Testimony of Geoffrey Manne & Eric Fruits

Submitted to Portland City Council
April 2, 2025, Meeting, Agenda Item #16

Submitted April 1, 2025

Re: Opposition to proposed ordinance amending the Affordable Housing Code to prohibit algorithmic pricing tools

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Thank you for the opportunity to provide testimony on the proposed ordinance prohibiting the use of algorithmic pricing tools in Portland's rental housing market. Geoffrey Manne is the President and Founder of the International Center for Law & Economics (ICLE), a nonpartisan nonprofit research organization based in Portland. Eric Fruits is a Senior Scholar and Economist at ICLE. He is also an adjunct professor at Portland State University, where he has taught courses in real estate finance and investments and edited the PSU Center for Real Estate's *Quarterly Report* on Oregon's real estate markets for a decade. Dr. Fruits was a peer reviewer and authored the back-of-chapter exercises and test bank for the 14th edition of the widely used textbook *Real Estate Finance and Investments* by W. B. Brueggeman and J. D. Fisher.

Our opposition is grounded in economic principles, antitrust law, and an understanding of how algorithmic tools function in competitive markets. We recently wrote on the competitive effects of algorithmic pricing tools and submitted amicus briefs in *Gibson v. Cendyn* and *Adebiyi v. Caesars Entertainment* (attached) regarding algorithmic pricing in hotels, where we note:

> [S]ubscribing to the same software does not imply an agreement *among competitors* to do anything, much less fix prices. The revenue management functions that [the software] automates are lawful. And automating lawful commercial activity does not make that activity unlawful.

This Policy Will Increase Rents and Reduce Housing Access

The ordinance misunderstands how modern rental markets function. Algorithmic pricing tools are not collusion—they are data-driven efficiency tools that help property owners:

- **Prevent vacancies** (reducing turnover costs passed to tenants);
- **Adjust rents to match demand** in specific neighborhoods;
- **Identify units that can be priced *below* market rate** to meet affordability goals.

Research published by the Wharton School finds that property owners using algorithmic pricing software adjust rents more effectively based on market conditions. During economic downturns (e.g., 2008–2010), property owners using the software lowered rents and increased occupancy compared to those who didn't use the software. Conversely, during economic recoveries (e.g., 2014–2016), property owners using the software raised rents and tolerated lower occupancy relative to those who didn't use the software.

This indicates the software helps property owners respond to changing demand, improving efficiency

By banning these tools:

- Small property owners (who lack pricing expertise) will default to overpricing units to hedge against risk;
- Corporate property owners with dedicated pricing teams gain a substantial advantage;
- Vacancies will rise as prices become less responsive to demand shifts, reducing tax revenue for affordable housing programs

Key Flaws in the Text

§30.01.088.A's exemption favors large corporate property owners over small or "mom-and-pop" property owners. The ordinance exempts "any tool that aggregates, analyzes, or compiles information *exclusively from properties or entities with the same majority owner or beneficial owner.*" Only large corporate property owners would have the scale to bring such tools in-house, thus providing them a distinct competitive advantage over smaller property owners.

§30.01.088.B.6 allows corporate property managers to continue using pricing tools while blocking small property owners from accessing them. The ordinance distinguishes between entities that solely provide pricing tools (e.g., software developers like RealPage) and property management companies that offer a suite of services, including pricing decisions.

While this exemption may be intended to preserve the ability of traditional property managers to operate without disruption, it could inadvertently create a

loophole for property owners or large corporations to bypass restrictions by contracting with property management firms that use similar algorithmic tools under the guise of broader services.

This provision disproportionately favors large property owners who can afford full-service property management firms. In contrast, smaller property owners—who often rely on third-party pricing tools—may lose access to efficient pricing mechanisms.

§30.01.088.C.1.b's statutory damages of $10,000 per lease will force small property owners to exit the market over liability fears. The statute defines violations broadly, including:

- Technical non-compliance with data-sharing prohibitions (e.g., accidentally using a spreadsheet that aggregates public rental data);
- Unintentional errors in pricing decisions (e.g., adjusting rent based on market trends without realizing it could be construed as algorithmic coordination); or
- Administrative oversights (e.g., failing to document compliance with pricing tool bans).

The statutory damages of $10,000 per lease are enormous and far more than any actual damages a tenant might incur from allegedly being "overcharged" for rent.

