THE DECLINE OF COORDINATED EFFECTS ENFORCEMENT AND HOW TO REVERSE IT

D. Daniel Sokol[*] *Sean P. Sullivan*[†,‡]

October 25, 2023

Opposition to anticompetitive coordination once animated merger policy. But evidence now suggests that coordinated effects challenges are disfavored among enforcers and rarely pursued. This change in enforcement is troubling and puzzling. Coordinated effects challenges are antitrust law's best and often only opportunity combat anticompetitive coordination in concentrated markets. Why are coordinated effects theories not being vigorously pursued?

This Article exposes the decline in coordinated effects enforcement and the threat it poses to the maintenance of competitive markets. We do so in three

---

[*] Carolyn Craig Franklin Chair in Law and Professor of Law and Business, USC Gould School of Law and USC Marshall School of Business; Senior Advisor, White & Case LLP.

[†] Professor of Law, University of Iowa College of Law. Sullivan thanks Kassandra DiPietro, Cassandra Ehly, and Maya Sanaba for research assistance on this project. Funding for portions of Sullivan's research was provided by a research grant from the University of Iowa College of Law.

[‡] This Article was improved by helpful input from Jonathan Baker, Dale Collins, Joseph Farrell, Debbie Feinstein, Eleanor Fox, Ben Gris, Christopher Leslie, Louis Kaplow, William Kovacic, Nathan Miller, Robby Robertson, Steve Salop, Bob Tovsky, and participants of the University of Cambridge-USC virtual antitrust law workshop.

Working paper for D. Daniel Sokol & Sean P. Sullivan, *The Decline of Coordinated Effects Enforcement and How to Reverse It*, Fla. L. Rev. (forthcoming 2024).

steps. First, we explain the special significance of coordinated effects enforcement in the broader antitrust framework. Second, we document the decline in coordinated effects enforcement using multiple data sources. Third, we trace the causes of this decline to discrete changes in antitrust law and enforcement policy. We expose the logical and economic errors underlying each of these changes and propose steps to restore coordinated effects enforcement to appropriate prominence.

Table of Contents

I. INTRODUCTION

The nation's eye has fallen on antitrust law amid doubts about its recent effectiveness. President Biden calls the past 40 years of antitrust enforcement a "failed" experiment.[1] He is not alone in criticizing the way things have been. By recent accounts, corporate concentration is out of control throughout the U.S. economy.[2] Timid antitrust enforcement, leading to

---

[1] Press Release, White House, Remarks by President Biden at Signing of an Executive Order Promoting Competition in the American Economy (July 9, 2021), https://perma.cc/S7KQ-7HM ("I believe the experiment failed").

[2] AMY KLOBUCHAR, ANTITRUST: TAKING ON MONOPOLY POWER FROM THE GILDED AGE TO THE DIGITAL AGE 178 (2021) ("I've worked to draw attention to the growing problems of runaway corporate concentration and monopoly power."); UNITED STATES DEPARTMENT OF JUSTICE, OFFICE OF PUBLIC AFFAIRS, JUSTICE DEPARTMENT AND FEDERAL TRADE COMMISSION SEEK TO STRENGTHEN ENFORCEMENT AGAINST ILLEGAL MERGERS (Jan. 18, 2022) https://www.justice.gov/opa/pr/justice-department-and-federal-trade-commission-seek-strengthen-enforcement-against-illegal ("Recent evidence indicates that many industries across the economy are becoming more concentrated and less competitive—imperiling choice and economic gains for consumers, workers, entrepreneurs and small businesses."); Lina M. Khan, *The End of Antitrust History Revisited*, 133 HARV. L. REV. 1655–82, 1671 (2020) ("[S]tudies reveal high concentration now to be a systemic, rather than isolated, feature of our economy."); David Dayen, *America's Monopoly Problem Goes Way Beyond Tech Giants*, Atlantic (July 28, 2020) (available at https://www.theatlantic.com/ideas/archive/2020/07/pandemic-making-monopolies-worse/614644/) ("The truth is that, even if Congress somehow decreed the breakup of all four tech giants, the U.S. would still have an astounding number of industries controlled by a tiny number of firms."); Sally Hubbard, *Monopolies Are Killing the American Dream. We Must Keep Them in Check*, CNN (July 2, 2019) https://www.cnn.com/2019/07/01/perspectives/monopolies-candidates-antitrust/index.html ("The concentration crisis extends throughout our economy to include markets like baby formula, where three companies control 80% of the market, washer and dryer manufacturing, where three companies control 100% of the market, and airlines, where four companies control 76% of the market overall, with even higher concentrations on individual routes."); David Wessel, *Is Lack of Competition Strangling the U.S. Economy?*, HARV.

runaway concentration, is blamed for everything from rising prices, to falling wages, to growing income inequality.[3] With antitrust policy embattled, established norms are ripe for reconsideration.

Seizing the opportunity, a coalition of antitrust critics is laboring to reinvent enforcement policy. Sometimes collected under the moniker of

---

BUS. REV., Mar.–Apr. 2018, at 106, 107 ("There's no question that most industries are becoming more concentrated.").

