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The Methodology of Regulatory Sandboxes in the EU: A Preliminary Assessment from A Competition Law Perspective

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Abstract

A regulatory sandbox is a framework set up by a regulator to allow small-scale, live testing of innovations by private companies in a controlled environment under the supervision of the regulatory authority (and operating under a special exemption, allowance, or other limited time-bound exceptions). Competition law scholars have not yet explored the relationship between competition law and regulatory sandboxes in detail, while authorities - starting with the pioneer in this context, namely the UK Financial Competition Authority - argue that, in principle, sandboxes may "promote" innovation and competition between companies. Therefore, our paper firstly intends to put forward a more accurate theory of the phenomenon of regulatory sandboxes and its development, and secondly to assess critically the institute of regulatory sandboxes from the perspective of competition law. Theoretically, the reliance on sandboxes implies at least two significant new approaches in competition law, namely, to design and test ex ante pro-competitive ecosystems and, thus, to connect the different perspectives of competition and regulation. Our paper concludes the investigation by noting the emergence of this new approach in competition law for digital markets and discussing the potentialities of this methodology, and its benefits and risks.

Keywords: Regulatory Sandboxes; Competition Law; Financial Technologies; Innovation.

JEL Codes: K20, K21, L50

1. Paving the way for regulatory sandboxes

In a world that is becoming increasingly complex by the day, it is important to acknowledge and take advantage of the role of regulation. Historically, the matter of *whether* and *how* the state should intervene on the market has been hotly debated, to say the least, and has often reflected some tension between the *laissez-faire* approach - that is, lack (or minimum amount) of regulation of a specific sector or phenomenon - and *interventionism* - whereby rules are imposed through either a top-down or bottom-up approach.[1] For the current changes and challenges, a *laissez-faire* approach is often deemed too risky in the long-term, given the interests at stake. When interventionism is adopted, on the other hand, regulation usually remains in force indefinitely, unless it is subsequently repealed or amended through yet another intervention. However, the interventionist approach is showing signs of strain in a market and society that are becoming increasingly complex with each technological step forward, and where the effects of changes in regulation have become particularly difficult to predict accurately. This leads to the assertion that regulatory design must become more proactive, dynamic, and responsive.[2]

A promising alternative for dealing with the need to regulate changes could be offered by what can be termed regulatory experimentalism, *i.e.,* an experimental approach applied to regulation. It differs from both interventionism and *laissez-faire* in that an authority provides a temporary regulatory framework in which to carry out a testing exercise, under the supervision of the authority itself. Regulatory experimentalism contrasts with the usual approach whereby one or more impact assessments are performed *ex ante* and *then* a decision is made on the content of the rules to be adopted, which shall apply *erga omnes*. With the experimentalist approach, the

[1] R.E. Matland, 'Synthesizing the Implementation Literature: The Ambiguity-Conflict Model of Policy Implementation', *Journal of Public Administration* (1995).
[2] W. A. Kaal, 'Dynamic Regulation for Innovation', *Perspectives in Law, Business & Innovation* (Mark Fenwick et al. eds., 2016).

final decision-making process can benefit from prior live testing of the new rules in a controlled environment.

Regulatory experimentalism has specific scopes of application: detecting the problems in the industry to be addressed via regulation and testing the effectiveness and efficiency of regulation during its temporary application in limited cases, before applying it to the entire market.[3] Therefore, by taking advantage of valuable data on the actual impact of regulation on the industry, and based upon intense cooperation between the authorities and those to whom the new set of rules will apply, regulatory experimentalism overcomes the traditional division between top-down and bottom-up approaches. The logical premise of regulatory experimentalism lies in the assumption that rules can fail, hence it is better to adopt a trial-and-error model that is in line with a rapidly changing situation in which authorities cannot know in advance all the underlying complexities.

An ongoing application of regulatory experimentalism - which forms the focus of this article - is represented by regulatory sandboxes, a series of frameworks set up by regulators to allow small-scale, live testing of innovative products, services, or processes by private companies in a controlled environment under the supervision of the regulatory authority.[4]

In this sense, firstly, regulatory sandboxes involve a shift away from traditional regulatory approaches and an effort to encompass the principles of proactive, dynamic, and responsive regulation.[5] Secondly, their recurring element is agility and they have an opportunity-based dimension, which specifically distinguishes them from ex ante regulation.[6] Thirdly, the

[3] T. Sachs, 'L'évaluation d'un dispositif juridique: l'exemple d'une loi experimentale', *Rivista Italiana di diritto del lavoro* (2011).
[4] EMA, 'Regulatory Sandbox' (2020) <https://www.ema.gov.sg/Sandbox.aspx>.
[5] L. Bromberg, A. Godwin, I. Ramsay, 'Fintech Sandboxes: Achieving a Balance between Regulation and Innovation', 28 *Journal of Banking and Finance Law and Practice* (2017), 314-336.
[6] D. M. Ahern, 'Regulators Nurturing FinTech Innovation: Global Evolution of the Regulatory Sandbox as Opportunity Based Regulation' 60 *European Banking Institute Working Paper Series* (2020).

regulatory sandbox is commonly perceived as a 'reasonable compromise' as opposed to rushing to regulate, which may prove to be a mistake.[7]

Against this background, this paper firstly aims (section 1) to elaborate on regulatory sandboxes to identify recurring elements in their framework and models to be investigated, with a view to contributing to the literature on the subject and laying the groundwork for the following sections.

The second part of the paper is then devoted to the interaction between regulatory sandboxes - as defined - and competition law. To do so, section 1 firstly contextualises the role of competition policy in rapidly evolving digital markets, including regulatory sandboxes in the scenario. Section 2 then focuses on the relationship between competition law and regulatory experimentalism, while section 3 critically assesses the existing models of regulatory sandboxes from the perspective of competition law. Session 4 draws conclusions.

1.1. Regulatory sandboxes: theoretical framework

Removing ourselves from the legal context for a moment, the principles of regulatory sandboxes can be traced back to the technology sector 'where a sandbox represents a virtual environment to test in isolation a new process or software'.[8]

This section aims to identify a theoretical paradigm for sandboxes in their regulatory dimension. However, it should be noted that the use of the term regulatory sandbox encompasses a variety of cases and there is no supranational guiding framework. Consequently, each authority adopts regulatory sandboxes with different designs, and it is difficult to generalise between them. Therefore, the authors' aim is to identify the structural elements that usually recur in the theoretical framework of regulatory sandboxes.

[7] W.G. Ringe, C. Ruof, 'A Regulatory Sandbox for Robo Advice' 26 *European Banking Institute Working Paper* (2018), 52.
[8] D. Arner, J. Barberis, R. P. Buckley 'Fintech, Regtech and the Reconceptualization of Financial Regulation' 37 *Northwestern Journal of International Law and Business* (2017), 373-385.

As will be discussed in paragraph 1.2. below, the development of sandboxes in their regulatory dimension derives mainly from their application in the fintech sector, where they pursue the mission of balancing the interest of enabling innovation to flourish while safeguarding the interests that need to be protected, particularly consumer and competition protection. More specifically, the rationale of these regulatory sandboxes is to support innovation in financial services by enabling both the industry and the regulator to gain a better understanding of the fintech market dynamics.[9] Thus, the sandbox approach can also play a role in helping regulators to perform their functions, including their ability to mitigate any risks to financial and market stability.

