The Honorable Robert S. Lasnik

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

MCKENNA DUFFY, individually and on behalf of all others similarly situated,

Plaintiffs,

v.

YARDI SYSTEMS, INC., et al.,

Defendants.

Case No. 2:23-cv-01391-RSL

STATEMENT OF INTEREST OF THE UNITED STATES OF AMERICA

The United States, through the U.S. Department of Justice and the Federal Trade Commission ("FTC"), respectfully submits this Statement of Interest pursuant to 28 U.S.C. § 517, which permits the Department of Justice "to attend to the interests of the United States" in any case pending in federal court. Both the Antitrust Division of the U.S. Department of Justice and the FTC enforce the federal antitrust laws, including the Sherman Act, 15 U.S.C. §§ 1, *et seq.*, and have a strong interest in their correct application.

In this case, plaintiffs allege that competing landlords[1] violated Section 1 of the Sherman Act, 15 U.S.C. § 1 ("Section 1"), by, among other things, unlawfully agreeing "to use Yardi's

[1] "Landlords" in this Statement of Interest refers to all lessors described in the complaint who allegedly participated in the combination or conspiracy in restraint of trade.

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pricing algorithms to artificially inflate" multifamily rental prices. First Amended Class Action Complaint ("FAC"), ECF No. 113, ¶ 180. Defendants have moved to dismiss the amended complaint. Omnibus Motion to Dismiss, ECF No. 138 (hereinafter "Mot."). Because judicial treatment of the use of algorithms in price fixing has tremendous practical importance, the United States submits this Statement to notify the Court of the United States' Statement of Interest and accompanying Memorandum of Law (jointly hereafter "Statement of Interest") in *In re RealPage, Inc., Rental Software Antitrust Litig.*, No. 3:23-MD-3071 (M.D. Tenn. Nov. 15, 2023), ECF Nos. 627, 628, attached hereto as Attachments A and B, in which the United States discusses the key legal principles applicable to claims of algorithmic price fixing. The United States also submits this Statement to address an incorrect legal position in defendants' motion to dismiss: that the landlords' retention of some pricing discretion dooms a price-fixing claim. Mot. 14-17. Case law is clear that competitors may not agree to fix the *starting point* of pricing (e.g., agree to fix advertised list prices) even if the actual charged prices vary from the starting point. Moreover, where competitors agree to fix end prices, such price-fixing agreements are per se unlawful regardless of whether the conspirators adhere to or enforce compliance with the fixed prices.

ARGUMENT

There are two central elements of a Section 1 claim: **(1)** a "contract, combination, or conspiracy," 15 U.S.C. § 1—that is, "concerted action," or the joining together of "independent centers of decisionmaking"—**(2)** that "unreasonably restrains trade." *Am. Needle, Inc. v. NFL*, 560 U.S. 183, 186, 195 (2010). The United States' Statement of Interest in *In re RealPage* discusses the legal framework for both. *See* Attachment B.

As to the first element, the *RealPage* Statement of Interest explains that concerted action can take many forms—including, *inter alia*, competitors' jointly delegating key aspects of their decisionmaking to a common algorithm, because doing so "joins together separate

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decisionmakers" and thus "deprives the marketplace of independent centers of decisionmaking." Attachment B at 5-8 (citing *Am. Needle*, 560 U.S. at 195, and other sources). It further explains that concerted action can be proven in various ways and does not require proof of parallel conduct and plus factors. *Id.* at 8-12.

As to the second element, the *RealPage* Statement of Interest explains that, under longstanding Supreme Court precedent, price-fixing agreements among actual or potential competitors are "all banned" whatever their form. *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 224 n.59 (1940). As the Statement of Interest makes clear, per se unlawful price fixing includes not only competitors' acting in concert to set the same price at which a product is bought or sold, but also competitors' acting in concert to "rais[e], depress[], . . . peg[], or stabiliz[e] the price of a commodity." *Id*. at 223. This prohibition includes agreements to use the same pricing formula—analogous to agreements to use the same pricing algorithm. Attachment B at 17-20 (citing *Socony-Vacuum*, 310 U.S. at 224-226 n.59 (condemning as per se unlawful agreement to use the same "formula underlying price policies"); *Citizen Publ'g Co. v United States*, 394 U.S. 131, 133-36 (1969) (finding per se unlawful the collective delegation of pricing decisions to a joint entity)).

Defendants' motion to dismiss runs afoul of these key principles. Defendants claim that plaintiffs' failure to allege adherence to Yardi's recommended prices dooms the amended complaint, Mot. 14-17, but they are wrong on the law: It is per se illegal for competing landlords to jointly delegate key aspects of their pricing to a common algorithm, even if the landlords retain some authority to deviate from the algorithm's recommendations. *See* Attachment B at 22.

Although full adherence to a price-fixing scheme may render it more effective, the *effectiveness* of the scheme is not a requirement for per se illegality. Consistent with black-letter

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conspiracy law,[2] the violation is the agreement, and unsuccessful price-fixing agreements also are per se illegal. *Socony-Vacuum*, 310 U.S. at 224 n.59; *United States v. Trenton Potteries*, 273 U.S. 392, 402 (1927) (it is "immaterial" whether "the purpose of the conspiracy was accomplished in whole or in part"); *Plymouth Dealers' Ass'n of N. California v. United State*s, 279 F.2d 128, 132-33 (9th Cir. 1960) (even if the "plan . . . did not ultimately succeed," defendants are not "absolve[d]"); *In re Flat Glass Antitrust Litig.*, 385 F.3d 350, 362-63 (3d Cir. 2004) (similar); *United States v. Gravely*, 840 F.2d 1156, 1161 (4th Cir. 1988) (similar).

Consonant with this principle, courts have explained that, just as competitors cannot agree to fix their *final* prices, competitors cannot agree to fix the *starting* point of their prices; both types of agreements corrupt the decentralized price-setting mechanism in the market, whether or not they ultimately succeed in raising or stabilizing prices. The Sherman Act condemns "[a]ny combination which tampers with price structures," because such a combination "directly interfer[es] with the free play of market forces." *Socony-Vacuum*, 310 U.S. at 221; *see also Gelboim v. Bank of Am. Corp.*, 823 F.3d 759, 774 (2d Cir. 2016) (horizontal price fixing "is anathema to an economy predicated on the undisturbed interaction between supply and demand").

Courts accordingly have held that it is per se illegal for competitors to fix advertised *list* prices or sticker prices. *See* Attachment B at 20-22. In *Plymouth Dealers' Association*, 279 F.2d 128, for instance, a defendant convicted of price fixing for agreeing with competing dealers on a "fixed uniform list price" for Plymouth cars argued that the conviction could not be upheld because the government's case required "proof of something more—that [the uniform list price] was adhered to; that it was utilized to fix prices; or that it did actually fix prices." *Id*. at 130. The

[2] *See United States v. Torres*, 503 F.2d 1120, 1124 n.2 (2d Cir. 1974) ("[A] conspiracy is punishable even if unsuccessful."); *United States v. Paluch*, 84 F. App'x 740, 744 (9th Cir. 2003) (unpub.) ("the mere fact that his acts in furtherance of the conspiracy were unsuccessful does not relieve [the defendant] of liability"). The Sherman Act is "on the common-law footing," and so embodies this conspiracy principle. *Nash v. United States*, 229 U.S. 373, 378 (1913).