[3] *See, e.g.*, Jacob M. Schlesinger, Brent Kendall & John D. McKinnon, *Tech Giants Google, Facebook and Amazon Intensify Antitrust Debate*, WALL STREET J. (June 12, 2019, 6:00 PM) (claiming that "many economists tie stagnant wages, rising economic inequality and sluggish productivity to heightened concentration across American industry, and lax antitrust enforcement"); Joseph E. Stiglitz, *America Has a Monopoly Problem—and It's Huge*, NATION (Oct. 23, 2017), https://www.thenation.com/article/archive/america-has-a-monopoly-problem-and-its-huge ("There has been an increase in the market power and concentration of a few firms in industry after industry, leading to an increase in prices relative to costs (in markups).").

"neo-Brandesians,"[4] the members of this coalition pursue varied objectives,[5] but with apparent agreement on the need for "anti-monopoly" enforcement priorities.[6] The primary evil, as they see it, is monopoly power:[7] the ability of unopposed firms to set higher-than-competitive prices, pay lower-than-competitive wages, provide worse-than-competitive service, and delay innovation while reaping super-competitive profits.

We, too, aspire for effective antitrust enforcement, but we see the Neo-Brandesian obsession with monopoly as myopic. The greatest threat today is not monopoly power. It is *oligopoly* power: the ability of a few competitors to do by coordinated conduct the same things a monopolist would do. Unlike monopolies, oligopolies are everywhere. Examples include soft drinks, airlines, banks, breakfast cereals, music labels, and video-game consoles. Tech giants grab headlines but the conduct of oligopolists impacts everyone, everywhere, every day.

---

[4] Lina M. Khan, *The New Brandeis Movement: America's Antimonopoly Debate*, 9 J. Euro. Competition L. & Practice 131 (2018).

[5] *See* Herbert Hovenkamp, *Whatever Did Happen to the Antitrust Movement?*, 94 Notre Dame L. Rev. 583, 583–89 (2018) (identifying some of the varied and conflicting objectives of recent movement antitrust positions); Barak Orbach, *Do Antitrust Disruptors Make Good Reformers?* (Arizona Legal Studies Discussion Paper No. 22-20, Nov. 1, 2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4266241 (describing the bipartisan consensus struck by populist liberals and conservatives in support of placing limits on certain businesses).

[6] Shannon Bond, *New FTC Chair Lina Khan Wants To Redefine Monopoly Power For The Age Of Big Tech*, NPR, July 1, 2021, https://www.npr.org/2021/07/01/1011907383/new-ftc-chair-lina-khan-wants-to-redefine-monopoly-power-for-the-age-of-big-tech; Ariel Ezrachi & Maurice E. Stucke, How Big-Tech Barons Smash Innovation—and How to Strike Back (2022); Zephyr Teachout, Break 'Em Up: Recovering Our Freedom from Big Ag, Big Tech, and Big Money (2020); David Dayen, Monopolized: Life in the Age of Corporate Power (2020).

[7] *E.g.*, Hubbard, *supra* note 2.

In oligopolistic markets, patterns of cooperation and mutual forbearance can come to replace competition. This is bad because anticompetitive coordination can be stubbornly durable once it takes hold. That durability owes in part to a gap in antitrust law. In 1959, Harvard Professors Carl Kaysen and Donald Turner noted the problem:

> The principal defect of present antitrust law is its inability to cope with market power created by jointly acting oligopolists. . . . [W]e believe it is safe to say that a considerable number of industrial markets exist in which oligopolists, acting jointly, possess substantial degrees of market power, which they exercise without engaging in conduct violating the Sherman Act.[8]

Kaysen and Turner's critique is accurate. In situations where oligopolistic coordination is the product of direct agreement among competitors, it is subject to the harshest treatment antitrust has to offer.[9] It is, in the words of the Supreme Court, "the supreme evil of antitrust,"[10] and it is punished accordingly. But in situations where *the same conduct* arises not from direct agreement but from common inferences and understanding among the few competitors in a concentrated market, that conduct is regarded as

---

[8] Carl Kaysen & Donald Turner, Antitrust Policy 110 (1959).

[9] Collusion to fix prices or divide markets is per se illegal under Supreme Court case law. *E.g.*, Texaco Inc. v. Dagher, 547 U.S. 1, 5 (2006) ("Price-fixing agreements between two or more competitors . . . fall into the category of arrangements that are per se unlawful."); United States v. Topco Assocs., Inc., 405 U.S. 596, 608 (1972) ("One of the classic examples of a per se violation of s 1 is an agreement between competitors . . . to allocate territories in order to minimize competition."). The Department of Justice pursues criminal sanctions in clear price fixing and market division cases. *See* Scott D. Hammond, The Evolution of Criminal Antitrust Enforcement Over the Last Two Decades (February 25, 2010).

