Mergers by Other Means? AI Partnerships and the Frontiers of (Post-)Industrial Organization

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Abstract

The surge of artificial intelligence (AI) has ushered in a new era of collaboration between tech giants and AI startups, reshaping competition dynamics. AI partnerships, i.e., deals between Big Tech firms and AI startups, pose a challenge for competition law. Existing competition law instruments, from Articles 101 and 102 of the Treaty on the Functioning of the European Union (TFEU) to the EU Merger Control Regulation, struggle to address the nuances of these new modes of organizing economic activity. Using the Microsoft–OpenAI partnership as a case study, this chapter highlights the need to balance innovation incentives with competition concerns.

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I. Introduction

Artificial intelligence (AI) is the talk of the town. AI systems, from self-driving vehicles to medical imaging analysis tools to attention-grabbing generative AI models, are already transfiguring our daily lives.[3] Their impact on how we acquire information and perform routine tasks—from writing emails to self-diagnosing minor injuries—is palpable.[4] Public-facing AI systems—i.e., systems directly available to the general public—have generated an unprecedented hype: it took the AI-powered ChatGPT chatbot only five days to reach the milestone of one million users.[5] By comparison, Instagram needed 76 days, and Netflix almost 1,300.[6] In two months, ChatGPT's user base rose to 100 million.[7]

The hype did not go unnoticed. In disciplines ranging from ethics to computer science, significant academic efforts have been channeled towards understanding, explaining, and trying to tame AI systems.[8] Legal scholars and regulators alike have also done their job. The EU made headlines last December pursuant to the adoption of the AI Act, dubbed "the world's first rules on AI"; ever since, much was written on how (not) to regulate AI systems.[9] Nonetheless, a persistent gap remains in the legal literature. The emphasis has so far been almost exclusively on the technological advances enabled by AI and the risks and benefits associated with them. Contrastingly, discussions on how companies active in the AI space are structured and governed are scarce.

There is a fundamental reason why we should address this question: AI firms are pushing not just the frontiers of technology, but also the boundaries of the organization of industry, with important consequences for market competition and innovation outcomes. Two examples are noteworthy.[10]

First, when OpenAI's board of directors decided to increase the entity's ability to raise capital, they opted for the creation of a subsidiary which took an unprecedented form—a "capped-profit" company which enables investors and employees to get returns but capped by a fixed rate.[11] The company's refusal to adopt a standard corporate structure seems to be underlined by a belief that AI systems are unlike any other technologies. Indeed, there is a

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[3] Jamie Berryhill et al., *Hello, World: Artificial Intelligence and Its Use in the Public Sector* (OECD PUBL'G, Working Papers on Public Governance No. 36, 2019); Mickael Brossard et al., *Deep learning in product design*, MCKINSEY (Dec. 14, 2022), https://www.mckinsey.com/capabilities/operations/our-insights/deep-learning-in-product-design.

[4] Delphine Strauss, *The Algorithms by Hilke Schellmann—Why AI Really Is Coming for Your Job*, FIN. TIMES (Apr. 28, 2024), https://www.ft.com/content/e27ee51f-ea02-4489-b223-51fed88fd6a8; Sam Sabin, *ChatGPT-written Phishing Emails Are Already Scary Good*, AXIOS (Oct. 24, 2023), https://www.axios.com/2023/10/24/chatgpt-written-phishing-emails; Muhammad Sufyan et al., *Artificial intelligence in Cancer Diagnosis and Therapy: Current Status and Future Perspectives*, 165 COMPUT. BIOL. MED. 107356 (2023).

[5] *Adoption Rate for Major Milestone Internet-Of-Things Services and Technology in 2022, in Days*, STATISTA (Dec. 2022), https://www.statista.com/statistics/1360613/adoption-rate-of-major-iot-tech/.

[6] *Id.*

[7] Michael Chui et al., *What Every CEO Should Know about Generative AI*, MCKINSEY (May 12, 2023), https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/what-every-ceo-should-know-about-generative-ai.

[8] Stanford AI Alignment, *AI Might Change the World as We Know It*, SAIA (2024), https://stanfordaialignment.org/ (laying down the key stakes for the development of AI systems).

[9] European Parliament, *EU AI Act: First Regulation on Artificial Intelligence*, (updated June 18, 2024), https://www.europarl.europa.eu/topics/en/article/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence (referring to the AI Act as "the world's first comprehensive AI law").

[10] There are, however, other developments worth mentioning. A notable example is the emergence of open-source foundation models. *See* Thibault Schrepel & Jason Potts, *Measuring the Openness of AI Foundation Models: Competition Policy and Implications*, (SCIS PO CHAIR DIGIT., GOVERNANCE & SOVEREIGNTY, Working Paper, 2024), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4827358.

[11] *OpenAI LP*, OPENAI (Mar. 11, 2019), https://openai.com/index/openai-lp/ (explaining the functioning and role of the OpenAI LP as a "capped-profit" company).

widespread conviction that AI can "create unprecedentedly large externalities, ranging from national security risks, to large-scale economic disruption, to fundamental threats to humanity, to enormous benefits to human safety and health."[12] As a consequence of these features of the industry, a similar non-standard entity has been crafted for Anthropic, another prominent AI firm, which opted for a "Long-Term Benefit Trust".[13] These legal innovations testify to the need for bespoke and unusual legal structures to meet the governance requirements of firm active at in the AI space, calling into question the fitness of legal institutions, designed for the economy of the past century, for the dynamics of contemporary markets.

Second, AI firms do not operate in isolation: they are often involved in close-knit partnerships with larger companies with an established foothold in digital markets. Microsoft has partnerships with OpenAI and Mistral which involve multi-billion dollar investments, close collaboration in research and development (R&D), and certain exclusivities.[14] Amazon poured several billion dollars into Anthropic as part of a renewed agreement under which Anthropic will use Amazon Web Services (AWS) as its main cloud provider, as well as Amazon's chips.[15] The list can go on: the UK Competition and Markets Authority (CMA) counted, as of April 2024, more than 90 partnerships, each of which involved one of the Big Tech firms (i.e., Google, Amazon, Meta, Microsoft, Apple and Nvidia) and smaller actors developing AI capabilities.[16]

These partnerships have already caught the attention of competition authorities on both sides of the Atlantic. The UK's CMA and the German Bundeskartellamt (BKA) have assessed the applicability of the merger control framework to the Microsoft–OpenAI partnership.[17] The latter agency has concluded that the merger control regime remains inapplicable for now, whereas the former's investigation is pending.[18] The European Commission has also decided not to proceed with a merger review, but is looking into whether the partnership breaches the rest of the antitrust toolkit.[19]

Although these partnerships are not mergers in the traditional sense of uniting two firms into one,[20] the question whether they should be assessed as such is legitimate. Since antitrust laws aim to deal with economic realities,

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[12] *The Long-Term Benefit Trust*, ANTHROPIC (Sept. 19, 2023), https://www.anthropic.com/news/the-long-term-benefit-trust.