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Ninth Circuit rejected this argument, stating that "the fact that the dealers used the fixed uniform list price in most instances only as a starting point[] is of no consequence." *Id.* at 132-33. As the court of appeals explained, "[t]he test is not what the actual effect is on prices, but whether such agreements interfere with 'the freedom of traders and thereby restrain their ability to sell in accordance with their own judgment.'" *Id*. at 132 (quoting *Kiefer-Stewart Co. v. Joseph E. Seagram & Sons*, 340 U.S. 211, 213 (1951), *overruled on other grounds by Copperweld Corp. v. Indep. Tube Corp*., 467 U.S. 752 (1984)). The list-price agreement met that test, the court of appeals reasoned, because the list price "'prevent[ed] the determination of (market) prices by free competition alone.'" *Id.* at 134 (quoting *Socony-Vacuum Oil Co.*, 310 U.S. at 222, 223).

Numerous other courts of appeals likewise have rejected attempts to impose minimum rates of adherence when assessing agreements to fix the starting point of pricing. Rather than look to rates of adherence, courts reason that the fixed prices necessarily had some influence on the market—thus disrupting the competitive process—from the very fact that defendants bothered to fix such prices at all. In *In re High Fructose Corn Syrup Antitrust Litig*., 295 F.3d 651 (7th Cir. 2002) (Posner, J.), for instance, the Seventh Circuit rejected defendants' argument that there is no horizontal price-fixing conspiracy where "many of the actual sales" occurred below the fixed list prices. *Id*. at 656. The court explained that an agreement on list prices is a per se violation "even if *most or for that matter all* transactions occur at lower prices," because "sellers would not bother to fix list prices if they thought there would be no effect on transaction prices," *id*. (emphasis added). It was sufficient that the list price was "usually the starting point for the bargaining." *Id*. Similarly, in *Gelboim*, 823 F.3d at 775-77, the Second Circuit held that a horizontal conspiracy to fix the LIBOR interest rate (a component of the price of certain financial instruments) is subject to the per se rule even where consumers could negotiate the final price. As the court put it, "antitrust law is concerned with influences that corrupt market conditions," *id*. at 773; indeed,

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"even if *none* of the appellants' financial instruments paid interest at [the fixed] LIBOR [rate]," plaintiffs can bring "an antitrust claim based on the *influence* that a conspiracy exerts on the *starting point* for prices," *id*. at 776 (emphases added); *see also In re Flat Glass*, 385 F.3d at 362-63 (explaining defendants "cannot[]seriously contend that the [competitors] increased their list prices with no intention of affecting transaction prices").

The same principle holds in cases involving joint delegation of pricing recommendations to a common algorithm. By altering the starting point of prices, such agreements among competitors are analogous to agreements to fix list prices—distorting the competitive pricing process that the per se rule protects. As the Supreme Court made clear in *United States v. National Association of Real Estate Boards*, 339 U.S. 485 (1950), even "non-mandatory" rate schedules can constitute price fixing. *Id*. at 488.[3] As the Court explained, "the fact that no penalties are imposed for deviations from the price schedules is not material." *Id*. at 489.

Moreover, even when competitors agree to fix end prices, adherence to the agreed-upon prices is not a condition of per se illegality. As explained above, the *agreement* is the violation, and unsuccessful price-fixing schemes are as unlawful as successful ones. For this reason, defendants are wrong to suggest (Mot. 16-17) that a complaint must allege a binding enforcement mechanism to state a valid claim for per se price fixing. This suggestion "fail[s] to distinguish between the existence of a conspiracy and its efficacy." *In re High Fructose*, 295 F.3d at 656; *see also In re Flat Glass*, 385 F.3d at 362. Indeed, under defendants' view of the law, a price-fixing cartel could evade per se treatment simply by inviting some participants who tend to deviate from the fixed prices or by agreeing that some deviation was allowed. The law banning horizontal

[3] That *United States v. National Association of Real Estate Boards*, 339 U.S. 485 (1950) (*NAREB*) involved Section 3 rather than Section 1 of the Sherman Act is immaterial to the analysis; Section 3 merely extends the prohibitions of Section 1 to U.S. territories and the District of Columbia. *See* 15 U.S.C. § 3.

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price-fixing agreements—the "archetypal" per se violation, *Catalano, Inc. v. Target Sales, Inc.*, 446 U.S. 643, 647 (1980)—does not have such loopholes.[4]

Dated: March 1, 2024

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[4] Finally, to the extent defendants are claiming that plaintiffs must identify some confidential information "shared *among the Lessor Defendants*," Mot. 25 (emphasis in original), rather than shared *with a common entity*, they are mistaken. Sharing confidential pricing information with a common pricing agent can be equivalent to sharing that information directly with a competitor. Where, as here, plaintiffs' allegations involve a conspiracy to *centralize* pricing decisions in a third-party algorithm, it is irrelevant to the scheme whether landlords share confidential information among themselves or with only the pricing agent; the alleged scheme is designed to obviate the need for competitors to share information directly with each other.

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UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF TENNESSEE
NASHVILLE DIVISION

IN RE: REALPAGE, RENTAL SOFTWARE ANTITRUST LITIGATION (NO. II)	**Case No. 3:23-MD-3071** **This Document Relates to:** **ALL CASES** **Chief Judge Waverly D. Crenshaw, Jr.**

STATEMENT OF INTEREST OF THE UNITED STATES

The United States submits this statement and the accompanying Memorandum of Law in Support pursuant to Doc. No. 602 (Order on United States' Notice of Potential Participation) and 28 U.S.C. § 517, which permits the Department of Justice "to attend to the interests of the United States" in any case pending in federal court. The United States enforces the federal antitrust laws, including the Sherman Act, 15 U.S.C. §§ 1 *et seq.*, and has a strong interest in their correct application.

Section 1 of the Sherman Act prohibits "[e]very contract, combination in the form of trust or otherwise, or conspiracy" that unreasonably restrains trade. 15 U.S.C. § 1; *NCAA v. Bd. of Regents of Univ. of Oklahoma*, 468 U.S. 85, 98 (1984). Under the statute, it is per se unlawful for competitors to join together their independent decision-making power to raise, depress, fix, peg, or stabilize prices. *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 223-24 & n.59 (1940). And the Supreme Court has made clear that "the machinery employed by a combination for price-fixing is immaterial." *Id.* at 223.

This case involves the use of algorithms by competitors in allegedly fixing prices. Judicial treatment of these types of allegations has tremendous practical importance. As technology has developed in the 133 years since the Sherman Act created a federal prohibition

on price fixing, firms have evolved the mechanisms they use for reaching unlawful price-fixing agreements. In-person handshakes gave way to phone and fax, and later to email. Algorithms are the new frontier. And, given the amount of information an algorithm can access and digest, this new frontier poses an even greater anticompetitive threat than the last.

As with other actions taken in concert, competitors' joint use of common algorithms can remove independent decision making. Algorithmic price fixing must therefore be subject to the same condemnation as other price-fixing schemes. It makes no difference that prices are fixed through joint use of an algorithm instead of by a person, just as sharing information through an algorithmic service should be treated the same as sharing information through email, fax machine, or face-to-face conversation. Put another way, whether firms effectuate a price-fixing scheme through a software algorithm or through human-to-human interaction should be of no legal significance. Automating an anticompetitive scheme does not make it less anticompetitive.

The question in this case is whether the defendants have violated Section 1 of the Sherman Act by allegedly knowingly combining their sensitive, nonpublic pricing and supply information in an algorithm that they rely upon in making pricing decisions, with the knowledge and expectation that other competitors will do the same. Although not every use of an algorithm to set price qualifies as a per se violation of Section 1, taking the allegations set forth in the complaints as true, the alleged scheme meets the legal criteria for per se unlawful price fixing.