[10] Verizon Commc'ns, Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 408 (2004).

beyond the reach of antitrust law. The Supreme Court candidly conceded this result in *Brooke Group v. Brown & Williamson*:

> Tacit collusion, sometimes called oligopolistic price coordination . . . describes the process, *not in itself unlawful*, by which firms in a concentrated market might in effect share monopoly power, setting their prices at a profit-maximizing, supracompetitive level by recognizing their shared economic interests and their interdependence with respect to price and output decisions.[11]

Because antitrust is helpless to remedy oligopolistic coordination once it arises, merger enforcement has long acted as the only real barrier to the emergence of coordinated conduct.[12] Any merger that risks enabling or entrenching oligopolistic coordination is said to have the potential to cause "coordinated effects."[13] For decades, mergers risking coordinated effects were challenged, enjoined, and unwound under Section 7 of the Clayton

---

[11] Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 227 (1993) (emphasis added); *see also* Bell Atl. Corp. v. Twombly, 550 U.S. 544, 556–57 (2007) ("Without more, parallel conduct does not suggest conspiracy. . . . A statement of parallel conduct, even conduct consciously undertaken, needs some setting suggesting the agreement necessary to make out a § 1 claim."). *But see* Louis Kaplow, Competition Policy And Price Fixing (2013) (suggesting that antitrust needs a stricter standard for tacit collusion); Louis Kaplow, *On the Meaning of Horizontal Agreements in Competition Law*, 99 Calif. L. Rev. 683 (2011) (identifying problems with antitrust's understanding of coordination).

[12] *See* Herbert Hovenkamp, *Prophylactic Merger Policy*, 70 Hastings L.J. 45 (2018) (discussing the prophylactic reach of merger challenges under the Clayton Act).

[13] U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines § 7 (August 19, 2010) [hereinafter 2010 Horizontal Merger Guidelines].

Act.[14] Indeed, coordinated effects challenges were the principle focus of merger enforcement before the 1990s.[15]

The need for vigilance against coordinated effects in merger review is a point upon which opposing philosophies have found common ground. Concerns about coordinated effects animated challenges and opinions during the highly interventionist era of Warren Court antitrust enforcement. But concerns about coordinated effects were just as evident during the laissez-faire era of the Chicago School of antitrust enforcement. The understood need to oppose oligopolistic coordination appears in cases and commentary dating back to the dawn of antitrust law.[16]

Things changed in the 1990s. Starting around the release of the 1992 Horizontal Merger Guidelines,[17] coordinated effects enforcement quietly faded from merger control. A study of Federal Trade Commission investigation suggests that coordinated effects declined from being the primary focus of almost all merger review in the 1980s to the primary concern of agency attorneys in only around fifteen percent of serious investigations in

---

[14] Clayton Antitrust Act, ch. 323, § 7, 38 Stat. 730, 731–32 (1914) (current version at 15 U.S.C. § 18 (2012)).

[15] *See infra* Part II.B.

[16] *See* United States v. Trans-Missouri Freight Ass'n, 166 U.S. 290, 339 (1897) (contrasting competitive conditions, in which "[c]ompetition will itself bring charges down to what may be reasonable" with agreements of competitors to limit competition, in which case "the rate [price] is practically fixed by the companies themselves by virtue of the agreement, so long as they abide by it"); John Bates Clark, *The "Trust": A New Agent For Doing An Old Work: Or Freedom Doing the Work of Monopoly*, 52 NEW ENG. AND YALE REV. 223, 224–25 (1890) (describing some "trusts" as functionally coordinating oligopolies).

[17] U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES (April 2, 1992) [hereinafter 1992 HORIZONTAL MERGER GUIDELINES].

recent years.[18] Similarly, a recent survey of merger practitioners suggests that as little as one percent of all cases that the agencies have reviewed in the current administration focus exclusively on coordinated effects.[19]

The decline of coordinated effects enforcement would be alarming under normal circumstances but is particularly shocking amid outcries over rising corporate concentration—especially when those outcries pour from the very people who are failing to bring coordinated effects challenges.[20] Our objective in this Article is to call attention to the decline of coordinated effects enforcement, and to suggest initial steps to revive this neglected but important part of the antitrust framework.

We begin, in Part II, with the special role that coordinated effects challenges play in antitrust law—why enforcement of these theories matters so much. In short, coordinated effects theories are the primary way that merger review addresses changes in concentration, and merger review is typically the last opportunity to intervene before oligopolistic coordination emerges in concentrated markets. Without robust coordinated effects enforcement, antitrust law presents no serious obstacle to anticompetitive increases in concentration or to the coordinated conduct that these increases in concentration may enable or entrench.

With the need for coordinated effects enforcement on the table, we turn, in Part III, to exposing how modern merger control is failing to meet this need. We document the decline of coordinated effects enforcement from several angles. Cases, comments, merger guidelines, and available information about agency investigations all support the same conclusion: as a

---

[18] Malcolm B. Coate, *The Merger Review Process at the Federal Trade Commission from 1989 to 2016*, at 18 (Feb. 28, 2018) (unpublished manuscript), https://ssrn.com/abstract=2955987. For methodological details, *see infra* note 108.