[13] *Id.*

[14] *OpenAI and Microsoft Extend Partnership*, OPENAI (Jan. 23, 2023), https://openai.com/index/openai-and-microsoft-extend-partnership/; *Microsoft and Mistral AI Announce New Partnership to Accelerate AI innovation and Introduce Mistral Large First on Azure*, MICROSOFT CORP. BLOGS (Feb. 26, 2024), https://azure.microsoft.com/en-us/blog/microsoft-and-mistral-ai-announce-new-partnership-to-accelerate-ai-innovation-and-introduce-mistral-large-first-on-azure/.

[15] *Amazon and Anthropic Deepen Their Shared Commitment to Advancing Generative AI*, AMAZON (Mar. 27, 2024), https://www.aboutamazon.com/news/company-news/amazon-anthropic-ai-investment.

[16] COMPETITION & MARKETS AUTHORITY, AI FOUNDATION MODELS: TECHNICAL UPDATE REPORT (Apr. 16, 2024), at [hereinafter CMA TECHNICAL UPDATE] (note that the paper does not mention any partnerships not involving big tech firms and thus paints an incomplete picture of the industry).

[17] Competition and Markets Authority, *Microsoft/OpenAI Partnership Merger Inquiry*, (Dec. 8, 2023), https://www.gov.uk/cma-cases/microsoft-slash-openai-partnership-merger-inquiry; Bundeskartellamt Press Release, Cooperation between Microsoft and OpenAI Currently Not Subject to Merger Control, (Nov. 15, 2023), https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2023/15_11_2023_Microsoft_OpenAI.html.

[18] According to industry news, Microsoft expects the CMA to launch a Phase I investigation of its relationship with OpenAI. Bethan John, *Microsoft Prepares for Formal CMA Probe into OpenAI Partnership*, GLOB. COMPETITION REV. (May 23, 2024), https://globalcompetitionreview.com/article/microsoft-prepares-formal-cma-probe-openai-partnership.

[19] Javier Espinoza & Tim Bradshaw, *Brussels Explores Antitrust Probe into Microsoft's Partnership with OpenAI*, FIN. TIMES (June 28, 2024), https://www.ft.com/content/cdb1ab92-9148-47c4-add1-a079a7652ddb.

[20] Marshall Hargrave, *Merger*, INVESTOPEDIA (June 12, 2024), https://www.investopedia.com/terms/m/merger.asp.

bypassing legal formalities,[21] it comes as no surprise that competition agencies are concerned about the extent to which an up-and-coming entity reliant on funding and critical infrastructure provided by a big player can retain its agency and operate independently of the demands of its sponsor and/or supplier. Furthermore, the European Merger Control Regulation (EUMR) targets "concentrations" which arise pursuant to "a change of control on a lasting basis,"[22] appearing at first sight malleable enough to capture these unusual arrangements. Nonetheless, as we show later, a deeper look at the notion of "control" and the relevant thresholds to be met complicates matters. So does the fact that merger control is neither the only tool in the box nor necessarily the sharpest. As these partnerships are *collaborations* between separate entities, wouldn't Article 101(1) TFEU be a better framework for the competitive assessment, offering the possibility of redemption under Article 101(3)?

The novelty of these partnerships that define the AI market environment makes it impossible to reach any definitive conclusions as of now, and regulators are right to take their time before declaring them anti-competitive from the outset. However, because competition authorities will have to deal with this question imminently, we aim to provide an overview of the challenges that AI partnerships pose to the EU competition law framework. The goal is not to provide any definitive answers, but rather to map out the questions that should guide the competitive assessment.

The chapter is structured as follows. Section two provides an overview of existing AI partnerships, zooming in on the Microsoft–OpenAI collaboration. The third section leverages the industrial organization (IO) literature on inter-firm cooperation, which points in the direction that AI partnerships are neither mergers nor contracts between fully independent market actors, but rather third-type hybrid entities that are currently not recognized by antitrust laws. The fourth section provides an overview of the European competition law instruments that could catch AI partnerships, exploring their relative fitness. The conclusion summarizes the findings of the chapter, highlighting what we know, and most importantly, what we don't know, about AI partnerships.

Jurisdictionally, we focus exclusively on the EU regime. Nonetheless, it is worth noting that the US antitrust rules are more malleable than their European counterparts. Section 7 of the Clayton Act has a broad reach—it catches any acquisitions of stocks or assets which may substantially lessen competition or tend to create a monopoly, even when these acquisitions do not involve the conferral of control.[23] This may mean that even the attribution of certain governance rights could potentially be scrutinized.[24] Furthermore, Section 1 of the Sherman Act prohibits "any *contract* […] in restraint of trade," and could thus be activated against these contractual arrangements.[25] Despite the fact that a comparative analysis falls beyond the scope of this chapter, it is interesting to observe that US antitrust laws seem to be better equipped to capture AI partnership. Whether or not this will translate into more aggressive enforcement is an open question.

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[21] Mariana Pargendler et al., *Family Ties and the Boundaries of the Firm in Antitrust Law*, *in* RESEARCH HANDBOOK ON COMPETITION AND CORPORATE LAW 2 (Florence Thépot & Anna Tzanaki eds., forthcoming Oct. 2024); Herbert Hovenkamp, *American Needle and the Boundaries of the Firm in Antitrust Law*, 14 (Aug. 15, 2010), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1616625.

[22] Council Regulation (EC) 139/2004 on the control of concentrations between undertakings (EC Merger Regulation), 2004, O.J. (L 24) 1, art. 3(1).