For the reasons set forth in the accompanying Memorandum of Law in Support, the pending motions to dismiss should be denied.

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Dated: November 15, 2023

CERTIFICATE OF SERVICE

I hereby certify that the foregoing document, which was filed with the Court through the CM/ECF system, will be sent electronically to all registered participants.

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MEMORANDUM OF LAW IN SUPPORT OF THE STATEMENT OF INTEREST OF THE UNITED STATES

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The United States respectfully submits this memorandum of law in support of its Statement of Interest.

BACKGROUND

1. Section 1 of the Sherman Act prohibits "[e]very contract, combination in the form of trust or otherwise, or conspiracy" that unreasonably restrains trade. 15 U.S.C. § 1; *NCAA v. Bd. of Regents of Univ. of Oklahoma*, 468 U.S. 85, 98 (1984). As the Supreme Court has reaffirmed, "[t]he Sherman Act was designed to be a comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade." *N. Pac. Ry. Co. v. United States*, 356 U.S. 1, 4 (1958).

Given this purpose, the "central evil" addressed by Section 1 of the Sherman Act is "the elimination of competition that would otherwise exist," including competition on prices. *Am. Needle, Inc. v. NFL*, 560 U.S. 183, 195 (2010) (citation omitted); *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 224 n.59 (1940). It is per se illegal for competitors to join together their independent decision-making power to raise, depress, fix, peg, or stabilize prices. *See Socony-Vacuum*, 310 U.S. at 223-24 & n.59.

As technology has evolved, so too have methods of price fixing. In 1890, a price-fixing conspiracy might have manifested with a formal handshake in a clandestine meeting. The proliferation of fax machines, emails, text messages, and inter-company chat platforms has presented new means of unlawfully acting in concert oceans away. While these methods might have been unimaginable to the robber barons whose conduct necessitated and inspired the Sherman Act, under Section 1, "the machinery employed by a combination for price-fixing is immaterial." *Socony-Vacuum*, 310 U.S. at 223. Section 1 applies to collaborations that eliminate independent decisionmaking—however they have been brought about. *See Am. Needle*, 560 U.S. at 186, 195;

pp. 5-8, *infra*. Antitrust law does not become obsolete simply because conspirators find new ways to act in concert. As the Supreme Court has recognized, the Sherman Act was written to "embrace[] all forms of combination, *old and new*." *United States v. Union Pac. R. Co.*, 226 U.S. 61, 85-86 (1912) (emphasis added); *cf.* Richard Posner, *Antitrust in the New Economy*, 68 ANTITRUST L.J. 925, 925 (2001) ("[A]ntitrust doctrine is supple enough . . . to take in stride the competitive issues presented by the new economy.").

Today, software algorithms can be employed to fix prices—and this modern machinery may be easier and more effective than past methods of price fixing. Algorithms can process far more information more rapidly than humans. The technical capabilities of software can enhance competitors' ability to optimize cartel gains, monitor real-time deviations, and minimize incentives to cheat. *See, e.g.*, Salil K. Mehra, *Price Discrimination-Driven Algorithmic Collusion: Platforms for Durable Cartels*, 26 STAN. J. L. & BUS. FIN. 171, 177 (2021).

Longstanding legal principles apply with equal force to this new machinery. Section 1 prohibits competitors from fixing prices by knowingly sharing their competitive information with, and then relying on pricing decisions from, a common *human* pricing agent who competitors know analyzes information from multiple competitors. The same prohibition applies where, as here, the common pricing agent is a common software algorithm.

2. This case involves two complaints alleging unlawful price-fixing schemes among landlords[1] organized by a software algorithm company: RealPage.[2] One complaint alleges an unlawful agreement to use RealPage software recommendations to "raise multifamily rental

[1] "Landlords" in this memorandum refers to all defendants named in the complaints, save RealPage, Inc. and its private-equity owners.

[2] All facts in this memorandum are based on the complaints. Factual allegations are "taken as true" as true on a motion to dismiss. *Darby v. Childvine, Inc.*, 964 F.3d 440, 444 (6th Cir. 2020).

housing prices." Doc. No. 530 ("Multifamily Compl."), ¶¶ 1, 5-6. The second alleges a similar scheme to "artificially inflate the prices of student housing." Doc. No. 527 ("Student Compl."), ¶¶ 1, 6.[3]

RealPage, the complaints allege, unlawfully combines competing landlords' decisionmaking on housing prices. To participate in the service, landlords must share in "real-time" their "non-public," "competitively sensitive" data, including actual rents paid, occupancy rates, and records of lease transactions. Multifamily Compl. ¶¶ 227, 380. RealPage then feeds "this data into a common algorithm." Student Compl. ¶ 5; Multifamily Compl. ¶ 380. The common algorithm uses these common data for a single, common purpose: to generate "forward-looking, unit-specific pricing and supply recommendations" for all participating landlords. Student Compl. ¶ 5. To ensure that the landlords abide by these "recommendations," RealPage puts significant "pressure" on them "to implement RealPage's prices," including by requiring clients to submit requests to deviate to the "corporate office" and tracking the "identity of the client's staff that requested a deviation." Multifamily Compl. ¶¶ 17-20, 261-86. As a result, landlords using RealPage adopt RealPage's recommendations 80-90% of the time. *Id.* ¶ 15.

The complaints allege that RealPage was clear about the purpose of its common pricing scheme: to increase prices above competitive levels through collaboration. According to the complaints, RealPage's own marketing materials make clear that it "utilizes the competitive data" of competitors, Student Compl. ¶ 5, to allow those competitors to "outperform the market," Multifamily Compl. ¶ 4; Student Compl. ¶¶ 15, 142. As RealPage allegedly put it, it offered clients "the ability to 'outsource daily pricing and ongoing revenue oversight' to RealPage," allowing

[3] This memorandum addresses only plaintiffs' claim that the alleged scheme is per se unlawful. It does not address plaintiffs' alternate, rule-of-reason claim or the student plaintiffs' claim alleging a conspiracy to exchange competitively sensitive information.

RealPage to "set prices for its clients' properties 'as though we [RealPage] own[ed] them ourselves.'" Multifamily Compl. ¶ 7. Collaboration on prices, including via sharing nonpublic pricing and supply information, is thus the central feature of the product. As an employee for one landlord stated: While "we are all technically competitors, [RealPage product] helps us to work together . . . to make us *all* more successful in our pricing," as the software is "designed to work with a community in pricing strategies, *not work separately*." *Id*. ¶ 9 (emphases added); *accord* Student Compl. ¶¶ 4, 6. Put simply, RealPage allegedly replaces independent competitive decisionmaking on prices, which often leads to lower prices for tenants, with a price-fixing combination that violates Section 1 of the Sherman Act.

Defendants have moved to dismiss both complaints, claiming that plaintiffs failed to adequately allege a Section 1 violation. Doc. No. 593 ("Multifamily Mot."); Doc No. 588 ("Student Mot.").

ARGUMENT

Section 1 of the Sherman Act prohibits "[e]very contract, combination in the form of trust or otherwise, or conspiracy" that unreasonably restrains trade. 15 U.S.C. § 1; *Bd. of Regents*, 468 U.S. at 98. The Supreme Court has identified two central elements under Section 1: (1) a "contract, combination, or conspiracy"—that is, "concerted action," the joining together of "independent centers of decisionmaking"; and (2) that "unreasonably restrains trade." *Am. Needle*, 560 U.S. at 186, 195. Each element poses a separate inquiry. The "question whether an arrangement is a contract, combination, or conspiracy is different from and antecedent to the question whether it unreasonably restrains trade." *Id* at 186.