More importantly, the statutory damages will likely trigger numerous nuisance lawsuits because the cost of even a "bare bones" legal defense would be much more than the statutory damages. Property owners charged in such a suit would face an extraordinary incentive to settle—even if they are innocent of the allegations.

The award of attorney's fees (§30.01.088.C.1.a) compounds the likelihood of nuisance suits, turning the ordinance into a shakedown scheme that will encourage smaller property owners to exit the market.

§30.01.088.A's vague definitions could criminalize using basic Excel spreadsheets, ChatGPT, or popular websites such as RentCafe. The proposed ordinance explicitly lists "spreadsheets" alongside advanced technologies like artificial intelligence programs and algorithmic devices. The definition does not distinguish between simple tools used for basic calculations (e.g., Excel formulas) and sophisticated software designed for dynamic pricing or market analysis.

Under the ordinance's expansive definition, property owners who use basic spreadsheets to track historical rent data, consult RentCafe for comparable properties, and calculate or adjust rents based on the spreadsheet could be in violation of the ordinance.

For example:

- A property owner tracking occupancy rates and rent changes around their properties might be accused of compiling "competitively sensitive information."
- Sharing a spreadsheet with a property manager or accountant could be considered unlawful data sharing under §30.01.088.B.4.

As noted above, larger property owners with in-house teams may avoid scrutiny by using proprietary systems not explicitly covered by the ordinance. In contrast, smaller property owners face heightened enforcement risks due to reliance on simpler methods.

By failing to narrowly define "competitively sensitive information" and "price setting tool," the ordinance risks criminalizing routine practices essential to small-scale property management. This ambiguity disproportionately harms small property owners who rely on simple tools like Excel spreadsheets for basic calculations and compliance with rental laws.

Recommendations

Proponents of this ordinance point to the numerous algorithmic pricing lawsuits pending in the courts. The courts are precisely the correct venue for dealing with allegations of collusive price-setting.

At the federal level, the U.S. Department of Justice and Federal Trade Commission (FTC) have the expertise and authority to investigate and prosecute price-fixing claims. In addition, the FTC has the authority to investigate allegations of consumer harm and unfair methods of competition. Under state law, the Oregon Department of Justice has similar authority. Not only is this proposed ordinance harmful—as discussed above—it's also unnecessary and duplicative.

We urge City Council to reject this ordinance and instead pursue policies that tackle Portland's housing challenges at their core—by increasing supply and fostering competition.

United States Court of Appeals
for the
Third Circuit

No. 24-3006

KAREN CORNISH-ADEBIYI; LUIS SANTIAGO; MONICA BLAIR-SMITH, individually and on behalf of all others similarly situated,
Plaintiffs-Appellants,

– v. –

CAESARS ENTERTAINMENT, INC.; BOARDWALK REGENCY LLC, d/b/a Caesars Atlantic City Hotel & Casino; HARRAHS ATLANTIC CITY OPERATING COMPANY, LLC, d/b/a Harrahs Resort Atlantic City Hotel & Casino; TROPICANA ATLANTIC CITY CORPORATION, d/b/a Tropicana Casino and Resort Atlantic City; MGM RESORTS INTERNATIONAL; MARINA DISTRICT DEVELOPMENT COMPANY, LLC, d/b/a Borgata Hotel Casino & Spa; HARD ROCK INTERNATIONAL INC.; SEMINOLE HARD ROCK SUPPORT SERVICES, LLC; BOARDWALK 1000, LLC, d/b/a Hard Rock Hotel & Casino Atlantic City; CENDYN GROUP, LLC,
Defendants-Appellees.

ON APPEAL FROM AN ORDER OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF NEW JERSEY IN NO. 1-23-CV-02536
HONORABLE KAREN M. WILLIAMS, DISTRICT JUDGE

BRIEF OF THE INTERNATIONAL CENTER FOR LAW & ECONOMICS AS *AMICUS CURIAE* IN SUPPORT OF DEFENDANTS

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Pursuant to Rules 26.1 and 29(a)(4)(A) of the Federal Rules of Appellate Procedure, counsel for *amicus curiae* hereby state that The International Center for Law & Economics is a nonprofit corporation has no parent corporations and has issued no stock.