[19] D. Daniel Sokol & Marissa Ginn, *Antitrust Mergers and Regulatory Uncertainty*, BUS. LAW. (forthcoming 2023).

[20] *See infra* Part III.C.

theory of harm, coordinated effects has declined from the once primary focus of merger law to a disfavored and discredited theory now invoked, if at all, only as a supplemental basis for illegality. Antitrust enforcers have taken their eyes off anticompetitive coordination. In so doing, they have also taken their eyes off market concentration.

Finally, we devote Part IV to what must be done to reverse the decline in coordinated effects enforcement. Three policy choices have worked to neutralize coordinated effects theories over recent decades. First, courts and commentators have refused to accord market structure evidence appropriate weight when considering the coordinated effects of mergers. Second, antitrust enforcers have come to demand evidence of factors beyond market structure as an element of proving coordinated effects theories. Third, academics and enforcers have stigmatized unquantified predictions of harm as poor evidence in merger cases. We explain the flaws in each of these policy choices and propose appropriate corrections.

II. THE IMPORTANCE OF COORDINATED EFFECTS ENFORCEMENT

Mergers are not illegal under the Clayton Act—or any other law—merely because the merging firms are large or rivals in some loose sense of the term.[21] Illegality under the Clayton Act derives from the prediction that a merger would have anticompetitive effects: the statutory language prohibits mergers when "*the effect* of such acquisition may be substantially to lessen competition."[22] Remedies in merger cases are thus based upon specific evidence of likely anticompetitive effects.

---

[21] *Cf.* United States v. U.S. Steel Corp., 251 U.S. 417, 451 (1920) (commenting, in the context of the Sherman Act, that "we must adhere to the law, and the law does not make mere size an offense, or the existence of unexerted power an offense").

[22] Clayton Antitrust Act, ch. 323, § 7, 38 Stat. 730, 731–32 (1914) (current version at 15 U.S.C. § 18 (2012)) (emphasis added).

For decades, the most common—and most arresting—allegation of anticompetitive effects was the claim that a merger would enable or entrench anticompetitive coordination among a group of competitors.[23] That is, the concern was that a merger would facilitate joint exercises of market power, particularly by oligopolists in a concentrated market. This was, and still is, special cause for concern because coordinated exercises of market power are often irremediable in antitrust law. The promise of coordinated effects enforcement lies in its potential to prevent coordination from arising, or at least to prevent patterns of coordination from solidifying.

A. The danger of oligopolistic coordination

As a concrete example, consider the behavior that was the subject of litigation in *Valspar v. Du Pont*.[24] Titanium dioxide is a commodity pigment that manufacturers add to paints, plastics, and other substances to increase the opacity of these products.[25] It has no significant substitutes.[26] Production of titanium dioxide has long been dominated by a small number of producers,[27] a market configuration known as oligopoly.[28] The same producers have shared the titanium dioxide market for years, have observed

[23] *See infra* Part II.B (discussing history of coordinated effects enforcement).

[24] Valspar Corp. v. E.I. Du Pont De Nemours & Co., 873 F.3d 185 (3d Cir. 2017).

[25] Valspar Corp. v. E.I. Du Pont De Nemours, 152 F. Supp. 3d 234, 238 (D. Del. 2016), *aff'd sub nom.* Valspar Corp. v. E.I. Du Pont De Nemours & Co., 873 F.3d 185 (3d Cir. 2017).

[26] *Valspar*, 873 F.3d at 190.

[27] *Id.* ("[T]he market is dominated by a handful of firms.").

[28] The litigants did not dispute this characterization. *Valspar*, 152 F. Supp. 3d at 238 n.3 ("The parties agree that the titanium dioxide market is an oligopoly.").

each other's actions, and have experienced the interdependence of each other's business decisions.[29]

In a concentrated oligopoly like this, interdependence relationships can invert the usual appeal of business decisions.[30] Competition can become unattractive. If each producer finds that its price cuts are quickly mirrored by its competitors, it may see little benefit in cutting prices. Doing so only results in the evaporation of previous profits. Cooperation may appear the better option. If the price increase of one producer is matched by accommodating price increases by others, then all producers could coordinate their pricing behavior to participate in profitable exercises of joint market power. This coordination does not need to entail price elevation; it could just as well involve delayed innovation, measured quality improvements, or other profit increasing strategies. In the titanium dioxide oligopoly, coordination took the form of repeated price increases.

Over a twelve-year period, the titanium dioxide producers announced 31 separate price increases.[31] Each increase was published in synchronized choreography: each producer announced a price increase at the same time,

---

[29] In re Flat Glass Antitrust Litig., 385 F.3d 350, 359 (3d Cir. 2004) (contrasting "a market with many firms" where "the effects of any single firm's price and output decisions would be so diffused among its numerous competitors that they would not be aware of any change" with "a market dominated by few firms" where "any single firm's price and output decisions will have a noticeable impact on the market and on its rivals" making it necessary for rivals in such markets to consider and account for the responses of other firms in their business decisions (quoting 6 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 1429, at 206-07 (2nd ed. 2000)) (internal quotation marks removed)); In re Text Messaging Antitrust Litig., 782 F.3d 867, 875 (7th Cir. 2015) ("Competitors in concentrated markets watch each other like hawks.").

