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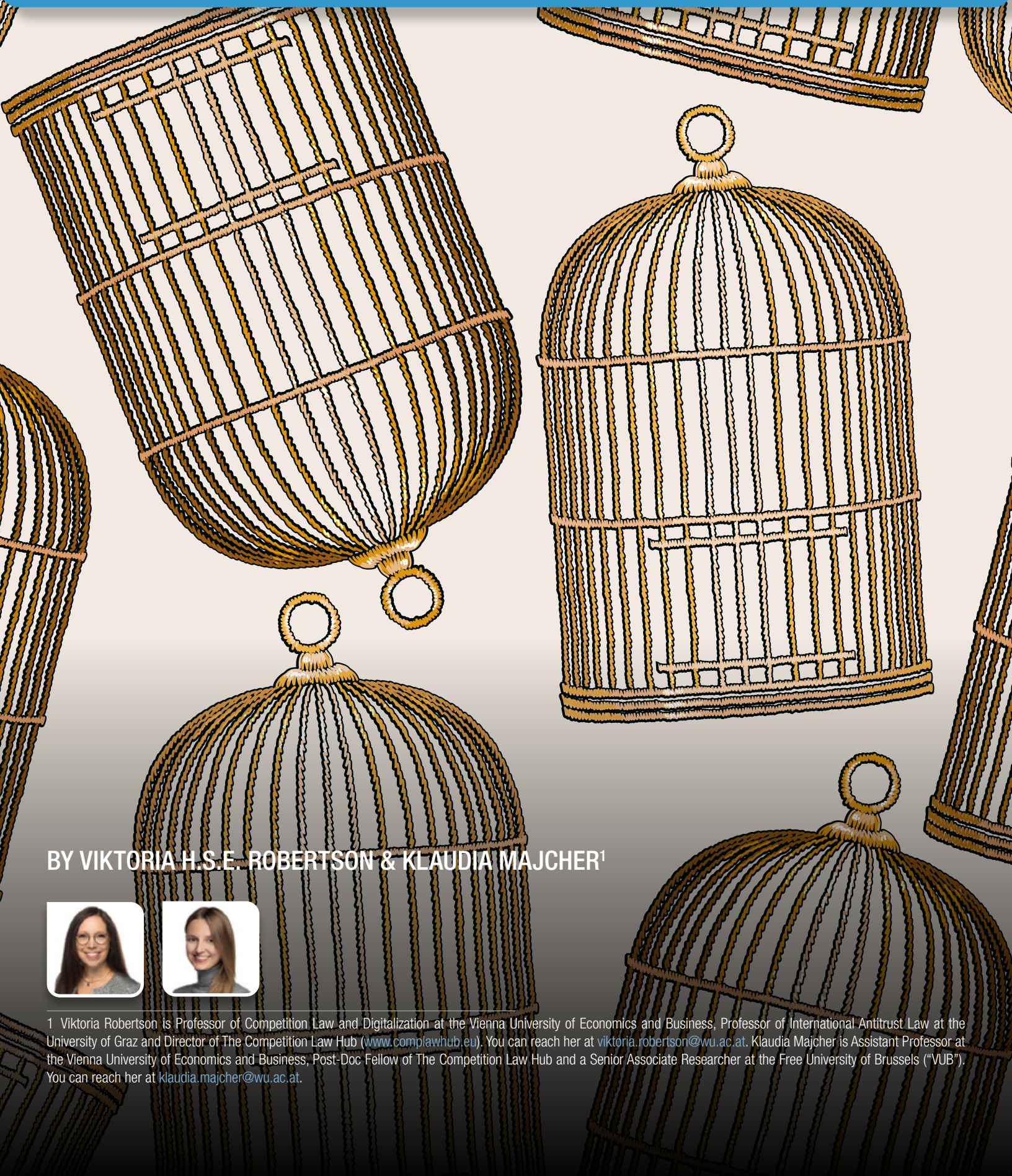