In order for regulatory sandboxes to be successful, therefore, all relevant stakeholders, including institutional ones, must collaborate in the sense of testing and identifying obstacles of various natures that arise from innovative applications. In this context, they represent a testing ground for regulators who need to demonstrate their agility and flexibility to bridge the regulatory gap, if present.[10] Regulatory sandboxes thus involve proactive, flexible, and dynamic regulatory activity, based on experimentation with innovative products and services with fewer regulatory constraints. From this perspective, the EU Parliament Study on Regulatory Sandboxes and Innovation Hubs for FinTech noted that, by relying on sandboxes, regulators can inform long-term policy making through learning and experimentation.[11]

Indeed, innovation is a recurring element of any regulatory sandbox, even outside the fintech sector, as regulators assume a role close to that of an arbiter on innovation. In other words, innovation can be identified as the overriding entry threshold of every regulatory sandbox,

[9] D. Arner, J. Barberis, R. P. Buckley (2017), 373-385.
[10] 'Agile Governance: Reimagining Policy-making in the Fourth Industrial Revolution', World Economic Forum, (2018) <http://www3.weforum.org/docs/WEF_Agile_Governance_Reimagining_Policy-making_4IR_report.pdf>.
[11] R. Parenti, 'EU Parliament Study on Regulatory Sandboxes and Innovation Hubs for FinTech', PE 652.752, 2020.

although it is important to reiterate that they vary from legal system to legal system and from sector to sector.[12]

To summarise the key recurring aspects identified so far, it is worth mentioning the views of the United Nations Secretary-General's Special Advocate for Inclusive Finance for Development, who stated that "a regulatory sandbox brings the cost of innovation down, reduces barriers to entry, and allows regulators to collect important insights before deciding if further regulatory action is necessary."[13]

Moreover, to define the theoretical framework of regulatory sandboxes more specifically, so as to provide the necessary basis for the following sections of the article, we must then focus on their interaction with competitors in the market. Indeed, depending on the perspective adopted, regulatory sandboxes interact with the competitive dynamics of the market.

Firstly, it must be questioned if an advantage is arbitrarily granted by the regulator to selected firms, to the detriment of other firms. In other words, we need to ascertain if regulatory sandboxes can be labelled as a kind of 'government-granted privilege', favouring those who are admitted to the sandboxes over their non-admitted competitors. For example, a firm may be granted leeway to test a product with reduced licensing requirements and accelerated approval, as opposed to other firms that may have to spend greater amounts of time, money, and effort to obtain a traditional licence. The favoured firm would then be able to invest the unspent resources in research and development, improved collateral services, and marketing, while the firms excluded from the sandbox would have to invest mainly in what is necessary to enter the market. If this scenario is confirmed in reality, this may constitute a risk to competition and also to consumer welfare. Here lies the "sandbox paradox." In order for a sandbox to be attractive,

[12] D. M. Ahern, 'Regulators Nurturing FinTech Innovation: Global Evolution of the Regulatory Sandbox as Opportunity Based Regulation' 60 *European Banking Institute Working Paper Series* (2020).
[13] United Nations Secretary-General's Special Advocate for Inclusive Finance for Development, 'Briefing on regulatory sandboxes' (2020) <https://www.unsgsa.org/sites/default/files/resources-files/2020-09/Fintech_Briefing_Paper_Regulatory_Sandboxes.pdf>.

it must convey a certain benefit to the admitted companies. However, any advantage granted to these companies has the potential to weaken the overall competition in the market. Nevertheless, this should not lead to the argument that regulatory sandboxes are inherently wrong, as they can bring about significant improvements to the *status quo*, if implemented properly.

Some believe, on the other hand, that regulatory sandboxes increase and expand competition, playing a possible public interest role in favour of consumer choice, price, and efficiency. On the other hand, however, competition between regulatory sandboxes activated by different regulatory authorities may have an impact on the exercise of regulatory discretion and produce regulatory distortions which have a negative impact on competition.[14]

What is certain is that a case-by-case assessment of each regulatory sandbox is needed and that, in general terms, when activating regulatory sandboxes of whatever nature, it is always crucial to consider their effects on the level playing field of barriers to entry and natural selection in the market.[15]

1.2. Regulatory sandboxes: main applications

To provide the reader with sufficient information to evaluate the existing sandbox regulation, it is also important to assess some frameworks in which regulatory sandboxes are developed.

In particular, regulatory sandboxes gained prominence in the financial services sector ('fintech'), playing a crucial role in understanding how to regulate those technological applications in the financial sector with which the regulator was not yet completely familiar - all the while fostering innovation, safeguarding competition, and protecting consumers. The

[14] D. M. Ahern, 'Regulators Nurturing FinTech Innovation: Global Evolution of the Regulatory Sandbox as Opportunity Based Regulation' 60 *European Banking Institute Working Paper Series* (2020).
[15] D. M. Ahern, 'Regulators Nurturing FinTech Innovation: Global Evolution of the Regulatory Sandbox as Opportunity Based Regulation' 60 *European Banking Institute Working Paper Series* (2020).

pioneer of regulatory sandboxes in Europe and what can actually be defined as the role model in this field was the one launched by the Financial Conduct Authority in the UK in 2016.

The rapid rise of the financial technology (FinTech) sector and subsequent (sandbox) regulation in the UK led to a new methodology which should, supporters argue, ensure competition and consumer welfare and mitigate market risks, while encouraging much-needed innovation for both market players and consumers.

A key objective of financial market regulation should be to promote competition on the merits, ensuring that firms have to comply with the same rules and bear the same costs. Under this form of regulation, innovation can occur when firms seek to stand out from their competitors, rather than simply identifying a gap in existing regulations, which is often subsequently filled.[16] In this scenario, regulatory sandboxes may represent a true game-changer.

While the success of regulatory sandboxes is closely linked to the fintech sector, they have since expanded to a wide range of industries, including transport (drones, autonomous vehicles), energy, health (mobile health apps), ICT, etc. Generally, by developing sandboxes, authorities are seeking to overcome the failures of traditional regulation, particularly with respect to banking and financial services. There are also cases of planning for regulatory sandboxes at European level, such as the pan-European regulatory sandbox discussed by the European Blockchain Partnership in collaboration with the European Commission, which is intended to address data portability, business-to-business data spaces, smart contracts and digital identity, etc.[17]

As mentioned in section 1.1 above, each jurisdiction follows different paths in establishing regulatory sandboxes. More generally, it is evident that jurisdictions are increasingly applying

[16] L. Bromberg, A. Godwin, I. Ramsay, 'Fintech Sandboxes: Achieving a Balance between Regulation and Innovation', 28 *Journal of Banking and Finance Law and Practice* (2017), 314-336.
[17] European Commission, 'Legal and regulatory framework for blockchain' (2022) <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-blockchain>.

a trial-and-error process to ascertain what is best suited to their regulatory and commercial landscape. Within this process, regulators are able to find their comfort zone and reflect it back to the market in the form of recurring parameters in their regulatory sandboxes.

This naturally reinforces the differentiations between systems, which, to all intents and purposes, vary in relation to the extent of the margin for relaxing or waiving the regulatory requirements for sandbox users. In this respect, a number of patterns of regulatory sandboxes recurring in different legal systems can be identified.

Firstly, we must mention standard sandboxes - which are prevalent - with predetermined criteria that apply equally to all players who are eligible and opt in. These can be distinguished from customised sandboxes, which are applied on a case-by-case basis and thus create even more extreme differentiations from those remaining outside the sandbox, which, of course, do not enjoy any flexibility.[18]

In addition, depending on the regulatory sandbox, there are cases where the regulatory framework for those participating in the sandbox remains completely unchanged, as the compliance rules are not relaxed. This usually happens, for instance, when the sphere of personal data protection is affected.[19] This assists in stemming concerns about favourable treatment for those who participate in the sandbox and the consequent unfavourable treatment for those who remain excluded. As discussed below, such an approach can also reduce the risk of anti-competitive effects originating from the creation of a regulatory sandbox.

[18] Jurisdictions where tailored regulatory relaxation is permitted include the State of Arizona (United States), Brunei, Canada, Hong Kong, Indonesia, Malaysia and Singapore, See D. M. Ahern, 'Regulators Nurturing FinTech Innovation: Global Evolution of the Regulatory Sandbox as Opportunity Based Regulation' 60 *European Banking Institute Working Paper Series* (2020).

