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Data & Antitrust Guide - First Edition

An economic analysis of US antitrust enforcement policies in data-driven markets

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In a world where data is 'the new oil', competition authorities are having to tackle fresh issues as data and antitrust converge. The first edition of the GCR Data & Antitrust Guide – edited by Miranda Cole and Lara White – offers a wide-ranging view of how key jurisdictions around the world are addressing new regulatory and enforcement questions and provides practical and timely guidance for those trying to navigate this fast-moving environment. The Guide draws on the wisdom and expertise of distinguished practitioners to deliver unparalleled proficiency in the field.

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An economic analysis of US antitrust enforcement policies in data-driven markets

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Summary

INTRODUCTION

In recent years, leadership at the Antitrust Division of the Department of Justice (DOJ) and the United States Federal Trade Commission (FTC) have discussed the agencies' increased focus on competition issues around the use of data by firms, including digital platforms that collect large amounts of data. As stated by the Assistant Attorney General for the DOJ, 'new market realities demand new approaches to competition enforcement'.[2] In addition, the Merger Guidelines, which provide the framework used by the DOJ and FTC in evaluating antitrust markets and competition, were updated in 2023, signalling the agencies' current antitrust enforcement agenda.[3]

The updated Merger Guidelines outline more explicitly the agencies' focus on potential harm to competition in addition to increased prices. This includes assessments of potential 'worsening terms along any dimension of competition', including 'quality, service, capacity investment, choice of product variety or features, or innovative effort'.[4] This change in focus is important when assessing potential theories of harm involving digital platforms, which may offer certain ostensibly free services to consumers.

In addition, federal regulators have pursued several high-profile lawsuits against data-focused companies, such as Google, Meta (formerly Facebook), UnitedHealth Group, Amazon and Apple, alleging unilateral conduct that substantially lessened competition;[5] for example, in Federal Trade Commission v. Amazon.com, the FTC and 17 state attorneys general alleged that the online retailer is a monopolist and engaged in illegal practices to maintain its market power.[6] The FTC alleged that Amazon's 'access to valuable shopper data' allowed it to strengthen its alleged dominant position as a platform between sellers and consumers while 'overcharging its customers' and 'degrading the services it provides them'.[7]

In cases that allege monopolisation, like this example, before assessing a firm's alleged market power, it is necessary to conduct a rigorous analysis to understand the nature of competition and to determine the antitrust market at issue. Below, we discuss how economic analysis, and the definition of the relevant markets, affects an assessment of competitive harm in data-focused markets. These economic issues are discussed within the context of United States of America, et al. v. Google LLC.

In addition, in the cases brought by federal regulators against these data-focused companies, the agencies have adopted theories of competitive harm focused on access to specific types of data. The agencies have alleged that firms used data to enhance their market power, lessening competition and harming consumers in terms of higher prices as well as non-price terms, such as quality of service. We discuss the specific data-focused theories of competitive harm presented by the agencies below, specifically with respect to two-sided platforms, and how economic analysis was used to assess these theories of harm in United States of America, et al. v. UnitedHealth Group.[8]

Last, we look forward and consider the implications of emerging data-driven technologies on antitrust enforcement. The agencies have discussed their focus on investigating potential harm to competition in light of the digital revolution, including increased data collection and the use of automated decision-making.[9] We discuss how these types of technology may be used in algorithmic price-setting and the implications in assessing alleged coordinated conduct.

ANALYSIS OF ANTITRUST MARKETS IN DATA-FOCUSED INDUSTRIES

Before a firm can be deemed to be a monopolist (or to have exercised monopolistic power), it is critical first to determine the relevant antitrust market for the product (or service) at issue.[10] There are two dimensions to assess an antitrust market: (1) the product and potential substitutes customers can turn to in the face of a price increase (or quality decrease); and (2) the geographical area in which competition for the relevant product (or products) takes place.[11] The definition of the relevant market can drastically affect an assessment of alleged competitive harm, as discussed below with respect to the government's case against Google.