Dated: March 31, 2025 /s/ Thomas J. Sullivan
Thomas J. Sullivan

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INTEREST OF *AMICUS CURIAE*

The International Center for Law & Economics ("ICLE") is a nonprofit, non-partisan global research and policy center aimed at building the intellectual foundations for sensible, economically grounded policy. ICLE promotes the use of law and economics methodologies and economic learning to inform policy debates and has long-standing expertise evaluating antitrust law and policy.

ICLE has an interest in ensuring that antitrust law promotes the public interest by remaining grounded in sensible rules informed by sound economic analysis. That includes ensuring that antitrust enforcement is not used to stifle innovation and expose companies to liability for engaging in rational and efficient economic behavior, topics written upon extensively by ICLE scholars including Brian C. Albrecht, Dirk Auer, Daniel J. Gilman, Geoffrey A. Manne, and Mario A. Zúñiga.

SUMMARY OF ARGUMENT

Plaintiffs allege horizontal price-fixing in violation of Section 1 of the Sherman Act. Specifically, plaintiffs allege a hub-and-spoke conspiracy claim based on allegations that each Hotel Defendant subscribed to Rainmaker software provided by defendant Cendyn. Plaintiffs' claims are

inconsistent not only with precedent, but also with economic theory and common economic experience.

An actual hub-and-spoke conspiracy is, fundamentally, an agreement among horizontal competitors in violation of Section 1. As this Court has recognized, "Such a conspiracy 'involves a hub, generally the dominant purchaser or supplier in the relevant market, and the spokes, made up of the distributors involved in the conspiracy. The rim of the wheel is the connecting agreements among the horizontal competitors (distributors) that form the spokes.'" *Howard Hess Dental Labs, Inc. v. Dentsply Int'l*, 602 F.3d 237, 255 (3d Cir. 2010) (quoting *Total Benefits Planning Agency, Inc. v. Anthem Blue Cross & Blue Shield*, 552 F.3d 430, 435 n. 3 (6th Cir.2008); *see also* 2 Phillip E. Areeda & Herbert Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, ¶ 1426, at 188 n. 11 (2d ed. 2000); ABA Section of Antitrust Law, *Antitrust Law Developments* 24 (6th ed. 2007). In *Dentsply*, this Court found the allegations of a hub-and-spoke conspiracy inadequate because, simply, "the 'rim' connecting the various 'spokes' is missing." 602 F.3d at 255 Adequate pleading of the "rim" is at least as important where plaintiffs allege a per se violation: "'[T]he critical issue for establishing a per se violation with the hub and spoke system is

how the spokes are connected to each other.'" *Ins. Brokerage*, 618 F.3d at 327 (quoting *Total Benefits*, 552 F.3d at 436).

Plaintiffs, however, fail to plausibly allege the critical "rim" of a hub-and-spoke conspiracy. Plaintiffs offer no direct evidence of an agreement among Hotel Defendants and rely instead on the mere fact that Hotel Defendants subscribe to the same software as thousands of other hotels across diverse geographic and product markets. But subscribing to the same software does not imply an agreement *among competitors* to do anything, much less fix prices. The revenue management functions that Rainmaker automates are lawful. And automating lawful commercial activity does not make that activity unlawful. Not only do plaintiffs concede that Hotel Defendants frequently override Rainmaker's pricing recommendations, belying any claim of an agreement on prices, but that behavior is consistent with fundamental economic principles that deter coordinated pricing. Plaintiffs offer no basis to infer a conspiracy from firms seeking to benefit from the significant efficiencies provided by automation.

ARGUMENT

I. COMMON ECONOMIC EXPERIENCE UNDERSCORES THE FLAWS IN PLAINTIFFS' HUB-AND-SPOKE CLAIM.

As the district court below recognized, "[t]he specific conspiracy alleged in this case is arranged with Cendyn and its Rainmaker products in the middle as the 'hub,' and the individual Casino-Hotels are the 'spokes.'" A6. Further, an unlawful agreement under Section 1 requires the "rim" of the wheel; that is, "the connecting agreements among the horizontal competitors that form the spokes." *Id*. Hence, "the 'critical issue' for establishing a hub-and-spoke conspiracy is determining 'how the spokes are connected to each other.'" *Id*.