[19] See e.g., Datatilsynet (Norwegian Data Protection Authority), 'Sandbox for responsible artificial intelligence' (2021) <https://www.datatilsynet.no/en/regulations-and-tools/sandbox-for-artificial-intelligence/>; CNIL (Commission nationale de l'informatique et des libertés), 'Bac à sable données personnelles' (2021) <https://www.cnil.fr/fr/bac-sable-donnees-personnelles-la-cnil-lance-un-appel-projets-concernant-les-outils-numeriques>.

On the other hand, the second recurring model sees regulatory sandboxes operating in a context where the authority can relax the application of certain rules. The pivotal example of this approach is the regulatory sandbox initiated by the Financial Conduct Authority (*FCA*) in the UK,[20] which includes the possibility of rule waivers, although there is no evidence that this occurred in practice. Conversely, an actual relaxation of the rules can be seen in other cases, such as the executive order 'Experiments Decentralized, Sustainable Electricity Production' 2015-2018 in the Netherlands,[21] which authorised energy cooperatives and associations to derogate from the 2018 Electricity Act, while proposing projects in favour of sustainable energy development in the country.

1.3. A quick digression on the pioneer of regulatory sandboxes (FCA)

It is commonly recognised that the UK sandbox created by the Financial Conduct Authority was the pioneer in the fintech sector (and beyond), both in terms of the advancement introduced and of its simple chronological order, being launched in April 2016. Indeed, the FCA is an undisputed leader when it comes to the development of the sandbox structure for efficient testing of innovative financial products and services, as well as in its approach, which considers consumers as protagonists.

The idea behind the sandbox is to provide a safe space for testing innovative products and services without being forced to comply with the applicable set of rules and regulations.[22]

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[20] FCA (Financial Conduct Authority), 'Regulatory Sandbox' (2022) <https://www.fca.org.uk/firms/innovation/regulatory-sandbox>.

[21] E.C. van der Waal, A.M. Das, T. van der Schoor, 'Participatory Experimentation with Energy Law: Digging in a 'Regulatory Sandbox' for Local Energy Initiatives in the Netherlands', *Energies* (2020).

[22] Financial Conduct Authority, 'Regulatory Sandbox' (2015) <https://www.fca.org.uk/publication/research/regulatory-sandbox.pdf> ("This paper is a report to Her Majesty's Treasury on the feasibility and practicalities of developing a regulatory sandbox that is a 'safe space' in which businesses can test innovative products, services, business models and delivery mechanisms without immediately incurring all the normal regulatory consequences of engaging in the activity in question. We believe there is opportunity to expand Project Innovate and introduce a regulatory sandbox. In this report, we set out our plans for implementing the sandbox and proposals for how we can work with industry and the Government to further support businesses.").

The adoption of a sandbox enabled and still enables the FCA to work with innovators in order to ensure that appropriate consumer welfare safeguards are built into their new products and services before they reach the whole market. Therefore, from the very start of the process, successful applicants for an FCA sandbox must have proven that they have genuinely innovative solutions which, *inter alia,* provide consumers with clearly identifiable benefits, and whose effects last for the overall duration of the sandbox in the sense of promoting competition. Therefore, consumer protection and effective competition are the two main safeguards established by the FCA while pursuing the more general goal of promoting competition by supporting disruptive innovation. Looking at the broader picture, this approach is indicative of the UK's commitment to be an attractive market with a competitive framework in order to preserve its position as Europe's leading fintech hub.

The key elements of the FCA sandbox are: its predetermined duration (between three and six months); the number of customers (large enough to allow the extraction of statistically relevant information, with the necessary backups and protections);[23] and the need for disclosure (customers should be thoroughly informed about the test, the compensation available and other necessary aspects).[24] This paradigm has since been replicated in numerous regulatory sandboxes in fintech and other sectors around the world.

1.4 A look overseas

Interestingly, on the other side of the Atlantic, the regulatory sandbox was not so quick to gain favour. Due to the fact that the adoption process was slow among the states, the US Treasury

[23] See C. Poncibò, L. Zoboli, 'Sandboxes and Consumer Protection: The European Perspective' *International Journal on Consumer Law and Practice* (2020).
[24] M. Fenwick, W.A. Kaal, E.P.M. Vermeulen, 'Regulation Tomorrow: What Happens When Technology is Faster than the Law?', 6 *American University Business Law Review* (2017).

Department called for swift action in the adoption phase in order to catch up with the regulatory competition taking place around the world.[25]

The main obstacle to the rapid adoption of regulatory sandboxes in the United States was its fragmented system of financial supervision, with multiple layers of federal and state regulators exercising overlapping or exclusive jurisdictional control in their respective areas.[26] In light of this fragmentation, the Treasury took a firm approach in favour of regulatory tools that are able to nurture innovation consistently.[27] Without legislative permission, supervisors are not in a position to enact effective regulatory sandboxes as they do not enjoy the power to establish freely experimental regulatory perimeters for specific firms.

In 2018 the Consumer Financial Protection Bureau (CFPB)[28] was the first federal agency to design a fintech sandbox.[29] The proposal envisaged two years of immunity from enforcement by any federal or state authority as well as from private actions under consumer protection law. While consumer protection associations and state authorities fought this initiative, as they claimed it violated the jurisdiction of federal powers, the industry strongly backed it.[30]

[25] US Department of the Treasury, 'A Financial System that Creates Economic Opportunities Nonbank Financials, Fintech, and Innovation' < https://home.treasury.gov/sites/default/files/2018-08/A-Financial-System-that-Creates-Economic-Opportunities---Nonbank-Financials-Fintech-and-Innovation_0.pdf> (2018).
[26] US Department of the Treasury (2018), 13-14.
[27] US Department of the Treasury (2018), 13.
[28] The EFPB was established in the wake of the financial crisis to provide integrated supervision of consumer protection across the financial sector.
[29] Bureau of Consumer Financial Protection, 'Bureau of Consumer Financial Protection Announces Director for the Office of Innovation' (2018) < https://www.consumerfinance.gov/about-us/newsroom/bureau-consumer-financial-protection-announces-director-office-innovation/>.
[30] J. Kelly, 'A "fintech sandbox" might sound like a harmless idea. It's not', *Financial Times* (2018), < https://www.ft.com/content/3d551ae2-9691-3dd8-901f-c22c22667e3b>.

Conversely, the Office of the Controller of the Currency (OCC)[31] adopted a less permissive experimentation strategy by announcing in April 2019 the Innovation Pilot Program.[32] This initiative is aimed at establishing "a consistent and transparent framework for eligible entities to engage with the OCC on pilots, which are small-scale, short-term tests to determine feasibility or consider how a large-scale activity might work in practice".[33]

Notably, only supervised entities can apply to the Program in order to overcome legal or regulatory uncertainty that could be a barrier to the development and implementation of unique or new activities[34]. Under the OCC mechanism, applicants' products are expected to fulfil at least one of the following public interest goals: promotion of financial inclusion, reduction of micro-prudential or macro-prudential risks, or meet the evolving needs of consumers, communities, and businesses. However, the Program does not exempt applicants from full compliance with federal and state laws.[35] Despite strong lobbying by financial and tech industries to incorporate explicit immunity from liability into its Program, the OCC did not alter the Program.

1.5 A regulatory sandbox in the making with a completely different mission: sustainability

The aim of this section is to demonstrate that, even though it is known that the main mission of existing regulatory sandboxes is to pursue innovation, they may have other primary objectives.

