

No. 24-3576

**IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

GIBSON, ET AL.,
Plaintiffs-Appellants,

v.

CENDYN GROUP, INC. , ET AL.,
Defendants-Appellees

On Appeal from the United States District Court
for the District of Nevada, No. 2:23-CV-00140-MMD-DJA

**BRIEF FOR THE AMERICAN ANTITRUST INSTITUTE AS AMICUS
CURIAE IN SUPPORT OF REHEARING EN BANC**

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CORPORATE DISCLOSURE STATEMENT

Pursuant to Appellate Rule 26.1(a), the American Antitrust Institute states that it is a nonprofit, non-stock corporation. It has no parent corporations, and no publicly traded corporations have an ownership interest in it.

Date: October 9, 2025

AMERICAN ANTITRUST INSTITUTE

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INTEREST OF AMICUS CURIAE¹

The American Antitrust Institute (“AAI”) is an independent nonprofit organization devoted to promoting competition that protects consumers, businesses, and society. It serves the public through research, education, and advocacy on the benefits of competition and the use of antitrust enforcement as a vital component of national and international competition policy. AAI enjoys the input of an Advisory Board that consists of over 130 prominent antitrust lawyers, law professors, economists, and business leaders. See <http://www.antitrustinstitute.org>.²

¹ All parties have consented to the filing of this brief. No counsel for a party has authored this brief in whole or in part, and no party, party’s counsel, or any other person—other than amicus curiae or its counsel—has contributed money that was intended to fund preparing or submitting this brief.

² Individual views of members of AAI’s Board of Directors or Advisory Board may differ from AAI’s positions. A member of AAI’s Advisory Board is affiliated with a law firm that represents one of the Hotel Defendants, but that member played no role in AAI’s deliberations with respect to the filing of the brief.

SUMMARY OF ARGUMENT

Our economy is undergoing rapid transformation brought on by the rise of algorithmic pricing, or the use of automated methods to set prices for goods or services. Because pricing algorithms are expensive to build in-house, firms increasingly contract with third parties to license pricing software, and a consensus has formed among experts that competitors' use of the same pricing software may facilitate collusion and give rise to anticompetitive effects.

Antitrust law has developed precisely the toolkit needed to assess this kind of new and potentially anticompetitive conduct. Pursuant to principles established by the Supreme Court 114 years ago in *Standard Oil v. United States*, 221 U.S. 1 (1911), and applied by the Court in every Section 1 case since then, agreements should be carefully examined to determine whether they have anticompetitive effects, such as reducing output or raising prices above the competitive level. Under this analysis, some agreements are so obviously anticompetitive that they are considered illegal *per se*. "All other cases fall within the 'rule of reason' which—as the name implies—requires balancing of the conduct's effects with any procompetitive justifications." *Sidibe v. Sutter Health*, 103 F.4th 675, 709 (9th Cir. 2024). The goal of the rule of reason is "is to 'distinguish between restraints with anticompetitive effect that are harmful to the consumer and restraints stimulating competition that are in the consumer's best interest.'" *Ohio v. Am. Express Co.*, 585

U.S. 529, 541 (2018) (hereinafter “*Amex*”) (quoting *Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752, 768 (1984); *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U. S. 877, 886 (2007)) (alterations omitted).

But the panel opinion does not follow this well-trodden analytical path. Instead, it adopts a rule that licensing agreements between a firm and a third-party pricing software provider are “ordinary sales contract[s],” which, in its view, are incapable of “impos[ing] a restraint of trade in the relevant market” for the priced product and therefore do not need to be analyzed under either the *per se* rule or the rule of reason. Op. at 17, 26, 29.

The panel opinion demonstrates a fundamental confusion about antitrust causation: it treats agreements as “causing” restraints instead of recognizing that agreements *are* restraints which can cause anticompetitive effects. It directly contradicts the Supreme Court’s holding in *Board of Trade of the City of Chicago v. United States* that “[t]he true test of legality” of an agreement is not “whether it restrains competition,” but whether, based on “the relevant facts,” it “merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition.” 246 U.S. 231, 238 (1918) (hereinafter “*Chicago Board of Trade*”). And it exempts from the Sherman Act an increasingly widespread practice which experts agree merits antitrust scrutiny. *En banc* rehearing is necessary to allow the Court to correct this fundamental error and

clarify that standard Section 1 analysis applies to firms' licensing agreements with third-party providers of pricing software.