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CAPTURING INNOVATION FOR ANTITRUST PURPOSES

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Capturing innovation poses challenges for antitrust law and practice, despite innovation being recognized as one of antitrust's primary objectives. Defining innovation, deciding on the type of innovation that deserves to be promoted, and designing antitrust assessment frameworks in a way that effectively integrates the value of innovation, continue to be contested issues. This article provides an overview of opportunities and challenges related to capturing innovation for antitrust purposes through the lens of market definition and safe harbors – both of which are typical starting points for antitrust assessments. Focusing on the U.S. and the EU, it illustrates that despite efforts to rethink market definition in view of the need to incorporate innovation, a coherent approach appears to be lacking. Safe harbors similarly fail to do justice to the value of innovation, even though there have been attempts to introduce a more innovation-conscious approach in this area. Overall, the question of how to consider innovation in antitrust is highly contingent on two more fundamental questions: what is the relationship between competition and innovation, and how can we identify the type of innovation that antitrust should aim to promote. Both deserve closer attention.

I. INTRODUCTION

Fostering innovation is said to be one of antitrust's primary goals. Nevertheless, a lot of uncertainty surrounds the issue of how to factor innovation into antitrust analyses. Complicating matters even further, by far not all innovation is "good," i.e. the type of innovation that a public policy should aim to promote. Indeed, it has been argued that a lot of innovation by Big Tech largely serves the companies themselves rather than their users or society at large.[2] So it would go too far to assert that antitrust wants to foster innovation as such; its aim can only be to foster certain types of innovation. This consideration should be kept in mind when discussing how to incorporate innovation considerations into antitrust analyses.

Any antitrust policy that wants to take innovation into account in one way or another must, as a necessary first step, define what is meant by the term "innovation." The OECD's Oslo Manual defines innovation as "the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations."[3] It is possible to distinguish between radical and incremental innovation,[4] as well as between sustaining and disruptive innovation.[5] For antitrust law, the newness that the OECD definition alludes to implies that old analyses of markets, market conduct and the likely future development of a market may become outdated when faced with innovation, and will then need to be replaced with new (or significantly improved) analyses.

There are many instances in antitrust law where innovation plays a role – ranging from market delineation, the definition of safe harbors, the substantive analysis, to the implementation of remedies. The following tackles the question of how innovation can be captured for antitrust purposes through the lens of market definition and safe harbors, as both are typical starting points for an antitrust analysis. A substantive analysis that wants to incorporate innovation considerations but is based on a traditional market definition will run into difficulties, as will antitrust remedies that want to safeguard innovation without being based on a proper analysis of the innovation situation. A significant burden therefore lies on market definition not to turn a blind eye on innovation. Furthermore, the safe harbors employed by antitrust authorities typically rest on structural presumptions based on market shares, and these may be misguided where innovation cannot be properly captured through market definition. It is therefore worth looking at alternatives to market share thresholds as well.

We begin with a brief discussion of the famous Schumpeter vs Arrow debate on the question of the market structure that is most conducive to innovation, before moving to market definition, safe harbors and an outlook.

II. ANTITRUST'S RELATIONSHIP WITH INNOVATION

In economics, there are different views as to which kind of market structure is most conducive to innovation.[6] If antitrust policy wants to promote innovation, then it necessarily needs to take a stance in this debate. Although there is a broad spectrum of views, two opposing ones are typically discussed in this regard, namely those of Joseph Schumpeter (favoring market concentration as setting free innovation or "creative destruction") and of Kenneth Arrow (believing in a competitive market as fostering innovation).[7]

A more recent and commonly accepted assumption is that competition and innovation are in an inverted-U relationship: when the initial level of competition is low, competition is expected to have a positive impact on innovation; reversely, when competition is significant, the Schumpeterian effect is more likely to occur.[8] This, of course, is a simplified depiction of a debate that is still ongoing. As concerns antitrust, a

2 See Ariel Ezrachi & Maurice Stucke, *How Big-Tech Barons Smash Innovation – and How to Strike Back* (2022).

3 OECD & Eurostat (eds), "Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data" (2005) para 146.

4 See Josef Drexl, "Anticompetitive Stumbling Stones on the Way to a Cleaner World: Protecting Competition in Innovation without a Market" (2012) 8 *Journal of Competition Law & Economics* 507, 513.

