

SANDBOXES AND CONSUMER PROTECTION: THE EUROPEAN PERSPECTIVE

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Abstract: *The paper explores the consumers' perspective on regulatory sandboxes and their increasing deployment by authorities in Europe to regulate financial innovation ('FinTech') ex ante. In particular, this article will shed a light on the conditions for regulatory sandboxes to be considered consumer-friendly environments. To this end, the paper briefly introduces the concept of the regulatory sandbox and discusses it within the framework of consumer law. Specifically, this study outlines risks and benefits that a regulatory sandbox poses to consumers. Furthermore, the authors provide an analysis of the current European framework and the role that consumers have taken within the various regulatory sandboxes that have been recently established. Therefore, the article intends to contribute to the academic debate on the interplay between technological innovation, new markets and consumer law.*

Keywords: Regulatory Sandboxes, Consumer Protection, Banking Services Financial Services, etc.

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I. INTRODUCTION

Regulation is widely seen as an obstacle to innovation, especially in the financial services sector – a fact often cited as a reason for delays in the adoption of new technologies, or as an argument against regulatory activities in general. However, from the United Kingdom and, in particular, from the efforts to regulate their growing financial technology (hereinafter ‘FinTech’)¹ Market, there comes a new methodology that – supporters argue – should ensure consumer protection and mitigate market risks, while encouraging much-needed innovation.²

According to the FSB these activities can be organized into five categories of financial services: (a) payments, clearing, and settlement (eg Alipay, PayPal, blockchain and crypto currencies, infrastructure for derivatives and securities trading and settlement); b) deposits, lending and capital raising (eg crowd funding; P2P lending); (c) insurance (e.g. mobile and web-based financial services); (d) investment management (e.g. e-trading, robo-advice, digital ID verification); and (e) market support (eg robo advice, smart contracts, big data analysis).³

Just like our children’s cherished playground, a regulatory sandbox is a safe area. In these ‘protected regulatory spaces’, innovative financial products and services are tested and developed, before they are offered on the market. Importantly, these testing activities involve real market players and consumers, under close scrutiny from the authorities.⁴

More precisely, the Financial Stability Board (hereinafter ‘FSB’) notes that: ‘(...) to support the benefits of innovation through shared learning and through greater access to information on developments, authorities should continue to improve communication channels with the private sector and to share their experiences with regulatory sandboxes, accelerators and innovation hubs, as

¹ For a definition of the concept, FSB, ‘Financial Stability Implications from FinTech. Supervisory and Regulatory Issues that Merit Authorities’ 27 June 2017, 7. EBA, *Discussion Paper on the EBA’s Approach to Financial Technology (FinTech)* (EBA/DP/2017/02, 4 August 2017) 4-6. EBA, *The EBA’s FinTech Roadmap* (15 March 2018) 9 <<https://www.eba.europa.eu/documents/10180/919160/EBA+FinTech+Roadmap.pdf>> accessed 4 April 2020.

² The different possible approaches – from absent to complete regulation – are discussed by DA Zetsche and others, ‘Regulating a Revolution: From Regulatory Sandboxes to Smart Regulation’ (2017) 23 *Fordham J Corp & Fin L* 31. For a United States-based perspective, see also, H.J. Allen, ‘Regulatory Sandboxes’ (2019) 87 *George Washington Law Review*, 579 fs.

³ Financial Stability Board (FSB), *Implications from FinTech: Supervisory and Regulatory Issues that Merit Authorities’ Attention*, (FSB, 2017) 3 <<https://www.fsb.org/wp-content/uploads/R270617.pdf>> accessed 4 April 2020.

⁴ W-G Ringe and C. Ruof, *A Regulatory Sandbox for Robo Advice* (EBI Working Paper Series 26/2018, 2018).

well as other forms of interaction. Successes and challenges derived from such approaches may provide fruitful insights into new emerging regulatory engagement models.⁵

In this context, the paper tries to ascertain if sandboxes are consumer-friendly environments (**Para V**), in particular by analyzing the role that consumer issues play in the design and management of sandboxes. The paper takes the EU legal landscape into account (**Para II**), as well as the CGAP and World Bank survey of 2019 (**Para III**), and the UK Financial Conduct Authority regulatory sandbox (**Para IV**), with a focus on their impact on consumers. In the authors' view, the UK's case is of particular interest as a case study, being the first and most advanced FinTech regulatory sandbox – a truly pioneering project.

Knowledge and application of this tool have spread since its debut in 2015, so that currently we count more than 50 countries with a regulatory sandbox in place.⁶ Regarding the European Union, as of January 2020, seven regulatory sandboxes are in operation,⁷ with several more joining the fray sooner or later.⁸ For those that are active already, the competent authorities confirmed that their regulatory sandboxes followed the statutory objectives of contributing to financial stability, promoting confidence in the financial sector and protecting consumers.⁹

The majority of the ongoing regulatory sandboxes operate in the FinTech field, defined by the European Central Bank as 'an umbrella term for any kind of technological innovation used to support or provide financial services. It is

⁵ Financial Stability Board (FSB) (n 3).

⁶ A list of the active sandboxes is available in *EBI Working Paper Series 2019* (No. 53), appendix A. Ross P Buckley and others, 'Building FinTech Ecosystems: Regulatory Sandboxes, Innovation Hubs and Beyond'; For the EU area, see European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (University of New South Wales Law Research Series, Report JC 2018 74, 2019) ¶ 2.2.

⁷ In the United Kingdom in May 2016 by the Financial Conduct Authority, in the Netherlands in January 2017 by De Nederlandsche Bank in a joint initiative with the Autoriteit Financiële Markten, in Denmark in October 2017 by Finanstilsynet, in Lithuania in September 2018 by Lietuvos Bankas, in Poland in October 2018 by Komisja Nadzoru Finansowego, in Hungary in January 2019 by Magyar Nemzeti Bank.

⁸ In Italy, a regulatory sandbox has been approved by Law 58/2019 and should be adopted by the relevant Italian authorities (the Minister for Economic Affairs and Finance, consulting the Bank of Italy, the National Commission for companies and the stock exchange, - CONSOB and the Institute for Supervision on insurance - IVASS), within 180 days of the date of entry into force of the law (30 June 2019). Further regulatory sandbox proposals have been drafted or discussed, for example, in Austria, Estonia and Spain. In particular, on 18 February 2020, the Spanish Council of Ministers approved the Spanish Draft Bill for the Digital Transformation of the Financial System, with the purpose of creating a Spanish 'sandbox'.