ARGUMENT

I. The panel opinion fundamentally errs by presuming that a pricing software license cannot restrain trade in the market in which it prices products.

The panel opinion relies on a “leading antitrust treatise” to adopt an unprecedented rule that a licensing agreement between a seller and a third-party pricing software provider is an “ordinary sales contract,” which, in its view, is incapable of restraining trade in the relevant market and therefore does not need to be analyzed under either the *per se* rule or the rule of reason. Op. at 17, 29 (quoting 6 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION (5th ed. 2023) ¶ 1437a (hereinafter “ANTITRUST LAW”). The panel committed this fundamental error because it misunderstands antitrust causation.

As an initial matter, the cited treatise does not support the panel's reasoning. The treatise uses the term “ordinary sales contract” to explain that “vertical agreements between actual or would-be suppliers are everywhere,” and that “[t]heir very ubiquity indicates that only a few will be of antitrust concern,” *i.e.* those that “can effectively aggregate market shares and thus increase the risk of lower output and higher prices.” ANTITRUST LAW, ¶ 1437a. This is merely a

restatement of the Supreme Court’s holding in *Standard Oil* that all contracts restrain trade to some extent, and that the Sherman Act only prohibits those which do so unreasonably. 221 U.S. at 63–68.

The Court’s confusion about antitrust causation is evident in its statement that “Section 1 requires a causal link between a contested agreement and an anticompetitive restraint of trade in the relevant market.” Op. at 2. The panel believes that contracts, combinations, and conspiracies *cause* restraints of trade. It is mistaken. Contracts, combinations and conspiracies *are* restraints of trade.

The agreement element of a Section 1 claim is a single element—proof that the parties have engaged in concerted action. It is not a two-part inquiry into (1) whether there is an agreement and (2) whether the agreement restrains trade. The 114-year-old insight that restraint is “of the[] very essence” of agreement and “[e]very agreement concerning trade ... restrains” is the insight that proof of causation between “agreement” and “restraint of trade” would be a redundancy. *Chi. Bd. of Trade*, 246 U.S. at 238. Indeed, the Supreme Court created the rule of reason precisely because there is no difference whatsoever between “an agreement” and “an agreement in restraint of trade.” *United States v. Am. Tobacco Co.*, 221 U.S. 106, 180 (1911) (reasonableness gloss necessary because otherwise “the act [would] be at war with itself by annihilating the fundamental right of freedom to trade”); see *Nat’l Soc. of Prof’l Eng’rs v. United States*, 435 U.S. 679,

687 (1978) (“[T]he language of § 1 of the Sherman Act . . . cannot mean what it says.”).

The court was correct that a “causal link” must be proven but wrong about what the link must connect. Plaintiffs do not have to prove a causal link between “an agreement and a restraint of trade”; that is a meaningless statement that translates to proving a causal link between “an agreement and an agreement.”

Rather, plaintiffs must prove a causal link between an agreement and an anticompetitive effect. *See, e.g., Maya v. Centex Corp.*, 658 F.3d 1060, 1070 (9th Cir. 2011) (To have standing “plaintiffs must establish a ‘line of causation’ between defendant’s action and their alleged harm.”); *see also Am. Ad Mgmt., Inc. v. General Tel. Co.*, 190 F.3d 1051, 1057–58 (9th Cir. 1999) (finding requirements of prudential standing satisfied where plaintiff broker lost commissions due to vertical agreement in ad sales).

Beyond this basic confusion, the panel makes two mistaken conclusions that conflict with basic principles of antitrust law and economics. First, the panel concludes that pricing software is not an “input” into the hotel room market. Op. at 16. Second, it wrongly holds that licensing agreements between Cendyn and the Hotel Defendants are not “vertical” agreements but “ordinary sales contract[s].” Op. at 15, 17. These conclusions are both clearly erroneous and create faulty precedent.