Two-sided technology platforms, such as Google, have unique features that should be considered when evaluating the relevant antitrust markets in these cases. These platforms provide products or services to multiple groups, or 'sides', that 'benefit from each other's participation'.[12] Because there are two distinct sets of customers, the analysis should consider the supply and demand conditions that affect each side of the platform and the nature of competition for each side.[13] In addition, nascent competition and product development are important features in technology markets. The threat of entry through the development of a new technology or innovation of existing technology can serve as a partial competitive threat to the incumbent firm and would need to be considered in a market definition analysis.

In October 2020, the DOJ and 11 state attorneys general sued Google for violating Section 2 of the Sherman Act by 'unlawfully maintaining monopolies in the markets for general search services, search advertising, and general search text advertising in the United States through anticompetitive and exclusionary practices'.[14] The complaint alleges that Google entered into exclusionary agreements with wireless device manufacturers, carriers and browser developers, which resulted in Google becoming the default search engine for their products.[15]

The government alleged the exclusionary agreements 'deny rivals the scale to compete effectively with Google' as 'the volume, variety, and velocity of data gathered through active queries accelerates the automated learning of search and search advertising algorithms'.[16] In other words, greater scale improves the quality of Google search and search advertising services over rivals, which reinforces Google's alleged market dominance. The government further claimed that Google's conduct harmed consumers by reducing the quality of general search services (across dimensions such as privacy and data protection), lessening their choices and impeding innovation.[17]

A key area of debate in this case was the definition of the relevant markets:

- On the user side of the platform, the government proposed a product market definition of general search services that includes general (traditional) search engines (e.g., Google, Bing, Yahoo! and DuckDuckGo).[18]
- On the advertiser side of the platform, the government proposed two antitrust markets: (1) general search text ads, which are primarily text that appears on the search engine results page; and (2) broader search ads, which encompass any advertisements shown on a search results page in response to a consumer's real-time search query, including text ads, shopping ad and travel ads.[19]

These defined relevant markets informed the government's analysis of Google's alleged market power; for example, the government contended that Google controlled almost '90 percent of all general-search-engine queries in the United States, and almost 95 percent of queries on mobile devices'.[20] In addition, the government argued that 'Google has 16 times more fresh search data than [Microsoft's] Bing, its nearest competitor'.[21]

Google's economic experts criticised the government's market definition analyses as being overly narrow by omitting important competitors for both users and advertisers, excluding specialised vertical providers such as Amazon, Yelp and Expedia, as well as social media sites.[22] For users, Google argued that the government 'distort[ed] the commercial reality that users routinely substitute other search providers for general search engines—such as Amazon when they shop, or Expedia when they travel'.[23] That is, the relevant competitive conditions to assess the alleged conduct would be different if, instead of general search services, the relevant markets analysed were for specific types of search services and specialised vertical providers, which Google argued were 'many of [their] strongest competitors', were included in the analysis.[24]

On the advertising side of the market, Google argued that economic analysis and actual substitution patterns show that advertisers allocate their spending across Google, Meta, Amazon and other sites.[25] As a result, Google's expert concluded that these other options must be accounted for in the relevant markets for advertisers. For both sides of the platform, the economic analysis of potential substitutes for Google, and the appropriate relevant market, is critical to an assessment of competitive harm alleged in this case.[26]

DATA-FOCUSED THEORIES OF HARM INVOLVING TWO-SIDED PLATFORMS

A key change to the Merger Guidelines is in respect of the methodology of assessing competition between multi-sided platforms. The Merger Guidelines lay out the agencies' approach to potential harm to competition from the access to or control of data by these platforms.[27] Specifically, the Merger Guidelines point to four considerations when assessing whether a merger involving platforms will potentially lessen competition:

- mergers between a 'dominant' platform operator and 'smaller competing platforms';
- acquisitions that deprive rivals of network effects, which 'may weaken rival operators or increase barriers to entry and expansion';
- acquisitions of companies that 'help sellers manage listings on multiple platforms, or software that helps users switch among platforms'; and
- mergers involving a firm that provides inputs (e.g., data) that 'may enable the platform to weaken rival platforms by denying them that data'.[28]

An economic analysis of these considerations, or the specific alleged anticompetitive conduct at issue, is a fact-specific inquiry. In assessing data-focused theories of harm, it is critical to understand first how the firms at issue compete, including how they use (or potentially use) the data at issue. Below, we discuss how data-focused theories of harm involving two-sided platforms were assessed in the government's case against UnitedHealth Group.