This memorandum addresses each element in turn. As to the first, it explains that concerted action includes any conduct that joins together otherwise-separate decisionmaking and thus deprives the market of independent centers of decisionmaking. As to the second, it explains

that certain classes of conduct—including price-fixing arrangements among actual or potential competitors—are categorically unreasonable restraints of trade that violate Section 1 of the Sherman Act.

I. There Are Many Types of Concerted Action and Many Ways of Proving It

In this section, we first address the proper scope of Section 1's concerted-action requirement before explaining the range of evidence capable of satisfying it. We conclude by applying the law to the allegations set forth in the complaints.

A. Concerted Action Includes Any Type of Conduct That Joins Together Separate Decisionmakers and Thus Deprives the Marketplace of Independent Centers of Decisionmaking

As the Supreme Court has made clear, "Section 1 applies only to concerted action that restrains trade." *Am. Needle*, 560 U.S. at 190. Because Congress recognized that "[c]oncerted activity inherently is fraught with anticompetitive risk," it defined concerted action broadly to encompass contracts, combinations, and conspiracies. *Id.* at 190, 195 (citation omitted). The "key" to the concerted-action inquiry is whether the alleged arrangement "joins together separate decisionmakers" and thus "deprives the marketplace of independent centers of decisionmaking." *Id.* at 195 (citations omitted). It is a "functional analysis" that focuses on "how the parties involved in the alleged anticompetitive conduct actually operate." *Id.* at 191-92, 195; *see also id.* at 196 (reaffirming that "the inquiry is one of competitive reality").

Given the Sherman Act's focus on protecting independent decisionmaking, courts recognize that the joint delegation of competitive decisions constitutes concerted action under Section 1. For example, the Supreme Court has held that "decisions by [a joint licensing agent] regarding the [NFL] teams' separately owned intellectual property constitute concerted action" by the teams. *Am. Needle*, 560 U.S. at 204 (citation omitted). And the Second Circuit has concluded that allegations that competing entities "have 'surrendered [their] freedom of action . . . and agreed

to abide by the will of the association[]'" are "enough" for concerted action. *Relevent Sports, LLC v. United States Soccer Fed'n, Inc*., 61 F.4th 299, 309 (2d Cir. 2023) (citing *Anderson v. Shipowners' Ass'n of Pac. Coast*, 272 U.S. 359, 364-65 (1926)). In these situations, the common delegation of decisionmaking to a common entity allows its decisions to affect actual or potential competition—even without any additional subsequent agreement or coordination among the parties. This kind of delegation thus represents the joining together of separate actors with separate economic interests characteristic of concerted action that Section 1 of the Sherman Act reaches.

Even when courts look for an "agreement" among separate entities in analyzing concerted action, "[n]o formal agreement is necessary" under Section 1. *Am. Tobacco Co. v. United States*, 328 U.S. 781, 809 (1946). "[T]acit" agreements qualify.[4] *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 553 (2007) (citation omitted); *Erie Cnty., Ohio v. Morton Salt, Inc.*, 702 F.3d 860, 868 (6th Cir. 2012); *C.S. Sewell, M.D. P.C. v. Amerigroup Tennessee, Inc.*, 2018 WL 6591429, at *3 (M.D. Tenn. Dec. 14, 2018) (Crenshaw, J.). Such tacit agreements can involve merely a "wink and a nod," *Kleen Prod. LLC v. Georgia-Pac. LLC*, 910 F.3d 927, 936 (7th Cir. 2018), or be an informal "gentlemen's agreement or understanding," *Socony-Vacuum.*, 310 U.S. at 179, 252; in these circumstances, "only the conspirators' actions . . . indicate the existence of an agreement." *White v. R.M. Packer Co*., 635 F.3d 571, 575-76 (1st Cir. 2011).[5]

[4] A "tacit agreement," which is concerted action, *Twombly*, 550 U.S. at 553, is different from mere interdependent action by firms in oligopolistic markets, which is sometimes called "tacit collusion" and is not concerted action. *See Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 227 (1993).

[5] *See also Direct Sales Co. v. United States*, 319 U.S. 703, 714 (1943) ("it can make no difference [that] the agreement was a tacit understanding, created by a long course of conduct and executed in the same way"); *United States v. Maliszewski*, 161 F.3d 992, 1006 (6th Cir. 1998) ("evidence of a tacit agreement or mutual understanding is sufficient to demonstrate a conspiracy").

That breadth of Section 1's reach rests in part on the fact that, by its own statutory terms, the provision covers "combination[s]" in addition to "contract[s]" and "conspirac[ies]." 15 U.S.C. § 1. The statutory term "combination" has been interpreted to cover actions in concert where the challenged conduct inherently involves cooperative behavior, such as when holding companies join together the operation of previously competing companies. *See*, *e.g.*, *United States v. Am. Tobacco Co*., 221 U.S. 106, 187 (1911); *N. Sec. Co. v. United States*, 193 U.S. 197, 326-27 (1904). And a "combination" exists when there is an implied (or express) "understanding that the participants will jointly give up their trade freedom." *E. R. R. Presidents Conf. v. Noerr Motor Freight, Inc.*, 365 U.S. 127, 136-37 (1961).

Importantly, establishing concerted action under Section 1 does not require any showing of *simultaneous* action—or even action that is close in time. It is "elementary that an unlawful conspiracy may be and often is formed without simultaneous action or agreement on the part of the conspirators." *Interstate Circuit v. United States*, 306 U.S. 208, 227 (1939). An agreement therefore "need not be entered into by all the parties at the same time" and "may be reached by successive actions evidencing their joining of [a] conspiracy." *United States v. Jackson*, 422 F.2d 975, 978 (6th Cir. 1970); *see also Kleen Prod., LLC v. Packaging Corp. of Am*., 775 F. Supp. 2d 1071, 1077 (N.D. Ill. 2011) (collecting cases).

For these reasons, defendants' motions to dismiss are based on an overly narrow view of concerted action. Defendants seek to limit the scope of Section 1 to a narrow category of conspiracy: that in which individuals enter a formal agreement to engage in the same conduct at the same time. *See* Multifamily Mot. 9-11; Student Mot. 8-9. But concerted action is not so limited. As explained above, competitors act in concert when their conduct "joins together separate decisionmakers," thereby "depriv[ing] the marketplace of independent centers of

decisionmaking." *Am. Needle*, 560 U.S. at 195 (citations omitted). This deprivation of independent centers of decisionmaking can occur through delegation to a common entity or through tacit agreement, and it does not require simultaneous action.

B. Concerted Action Can Be Shown In Many Ways, Including An Invitation Followed By Conduct Showing Acceptance

Concerted action can be shown through circumstantial or direct evidence. *Hyland v. HomeServices of Am., Inc.*, 771 F.3d 310, 318-20 (6th Cir. 2014); *C.S. Sewell*, 2018 WL 6591429, at *3. But, just as there are many types of concerted action, there are many ways of proving it through either avenue.

1. Start with circumstantial evidence. Defendants' motions focus narrowly on only one type of circumstantial evidence: parallel conduct and plus factors. Multifamily Mot. 13-23; Student Mot. 11-20. This method of proof makes sense in some circumstances, including where plaintiffs seek to infer a secret conspiracy from parallel conduct, such as multiple competitors' setting or changing their prices at the same time. *See, e.g.*, *Hyland*, 771 F.3d at 318. In those instances, courts often look to "plus factors" to gauge whether there is sufficient circumstantial evidence to infer that the parallel conduct stems from concerted action instead of independent action.

