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AI, Data, And Leveraging Strategies: Implications for Antitrust

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The Network Law Review is pleased to present a special issue on “Industrial Policy and Competitiveness,” prepared in collaboration with the International Center for Law & Economics (ICLE). This issue gathers leading scholars to explore a central question: What are the boundaries between competition and industrial policy?

Abstract: In product markets that rely heavily on artificial intelligence (AI), firms both use data and generate data. For a multiproduct firm, the data generated by one product will often have spillover benefits on the firm’s other AI-enabled products, increasing their quality. This presumptively benefits consumers and may encourage procompetitive coordination between complementary products or data sources. But these data spillovers can also bolster incentives for anticompetitive leveraging strategies (e.g. tying), because excluding rivals in one market will indirectly raise the firm’s profits in other markets as well. As a result, the spread of AI is likely to increase the prevalence and complexity of leveraging strategies in digital markets. This poses a challenge to American antitrust, whose treatment of leveraging conduct is fragmented across numerous doctrines, some of which are antiquated and economically unsound.

1. Introduction

In product markets that rely heavily on artificial intelligence (AI), firms both use data and produce data. For a multiproduct firm, the data generated by one product will often have spillover benefits on the firm’s other AI-enabled products, effectively increasing their quality.¹ This presumptively benefits consumers and may incentivize procompetitive coordination between complementary products or data

¹ See, e.g., Patrick Bajari et al., The Impact of Big Data on Firm Performance: An Empirical Investigation, 109 AEA Papers & Proceedings 33 (2019).

sources. But these data spillovers also bolster incentives for anticompetitive leveraging strategies—practices, such as tying, that exploit a dominant position in one market to impair competition in another market. The spillovers make such conduct more profitable, because excluding rivals in one market will indirectly raise the firm’s profits in other markets, too.

As an example, consider the Justice Department’s recent antitrust case centering on Google’s ad tech business.² A district court found that Google engaged in anticompetitive tying of its ad exchange (AdX) and its publisher ad server (DoubleClick for Publishers, or DFP). This confers to Google the usual leveraging benefit of excluding rivals and softening competition in the “tied market” (the market for publisher ad servers). But it also confers additional benefits to Google. The data collected by DFP are used to train various models employed by other Google products, including bidding models used by AdX.³ Thus, by allowing Google to capture additional users—and hence additional data—in the publisher ad server market, the tie indirectly benefits other Google products, increasing the profits Google earns in other markets. This second payoff from the tie is driven by data spillovers and therefore does not arise in traditional leveraging cases.

The upshot is that the spread of AI is likely to increase the prevalence and complexity of leveraging strategies in digital markets. But it will also encourage procompetitive practices that exploit data spillovers in ways that benefit consumers. These trends will pose a challenge to American antitrust, whose treatment of leveraging conduct is fragmented across numerous legal doctrines, some of which are antiquated and economically unsound.

2. Data-Driven Learning and Cross-Market Spillovers

Sellers of AI-driven products use data to train and improve their algorithms (among other things). By monitoring their users’ activity, these firms also generate useful data. In some cases, this facilitates a “feedback loop” where the data generated by an AI-enabled product are used to improve that same product.⁴ For example, a search engine uses data on its users’ search activity to improve its predictions and search results. This process resembles scale economies or network effects in that a product effectively increases in quality when it is more widely used, because more use begets more data.

As recent research explains, similar benefits commonly extend between distinct product markets: for a multiproduct firm, data generated by one product can often

² United States et al. v. Google LLC, No. 1:23-cv-00108 (E.D. Va. 2025).

³ Id. at 31, 40, 84.