In this case, the DOJ claimed that UnitedHealth Group's (United) acquisition of healthcare billing and payment processing service provider Change Healthcare (Change) would allow United 'to use its rivals' [electronic claims and payment data] to gain an unfair advantage and

harm competition in health insurance markets'.[29] In February 2022, the DOJ filed a lawsuit to block the merger under Section 7 of the Clayton Act, in part alleging two vertical theories of harm:

- the combined firm would enable United to use its rival's claims data tracked by Change's digital platforms 'to extract intelligence about its health insurance rivals'; and
- the combined firm would 'disadvantage its health insurance rivals by raising their costs and reducing or withholding quality improvements and innovations from rivals that rely on Change's technologies'.[30]

The key disagreements between the government and the merging parties centred on (1) the incremental value of competitive intelligence that Change's claims data provided United, and (2) whether United had the economic incentive to withhold innovative technologies from rival insurers or otherwise degrade the quality of these products. On both issues, the economic evidence presented was central to the analysis of potential anticompetitive harm.

To support the first theory of harm, the government relied on an economic analysis of healthcare insurance claims data. This analysis found that through the acquisition, United would gain access to data on competitor claims that make up approximately 40 per cent of all commercial claims, potentially giving United access to detailed information about a large number of rival insurers' customers.[31] In response, the defendants argued that Change's electronic claims data was not unique, and that United could access key elements of the claims data at issue from publicly available sources.[32]

To support the second theory of harm, the government argued that the combined firm would be incentivised to limit sales of Change's claims-transmission technology services to rival insurers, putting forward an economic analysis of the combined firm's potential profits after the merger to show that it would purportedly need to gain a de minimis share of the insurance market to offset any profits it might lose from restricting sales of these services to rivals.[33] In response, the defendants' economic expert opined that no rival insurers relied exclusively on Change, such that these insurers could (or did) turn to competitors for similar claims transmission services.[34] Their expert further concluded that 'selling products that include innovations would be more profitable for [United] than withholding them'.[35]

Ultimately, the court ruled in favour of the merging parties on these issues and allowed the merger to proceed.[36] Specifically, the court found that:

- the claims data at issue can have competitive value, but there was sufficient overlap between the types of data to which United already had access prior to the merger and the data to which it would have access through the acquisition of Change;[37] and
- the evidence presented by the merging parties demonstrated that United had strong incentives to maintain a 'multi-payer business strategy' rather than withhold innovative technologies from rival insurers.[38]

Based on the defendants' analysis, the court concluded that the competitive intelligence gained by United from access to additional data post-merger would be similar to the intelligence it would have absent the proposed acquisition. Further, the court pointed to the defendants' evidence of United's business rationale for continuing to invest in Change's data products and selling them to competing insurers. The court concluded that the testimony

from United executives on the strategic direction of the company was 'far more probative of post-merger behavior than [the plaintiff's expert's] independent weighing of costs and benefits'.[39]

As this decision shows, to directly test the merits of an allegation and be probative to the court, an economic analysis must be able to reliably isolate the effects of purported anticompetitive conduct. In data-focused markets, it is important for this type of economic analysis to account for how the firms actually use (or would use) the data at issue. In this case, the court found that United had access to similar data such that access to additional data from Change would not result in United gaining materially different potential business intelligence post-merger. A proper economic analysis should account for these business realities so as to reliably model the outcome from alleged conduct.

IMPLICATIONS OF EMERGING TECHNOLOGIES FOR ANTITRUST ENFORCEMENT

Artificial intelligence (AI) is a diverse domain that incorporates various technologies, such as machine learning and natural language processing. These be used in various capacities, such as chatbots (which can process and generate humanlike text in real time) and healthcare tools (which can be used to assist with diagnosing and monitoring patients).[40] The increased use of AI and other data-driven technologies raises a variety of potential competitive concerns; for example, as the FTC has discussed, AI models require large amounts of data and this raises concerns about the developers of these models 'undermining peoples' privacy'.[41] Below, we consider the concerns surrounding potential collusion facilitated by AI models, specifically with respect to pricing decisions.