The record below does not indicate any direct evidence of the rim—that is, of relevant horizontal agreements among the Defendant Hotel competitors. Indeed, Plaintiffs do not even argue direct evidence of such an agreement on appeal. As with all allegations of horizontal agreements based on parallel conduct where direct evidence is absent, the sufficiency of plaintiffs' allegations "turns on the suggestions raised" by defendants' "conduct when viewed in light of common economic experience." *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544, 565 (2007); *see also id*. at 554 (parallel

conduct may be "consistent with conspiracy, but just as much in line with a wide swath of rational and competitive business strategy unilaterally prompted by common perceptions of the market").

These legal standards matter. An alleged hub-and-spoke conspiracies may share features with legitimate business conduct, such as normal discussions between suppliers and distributors, and retaining consultants to advise on outsourcing of certain aspects of a business. For that reason, courts correctly proceed with caution in this area of the law. As this Court observed in *In re Insurance Brokerage,* "*Twombly* makes clear that a claim of conspiracy predicated on parallel conduct should be dismissed if 'common economic experience,' or the facts alleged in the complaint itself, show that independent self-interest is an 'obvious alternative explanation' for defendants' common behavior." *In re Ins. Brokerage Antitrust Litigation*, 618 F.3d 300, 326 (3d Cir. 2010).

They matter all the more where, as in the Plaintiffs' first complaint, the alleged violation—horizontal price fixing—is a per se violation of Section 1 of the Sherman Act. And as the Supreme Court has often reminded us, per se liability is reserved for conduct "that would always or almost always tend to restrict competition and decrease output." *Broadcast Music, Inc. v. Columbia*

Broad. Sys., Inc., 441 U.S. 1, 19-20 (1979) (citing *United States v. United States Gypsum Co.*, 438 U.S. 422, 441 n. 16 (1978); *National Society of Professional Engineers v. United States*, 435 U.S. 679, 692 (1978); *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 50 n. 16 (1977); *Northern Pac. R. Co. v. United States,* 356 U.S. 1, 4 (1958). Those are "agreements or practices which, because of their pernicious effect on competition and lack of any redeeming virtue" are presumed to be illegal. *Northern Pac. R. Co.*, 356 U.S. at 5.

As we explain below, there are obvious independent business reasons—reasons having nothing to do with price-fixing—for the use of Rainmaker's software. The trial court below correctly found that plaintiffs' allegations based on Hotel Defendants' separate and independent decisions to subscribe to Rainmaker's software, at various times across more than a decade, did not plausibly plead a hub-and-spoke conspiracy: "even when considering the Amended Complaint as a whole in the light most favorable to Plaintiffs, the fourteen-year gap, coupled with the pricing authority the Casino-Hotels' continued to retain and exercise, makes it quite implausible that they tacitly agreed to anything, much less to fix the prices of their hotel rooms." A10.

II. BUSINESS SOFTWARE IS NOT INHERENTLY UNLAWFUL.

As former FTC Commissioner and then-Acting Chair Maureen Ohlhausen explained: "There is nothing inherently wrong with using mathematics and computers to engage more effectively in commercial activity, regardless of whether that activity is participation in the financial markets or the selling of goods and services." Maureen K. Ohlhausen, Acting Chairman, U.S. Federal Trade Commission, *Should We Fear the Things That Go Beep in the Night? Some Initial Thoughts on the Intersection of Antitrust Laws and Algorithmic Pricing* at 3 (May 23, 2017), https://www.ftc.gov/system/files/documents/public_statements/1220893/ohlhausen_-_concurrences_5-23-17.pdf. That is, the automation of lawful business practices does not render them unlawful. This principle directly applies to the hotel industry's use of revenue management software to analyze market conditions and optimize pricing strategies, just as it applies to business analytics, accounting, and tax software more broadly.

At its core, Rainmaker's software simply automates what human revenue managers have long done manually—observe publicly available competitor prices, analyze market conditions, and make pricing recommendations that price-setters can take or leave in their discretion. The

fact that this process, including its constituent computations, can now be automated through algorithms, implemented via software and computers, rather than performed by individuals does not transform it into anticompetitive conduct. This leads Ohlhausen to a simple thought experiment—you can get a good sense of whether an automated business practice is legal by evaluating whether it would be legal if "a guy named Bob" did it instead. Ohlhausen, *supra*, at 10.

