile, after analysing the risks of the products being recommended.

When analysing Robo-Advice, we are faced with a double difficulty: on the one hand, that arising from the legal concept of financial advice and how it contrasts with the reality in the industry; and, on the other hand, the difficulty of analysing an activity that is based on a continuously evolving data-driven technology. This difficulty is revealed in studies that deal with Robo-Advice, which are highly dependent on the doctrinal controversies surrounding financial advice.[70]

The definition of advice in MiFID II has been interpreted by ESMA from the perspective of its automation.[71] According to these guidelines "robo-advice" means "the provision of investment advice or portfolio management services (in whole or in part) through an automated or semi-automated system used as a client-facing tool". This means that ESMA itself defines Robo-Advice as a complex activity combining advice with management. Moreover, the ESMA concept does not mention being "personalised" as a characterising element of the service. This silence is significant and reflects the loss in automated advice of the personal face-to-face relationship between the client and the human advisor, notwithstanding verifying the appropriateness of the recommendation based on the client's profile.

3. ROBO-ADVICE AS A DIGITAL FINANCE PLATFORM

Robo-Advice is a new "advisory management" activity through platforms with new risks that need to be regulated. This hybrid character shapes its nature and conditions its regulation. It is a **digital navigator** that guides investment decisions based on the customer's digital profile. It is one of the new data-driven technology services. It is part of the **platform economy**.[72] They are, in essence, "advice platforms" with their own

[69] Not in the sense of a "trust" in English-speaking countries. See Joaquín GARRIGUES, *Negocios fiduciarios en el derecho mercantil*, Madrid: Editorial Civitas, 2016. "Nevertheless, it must be recognized that the institution of the trust plays a very important role in business affairs, especially in banking", Joaquín GARRIGUES, "Law of Trusts", *American Journal of Comparative Law,* vol. 2, no. 1, 1953, p. 35.

[70] See, for all, chapter 8 on "Robo-Advisors" in Chris BRUMMER, *Fintech Law in a Nutshell*. West Academic Press, 2019, pp.201-236.

[71] European Securities & Markets Authority, *Guidelines on certain aspects of MiFID II suitability requirements*, 2018, ESMA35-43-1163 EN.

[72] Regarding the platform economy, see Teresa RODRÍGUEZ DE LAS HERAS BALLELL, "Chapter IV - Platform based models for facilitating international trade: a legal analysis", in *Trade Facilitation and the WTO*, Jane WINN & Sheela RAI (ed.), 2019, pp. 56-71, according to whom, "Digital technology does not only improve procedures but reshapes its structures" (p. 57).

configuration and risks.[73] Some authors have identified Robo-Advice as online wealth management platforms providing investment advice driven by algorithms that leverage data provided by investors to construct and manage a tailored appropriate investment portfolio for them.[74]

Robo-Advice firms attract clients through internet portals by offering low-cost advice and allocating the funds raised to specific investments using intelligent algorithms.[75] The service is most commonly provided through application platforms offered to the public on financial services portals. **Advice platforms** offer financial guidance and other linked or combined services. Traditional banks are adapting to this business model by including financial advice services on their websites with their own or third-party applications.

There are currently two types of Fintech products and services: those with algorithmic platforms and those that make use of distributed ledger technologies (DLT/Blockchain). Robo-Advice, with crowdfunding and automated payment services, stand out among the services provided through platforms. Products that use DLT include cryptocurrencies and token issuance.[76]

Those accessing Robo-Advice portals must register and fill in a form to evaluate the client's profile.[77] The information is usually gathered through a form on a website using a mobile or other digital device without human interaction. Nevertheless, it is increasingly common to complete the profile using other sources, such as data from social networks, including data taken from gaming portals, in a finance gamification process.[78] Fintech in general and Robo-Advisors in particular "are actively using gamification elements to motivate customers".[79]

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[73] "They often use the services of a data aggregator to centralize information about a consumer's accounts from multiple financial institutions", U.S. Department of the Treasury, *A Financial System That Creates Economic Opportunities Nonbank Financials, Fintech, and Innovation*, 2018, p. 162.

[74] Allen *et al*, in Franklin ALLEN, Xianm GU & Julapa JAGTIANI, "A Survey of Fintech Research and Policy Discussion", FRB of Philadelphia Working Paper, no. 20-21, 2020, p. 29. Available online: https://www.philadelphiafed.org/-/media/research-and-data/publications/working-papers/2020/wp20-21.pdf

[75] According to the US Treasury: "Through the use of data analytics, machine learning, and other computing advances, the costs of providing digital financial planning have declined significantly", in U.S. Department of the Treasury, *A Financial System That Creates Economic Opportunities Nonbank Financials, Fintech, and Innovation*, 2018, p. 160.

[76] See Chris BRUMMER, "Fintech Law in a Nutshell", West Academic Press, 2019; and Teresa RODRIGUEZ DE LAS HERAS BALLELL, "The Layers of Digital Financial Innovation: Charting a Regulatory Response," *Fordham Journal of Corporate & Financial Law*, vol. 25, no. 2, 2020, pp. 381 et seq.