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[31] The OCC is an independent branch of the US Department of the Treasury which charters, regulates, and supervises all national banks and federal savings associations as well as federal branches and agencies of foreign banks. The OCC carries out its mission by issuing banking rules and regulations and providing legal interpretations and guidance on banks' corporate decisions that govern their practices, visiting and examining the banks it oversees; evaluating applications for new bank charters or branches; for other proposed changes in the corporate structure of banks or their activities; and from foreign banks wishing to operate in the United States under an OCC charter; imposing corrective measures, when necessary, on OCC-governed banks that do not comply with laws and regulations or that otherwise engage in unsafe or unsound practices; protecting consumers by making sure banks give fair access and equal treatment to customers and comply with consumer banking laws.

[32] OCC Innovation Policy Program (2019) <https://www.occ.gov/topics/supervision-and-examination/responsible-innovation/occ-innovation-pilot-program.pdf>.

[33] OCC Innovation Policy Program (2019), 2.

[34] Entities supervised by the OCC are national banks, federal savings associations, their subsidiaries, and the federal branches and agencies of foreign banking organizations. FinTech firms are not eligible to enroll in the OCC program on their own.

[35] The OCC assesses the legality of any proposed activity within the context of the Program before any live test.

This is the case, for instance, in relation to the regulatory sandbox proposed by the Greek competition authority.

In particular, the Hellenic Competition Commission (HCC) launched, amongst other initiatives,[36] a public consultation - concluding on 20 August 2021 - regarding the proposal to create a sandbox for sustainability and competition in the Greek market.[37] This sandbox would provide undertakings with an opportunity to test innovative initiatives that contribute significantly to the goals of sustainable development while not significantly impeding competition.

In particular, the sustainability sandbox proposed by the HCC targets certain industries, e.g. energy, recycling and waste management, the industrial production of consumer products, production and distribution of food, pharmaceuticals, etc. Without claiming to be exhaustive, we will discuss below how the HCC sandbox will work, to the extent necessary for our analysis.

The sandbox was proposed to increase legal certainty and to reduce regulatory risks for "initiatives that contribute significantly to the goals of sustainable development while not significantly impeding competition". It specifically intends to support Greek small and medium enterprises which often lag behind in innovating and adopting new, green technologies, not least due to difficulties in attracting investors.

Firms are able to submit their business proposals to the HCC. The proposals may concern agreements between competitors (horizontal agreements) or within supply chains (vertical agreements). They may also concern unilateral conduct that might constitute abuse of a dominant position, although the HCC predicts that these kinds of proposals will be the

[36] Hellenic Competition Commission, 'Competition Law and Sustainability', (2021) <https://www.epant.gr/en/enimerosi/competition-law-sustainability.html>.

[37] Hellenic Competition Commission, 'Public consultation: Proposal for the creation of a sandbox for sustainability and competition in the Greek market' (2021) <https://www.epant.gr/en/enimerosi/sandbox.html#diavoulefsi>; see also the relevant press release of 13 July 2021, <https://www.epant.gr/en/enimerosi/press-releases/item/1471-press-release-public-consultation-proposal-for-the-creation-of-a-sandbox-for-sustainability-and-competition.html>.

exception, as the proposals must adhere to specific specifications and guidelines. The sustainability sandbox is specifically aimed at more difficult cases, where it may be necessary to restrict competition in order to achieve a certain sustainable development goal.

Once the undertakings have submitted their sustainable business proposals, the HCC will then evaluate the business plans. During the evaluation, the HCC will consider existing competition law, specifically Article 1 (1) and (3) of Law 3959/2011 and Art. 101 (1) and (3) of the TFEU, as well as relevant case law on the evaluation and inclusion of broader public interest grounds. It will also consider several criteria and key performance indicators (KPIs) based on and related to sustainable development. The methods and criteria used will be structured around the objectives and conditions that were analysed in the joint Technical Report on Sustainability and Competition. The possible positive impacts of the proposed initiative will be evaluated, such as sustainable development benefits which further the goals of the Paris Agreement on Climate Change[38], or the 17 Sustainable Development Goals[39], along with the economic benefits. The positive impacts must correlate with the existing purposes of national or EU legislation.

After evaluating the proposal, the HCC will then decide. It might choose not to apply the prohibition on anti-competitive agreements pursuant to Article 1 of Law 3959/2011 in the first place, because the proposal does not restrict competition. The HCC might provide the applicants with a no-enforcement action letter. Alternatively, the HCC might make, if necessary, a positive decision to apply the exemption pursuant to Article 1 (3) of Law 3959/2011, or otherwise reject the proposal.

If the HCC makes a positive decision, the proposal is then implemented. In order to avoid any kind of problematic competitive behaviour, the HCC will provide the undertakings with a

[38] C.P. Carlarne, 'Balancing Equity and Effectiveness: The Paris Agreement & The Future of International Climate Change Law', Ohio State Public Law Working Paper No. 477 (2019).
[39] 'Transforming our world: the 2030 Agenda for Sustainable Development', UNGA Res 70/1 (25 September 2015).

'guide map', including a time frame, and may establish certain conditions to be met by the undertakings in order for the no-action letter to be applied. The HCC will continually monitor the implementation and may organise regular 'state-of-play' meetings to discuss the progress of the initiative. The evaluation will encompass both the undertakings' conduct and the impacts on the market structure. Upon completion of the business proposal, the undertakings will exit the sustainability sandbox.

2. Failures of the *ex post* competition law paradigm in rapidly changing digital markets

Competition law scholars have not yet explored the relationship between competition law and regulatory sandboxes, while authorities (e.g. the UK Financial Competition Authority) believe that sandboxes may generally advance both innovation and competition in fast-growing digital markets. Thus, the main aim of our paper is to assess critically the institute of regulatory sandboxes from the perspective of competition law.

The debate on the interplay between competition and regulation has taken a leading role in the relevant literature in scholarship and policy-making.[40] There are some recurrent questions that need to be addressed*, i.e.* can we consider competition law enforcement an alternative to regulation or are the two *close relatives* that should coexist? Under what conditions should competition law be preferred to regulation? What level of distortion of competition necessarily requires *ex ante* regulation?[41]

[40] M. Botta, 'Sector Regulation of Digital Platforms in Europe: Uno, Nessuno e Centomila', 12:7 *Journal of European Competition Law & Practice* (2021), 500-512. M. Cappai, G. Colangelo, 'Taming digital gatekeepers: the more regulatory approach to antitrust law', Stanford-Vienna TTLF Working Paper No. 55, (2020) <https://dx.doi.org/10.2139/ssrn.3572629>. See also OECD, *Ex ante regulation of digital markets, OECD Competition Committee Discussion Paper* (2021) <https://www.oecd.org/daf/competition/ex-ante-regulation-andcompetition-in-digital-markets.htm> P. Ibáñez Colomo, 'The Draft Digital Markets Act: a legal and institutional analysis', Working Paper (2021) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3790276>.

[41] A. Ezrachi, M. Stucke, *Virtual competition: the promise and perils of the algorithm driven economy*, Harvard University Press (2016). See also L. Khan, 'Amazon's Antitrust Paradox', 126 *Yale Law Journal* (2017), 710-805.

Traditionally, the relationships between regulation and the protection of competition have been considered quite clear, both from the point of view of economic theory and from that of legal theory. Economists have accepted that competition maximises social well-being; from the dynamic point of view, various results, from Arrow[42] onwards, seem to indicate that competition is the market form that increases innovation processes, which is therefore likely to increase the rate of technological innovation.

These theoretical results are almost unanimously also considered valid in practice, at least generally. Public policy must therefore always and in any case protect competition, preserving it and limiting any distortions that it may suffer: this is the task of antitrust. When competition is impossible, or there are well-founded reasons to believe that it would lead to outcomes contrary to social welfare, ex ante regulation should intervene.