⁹ European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (Report JC 2018 74, 2019) 19.

leading to many changes in the financial sector, giving rise to a range of new business models, applications, processes and products. FinTech firms put technology-driven innovation at the core of their business. They may be particularly active in areas such as payment services, credit scoring and automated investment advice, using artificial intelligence, big data or blockchain¹⁰.

In the context of this article, we should note that the FinTech is a disruptive sector *per definition*, and that its companies' innovations often come from exploiting areas that are free from regulation.¹¹

II. CONSUMERS' PROTECTION AND REGULATORY SANDBOXES IN THE EUROPEAN LANDSCAPE

A. Preparing the Field

The main objective of sandboxes is to provide a safe space to test innovative products. More specifically, through a sandbox the regulator aims to promote innovation by lowering regulatory barriers. A regulatory sandbox is therefore a tightly defined safe space that automatically provides clearance from certain regulatory requirements – provided that the applicants meet certain criteria. It is important to understand to what extent the regulatory barriers can be lowered, and which pieces of regulation limit a State's decisional autonomy in this regard. Within this scenario, one could consider consumer protection as one of the categories which can be damaged by the regulatory sandbox dimension, even if the majority of the adopted sandboxes provide for mechanisms to ensure that consumers are not negatively affected.

Generally, regulators stress that regulatory sandboxes allow firms to test innovative products, services and business models in a live market environment, while ensuring that appropriate safeguards are in place.¹² These safeguards include consumer protection and they can come in different forms. One example could be the limitation of the number of participants via tight entry conditions, since it helps in keeping the surveillance manageable, and therefore in avoiding a lax consumer protection.¹³

¹⁰ *European Central Bank* <<https://www.bankingsupervision.europa.eu/about/smexplained/html/fintech.en.html>> accessed 4 April 2020.

¹¹ F. Di Porto and G. Ghidini, "'I Access Your Data, You Access Mine": Requiring Data Reciprocity in Payment Services' (2020) 51 IIC, 307-329.

¹² L. Bromberg, A. Godwin and I. Ramsay, 'Fintech Sandboxes: Achieving a Balance between Regulation and Innovation' (2017) 28:4 *Journal of Banking and Finance Law and Practice*, 314-336.

¹³ D. Zetzsche, and others, 'Regulating a Revolution: From Regulatory Sandboxes to Smart Regulation' (2017) 23 *Fordham I. Corp. Finac. Law* 31-103.

Among these entry conditions, usually we see a requirement for the measure under test to have a beneficial effect for consumers. In addition, the time limitation of the sandbox can be similarly interpreted. Furthermore, there are several measures that can be implemented to specifically protect those customers who participate in sandbox testing. Indeed, once included in the sandbox, it is vital that any consumer willing to test a product or a service is appropriately protected, and this should apply regardless of whether retail or institutional customers are involved.¹⁴ For example, in two jurisdictions (Denmark and the UK) testing should be limited, pursuant to the testing plan, to consumers in the local market.

The rationale for such restrictions is that, to the extent that testing within the regulatory sandbox involves cross-border activity, an absence of any prior coordination or interaction with the host authority could pose risks, for example, to compliance with local customer disclosure or with other consumer protection requirements. Moreover, the competent authority scrutinizing the sandbox test may not have sufficient proximity to monitor the testing outside the jurisdiction. The authorities explained that the imposition of such a testing parameter does not give rise to legal issues. Put simply, by agreeing to participate in the sandbox in accordance with the testing parameters set out by the authority, the firm voluntarily agrees to carry out the test just with customers of the local market.

B. Regulatory Sandboxes and the EU

Over the past several years, the European Commission has been pursuing two strategic objectives that are of particular interest to the FinTech sector: the establishment of a Digital Single Market,¹⁵ and the building of a capital markets union and of a true single market for consumer financial services.¹⁶ In general, the EU Commission has been adapting EU rules with the rapid progress of technologies, and in particular with those that are causing structural changes in the financial sector.¹⁷

In November 2016, the Commission set up an internal Task Force on Financial Technology to address the potential opportunities and challenges

¹⁴ See, for example, the remarks of the EBA Banking Stakeholder Group in s 2.3 of the BSG's *Report on Regulatory Sandboxes* (July 2017) <https://eba.europa.eu/sites/default/documents/files/documents/0180/807776/dcl1d5046-e211-4b24-aadf-33fc93949017/BSG%20Paper%20on%20Regulatory%20sandboxes_20%20July%202017.pdf?retry=1> accessed 20 April 2020.

¹⁵ Commission, 'A Digital Single Market Strategy for Europe' (Communication) COM (2015) 192 final.

¹⁶ Commission, 'Building a Capital Markets Union' COM (2015) 63 final.

¹⁷ Commission, 'FinTech Action Plan: For a More Competitive and Innovative European Financial Sector' (Communication) COM (2018) 109 final.

posed by FinTech. After a public consultation on FinTech in 2017, to gather stakeholders' views on the impact of new technologies on financial services,¹⁸ the Commission published a FinTech Action Plan.¹⁹ Furthermore, the European Commission's March 2018 FinTech Action Plan mandated the European Supervisory Authorities (ESAs) to carry out an analysis of innovation facilitators and to identify their best practices.

This resulted in the ESAs²⁰ publishing a joint report on innovation facilitators (regulatory sandboxes and innovation hubs) in January 2019.²¹ The report provides a comparative analysis of the innovation facilitators established to date within the EU and suggests best practices for the design and operation of innovation facilitators. In the opinion of the authors, a likely next step will be the publication of a set of guidelines by the Commission on the organization of the Member States' regulatory sandboxes, the types of activities concerned, and how the supervision should be conducted.²²

Although there is little experience to support any decision on innovative financial services, it should be stressed that the EU remains steadfast in its commitment to competition, consumer welfare and market stability.²³ Such objectives must underlie all activities that national regulators carry out with innovative firms, including regulatory sandboxes. That is, the EU is willing to encourage new regulatory approaches toward innovative firms as long as consumers remain protected and market dynamics undistorted.²⁴ In this regard, the

¹⁸ Commission, 'FinTech: A More Competitive and Innovative European Financial Sector' (Consultation Document, 16 March 2017). In particular, the consultation was structured along four broad policy objectives that reflect the main opportunities and challenges related to FinTech: (1) Fostering access to financial services for consumers and businesses; (2) Bringing down operational costs and increasing efficiency for the industry; (3) Making the single market more competitive by lowering barriers to entry; and (4) Balancing greater data sharing and transparency with privacy needs.