[23] Denver & Rio Grande W. RR. Co. v. U.S., 387 U.S. 485 (1967); U.S. v. E.I. du Pont de Nemours & Co., 353 U.S. 586 (1957).

[24] For an analysis, *see* Ana Tzanaki, *Minority Shareholdings*, *Global Dictionary of Competition Law*, CONCURRENCES, art. No. 89176. www.concurrences.com/89176.

[25] Sherman Act 15 U.S.C. §§ 1.

II. If You Can't Acquire Them, Team Up with Them: AI Partnerships

The cemented market power of Big Tech firms has long been a focal point of scrutiny for antitrust watch dogs around the world.[26] These players have been exerting unparalleled influence over digital markets by controlling access to online platforms and digital services, and allegedly impeding the entry of new players.[27] Then, all of a sudden, the release of natural language processing chatbots driven by generative AI seemed to give rise to a textbook example of Schumpeterian creative destruction. Some voices proclaimed the advent of ChatGPT as the end of Google Search.[28] Others went as far as to declare the emergence of public-facing AI systems as a broader shift from the dominant pattern of Web2 business in which "applications are developed, delivered, and monetized in a proprietary way" to a new economy defined by "open standards and protocols," "control no longer centralized in large platforms and aggregators," and "governance [taking place] in the community rather than behind closed doors."[29]

Fearing these developments, Big Tech firms came up with unique ways of mitigating the competitive threat. While the Big Tech companies dominate the Web2 space, they have been lagging behind small, up-and-coming startups which seem to have a competitive advantage in the AI space. Embracing the wisdom of the adage "if you can't beat them, join them," the Big Tech firms started to look for backdoor entry in the emerging AI space. Instead of competing, the chosen option was collaboration: the mammoths of Web2 were quick to enmesh themselves in close partnerships with promising AI startups. These partnerships are more than just financing agreements: on top of billions of dollars, AI firms receive access to cloud computing, accelerator chips, sizable databases, and, perhaps most importantly—a customer base.[30] These are critical inputs which are all but impossible to replicate by small firms. It is unclear, though, what the Big Tech firms receive in exchange. Some partnerships come with exclusive licenses of IP rights, while others are limited to non-exclusive commitments to make any resulting AI systems compatible with the existing infrastructures of Web2 companies. For example, the partnership between Apple and OpenAI is a non-exclusive deal involving the integration ChatGPT capabilities into the iOS, iPadOS and MacOS ecosystems as a "plug-in," meaning that "any AI models developed in the future which will surpass ChatGPT will be easy to add."[31]

Understanding the nuts and bolts of these agreements and the exact purpose they serve is a hard task, for two reasons. First, the Big Tech firms have systematically downplayed their importance, highlighting that they do not hold any ownership stakes and that all collaborating parties remain free to commercially exploit the resulting

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[26] The epitome of the backlash against Big Tech is the EU's adoption of the Digital Markets Act. *See* Commission Regulation 2022/1925 of the European Parliament and of the Council of Sept. 14, 2022, on Contestable and Fair Markets in the Digital Sector and Amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act, hereinafter DMA), 2022, O.J. (L 265) 1.

[27] Jorge Guzman & Scott Stern, *The State of American Entrepreneurship*, 12 AM. ECON. J. 212 (2020) (finding that the increasing power of incumbents is one of the reasons why less startups succeed).

[28] Bernard Marr, *Is Google's Reign Over? ChatGPT Emerges as a Serious Competitor*, FORBES (Feb. 20, 2023, 03:36 AM EST), https://www.forbes.com/sites/bernardmarr/2023/02/20/is-googles-reign-over-chatgpt-emerges-as-a-serious-competitor/.

[29] Anutosh Banerjee et al., *Web3 Beyond the Hype*, MCKINSEY (Sept. 26, 2022), https://www.mckinsey.com/industries/financial-services/our-insights/web3-beyond-the-hype.

[30] CMA TECHNICAL UPDATE, *supra* note 14.

[31] John Koetsier, *Apple, ChatGPT, iOS 18: Here's How It Will Work*, FORBES (June 10, 2024, 05:18 PM EDT), https://www.forbes.com/sites/johnkoetsier/2024/06/10/apple-chatgpt-ios-18-heres-how-it-will-work/; *OpenAI and Apple Announce Partnership to Integrate ChatGPT into Apple Experiences*, OPENAI (June 10, 2024), https://openai.com/index/openai-and-apple-announce-partnership/; *Introducing Apple Intelligence, the Personal Intelligence System That Puts Powerful Generative Models at the Core of iPhone, iPad, and Mac*, APPLE (June 10, 2024), https://www.apple.com/newsroom/2024/06/introducing-apple-intelligence-for-iphone-ipad-and-mac/.

technologies. Second, even if we had access to the granularity of the agreements, there arguably is much more to these collaborations than can be captured by written contractual provisions. More often than not, such agreements remain deliberately vague, enabling collaborating parties to renegotiate and reconfigure the design of their collaborations.[32] This vagueness, however, represents a feature, not a bug: the contracts at stake are meant to represent "framework agreements describe the cooperative behavior in which parties agree to engage" and not exhaustive to-do lists which bind the parties to concrete courses of action.[33]

The CMA identified an "interconnected web" of over 90 partnerships and "strategic investments" involving Big Tech firms and AI startups.[34] The epitome of this phenomenon is the Microsoft–OpenAI deal: a closer look at its intricacies illustrates the dynamics of these collaborations. Since 2019, Microsoft has made several multi-billion-dollar investments in OpenAI and its flagship generative AI chatbot, ChatGPT. In January 2023, the alliance entered its third phase: on top of an additional investment of $10 billion, Microsoft would deploy OpenAI's models across its products and its cloud-computing platform, and Azure would become the exclusive cloud provider for OpenAI.[35] Despite these significant inter-links, Microsoft denied any form of control over its partner. The gatekeeper has emphasized OpenAI's complete discretion over its R&D strategy and the absence of any formal governance rights.[36]