[77] According to Allen *et al,* "A typical robo-advisor platform consists of three phases: (1) the initial investor screening, (2) investment strategy implementation, and (3) monitoring and rebalancing the strategy", Franklin ALLEN, Xianm GU & Julapa JAGTIANI, "A Survey of Fintech Research and Policy Discussion", *FRB of Philadelphia Working Paper*, no. 20-21, 2020, p. 29. Available online https://www.philadelphiafed.org/-/media/research-and-data/publications/working-papers/2020/wp20-21.pdf

[78] See SIRONI, Paolo, *FinTech innovation: from robo-advisors to goal based investing and gamification*, John Wiley & Sons, 2016; who considers that "Gamification is emerging as a new digital force in the wealth management ecosystem", preface, p. XV, "engaging gaming mechanisms to modify the behaviour of individuals", p. 8).

[79] LEHNER, Othmar M. & SIMLINGER, Romina, "When function meets emotion, change can happen: Societal value propositions and disruptive potential in fintechs", *The International Journal of*

The evaluation and issuing of the recommendation arise from the algorithm used by the provider.[80] Doctrine underlines the importance of data collection.[81] The quality of the

information selected for use by the algorithm determines the quality of the advice. There is a paradox that Robo-Advice, handling a larger amount of data, often provides the client with recommendations limited to certain model portfolios. For compliance and legal risk reasons, the most common business model is limited to guiding the investor in "advisory management". In these cases, Robo-Advisor functions more as an asset allocation mechanism than as a true financial advisor to the client.

Moreover, financial product **comparison sites**, which advise customers on the best options to choose according to their profile, may also come within the concept of Robo-Advice.[82] Comparing helps with decision-making and platforms often include comparisons, which helps build customer confidence in the provider's performance.

4. REGULATING ROBO-ADVICE AS A DIGITAL FINANCE PLATFORM

Initial reports from the authorities advised against the regulation of Robo-Advice.[83]

Entrepreneurship and Innovation, 2019, vol. 20, no. 4, p. 284.

[80] According to Caelainn CARNEY, "The question may not be whether an algorithm can obtain client information like a traditional investment adviser, but whether it can obtain the right kind of client information in order to deliver suitable advice", in Caelainn CARNEY, "Robo-advisers and the suitability requirement: how they fit in the regulatory framework", *Columbia Business Law Review*, no. 2, 2018, p. 616.

[81] See PARACAMPO, Maria-Teresa. *"I servizi di robo advisory tra algoritmi, evoluzioni tecnologiche e profili normativi"*, in PARACAMPO, Maria-Teresa (Ed.) Fintech. *Introduzione ai profili giuridici di un mercato unico tecnologico dei servizi finanziari. Seconda edizione riveduta e aggiornata.* Volume I, 2021, p. 229. Accordingly, Better Finance recommends ESMA to develop guidelines on questionnaires (in *Robo-advice 5.0: Can consumers trust robots?*, December 2020, p. 71).

[82] BAKER, Tom; DELLAERT, Benedict, "Regulating robo advice across the financial services industry". *Iowa L. Rev.*, 2017, vol. 103, p. 721. According to the Bank of Spain, comparison sites are a "relevant source of information for 27% of those who purchase shares, and around 10% of those who purchase pension plans, personal loans or credit cards" in the Bank of Spain's *Plan de Educación Financiera 2018-2021*, 2018, p. 40. Available online: https://www.bde.es/f/webbde/Secciones/Publicaciones/OtrasPublicaciones/educacionfinaciera/PlanEducacion2018_2021.pdf. Payment service comparison websites must comply with the transparency requirements set out in Art. 13 of Order ECE/228/2019 of 28 February, which differentiates comparison activity from advertising in order to ensure an adequate level of independence, objectivity, truthfulness and transparency. In turn, insurance intermediaries using insurance comparison applications must "develop written policies to ensure their transparency" in the terms stipulated in art. 134.3 of Royal Decree-Law 3/2020 of 4 February. However, the insurance distribution rules do not apply "to websites that are operated by public authorities or consumer associations, the purpose of which is not to to enter into insurance contracts, but merely to compare the insurance products available on the market" (Art. 129.4). This distinguishes commercial comparison sites from pure information providers.

[83] "ESAs have concluded for the time being not to develop additional joint cross-sectoral requirements specific to this particular innovation […] as the proliferation of automated advice is still at an early stage, it is less likely at the present time for some of the risks to materialise" (European Supervisory Authorities, *Report on automation in financial advice*, 2015, p.5). This conclusion was confirmed in European Supervisory Authorities, *Joint Committee Report on the results of the monitoring exercise on 'automation in financial advice*', JC 2018-29, 2018: "Considering the results of the analysis, in terms of limited growth of the phenomenon and lack of materialisation of the identified risks, no immediate ESAs action appears to be

From the outset, they rejected the idea that algorithm-based technology would give rise to new activities with differentiated risks. They considered that their impact was not relevant and that it was sufficient to comply with existing regulations. However, a number of authorities adopted regulatory compliance guides to facilitate market access for new firms while complying with the legal framework of traditional advice.[84] Accordingly, ESMA has approved guidelines for the governance of Robo-Advice.[85] These are transparency and algorithm control rules (**algo-governance**), reflecting the trend to replace transparency-based rules of conduct with product governance rules in the field of internal control.[86]

In the European Union, crowdfunding already has its own regulation concerning providers of crowdfunding services.[87] Such services are a novelty and arise from the application of technology to traditional services. They are seen as new market infrastructures that simultaneously offer payment services. They are characterised by the diversity of business models and the possibility of combining different financial services. This combination is its main characteristic. They are hybrid services. On a basic infrastructure that connects investors and promoters, the provider, which owns the platform, provides intermediation services and other ancillary services, notably including payments.