⁴ See, e.g., Andrei Hagiu & Julian Wright, Data-Enabled Learning, Network Effects, and Competitive Advantage, 54 RAND J. Econ. 633 (2023). Similar feedback effects that are unrelated to data have been studied in economics for a long time. See, e.g., Joseph Farrell & Garth Saloner, Standardization, Compatibility, and Innovation, 16 RAND J. Econ. 70 (1985).

be usefully employed in the firm's other AI-enabled products, effectively increasing their quality.⁵ These spillovers resemble economies of scope or indirect network effects. As with the feedback loops mentioned above, the resulting benefits increase with scale. That is, if product A is more widely used (thus generating more data), the spillover benefits conferred upon good B are greater. These data spillovers are presumptively good for consumers, provided they do not create serious privacy concerns.⁶

For example, Google can use data about a user's activity on YouTube to generate better search results for the user on Google Search. And Amazon can use data gathered by its Echo devices to provide personalized recommendations on its retail store. Meta can use a user's messaging activity data to improve ad targeting for that user on Facebook. And Apple can use a user's activity within Apple's first-party applications to make better app recommendations to the user in its App Store.

While these data-driven learning benefits resemble network effects or scale economies, there are also some relevant differences. One example is that data are nonrivalrous: they can be shared and reused. Thus, even a small firm can potentially enjoy the scale advantages of a larger firm if it can access the firm's data. This kind of inter-firm sharing is generally not possible with network effects or scale economies. Another difference is that data may remain useful long after it is gathered. For example, past data may contribute to the current quality of a digital product. But past users typically will not contribute to the current quality of a network good.

3. Impact on Competitive Behavior

Cross-market spillovers can encourage a range of competitive behaviors, some good and some bad. One procompetitive effect is that, as with ordinary economies of scope, these spillovers can encourage incumbents to enter new markets. However, this integration across complementary markets can incentivize practices that sometimes raise antitrust concerns. To start, consider how cross-market spillovers might affect the incentive for anticompetitive leveraging.

When a dominant incumbent enters a new market, this is presumptively good for competition and consumers. In a canonical leveraging case, the firm already has a

⁵ See, e.g., Alexandre de Corniere & Greg Taylor, *Data-Driven Mergers*, 70 *Management Science* 6473 (2024); Giacomo Calzolari et al., *Machine Data: Market and Analytics*, *Management Science* (forthcoming 2025); Andrew Rhodes et al., *Digital Ecosystems and Data Regulation* (mimeograph 2025); Joshua S. Gans, *Market Power in Artificial Intelligence*, NBER Working Paper (2024); Bruno Carballa-Smichowski et al., *Economies of Scope in Data Aggregation: Evidence from Health Data* (mimeograph 2022).

⁶ The spillovers might not increase consumer welfare in the second market if, rather than increasing quality, the data merely allow the firm to extract greater surplus (e.g. by better predicting willingness to pay). See de Corniere & Taylor, *supra* note 5. However, such predictions might also increase output by enabling more sales to consumers with relatively low WTP, in which case aggregate consumer welfare could rise even if average consumer surplus falls.

monopoly over some product A (the “tying product”), but it faces competition in the market for some other product, B (the “tied product”). The firm then exploits its monopoly power over A to force (or strongly encourage) its customers in market A to also use its own version of product B. The classic mechanism for achieving this is a tying arrangement.⁷ But there are many strategies that can achieve essentially the same result.⁸

Cross-market spillovers increase the profitability of leveraging conduct. Normally, the potential payoff from leveraging is simply to increase the profits the firm earns on product B by eliminating rivals and thereby stifling competition in that market.⁹ But with spillovers, there is an additional benefit. By capturing more users and data in the market for B, the firm can also increase the quality of product A, enhancing its profits in that market as well.¹⁰ As such, data spillovers strengthen incentives for leveraging conduct.

Of course, tying and similar arrangements are often procompetitive, even when employed by dominant firms. The most common reason is that it is often convenient to combine complementary products. For example, when Google Search users search for local restaurants, Google includes reviews from its own business review service on the search page. Many of these users are likely to be interested in such reviews, and this avoids the need to navigate to a review service manually. While convenient, this will reduce traffic to rival review services like Yelp. But this is not because Google has diminished rivals’ ability to compete. It has not made rival services harder to access, for example. Google’s search-integrated reviews are simply the more convenient option for many users, leaving less demand left over for rivals.

Compare this to the conduct at issue in the Google Ad Tech case (discussed earlier).¹¹ The court found that the tie increased Google’s user base not by making its own services more convenient, but by making it difficult or impossible for its users in one market to work with rival services in an adjacent market.