But that is not the only way to prove concerted action circumstantially. As this Court has explained, the core question on a Rule 12(b)(6) motion is whether there are allegations that "raise[] an inference of coordination" and "negate[] the likelihood of independent action." *C.S. Sewell*, 2018 WL 6591429, at *3. In some situations, the evidence may disclose cooperative conduct among the defendants—such that a "combination" of competitors joining together their decisionmaking can be inferred from their cooperative actions. As the Supreme Court has held, "a common purpose and plan may be inferred from a development and collocation of

circumstances." *Glasser v. United States*, 315 U.S. 60, 80 (1942) (internal quotation marks omitted), *superseded on other grounds as recognized by Bourjaily v. United States*, 483 U.S. 171, 181 (1987); *United States v. Frazier*, 584 F.2d 790, 796 (6th Cir. 1978) (same); *In re Vitamins Antitrust Litig*., 320 F. Supp. 2d 1, 16 (D.D.C. 2004) (same).

In particular, as the Supreme Court held in *Interstate Circuit v. United States*, an invitation proposing collective action followed by a course of conduct showing acceptance suffices to show concerted action: "[A]cceptance by competitors, *without previous agreement*, of an invitation to participate in a plan . . . is sufficient to establish an unlawful conspiracy under the Sherman Act." 306 U.S. at 227 (emphasis added). In *Interstate Circuit*, a manager of two movie theater companies sent identical letters to eight major national film distributors—mentioning in the letter that the same letter was being sent to all of them. The letter asked the distributors to impose certain restrictions on secondary runs of certain films. The distributors responded by imposing the restrictions. Although the Court first inferred an express agreement relying on considerations commonly used as part of the plus-factors framework today, it emphasized that such an express agreement was "*not* a prerequisite to [finding] an unlawful conspiracy." 306 U.S. at 226 (emphasis added).

Rather, the Court discussed how there was an alternative way of inferring that the defendants acted in concert under Section 1. This approach was distinct from the modern-day plus-factors analysis. Instead of looking to the sort of factors that would be termed "plus factors" today, the Court focused on the *nature* of the invitation (*i.e.*, whether it contemplates concerted action) and competitors' responsive actions demonstrating acceptance of the invitation: "It was enough that, knowing that concerted action was contemplated and invited, the distributors gave their adherence to the scheme and participated in it." *Id.* at 226-27. In particular, the Court

explained that "[e]ach distributor was advised that the others were asked to participate" and that "each knew that cooperation was essential to successful operation of the plan." *Id.* These circumstances, the Court held, showed concerted action even without "a previous [express] agreement." *Id.* at 227; *see also FTC v. Cement Inst.*, 333 U.S. 683, 716 n.17 (1948) (explaining that it is sufficient "if there is evidence that persons, with knowledge that concerted action was contemplated and invited, give adherence to and then participate in a scheme").

The Supreme Court applied this same approach in *United States v. Masonite Corp.*, 316 U.S. 265, 274-76 (1942). It held that the "circumstances surrounding the making of [bilateral settlement contracts]," including that each competitor was "aware" that "its contract was not an isolated transaction but part of a larger arrangement," left "no room for doubt that all had an awareness of the general scope and purpose of the undertaking" sufficient to establish a broader, single conspiracy. *Id.* Put simply, "[i]t is enough that a concert of action is contemplated and that the defendants conformed to the arrangement." *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 142 (1948).

Lower courts have frequently recognized this method for showing concerted action as a viable path. This Circuit, for instance, has applied *Interstate Circuit*'s holding that competitors' acceptance, through conduct, of an invitation to act together suffices to establish concerted action. *See In re Travel Agent Comm'n Antitrust Litig.*, 583 F.3d 896, 906-07 (6th Cir. 2009) (considering whether plaintiffs alleged an antitrust conspiracy sufficiently similar to that in *Interstate Circuit*); *James R. Snyder Co. v. Assoc. Gen. Contractors of Am., Detroit Chapter, Inc.,* 677 F.2d 1111, 1121-22 (6th Cir. 1982) (quoting *Interstate Circuit* to explain that "[a]cceptance by competitors, without previous agreement, of an invitation to participate in a plan, the necessary consequence of which, if carried out, is restraint of interstate commerce, is sufficient to establish an unlawful

conspiracy under the Sherman Act"); *United States v. Moody*, 787 F. App'x 857, 870 (6th Cir. 2019) (unpublished) (describing a "classic hub-and-spoke conspiracy" as one where "concerted action was contemplated and invited," and where each participant "knew that cooperation was essential") (quoting *Interstate Circuit*); *cf. Lamb Enterprises, Inc. v. Toledo Blade Co*., 461 F.2d 506, 516 (6th Cir. 1972) (upholding jury instruction in antitrust case that a conspiracy exists if there is "concert of action between [the defendants]"). And federal courts of appeals have repeatedly done the same, including in analogous cases.[6]

Meyer v. Kalanick, 174 F. Supp. 3d 817 (S.D.N.Y. 2016), is particularly instructive. The district court considered whether Uber, a transportation mobile app, organized a conspiracy among independent drivers to use Uber's pricing algorithm in setting fares for riders. The court relied on *Interstate Circuit* to hold that plaintiffs plausibly alleged a conspiracy in which drivers "sign[ed] up for Uber precisely 'on the understanding that the other [drivers] were agreeing to the same' pricing algorithm." *Id*. at 824.[7] The court remarked, *id.* at 825:

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[6] *See In re Ins. Brokerage Antitrust Litig*., 618 F.3d 300, 331-32 (3d Cir. 2010) (considering whether, under *Interstate Circuit*, defendants' decisions "presuppose concerted action"); *PLS.Com, LLC v. Nat'l Ass'n of Realtors*, 32 F.4th 824, 843 (9th Cir. 2022) ("All that PLS must allege is that [the defendant] adhered to a common scheme.") (citing *Interstate Circuit*, 306 U.S. at 227); *Toys R Us, Inc. v. FTC*, 221 F.3d 928, 935-36 (7th Cir. 2000) (citing *Interstate Circuit* and inferring agreement among competitors in part "from the nature of the proposals [made by an intermediary], from the manner in which they were made," and "from the substantial unanimity of action taken"); *United States v. Foley*, 598 F.2d 1323, 1331-32 (4th Cir. 1979) (citing *Interstate Circuit* and upholding price-fixing convictions where competitors raised prices after a host announced to his competitor guests that, though he "did not care what the others did," he planned to increase prices)*; cf. United States v. Apple, Inc.*, 791 F.3d 290, 316 (2d Cir. 2015) ("Apple understood that its proposed Contracts were attractive to the Publisher Defendants *only* if they collectively shifted their relationships with Amazon to an agency model—which Apple knew would result in higher consumer-facing ebook prices.").

[7] The court in *Meyer* also considered allegations that "drivers' agreements with Uber would 'be against their own interests were they acting independently.'" *Meyer*, 174 F. Supp. 3d at 824. Although showing that actual or potential competitors acted against their self-interest can be helpful in distinguishing whether conduct results from agreement or independent action, it is not

> It is fundamental to the law of conspiracy that the agreements that form the essence of the misconduct are not to be judged by technical niceties but by practical realities. Sophisticated conspirators often reach their agreements as much by the wink and the nod as by explicit agreement, and the implicit agreement may be far more potent, and sinister, just by virtue of being implicit.