¹⁹ Commission, 'FinTech: A More Competitive and Innovative European Financial Sector' (Communication) COM (2018) 109 final.

²⁰ In particular, pursuant to the mandate in the FinTech Action Plan and to art 9(4) of the founding regulation, each of the ESAs had to establish a committee on financial innovation bringing together all relevant competent national supervisory authorities with a view to achieving a coordinated approach on the regulatory and supervisory treatment of new or innovative financial activities and providing advice to present to the European Parliament, the Council and the Commission.

²¹ European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (Report JC 2018 74, 2019).

²² Commission, 'Frequently Asked Questions: Financial Technology (FinTech) Action Plan' (Factsheet) MEMO/18/1406.

²³ Commission, 'Consumer Financial Services Action Plan: Better Products, More Choice' (Communication) COM (2017) 139 final, 12.

²⁴ Commission, 'FinTech Action Plan: For a More Competitive and Innovative European Financial Sector' (Communication) COM (2018) 109 final, 3.

first tool to reduce risks for consumers are the limitations imposed on regulatory sandboxes' lifespan and number of clients that can be involved.

The FinTech Action Plan is entirely in line with this general approach. From its introduction, it clarifies that even though European's regulatory frameworks should allow firms that operate in the EU Single Market to benefit from financial innovation and to provide their customers with the most suitable and accessible products, these same frameworks should also ensure a high level of protection for consumers and of market confidence.²⁵

In other words, it is conceded that consumers might benefit from advancements of the financial sector – that could happen *via* regulatory sandboxes activated in highly innovative sectors – but consumer protection should not be compromised in any way by these operations. In this sense, Mariya Gabriel, Commissioner for the Digital Economy and Society, commenting the FinTech Action Plan, stated: '*Digital technologies have an impact on our whole economy – citizens and businesses alike. (...) We need to build an enabling framework to let innovation flourish, while managing risks and protecting consumers.*' (emphasis provided).²⁶

For the scope of this article, then, the ESAs joint report provides an interesting read for understanding how potential risks could be managed and consumers protected. This is linked to a matter of liability raised by some competent authorities during the above-mentioned public consultation, on their possible legal liability in the event of consumers suffering detriment because of services received while participating in a sandbox.²⁷

The risks for consumers are present mainly during the testing phase of regulatory sandboxes, when the participating firms actually elaborate and test their proposals. The ESAs clarified that the competent authority should verify that applicants to regulatory sandboxes adopt the necessary measures to mitigate said risks. The ESAs also identified tools that, in theory, may reduce consumers' risk exposure, identifying best practices based on existing regulatory sandboxes.

First, firms taking part in a regulatory sandbox should be required to provide appropriate disclosures to consumers, for them to have a clear

²⁵ Commission, 'FinTech Action Plan: For a More Competitive and Innovative European Financial Sector' (Communication) COM (2018) 109 final, 3.

²⁶ Commission, 'FinTech: Commission Takes Action for a More Competitive and Innovative Financial Market' (Press Release) IP/18/1403.

²⁷ European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (Report JC 2018 74, 2019), 35-6.

understanding of the nature of the test and of all its relevant features. In discussing best practices, the ESAs specify that participating firms should clearly disclose to potential consumers whether their services or products are provided within a regulatory sandbox and what the implications for consumers are.²⁸

In particular, participating firms should openly lay out how consumers will be treated upon exiting the test environment, and they should include a provision for compensation or redress in case consumers suffer a loss during the testing phase. As per the above-mentioned liability issue for competent authorities, the ESAs clarified that the disclosure may include a clarification that the competent authority had no responsibility for the test, but that the authority itself should consider the ongoing activities on a case-by-case basis and that participating firms should not be allowed to communicate at any stage that the competent authority endorsed their testing activity.²⁹

Second, participants to a regulatory sandbox should have adopted appropriate measures to mitigate any potential risk from the test, and testing parameters may be imposed by the competent authority in this sense. In the opinion of the Authors, the joint reading of this best practice with the overall report and the FinTech Action Plan allows us to consider consumer protection safeguards or consumer suitability tests as examples of testing procedures for mitigating risks to consumers who interact with the participating firms during the sandbox. Furthermore, the competent authorities should always be allowed to end the test if any detriment to consumers were to emerge.³⁰

Therefore, the best practices described in the ESA's report are aimed to encourage applicants to employ regulatory sandboxes and to orient them when it comes to consumers' interests. However, applicants should carefully consider how they will safeguard consumers while testing their product or service. In this context, the ESAs identified the mentioned best practices but also noted that appropriate additional measures would need to be identified on a case-by-case basis.

Finally, the ESAs provide us with a broad warning: regulatory sandboxes should not allow the dis-application of regulatory requirements under EU law. However, levers for proportionality in the application of said regulatory requirements may be made available in the context of regulatory sandboxes

²⁸ European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (Report JC 2018 74, 2019), Annex B, 45-6.

²⁹ Indeed, the competent authority should always be considered as the one monitoring the testing in line with the parameters of the regulatory sandbox.

³⁰ European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (Report JC 2018 74, 2019), 19.

and employed in the same way as for firms outside the sandbox. This best practice is clear when it comes to the scenario where a firm needs to satisfy the requirements to obtain a license before providing certain financial services.³¹

In this sense, the Payment Services Directive (PSD2)³² established an exemption for *small* payments institutions³³ and these could be exempted both inside and outside a sandbox. However, the application of licit levers of proportionality within the sandbox could produce an indirect impact on consumers interacting with the sandbox and on the competitive dynamics of the market.