Plaintiffs reference this thought experiment in their brief, but they miss the point. Unlike in Ohlhausen's hypothetical, there is no allegation here that Rainmaker's pricing recommendations to one subscriber are based on the confidential information of another subscriber.

There is nothing unlawful about many subscribers independently seeking out the features that Rainmaker actually provides—scale, speed, and accuracy. A224 ¶ 62. Apart from their location in Atlantic City, however, nothing in the complaint distinguishes Hotel Defendants from other Rainmaker subscribers who are not named as defendants. The Plaintiffs themselves allege that there are "tens of thousands" of subscribers to the software at issue. *Id*. There is no basis to imply a price-fixing conspiracy between a handful of the thousands of hotels subscribing to Rainmaker.

Taking plaintiffs' theory to its logical conclusion (that all subscribers are engaged in a price-fixing conspiracy) would result in limiting Rainmaker and similar software to a single subscriber in a geographic market to avoid liability for price fixing. This result would discourage companies like Rainmaker from innovating to create better products.

III. PLAINTIFFS' ALLEGATIONS ABOUT RAINMAKER'S FEATURES ARE CONSISTENT WITH INDEPENDENT DECISION-MAKING.

Plaintiffs acknowledge that Rainmaker allows hotels to customize algorithms based on their individual data, and that it provides discretion to override pricing recommendations. A224 ¶ 62; A240-41 ¶ 132; A241 ¶ 138; A242 ¶ 139. There is no economic incentive to coordinate pricing through Rainmaker's software. Basic economic theory teaches that any attempt at coordination faces an inherent instability: each participant has a powerful incentive to "cheat" by undercutting the coordinated price to gain market share. This creates a prisoner's dilemma where the dominant strategy is to deviate from any attempted coordination. *See* Christopher R Leslie, *Trust, Distrust, and Antitrust*, 82 TEX. L. REV. 515, 524–528 (2004); N. Gregory Mankiw, PRINCIPLES OF MICROECONOMICS 344–45 (8th ed. 2018). Plaintiff's

own allegations demonstrate that this dynamic persists here, fatally undermining any theory of algorithmic coordination.

Plaintiffs acknowledge that hotels can and do freely reject Rainmaker's pricing recommendations, although the allegations are unclear as to how often Defendant Hotels override Rainmaker's pricing recommendations. Moreover, Plaintiffs themselves allege actual variation in room prices across the defendant hotels. For example, Plaintiffs provide tables, "compiled from Division of Gaming Enforcement filings," indicating average annual room prices and occupancy for six hotels, including the defendant hotels, from 2015 through 2022. A287. The indicated prices appear to be annual average room prices per hotel, obscuring variation within hotels across room types and specific dates. In fact, there are no reports of individual room rates that might or might not match, precisely or approximately, room rates at other Defendant hotels on any given date; and there are no apparent allegations of variance within or across Defendant hotels. Even the average prices represented by the Plaintiffs plainly vary across the defendant hotels, with no apparent increase in convergence from 2015 to 2022, and with substantial variation in occupancy across hotels. Moreover, as Defendants noted in

support of their motion to dismiss, prices even varied directionally across the defendant hotels, rather than moving in parallel. A377-378.

This ability and demonstrated willingness to reject pricing recommendations preserves the fundamental competitive dynamic that makes coordination unstable. Just as in a traditional prisoner's dilemma, each hotel maintains both the ability and incentive to undercut any attempted coordinated price by rejecting recommendations that are higher than their profit-maximizing competitive price. Basic economic theory predicts that hotels will choose to undercut when doing so would be profitable. The complaint's allegations that hotels can override recommendations whenever it serves their individual interests—confirms that prediction. That is also consistent with the economic research. *See, e.g.*, Jeanine Miklós-Thal & Catherine Tucker, *Collusion by Algorithm: Does Better Demand Prediction Facilitate Coordination Between Sellers?*, MANAGEMENT SCIENCE, Articles in Advance, at 2 (Feb. 20, 2009), https://doi.org/10.1287/mnsc.2019.3287 (finding better demand forecasting "increases each firm's temptation to undercut price in periods when consumers are predicted to be willing to pay high prices").

This dynamic is particularly powerful in the hotel market because hotels compete on both price and the non-price dimensions of competition that differentiate hotels, such as the quality and availability of various amenities, services, and furnishings. A hotel that rejects high price recommendations can rapidly gain occupancy at its competitors' expense. This creates an especially strong incentive to reject high price recommendations and undercut competitors to drive occupancy and capture this ancillary revenue—exactly the type of "cheating" that makes coordination unstable.