5 Joseph L Bower & Clayton M Christensen, "Disruptive Technologies: Catching the Wave" (1995) 73 *Harvard Business Rev* 43, 45.

6 On the undecided nature of this debate, see Mariateresa Maggiolino, "The Economics of Antitrust and Intellectual Property Rights" in Steven D Anderman & Ariel Ezrachi (eds), *Intellectual Property and Competition Law: New Frontiers* (Oxford, Oxford University Press, 2011) 73, at 87.

7 Joseph A Schumpeter, *Capitalism, Socialism and Democracy*, 5th edn (London, Allen & Unwin 1976) 83 f; Kenneth J Arrow, "Economic Welfare and the Allocation of Resources to Invention" in National Bureau of Economic Research (ed), *The Rate and Direction of Inventive Activity* (Princeton, Princeton University Press 1962) 609, at 619-622; both discussed in more detail in Viktoria HSE Robertson, *Competition Law's Innovation Factor: The Relevant Market in Dynamic Contexts in the EU and the US* (Oxford, Hart Publishing 2020) 78 ff.

8 See e.g. Philippe Aghion et al., "Competition and Innovation: An Inverted-U Relationship" (2005) 120 *Quarterly Journal of Economics* 701.

more nuanced approach will need to consider several factors as regards innovation, namely the type of innovation at stake, whether it is radical or incremental innovation that is sought, industry and product characteristics pertaining to innovation, as well as a company's ability to appropriate innovation outcomes.[9] As innovation is dynamic and often only realized in the long run, while many antitrust tools were devised for static markets and often focus on the short term, this is a difficulty that both economists and lawyers need to overcome.[10]

For a long time, and perhaps to this day, antitrust's focus has been on immediate efficiency gains, leading to higher output and lower prices for consumers in the short term. It is therefore not surprising that antitrust needs to leave its comfort zone when incorporating innovation considerations that are inherently dynamic and often more long-term in nature.[11] When factoring innovation into the antitrust analysis, the time horizon must often be expanded considerably, and the focus must shift away from prices and output restrictions and consider innovation dynamics instead.[12] The questions we are left with are: How? And at what stage of the antitrust assessment?

Several attempts have been made to capture innovation for antitrust purposes, and we turn to these in the next sections. In doing so, we focus on the first steps of an antitrust assessment: market definition and the assessment of safe harbors.

III. MARKET DEFINITION AND INNOVATION

The delineation of the relevant market is a central step in any competition law analysis, be it anti-competitive agreements, abuse of market power or mergers. It is therefore not surprising that there have been many attempts to incorporate innovation-related considerations into market definition. However, the application of traditional methods for market definition in the face of innovation is challenging.[13]

An early effort to capture innovation considerations through market definition was the delineation of innovation markets in the U.S., which was first undertaken in the Department of Justice's International Enforcement Guidelines of 1988[14] and then again in the Intellectual Property Guidelines of 1995, jointly issued by the DOJ and the Federal Trade Commission.[15] This innovation market comprised "the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development."[16] It differs from a product market that already applies an earlier innovation, but also from future markets that will foreseeably introduce specific innovations and whose emergence is fairly certain.

Innovation, however, is not a regular market in which transactions can be observed.[17] Therefore, the application of the traditional market definition logic to innovation was largely not successful. In fact, the innovation market approach attempted to put its finger on innovation that occurred outside established antitrust markets.[18] The 2017 update to the IP Guidelines now uses a different term, namely R&D markets – that substantively is equivalent to innovation markets.[19] A central shortcoming of innovation or R&D markets, but also of technology markets, is that they strongly focus on price effects and output,[20] when they actually should focus on innovation effects.[21] Interestingly, the most recent version

9 Michael A Carrier, "Two Puzzles Resolved: Of the Schumpeter–Arrow Stalemate and Pharmaceutical Innovation Markets" (2008) 93 *Iowa Law Review* 393, 404-410.