As a legal matter, the Supreme Court has made clear that the Sherman Act applies to both agreements “between competitors” and agreements “between firms at different levels of distribution.” *Amex*, 585 U.S. at 541 (quoting *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 730 (1988)). The treatise classifies the former as horizontal and the latter as vertical. *See generally* ANTITRUST LAW, ¶¶ 1400–78, 1600–55, 1900–14. The panel erred by introducing the additional requirement that, for the agreement to be vertical, the agreeing firms must be “up or down the supply chain *in the relevant market*” and that the agreement must be to provide an *input*—which the panel erroneously defines as including only “raw materials, capital, or labor.” Op. at 15–17 (emphasis added) (citing *Input*, OXFORD ENGLISH DICTIONARY (2nd ed. 1989)). These added requirements are inappropriate as a matter of economics and of law.

As an economic matter, the panel’s reliance on a 1989 dictionary definition of the word “input” is improper. “In interpreting the antitrust laws, we . . . must look at the economic reality of the relevant transactions.” *United States v. Concentrated Phosphate Exp. Ass’n*, 393 U.S. 199, 208 (1968) (internal citation omitted). There can be no serious doubt that, in the “modern economy,” “data is an input into the production of goods and services.” Yan Carriere-Swallow & Vikram Haksar, *The Economics and Implications of Data: An Integrated Perspective*, IMF Departmental Paper No. 2019/013, INT’L MONETARY FUND (Sep. 23, 2019) at 9;

Costar Grp., Inc. v. Com. Real Est. Exch., Inc., 150 F.4th 1056, *33 (9th Cir. 2025) (treating “information” as an “input[] necessary for competition”). In the vast majority of modern markets, data related to pricing—including prices recommended by an algorithm—is a critical input firms use to market their products or services.³

Nor are vertical agreements limited to agreements to supply inputs, as the panel opinion suggests. Indeed, the same passage of the treatise relied upon by the panel defines a vertical agreement as “one between two firms who ordinarily stand in a seller-buyer relationship” and lists “[s]ales, licenses, franchises, employment agreements and information arrangements” as common examples of vertical agreements. ANTITRUST LAW, ¶ 1437a. And courts have consistently treated licensing agreements as vertical agreements subject to the rule of reason, including when—as with all vertical agreements—the subject of the agreement is not located within the same market as the agreement’s effects. *See, e.g., Disney Enters. v. Vidangel, Inc.*, No. 2:16-cv-04109 - AB (PLAx), 2017 U.S. Dist. LEXIS 221689, at *26 (C.D. Cal. Aug. 10, 2017) (assessing licensing agreements to stream filtered

³ Competition Bureau of Can., *Algorithmic pricing and competition: Discussion paper* (June 10, 2025), <https://competition-bureau.canada.ca/en/how-we-foster-competition/education-and-outreach/publications/algorithmic-pricing-and-competition-discussion-paper> (“Pricing algorithms are just one type of algorithms that businesses may use for marketing their products or services.”) (hereinafter “Competition Bureau of Canada Discussion Paper”)

movies as vertical agreements under the rule of reason based on parties' market share in the broader streaming market); *Panini Am., Inc. v. Fanatics, Inc.*, No. 23-CV-9714-LTS-VF, 2025 U.S. Dist. LEXIS 42143, at *30 (S.D.N.Y. Mar. 10, 2025) (assessing players' licensing agreements as vertical agreements under the rule of reason based on effects in the market for trading cards).

As a legal matter, the panel misunderstands the analytical significance of market definition. It wrongly uses the relevant market to assess the locus of the agreement's restraint rather than the locus of the restraint's effects. Courts do not start by defining the relevant market in order to determine *where* agreements restrain trade. ANTITRUST LAW, ¶ 1437a (“[T]he existence of an agreement” must be assessed “independently of the agreement’s subject.”). They start by defining the market because they usually have “no [other] way to measure the defendant’s ability to lessen or destroy competition.” *Amex*, 585 U.S. at 543 (cleaned up); *Sutter Health*, 103 F.4th at 709 (“[T]he rule of reason weighs the anticompetitive effects of the conduct in the relevant market against its procompetitive effects, and determines whether, on balance, the practice harms competition.”).