Economic theory thus suggests the correctness of the distinction between these two policy instruments outlined by legal theory, according to which the protection of competition is based on general principles aimed at defending a general interest, while regulation is based on specific sector-based rules. For an economist, as well as a jurist, the primacy of competition protection is therefore confirmed, both in terms of principles and in terms of concrete activities. Regulation is only useful where the protection of competition is not possible or cannot be achieved, and it is therefore a useful but residual activity.

The interplay of competition and regulation has therefore been explained through the temporal dimension: the regulator plays a role ex ante, while antitrust plays a role ex post.[43] Our case with regard to regulatory sandboxes seems to overcome this distinction for the first time, with

[42] K. Arrow, 'Economic welfare and the allocation of resources for inventions, in R. Nelson (ed), *The rate and direction of inventive activity: economic and social factors*, Princeton University Press (1962).
[43] N. Dunne, *Competition Law and Economic Regulation*, Cambridge University Press (2015).

a view to promoting the increasing convergence of the two approaches in designing competitive digital markets.

This division of labour involves, according to a well-known mantra, a temporal dimension: the role played by the regulator ex ante, and that played by antitrust ex post. This particular interpretation is, by now, so well-established that it has produced an inevitable corollary: that of the pervasive conflict between regulation and antitrust whenever antitrust law enforcers encroach (due to the subject matter of the decision or the manner in which a case is concluded, for example, through acceptance of commitments) into the *ex-ante* realm or, conversely, whenever the regulator is concerned with governing ex post through sanctioning proceedings or by conciliating disputes. Except in the case of cartels (hard-core violations), the alleged 'conflict' fully manifests, in theory, in the identification of dominant positions (including those arising from merger transactions between firms, in relation to which antitrust acts ex ante) and in the qualification of abuses.

In fact, the most extreme version of the division of labour theory, between antitrust and regulation, was produced in the US's famous Trinko case, which reached the Supreme Court. This judgement appears to suggest that where regulation exists, there should not even be a 'division' of labour, but the domain should remain exclusive to regulation, even with reference to the governance of ex post behaviour.[44]

Now, the case of digital markets seems to confirm that these temporal interpretations (*ex ante* vs. *ex post*) between antitrust and regulation, including that of the US Supreme Court in the Trinko case, are unsatisfactory, at least when applied to digital markets. They lose sight of a point that is fundamental to the analysis, that of the relationship between incomplete rules

[44] Verizon Communications v. Law Offices of Curtis V. Trinko, LLP, often shortened to Verizon v. Trinko, 540 U.S. 398 (2004). See T.J. Brennan, 'Essential Facilities and Trinko: Should Antitrust and Regulation be Combined?' 61 *Fed. Comm. Law J.* (2008), 133-141.

(incompleteness of the law) and economic freedom, a relationship that is even more delicate in the presence of high rates of innovation.[45] In noting that every form of regulation is incomplete as it is impossible to foresee and regulate every possible action in every possible state of the world, it can be noted that the economic freedom "conferred" by the regulation cannot be configured as already "scrutinised", once and for all, in its impact on the market and on consumers. It is no coincidence that antitrust law, especially in Europe with the Michelin case, introduced the notion of *special responsibility* for the dominant company.[46] The point made here is that the classification of a regulation as a "substitute" for antitrust in the regulated sectors only makes sense in the hypothesis of complete rights, namely of scenarios with respect to which the regulator has full knowledge of all possible uses that are linked (bundled) to the exercise of given rights and related duties, and therefore also to the outcomes of innovation processes.

It can therefore be argued that the narrative according to which competition policy is predominantly based on *ex post* litigation is incomplete, as both current competition laws and its institutions incorporate many of the features put forward by reformers as *ex ante* regulation.[47]

2.1. The rise of pro-competitive regulation in the EU: the case of the Digital Market Act

While the theory may be clear, the practice is much less so. For example, there are situations that are not compatible with the purity of the theoretical argument: antitrust authorities occupied para-activities outside their core mission and regulators involved in protecting competition. Indeed, this is largely due to two objective factors: the fragility of the boundary between antitrust and regulatory activities in some markets, such as in our case, and the somewhat imprecise delimitation of the boundaries of the mandate of regulatory authorities.

[45] L. Kaplow, S. Shavell, 'Property Rules versus Liability Rules', 109 Harvard Law Review (1996), 713.
[46] Judgment of the Court of 9 November 1983, NV Nederlandsche Banden Industrie Michelin v Commission of the European Communities, Case 322/81, *European Court Reports 1983 -03461.*
[47] B. H. Kobayashi, J. Wright, 'Antitrust and Ex-Ante Sector Regulation, The Global Antitrust Institute Report on the Digital Economy' 25 (2020).

This discrepancy between theory and practice in the relationship between regulation and the protection of competition is important from a policy point of view because - in practice - it implies an increase in the regulatory intervention area to the detriment of the enforcement of ex post competition policy.

Firstly, competition authorities intervene ex ante to protect competition and the market with regard to mergers and agreements. In this context, they can authorise a potentially anti-competitive merger or cartel if certain commitments are met. To respond to this criticism, it may be useful to adopt some kind of working definition of economic regulation. It can be agreed that regulation is an activity that places limits on the free behaviour of economic agents that may produce socially undesirable results. It can also facilitate the achievement of socially desirable outcomes that would not have been achieved if the economic actors had been free to operate. Let us briefly mention the cases of mergers and cartels. In assessing the acceptability of a merger, an antitrust authority makes a forward-looking evaluation of its competitive effects. If the companies involved in the merger are large and multi-product enterprises, this requires a detailed assessment of a large number of markets affected, directly or indirectly, by the concentration. If the authority perceives a risk that the merger will have anti-competitive effects, it makes its authorisation conditional on the acceptance of various commitments, which are usually very detailed, by the companies involved.

From an economic point of view, there are two main objectives: to limit the market share and to create - or maintain - a certain level of market contestability.[48]

It seems that the boundary between regulation and antitrust action is particularly narrow precisely with regard to the sharing of resources. For example, competition authorities may rule

[48] In order to prevent the creation or strengthening of a dominant position, competition authorities may impose the divestiture of assets; the abstention, for a certain period, from specific lines of business; the specific lines of business for a certain period of time; the observance of particular price or production price or production behaviour. In order to promote contestability, the following may be imposed the sharing of resources of various kinds, such as technologies, infrastructures or input supply contracts.

on price for (real or alleged) essential facilities. There are frequently other modes of non-price regulation, such as the administrative fixing of a maximum duration of supply contracts for certain inputs, the introduction of termination clauses and so on. In fact, this is an exercise in regulation.

Some sort of regulatory activity is also often inherent in procedures for granting individual exemptions for cartels. In these cases, competition authorities tend to deal directly with the behaviour of undertakings. In particular, before granting an exemption, the authority must ensure that certain conditions are met, including consumer welfare. In most cases, this criterion is deemed to be met when the conditions of competition on the market, even after the cartel has been implemented, reassure the authority as to the distribution of benefits deriving from the cartel.

More recently, the EU Commission and national jurisdictions have tended to promote competition in the digital markets through regulatory activities. By looking at the deficiencies of traditional competition law enforcement, the EU is advancing regulation, which is now labelled as "pro-competitive regulation". This approach has been developed, for example, to tackle the data bottleneck problem affecting the retail payment system.[49]

More importantly, on 15 December 2020, the European Commission presented a proposal for a regulation of the European Parliament and of the Council for fair and contestable markets in the digital sector, known as the Digital Markets Act (DMA).[50] The DMA represents a "pro-competitive regulation", by definition.

[49] Directive 2015/2366 on payment services in the internal market, OJ L 337/35 (2015). See O. Borgogno, 'Access to Data and Competition Policy: The Lesson of Fintech', *Annuario di diritto comparato e studi legislativi* (2020), 13-39; O. Borgogno, G. Colangelo, 'Data, Innovation and Competition in Finance: The Case of the Access to Account Rule' 31 *European Business Law Review* (2020), 573-610.