Fintech activities, such as payment initiation and account information management, have also been regulated in the second Payment Service Directive (PSD2).[88] Banks should make

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necessary" (p.4).

[84] Division of Investment Management, SEC, *IM Guidance Update: Robo-Advisors* no. 2017-2, 2017, with guidelines so that the questionnaires that feed the algorithms have the necessary contents and control processes to ensure the recommendations are suited to the client's profile. See also Financial Industry Regulatory Authority, *Report on Digital Investment Advice*, 2016. See reference to Monetary Authority of Singapore approach in GURREA-MARTÍNEZ, Aurelio; WAN, Wai Yee, "The Promises and Perils of Robo-Advisers: Challenges and Regulatory Approaches", *SMU Centre for AI & Data Governance Research Paper*, 2021, no 2021/11.

[85] Incorporated in European Securities and Markets Authority, *Guidelines on certain aspects of MiFID II suitability requirements*, 2018, ESMA35-43-1163 EN.

[86] According to Florian MÖSLEIN, the ESMA guidelines "represent a general regulatory tendency to substitute rules of conduct with organisational duties when it comes to regulating robotic conduct", in Florian MÖSLEIN, "Law and Autonomous Systems Series: Regulating Robotic Conduct - On ESMA's New Guidelines and Beyond", *Oxford Business Law Blog*, 10 Apr 2018. Available online: https://www.law.ox.ac.uk/business-law-blog/blog/2018/04/law-and-autonomous-systems-series-regulating-robotic-conduct-esmas. Also see Maria Teresa PARACAMPO, *"L'adeguatezza della consulenza finanziaria automatizzata nelle linee guida dell'ESMA tra algo-governance e nuovi poteri di supervisione", Rivista Diritto Bancario*, no. 3, 2018, pp. 535-555, with a change of regulatory focus from transparency to governance (p. 543), which implies: "*Il vero destinatario della vigilanza diviene così l'algoritmo e la robustezza della struttura di supporto*" (p. 554).

[87] Regulation (EU) 2020/1503 of 7 October 2020 on European crowdfunding service providers for business, which establishes a harmonised framework under licensing and supervision by national competent authorities, with an issuance threshold of up to EUR 5 million, with individualised loan portfolio management services, which distinguishes between experienced and inexperienced investors, who are provided with additional protection measures. Commented on by Alberto J. TAPIA HERMIDA, "*La nueva regulación europea del crowfunding. El reglamento (UE) 2020/1503, de 7 de octubre de 2020, sobre los proveedores europeos de servicios de financiación participativa para empresas*", *La Ley Unión Europea*, number 86, November 2020.

[88] "With the European Union functioning as first mover" (Douglas W. ARNER, Dirk A. ZETZSCHE,

it easier for their customers to share their data with these new entrants. It is a system of "Open Banking" which promotes competition and innovation under the control of the authorities to ensure customer protection and market stability.

These precedents point the way to regulating Robo-Advice as digital finance platform. Just like crowdfunding, a Robo-Advisor combines different financial services to create a new, more efficient service with new risks to consider.

Financial authorities are faced with the **dilemma** of regulating to maintain security or being flexible to facilitate innovation. They are aware of the initial difficulty of framing Robo-Advice within the concept of financial advice, given the lack of human interaction that would allow a recommendation to be described as "personalised", although they admit that, potentially, through advanced algorithms, personalised recommendations can be offered that are suitable for the client's profile.[89] In addition, questions arise as to whether Robo-Advice platforms comply with the fiduciary standards of conduct that apply to financial advice. Moreover, authorities are also aware of the disruptive nature of Robo-Advice and its relevance for customer protection and market integrity. If it falls outside of traditional advice, the rules governing it would cease to apply, with a lack of protection for clients and a risk to the integrity of the market. The basis of platforms' business is financial guidance, an activity that is unregulated.[90] It is outside the perimeter of regulated services. Furthermore, it is insufficient to apply the trade execution framework when the execution of transactions takes place via the Robo-Advice platform. It is in advice that fiduciary conduct is regulated. Otherwise, there is no justification for seeking to apply the portfolio management rules.[91] In Robo-Advice, it is the customer who decides. The platform receives the execution order; it does not manage the client's portfolio.

Against this backdrop, the authorities, while aware of its uniqueness, have from the outset sought to place Robo-Advice within the framework of traditional financial advice and have sought to find a place for it by providing operators with explanatory guides on how to comply with the regulations governing traditional advice. They use the principle of

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Ross BUCKLEY & Rolf H. WEBER, *"The Future of Data-Driven Finance and RegTech: Lessons from EU Big Bang II*", Stanford Journal of Law, Business & Finance, vol. 25, no. 2, 2020, p. 265, who consider that: "This renders the EU PSD2 experiment particularly valuable and significant not only in payments and Reg-Tech but also from the standpoint of the real impact of open banking and competition especially from non-traditional technology-focused competitors, including FinTechs and TechFins"). PSD2 is associated with "Open Banking", the precursor of "Open Finance". See "*Open Finance: an opportunity for financial services*", Speech by Sheldon Mills, Director of Competition at the FCA, 18/11/2019, with a clear message: "Open Banking demonstrated a practical solution for how data could be securely shared with third party providers. In doing so, it has built the rails for a whole host of potential third-party applications in the financial services space."