Again mistakenly, the panel stated that “[p]laintiffs did not allege facts sufficient to permit a plausible inference that the agreements for the provision of the revenue-management software effected a restraint of trade *in the relevant market*—hotel-room rentals on the Las Vegas Strip.” Op. at 5 (emphasis in

original). The panel's observation that the "restraint of trade" is not in the hotel-room rental market is not wrong, but the only upshot of the observation is obvious: the agreement is vertical. The fact that a restraint is not located in the same market where harm is alleged is the starting point of a rule-of-reason analysis in a vertical restraints case, not the end. The question in vertical restraints cases is always the same as the question at issue here: whether an agreement between firms in two different markets causes anticompetitive effects in one of the markets. The panel's reasoning is thus circular: because vertical agreements by definition occur either upstream or downstream of the relevant market, they will never "effect[] a restraint of trade" in that market, and therefore, in the panel's view, could never violate Section 1. Op. at 5.

The panel's conclusion that the rule of reason does not apply to firms' licensing agreements with third-party pricing software providers caused it to ignore Plaintiffs' well-pleaded allegations of anticompetitive effects. Plaintiffs alleged that, when the Hotel Defendants started using Cendyn's software, they began charging higher prices for rooms while decreasing occupancy, a textbook example of anticompetitive effects that the panel dismissed as merely "maximiz[ing] profit." Op. at 21, n.9; *Amex*, 585 U.S. at 542 ("Direct evidence of anticompetitive effects" include "reduced output, increased prices, or decreased quality in the relevant market.") (citation omitted). The panel also disregarded Plaintiffs'

allegations that Cendyn’s pricing recommendations to each Hotel Defendant are informed by the non-public information of the others, missing the point that the pricing algorithm allows them to benefit from each other’s non-public pricing data without sharing it directly. Op. at 19, n.8; see Amicus Brief of the American Antitrust Institute, ECF No. 60, *Cornish-Adebiyi v. Caesars Ent. Inc.*, No. 24-3006 (3d Cir. Jan. 28, 2025), at 14–15 (explaining how pricing algorithms can lead to supracompetitive prices even without firms sharing data with each other). In disregarding these allegations, the panel based its analysis “on formalistic distinctions rather than actual market realities.” *Eastman Kodak Co. v. Image Tech. Servs.*, 504 U.S. 451, 466 (1992).

II. By creating a new category of agreements which are not subject to rule-of-reason analysis, the panel opinion conflicts with the Supreme Court’s opinion in *Chicago Board of Trade*.

The panel’s unprecedented approach creates a new category of agreements which, in its view, are not capable of restraining trade in the relevant market and therefore do not need to be analyzed under the rule of reason. Op. at 17, 29. Such a holding violates century-old Supreme Court precedent requiring the application of the rule of reason, which *en banc* rehearing is needed to correct. As the Court ruled in *Chicago Board of Trade*:

[T]he legality of an agreement or regulation cannot be determined by so simple a test, as whether it restrains competition. Every agreement concerning trade, every regulation of trade, restrains. To bind, to restrain, is of their very essence. The true test of legality is

whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition. To determine that question the court must ordinarily consider the facts peculiar to the business to which the restraint is applied; its condition before and after the restraint was imposed; the nature of the restraint and its effect, actual or probable.

246 U.S. at 238.

Since then, courts have consistently held that, unless an agreement falls within the category of restraints that are unreasonable *per se* because they “always or almost always tend to restrict competition and decrease output,” *Sharp Elecs. Corp.*, 485 U.S. at 723, it must be analyzed under the rule of reason. *Amex*, 585 U.S. at 541 (“Restraints that are not unreasonable *per se* are judged under the rule of reason.”) (internal quotation marks omitted); *Flaa v. Hollywood Foreign Press Ass’n*, 55 F.4th 680, 688 (9th Cir 2022) (“We assess *all other restraints* under the ‘rule of reason.’”) (emphasis added); *Sutter Health*, 103 F.4th at 709 (“*All other cases* fall within the ‘rule of reason,’ which—as the name implies—requires balancing of the conduct’s effects with any procompetitive justifications.”).