The reality, however, is more complicated. Since March 2019, the original OpenAI non-profit entity has a for-profit subsidiary, OpenAI LP. Most recently, the company's CEO Sam Altman has declared the company could morph into a for-profit entity.[37] In its current structure, the LP takes an unusual form: it is a "capped-profit" company which places a limit on the returns investors can claim, i.e., when the profits earned by the LP are higher than 100 times the initial investment, the outstanding sums are automatically redirected to the OpenAI non-profit.[38] The operations of the LP are foreseen by the OpenAI non-profit's board, where Microsoft does not have any seats. But the lack of formal governance rights does not translate into a lack of involvement of Microsoft in the management of the entity. During the November 2023 crisis, when the board decided to fire Sam Altman from his role as CEO, Microsoft pushed for his return and subsequently obtained a non-voting observer role on the board. The reality of Microsoft's influence over the management of OpenAI seems much divorced from the Web2 giant's claims that it is "simply entitled to a share of profits." Some commentators have pointed out that the structure of the partnership seems to have been deliberately engineered with the strategic aim to circumvent

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[32] Matthew Jennejohn, *The Private Order for Innovation Networks*, 68 STAN. L. REV. 334 (2016) (explaining that in the context of collaborations for highly innovative products or services, the parties involved rely on flexible contractual terms rather than restrictive clauses).

[33] Alan Schwartz & Simone Sepe, *Contract Remedies for New Economy Collaborations*, 101 TEX. L. REV. 5–6 (forthcoming).

[34] CMA TECHNICAL UPDATE, *supra* note 14.

[35] *Microsoft and OpenAI extend partnership*, MICROSOFT CORP. BLOGS (Jan. 23, 2023), https://blogs.microsoft.com/blog/2023/01/23/microsoftandopenaiextendpartnership/ (detailing the specifics of the renewed agreement).

[36] Nicholas Hirst, *Microsoft-OpenAI Partnership Drives Competition and Innovation, Senior Company Lawyer Says*, MLEX (Apr. 23, 2024, 11:20 AM GMT), https://mlexmarketinsight.com/news/insight/microsoft-openai-partnership-drives-competition-innovation-senior-company-lawyer-says.

[37] *OpenAI CEO Says Company Could Become For-Profit Corporation, The Information Reports*, REUTERS (June 15, 2024, 06:37 AM GMT+1), https://www.reuters.com/technology/artificial-intelligence/openai-ceo-says-company-could-become-benefit-corporation-information-2024-06-15/#:~:text=June%2014%20(Reuters)%20%2D%20OpenAI,The%20Information%20reported%20on%20Friday.

[38] Tim Bradshaw et al., *How Microsoft's Multibillion-Dollar Alliance with OpenAI Really Works*, FIN. TIMES (Dec. 15, 2023), https://www.ft.com/content/458b162d-c97a-4464-8afc-72d65afb28ed.

regulatory oversight. Others have gone as far as to declare that "while billed as a partnership, the deal looks more like a killer acquisition."[39]

The Microsoft–OpenAI deal is not one of a kind. In February 2024, Microsoft announced that it had entered into a similar arrangement with Mistral AI, a French startup, commercializing AI products.[40] Likewise, Amazon funded Anthropic—one of OpenAI's strongest competitors—a total of $4 billion as part of a partnership which also included agreements for purchasing computing capacity and non-exclusive commitments to make Anthropic's models available on Amazon's existing infrastructure. The sweeping presence of the largest technology firms in the booming AI space raises legitimate concerns about the ability of gatekeepers to undermine competitive dynamics to the detriment of consumer welfare. This ability stems not only from the risk of leveraging their established market power in these neighboring markets,[41] but also—and *especially*—from their control of key assets for the development of foundation models (FM), i.e., chips, computing power, and customer bases.[42] Commentators were quick to point out that "with vanishingly few exceptions, every startup, new entrant, and even AI research lab is dependent on these firms."[43] This is because they "all rely on the computing infrastructure of Microsoft, Amazon, and Google to train their systems, and on those same firms' vast consumer market reach to deploy and sell their AI products."[44] These skeptical voices argue that these partnerships give Big Tech profound influence over the trajectory of AI,[45] and that the promise that AI technologies will "give back control of data and its benefits to individuals and communities" is illusory.[46]

It is too early for any doomsday scenarios. Before reaching any sweeping conclusion as to the negative impact of partnerships between Big Tech firms and AI startups, a required—yet often overlooked—step is to assess the counterfactual scenario. Would the public-facing AI products that are already part and parcel of our everyday lives have reached the market as quickly as they have without these partnerships? OpenAI claims that the multi-billion dollar investment from Microsoft "allow[s] [them] to continue [their] independent research and develop AI that is increasingly safe, useful, and powerful."[47] Even anti-Big-Tech voices agree that "for companies hoping to build base models, there is little alternative to working with either Microsoft, Google, or Amazon."[48] The reality is that building FM requires access to the aforementioned critical inputs—accelerator chips, computing power via the cloud, and data for training models—which are as of now held almost exclusively by Big Tech firms.[49] The question, then, is whether we prefer a world in which AI startups fail due to their inability to access critical inputs, or the current one in which they succeed through partnerships with Big Tech players. In its research paper on FM,

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[39] Courtney Radsch, *The Real Story of the OpenAI Debacle is the Tyranny of Big Tech*, THE GUARDIAN (Nov. 27, 2023, 11:02 AM GMT), https://www.theguardian.com/commentisfree/2023/nov/27/openai-microsoft-big-tech-monopoly.

[40] MICROSOFT CORP. BLOGS, *supra* note 12.

[41] FRISO BOSTOEN, ABUSE OF PLATFORM POWER—LEVERAGING CONDUCT IN DIGITAL MARKETS UNDER EU COMPETITION LAW AND BEYOND (Concurrences 2023); *see also* Radsch, *supra* note 37 (arguing that the emerging AI space is already controlled by existing big tech players).

[42] CMA TECHNICAL UPDATE, *supra* note 14.

[43] Amba Kak et al., *Make No Mistake—AI is Owned by Big Tech*, MIT TECH. REV. (Dec. 5, 2023), https://www.technologyreview.com/2023/12/05/1084393/make-no-mistake-ai-is-owned-by-big-tech/.

[44] *Id.*

[45] *Id.*

[46] Alex Pentland, *Building a New Economy: Data, AI, and Web3*, 65 COMMC'NS ACM 27 (2022).

[47] OPENAI, *supra* note 12.

[48] Kak et al., *supra* note 41.