[30] 6 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 1429, at 206 (2d ed. 2000).

[31] *Valspar*, 873 F.3d at 190.

elevated prices by the same amount, and scheduled the increase to take effect on the same day.[32] The titanium dioxide producers were still competitors in the sense of being separate decision makers with opposing economic incentives,[33] but their behavior illustrates how the conditions of oligopolistic interdependence enabled them to coordinate their conduct to achieve anticompetitive profits. What their behavior does not illustrate is an obvious violation of any antitrust law.

True, if the titanium dioxide producers had met to discuss and agree on the terms and timing of the price increases, then their conduct would have been illegal. Explicit price fixing has long been treated as *per se* illegal under Section 1 of the Sherman Act.[34] Those who conspired in the price fixing would be subject to jail time.[35] No inquiry into the size or durability of the price increases would have been required—or permitted.[36]

---

[32] *Id.* at 194–95.

[33] *Cf.* Am. Needle, Inc. v. Nat'l Football League, 560 U.S. 183 (2010) (focusing on whether companies constitute "independent centers of decisionmaking" in evaluating their capacity for agreement under Section 1 of the Sherman Act).

[34] *See, e.g.*, United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 218 (1940) ("[F]or over forty years this Court has consistently and without deviation adhered to the principle that price-fixing agreements are unlawful per se under the Sherman Act."); *see also* N. Pac. Ry. Co. v. United States, 356 U.S. 1, 5 (1958) ("Among the practices which the courts have heretofore deemed to be unlawful in and of themselves are price fixing, . . . division of markets, . . . group boycotts, . . . and tying arrangements.").

[35] *See* Judy L. Whalley, *Crime and Punishment - Criminal Antitrust Enforcement in the 1990s*, 59 ANTITRUST L.J. 151, 151–53 (1990) (providing a brief history of criminal antitrust enforcement); Vivek Ghosal & D. Daniel Sokol, *The Rise and (Potential) Fall of U.S. Cartel Enforcement*, 2020 U. ILL. L. REV. 471 (2020) (surveying criminal enforcement from 1969-2019); Hammond, *supra* note 9, at 1–6 (describing more recent enforcement trends).

[36] *See* Arizona v. Maricopa Cnty. Med. Soc., 457 U.S. 332, 342–48 (1982) (contrasting the inquiries in rule of reason analysis and rules of per se illegality).

Even without direct proof of agreement, collusion could still be sanctioned upon indirect inference of agreement. Long-standing Supreme Court precedent provides that agreements can be inferred from surrounding circumstances when the challenged conduct would be likely to arise from agreement and unlikely to arise without it.[37] But the inference of agreement must still be drawn to establish illegality; parallel but independent business decisions are insufficient evidence.[38]

That last point was DuPont's defense in *Valspar*. As the Third Circuit summarized, there was no reason to suppose that any agreement was needed to motivate the 31 parallel price increases because, in an oligopoly as tight as the titanium dioxide market, each producer would naturally and independently come to realize that cooperation was a better strategy than competition:

> DuPont does not claim that the competitors' numerous parallel price increases were discrete events—nor could it do so with a straight face. But it doesn't need to. The theory of interdependence recognizes that price movement in an oligopoly will be just

[37] While this proposition is well supported, what exactly suffices to prove agreement is less clear. *See* Am. Tobacco Co. v. United States, 328 U.S. 781, 810 (1946) ("Where the circumstances are such as to warrant a jury in finding that the conspirators had a unity of purpose or a common design and understanding, or a meeting of minds in an unlawful arrangement, the conclusion that a conspiracy is established is justified."); *see generally* Christopher R. Leslie, *The Decline and Fall of Circumstantial Evidence in Antitrust Law*, 69 Am. U. L. Rev. 1713 (2020) (observing serious obstacles to the proof of conspiracy through circumstantial evidence).

[38] *See* Theatre Enterprises, Inc. v. Paramount Film Distrib. Corp., 346 U.S. 537, 541 (1954) ("[T]his Court has never held that proof of parallel business behavior conclusively establishes agreement or, phrased differently, that such behavior itself constitutes a Sherman Act offense. Circumstantial evidence of consciously parallel behavior may have made heavy inroads into the traditional judicial attitude toward conspiracy; but 'conscious parallelism' has not yet read conspiracy out of the Sherman Act entirely.").