As these technologies have advanced, firms have adopted AI-powered pricing algorithms to recommend the price that would optimise profits. These algorithms are programmed to derive this price by analysing data such as production cost, overhead charges, consumer demand, inventories and, most critically in this context, competitor pricing.[42]

Many economists and lawyers have discussed how the use of AI pricing algorithms may facilitate collusion among competitors, even if there is no explicit agreement between the companies;[43] for example, one publication noted that advancements in data processing power that enables real-time observation of the market and the use of AI to engage in autonomous decision-making can 'amplify tacit collusion to a new level of stability and scope'.[44]

This type of tacit collusion can be a result of firms that 'unilaterally create[] an algorithm' while knowing that 'the industry-wide use of pricing algorithms will facilitate tacit collusion' or when firms unintentionally align prices with that of competitors by using similar algorithms to monitor prices.[45] Specifically:

- Firms may try to use real-time data to 'anticipate and react to competitive threats well before any pricing change', thus gaining a competitive advantage that enables them to react more quickly and acquire more data. This can result in the industry being dominated by a few 'self-learning algorithms' that tacitly collude.[46]
- As AI models are programmed to optimise profits, they may use information about customers' purchases of competitors' products to set their own prices, even if the firms themselves did not share pricing information.

According to academic research, government regulators may encounter more situations in which an anticompetitive outcome is a 'side effect of the rise of the machines and their quest to optimize and serve'.[47]

The updated Merger Guidelines outline several factors that the DOJ and FTC consider when assessing the extent to which competition may be harmed by potential tacit collusion through algorithms, including: (1) where pricing algorithms that 'track or predict competitor prices or actions' can increase risk of collusion as companies' pricing and strategies are easily observable across the market; and (2) where faster pricing algorithms can result in more predictable strategic responses from rivals.[48] It is challenging for regulators to identify collusive conduct, however, as unless there is strong evidence that there is an agreement, it is unclear whether the algorithmic price-setting is distinct from conscious parallelism in an oligopolistic market (which is legal).[49]

Ultimately, it is important for firms to actively understand any AI models they use. To study the implications of these potential issues, one would need to understand the AI tools used and how they were used. Empirical questions, such as whether there exist barriers to access relevant data in certain marketplaces and whether the use of AI models by competitors facilitates collusive behaviour, cannot be answered without studying the specific AI tools and relevant data.

Economic analysis can be used to provide an understanding of the algorithms deployed by companies, including the data inputs that feed into the pricing algorithms and how the algorithm leverages various data inputs to determine a price recommendation. Existing economic tools that have been widely used in traditional competition matters are still applicable in assessing the competitive effects of pricing decisions influenced by AI; for example, economic modelling can be used to compare the actual prices determined by companies using pricing algorithms to those in a 'but-for' world where no pricing algorithms are deployed. Another example is using natural experiments to examine whether sales data shows whether competitors in a market are systematically raising the price offered to a certain group of customers using similar pricing models.

ENDOTES

[1] Sophie Meadows and Matthew Milner are partners, Monica Zhong is a principal and Ashley Zhou is a managing principal at Edgeworth Economics. The authors are grateful for the research assistance conducted by Anav Singh and the collegial support from Stephanie Cheng and Michael Kheyfets.

[2] U.S. Department of Justice (DOJ), Office of Public Affairs (OPA), 'Assistant Attorney General Jonathan Kanter Delivers Keynote at the University of Chicago Stigler Center' (21 April 2022) (Kanter speech) (-https://www.justice.gov/opa/speech/assistant-attorney-general-jonathan-kanter-delivers-keynote-university-chicago-stigler).

[3] United States Federal Trade Commission (FTC) and DOJ, 'Merger Guidelines' (18 December 2023) (2023 Merger Guidelines) (-https://www.ftc.gov/system/files/ftc_gov/pdf/2023_merger_guidelines_final_12.18.2023.pdf).

[4] 2023 Merger Guidelines, op. cit. note 3, at 42.

[5] Complaint, United States of America, et al. v. Google, LLC, No. 1:20-cv-03010 (20 October 2020) (USA v. Google Complaint); Amended Complaint, FTC v. Facebook, Inc.-, No. 1:20-cv-03590 (D.D.C. 19 August 2021); Complaint, United States of America, et al. v. UnitedHealth Group Incorporated and Change Healthcare Inc., No. 1:22-cv-00481 (24 February 2022) (USA v. UnitedHealth and Change Complaint); Complaint, FTC, et al. v. Amazon.com, Inc., No. 2:23-cv-01495 (2 November 2023) (FTC v. Amazon Complaint); Complaint, United States of America, et al. v. Apple Inc., No. 2:24-cv-04055 (21 March 2024) (USA v. Apple Complaint).