Both of these examples involve leveraging conduct in digital markets that are subject to cross-market data spillovers. But the first one is likely procompetitive, while the latter is likely anticompetitive. Importantly, however, cross-market

⁷ In a tying arrangement, the firm requires purchasers of A to buy its own version of B as well.

⁸ For example, the firm could offer a sizeable discount to consumers who buy both of its goods (“bundled discounting”). Or, if A and B need to interoperate with one another, the firm could design its version product A so that it is incompatible with rival versions of product B; or it could simply deny B-market rivals the APIs that they need to interoperate with product A. As discussed in the conclusion, American antitrust law currently applies different legal rules to these different leveraging strategies—a problematic inconsistency.

⁹ See, e.g., Michael Whinston, Tying, Foreclosure and Exclusion, 80 American Economic Review 837 (1990).

¹⁰ Even if the firm is already a pure monopolist in market A, this increase in quality will increase its profits in that market, as it enables the firm to charge higher prices.

¹¹ United States et al. v. Google LLC, No. 1:23-cv-00108 (E.D. Va. 2025).

spillovers make both strategies more profitable by increasing the spillover benefits enjoyed by the tying product.

Thus, while data spillovers are likely to increase the prevalence of tying and similar practices, this should not be interpreted to mean that such conduct is more likely to be anticompetitive in AI-related markets. As always, determining how a tie or similar restraint affects competition and consumers requires a case-specific inquiry; it cannot be deduced from generalities.

Cross-market spillovers can incentivize other behaviors as well. For example, many acquisitions (including acquisitions of noncompetitors) are motivated primarily by a desire to obtain the target firm's data, due to spillover benefits.¹² In some cases, a merger may be the only way to obtain data from another firm, as privacy concerns (or privacy regulations) sometimes make it difficult or impossible for separate firms to share their data with one another without merging. For instance, one recent study finds that California privacy regulations, which restrict data sharing between independent firms, have recently driven significant consolidation in the ad tech industry.¹³

4. Out-of-Market Benefits

When leveraging conduct excludes rivals in market B, data spillovers then raise the firm's profits in market A as well. But this new profit effect is not the only relevant consequence of data spillovers. The quality improvement in market A presumptively benefits consumers in that market. In principle, this positive welfare effect could outweigh the anticompetitive harm in market B.¹⁴

While interesting as a theoretical matter, in real-world antitrust cases this possibility is probably not a good basis for permitting the exclusion in market B.¹⁵ First, although the spillovers benefit consumers in market A, exclusion is by far the least efficient way to generate those spillovers.¹⁶ Society would be much better off if the spillovers were increased through procompetitive activity—for example, by investing in better technology (or simply setting lower prices) to attract more users in

¹² See, e.g., de Corniere & Taylor, *supra* note 4.

¹³ Rozhina Ghanavi, Sepideh Hosseini, & Catherine Tucker, *Privacy Regulation and Ad-Tech Consolidation* (working paper, 2025).

¹⁴ Note, however, that there could be adverse quality effects in other markets as well. For example, if rivals also operate in both markets A and B, then the leveraging conduct would reduce rivals' quality in market A, because it would reduce the spillover benefits they obtain from market B.

¹⁵ As a legal matter, whether such "out-of-market" benefits can provide a cognizable defense remains an open question.

¹⁶ By analogy, in a market with strong economies of scale, a dominant firm could argue that its exclusion of smaller rivals is efficient, because it will lower the firm's costs and could potentially reduce price levels on balance. But courts generally do not accept such defenses. One reason for this is that we do not want firms to view exclusion as a substitute for more procompetitive means of increasing their sales, such as investing in better technology or setting lower prices.

market B, or perhaps by entering into data-sharing agreements with other firms in market B. Even an acquisition of B-market rivals would be preferable to exclusion.¹⁷

Second, asking courts to balance benefits in one market against anticompetitive harm in another is usually intractable in practice.¹⁸ If the plaintiff demonstrates anticompetitive harm in a relevant market, then, at a minimum, the defendant should carry the burden of proving that the harm is outweighed by benefits to consumers in other markets. Asking plaintiffs affirmatively to disprove that possibility would be infeasible, seriously undermining enforcement.