[49] CMA TECHNICAL UPDATE, *supra* note 14.

the CMA noted that "such partnerships […] may be an essential ingredient for the success of independent developers."[50] A prominent technology think tank has noted that such "partnerships [are] the catalyst for the current wave of innovation and competition in generative AI," and that rather than killing competition, they nourish it, by enabling the AI startups to grow into viable companies.[51]

There is no correct answer to the question whether these partnerships are a positive development. Until we have more data as to how AI startups will evolve and what impact the Big Tech partners have on their governance, any answer is bound to be a byproduct of political economy preferences. Pro-innovation voices will favor these collaborations, whereas anti-bigness sentiments will advocate for nascent AI players to develop their own capabilities in-house, even at the cost of delaying product development, slowing innovation, and potentially translating into consumer welfare losses. We are only at the beginning of this conversation. The CMA's investigation into the evolution of FM is ongoing—an updated report is expected to be published in Autumn 2024. The European Commission is also expected to look closely into the patterns of AI arrangements.[52] Nonetheless, before more data becomes available, a task that can be performed is to survey what the economic literature can teach us about inter-firm partnerships and how they can be approached by regulators. The next section delves into this subject.

III. Post-Industrial Organization

When competition lawyers think about how interactions between firms should be structured, the vision that comes to mind is highly influenced by the textbook model of perfect competition. In this ideal scenario, there are many firms without market power and, most importantly, they operate in isolation, as independent atoms. The AI partnerships introduced in the previous section are difficult to fit into this framework, as they involve close-knit collaborations between market actors that remain nominally independent but have significant joint operations. To theorize them, we need to rely on a different economic toolkit.

IO economics has made significant advances in understanding the functioning of real-life markets and firms. The crux of this literature is to make sense of how economic activities are structured and to assess why they take different forms, ranging from firms to inter-firm collaborations to market transactions between separate actors. Consequently, this literature is best suited to explain the emergence of inter-firm partnerships as a recurrent mode of doing business in the AI space.

The starting point for this strand of literature was Ronald Coase's seminal piece *The Nature of the Firm*, which is credited for the insight that there are two different modes of organizing economic activity—firms and markets—and each come with their own costs and benefits.[53] Nonetheless, a lesser-known insight of the Coasean piece is

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[50] *Id.* at § 44.

[51] Daniel Castro & Aswin Prabhakar, Comments to the UK's Competition and Markets Authority on Microsoft's Partnership with OpenAI, ITIF (Dec. 14, 2023), https://itif.org/publications/2023/12/14/comments-to-uks-competition-markets-authority-on-microsofts-partnership-with-openai/.

[52] Lewis Croft, *Pattern of AI Deals Dodging Merger Review May Draw EU Scrutiny, Guersent Says*, MLEX (Apr. 11, 2024, 22:57 PM GMT), https://mlexmarketinsight.com/news/insight/pattern-of-ai-deals-dodging-merger-review-may-draw-eu-scrutiny-guersent-says#:~:text=Mergers%20%26%20Acquisitions-,Pattern%20of%20AI%20deals%20dodging%20merger,draw%20EU%20scrutiny%2C%20Guersent%20says&text=Microsoft%2C%20Amazon%2C%20Google%20and%20others,that%20have%20avoided%20merger%20scrutiny.

[53] Ronald Coase, *The Nature of the Firm*, 4 ECONOMICA 286 (1937).

that the distinction between the two types of structures is not that sharp. In Coase's view, firms are bundles of transactions that are placed under a centralized authority, i.e., a management structure.[54] They emerge because reliance on management helps save certain costs, the most important of which is the cost of discovering and negotiating the price of each input that is being transacted. These costs are referred to in the literature as "transaction costs," or, in layman terms, "costs within markets."[55] On the flip side, firms come with their own "management costs": acquiring information about different sub-units, transmitting orders, overseeing their implementation, etc. Since both firms and markets have their own costs and benefits, there is no point in talking about one or the other as being more efficient. Centralized authority is a better fit for some transactions, while others are more efficiently carried out in markets as arms-length negotiations between independent actors.

The Coasean insight that firms are bundled transactions was taken further by Oliver Williamson, who argued that instead of thinking of the organization of economic activity as bifurcated between firms and markets, we need to analyze each individual transaction as a relevant unit and assess what governance framework is best suited for it.[56] Building on this, Williamson argued that some governance frameworks are "hybrid," i.e., are neither firms, nor markets, but intermediary organizations which need to be theorized in their own right. These hybrid modes include "various forms of long-term contracting, reciprocal trading, […] and the like" and are based on "elastic" contracts which leave collaborating parties with plenty of room for maneuver in case of changing circumstances or expectations.[57] IO economists have labeled these contracts as "relational" because they represent the backbone of close inter-firm relations that are characterized by repetitive, long-term collaborations which often involve the joint execution of economic functions traditionally associated with firms, such as research and development activities.[58] To enable such close collaborations, these relational contractual arrangements are not confined to written contracts, but are made out of "a rich braiding of explicit—legally enforceable—and implicit—legally unenforceable obligations."[59] Think of the dynamics of the Microsoft–OpenAI partnership, particularly the events of November 2023: while legally Microsoft did not have any governance rights, the company was heavily involved in the reinstatement of Sam Altman as CEO of OpenAI.[60] Even if Microsoft's sizeable financial investment did not come with any written expectations of a specific governance configuration, in practice the sponsor could enforce its unwritten demands that "things at OpenAI be done by the book."[61]

The existence of long-term, close-knit partnerships between firms is nothing new. Williamson documents a decades-long coal supply agreement between a coal company and a fur trading company dating back to the 1960s, which was based on a contract mandating high levels of information disclosure and adaptation in case of unforeseen circumstances. This is not an isolated agreement. Business historians have argued that "long-term

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[54] *Id.*

[55] Harold Demstez, *The Theory of the Firm Revisited*, IV J.L. ECON. & ORG. 142 (1988).

[56] Oliver E. Williamson, *Comparative Economic Organization: The Analysis of Discrete Structural Alternatives*, 36 ADMIN. SCI. Q. 269 (1991); OLIVER E. WILLIAMSON, MARKETS AND HIERARCHIES: ANALYSIS AND ANTITRUST IMPLICATIONS (The Free Press 1975).

[57] Williamson (1991), *supra* note 54.

[58] George Baker, Robert Gibbons & Kevin J. Murphy, *Relational Contracts and the Theory of the Firm*, 117 Q. J. ECON. 40 (2002).