10 Warning that economists should not preach innovation just to apply static analytical tools, see David J Teece, "Favoring Dynamic over Static Competition: Implications for Antitrust Analysis and Policy" in Geoffrey A Manne & Joshua A Wright (eds), *Competition Policy and Patent Law Under Uncertainty: Regulating Innovation* (Cambridge, Cambridge University Press, 2011) 203, 208 f.

11 Christina Bohannan & Herbert J Hovenkamp, *Creation without Restraint: Promoting Liberty and Rivalry in Innovation* (Oxford, OUP 2012) 238.

12 See e.g. James R Eiszner, "Innovation Markets and Automatic Transmissions: A Shift in the Wrong Direction?" (1998) 43 *Antitrust Bulletin* 297, 298.

13 European Commission, Draft for a Commission Notice on the definition of the relevant market for the purposes of Union competition law (2022) para 32.

14 U.S. Department of Justice, Antitrust Enforcement Guidelines for International Operations (1988).

15 U.S. IP Guidelines 1995. The FTC and DOJ Competitor Collaboration Guidelines of the year 2000 also rely on the innovation market approach; Federal Trade Commission and U.S. Department of Justice, Antitrust Guidelines for Collaborations among Competitors (April 2000) ("CC Guidelines").

16 U.S. IP Guidelines 1995, § 3.2.3.

17 See Richard T Rapp, "The Misapplication of the Innovation Market Approach to Merger Analysis" (1995) 64 *Antitrust Law Journal* 19, 27.

18 Drexl (*supra*, fn. 4) 517.

19 U.S. Department of Justice and Federal Trade Commission, Antitrust Guidelines for the Licensing of Intellectual Property (14 January 2017) (U.S. IP Guidelines 2017) § 3.2.3.

20 Richard J Gilbert, "Competition and Innovation" in ABA Section of Antitrust Law (ed), *Issues in Competition Law and Policy* (ABA Publishing 2008) 581.

21 On this, see Robertson (*supra*, fn. 7) 144.

of the U.S. Horizontal Merger Guidelines refers to the concept of "innovation competition," which might more aptly capture innovation efforts in a market setting.[22]

While the EU also briefly considered the concept of innovation markets,[23] it then moved to competition in innovation as a more realistic approach.[24] In two merger cases in 2017/18, innovation competition played a central role in the European Commission's assessment. In *Dow/DuPont*, the Commission defined "innovation spaces"[25] and then set out to investigate the merger's "impact … at the level of innovation efforts."[26] Similarly, in the later *Bayer/Monsanto* merger, the Commission looked at the transaction's impact on innovation spaces in addition to existing and future product markets.[27] It is not clear, however, to what extent these "innovation spaces" – which are also referred to in the recent draft for a new EU Market Definition Notice[28] – in fact differ from U.S.-style R&D markets.

Overall, a coherent approach to innovation competition and the capturing of innovation through market definition appears to be lacking.[29] While attempts to delineate self-standing "innovation markets" may have largely failed, in many cases that concept – or any one of its cousins – is not required in order to include innovation considerations into antitrust analyses. If we accept that market definition cannot provide the clear market boundaries that we often like to see in antitrust, then a more informative "market characterization"[30] can take place which emphasizes the innovation endeavors that are present (or lacking) in a certain market setting. This can then prepare the ground for including innovation considerations in the substantive analysis, especially in the case of regular product and technology markets.[31]

In the case of emerging markets, future markets can be relied upon that also need to consider – as comprehensively as possible – how the innovation situation may develop. Furthermore, potential competition can be used to include competitors that are able and likely to enter the market in the future.[32] Where antitrust analysis would like to capture innovation entirely outside of current or future markets, however, market definition as we know it will reach its limits. For this reason, in its draft for a new EU Market Definition Notice, the Commission proposes not to engage in a market delineation *strictu sensu* when faced with R&D that is not related to any identifiable product or technology market, but instead to "identify the boundaries within which undertakings compete in such earlier innovation efforts"[33] – something it has called innovation spaces in the past. Such an approach, however, can only be successful if the analysis relying on this type of market definition is mindful of its inherent uncertainty.