Even if this Court agrees with the ultimate conclusion that the licensing agreements do not violate Section 1, the panel’s conclusion that they need not be reviewed under the rule of reason at all is a serious error which must be corrected. In limiting the application of the *per se* rule—the only alternative it has recognized

to rule-of-reason analysis—the Supreme Court has made clear that “departure from the rule-of-reason standard must be based upon demonstrable economic effect rather than . . . upon formalistic line drawing.” *Cont’l T.V. v. GTE Sylvania*, 433 U.S. 36, 58–59 (1977). The panel’s formalistic holding that the licensing agreements are “ordinary sales contracts” incapable of restraining trade and are therefore exempt from the rule of reason contradicts fundamental principles of antitrust law, which rehearing is needed to correct.

III. This case presents an issue of exceptional public importance: whether competitors’ use of third-party pricing software can ever violate the antitrust laws.

Pricing algorithms are increasingly common market features, and their use has become widespread by airlines,⁴ hotels,⁵ and online platforms,⁶ and in

⁴ Wedad Elmaghraby & Pinar Keskinocak, *Dynamic Pricing in the Presence of Inventory Considerations: Research Overview, Current Practices, and Future Directions*, 49 MGMT. SCI. 1287, 1288 (2003).

⁵ Dan Hill, *The Secret of Airbnb’s Pricing Algorithm: The sharing economy needs machine intelligence to set prices*, IEEE SPECTRUM (Aug. 20, 2015), <https://spectrum.ieee.org/the-secret-of-airbnbs-pricing-algorithm>.

⁶ Le Chen *et al.*, *An Empirical Analysis of Algorithmic Pricing on Amazon Marketplace*, in WWW’16: PROCEEDINGS OF THE 25TH INT’L CONF. ON WORLD WIDE WEB 1339, 1344–45 (J. Bourdeau *et. al.* eds., 2016), available at <https://mislove.org/publications/Amazon-WWW.pdf>.

housing,⁷ ride sharing,⁸ and online retail markets.⁹ Because they are expensive to develop and maintain, firms increasingly contract with third-party pricing software providers. Empirical evidence shows that the use of third-party pricing algorithms leads to higher prices over time,¹⁰ and a consensus has formed among academics¹¹ and enforcers¹² that competitors' use of the same pricing algorithm can inhibit

⁷ Sophie Calder-Wang & Gi Heung Kim, *Algorithmic Pricing in Multifamily Rentals: Efficiency Gains or Price Coordination?* 30, 57 (Aug. 16, 2024) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4403058.

⁸ Peter Cohen *et al.*, *Using Big Data to Estimate Consumer Surplus: The Case of Uber* 3–4 (Nat'l Bureau of Econ. Research, Working Paper 22627, 2016), <https://doi.org/10.3386/w22627>.

⁹ Zach Y. Brown & Alexander MacKay, *Competition in Pricing Algorithms*, 15 AM. ECON. J.: MICROECONOMICS 109, 112 (2023), available at <https://doi.org/10.1257/mic.20210158>.

¹⁰ Calder-Wang & Kim, *supra* n.8 at 30–31; Leon Musolff, *Algorithmic Pricing, Price Wars and Tacit Collusion: Evidence from E-Commerce* 1–2 (Mar. 27, 2024), available at https://lmusolff.com/papers/Algorithmic_Pricing.pdf.