[59] Ronald J. Gilson, Charles F. Sabel & Robert E. Scott, *Contracting for Innovation: Vertical Disintegration and Interfirm Collaboration*, 109 COLUM. L. REV. 431, 435 (2009).

[60] Bradshaw et al., *supra* note 36.

[61] *Id.*

relationships […] between otherwise independent economic actors in which the parties voluntarily choose to continue dealing with each other for significant periods of time" represent "an intermediate form [that] is distinctive and common enough" to be recognized as a form of economic organization *sui generis*.[62] Tracing the evolution of American business, Lamoreaux notes that in the late twentieth century hybrid forms became increasingly frequent, highlighting that this phenomenon was likely to be heightened by the advent of the internet which functions as a "coordination infrastructure" which will further decrease coordination costs and consequently the need for vertical integration.[63]

The dynamics of the AI partnerships surveyed in the previous section confirm this hypothesis. What is novel about these partnerships is not their existence but rather their prevalence: they represent one of—if not *the*—main way(s) of doing business in the AI space. As Margarethe Vestager put it, these partnerships represent a "trend" which is "becoming a feature of the industry."[64]

Yet the increasing reliance on partnerships and inter-firm collaborations is the byproduct of a broader reconfiguration of the economy at large. IO economists have been arguing since the turn of the twenty-first century that society is shifting towards a "post-industrial" phase where the center of gravity of economic activity is knowledge creation rather than industrial production.[65] This new stage of economic development is characterized by an increasingly rapid pace of innovation and a corresponding need for heavy investments in R&D. As producers recognize that they cannot themselves maintain cutting-edge technology in every field, they are increasingly involved in lateral partnerships with small players who dedicate their efforts to developing targeted technologies.[66] A look at the Microsoft–OpenAI partnership proves this point: the dominant narrative is that since Microsoft could not develop AI technologies by itself that could rival those of other market players, the company chose instead to partner with OpenAI.[67]

The turn to a post-industrial society requires a corresponding turn to "post-industrial organization" economics.[68] We need to "brush aside questions of absolutes" and open up more and more space to theorize hybrid and intermediate economic forms. Unfortunately, the legal framework of competition law is still rooted in the economic realities of the previous century, in which inter-firm collaborations were the exception, and market players wanting to access the assets of other economic actors would choose the route of full mergers rather than looser partnerships. It is high time to question whether our existing legal institutions can adequately capture the dynamics of AI partnerships. The next section performs this task.

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[62] Naomi R. Lamoreaux, Daniel M.G. Raff & Peter Temin, *Beyond Markets and Hierarchies: Toward a New Synthesis of American Business* 5 (NAT'L BUREAU OF ECON. RSCH., Working Paper No. 9029, 2002) 5.

[63] *Id.*

[64] Margarethe Vestager, Speech, Competition in Virtual Worlds and Generative AI (Brussels, June 28, 2024), https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_24_3550.

[65] Daniel F. Spulber, *Antitrust and Innovation Competition*, 11 J. ANTITRUST ENF'T 5, 11 (2023) (introducing the term "post-industrial organization" economics); DANIEL BELL, THE COMING OF POST-INDUSTRIAL SOCIETY: A VENTURE IN SOCIAL FORECASTING (Basic Books 1973) (1999) (claiming that a "post-industrial society rests on a knowledge theory of value. Knowledge is the source of invention and innovation.").

[66] Gilson et al., *supra* note 57, at 431.

[67] OpenAI, *supra* note 12.

[68] Spulber, *supra* note 63.

IV. Catch Them If You Can: Competition Law

Markets evolve faster than the law, requiring regulators to constantly synchronize existing tools with the latest business practices.[69] Trying to defy this inherent gap, EU competition policy has been designed with the aim of providing enough flexibility to address new forms of anticompetitive behavior. The dominant narrative is that Articles 101 and 102 TFEU allow the Commission to respond to emerging market conditions by repurposing these tools without adopting new instruments.[70] A case in point is that before the adoption of the EUMR, the Commission asserted its jurisdiction over mergers by applying Article 101 and 102 TFEU.[71] More recently, the Commission has substantially broadened its powers—without any regulatory change—by reviving the dormant Article 22 of the EUMR, which empowers it to review mergers falling below the EU and national merger thresholds and hence scrutinize the so-called "killer acquisitions."[72]

The above considerations beg the question whether the competition law instruments that the Commission has at its disposal are fit to catch AI partnerships. A straightforward and non-satisfactory answer to this question would be that the Commission has three avenues for scrutinizing such behavior: Articles 101, and 102 TFEU, or the EU Merger Control Regulation. Before assessing which legal pigeonhole would be most suitable the first question to address is whether the EU competition law regime is applicable at all. To be caught by any of the competition law provisions, a market actor needs to be considered as an "undertaking", i.e., an entity engaging in an economic activity. Given that many AI companies are non-profit organizations, the answer is not straightforward. For example, in the US, the Microsoft–OpenAI collaboration was exempted from the pre-merger notification requirement under the Hart-Scott-Rodino (HSR) Act because it involved a non-profit organization.[73] This workaround would not be effective in the EU, though: the catch-all definition of the undertaking allows the Commission to consider a non-profit organization as an undertaking for the purpose of competition rules.[74]

The next question is which of the three regimes is best suited. As we demonstrate below, none of them adequately captures the granularity of AI partnerships.

Article 101 TFEU applies to collusive conduct between independent market actors. Yet, given the deep entanglement between AI startups and their Big Tech partners, it is not obvious that they remain distinct market actors. To assess whether two entities are separate economic organizations, the test employed under EU competition law is that of control. So far, the test has been deployed only in the context of relations between parent companies and their subsidiaries. However, its reach may very well be stretched to cover different configurations

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[69] Justice Brandeis, *The Living Law*, X ILL. L. REV. 464 (1916) (claiming that "the law has everywhere a tendency to lag behind the facts of life").

[70] European Parliament, Hearing of Margrethe Vestager (Brussels, Oct. 8, 2019), https://www.europarl.europa.eu/resources/library/media/20191009RES63801/20191009RES63801.pdf; European Commission, Margrethe Vestager Keynote Speech, Keystone Conference: A Triple Shift for Competition Policy (Mar. 2, 2023), https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_23_1342.