While the EU legislator has carried out the specific balancing act within PSD2, each regulatory sandbox must be activated and monitored by the competent local authorities, and *ad hoc* consumer and competition safeguards should be established on a *sandbox-by-sandbox* basis. Lastly, in the Study on Blockchain carried out for the European Commission,³⁴ one can read that regulatory sandboxes would be valuable tools when it comes to blockchain use cases. In this sense, it is recognized that initially the sandboxes were used in the FinTech context mostly, but we should not exclude their employment in other domains, as for example the British Information Commissioner's Office did.³⁵

While discussing the role of regulatory sandboxes in the blockchain scenario, the Study published in 2020 stresses another positive aspect of sandboxes: they foster collaboration between innovators and regulators. In turn, this ensures that while innovators can experiment with new technologies, regulators

³¹ European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (Report JC 2018 74, 2019), Annex B, 46.

³² European Parliament and Council Directive (EU) 2015/2366 on Payment Services in the Internal Market [2015] OJ L337/15 (PSD2 Directive).

³³ Art 32 of PSD2 Directive: '1. Member States may exempt or allow their competent authorities to exempt, natural or legal persons providing payment services as referred to in points (1) to (6) of Annex I from the application of all or part of the procedure and conditions set out in ss 1, 2 and 3, with the exception of arts 14, 15, 22, 24, 25 and 26, where: (a) the monthly average of the preceding 12 months' total value of payment transactions executed by the person concerned, including any agent for which it assumes full responsibility, does not exceed a limit set by the Member State but that, in any event, amounts to no more than EUR 3 million. That requirement shall be assessed on the projected total amount of payment transactions in its business plan, unless an adjustment to that plan is required by the competent authorities; and (b) none of the natural persons responsible for the management or operation of the business has been convicted of offences relating to money laundering or terrorist financing or other financial crimes. (...)'

³⁴ *Study on Blockchains, Legal, Governance and Interoperability Aspects* (SMART 2018/0038) 111.

³⁵ 'ICO Selects First Participants for Data Protection Sandbox' (*ICO*, July 2019) <<https://ico.org.uk/about-the-ico/news-and-events/news-and-blogs/2019/07/ico-selects-first-participants-for-data-protection-sandbox/>> accessed 2 June 2020.

are better able to determine early what changes are needed (if any). On the other hand, the Study identifies the risk to consumer protection as one of the main potential disadvantages of regulatory sandboxes. In this sense, the study makes the point that sandboxes should be carefully designed from a consumer protection perspective, since consumers may be brought to believe that the general consumer protection law applies in full, whereas the sandbox may actually provide the participating company with some exemptions.³⁶

III. THE JOINT STUDY OF CGAP AND WORLD BANK

The CGAP (Consultative Group to Assist the Poor) and World Bank study (2019) offers some preliminary findings in understanding the relationship between consumer protection and regulatory sandboxes. The survey was conducted between February and April 2019, with 62 financial sector regulators inquired, 31 total responses collected (27 fully completed) and 28 countries covered around the world. According to the study, sandboxes present the opportunity for nascent FinTech firms and regulators to engage and build mutually beneficial relationships at an early stage – enabling firms to better understand the regulatory requirements they will face; and enabling the regulator to assess the firms’ characters and stay abreast of FinTech innovations.

According to the CGAP-WB study, almost 70 percent of the 23 surveyed regulators dealing with sandboxes had put safeguards in place to ensure consumer protection. This applies to both the pre-contractual phase, by placing information disclosure requirements, and the execution phase, by providing consumers with mechanisms for handling complaints.

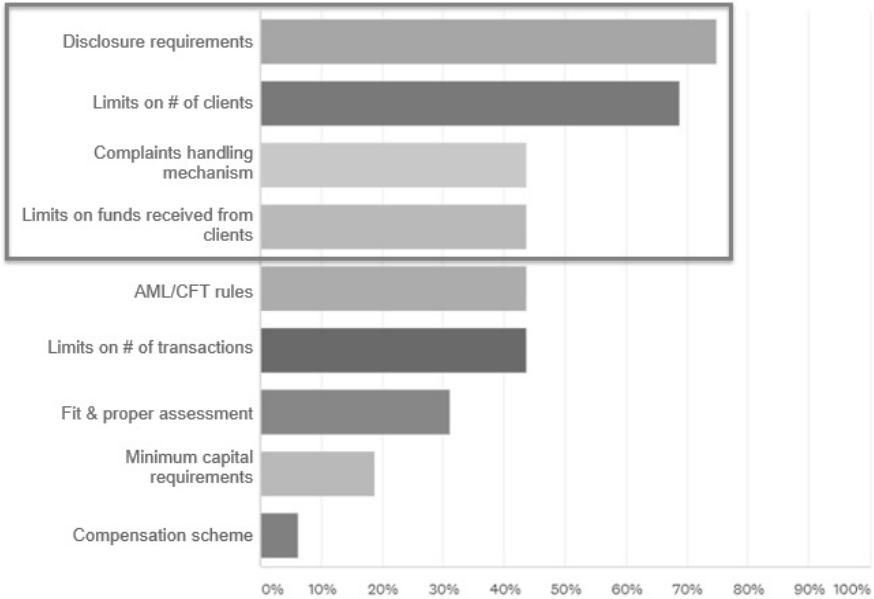
In particular, authorities require an appropriate disclosure with selected consumers of the firm during the testing phase. For example, in two jurisdictions (Denmark and the UK) firms may be required to use standardized wording to inform consumers from the outset that the firm is participating in a sandbox. Denmark requires firms to include wording to clarify that the authority has not endorsed the proposition, and to explain potential risks and the rights of recourse against the firm should the consumer suffers detriment as a result of the test. As for the testing parameters, a breach of the agreed communication arrangements can result in the termination of the test, or in other enforcement or supervisory action.

To be clear, participating firms should disclose to any consumers running the test the fact that the services are being provided in the context of sandbox,

³⁶ *Study on Blockchains, Legal, Governance and Interoperability Aspects* (SMART 2018/0038) 112.

and what this implies for the consumers (e.g. in terms of measures to mitigate risks from testing and on conditions for leaving the sandbox).