[89] Regarding this, see Fabiano DE SANTIS, "*L'applicazione della 'Know your Customer Rule' e della 'Suitability Rule' nell'ambito del 'Robo Advisory'*", in CORAPI, Elisabetta and Lener, Rafaelle (dirs.*), I diversi settori del Fintech. Problemi e prospettive*, CEDAM, 2019, p. 168.

[90] For a distinction between 'guidance' and 'advice', see FCA, *Understanding 'advice' and 'guidance' on investments*, updated 19/06/2020, available at https://www.fca.org.uk/consumers/understanding-advice-guidance-investments.

[91] Although automated advice is sometimes included in "digital wealth management", see Michael B. IMERMAN and Frank J. FABOZZI, "Cashing in on innovation: a taxonomy of FinTech", *Journal of Asset Management*, vol. 21, 2020, pp. 170−171.

technological neutrality to justify this strategy. However, attempting to fit Robo-Advice within traditional advice in order to apply its specific regulations is neither reasonable nor convenient.[92] In Robo-Advice, the technique configures the service.

The principle of **technology neutrality** remains an essential element of financial regulation. The same regulation must be applied to the same activity and the same risks. This ensures a fair level playing field. However, by application of the same principle, different rules should apply to different activities with different risks. This is the case for traditional and automated advice. Robo-Advice gives rise to a new activity with new risks deserving of new regulation. Robo-Advice, a Fintech service with its own configuration and risks, cannot be applied without the necessary adaptation to the traditional regulations of traditional advice.

The fact is that Robo-Advice is a new animal in the financial ecosystem, deserving of new regulation to address its risks. It is a modular, integrated and continuous service. Regulating it by segments is unsatisfactory. There is a need to move from regulating each service to regulating the services integrated in the platform in a comprehensive manner. It deserves differentiated treatment based on general principles adapted to the new risks created using algorithms with artificial intelligence.[93] We need a legal framework for data-driven finance. There is no justification for requiring, by application of the principle of technology neutrality, the same regulatory burden for Fintech providers as for traditional banks.

The regulation of Robo-Advice is governed by the same principles and objectives as those that apply to traditional advice. Transaction transparency, the suitability of the services to the client's profile and stability continue to dominate the regulation of advice. The aim of product governance and conduct rules is to protect the customer, preserve market integrity and ensure the proper functioning of the market. However, Robo-Advice is a distinct application-based advisory management service that requires a specific framework.

In Robo-Advice, as in other Fintech services, **the algorithm is at the heart of the financial service**. Customer relations are depersonalised in an automated process. What is crucial is to ensure correct programming of the algorithm that underpins the provision of the service. Clearly, the design of the algorithm must respect the principles and objectives of financial regulation to preserve market stability and ensure customer protection. However, achieving these objectives it is not enough to reinforce transparency. Governance needs to be intensified. The focus is on controlling the programming of algorithms. This shift is consolidated by the use of artificial intelligence. *Ex-post* control, through the discipline of the conduct rules, is preceded by *ex-ante* control that operates from the very

[92] According to Philipp MAUME, "the implication of a level playing field is that robo-advisors should, be able to offer their services to clients unfettered by the traditional and potentially unsuitable interpretation of existing regulation", in "Regulating robo-advisory", *Texas International Law Journal*, 55(1), 2019, p. 87; in his opinion, "Direct licensing of robo-advisors is a topic that might become relevant in the future" (ibidem).

[93] Hence, art. 63.4 of the Proposal for a Regulation on artificial intelligence, 2021/0106 (COD) of 21 April 2021 makes financial supervisors a market surveillance authority when artificial intelligence, including Robo-Advice, is integrated into financial products and services.

initial design of the product and the programming of the algorithm.[94] Hence, control of the algorithm takes centre stage. Control shifts from behaviour in the commercial offer to algorithm design.[95]

The Fintech industry opposes algorithm control. It refers to professional secrecy and intellectual property as reasons not to disclose the contents of algorithms.[96] According to these positions, transparency regarding the contents of algorithms would be anti-competitive and anti-innovative. Moreover, it is argued that with AI-enriched algorithms, transparency becomes difficult, since the development of the product is inexplicable even to its creators. They have a life of their own. Imposing an obligation to explain their contents would limit the use of artificial intelligence in financial products.

Regulatory recommendations for the data economy based on the use of artificial intelligence algorithms[97] also apply to Fintech services using such algorithms. But this general framework of the data economy does not adequately address financial risks. As was the case in the analogue era, when commercial and even consumer protection regulations were inadequate for financial services, in the Fintech phase that is now beginning, even the general regulations of the data economy do not adequately meet the regulatory needs of digital banking, which has arisen from the combination of the financial market and the data market.

Fintech activities are still viewed with some scepticism by regulators.[98] A system

[94] Notwithstanding internal auditing of these controls. "Technical standards should be drawn up for example for robo advice, which should be subject to an ex ante audit as well as ad hoc ex post audits", in Financial Market Authority, *Digitalisation in the Austrian Financial Market Call for Input: Results*, 2020, p. 10. Available online: https://www.fma.gv.at/download.php?d=4342

[95] The SEC thus requires automated advisory service providers to have compliance programmes in place to manage this risk. Division of Investment Management, SEC, *IM Guidance Update: Robo-Advisors* no. 2017-2, 2017, p. 2.