[71] In 1971, the Commission used Article 102 TFEU to prohibit a merger in the Continental Can case (Commission Decision of Dec. 9, 1971 relating to a procedure in the application of Article 86 of the EEC Treaty Case IV/26811 (Europemballage Corp.), 1972, O.J. (L 7)), *see* Georges Vallindas, *The EU Commission determines that a can manufacturer abused its dominance by refusing to license its technology to competitors thereby denying consumers lower prices (Continental Can)*, E-COMPETITIONS Dec. 1971, art. No. 117223 www.concurrences.com/117223. In 1984, the Commission used Article 101 TFEU for merger control purposes in the Philip Morris case (Commission Decision of Mar. 22, 1984) relating to an infringement of Articles 85 and 86 of the EEC Treaty Joined Cases IV/30.342 and IV/30.926 (BAT & Reynolds v. Eur. Comm'n).

[72] Anne Looijestijn-Clearie, Catalin S. Rusu & Marc J.M. Veenbrink, *In Search of the Holy Grail? The EU Commission's New Approach to Article 22 of the EU Merger Regulation*, 29 MAASTRICHT J. EUR. & COMPAR. L. 550 (2022).

[73] 15 U.S.C. § 18a. On the other hand, § 1 and § 2 of the Sherman Act do apply to non-profits, and so does § 7 of the Clayton Act. XXX legislation added to footnote XXX

[74] *See* Case C-475/99, Firma Ambulanz Glöckner v. Landkreis Südwestpfalz, E.C.R. I-8089, ¶¶ 18–22 (2001).

of corporate inter-links. To establish that a parent and a subsidiary are not separate market actors but one unitary entity—an undertaking—case law requires that "the subsidiary does not decide independently upon its own conduct on the market, but carries out, in all material respects, the instructions given to it by the parent company,"[75] Besides full ownership, recent case law has expanded the notion to cover situations where the parent company has *de facto* control because it has all voting rights. The Court declared in the 2021 *Goldman Sachs* case that "it is not the mere holding of all or virtually all the capital of the subsidiary in itself that gives rise to the presumption of the actual exercise of decisive influence, but the degree of control of the parent company over its subsidiary that this holding implies."[76] In this case, the Court established the existence of decisive influence due to several factors, including notably that Goldman Sachs had the power to appoint members of the various boards of directors of the subsidiary, to call shareholder meetings and propose revocations of directors or entire boards, as well as to receive regular updates and monthly reports from the subsidiary.[77]

Within this understanding of the notion of control, the entities engaged in AI partnerships seem far from being considered to form a single undertaking. The existing partnerships fall well short of the threshold of decisive influence. Going back to the architecture of the Microsoft–OpenAI partnership, Microsoft has a "minority economic interest" *only* in the capped-profit branch of the company, and this does not translate into any governance rights on the entity's board.[78] Microsoft even dropped its non-voting observer member on the board that it had secured in the aftermath of the November 2023 governance crisis, allegedly in order to avoid antitrust scrutiny.[79] In this configuration, Microsoft and OpenAI cannot be considered to form a single economic entity, as the former does not have decisive influence over the latter. The consequence is that the partnership risks running afoul of Article 101 TFEU. This is more than a theoretical possibility. When the Bundeskartellamt concluded that the partnership did not represent a concentration within the meaning of the domestic merger control regime, it declared that its compliance with Article 101 TFEU still needed to be scrutinized.[80] Similarly, Margarethe Vestager declared in a June 2024 speech that the exclusivity clauses involved in the partnership could prove anti-competitive.[81]

Given that Article 101 has an open-ended language, prohibiting "agreements" which prevent, restrict or distort competition, it would seem to be the default choice for scrutinizing AI partnerships.[82] Contrastingly, European competition authorities have chosen to analyze them through the lens of merger control. Until recently, nascent competitors, such as AI startups, were too small to be captured by the thresholds.[83] With the reinterpretation of Article 22 of the EUMR, this is no longer where the shoe pinches: now that firm size is no longer an issue, the

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[75] Case 48/69, Imperial Chem. Indus. (ICI) Ltd. v. Comm'n Eur. Comtys, ECLI:EU:C:1972:70, ¶ 133; Case C-625/13 P, Villeroy & Boch AG v. Eur. Comm'n., ECLI:EU:C:2017:52, ¶ 146.

[76] Case C-595/18 P, Goldman Sachs Grp. v. Eur. Comm'n., ECLI:EU:C:2021:73, ¶ 35, *see* Kyriakos Fountoukakos, Daniel Vowden & Agathe Célarié, *The EU Court of Justice confirms the liability of a parent company for the conduct of its subsidiaries involved in a cartel (Goldman Sachs)*, E-COMPETITIONS Jan. 2021, art. No. 99132. www.concurrences.com/99132

[77] *Id.* at para. 18.

[78] *Our Structure*, OPENAI (2024), https://openai.com/our-structure/.

[79] Mauro Orru & Christian Moess Laursen, *Microsoft Quits OpenAI's Board Amid Antitrust Scrutiny*, WALL ST. J. (July 10, 2024), https://www.wsj.com/tech/ai/microsoft-withdraws-from-openais-board-amid-antitrust-scrutiny-aab6ff1e.

[80] Bundeskartellamt, *supra* note 15.

[81] Vestager, *supra* note 62.

[82] Consolidated Version of the Treaty on the Functioning of the European Union, Oct. 26, 2008, art. 101, 2008 O.J. (C 326) 1.