[6] FTC, press release, 'FTC Sues Amazon for Illegally Maintaining Monopoly Power' (26 September 2023) (-https://www.ftc.gov/news-events/news/press-releases/2023/09/ftc-sues-amazon-illegally-maintaining-monopoly-power).

[7] FTC v. Amazon Complaint, op. cit. note 5, at ¶¶5, 180, 207.

[8] USA v. UnitedHealth and Change Complaint, op. cit. note 5.

[9] Kanter speech, op. cit. note 2.

[10] 2023 Merger Guidelines, op. cit. note 3, at 39–40 ('The Agencies engage in a market definition inquiry in order to identify whether there is any line of commerce or section of the country in which the merger may substantially lessen competition or tend to create a monopoly. . . . Market definition can also allow the Agencies to identify market participants and measure market shares and market concentration.').

[11] ibid. See also American Bar Association, 'Market Power Handbook: Competition Law and Economic Foundations', at 62 (8 March 2012).

[12] 2023 Merger Guidelines, op. cit. note 3, at 23.

[13] For example, in Ohio v. American Express, an antitrust case involving the credit card market, the Supreme Court of the United States stated: 'Unlike traditional markets, two-sided platforms exhibit "indirect network effects," which exist where the value of the platform to one group depends on how many members of another group participate. Two-sided platforms must take these effects into account before making a change in price on either side, or they risk creating a feedback loop of declining demand.' Opinion, Ohio et al. v. American Express Co. et al., No. 16-1454, (25 June 2018), at 1 (-https://www.supremecourt.gov/opinions/17pdf/16-1454_5h26.pdf).

[14] USA v. Google Complaint, op. cit. note 5, at ¶2.

[15] id., at ¶4.

[16] id., at ¶8.

[17] id., at ¶167. In this case, although Google does not charge a cash price to users, the search is not free as consumers provide personal information and attention in exchange for search results. Google then monetises the users' information and attention by selling advertisements. id., at ¶25.

[18] id., at ¶28–29.

[19] Plaintiffs' Pre-Trial Brief, USA v. Google, op. cit. note 5, at 5–7. The government's economic expert opined that (1) text ads are distinct from other types of search ads (e.g.,

shopping ads) in meaningful ways, and (2) search ads are distinct from other forms of advertising such as social or display ads because the latter are not returned in response to a real-time user query.

[20] USA v. Google Complaint, op. cit. note 5, at ¶5.

[21] Plaintiffs' Pre-Trial Brief, USA v. Google, op. cit. note 5, at 1.

[22] Defendant Google LLC's Pre-Trial Brief, at 2, USA v. Google, op. cit. note 5.

[23] ibid.

[24] ibid.

[25] id., at 5–6.

[26] The 10-week trial concluded in November 2023, and a ruling from the court is expected in 2024. Reuters, 'What's next in Google's court battle with the US Justice Department?' (16 November 2023) (-https://www.reuters.com/legal/whats-next-googles-court-battle-with-us-justice-department-2023-11-16/).

[27] 2023 Merger Guidelines, op. cit. note 3, at 25.

[28] ibid. Lawsuits brought by the government have alleged theories of harm that are consistent with these considerations; for example, in United States of America v. Apple, Inc., the DOJ and 16 state attorneys general alleged that Apple 'sustained the most dominant smartphone platform and ecosystem in the United States' by limiting competition from emerging companies to sell smartphones. The government alleged that 'Apple's iPhone platform is protected by several additional barriers to entry and expansion, including strong network and scale effects and high switching costs and frictions'. USA v. Apple Complaint, op. cit. note 5, at ¶¶4, 10, 185.

[29] DOJ, OPA, press release, 'Justice Department Sues to Block UnitedHealth Group's Acquisition of Change Healthcare' (24 February 2022) (-https://www.justice.gov/opa/pr/justice-department-sues-block-unitedhealth-group-s-acquisition-change-healthcare).