In sum, Rainmaker's software does nothing to solve the prisoner's dilemma at the heart of any attempted coordination. Each hotel retains both the ability and incentive to reject supra-competitive price recommendations, gain market share, and undermine any attempted coordination. The complaint's allegations that hotels frequently did exactly that confirms the economic theory that predicts such behavior. So do the allegations that hotels could customize Rainmaker to account for their own preferences, which could influence price recommendations for individual properties. This reality is fundamentally inconsistent with any plausible theory of anticompetitive coordination. Rather, it reinforces the "critical role" of

human judgment in using predictive software. Ajay K. Agarwal, et al., *Human Judgement and AI Pricing*, National Bureau of Economic Research, Working Paper 24284, at 2 (Feb. 2018), http://www.nber.org/papers/w24284 (analyzing the divergent incentives of vendors and users of predictive AI).

IV. SOFTWARE LIKE RAINMAKER CREATES SIGNIFICANT ECONOMIC EFFICIENCIES.

Economic theory not only points away from collusion, but also highlights the efficiencies that drive the use of software like Rainmaker. There is no reason to infer conspiracy merely from subscribing to widely used software based on the efficiencies it offers.

The economic literature has extensively documented how automated tools help firms optimize capacity utilization, respond rapidly to demand fluctuations, and reduce transaction costs in ways that enhance market efficiency. For example, Brynjolfsson and McElheran designed a seminal management and organizational practices survey studying how data affected firms' decision-making. *See* Erik Brynjolfsson & Kristina McElheran, *Data in Action: Data-Driven Decision Making in U.S. Manufacturing*, Center for Economic Studies Working Paper 16–06 (2016),

https://www2.census.gov/ces/wp/2016/CES-WP-16-06.pdf. That survey found that increasing the usage of data-driven decision-making is linked to a statistically significant boost in productivity of 3% or more on average. *Id.* at 3. Studies have also shown that "better demand forecasting can, in fact, lead to lower prices and higher consumer welfare." Miklós-Thal, *supra*, at 2.

Dynamic pricing enabled by revenue management software may account for anticipated or unanticipated changes on either the demand side or the supply side. These changes may be market-wide; for example, demand may ebb and flow seasonally or respond sharply to external events such as the COVID-19 pandemic. Indeed, parallel pricing trends across competitors often reflect common responses to shared external factors, not coordinated conduct. But that is only half the story. They can also drive price differences—not convergence—on a property-specific level. For example, property specific customization of the software, as well as human judgment in overriding pricing recommendations, can accommodate demand side factors, such as an individual hotel's hosting a popular sporting event, music concert, or conference, and supply-side factors, such as a temporary decrease in the number of available rooms at a property due to hotel renovations.

Even so, and even on rough, annual averages, as noted above prices and occupancy varied, and varied directionally. Hence, for example, the allegation that Casino hotels "charged higher rates during the class period than before," Br. 19, is at odds with the allegation that average room rates at Hard Rock Atlantic City decreased from $160.73 to $158.11. A288 ¶ 245. Moreover, defendant Hard Rock Atlantic City ended the period with a higher occupancy rate than it started. A287-88 ¶ 245.

The pricing variation seen in Plaintiffs' own allegations undermines the broader allegation of an anticompetitive agreement. Moreover, it undermines Plaintiffs' alternative argument under the rule of reason. Plaintiffs fail to adequately plead, much less demonstrate, harm to competition, as might be indicated by increased prices and decreased output, their conclusory assertions to the contrary notwithstanding. And they fail to adequately plead, much less demonstrate, that prices would have been lower, and output higher, but for Defendants' use of the Rainmaker software products.

Dynamic pricing also enhances consumer welfare. In traditional fixed-price models, hotels must set prices well in advance based on limited information. This creates inefficiencies where prices may be too high during

low demand periods (reducing consumer surplus) or too low during peak periods (creating shortages). Automated pricing allows hotels to adjust prices dynamically based on actual demand conditions. The best research on dynamic pricing, due to data availability, is from the airline industry. There, dynamic pricing, which is really only possible at scale with some sort of algorithmic pricing, helps consumer welfare on average. *See, e.g.*, Nan Chen & Przemyslaw Jeziorski, *Consequences of Dynamic Pricing in Competitive Airline Markets* at 3 (Jan. 26, 2023), https://ssrn.com/abstract=4285718.