[83] Robert Ryan, James Rutt & Mike Walker, *How to Address Under-Enforcement in Digital Markets?*, *in* RESEARCH HANDBOOK ON GLOBAL MERGER CONTROL 150 (Ioannis Kokkoris & Nicholas Levy eds., Edward Elgar 2023).

new question is whether the partnerships confer "control" to the Big Tech players. Under the EUMR, a concentration must entail a change of control on a lasting basis, i.e., a transaction which gives an undertaking "decisive influence" over another one.[84] Mirroring the discussion in the previous paragraph, this influence can be either *de jure* or *de facto*. *De jure* control is traditionally associated with shareholdings conferring the majority of voting rights, whereas *de facto* control stems from factual circumstances enabling a minority shareholder to acquire a majority of voting rights at the general meetings.[85] Nonetheless, the control threshold required for triggering a merger investigation is not the same as that which is applicable for establishing the existence of an undertaking. Acquisitions of shareholdings well below 50 percent have led to merger investigations when the shareholdings at stake were coupled with seats on the board, information rights entailing access to sensitive information, and the right to block certain resolutions.[86] National merger control regimes, particularly in Germany, have caught even acquisitions of shares amounting to less than 15 percent.[87]

Regardless of how low the Commission would be willing to push the threshold, two aspects need to be taken into consideration. First, pursuant to the definition of concentrations under the EUMR, when the acquisition of a minority shareholding is unrelated to acquisition of control, the Commission cannot investigate or intervene against it.[88] This means that only minority shareholdings conferring control can be scrutinized. Second, given the unusual corporate structures that AI firms take, the concept of "shareholdings" is not applicable—in the Microsoft–OpenAI, the former secured only the right to profits in the capped-profit subsidiary of the non-profit entity. Nonetheless, the unsuitability of the notion of shareholding does not render the whole merger control inapplicable. In the Consolidated Jurisdictional Notice, the Commission clarifies that "control can […] be acquired on a contractual basis" where the contract leads to "control of the management and the resources of the other undertaking as in the case of acquisition of shares and assets."[89] Additionally, the Notice specifies that "a situation of economic dependence may lead to control on a *de facto* basis where […] very important long-term supply agreements […] coupled with structural links confer decisive influence."[90]

In the case of the Microsoft–OpenAI agreement, Microsoft denies owning any assets of OpenAI or any voting rights.[91] In the absence of any legal hooks hinting at the existence of control, even a bold interpretation of the notion of decisive influence seems to be a stretch. At the same time, though, if we were to follow the voices attributing Sam Altman's reinstatement as CEO to Microsoft, then this gesture could be reason enough to qualify the Big Tech player's influence as "decisive". In the absence of more information about OpenAI's concrete

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[84] EC Merger Regulation 2004 O.J. (L 24), 1, art. 3(2).

[85] Alexandre Rouhette & Pierre Garenne, *De Facto Control in EU Merger Control Law*, 4 CONCURRENCES COMPETITION L. REV. 1 (2020).

[86] *See*, for instance, Commission Decision of Jan. 22, 1997 declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement Case IV/M.794 (Coca-Cola/Amalgamated Beverages GB), 1997, O.J. (218) 15; Commission Decision of July 28, 1993 Case IV/ECSC.1031 (US/Sollac/Bamesa); Commission Decision of Aug. 23, 1995 Case IV/M.625 (Nordic Capital/Transpool).

[87] Bundeskartellamt Decision of Jan. 31 2012 Case B8-116-11-2 (Gazprom/VNG), *see* Wolfgang Bosch, *The Federal Cartel Office considers the acquisition of 1.88% of the shares in a competitor resulting in a total shareholding of 10.52% as a notifiable concentration under German law as it enabled to exercise competitively significant influence jointly with a third party (Gazprom / VNG)*, E-COMPETITIONS Jan. 2012, art. No. 48616. www.concurrences.com/48616

[88] European Commission, Staff Working Document Accompanying the White Paper Towards More Effective Merger Control, SWD (2014) 221 final, at § 45.

[89] European Commission, Consolidated Jurisdictional Notice under Council Regulation 139/2004 on the control of concentrations between undertakings, 2008, O.J. (C 95), 1, at § 18. *See also* Commission Decision of Dec. 5, 2003 Case COMP/M.3136 (GE/AGFA NDT) 2003, O.J. (C 125), *see* Paul Gorecki, *The EU Commission clears at phase I, subject to a structural remedy, the acquisition whereby a wholly-owned subsidiary would acquire a non-destructive testing business in the electric sector (GE / GEAE)*, E-COMPETITIONS Dec. 2003, art. No. 81738. www.concurrences.com/81738

[90] *Id.* at § 19.

[91] *Microsoft Says It Does Not Own Any Portion of OpenAI*, REUTERS (Dec. 8, 2023, 09:57 PM GMT), https://www.reuters.com/technology/microsoft-says-it-does-not-own-any-portion-openai-2023-1208/#:~:text=WASHINGTON%2C%20Dec%208%20(Reuters),OpenAI%2C%20an%20artificial%20intelligence%20powerhouse.

governance architecture and the actual reach of Microsoft's involvement, the applicability of the merger control framework remains an open question.

What is clear, though, is that the AI partnerships have been finely and legally engineered to attempt evasion of merger review. This leaves us one last question—whether such arrangements could require consideration under Article 102 TFEU. The prerequisite for scrutiny under Article 102 is the existence of a dominant position. The concept of market dominance is closely related to market power, indicating the capacity to act independently, without being restricted by consumer or supplier choices, thereby deviating from competitive outcomes.[92] Article 102 TFEU goes beyond abuses occurring in the market where the undertaking is dominant, reaching abuses occurring in distinct, yet closely related markets. In the context of AI partnerships, this implies that while Big Tech players may not exhibit dominance in the adjacent AI market, their established stronghold in other markets enables them to potentially leverage this position into the nascent AI sector. However, demonstrating such leverage poses a considerable challenge for the Commission, requiring extensive time and resources to assess the nuanced dynamics of these evolving markets. For this reason, reaching for Article 102 TFEU is likely to be a last resort.

V. Conclusion

This chapter has navigated the complex terrain of AI partnerships, shedding light on the challenges they pose to the competition law framework. The novelty of these partnerships renders it difficult to draw definitive conclusions at this stage, warranting cautious antitrust scrutiny. However, as AI markets continue to evolve, the regulatory frameworks must adapt accordingly to ensure that competition thrives and innovation flourishes in this rapidly changing environment. AI partnerships could be seen as a strategic response to prevent Schumpeterian creative destruction, integrating emerging technologies into the existing frameworks established by the current Big Tech players rather than allowing them to disrupt the status quo. Alternatively, such partnerships can be viewed as a springboard for AI startups requiring access to key inputs in order to fulfill their mission. The jury is still out, giving us much needed time for reflection.

[92] OECD, ABUSE OF DOMINANCE IN DIGITAL MARKETS (2020), https://web-archive.oecd.org/2021-10-31/566602-abuse-of-dominance-in-digital-markets-2020.pdf.