¹¹ *See, e.g.*, Martin Spann *et al.*, *Algorithmic Pricing: Implications for Marketing Strategy and Regulation*, INT'L J. OF RESEARCH & MKTG. 12 (2024) <https://doi.org/10.1016/j.ijresmar.2025.05.001>; Ibrahim Abada *et al.*, *Algorithmic Collusion: Where Are We and Where Should We Be Going?* 14–18 (Aug. 1, 2025), available at <https://ssrn.com/abstract=4891033>; Michal S. Gal, *Limiting Algorithmic Coordination*, 38 BERKELEY TECH. L.J. 173, 181 (2023); Ariel Ezrachi & Maurice E. Stucke, *Sustainable and Unchallenged Algorithmic Tacit Collusion*, 17 NW. J. TECH. & INTELLECTUAL PROP. 217, 258–59 (2020).

¹² *See, e.g.*, Competition Bureau of Canada Discussion Paper, *supra* n.3; Statement of Interest of the United States, *MultiPlan*, 2025 U.S. Dist. LEXIS 104989 (ECF No. 382) (filed Mar. 27, 2025), at 1 (“Competitors’ use of algorithmic technologies to coordinate their decision-making poses a growing threat to the free market competition on which our economic system is premised.”); Brief for the United States as Amicus Curiae in Support of Plaintiffs-Appellants, *Gibson v. Cendyn Group Inc.*, No. 24-3576 (ECF No. 28) (filed Oct. 24, 2024), at 27 (“Vertical

competition by allowing them to coordinate pricing.

As a result, competitors' use of a shared algorithmic pricing model has given rise to Section 1 claims not only in hotel markets but also in housing and healthcare markets. *See, e.g., In re RealPage, Inc.*, 709 F.Supp.3d 478 (M.D. Tenn. 2023); *Cornish-Adebiyi v. Caesars Ent. Inc.*, No. 1:23-cv-02536-KMW-EAP, 2024 U.S. Dist. LEXIS 178504 (D.N.J. Sept 30, 2024), *appeal docketed*, No. 24-3006 (3rd Cir. Oct. 29, 2024); *Duffy v. Yardi Systems, Inc.*, 758 F.Supp.3d 1283 (W.D. Wash. 2024); *In re Multiplan Health Ins. Provider Litig.*, No. 24 C 6795, 2025 U.S. Dist. LEXIS 104989 (N.D. Ill. June 3, 2025). Consistent with Supreme Court precedent, every court to reach the issue has examined the practical impacts of competitors' use of the same third-party pricing software under either the *per se* rule or the rule of reason. *In re RealPage*, 709 F.Supp.3d at 521–35 (applying rule of reason); *Yardi*, 758 F.Supp.3d at 1294–97 (applying *per se* rule); *MultiPlan*, 2025 U.S. Dist. LEXIS 104989 at *37–41 (applying *per se* rule).¹³ No court has

agreements involving pricing algorithms can be unlawful under the rule of reason.”).

¹³ Addressing only allegations of a horizontal conspiracy between hotel competitors, the district court in *Cornish-Adebiyi* did not reach the question of whether any agreement was unreasonable under Section 1 because it found that plaintiffs had not sufficiently alleged the existence of an agreement. 2024 U.S. Dist. LEXIS 178504 at *10–22. The Third Circuit has heard oral argument on the appeal of that case but has not yet issued an opinion. *See* Oral Argument Transcript, ECF No. 110, *Cornish-Adebiyi v. Caesars Ent. Inc.*, No. 24-3006 (3d Cir.) (Oct. 1, 2025).

done what the panel does, which is to exempt competitors' use of a shared pricing algorithm from scrutiny under Section 1 altogether.

By holding that firms' licensing agreements with third-party pricing software providers are "ordinary sale contracts" incapable of restraining trade in the relevant market, the panel opinion creates a rule that, in this circuit, competitors' use of the same third-party pricing software provider is immunized from scrutiny under the antitrust laws regardless of any alleged anticompetitive effects. If allowed to stand, this rule will exempt from antitrust scrutiny increasingly common market conduct which experts agree merits close inspection. Even if the *en banc* panel does not reverse the district court's opinion, it should at least correct the panel's grant of wholesale antitrust immunity for competitors' use of the same pricing algorithm.

CONCLUSION

For the foregoing reasons, *en banc* review is appropriate in this case.

Respectfully submitted,

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FOR THE NINTH CIRCUIT**

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