> that: interdependent. And that phenomenon frequently will lead to successive price increases, because oligopolists may conclude that the industry as a whole would be better off by raising prices.[39]

By similar logic, the Third Circuit reasoned that evidence usually seen as indicative of agreement—such as a motive to conspire or behavior contrary to the individual interests of the firms—had little probative force in the titanium dioxide market. These factors, said the court, "largely restate the phenomenon of interdependence"[40] since they are qualities "intrinsic to oligopolies."[41]

In summary, the immediate danger of highly concentrated, oligopolistic markets is that they can facilitate behavior like that of the titanium dioxide oligopolists. Cooperation can replace competition. But the lasting danger of this market structure is that antitrust law is unable to remedy coordinated conduct once it arises. Courts hesitate to assume that oligopolists would need to agree to coordinate on price increases or other anticompetitive conduct.[42] And even if a court was willing to intervene, there may be

---

[39] Valspar Corp. v. E.I. Du Pont De Nemours & Co., 873 F.3d 185, 195 (3d Cir. 2017).

[40] *Id.* at 193 (quoting In re Flat Glass Antitrust Litig., 385 F.3d 350, 360 (3d Cir. 2004)). Of course, not every act of coordination can be excused as completely independent conduct. *See* Christopher R. Leslie, *Balancing the Conspiracy's Books: Inter-Competitor Sales and Price-Fixing Cartels*, 96 WASH. U.L. REV. 1, 9–10 (2018) (discussing how evidence of cross-purchasing arrangements among the titanium dioxide producers could support the inference of agreement).

[41] *Id.*

[42] *E.g.*, Valspar, 873 F.3d at 193 ("[I]n an oligopolistic market, parallel behavior can be a necessary fact of life . . . . [T]o prove an oligopolistic conspiracy with proof of parallel behavior [in this type of market], that evidence must go beyond mere interdependence and be so unusual that in the absence of an advance agreement, no reasonable firm would have engaged in it." (quotation marks omitted)); In re Text Messaging Antitrust Litig., 782 F.3d 867, 871 (7th Cir. 2015) ("[T]he fewer the

no adequate way to remedy the problem. In the words of then-Judge Stephen Breyer:

> [I]t is close to impossible to devise a judicially enforceable remedy for "interdependent" pricing. How does one order a firm to set its prices without regard to the likely reactions of its competitors?[43]

There is logic to this treatment of oligopolistic coordination, but the consequences are unsettling. Collusion is the supreme evil of antitrust;[44] yet by mere omission of agreement—unnecessary in highly concentrated oligopolistic markets—the *same conduct* is freed of any risk of illegality. Worse yet, assuming sophisticated actors learn that all they must do to collude with impunity is achieve a market structure in which they can cooperate without the need for overt agreement, is not antitrust law rewarding and encouraging the very conduct it is least capable of addressing?

B. Merger review as opportunity to intervene

Since antitrust can do little to remedy coordination once it takes hold,[45] a fallback strategy has long been to try to prevent coordination from arising

---

firms, the easier it is for them to engage in "follow the leader" pricing . . . which means coordinating their pricing without an actual agreement to do so. As for the apparent anomaly of competitors' raising prices in the face of falling costs, that is indeed evidence that they are not competing in the sense of trying to take sales from each other. However, this may be not because they've agreed not to compete but because all of them have determined independently that they may be better off with a higher price.").

[43] Clamp-All Corp. v. Cast Iron Soil Pipe Inst., 851 F.2d 478, 484 (1st Cir. 1988) (Breyer, J.).

[44] *See supra* note 10 and accompanying text.

[45] Christopher R. Leslie, *The Probative Synergy of Plus Factors in Price-Fixing Litigation*, 115 NW. U. L. REV. 1581 (2021). Even the meaning and identification of tacit collusion remains unclear. William H Page, *Tacit Agreement Under Section 1 of the*

in the first place. Unfortunately, this is easier said than done. Efforts to prevent coordination by deconcentrating markets[46] or by identifying and enjoining practices that facilitate coordination[47] have crumbled before skeptical judges. The only reliable path to prevention has been to challenge mergers that would contribute to worryingly concentrated market structures.[48]

At its simplest, the effects-based justification for enjoining this type of merger is to prevent the sort of oligopolistic coordination that the titanium dioxide producers exploited. Modern articulations of coordinated effects

---

Sherman Act, 81 ANTITRUST L.J. 593, 594 (2018) ("Even after 125 years of Section 1 litigation, however, the meaning of that fundamental concept [of tacit collusion] remains uncertain.").

[46] *See, e.g.*, In the Matter of Kellogg Co., Dismissal Order, Etc., In Regard to Alleged Violation of Sec. 5 of the Federal Trade Commission Act, 99 F.T.C. 8, 263-65 (1982) (commenting that "oligopolistic structure alone does not constitute a violation of Section 5 [of the FTC Act]" though leaving open the possibility that oligopolistic structure combined with "the existence and exercise of monopoly power," or with conduct that is "unfair" or "unreasonable" or "the cause of [a] trend toward monopoly power").

[47] E.I. du Pont de Nemours & Co. v. FTC, 729 F.2d 128, 140 (2d Cir. 1984) ("[I]n the absence of proof of a violation of the antitrust laws or evidence of collusive, coercive, predatory, or exclusionary conduct, business practices are not "unfair" in violation of § 5 unless those practices either have an anticompetitive purpose or cannot be supported by an independent legitimate reason.").