IV. AN INNOVATION SAFE HARBOR

Safe harbors are regularly used by competition authorities in their soft law guidance to allow companies an assessment of whether or not a certain behavior needs to be regarded as (potentially) problematic under the antitrust laws, or whether said behavior can come within a safe harbor that provides the actors with some legal certainty as to the legality of their business endeavors. These safe harbors often rely on market

22 U.S. Horizontal Merger Guidelines 2010, § 6.4. The 2023 draft that is currently open for feedback does not refer to innovation competition, but mentions innovation on 16 occasions; see U.S. Merger Guidelines – Draft of July 2023.

23 European Commission, Guidelines on the application of Article 81 of the EC Treaty to technology transfer agreements [2004] OJ C101/2, para 25.

24 European Commission, Guidelines on the application of Article 101 of the Treaty on the Functioning of the European Union to technology transfer agreements [2014] OJ C89/3, para 26.

25 Ibid, para 350.

26 *Dow/DuPont* (Case M.7932) Commission Decision of 27 March 2017 [2017] OJ C353/9, para 348 ("innovation spaces" were defined as "those spaces in which innovation competition occurs in the crop protection industry").

27 *Bayer/Monsanto* (Case M.8084) Commission Decision of 21 March 2018 [2018] OJ C456/10, paras 80 f.

28 European Commission, Draft for a Commission Notice on the definition of the relevant market for the purposes of Union competition law (2022) footnote 25.

29 Benjamin R Kern, "Innovation Markets, Future Markets, or Potential Competition: How Should Competition Authorities Account for Innovation Competition in Merger Reviews?" (2014) 37 *World Competition* 173, 175.

30 On this, see Robertson (*supra*, fn. 7) 55-56, 82.

31 At the same time, one should be mindful of the danger that leaving innovation considerations to the substantive analysis could lead to a bias in favor of a more static analysis; see Drexl (*supra*, fn, 4) 522 f.

32 George A Hay, "Innovations in Antitrust Enforcement" (1995) 64 *Antitrust Law Journal* 7, 13 f.

33 European Commission, Draft for a Commission Notice on the definition of the relevant market for the purposes of Union competition law (2022) para 91.

share thresholds combined with black-listed clauses, meaning that they presuppose an earlier delineation of the relevant market.[34] In order to take innovation aspects into account when applying such a safe harbor, however, the U.S. antitrust agencies construed safe harbors differently for technology markets and for innovation ("R&D") markets "if market share data are unavailable or do not accurately represent competitive significance."[35]

Under the 2017 U.S. IP Guidelines, the safety zone for technology markets applies if four or more independently controlled technologies exist in addition to the technologies controlled by the parties to the licensing agreement, and those technologies are considered viable substitutes for the licensed technology (the "4+1 rule"). For R&D markets, the safety zone applies if four or more independently controlled entities exist in addition to the parties to the licensing agreement, and those entities "possess the required *specialized assets* or characteristics and the *incentive* to engage in research and development that is a close substitute of the research and development activities of the parties to the licensing agreement."[36] Instead of relying on market shares in innovation-centered markets, the U.S. antitrust agencies consider the number of viable competitors in a given field. This is because for innovation-centered markets, competition issues will usually only arise if access to specialized assets required for innovation is limited.[37] If access to the required assets is widely available, competition will not be dampened.

In 2022, the European Commission intended to implement a similar "3+1 rule" in its Horizontal Cooperation Guidelines.[38] While the Commission's safe harbors in its soft law are typically also based on market shares in combination with a black list, the Commission realized that this approach cannot capture competitor collaboration in cases in which innovation is at stake, but no product or technology market (present or future) has emerged yet. The draft therefore foresaw that the market share threshold would be replaced by the number of actors active in a certain field of innovation, as long as no product or technology market could be discerned.

Similar to the U.S. safety zones set out above, competitor collaboration would thus be exempt from antitrust scrutiny where three innovators in addition to the collaborating parties were present on the market.[39] However, the draft was met with considerable criticism from the industry that was concerned about how to identify competing R&D poles that had not yet reached the market.[40] The final version of the Guidelines, published in June 2023, no longer contains this rule.[41] This again goes to show the complexities and hurdles when trying to introduce a more innovation-conscious approach to competition law.