While 52 percent of the surveyed regulators do grant temporary waivers from full consumer protection regimes, most respondents also require full authorization at the end of testing.³⁷



Source: CGAP-World Bank study (2019)

Interestingly, the CGAP-World Bank study (2019) helps to understand which consumer services are sold to consumers within regulatory sandboxes. It confirms that companies innovating in payments services, especially those testing crypto-based solutions, dominate sandboxes. About 30 percent of sandbox projects involve payments (including remittance or digital transaction accounts) and nearly 30 percent deals with market infrastructure (exchanges, clearing and settlement, escrow services) and wholesale financial services. Perhaps not surprisingly, blockchain and crypto-asset projects collectively make up almost 25 percent of projects accepted. These business models range from digital asset exchanges to blockchain-enabled trade finance or to settlement infrastructure for cross-border remittances.

³⁷ S. Appaya and I. Jenik, *CGAP-World Bank: Regulatory Sandbox Global Survey* (July 2019) <https://www.findevgateway.org/sites/default/files/publication_files/survey_results_ppt_cgap_wbg_final_20190722_final.pdf> accessed 20 April 2020.

In addition, it appears that regulatory sandboxes do not properly address poor consumers, usually. Indeed, most sandbox-tested innovations do not target excluded and underserved customers. Less than 25 percent of sandbox tests focus on business models or technologies that explicitly address barriers to financial inclusion or that address the financial needs of poor people. Aside from certain sandboxes in Sierra Leone and Mozambique, only a handful of sandbox tests — including NOW Money (Abu Dhabi and Bahrain sandboxes) and Rahi Payment Systems (Rwanda) — overtly focus on projects for the unbanked. Arguably, this number would be higher if we counted all services that may be relevant also to the excluded and underserved, regardless of the actual goals of the firms using sandboxes.

IV. THE PIONEERING PROJECT OF THE UK FINANCIAL CONDUCT AUTHORITY

In the authors' view, the UK FCA sandbox³⁸ deserves an in-depth analysis, considering that it is truly a pioneer in the sector – in chronological order and in terms of advancement.³⁹ Indeed, the FCA is an uncontested leader when it comes to the development of the sandbox structure for the efficient testing of innovative financial products and services, and in its approach to consider consumers as protagonists.

As discussed, applicants to a regulatory sandbox must propose and adopt appropriate measures to protect consumers and to restore them should they suffer any detriment within the testing phase. All the competent authorities supervising the active regulatory sandboxes in the EU agree that these *ad hoc* measures represent a precondition for testing in a sandbox.⁴⁰ Only the Financial Conduct Authority (FCA) – competent for the UK sandbox – considered that the regulatory sandbox should also follow the objective to promote effective competition in the interests of consumers.⁴¹ In terms of consumer protection, the FCA has indeed set a high bar with respect to the many various regulatory sandbox frameworks that are now in place.

From the feasibility report published in November 2015, we can see that the FCA's objective was to promote effective competition *in the interests of*

³⁸ Financial Conduct Authority, Regulatory Sandbox, Marginal No. 3.4 (2015) <<https://www.fca.org.uk/publication/research/regulatory-sandbox.pdf>> accessed 20 April 2020.

³⁹ See D.W. Arner, Janos Barberis and R.P. Buckley, 'FinTech and RegTech in a Nutshell, and the Future in a Sandbox' (2017) 3(4) CFA Institute Research Foundation 1-16.

⁴⁰ European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (Report JC 2018 74, 2019) 19.

⁴¹ The statutory 'competition' objective; European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (Report JC 2018 74, 2019) 19.

consumers.⁴² The same report points out that the sandbox must enable the FCA to cooperate with innovators to ensure that sufficient consumer protection safeguards are integrated into the new products and services before these reach a mass-market.

Since the sandbox is intended for testing new solutions in real-life situations, the FCA considers any risk of consumer detriment very carefully, as well as the need to respect legal rules. Within the acceptance criteria for joining – and staying within – the sandbox the FCA specifically lists *consumer benefits*, in the sense of offering a good prospect of identifiable benefits to consumers.

Therefore, from the start of the process, successful applicants for FCA sandbox will have demonstrated that they have genuinely innovative solutions which, *inter alia*, provide consumers with a clearly identifiable benefit, and whose effects last for the overall duration of the sandbox.

In general terms, the FCA requires that the ‘type of customers has to be appropriate to the tested products and to the exposed risks’.⁴³ Consumer protection should always be granted on a case-by-case basis, but the FCA sets default parameters that help to create licit trial environments, which are mainly the following:

- (a) *Duration*: Generally three to six months is adequate.
- (b) *Customers*: The number of customers should be sufficient to generate statistically relevant data. Customers should be selected according to certain criteria that are appropriate for the product and service. In particular, ‘retail customers’ should not bear the risks of sandbox testing, so they should always have the right to complain first to the company, then to the Financial Ombudsman Service. And, in the event of company’s bankruptcy, they should have access to the Financial Services Compensation Scheme (FSCS). It may also happen that the process is limited to ‘sophisticated customers’ who have agreed to limit their claim.
- (c) *Disclosure*: Customers should be accurately informed of the test and of available compensations (if necessary). In addition, the indicators, benchmarks and milestones that are used during the testing phase should be clear from the outset.

⁴² FCA, *Regulatory Sandbox Lessons Learned Report: Regulatory Sandbox* (October 2017) <www.fca.org.uk/publication/research/regulatory-sandbox.pdf> accessed 20 April 2020.

⁴³ FCA, *Default Standards for Sandbox Testing Parameters* [hereinafter ‘Default Standards’], Customer Selection (2017) <<https://www.fca.org.uk/publication/policy/default-standards-for-sandbox-testing-parameters.pdf>> accessed 20 April 2020.

Concluding the assessment of the FCA regulatory sandbox from a consumer perspective, we can distinguish four alternative approaches to protect customers that take part to a sandbox testing phase: (i) participants should test their new solutions only with customers who have given informed consent to be included in testing and who are properly informed of potential risks and available compensation; (ii) an appropriate disclosure, protection and compensation during the testing phase should be agreed with the FCA on a case-by-case basis; (iii) customers have the same rights of customers who engage with other authorized firms; (iv) any loss to customers should be compensated by sandbox participants and the latter should demonstrate to possess the necessary resources.