[96] This position is defended by the U.S. Chamber of Commerce with these arguments: "Any requirement put forward by the Commission must respect intellectual property rights and avoid mandatory disclosure of detailed data or information which reveals AI algorithms or the underlying code, as this may violate business confidentiality and undermine an AI's safety and reliability by opening it up to attacks by adversarial parties", in *Response to the European Commission's White Paper on Artificial Intelligence: A European Approach to Excellence & Trust* III, 12 June 2020, paragraph III.

[97] See Organisation for Economic Co-operation and Development - OECD, *Recommendation of the Council on Artificial Intelligence*, 22/05/2019. Available online: https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449, "human-centred, to foster a general understanding of AI systems, to make stakeholders aware of their interactions, to enable those affected to understand the outcome, and, to enable those adversely affected". Recommendations underpinning the *G20 Ministerial Statement on Trade and Digital Economy*, June 2019. Available online: https://www.mofa.go.jp/files/000486596.pdf

[98] "They have raised concerns regarding conflict of interests, the poor assessment of risk tolerance, the missing personal contact and consequentially the unfulfilled fiduciary duty towards investors and regulatory authorities", according to Dominik JUNG, Florian GLASER & Willi KÖPPLIN, "Robo-Advisory: Opportunities and Risks for the Future of Financial Advisory", in *Advances in Consulting Research: Recent Findings and Practical Cases*, Switzerland: Volker NISSEN (ed.), Springer International Publishing, 2019, p. 424.

approach that addresses both prudential and conduct risks is missing.[99] A taxonomy of Fintech activities is still under construction. The siloed approach remains in place, making it difficult to analyse the regulatory needs of financial service platforms.

Fintech services are based on the processing of data with algorithms equipped with artificial intelligence to provide financial services. They are services that have a common basis, so many of the regulatory solutions prepared to regulate one Fintech service can serve as a basis for regulating another. For example, the flexibility employed in regulating crowdfunding service providers can be used as a criterion for regulating Robo-Advice.

Their structural differences should be considered since crowdfunding platforms are market infrastructures and **Robo-Advice platforms are service providers**. Moreover, data regulation within the payment services framework, empowering customers to instruct their bank to share their data with Fintech providers, can be extended to other financial services. In fact, it is envisaged that "Open Banking" will be integrated into "Open Finance", a framework that covers Robo-Advice.[100]

The cognitive deficit of customers due to the use of algorithms deserves special analysis. We have moved from "robo for advisors", for professional use, to "Robo-Advice", for use by society, in which the algorithms are directly used by clients without them being fully aware of their risks. There is a new cognitive bias stemming from over-reliance on technology. The virtues of artificial intelligence are relied upon without regard for their risks. Advertising of Robo-Advice and Fintech services in general should be subject to administrative control.[101] The client should be aware of the power of the algorithm, the significance of digital profiling and the scope of services provided by the Robo-Advice provider through algorithms.

This depersonalisation affects the nature of the service. Trust in the personal advisor is replaced by trust in the algorithm, in the intelligent machine, capable of a different level of customer assessment to recommend the products best suited to their profile. The relationship becomes depersonalised and, in a way, dehumanised, with the client losing his or her personal autonomy. It becomes a cold relationship, devoid of feelings. This "autonomous finance" gives the customer apparent control over their financial decisions. But it is relative autonomy, dependent on who controls their data. It is algorithms enriched with artificial intelligence that foresee the customer's decision and guide their decisions. It

[99] In this vein, see Saule T. OMAROVA, "Dealing with Disruption: Emerging Approaches to Fintech Regulation", *Cornell Legal Studies Research Paper*, no. 20-17, 2020, p. 53.

[100] By 2024, according to the *Communication on a Digital Finance Strategy for the EU*, Brussels, 24.9.2020, COM(2020) 591 final, p. 16, with reference to advice on p. 19.

[101] Bank of Spain Circular 4/2020 of 26 June on the advertising of banking products and services devotes a section of its annex to "Advertising in digital media and social networks". It considers that it must include a "reference to the nature of the banking product or service in question". This criterion was also followed by the CNMV in the Principles and criteria annexed to Cicular 2/2020 of 28 October on the advertising of investment products and services. The Spanish Stock Market Act has thus been amended to add an article 240 bis, which empowers the CNMV to control the advertising of crypto-assets presented as investments, even if they are not activities or products within its scope.

creates a herd effect that generates systemic risk.[102] This leads to the conclusion that the systemic consequences of autonomous finance need to be regulated without waiting for the tipping point at which control measures would then be ineffective.[103] Financial platforms, of which Robo-Advice is a prominent type, should be regulated in view of their characteristic risks arising from the use of intelligent algorithms.[104] With the right regulation, which preserves its stability, we can make a more inclusive and social financial system viable.[105]

MiFID II introduces product governance with prior control of financial products and services. From the embryonic stage, internal controls must be put in place to ensure that the products offered on the market meet customers' needs. Incorrect offers that damage customers' assets (mis-selling) are thus prevented. The product is monitored throughout its life cycle, from its design by producers to its marketing by distributors. Product governance must be strengthened in data-driven digital finance. Products are based on algorithms and the control of product design becomes control of the algorithms that bring them to life. In a sentence: "The fundamental idea is to regulate robotic conduct by regulating the humans that are running the robots".[106] However, there are those who are inclined to control algorithms through transparency.[107]

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[102] Against, MAUME, P., 2021, *Robo-Advisors: How do they fit in the existing EU regulatory framework, in particular with regard to investor protection?*, Publication for the committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, for whom "it is very unlikely that they create market imbalances or threats to the stability of the financial system" (p. 49).