[50] Proposal for a Regulation of The European Parliament and of the Council on contestable and fair markets in the digital sector (Digital Markets Act), COM/2020/842 final, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020PC0842&from=en>

It should be noted that the Commission chose Art. 114 as the legal basis as it is clear that Art. 103 TFEU could not have been used for the DMA: the latter undoubtedly goes beyond "the application of the principles of Articles 101 and 102 TFEU."

The aim of the DMA, as defined in Article 1 of the proposal, is to ensure that markets in the digital sector in which gatekeepers are present are fair and contestable throughout the Union. The recitals appropriately emphasise that this is a system of rules *distinct from* competition rules on restrictive practices, abuse of dominance, and mergers. Firstly, the behavioural constraints of the DMA entail assumptions that are clearly distinct from those of antitrust rules; in particular, a finding of dominance is not required for designation as a gatekeeper. Secondly, in applying the DMA's obligations and prohibitions, a case-by-case assessment of the actual or potential impact of the platform's conduct on competitive variables is not required, unlike what typically occurs with competition rules. In this sense, the DMA is *undoubtedly a different* and complementary tool to competition rules, which may facilitate more rapid intervention. Interestingly, it is controversial whether the ultimate goals of the DMA regulatory intervention, and not just the tools, also constitute a system in their own right, clearly separate from the system of competition rules, or part of it. The question arises not so much for the pursuit of *fairness* in user relations, but when it comes to ascertaining the actual goal of *contestability*. We will attempt to explain the reasons for this observation below.

In particular, while *fairness* is a public policy objective familiar to European law, the reference to the goal of *contestability* is new and unclear. Presumably, the Commission does not intend to refer to the notion of a perfectly contestable market developed in antitrust theory[51] but to the more generic goal of reducing barriers to entry in digital markets. In competition law, a barrier to entry typically means anything that hinders "timely, likely and sufficient" entry into the

[51] W. A. Brock, 'Contestable Markets and the Theory of Industry Structure: A Review Article', 6 *Journal of Political Economy* (1983), 1055-66.

market by competitors, i.e., capable of containing the firm's market power. Now, in digital markets there are a number of factors, exogenous or dependent on the behaviour of firms, that can contribute to making entry difficult for competitors (economies of scale and scope, prominence of data availability, network effects, switching costs and behavioural distortions, etc.). The issue of entry barriers is therefore central from a public policy perspective.

So far in European law, there has never been a policy to reduce barriers to entry: the approach is more nuanced and takes account, on the one hand, of the origin of the barriers (regulatory or administrative intervention, market characteristics, strategic behaviour of firms) and, on the other hand, of the need to balance the values at stake (e.g. intellectual property rights, freedom of enterprise, incentives to invest) with the protection of effective competition in the markets concerned. When barriers arise from regulatory or administrative restrictions, the European law approach is to remove the barriers where they are not justified by the pursuit of general interest objectives. When, on the other hand, the barriers depend on the characteristics of markets or the behaviour of firms, generally no negative stance is taken against, for example, the existence of economies of scale, intellectual property rights, advertising investments, and so on. However, there may be special circumstances that justify pro-competitive regulatory interventions.

In our view, in an ideal world, there would be very few interventions, unless such interventions - consisting of pro-competitive regulation - in a given sector take place one after the other, gradually transforming it into a regulated sector.[52] However, in reality, this may entail significant costs. Regulatory authorities often fail to regulate appropriately; the likelihood of such regulatory failures is higher the more detailed the commitments relating to authorising a transaction require detailed prospective analyses, in which mistakes can easily be made.

[52] B. Lundqvist, 'The Proposed Digital Markets Act and Access to Data: A Revolution, or Not?', 52 *International Review of Intellectual Property and Competition Law* (2021), 239-241, <https://doi.org/10.1007/s40319-021-01026-0> G. Monti, 'The Digital Markets Act - Institutional Design and Suggestions for Improvement' Working Paper (2021), <http://dx.doi.org/10.2139/ssrn.3797730> P. Marsden, R. Podszun, *Restoring Balance to Digital Competition - Sensible Rules, Effective Enforcement*, Konrad-Adenauer-Stiftung, Berlin (2020).

Secondly, commitments concerning the sharing of resources are an area in which competitors of the companies involved in the transaction are particularly active, and where they will therefore be more likely to engage in gaming and capture.

2.2. Competition policy by design: regulatory sandboxes

The growing interest in promoting competition policy by *regulating ex ante* clearly emerges with respect to regulatory sandboxes.[53] This new and experimental approach is central to our paper. It involves relying on a sort of "anticipatory competition policy" consisting of a (market) design to include, from the beginning of a new market for digital services, competition policy (and other regulatory goals). In fact, regulatory sandboxes can define a regulatory core area aimed at preventing forms of irreversible market power, such as those that can manifest thanks to the non-contestable assertion of standards, network effects, and endogenous barriers to entry. Such controlled environments pose the issue of limits to freedom - in the exercise of those rights - with respect to freedoms connected with the exercise of the rights of others. Thus, the freedom of a dominant company is limited by reason of the rights of competitors and consumers, and this is done by preventing ex ante, where possible, or by sanctioning the abusive exercise of a power that cannot otherwise be regulated.

It can then be seen that, in such an ex ante and experimental approach, there must be space for both regulation and competition, which must therefore be interpreted as converging interventions, aside from the distinction between ex ante and ex post.[54] Thus, the adjustment determines the field of action of antitrust (the scope of special responsibility) and antitrust determines the field of evolution of regulation (the areas in which freedom is transformed into unjustified power). Clearly, therefore, the instrument considered here may be promising as a

[53] J. Kálmán, 'Ex Ante Regulation? The Legal Nature of the Regulatory Sandboxes or How to Regulate before Regulation even Exists' (September 20, 2018) <http://dx.doi.org/10.2139/ssrn.3255850>
[54] D.A. Zetzsche et al., 'Regulating a Revolution: From Regulatory Sandboxes to Smart Regulation' 23 *Fordham J. Corp. & Fin. L.* 31 (2017).

form of dynamic co-evolution which contributes to defining a field of action that is much more complex than the mere distinction between ex ante and ex post action.

Our point is that regulatory sandboxes overcome the traditional (di)vision of work between regulation and competition and change our perspective from a tedious and defensive issue of competences towards a new form of anticipatory competition policy by concentrating on the establishment and evolution of new digital markets.

According to the regulatory authorities, competition is one of the main goals of regulatory sandboxes. For example, the cited FCA sandbox was established following a feasibility report published in November 2015 to support the FCA's objective of promoting effective competition, in the interests of consumers.[55] The same report notes that the sandbox will enable the FCA to work with innovators, to ensure that appropriate consumer welfare safeguards are integrated into new products and services, and to promote competition in financial services by supporting both small and large companies developing products and services.

Indeed, the primary goal of the regulatory sandbox is to promote innovation and - only subsequently - competition.[56] In particular, effective regulation in the fintech sector is undoubtedly crucial to innovation, and regulators use regulatory sandboxes as a tool to monitor the rapid evolution of fintech without stunting its innovative potential, while providing the necessary protection to those involved or interested in testing operations.