The FCA expressed its preference for the second approach, since it enables flexibility in setting appropriate customer protections for the testing activities. Therefore, the case-by-case assessment of consumers' safeguards – already discussed within the EU framework – finds balanced application within the FCA sandbox.

Looking at the specific safeguards in favor of consumers, the FCA puts in place a set of *standard safeguards for all sandbox tests* and develops *additional safeguards* where these are relevant. For example, it requires all firms in the sandbox to develop an *exit plan* to ensure tests can be shut down at any point whilst minimizing potential damages to participating consumers.⁴⁴ These safeguards also include extra capital requirements, systems penetration testing and secondary review of robo-advice by a qualified financial adviser, among others.⁴⁵

V. REGULATORY SANDBOXES: BENEFITS AND RISKS FOR CONSUMERS

It is acknowledged that consumers could benefit from progress in the financial sector, including from innovations brought about by regulatory sandboxes. However, consumer welfare should not be undermined in any way by such operations.⁴⁶ The association of consumer associations in the EU (hereinafter: 'BEUC') has also considered them by noting that: 'Sandboxes allow innovators

⁴⁴ FCA underlines, for example, that in many instances where firms were testing the use of digital currencies in money remittance, the authority required the firms to guarantee funds being transmitted to deliver full refunds in the case of funds being lost. FCA discusses the cases of Application Programme Interfaces (APIs), biometrics,

⁴⁵ W-G Ringe and C. Ruof, 'A Regulatory Sandbox for Robo Advice' (2018) (European Banking Institute Working Paper Series 2018, No. 26).

⁴⁶ Commission, 'FinTech: Commission Takes Action for a More Competitive and Innovative Financial Market' (Press Release) IP/18/1403.

to trial new products, services and business models in a real-world environment, without some of the usual rules applying. Examples of sectors where regulatory sandboxes have been established include the FinTech area and the energy market'.⁴⁷

Indeed, just recently legal scholars have started to discuss how consumer law and policy should be redesigned in the wake of financial innovation.⁴⁸ Recent findings raise the question as to whether sandboxes are living up to their potential and whether their impact can be improved with a focus on consumers' interests.⁴⁹ For the scope of this article, the above mentioned ESAs' joint report provides an interesting read for understanding how to manage risks and protect consumers.⁵⁰

With regard to consumer protection, the ESAs clarified that the competent authority should verify that applicants to regulatory sandboxes adopt the necessary measures to mitigate risks for consumers, and that there are tools in place for reducing consumers' risk exposure. In this sense, the ESAs identified best practices based on existing regulatory sandboxes and, at the same time, it clarified that appropriate measures would need to be identified on a case-by-case basis.⁵¹

Moreover, as mentioned in paragraph III, a particular aspect of the ESAs' report stands out: by analysing the safeguards of the different European regulatory sandboxes adopted in the FinTech, only the one of the UK Financial Conduct Authority (FCA) explicitly lists the promotion of effective competition in favour of consumers among its objectives.⁵² In the light of the above, we can now draw some preliminary reflections on the interplay between regulatory sandboxes and consumer protection in the EU.

⁴⁷ BEUC, When Innovation Means Progress. BEUC's View on Innovation in the EU, 2019 <https://www.beuc.eu/publications/beuc-x-2019-073_when_innovation_means_progress-view_on_innovation_in_the_eu.pdf> accessed 20 April 2020.

⁴⁸ S. Schubert, 'FinTech and Consumer Protection: How to Guide a Consumer towards a Better Decision' (*SSRN*, 4 May 2018) <<https://ssrn.com/abstract=3173609>> or <<http://dx.doi.org/10.2139/ssrn.3173609>> accessed 20 April 2020.

⁴⁹ European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (Report JC 2018 74, 2019), 35-6.

⁵⁰ *Ibid.*

⁵¹ European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (Report JC 2018 74, 2019), annex B, 45-6.

⁵² The statutory 'competition' objective; European Supervisory Authorities, *FinTech: Regulatory Sandboxes and Innovation Hubs* (Report JC 2018 74, 2019) 19.

A. Benefits for Consumers

(a) *New Players in the Field*

New FinTech sandboxes may lead to more decentralization and diversification in financial services which may reduce market concentration and thus give ‘more choice’ to consumers among big and small players and typologies of services. In particular, we note that SMEs and, particularly, start-up companies may enter sandboxes to test their innovative services and, after, establish themselves as new players in the field. At the same time, FinTech innovations, when fruitfully tested in a sandbox, could promote the efficiency of the financial system by reducing costs and granting faster completion of transactions for clients.

(b) *Ex Ante Regulation v Ex Post Regulation*

Regulatory sandboxes represent a quite innovative form of *ex-ante* regulation aimed at preventing risks for consumers in the emerging FinTech markets for banking and financial services. By developing sandboxes, authorities are trying to overcome the failures of traditional regulation, especially with respect to banking and financial services.⁵³ In our view, the shift towards testing and prevention should be considered a positive development, especially if we consider that in the past the EU showed a tendency to overregulated with the goal of safeguarding the internal market.

However, this approach does not represent a novelty in consumer protection where the EU *acquis* primarily concerns *ex-ante* regulation, including, for example, mandatory pre-contractual information disclosure and right of withdrawal.⁵⁴ The new approach may find a number of practical applications given that the notion of FinTech includes a variety of different services, such as for example, crowd funding and the application of technology to insurance contracts (‘InsurTech’), but also various market support services and technologies applicable in multiple and different sectors - data management, aggregators of financial data and services, comparison websites, artificial intelligence , big data, cloud computing, distributed-ledger technology).⁵⁵

⁵³ J. Kálmán, ‘Ex Ante Regulation? The Legal Nature of the Regulatory Sandboxes or How to Regulate before Regulation Even Exists’ in *European Financial Law in Times of Crisis of the European Union*, Dialóg Campus 2018, 215-226.

⁵⁴ S. Weatherill, *EU Consumer Law and Policy* (Edward Elgar 2014).