2. There are similarly many types of direct evidence. What constitutes such evidence can depend on the conduct being challenged. For instance, in a case challenging a contractual term, the contract itself is direct evidence of concerted action. *See Epic Games, Inc. v. Apple, Inc.*, 67 F.4th 946, 982 & n.13 (9th Cir. 2023); *Systemcare, Inc. v. Wang Labs. Corp*., 117 F.3d 1137, 1143 (10th Cir. 1997). And in a case challenging association rules governing members' separate businesses, the rules themselves are direct evidence of concerted action. *See Relevent*, 61 F.4th at 303; *Robertson v. Sea Pines Real Estate Cos., Inc.*, 679 F.3d 278, 289 (4th Cir. 2012). In each of these examples, no more is necessary to prove concerted action under Section 1.

Contrary to defendants' assertion, Multifamily Mot. 13; Student Mot. 11, direct evidence of *concerted action* need not be tantamount to an acknowledgement of guilt. The concerted-action element is separate from the unreasonable-restraint element. *See Am. Needle*, 560 U.S. at 186. Indeed, as *American Needle* makes clear, even a procompetitive agreement that does not violate Section 1 still satisfies the concerted-action element. *Id.* at 202-03.

C. The Complaints Allege Concerted Action

To survive a motion to dismiss, the allegations of concerted action must be "plausible" on "the assumption that all the [factual] allegations in the complaint are true (even if doubtful in fact)." *Twombly*, 550 U.S. at 555-56. A "conclusory allegation of agreement" is not enough; some "factual enhancement" is needed to raise the plaintiff's entitlement to relief from "possible" to

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necessary for establishing agreement where a proposal contemplates concerted action (which naturally tends to rule out independent action).

"plausible." *Id.* at 556-57. The complaints allege numerous facts plausibly suggesting several related ways in which the landlords acted in concert.

Factual allegations in both complaints point to evidence of an invitation to act in concert followed by acceptance—evidence that is sufficient to plead concerted action under *Interstate Circuit*. *See* Multifamily Compl. ¶ 8 (citing *Interstate Circuit*); Student Compl. ¶¶ 4-8. Namely, it is "enough" that the landlords, "knowing that concerted action was contemplated and invited," adhered "to the scheme and participated in it." *Interstate Circuit*, 306 U.S. at 226-27.

To begin, the complaints allege that RealPage's proposal "contemplated" and "invited" concerted action among the landlords. In fact, its "intent to create coordination among users," including its "aim" of "increasing revenues by raising rents," was "transparent to all." Multifamily Compl. ¶ 4. Among other things, RealPage required each user to submit real-time pricing and supply data to it, and RealPage's marketing materials allegedly "touted" its use of "non-public data from other RealPage clients," enabling them to "raise rents in concert"; as well as the algorithms' ability to "facilitate collaboration among operations" and "track your competition's rent with precision." Multifamily Compl. ¶¶ 4, 6-9, 212, 292; Student Compl. ¶¶ 4, 6, 9.

The complaints then allege that the landlords "gave their adherence to the scheme and participated in it," *Interstate Circuit*, 306 U.S. at 226-27. In particular, according to the complaints, the landlords allegedly sent RealPage the non-public and competitively sensitive data (as RealPage proposed), Multifamily Compl. ¶¶ 227, 380; Student Compl. ¶¶ 5, 67, and overwhelmingly priced their units in line with RealPage's suggested prices (80-90%), Multifamily Compl. ¶ 10, 15, 241, 262; Student Compl. ¶¶ 6-9. Indeed, the complaints also contain ample allegations on how RealPage directly constrained the "deviations" from its suggested prices, including by enforcing and monitoring compliance with those prices, so the landlords effectively

delegated aspects of their pricing decisions to RealPage. Multifamily Compl. ¶¶ 6, 17-20, 255-86; Student Compl. ¶¶ 6-7, 84-93.[8]

Relatedly, the multifamily plaintiffs allege that the landlords jointly delegated aspects of decisionmaking on prices to RealPage. They allege that, by using RealPage's pricing algorithms, each client defendant "agreed" to a common plan that involved "delegat[ing] their rental price and supply decisions to a common decision maker, RealPage." Multifamily Compl. ¶ 6. Indeed, RealPage allegedly touted this feature—stating in a press release that it gives clients "the ability to 'outsource daily pricing and ongoing revenue oversight,'" such that RealPage could "set prices" as though it "own[ed]" the clients' properties "ourselves.'" Multifamily Compl. ¶ 7. Jointly delegating any part of the decision-making process reflects concerted action. *See* p. 5-8, *supra*. That the delegation is to a software algorithm, rather than a human, makes no difference to the legal analysis. Just as "surrender[ing] freedom of action. . . and agree[ing] to abide by the will of the association" can be enough for concerted action, *Relevent*, 61 F.4th at 309, so can be relying on a joint algorithm that generates prices based on shared competitively sensitive data. The actions of the joint agent can "constitute concerted action" by the participants. *Am. Needle*, 560 U.S. at 200, 204. And if evidence of this delegation exists that requires "no inferences to establish the proposition . . . being asserted," then there exists direct evidence of concerted action. *Hyland*, 771 F.3d at 318.

[8] Plaintiffs also alleged parallel conduct and plus factors seeking to raise an inference of an express agreement among the competing landlords. *See, e.g.*, Multifamily Compl. ¶¶ 366-89; Student Compl. ¶¶ 118-140. But, as discussed at pp. 8-14, such allegations are not necessary to state a Section 1 claim, and we take no position on them.

II. The Per Se Rule Prohibiting Price Fixing Applies to Price Fixing Using Algorithms

If concerted action has been established under Section 1, courts ask next whether those actions in concert "unreasonably restrain[] trade." *Am. Needle*, 560 U.S. at 186. But for certain classes of conduct, no specialized inquiry is necessary—they are per se unlawful. Price fixing, one of the "supreme evil[s]" of antitrust, is the prototypical example of per se unlawful conduct. He *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 408 (2004); *Catalano, Inc. v. Target Sales, Inc*., 446 U.S. 643, 647 (1980) (describing horizontal price fixing as the "archetypal" per se violation). The analysis is no different simply because a software algorithm is involved.

Taking the allegations set forth in the complaints as true, the alleged scheme meets the legal criteria for per se unlawful price fixing. Although not every use of an algorithm to set price qualifies as a per se violation of Section 1 of the Sherman Act, it is per se unlawful when, as alleged here, competitors knowingly combine their sensitive, nonpublic pricing and supply information in an algorithm that they rely upon in making pricing decisions, with the knowledge and expectation that other competitors will do the same.

A. Using an Algorithm to Fix Prices Among Actual or Potential Competitors Is Per Se Unlawful

Courts analyze whether concerted action is anticompetitive, and thus unreasonable, in one of two ways: under (1) the per se rule or (2) the rule of reason. *Ohio v. Am. Express Co*., 138 S. Ct. 2274, 2283 (2018) ("*Amex*"); *Total Benefits Plan. Agency, Inc. v. Anthem Blue Cross & Blue Shield*, 552 F.3d 430, 434 (6th Cir. 2008). The per se rule condemns certain categories of restraints as unreasonable based on their inherently anticompetitive "nature and character." *Standard Oil Co. of New Jersey v. United States*, 221 U.S. 1, 64-65 (1911). The rule of reason requires a "fact-specific assessment" of the restraint's effect on competition. *Amex*, 138 S. Ct. at 2284.