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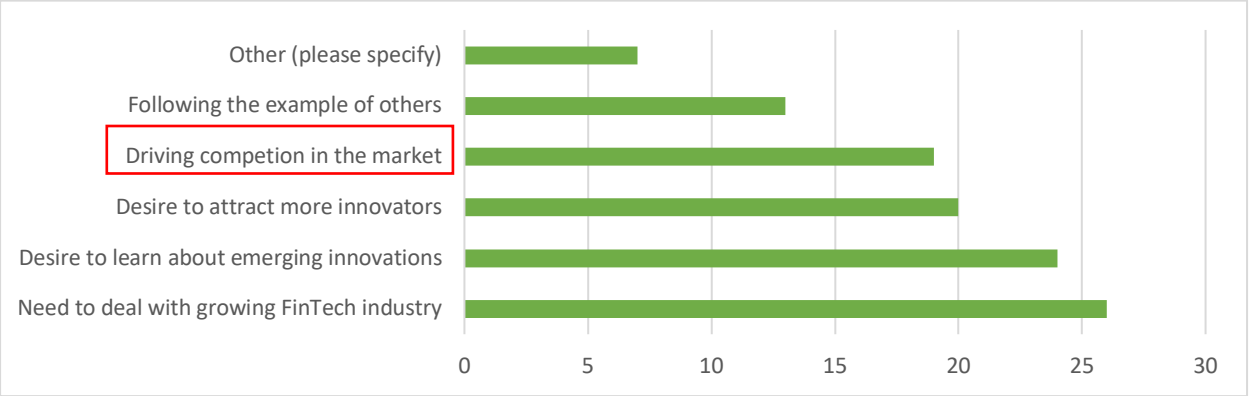
[55] FCA, 'Regulatory sandbox lessons learned report' (2017) <https://www.fca.org.uk/publications/research/regulatory-sandbox-lessons-learned-report>.

[56] L. Bromberg, A. Godwin, I. Ramsay, 'Fintech Sandboxes: Achieving a Balance between Regulation and Innovation', 28 *Journal of Banking and Finance Law and Practice* (2017), 314-336. For example, a safeguard might consist in limiting the range of consumers that can access the product or the service during the testing phase. Both in Denmark and in the UK, the innovative products were accessible only to consumers active in the local market. The rationale for such restrictions is that an absence of any prior coordination or interaction with the host authority could pose risks in regard 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 its jurisdiction. (section 2.3 of the BSG's July 2017 report on regulatory sandboxes <https://www.eba.europa.eu/documents/10180/807776/BSG+Paper+on+Regulatory+Sandboxes_20+July+2017.pdf>).

This perspective is confirmed by the analysis of the relevant international legal framework. In this regard, the study published by the CGAP (Consultative Group to Assist the Poor) and the World Bank (2019)[57] offers some preliminary findings which assist in understanding the main objectives of regulatory sandboxes. The survey underlying the CGAP-WB study was conducted between February and April 2019, with 62 financial sector regulators consulted, 31 responses collected (27 fully completed) and 28 countries covered worldwide. According to the study, sandboxes provide an opportunity for emerging fintech companies and regulators to engage and build mutually beneficial relationships at an early stage - helping companies to understand the regulatory requirements they face and enabling regulators to assess the characteristics of *their* companies and to keep pace with fintech innovations. In particular, according to the CGAP-WB study, driving competition in the market is not a leading motivation for considering innovation facilitators.[58]



Source: CGAP-World Bank study (2019), 'Motivations driving implementation of innovations facilitators'

Despite the enthusiasm shown by policy makers and scholars in the ability of such experimental tools to contribute to the design of a competitive market, their actual impact on the industry is

[57] CGAP-World Bank: Regulatory Sandbox Global Survey (2019), <https://www.findevgateway.org/sites/default/files/publication_files/surevy_results_ppt_cgap_wbg_final_20190722_final.pdf>.

[58] S. Appaya, I. Jenik, CGAP-World Bank: Regulatory Sandbox Global Survey (2019), <https://www.findevgateway.org/sites/default/files/publication_files/surevy_results_ppt_cgap_wbg_final_20190722_final.pdf>, 12

still largely yet to be seen.[59] Rather than being truly revolutionary, sandboxes are seen as an appealing repackaging of the principle of proportionality traditionally applied by regulators when dealing with new business methods and services.[60] They are likely to be useful only for as long as there is a market demand for new services.[61]

Furthermore, from what could be coined a legal marketing perspective, they may simply reflect the need felt by national jurisdictions to appear dynamic and open to innovation in order to attract investments and promising new businesses. In recent years, legal marketing has arguably emerged as a key driver of regulatory activity around the world. As noted previously, following the British example, several jurisdictions have opted to create innovation-friendly regulatory environments for businesses and start-ups. It should come as no surprise, then, that the digital market and financial innovation markets have taken centre stage for testing these new tools. Against this backdrop, it is crucially important to distinguish what is truly innovative and far-reaching from faintly concealed attempts to enrich national economies.

Thus, despite the strong enthusiasm shown by many jurisdictions, the regulatory sandbox comes with several drawbacks that can diminish its effectiveness.[62] Firstly, it is inherently difficult to assess whether or not activities meet the innovation requirement to access the sandbox. It is not always easy to establish a predictable and fair system which ensures that only truly innovative firms can benefit from the inclusion.[63] Moreover, such an evaluation requires

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[59] For instance, as highlighted by D. Arner, J. Barberis, R. P. Buckley ('Fintech, Regtech and the Reconceptualization of Financial Regulation' 37 *Northwestern Journal of International Law and Business* (2017), 373-385), the first sandbox experience in the UK covered only a tiny portion of the total number of financial services firms, a significant number of which are now either in liquidation or insolvent.

[60] European Banking Authority (n 30) 9-10.

[61] See Arner, Barberis, Buckley, and Zetzsche cit., 102-103, arguing that regulatory flexibility cannot act as a substitute for demand or for a sound business model.

[62] ESAs, 'FinTech: Regulatory sandboxes and innovation hubs' (2019) < https://www.eba.europa.eu/sites/default/documents/files/documents/10180/2545547/154a7ccb-06de-4514-a1e3-0d063b5edb46/JC%202018%2074%20Joint%20Report%20on%20Regulatory%20Sandboxes%20and%20Innovation%20Hubs.pdf>, 35-36.

[63] As highlighted by Omarova, the novelty evaluation involves a deeper question of what "financial innovation" means from a public perspective. Admittedly, such an issue would complicate further the analysis as well as the risk of creating an unlevel playing field in the treatment of different players. See S. Omarova, 'Technology v Technocracy: Fintech as a Regulatory Challenge' 6(1) *Journal of Financial Regulation* (2020).

regulators to have adequate technical and legal skills as well as resources devoted to this activity. An additional layer of complexity arises from the fact that it is almost impossible to distinguish the technological features of a financial technology product from its financial function. This does not mean that sandboxes should be dismissed, but it must be acknowledged that their impact has still to be appropriately assessed and measured.

3. Benefits

3.1 Competition authorities are learning from experiments

Primarily, the rise of sandboxes is due to the willingness of regulatory and competition authorities to learn from the participants.[64]

On the one hand, regulators are able to assess constantly the suitability of existing legal frameworks with regard to ongoing market dynamics. This might be transposed into increased regulatory quality taking an innovation-friendly approach. Moreover, the data generated from the test bed might save transaction costs for the regulator when drafting/amending a new regulation. On the other hand, economic actors taking part in the sandbox seek to test safely their proposed business models and innovations by benefiting from a waiver of specific regulatory constraints (e.g., financial provisions; data protection; etc.). This might, in turn, translate into a considerable reduction in (regulatory) barriers to market entry. In brief, it means that both regulators and participants can benefit from the learning processes that characterise the experimentation phase.

3.2 Risks

[64] G. Frazier, N. Walter, 'Regulatory Sandboxes: How Federal Agencies Can Take Part in Cooperative Federalism and Catalyze Innovation and Economic Growth through Exercise of Their Exemptive Authority' (2020) <http://dx.doi.org/10.2139/ssrn.3561263>

3.2.1 Favouring participating stakeholders

In a different perspective, we note that a regulatory sandbox could be identified as a form of 'government-granted privilege', which benefits those admitted to its space (*i.e.,* the sandbox) to the detriment of their non-admitted competitors or newcomers. If this were the case, firstly it would undermine the non-privileged firms, but ultimately also consumers, through the decrease in competition.[65]

In a competitive market, an advantage granted to a few undertakings by a regulatory authority often acts as a disadvantage to the competitors of those undertakings. If a company is given leeway to test a product with reduced licensing requirements and accelerated approval, this can become detrimental to competitors, who have to spend greater amounts of time, money and effort to obtain a traditional licence.