[48] Typically, these challenges seek injunction or dissolution of mergers under Section 7 of the Clayton Act. Clayton Antitrust Act, ch. 323, § 7, 38 Stat. 730, 731–32 (1914) (current version at 15 U.S.C. § 18 (2012)).

theories oppose increases in the feasibility or attractiveness of coordination.[49] The critical fact is not that a merger makes a specific form of coordination likely to emerge,[50] but that it results in a market structure in which coordination is substantially more attractive or more durable than it would be without the merger.[51] This connection between market concentration and coordinated effects motivated decades of hostility to mergers that would result in, or further solidify, concentrated markets,[52] as well as indifference to small mergers in unconcentrated markets.[53]

---

[49] *E.g.*, 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 13, § 7 para. 1 ("A merger may diminish competition by enabling or encouraging post-merger coordinated interaction among firms in the relevant market that harms customers."); *id.* § 7.1 para. 2 (conditioning likely challenge on the ability of the Agencies to identify "a credible basis on which to conclude that the merger may enhance . . . vulnerability [to coordination]").

[50] *Id.* § 7.1 para. 1 (observing that coordination can take multiple forms and that the risk of coordinated effects "may not be susceptible to quantification or detailed proof").

[51] Put another way, the fact that firms have already begun to coordinate should not be treated as a defense to coordinated effects challenges. *See* Sean P. Sullivan, *Anticompetitive Entrenchment*, 68 U. KAN. L. REV. 1133, 1142–51 (2020) (collecting authority for the use of merger challenges to prevent entrenchment of ongoing exercises of market power).

[52] United States v. Phila. Nat'l Bank, 374 U.S. 321, 363 (1963) ("[W]e think that a merger which produces a firm controlling an undue percentage share of the relevant market, and results in a significant increase in the concentration of firms in that market is so inherently likely to lessen competition substantially that it must be enjoined in the absence of evidence clearly showing that the merger is not likely to have such anticompetitive effects").

[53] 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 13, § 7.1 para. 1 at (limiting the scope of coordinated effects analysis to at least moderately concentrated markets, since "unconcentrated markets are unlikely to be vulnerable to coordinated conduct"). *But see* Sean P. Sullivan, *Modular Market Definition*, 55 UC DAVIS L. REV.

Confidence in the concentration-coordination relationship was strongest in the 1960s. Economic commentary of the time drew a direct causal inference between changes in market structure and changes in competitive performance.[54] Increases in the concentration of oligopolistic markets were predicted to facilitate coordination.[55] Merger enforcement applied this reasoning directly.[56] In a remarkable string of opinions, the Warren Court embraced the use of merger challenges to enjoin acquisitions that would lead to highly concentrated markets,[57] applied this logic to block a merger that arguably did raise coordination concerns on concentration

---

1091, 1145–47 (2021) (noting the flawed logic of treating evidence of low concentration in one relevant market as evidence that a merger could not have anticompetitive effects in other relevant markets).

[54] *See* Herbert Hovenkamp, *Markets in Merger Analysis*, 57 ANTITRUST BULL. 887, 889 (2012) ("[H]ighly influential in the economic literature of the 1960s, was structuralism, which found a close link between economic performance and market structure"); *see generally* JOE S. BAIN, BARRIERS TO NEW COMPETITION (1956) (elaborating on this type of thinking); Edward S. Mason, *Price and Production Policies of the Large-Scale Enterprise*, 29 AM. ECON. REV. 61, 66–68 (1939) (same).

[55] *See* Leonard W. Weiss, *The Structure-Conduct-Performance Paradigm and Antitrust*, 127 U. PA. L. REV. 1104, 1105 (1979) ("The main predictions of the structure-conduct-performance paradigm are: (1) that concentration will facilitate collusion, whether tacit or explicit, and (2) that as barriers to entry rise, the optimal price-cost margin of the leading firm or firms likewise will increase." (footnotes omitted)); *id.* at 1106–15 (surveying evidence of the connection between concentration and price in oligopolistic markets).

[56] Donald I. Baker & William Blumenthal, *The 1982 Guidelines and Preexisting Law*, 71 CALIF. L. REV. 311, 315 (1983) ("[M]erger policy during the 1960's tended to flow from a simple equation: increases in concentration lead to less efficient performance."); *see also* Derek C. Bok, *Section 7 of the Clayton Act and the Merging of Law and Economics*, 74 HARV. L. REV. 226 (1960) (providing an intellectual foundation for the application of this paradigm to antitrust law).