Which rule applies typically depends on the answers to two questions. First, is the restraint "horizontal" or "vertical"? Because horizontal restraints join together actual or potential competitors, they pose a heightened risk of harm to the competitive process and "are generally less defensible" than vertical restraints. *Arizona v. Maricopa County Med. Soc'y*, 457 U.S. 332, 348 n.18 (1982). Typically, only horizontal restraints are per se unlawful. *Amex*, 138 S. Ct. at 2283-84. Second, if the concerted action is horizontal, does the restraint fall within one of the "classes of restraints which from their nature or character were unduly restrictive, and hence forbidden by both the common law and the statute," *Klor's, Inc. v. Broadway-Hale Stores, Inc.*, 359 U.S. 207, 211 (1959)? If so, the restraint is per se unlawful, whatever its form.

1. Horizontal restraints are those that "eliminate some degree of rivalry" among "actual or potential competitors." *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210, 229 (D.C. Cir. 1986); *see also Bd. of Regents*, 468 U.S. at 99 (defining "horizontal restraint" as "an agreement among competitors on the way in which they will compete with one another"); *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 730 (1988) ("Restraints imposed by agreement between competitors have traditionally been denominated as horizontal restraints[.]"); *In re SE Milk Antitrust Litig.*, 739 F.3d 262, 272 (6th Cir. 2014) ("An agreement 'between competitors at the same level of the market structure' is horizontal."). For example, in *Board of Regents*, the Supreme Court held that NCAA member institutions created a "horizontal restraint" by "participating in an association which prevents [them] from competing against each other on the basis of price or kind of television rights that can be offered to broadcasters." 468 U.S. at 99. On the other hand, when "firms at different levels of distribution" agree on matters over which they do not compete—such as a manufacturer setting the terms for the distribution or sale of its *own* products—those restraints are "vertical." *Bus. Elecs.*, 485 U.S. at 730.

2. Horizontal price fixing is a prototypical class of restraint that is per se unlawful. *FTC v. Superior Ct. Trial Lawyers Ass'n*, 493 U.S. 411, 434 (1990); *Socony-Vacuum*, 310 U.S. at 218, 224 n.59 (stating that horizontal price fixing is "consistently and without deviation" held per se unlawful); *Catalano*, 446 U.S. at 647. That remains true regardless of its particular form: "Whatever may be its peculiar problems and characteristics, the Sherman Act, so far as price-fixing agreements are concerned, establishes one uniform rule applicable to all industries alike." *Socony-Vacuum*, 310 U.S. at 221-22; *Maricopa*, 457 U.S. at 346.[9]

Per se unlawful price fixing includes not only competitors' acting in concert to set the same price at which a product is bought or sold. It also includes any "combination formed for the purpose and with the effect of raising, depressing, fixing, pegging, or stabilizing the price of a commodity." *Socony-Vacuum*, 310 U.S. at 223; *see Maricopa*, 457 U.S. at 339, 348; *United States v. McKesson & Robbins, Inc.*, 351 U.S. 305, 309-10 (1956). Under this well-established standard, the Supreme Court and courts of appeals have declared per se unlawful numerous types of price-fixing arrangements, including concerted action on price components, formulas, or discounts. *E.g.*, *Socony-Vacuum*, 310 U.S. at 222 (explaining that setting formulas is per se unlawful); *Catalano*, 446 U.S. at 648 (same for eliminating discounts); *Maricopa*, 457 U.S. at 339 (same for establishing maximum fee schedules); *Gelboim v. Bank of Am. Corp.*, 823 F.3d 759, 771 (2d Cir. 2016) (same for fixing LIBOR interest rate—"a component of the return from various LIBOR-denominated financial instruments"). Particularly relevant here, the Supreme Court has long condemned as per se unlawful agreements to use the same "formula underlying price policies," *Socony-Vacuum*, 310 U.S. at 224-226 n.59, which includes use of the same pricing algorithm. *See* Plea Agreement,

[9] Defendants can avoid per se liability by raising and establishing an ancillary-restraints defense, but defendants have not raised such a defense here.

United States v. Topkins, No. CR 15-00201 (N.D. Cal. Apr. 30, 2015), https://www.justice.gov/atr/case-document/file/628891/download, at ¶ 4(b) (conspirators' "agree[ing] to adopt specific pricing algorithms"). Courts have also recognized that price fixing can be accomplished through means other than merely agreeing to the final price—such as revenue sharing, *Palmer v. BRG of Ga., Inc.*, 498 U.S. 46, 49 (1980), and restricting output, *e.g.*, *Socony-Vacuum*, 310 U.S. at 223 (holding unlawful price fixing via purchasing surplus gasoline); *Kleen*, 910 F.3d at 937 (same via jointly restricting supply).

B. The Per Se Rule Applies to the Allegations in this Case

Taking the complaints' allegations as true, the alleged scheme is (1) horizontal (2) price fixing.

1. The alleged scheme is horizontal because it "eliminate[s] some degree of rivalry between persons or firms who are actual or potential competitors," *Rothery*, 792 F.2d at 229—namely, the competing landlords that have allegedly agreed to use RealPage's pricing algorithm and follow its recommendations. *See* pp. 2-4, 13-14, *supra*.

Defendants object to per se treatment in part because they view the challenged concerted action as "*vertical* in nature," presumably because RealPage and the landlords are not competitors. Multifamily Mot. 28; Student Mot. 23. Because RealPage is not a supplier or distributor of housing units, it is unclear if the "vertical" label properly characterizes its relationship with the landlords. But, even if it does, RealPage's participation in the conspiracy does not vitiate per se treatment; competitors "cannot simply get around antitrust liability by acting through a third-party intermediary." *Am. Needle*, 560 U.S. at 202 (cleaned up). The key feature of the alleged scheme is that it eliminates separate pricing decisions by competing landlords—thus establishing a horizontal arrangement.

Courts have repeatedly found horizontal conspiracies to be per se unlawful even if a vertically related entity is involved. In *United States v. General Motors Corp.*, for instance, the Supreme Court had "no doubt" that a collaboration among horizontal distributors was "a per se violation of the [Sherman] Act," even though a vertically related party (General Motors) was involved in the boycott. 384 U.S. 127, 145 (1966); *see also Klor*'s, 359 U.S. at 209 (similar); *Com-Tel v. DuKane*, 669 F.2d 404, 412 (6th Cir. 1982) (similar). As other circuits have explained, the same goes for circumstances in which the vertically related party "conceptualized" or "orchestrated" the conspiracy among horizontal entities—defendants still agreed to a horizontal conspiracy and "cannot escape the per se rule." *United States v. All Star Indus.*, 962 F.2d 465, 473 (5th Cir. 1992). In *United States v. Apple*, for instance, the Second Circuit condemned a price-fixing agreement as per se unlawful even though the conspiracy was organized by a distributor (Apple) that did not compete with the other parties (book publishers) to the agreement. 791 F.3d 290 (2d Cir. 2015). In the words of the Fifth Circuit, if "there is a horizontal agreement between [competitors], there is no reason why others joining that conspiracy must be competitors." *United States v. MMR Corp. (LA)*, 907 F.2d 489, 498 (5th Cir. 1990).

2. Allegations in the complaints point to at least two characteristics that show that the alleged scheme falls within the class of per se unlawful price-fixing restraints.