[103] See Hilary J. ALLEN, "Driverless Finance", *Harvard Business Law Review,* vol. 10, no. 1, 2020, p. 205.

[104] See Emilios AVGOULEAS and Aggelos KIAYIAS, "The Architecture of Decentralised Finance Platforms: A New Open Finance Paradigm", *Edinburgh School of Law Research Paper*, no. 2020/16, 2020, pp. 1−42. Available online: https://ssrn.com/abstract=3666029, who consider that "customer-driven decentralised applications will not be just a great breakthrough when it comes to operating efficiencies and lending costs but also in resolving important social problems" (p. 11).

[105] ARNER, D. W., BUCKLEY, R. P., CHARAMBA, K., SERGEEV, A., & ZETZSCHE, D. A. "BigTech and Platform Finance: Governing FinTech 4.0 for Sustainable Development", 2021, *available at SSRN,* suggest five principles to build digital finance platform governance frameworks: (1) ensuring foundational financial regulatory objectives; (2) developing reflexive and iterative regulation; (3) fostering responsible actors; (4) ensuring appropriate, balanced and proportional oversight and enforcement; and (5) instilling a commitment to sustainable development (pp. 21-28).

[106] Florian MÖSLEIN "Law and Autonomous Systems Series: Regulating Robotic Conduct - On ESMA's New Guidelines and Beyond", *Oxford Business Law Blog*, 10 Apr 2018. Available online: https://www.law.ox.ac.uk/business-law-blog/blog/2018/04/law-and-autonomous-systems-series-regulating-robotic-conduct-esmas . See also, in this regard, Maria Teresa PARACAMPO, "*FinTech tra algorithmi, trasparenza e algo-governance*", *Diritto della banca e del mercato finanziario*, vol. 33, no. 2, 2019. pp. 535-555, "*sullo spostamento del focus da una full disclosure degli algoritmi a quella che potrebbe definirsi come algo-governance*" (p. 543).

[107] "The only way to challenge automated decision systems is by disclosing parameters underlying the algorithm and their relative weight", according to Laura AMMANNATI, *"Regulating or not regulating digital platforms",* Public Law and the Challenges of New Technologies and Digital Markets, p. 11. Available online: http://www.academia.edu/download/59957275/AMMANNATI-Regulating_digital_platforms20190708-80893-1847pzz.pdf, although she doubts its effectiveness without parallel development of SupTech techniques ["It is about whether regulators and supervisors are able to

The first specific regulation of algorithms is contained in MiFID II when it regulates high-frequency trading.[108] It is a regulation from a prudential and market perspective. Robo-Advice needs conduct rules regulation. These regulations converge on enhancing product governance in procedures regulating the good governance of algorithms (algo-governance).[109] In particular, product governance needs to be developed in procedures regulating the governance of algorithms. Given the difficulty of accessing and explaining to the client the contents of algorithms that make use of artificial intelligence, there is a tendency to **improve governance, while leaving transparency in the background**.[110] The compliance function under the direct responsibility of the board of directors should verify the good governance of the algorithm.

The most controversial aspect of Robo-Advice is the duty of care and liability of the Robo-Advisor. In principle, the duty of care is the same as for traditional advisors.[111] According to Article 54(1)(II) of Delegated Regulation 2017/565 supplementing MiFID II, if advice is provided through an automated system, "the responsibility to undertake the suitability assessment shall lie with the investment firm providing the service and shall not be reduced by the use of an electronic system in making the personal recommendation or decision to trade". However, given the complexity of the service, it is necessary to clarify the division of responsibility between producers and distributors in the provision of Robo-Advice services.[112]

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manage and control such a new form of power disclosing functioning modes of algorithms" (p. 13)].

[108] Legislative reaction to the flash crash of 6 May 2010, discussed in Securities, U.S., Exchange Commission, and Commodity Futures Trading Commission, *Findings regarding the market events of May 6, 2010*, Washington DC, 2010. Available online: https://www.sec.gov/news/studies/2010/marketevents-report.pdf. See Ignacio FARRANDO MIGEL, *"Algoritmos en el mercado de valores y protección del inversor: robo advisors",* in *La regulación de los algoritmos*, Pamplona: Aranzadi Thomson Reuters, Alejandro HUEGO LORA (ed.), 2020, pp. 99−100.

[109] See Riccardo PISELLI, *Innovazione finanziaria e algoritmi: tra trasparenza e opacità*. Tesis, 2020, pp. 71−73. Available at https://iris.luiss.it/bitstream/11385/204275/1/20200604-Piselli.pdf

[110] In a sense, they give up on going into the "black box" of the algorithm. In the opinion of Filippo SARTORI "*si è è abdicato a qualsiasi forma di disclosure sulle modalità di funzionamnto del'algorimto" Su come la "scatola nera" (la "black box") elabori le sollecitazioni in ingresso (gli input) e le restituisca in uscita (output)*", in "*Nel regolare i robot advisor è sbagliato dimenticare l'algoritmo*". FCHUB, 22/09/2018, p. 3.

[111] According to the Dutch AFM authority: "Physical advice will continue to have significant added value for integrated advisory services and complex customer situations", in Authority for the Financial Markets, "AFM lists its expectations for further development of automated advisory services in the sector", 15 March 2018. Available online: https://www.afm.nl/en/nieuws/2018/mrt/doorontwikkeling-roboadvies.