While the 4+1 rule has existed in the guidance issued by the FTC and the DOJ for a long time, the 3+1 rule was ultimately not implemented in EU soft law in 2023. This means that for innovation-centered market situations in which no relevant market has yet emerged, there is a risk that the Commission will continue to err on the side of caution – possibly to the detriment of emerging innovation.

V. OUTLOOK

In modern dynamic markets, turning a blind eye to innovation can no longer be justified in antitrust enforcement, something that is increasingly acknowledged by competition authorities around the world. In high-tech markets in particular, an inadequate integration of innovation consider-

34 E.g. see U.S. IP Guidelines 2017, § 4.3.

35 *Ibid.*

36 *Ibid* (emphasis added).

37 Richard J Gilbert & Steven C Sunshine, "Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets" (1995) 63 *Antitrust Law Journal* 569, 588; Kent Bernard, "Innovation Market Theory and Practice: An Analysis and Proposal for Reform" (2011) 7 *Competition Policy International* 159, 162.

38 See Viktoria HSE Robertson, "Block Exemption for Innovators under the Draft R&D BER: The 3+1 Rule" (WCNA Conference 2.0, 9 November 2022).

39 European Commission, Approval of the content of a draft for a Commission Regulation on the application of Article 101(3) of the Treaty on the Functioning of the European Union to certain categories of research and development agreements, C(2022) 1161 final, art 6 para 3 and art 7 para 2; European Commission, Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (Draft, March 2022), paras 126 ff, 141 ff.

40 See European Commission, "Public consultation on the draft revised Horizontal Block Exemption Regulations and Horizontal Guidelines" (2022) https://competition-policy.ec.europa.eu/public-consultations/2022-hbers_en. It should be pointed out, of course, that no major R&D project will be financed unless the financier has engaged in market intelligence in order to know whether it is worth investing (often millions) in certain R&D – thus giving the innovator a fairly good idea of the innovation efforts around them.

41 Commission Regulation (EU) 2023/1066 of 1 June 2023 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to certain categories of research and development agreements, OJ 2023 L 143/9, art 6 para 2; Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements, C(2023) 3445 final, para 97.

ations is bound to lead to under- or over-enforcement errors that can be costly for economies and societies, sometimes even entirely preventing value-creating disruptive innovation from emerging.

Market definition and the assessment of safe harbors aptly illustrate the challenges that competition enforcers need to grapple with when integrating innovation in their decision-making. The question of how to incorporate innovation concerns is highly contingent on the essential question of the relationship between competition and innovation, which remains heavily contested. Despite the surrounding uncertainty, tapping into the knowledge generated through theoretical and empirical studies on this topic is a good first step towards evidence-based competition policy. For instance, there is some emerging consensus that factors including market contestability and appropriability (i.e. the ability to capture profits from innovation) are positively associated with innovation.[42]

Whereas the question of how to adequately capture innovation will inevitably continue to be the subject of discussions, it is safe to claim that innovation considerations should span a range of antitrust analyses and frameworks. From market definition and safe harbors to the analyses of theories of harm, remedies and justifications, innovation will need to start featuring more prominently in all these stages of antitrust analysis – even though some might be more flexible than others to integrate innovation. Furthermore, and as discussed above, the dilemmas related to how and at which stage to integrate innovation are unlikely to be properly resolved unless antitrust as a discipline reaches a consensus on an even more fundamental – and certainly highly contestable – issue, namely the type of innovation that antitrust should seek to promote. What parameters should be employed to distinguish between "good" and "bad" innovation? How can antitrust feed into a mission-oriented innovation policy? Who should be tasked with conducting such assessments? As of now, these are unanswered questions. Despite the layer of complexity that these questions add to an already complex dimension of antitrust, we must not shy away from addressing them.

42 OECD, "Competition and Innovation, Part I: a theoretical perspective – Background Note" DAF/COMP(2023)2 (2023) paras 27, 28, 101.

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