5. Policy Implications and Concluding Remarks

In some ways, it would be better if the antitrust concerns raised by AI were entirely novel, as courts could then develop new legal standards without being held back by antiquated doctrine. Unfortunately, leveraging conduct has a long and dysfunctional history in American antitrust, creating a multitude of problems for enforcers.

In broad outline, the problems are twofold. First, antitrust’s treatment of leveraging conduct is fragmented into a range of distinct doctrines: tying, bundled discounting, exclusive dealing, anticompetitive product design, and even unilateral refusal-to-deal (RTD) are all examples of doctrines that are sometimes applied to leveraging conduct.¹⁹ This results in artificial legalistic line-drawing, as courts apply distinct legal rules to practices that raise substantially similar economic concerns. The second problem is that some of these doctrines are antiquated and economically unsound.

One example illustrates both problems. As just noted, some leveraging conduct is classified by courts as a unilateral RTD.²⁰ For example, Google might exploit its control of a major app store to exclude rivals in an app market by denying them access to its app store. From an economic standpoint, this is similar to the famous Microsoft tying case: a defendant is exploiting a dominant software platform to exclude rivals in an adjacent software market. But because American courts would classify it as an RTD, they would apply an idiosyncratic legal standard that bears no resemblance to the standard applied in Microsoft—an inconsistency that makes little sense from an economic standpoint.²¹ Moreover, the operative RTD standard is not an economically sound framework for evaluating leveraging conduct,

¹⁷ At least with an acquisition, the rival’s technology or other resources would likely continue to be put to some productive use.

¹⁸ See, e.g., Laura Alexander & Steven C. Salop, *Antitrust Worker Protections: Rejecting Multi-Market Balancing as a Justification for Harm to Workers*, 90 U. Chicago Law Review 273 (2023).

¹⁹ Erik Hovenkamp, *The Antitrust Duty to Deal in the Age of Big Tech*, 131 Yale Law Journal 1483 (2022).

²⁰ *Id.*

²¹ Erik Hovenkamp, *Platform Exclusion of Competing Sellers*, 49 Journal of Corporation Law 299 (2024).

because it focuses myopically on the defendant's intent rather than competitive effects.²²

Historically courts have rightly been skeptical of many RTD claims, due mainly to concerns about investment or administrability.²³ In the former case, if all dominant firms were required to share their technology with rivals, firms would have little incentive to invest in valuable new technologies. This would contravene the well-established policy that antitrust should not take away a monopoly earned on the merits. However, claims involving leveraging RTDs are no more likely to raise investment concerns than are ordinary tying claims. In both cases, liability would not take away the defendant's monopoly over its primary product (the "tying" product); it merely prevents the defendant from exploiting that monopoly to impair competition in a separate market.²⁴

Administrability concerns are more plausible, because the remedy for an RTD is compulsory dealing, which can raise practical challenges. However, many cases (particularly those involving platforms or ecosystems) would not raise those concerns, because the defendant already deals voluntarily with many third-party businesses. In that case, a court can just order the defendant to deal with rivals on the same terms as its other business users.²⁵

The proliferation of AI and associated data spillovers will likely increase both the prevalence and complexity of leveraging strategies. But as the above example illustrates, existing law is not well-equipped to deal with such conduct, as it is mired by too much legalistic doctrine and not enough practical economics. Courts and policymakers must therefore work to develop more sensible legal standards to address these issues effectively.

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²² Erik Hovenkamp, *Antitrust's Refusal-to-Deal Doctrine: The Emperor Has No Clothes*, CPI Antitrust Chronicle (2024).

²³ *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398 (2004).

²⁴ See Erik Hovenkamp, *Platform Exclusion of Competing Sellers*, 49 *Journal of Corporation Law* 299 (2024).

²⁵ For example, in the Google hypo above, the court could just order Google to let the rival apps into the store on the same terms as other third-party apps.