[112] In the same way, the Austrian supervisor states, "A lack of legal clarity is seen with regard to robo advisors in relation to the issue of liability. Clarifications would be required under what conditions the manufacturers and when providers have to assume liability", in Financial Market Authority, *Digitalisation in the Austrian Financial Market Call for Input: Results*, 2020, p. 17. Available online: https://www.fma.gv.at/download.php?d=4342. See Rosalía ESTUPIÑÁN CÁCERES, "*El asesor financiero digital: ventajas, riesgos y responsabilidad*", in BELANDO GARÍN, Beatriz & Marimón DURÁ, Rafael (Dirs.), *Retos del mercado financiero digital*, Aranzadi, 2021, pp. 297-313, who advocates for "joint-and-several liability in relation to the affected person when there are several operators (p. 309).

5. CONCLUSIONS AND PROPOSAL

Robo-Advice, and Fintech services in general, need to be properly regulated. Leaving new Fintech services to their own devices opens the door to systemic crises that would damage the sector's reputation and call their implementation into question. Robo-Advice is a new animal in the financial ecosystem that should be regulated to ensure its sustainability. [113] The authorities have identified regulatory needs, choosing to issue guidance or best practice guides to point out the best way forward for regulatory compliance. However, the step of regulating the activity has not been taken. In contrast to digital payment services or crowdfunding services in which there are *ad hoc* regulations, there are no specific regulatory initiatives for Robo-Advice. Framing it within traditional categories creates unnecessary rigidities for the industry and is anti-innovative, to the detriment of consumers. A Fintech licence that also includes Robo-Advice is a premature step, as we are still at the stage of understanding Fintech activities and their risks. For these reasons, in this article we propose to move towards a specific regulation of the provision of Robo-Advice **as a service platform**, as a new advisory management service that goes beyond the traditional categories, with new risks that need to be regulated. There is no justification for Robo-Advice to be required to carry the compliance burden of traditional advice. It is a new activity that requires its own regulations. The use of algorithms across platforms transforms the service. Regulating Robo-Advice as if it were traditional advice does not address its nature and risks.[114] They are platforms that provide financial services and their regulation should take their nature into account.[115]

The key question is whether Robo-Advisors can fulfil their fiduciary duties. We are inclined to consider that technical development makes it possible to comply with the rules of conduct. In fact, the *RegTech* and *SupTech* tools facilitate compliance. Such systems can warn of non-compliance and redirect behaviour to return to regulatory compliance. The banking culture that has been taking advantage of the industry's position of power, information asymmetry and the customer's cognitive biases to multiply fees in situations of conflict of interest is a different matter. Following the post-Covid social and financial emergency, the necessary **political impetus** to regulate financial platforms, including advice platforms, on a new basis with preventive governance rules and reinforced conduct rules, in particular concerning transparency and prevention of conflicts of interest, can be achieved.

[113] Rebuild the system on a digital and sustainable basis, following PARACAMPO, Maria-Teresa. "*I servizi di robo advisory tra algoritmi, evoluzioni tecnologiche e profili normativi*", in PARACAMPO, Maria-Teresa (Ed.). Fintech. *Introduzione ai profili giuridici di un mercato unico tecnologico dei servizi finanziari. Seconda edizione riveduta e aggiornata.* Volume I, 2021, pp. 241−242.

[114] "Regulation should not prevent decentralised platforms from achieving high volume and cost savings by being used to provide different functionalities", in the words of Emilios AVGOULEAS and Aggelos KIAYIAS, "The Architecture of Decentralised Finance Platforms: A New Open Finance Paradigm", *Edinburgh School of Law Research Paper*, no. 2020/16, 2020, p. 36. Available online: https://ssrn.com/abstract=3666029

[115] According to Maria Chiara Malaguti, the system and distribution channels are separated for financial reasons and this is no longer valid in the platform economy: "*diviene difficile distinguere el "sistema" dal "prodotto", il contenitore dal contenuto*", in Maria Chiara MALAGUTI, *"Capitolo 4. Fintech e piattaforme digitali nel settore finanziario tra concorrenza e regolazione"*, in *Fintech: diritti, concorrenza, regole, Zanichelli*, Guisella FINOCCHIARO y Valeria SALCE (ed.), 2019, p. 63.

We can set out some **proposals for legislative policy** based on the approved guidelines and the experience gained in the regulation of other Fintech activities.

Financial regulation and supervision should not be a barrier to technological innovation. Institutional pluralism and free competition with a diversity of business models must be preserved. It is not for supervisors to determine the business model. Nor, unless they are mandated to do so, to promote competition. The objective of regulation and supervision is to prevent systemic risk by ensuring market integrity and customer protection. Respect for freedom of enterprise is compatible with regulation through product governance and market conduct rules. Indeed, in the financial market, a credence goods market, **regulation helps build the trust needed to develop digital finance**.

Fintech platforms, including advice platforms, should apply the general principles for regulating the platform economy that have been formulated by the authorities and expert groups, but require specific regulation due to their financial purpose. Data regulation, free competition, consumer protection and crime prevention all undoubtedly apply to Fintech platforms, including advice platforms, but require differentiated treatment.