First, the competing landlords have allegedly agreed to use RealPage and delegate aspects of pricing decisions to RealPage—which involves an algorithm analogous to a common pricing formula. Multifamily Compl. ¶¶ 6, 7, 30, 204, 230-232, 291; Student Compl. ¶¶ 61-93. Agreeing to use a common pricing formula is per se unlawful. *Socony-Vacuum*, 310 U.S. at 222. And the collective delegation of pricing decisions to a common entity or agent has been condemned as per se unlawful under Section 1. *See Citizen Pub. Co. v. United States*, 394 U.S. 131, 133-36 (1969)

(finding per se unlawful the delegation of key competitive decisions to joint entity); *Virginia Excelsior Mills, Inc v. FTC*, 256 F.2d 538, 540 (4th Cir. 1958) (finding per se unlawful the delegation of "all discretion in fixing prices" to a Board of Directors). It makes no difference that prices are fixed through joint use of an algorithm instead of by a person; price fixing by "express delegation, acquiescence, or understanding" is per se unlawful. *Masonite*, 316 U.S. at 274-75; *see Meyer*, 174 F. Supp. 3d at 824-26 (applying longstanding antitrust principles where prices are fixed by "algorithm"). Much like adopting a common pricing formula, acting in concert using a common pricing algorithm can exert an important "influence . . . on the starting point for prices," *Gelboim*, 823 F.3d at 776, which disrupts the decentralized price-setting mechanism in the market. *Cf. Cont'l Wall Paper Co. v. Lewis Voight & Sons Co*., 212 U.S. 227, 235-36, 249 (1909) (finding unlawful a "combination" among wall paper manufacturers due in part to the combination's ability to set list prices).

Second, the complaints allege that defendants acted in concert by knowingly sharing "competitively sensitive" and "non-public" pricing information with RealPage. *See supra* pp. 3-4. They did this on the mutual understanding that other landlords, who are "technically competitors," would do the same, allowing competitors to "work together" with the common goal of increasing prices and profits. *Id*. Although the "dissemination of price information is not itself a per se violation of the Sherman Act," *United States v. Citizens & S. Nat'l Bank*, 422 U.S. 86, 113 (1975), courts have recognized that competitors' exchanging of price information can play an important role in price fixing, *see*, *e.g.*, *Am. Column & Lumber Co. v. United States,* 257 U.S. 377, 411-12 (1921); *In re Flat Glass Antitrust Litig.*, 385 F.3d 350, 369 (3d Cir. 2004). Here, for example, RealPage allegedly generates specific pricing recommendations based on the competitors' confidential information, thus joining the competing landlords together in the pricing

process. *Cf. Am. Column*, 257 U.S. at 411-12 (condemning information exchange whose "purpose and effect" were "to restrict competition" through "concerted action in curtailing production and in increasing prices"). It makes no difference that the confidential pricing information was shared through an algorithm rather than through "a guy named Bob." Maureen K. Ohlhausen, *Should We Fear The Things That Go Beep In the Night? Some Initial Thoughts on the Intersection of Antitrust Law and Algorithmic Pricing*, Federal Trade Commission, at 10 (May 23, 2017), https://www.ftc.gov/system/files/documents/public_statements/1220893/ohlhausen_-_concurrences_5-23-17.pdf; *cf. United States v. Airline Tariff Pub. Co.*, 836 F. Supp. 9, 10 (D.D.C. 1993) (explaining, in a Tunney Act proceeding, that competitors fixed prices through "fare dissemination" software that enabled them to exchange confidential pricing information).

Importantly, the alleged scheme constitutes price fixing regardless of whether the competing landlords ever communicated with one another about prices. As explained above, Section 1 encompasses purely "tacit agreements." *Twombly*, 550 U.S. at 553; *see C.S. Sewell*, 2018 WL 6591429, at *3 (same); *In re High Fructose Corn Syrup Antitrust Litig.*, 295 F.3d 651, 654 (7th Cir. 2002) (stating that Section 1 is "broad enough" to "encompass a purely tacit agreement to fix prices"). Under *Interstate Circuit*, it suffices to show that RealPage proposed the price-fixing scheme to competing landlords, who were each aware that its competitors were also being invited to participate in the scheme, and the competitors adhered to it—generating a common understanding among the competitors that they would increase prices collectively by using RealPage. *See Interstate Circuit*, 306 U.S. at 226-227; *see also Moody*, 787 F. App'x at 870 (quoting *Interstate Circuit*).

Defendants lodge two primary objections to the classification of their arrangement as price fixing. Both rest on a misunderstanding of the law, the alleged facts, or both.

First, defendants claim that the complaints must be dismissed because RealPage *recommends*, rather than mandates, certain prices. Multifamily Mot. 24-25; Student Mot. 21. But the complaints allege that RealPage exerts pressure to enforce its recommendations and landlords have outsourced pricing decisions to RealPage. *See supra* pp. 2-4. Even putting these factual allegations aside, however, courts have often applied the per se rule even though the fixed prices were non-mandatory. For instance, fixing advertised list prices is per se unlawful, even if firms are free to, and do, charge lower prices to customers. *See Flat Glass*, 385 F.3d 350 at 362-63 ("An agreement to fix list prices is . . . a per se violation of the Sherman Act even if most or for that matter all transactions occurred at lower prices."). The Supreme Court has likewise condemned as price fixing a county bar association's "suggested" "minimum-fee schedule" for lawyers that was enforced by discipline from the State Bar. *Goldfarb v. Virginia State Bar*, 421 U.S. 773, 776, 782-83 (1975); *see also Norfolk Monument Co. v. Woodlawn Mem. Gardens*, 394 U.S. 700, 702-03 (1969) (describing pamphlet containing "suggested standards of fair and reasonable regulations which the [other conspirators] would be advised to adopt" as evidence of a price-fixing conspiracy).

In each of these cases, the challenged price-fixing scheme disrupted the competitive process. It is not necessary for liability that the scheme succeed in raising prices. *See Socony-Vacuum*, 310 U.S. at 224. So long as the evidence shows a mutual understanding among the competing landlords to use RealPage's prices as a starting point, the scheme is per se unlawful under Section 1.

Second, defendants argue that their conduct is not price fixing and hence the per se rule cannot apply because "[c]ourts have little to no experience evaluating whether use of revenue management software is unlawful under Section 1." Multifamily Mot. 28; Student Mot. 24. But

a defendant cannot "shield it[self] from the consequences" of organizing a price-fixing cartel merely because it organizes the cartel through disseminating a software program. Indeed, courts are not permitted to "examine the economic justification of . . . particular application[s] of the per se rule against price fixing." *Maricopa*, 457 U.S. at 349 n.19.

Judicial experience is relevant only in determining whether to adopt "a *new* per se rule"—not in deciding whether to apply an *established* per se rule. *Maricopa*, 457 U.S. at 349 & n.19 (emphasis added); *see id.* at 351 (explaining that the per se rule need not "be rejustified for every industry"); *United States v. Andreas*, 216 F.3d 645, 667 (7th Cir. 2000). There is no more established per se rule in antitrust than the per se rule against horizontal price fixing. Since the alleged price-fixing scheme falls within that established category, the per se rule applies.

CONCLUSION

The law prohibiting horizontal price fixing applies with full force to schemes involving pricing algorithms. The motions to dismiss should be denied.

Respectfully submitted,

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Dated: November 15, 2023

CERTIFICATE OF SERVICE

I hereby certify that the foregoing document, which was filed with the Court through the CM/ECF system, will be sent electronically to all registered participants.

Dated: November 15, 2023

/s/ Yixi (Cecilia) Cheng
YIXI (CECILIA) CHENG