⁵⁵ IOSCO, *Research Report on Financial Technologies (FinTech)*, (February 2017) <www.iosco.org/library/pubdocs/pdf/IOSCOPD554.pdf> accessed 20 April 2020; Basel Committee on Banking Supervision (BCBS), *Sound Practices Implications of FinTech Developments for Banks and Bank Supervisors* (February 2018) <<https://www.bis.org/bcbs/publ/d431.pdf>> accessed 20 April 2020.

(c) *Financial Inclusion*

The FCA reports that the sandbox has enabled tests from firms with innovative business models that address the needs of consumers particularly at risk of financial exclusion. The House of Lords Select Committee on Financial Inclusion published a report in March 2017 that cited the FCA sandbox as an incentive for FinTech solutions to deal with financial exclusion.⁵⁶ Studies also seem to confirm the potential of financial innovation with respect to consumer banking and lending in the United States. The authors note: ‘(...) these innovations both hold the promise of reducing racial and ethnic disparities in lending and bring concerns that they may be exploited in ways that perpetuate inequality’.⁵⁷

B. Risks for Consumers

The paragraph explores a number of issues where regulatory sandboxes, especially those concerning innovative banking and financial services, may raise some concern in relation to consumer protection. The question is whether the particular environment of sandboxes for innovative services poses new risks to consumers. Accordingly, BEUC stresses: ‘consumers expect a level of supervision that strikes the right balance between enabling innovation and ensuring it poses no unacceptable risks to health, safety, security, the environment, or people’s values (eg democracy, right to privacy)’.⁵⁸

(a) *Data Protection*

Regulatory sandboxes often include innovative financial services that use data intensively.⁵⁹ Innovation and experimentation in data mining and analytics, including in relation to personal data, are both defining characteristics of FinTech and the backbone of its services. As with any data-intensive ecosystem, regulatory sandboxes carry security concerns for hacking and data breaches, as well as – in banking – thefts of identity and of assets.

⁵⁶ ‘Tackling Financial Exclusion: A Country that Works for Everyone?’ <<https://publications.parliament.uk/pa/ld201617/dselect/ldfinexcl/132/13202.htm>> accessed 20 April 2020.

⁵⁷ P. Foohey and N. Martin, ‘Reducing The Wealth Gap Through FinTech ‘Advances’ in Consumer Banking and Lending’ (March 2020) <<https://ssrn.com/abstract=551469>> accessed 20 April 2020; See also, wrt the US: C.K. Odinet, ‘Consumer Bitcredit and Fintech Lending’ (2018) 69 *Alabama Law Review* <<https://ssrn.com/abstract=2949456>> accessed 20 April 2020.

⁵⁸ BEUC (n 47).

⁵⁹ ET Tjin Tai, ‘Data Ownership and Consumer Protection’ (2018) 4 *Journal of European Consumer and Market Law*, 136-140; R. Macmillan, ‘Big Data, Machine Learning, Consumer Protection and Privacy’ (July 26, 2019). Accessed on April 20, 2020 at <https://ssrn.com/abstract=3427206>; B. Chugh, ‘Financial Regulation of Consumer-Facing Fintech in India: Status Quo and Emerging Concerns’ (19 September 2019) <<https://ssrn.com/abstract=3520473>> or <<http://dx.doi.org/10.2139/ssrn.3520473>> accessed 20 April 2020.

The ever-growing appetite of the FinTech sector for data on consumer behaviors and conditions also fuels some privacy concerns. We can easily observe that banks and insurers are moving from a reliance on credit agencies and volunteered information, towards mining social-media profiles, web-browsing, loyalty cards and phone-location trackers. Moreover, the Economist reported that during a test FICO, the main US credit-scorer, found that words used in his Facebook status could help predict his creditworthiness.⁶⁰

Even facial expressions and voice tones are being studied for risk-analysis. Facebook itself carried out experiments for gauging its users' creditworthiness in 2016; these tests were abandoned in light of regulatory concerns. While supporters of personal data mining argue that consumers benefit from personalized products and more tailored pricing, the potential for consumer detriment is significant. One may question whether new lending services based on FinTech could actually increase financial exclusion: consumers might see them as risky, and those lacking a digital footprint might be priced out. There is also the possibility – especially in relation to insurance – that providers will make consent to tracking a pre-condition for coverage.

The use of closed, proprietary algorithms could also lead to a situation where consumers are denied access to a service (eg credit or insurance), based on an inaccurate correlation and with no possibility of determining, let alone correcting, the underlying assumptions. Beyond consumer privacy and financial inclusion concerns, scholars noted that, despite such approaches becoming commonplace, the innovative use of data is still in its early days. Although a wide range of experimentation is taking place, the actual robustness of the new approaches is still unknown.⁶¹

(b) Price Discrimination

As noted above in relation to data, regulatory sandboxes allow financial services firms to gain insights into the circumstances and behaviors of consumers and prospective consumers. This brings about the possibility that some providers may seek to offer services only to the most profitable, or the least risky, segments and shut others out of the market. Specifically, in the UK, the FCA has already expressed concerns that big data could exclude consumers that the insurance market recognizes as too risky.

⁶⁰ 'Big Data, Financial Services and Privacy' (*The Economist*, 11 February 2017) <<https://www.economist.com/finance-and-economics/2017/02/09/big-data-financial-services-and-privacy>> accessed 20 April 2020.

⁶¹ E.T. Tjin Tai (n 59).

The data practices outlined above can also give rise to price discrimination, where a provider offers incentives to its preferred segments and charges premier rates to the rest. This practice would hamper comparisons and it risks negating the benefits from an increase in choice and competition that were outlined above. The FCA points to instances of discrimination where, rather than data mining leading to offers for consumers that tailored to their individual behaviors, individuals were denied opportunities based on the actions of others.

(c) Complaints Handling Mechanisms

We also deem important to underline that if the test is terminated prematurely due to some issue that came up during the testing, the agreed exit plan comes into effect. This may involve the discontinuation of the product or service under test, or the continuation outside the regulatory sandbox, or inside the sandbox if a prolonged testing period is agreed. Importantly, the firm will be required to implement measures to protect the interest of consumers (eg to arrange for a smooth off-boarding of consumers, payment claims, etc) and, if any detriment to consumer has occurred, to take as many remedial steps as appropriate.