Plaintiffs' attempt to characterize basic revenue management practices as inherently suspicious ignores these well-documented efficiencies. Features like competitor price monitoring and automated price recommendations are not nefarious—they are essential tools that help a hotel operate more efficiently in a complex market environment. Just as manufacturers use inventory management software to optimize production or retailers use demand forecasting to manage stock levels, hotels use revenue management systems to operate more efficiently.

Plaintiffs' theory, if accepted, would dramatically expand antitrust liability to encompass routine business practices that enhance rather than harm competition. In plaintiffs' view, the mere fact that a company licenses

the same analytical software as competing companies and receives pricing recommendations based on public data transforms ordinary vertical licensing agreements into antitrust violations. This sweeping theory cannot be reconciled with fundamental economic principles.

All of this has significant implications that extend well beyond the hotel industry. Many industries use third-party vendors that provide data analytics and pricing tools. As noted, airlines use fare analytics software to optimize route pricing. Retailers use inventory management systems that suggest pricing based on competitive data. Manufacturers use ERP systems that incorporate competitor benchmarking. Under plaintiffs' theory, these common business arrangements could all constitute antitrust violations simply because competitors use the same vendor's analytical tools to process public data and receive recommendations.

The economic problem of this position becomes clear when applied to simpler tools. If multiple gas stations use Excel spreadsheets with the same pricing formulas, is that an antitrust violation? If retailers use the same market research firm's pricing surveys, have they joined a hub-and-spoke conspiracy? If manufacturers rely on the same forecasting software to set production levels, are they unlawfully coordinating output?

This is particularly problematic for smaller market participants who rely on third-party vendors because they lack resources to develop sophisticated analytical tools internally. If using the same vendor as competitors creates antitrust risk, many firms would be forced to either develop costly proprietary systems or forgo analytical tools altogether. This would harm rather than enhance competition by raising barriers to entry and denying smaller players access to efficiency-enhancing technology, including technology that increases price transparency based on publicly available data, benefiting customers and suppliers alike.

Moreover, adopting plaintiffs' theory would stifle innovation. As former Deputy Assistant Attorney General Roger Alford explained: "But in the absence of evidence of concerted action, we cannot presume the simple use of pricing algorithms is an antitrust violation. Any approach that bypasses proof of concerted action risks false prosecution of potentially pro-competitive pricing decisions. Misplaced enforcement efforts have the potential to discourage innovation and deter efficiency-enhancing pricing." Roger Alford, Deputy Assistant Attorney General, Antitrust Division, U.S. Dep't of Justice, *The Role of Antitrust in Promoting Innovation* at 8 (Feb. 23, 2018), https://www.justice.gov/opa/speech/file/1038596/dl. Plaintiffs'

complaint is a prime example of the sort of economically unmoored enforcement efforts that are properly rejected.

ICLE does not contend that all uses of pricing software are necessarily lawful. Competitors could agree amongst themselves to fix prices, and they could use computational tools to maintain an unlawful agreement. But it would be improper—poor reasoning and bad policy—to infer such an agreement from the mere fact that competitors happen to use the same commercially available software.

CONCLUSION

For the above reasons, this Court should affirm the judgment dismissing plaintiffs' complaint.

Respectfully Submitted,

Dated: March 31, 2025

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CERTIFICATE OF COMPLIANCE

I hereby certify that the foregoing brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because it uses a proportionally spaced typeface (Book Antiqua) in 14-point. I also certify that the foregoing brief complies with the type-volume limitations of Fed. R. App. P. 29(a)(5) and Fed. R. App. P. 32(a)(7)(B)(i), because it contains approximately 3,282 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f), as counted using the word-count function on Microsoft Word software.

Dated: March 31, 2025

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I hereby certify that on March 31, 2025, I electronically filed this brief with the Clerk of the Court for the United States Court of Appeals for the Third Circuit by using the CM/ECF system. I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the CM/ECF system.

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CERTIFICATE OF COMPLIANCE

I hereby certify that, pursuant to Local Rules 28.3(d) and 46.1(e), I am a member of the bar of this Court.

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