[30] USA v. UnitedHealth and Change Complaint, op. cit. note 5, at 2, 9. The government also asserted a horizontal theory of harm that 'Change and United are the largest and second largest vendors of first-pass claims editing solutions' and the acquisition would eliminate competition in this between them. (id., at ¶¶108–13.) The merging party entered a divesture agreement to sell Change's first-pass claims editing business to a third party. Amended Pretrial Brief of Defendants at 1, USA v. UnitedHealth and Change, op. cit. note 5.

[31] Dr Gautam Gowrisankaran Slide Presentation, USA v. UnitedHealth and Change, op. cit. note 5 (Gowrisankaran Slide Presentation).

[32] Amended Pretrial Brief of Defendants, USA v. UnitedHealth and Change, op. cit. note 5, at 49–50.

[33] Gowrisankaran Slide Presentation, op. cit. note 31.

[34] Amended Pretrial Brief of Defendants, USA v. UnitedHealth and Change, op. cit. note 5, at 50–51.

[35] id., at 54, citing to Murphy Rpt. ¶208.

[36] Memorandum Opinion, USA v. UnitedHealth and Change, op. cit. note 5, at 58.

[37] id., at 35–36. Moreover, the court stated that 'based on all the evidence presented at trial, . . . United's incentives to protect external customers' data outweigh its incentives to 'misuse' that data'. id., at 39.

[38] id., at 39–40, 54.

[39] id., at 57.

[40] IBM, 'What is artificial intelligence (AI)?' (-https://www.ibm.com/topics/artificial-intelligence.)

[41] FTC, Technology Blog, 'AI Companies: Uphold Your Privacy and Confidentiality Commitments' (9 January 2024) (-https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2024/01/ai-companies-uphold-your-privacy-confidentiality-commitments). The large amount of data required to develop AI models may potentially act as a barrier to entry for new model developers. That is, owing to the demand for significant computational power and extensive data sets, large companies may have a competitive advantage over smaller firms. See Daniel L Rubinfeld and Michal S Gal, 'Access Barriers to Big Data', Arizona Law Review, Volume 59:339 (2017) at Section II.B.1.

[42] UK Competition and Markets Authority, Working Paper, 'Pricing algorithms: Economic working paper on the use of algorithms to facilitate collusion and personalised pricing' (8 October 2018) (-https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/746353/Algorithms_econ_report.pdf).

[43] See D Bamberger, 'Antitrust Practitioners Should Address AI's Collusive Potential', Law360 UK (22 January 2024) (-https://www.law360.co.uk/articles/1788145/antitrust-practitioners-should-address-ai-s-collusive-potential); E Calvano, et al., 'Algorithmic Pricing What Implications for Competition Policy?', Review of Industrial Organization, Vol. 55:1 (2019) (Calvano, et al.); T McSweeny and B O'Dea, 'The Implications of Algorithmic Pricing for Coordinated Effects Analysis and Price Discrimination Markets in Antitrust Enforcement', Antitrust, Vol. 32:1 (Autumn 2017). The FTC further points to this market dominance as potentially making it easier for major players to collude and violate antitrust laws by using AI models to 'facilitate collusive behavior that unfairly inflates prices, precisely target price discrimination, or otherwise manipulate outputs'. See FTC, Comment at 4, 'Artificial Intelligence and Copyright' (30 October 2023) (-https://www.ftc.gov/system/files/ftc_gov/pdf/p241200_ftc_comment_to_copyright_office.pdf).

[44] Ariel Ezrachi and Maurice E Stucke, Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy (Harvard University Press, 29 October 2019) (Ezrachi and Stucke), at 71.

[45] Ezrachi and Stucke, op. cit. note 44, at 48 and 56. See also J E Harrington, 'Developing Competition Law for Collusion by Autonomous Artificial Agents', Journal of Competition Law & Economics, Vol. 331:3 (2018).

[46] Ezrachi and Stucke, op. cit. note 44, at 72; Calvano, et al., op. cit. note 43, at 5–7.

[47] Ezrachi and Stucke, op. cit. note 44, at 79.

[48] 2023 Merger Guidelines, op. cit. note 3, at 9.

[49] Ezrachi and Stucke, op. cit. note 44, at 58.

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