In addition, the competent authorities noted that, as a precondition for testing in a sandbox, an applicant must first prepare *appropriate measures to restore consumers* in case they suffer any detriment in the course of the sandbox test. If a detriment does occur, then the authorities are entitled to end the test.

VI. HOW INNOVATION AND CONSUMER PROTECTION CO-EXIST IN THE SANDBOXES?

Regulators have reacted to FinTech according to four main strategies.⁶² The first approach involves doing nothing or *laissez-faire*. The second approach consists in approaching these innovations on a case-by-case basis. The third strategy provides for the development of new regulations or the application of the existing ones. The fourth approach (ie structured experimentalism) occurs when the regulators can provide a structured piloting exercise, a regulatory ‘safe space’ for experimentation with new approaches involving the application of technology to finance. The case here discussed of regulatory sandboxes fits perfectly in the fourth approach. Legal scholars and policymakers are just

⁶² P. Fáykiss, and others, ‘Regulatory Tools to Encourage FinTech Innovations: The Innovation Hub and Regulatory Sandbox in International Practice’ (2018) 17(2) *Financial and Economic Review* 43–67.

getting acquainted with regulatory sandboxes, but it is not clear whether the impact consumers and how.⁶³

Surely, traditional approaches to regulation may hinder innovation, especially in the new banking and financial services sector. This is often cited among the reasons for the slow technological adoption in financial services, or as an argument against the regulators' activities and rules. For the purposes of our paper, we note that together with the idea that innovation and regulation are intrinsically opposed against each other, there lies another assumption: innovation cannot be a central part of a regulator's mandate, as this would amplify any risk stemming from new technologies and undermine the regulator's duty to protect consumers.

Following this argument, regulators can hardly engage in innovation, nor can they support or manage it, and often find their hands tied when faced with the proliferation of 'risky' technologies – such as digital banks and payments, artificial intelligence and block-chain. Given the breadth and variety of the FinTech phenomenon and the issues mentioned above and since it is not possible to give a single regulatory response to the same, the EU deemed necessary to examine the different articulations of FinTech, paying particular attention to the functions performed, to the characteristics of the activity and of the risks and of the protection needs.

This is in order to verify if it is possible to bring individual innovations back into existing categories and assess whether the disciplines currently in force are suitable for protecting the interests at stake or whether it is necessary to make adjustments to them or, again, adopt ad hoc regulations or other new approaches, such as the case here considered of regulatory sandbox. In this sense, sandboxes are the best way to ensure consumer protection and to mitigate market risks, while also encouraging innovation, which serves the interest of the entire market, consumers included. For example, many firms propose the application of new technologies to reduce operational costs from traditional processes and favor consumers through lower prices.⁶⁴

⁶³ C-Y Tsang, 'From Industry Sandbox to Supervisory Control Box: Rethinking the Role of Regulators in the Era of FinTech' (2019) *Journal of Law, Technology and Policy* <<https://ssrn.com/abstract=3420539>> accessed 20 April 2020; Also see H.J. Allen, (n 2) 579; J. Truby, 'FinTech and the City: Sandbox 2.0 Policy and Regulatory Reform Proposals' (2018) *International Review of Law, Computers & Technology*, 2-31.

⁶⁴ For example, DLT is a rapidly developing technology with exciting potential to enable firms to meet the needs of consumers and the market more effectively. DLT can be used to reduce costs, improve security and trust between groups of participants, and enable services to be provided at a greater speed.

Moreover, a key aspect of effective competition is that it drives useful innovation, pushing firms to invest in the next generation of technologies to improve their effectiveness on the market – thus increasing the same market’s effectiveness. One may expect improvements in competition to deliver better value for consumers and other users of financial services. Our point here is that regulators will be required to manage the tensions that arise from supporting innovation that complements their competition objectives, while at the same time recognizing that some of those innovations will inevitably either create new risks (ie cryptocurrency manipulation), or shift existing risks into the digital realm (ie financial criminal activity turns into financial cybercrime).⁶⁵ One author noted, ‘Each type of collaboration presents certain risks or governance issues to the consumers, the participating firms, and the financial market as a whole, and hold different ramifications for the existing regulatory regime’.⁶⁶

VII. CONCLUSION

We are still riding on the long wave of the fourth industrial revolution, which has overwhelmed boundaries (between services and products) and traditional categories (legal and economic). The financial sector is not immune to these disruptions, and it experiences profound changes in terms of the subjects, processes and services (unbundled), markets (disinter-mediated), models (marketplace model) and relationships (no longer fiduciary). In such a complex and evolving picture, the impact of regulatory sandboxes for consumer protection is still uncertain. Yet, as the preceding sections have shown, it is already reshaping large financial services markets in ways that deliver benefits for consumers, but that can also magnify existing risks and detriments, as well as introduce new ones. Some of these risks and detriments are already becoming apparent.

Others will emerge as innovative banking and financial services become more widespread, or as innovations further transform what the market offers. Beyond the reports mentioned here, we should notice that evidence on the impact of regulatory sandboxes remains scarce. In particular, proof of sandbox-driven regulatory change is weak. Indeed, there is little evidence that sandbox programs have generated formal regulatory change or modernization. Of course, the impact from sandbox programs may be occurring at a more informal level (eg, by helping regulators to reconsider the interpretation of existing rules), or it may actually be too early for any considerable effect to

⁶⁵ R.P. Buckley and others, ‘Building FinTech Ecosystems: Regulatory Sandboxes, Innovation Hubs and Beyond’ (2019) (University of New South Wales Law Research Paper No. 19-72). The authors point out the limitations of these regulatory tools.

⁶⁶ C-Y Tsang (n 63).

manifest itself.⁶⁷ Put it differently, innovation is not an end in itself, nor is it always beneficial for consumers. For innovation to be consumer-driven, policy makers and academics must pay greater attention to consumer concerns, needs and expectations.⁶⁸

⁶⁷ ESMA, 'FinTech: Regulatory Sandboxes and Innovation Hubs' (2018) JC 2018 74 <https://www.esma.europa.eu/sites/default/files/library/jc_2018_74_joint_report_on_regulatory_sandboxes_and_innovation_hubs.pdf> accessed 20 April 2020.

⁶⁸ BEUC (n 47).