Indeed, it is true that a potential flaw of regulatory sandboxes is represented by the broad discretion involved in admitting individual firms into these experimental programmes. If not properly implemented, regulatory sandboxes can jeopardise the goal of creating a level playing field as they create two tiers between undertakings that benefit from the sandbox and those that do not. On the one hand, the greatest decision-making transparency should be guaranteed so as not to distort competition. On the other hand, the regulatory framework cannot be relaxed to the point of effectively hampering financial stability and consumer protection. Therefore, regulators must strike a balance between these two different goals. On a similar note, it is crucial for public authorities engaged in regulatory sandboxes to be transparent and straightforward in their guidance provided to firms, particularly with reference to its binding nature; otherwise, this tool is likely to end up increasing legal uncertainty and litigation if the views of regulators shift over time.[66]

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[65] H. J. Allen, 'Sandbox Boundaries' *Vanderbilt Journal of Entertainment & Technology Law* (2019).

[66] From a comparative perspective, see C. Tsai, C. Lin, H. Liu, 'The Diffusion of the Sandbox Approach to Disruptive Innovation and Its Limitations' Cornell International Law Journal (2020). In particular, they point out that the implementation of regulatory sandboxes transplanted from common law jurisdictions into different

3.2.2 Fictitious distortion of competition

Depending on the entry requirements to the sandbox, several companies offering substitute products/services may try to enter the sandbox and a few or just one of them will be selected.[67] The selected company will possibly hold an advantage and exclusive position in the market ex post. This state-run artificial market phenomenon might alter the natural process of competition and risk generating negative effects on it. Hence, in some instances, the sandbox might simultaneously generate both positive and negative externalities for the market.

In this respect, some commentators have highlighted a concern that sandboxes could mainly facilitate a fictitious distortion of competition between participants. More specifically, anti-competitive agreements between rivals could be algorithmically controlled, and pseudonymous participants would be harder to trace. However, while it is true that sandboxes may allow new forms of organising and implementing cartel arrangements, at this stage, such concerns overstate the risk. Firms involved in sandboxes (including large financial institutions) should be well-versed in the compliance measures required to address competition law risk in any discussions involving competitors. Firms will, however, need to be aware of the risks of exchanging competitively sensitive information in the protected environment.

3.2.3 Barriers to entry

The advantaged company can use the unspent resources for research, marketing, etc., while competitors are still spending money trying to enter the market. This appears not only intuitively unfair, but it distorts the market and weakens the positive effects of competition. Here lies the "sandbox paradox."[68] In order for a sandbox to be attractive, it must convey a

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domestic contexts are likely to reflect on regulatory inertia, regulatory capture, and path dependence. The Authors argue that these problems might render a country's rule of law and regulatory strategy unstable and affected by inapplicability, uncertainty, and under-implementation.

[67] We can distinguish de jure and de facto sandboxes. Despite being used for 'testing' purposes, de facto sandboxes ran by industry incumbents might also follow strategic competitive aims. In this case the state is not the one inviting the industry to test their innovations, conversely, it is an industry incumbent gathering public and private institutions around its platform. Although conceptually the same with regards de jure sandboxes, both the nature and aims of de facto sandboxes are different.

[68] B. Knight and T. Mitchell, 'The Sandbox Paradox: Balancing the Need to Facilitate Innovation with the Risk of Regulatory Privilege', 72(2) *South Carolina Law Review* (2021), 445-475.

certain benefit to the admitted companies. However, any advantage granted to these companies has the potential to weaken overall competition in the market. Nevertheless, this should not lead to the argument that regulatory sandboxes are inherently wrong, as they can actually bring improvements to the *status quo*, if implemented properly.[69]

4. Conclusions

This paper intended firstly to contextualise in more detail the recurrent apparatus of regulatory sandboxes in Europe, highlighting how each of them is peculiar and different. This clarifies further that any possible distortion of competition that may occur within a regulatory sandbox must be analysed *ex post* on a case-by-case basis.

However, the above analysis identifies some considerations on the interconnection between regulatory sandboxes and competition law in the abstract.

Firstly, we have noted how regulation and competition goals tend to converge in regulatory sandboxes that are aimed at designing (*ex ante*) competitive digital markets. Anticipatory competition policy is a new playground for regulators and competition authorities.

While we view favourably the attempt to develop new approaches and methodologies, also based on experiments, we must conclude that, at least in the EU, the shift toward an *ex ante* perspective will inevitably favour the regulatory state and will risk over-regulating the EU internal market. In other words, innovation, and specifically, digitalisation, is fuelling the regulator state, once again.

The net effect of these overruns seems to be an expansion of the regulation area: regulators that can choose themselves whether and what to regulate, by virtue of the extensive interpretation of their mandate, will tend to find new "markets" to be regulated. Competition authorities that

[69] While most jurisdictions offer a sandbox free of charge, there are costs associated with running tests. However, for some sandbox entities, the feedback from the regulator on applicable regulations reduces legal fees, which can be as high as or even higher than the costs associated with sandbox testing.

design interventions with detailed information on markets and sub-markets, imposing line of business restrictions and sharing of resources, also extend the area of regulation in the economy. This expansion of the regulated area of the economy contrasts with the vision of the relationships between the two instruments which - as we have seen - interprets the regulation essentially as a residual line of public policy, to be used where antitrust tools are not sufficient. Furthermore, this enlargement poses the practical problems that we have summarised briefly above.

Secondly, the goal of creating *ex ante* competitive digital markets through regulatory sandboxes is based on a sort of revival of experimentalism.[70] Here our argument concerns the political dynamics surrounding experimentation in sandboxes. Experiments are not necessarily born equal: they may affect target groups in different ways. Some actors may reap considerable benefits, while others may bear considerable costs. There is a realisation that experimentation is not a neutral activity, but since the overall emphasis is on (any) action outside the domain of the state, the political dynamics of experiments are all too easily tossed to one side.

Secondly, the adoption of regulatory sandboxes for innovative digital services is still in its early days. However, as the previous sections have shown, it is already reshaping competition law enforcement in the relevant market(s) by shifting the focus towards anticipatory competition policy, bringing authorities to the forefront of market governance by assigning them greater responsibility.

Our paper confirms that a regulatory sandbox can produce beneficial effects on competition as soon as it entails an ongoing regulation being reviewed and revised in light of digitalisation. Therefore, the fact that regulatory sandboxes establish low burden regulatory regimes assists

[70] C. F. Sabel, J. Zeitlin, Jonathan, 'Learning from Difference: The New Architecture of Experimentalist Governance in the European Union', in Sabel and Zeitlin (eds), *Experimentalist Governance in the European Union: Towards a New Architecture*, Oxford: Oxford University Press (2010), 1-28.

the evolution of these regimes in maintaining competitive conditions in the market. Furthermore, regulatory sandboxes, when developed properly, create a level playing field for new competitors and mitigate barriers to entry in innovative digital markets. Indeed, experimentalism can also exacerbate existing risks and disadvantages for both consumers and competition, as well as introduce new ones. Some of these risks and disadvantages are already becoming apparent. Others will emerge as innovative banking and financial services spread, or innovations further transform what is offered by the market.

In conclusion, we note that evidence on the impact of regulatory sandboxes remains scarce. In particular, proof of sandbox-driven regulatory change is weak and there is little evidence that sandbox programmes have generated any formal regulatory change or modernisation. In particular, the impact of sandbox programmes and anticipatory competition policy in markets for digital services cannot be taken for granted and is worthy of in-depth exploration.