Robo-Advice services provided through platforms should be subject to the general principles of financial regulation, i.e. the pursuit of a well-functioning market, the defence of market integrity and the protection of financial consumers. There is a need to start from a **common basis** with other financial service platforms.

Given their complexity, the supervision of advice platforms should be carried out by a **single authority** irrespective of the credit, investment or insurance scope of the subject matter of the advice.[116] ESMA could centralise these competences in the European Union, due to its proximity to and understanding of conduct rules.[117] ESMA could also take over the management of financial innovation facilitators.[118] This could efficiently boost the use of digital tools in financial regulation and supervision, in particular in the area of Robo-Advice.

[116] In the United States, the Treasury has recommended establishing a "primary regulator with oversight of that financial planner", in U.S. Department of the Treasury, *A Financial System That Creates Economic Opportunities Nonbank Financials, Fintech, and Innovation*, 2018, p. 164. "As robo advisors grow in scale, protecting the integrity of financial markets will require the kind of cross-disciplinary cooperation that regularly occurs in the domains of health and environmental regulation" (BAKER, Tom; DELLAERT, Benedict, "Regulating robo advice across the financial services industry". *Iowa L. Rev.*, 2017, vol. 103, p. 748).

[117] Pablo Sanz Bayón proposes the creation of a European authority or a specific department within the structure of ESMA as "a very appropriate institutional option to centralise information, keep a public register and specialise the supervision of robo-advisors at European level", in Pablo SANZ BAYÓN, "*La automatización y robotización de los servicios de asesoramiento financiero: oportunidades y desafíos regulatorios",* in *Fintech, Regtech and Legaltech: Fundamentos, implicaciones y desafíos regulatorios*, Valencia: Tirant Lo Blanch, Aurelio GURREA & Nydia REMOLINA (ed.), 2019, p. 340.

[118] In this vein, see Wolf-Georg RINGE & Christopher RUOF, "A Regulatory Sandbox for Robo Advice", *European Banking Institute Working Paper Series 2018,* no. 26, 2018. Available online: https://www.econstor.eu/bitstream/10419/179514/1/ile-wp-2018-14.pdf, who propose "a 'guided sandbox', operated by the EU Member States, but with endorsement, support, and monitoring by EU institutions" (p. 59).

At the same time, rules should be established to clarify the liability of advice platforms in relation to their clients.[119] As a closing aspect, a **guarantee fund** should be set up to cover damages that may be caused to customers by fraud in the provision of services by advice platforms. Exclusion from the guarantee fund of those who only provide advice is not justified for Robo-Advice platforms that also provide trade execution services.

Furthermore, platforms must maintain customer financial and digital **education policies**.[120] In particular, information must be provided concerning the nature of the services provided by the platform and the scope of regulation, distinguishing between regulated activities subject to authorisation and those not subject to regulation or licensing. The effectiveness of information transparency depends on the degree to which customers understand the risks they are taking. They must be aware of the difference between traditional face-to-face advice and Robo-Advice.[121] Furthermore, the staff of the Robo-Advice service provider must have sufficient skills and knowledge to understand the service they offer with three-fold training. Their **knowledge and competence** should be financial, but also cover data protection and the use of digital tools. When evaluating the customer, the level of financial and digital literacy, as well as financial and sustainability aspects, should be assessed.

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[119] As Maria-Teresa Paracampo highlights, "*Cosa che impone sicuramente una riflessione più approfondita sull'uso degli algoritmi, sui requisiti operativi, sulla relativa tutela, nonché sui conseguenti profili di responsabilità e sulla relativa ripartizione nell'ipotesi di intervento di terze parti, non sempre soggette a regolamentazione e controllo*", in Maria Teresa PARACAMPO, *"L'adeguatezza della consulenza finanziaria automatizzata nelle linee guida dell'ESMA tra algo-governance e nuovi poteri di supervisione"*, Rivista Diritto Bancario, no. 3, 2018, p. 552.

[120] In the United States, crowdfunding platforms are required to make educational materials available on their websites about the products they offer to the public to help investors understand this type of investment [JOBS Act 15 U.S.C. § 77d(a)(6)(C)]. See Cody R. FRIESZ, "Crowdfunding & investor education: Empowering investors to mitigate risk & prevent fraud", *Suffolk University Law Review*, vol. 48, 2015, pp. 131-150, according to whom*:* "Disclosures are important, but if investors are not educated on how to use them, the disclosures will do little good" (p. 146); and Rosanna MAGLIANO, "*Dall'iperonimo Fintech all'iponimo Robo Advisor: Ricognizioni dei rischi e delle opportunità per il 'comsumatore' di strumenti finanziari*", in CORAPI, Elisabetta and Lener, Rafaelle (dirs*.), I diversi settori del Fintech. Problemi e prospettive*, CEDAM, 2019, pp. 198-202.

[121] According to Maria-Teresa PARACAMPO, the ESMA guide does not tackle this problem: "*L'opacità di cui sono tacciati gli algoritmi permane invece nei confronti dei clienti che non acquisiscono alcuna consapevolezza in ordine all'uso degli algoritmi e alle modalità di utilizzo delle proprie informazioni da parte degli algoritmi medesimi*", in Marisa Teresa PARACAMPO, "*L'adeguatezza della consulenza finanziaria automatizzata nelle linee guida dell'ESMA tra algo-governance e nuovi poteri di supervisione",* Rivista Diritto Bancario, no. 3, 2018, pp. 535-555 no. 8, p. 552.

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