[57] United States v. Phila. Nat'l Bank, 374 U.S. 321, 363 (1963).

grounds,[58] and then stretched the logic past its breaking point in condemning mergers that probably did not pose any risk of coordination.[59]

Whether one looks back upon the interventionist zeal of the 1960s with whimsy[60] or nausea,[61] there can be little doubt that this was a period in which antitrust enforcers bristled against oligopolies and used merger control to prevent concentrated market structures from emerging. In this respect—and little else—1960s antitrust finds common ground with 1980s antitrust, reinvented as it was by Chicago School thinkers like Richard Posner and Robert Bork.[62] Celebrants of the Chicago School saw few reasons to intervene in markets generally, but needed no persuasion on the danger

---

[58] *See* Steven C. Salop, *The Evolution and Vitality of Merger Presumptions: A Decision-Theoretic Approach*, 80 ANTITRUST L.J. 269, 273 (2015) (noting that the merger in Philadelphia National Bank would have been characterized as presumptively illegal under the 1982 and 1992 merger guidelines).

[59] United States v. Pabst Brewing Co., 384 U.S. 546, 550–53 (1966) (upholding inference of harm where merged firm would have roughly a 5% share of the national market and a 24% share of a state market); United States v. Von's Grocery Co., 384 U.S. 270, 272–78 (1966) (finding a substantial lessening of competition from a merger resulting in a firm with about a 7.5% share of a market in which more than 3,500 other competitors operated).

[60] *E.g.*, TIM WU, THE CURSE OF BIGNESS: HOW CORPORATE GIANTS CAME TO RULE THE WORLD 81 (2018) ("The peak of anti-monopoly enforcement coincided with a period of extraordinary gains in prosperity.").

[61] *E.g.*, Joshua D. Wright, Elyse Dorsey, Jonathan Klick & Jan M. Rybnicek, *Requiem for a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust*, 51 ARIZ. ST. L.J. 293, 294 ("For much of its history, antitrust has done more harm than good. Prior to the modern 'consumer-welfare' era, antitrust laws employed confused doctrines that pursued populist notions and often led to contradictory results that purported to advance a variety of social and political goals at the expense of American consumers.").

[62] *See e.g.*, ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF (Bork Publishing LLC 2021) (1978); Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925 (1979).

of oligopolies and the value of merger enforcement as a way of preventing oligopolistic coordination from emerging in concentrated markets.

The fierce opposition of 1980s antitrust to oligopolistic coordination is somehow overlooked in modern enforcement-history narratives,[63] yet the contributions of Chicago school thinkers on the topic of concentrated market structures are undeniable. It was Chicago's George Stigler who first sought to formalize the connection between market concentration and coordinated price effects.[64] It was William Baxter, drafter of the 1982 Merger Guidelines,[65] who clarified coordinated effects as the primary concern of merger enforcement,[66] and who helped to champion the first rigorous test for defining markets around potential exercises of joint market power.[67] It was Richard Posner who wrote that coordinated effects are the "ultimate" issue in merger law, and who articulated the judge's job as being to evaluate

---

[63] *E.g.*, KLOBUCHAR, *supra* note 2, at 146–48 (referring to the late 1970s and 1980s as an unqualified retreat from rigorous antitrust enforcement); *id.* at 136 (contrasting the Harvard School philosophy, which was "concerned about concentrated markets," with the Chicago School philosophy, which supposedly was not).

[64] George J. Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44 (1964); *see also* Janusz A. Ordover, Alan O. Sykes & Robert D. Willig, *Herfindahl Concentration, Rivalry, and Mergers*, 95 HARV. L. REV. 1857 (1982).

[65] *See* U.S. DEP'T OF JUSTICE, MERGER GUIDELINES (June 14, 1982) [hereinafter 1982 MERGER GUIDELINES]; William F. Baxter, *Responding to the Reaction: The Draftsman's View*, 71 CALIF. L. REV. 618 (1983).

[66] Donald I. Baker & William Blumenthal, *The 1982 Guidelines and Preexisting Law*, 71 CALIF. L. REV. 311, 315 (1983) ("In the new [1982] Guidelines, the Government has adopted a 'conspiracy theory' of merger enforcement. On this view, the principal risk associated with a merger is that it might better enable firms in the industry to conspire tacitly to increase prices and restrain production.").

[67] *See* Sullivan, *supra* note 53, at 1108–11 (describing how the Hypothetical Monopolist Test described by the 1982 Merger Guidelines contributed to effective enforcement against mergers with potential coordinated effects).

whether "the challenged acquisition is likely to hurt consumers, as by making it easier for the firms in a market to collude, expressly or tacitly, and thereby force price above or farther above the competitive level."[68]

The importance of merger enforcement as a final opportunity to prevent oligopolistic coordination is particularly evident in Chicago School thinking. Robert Bork wrote that merger law "rests upon the theory that, where rivals are few, firms will be able to coordinate their behavior, either by overt collusion or implicit understanding, in order to restrict output and achieve profits above competitive levels."[69] Posner explained that "[t]he fewer competitors there are in a market, the easier it is for them to coordinate their pricing without committing detectable violations of section 1 of the Sherman Act."[70] And Posner described merger challenges as the principle tool in the antitrust arsenal for attempting to address oligopolistic coordination: "[Merger law] has been in fact the principal method by which the law has sought to deal with collusive pricing that is not considered deterrable by the rule against price fixing."[71]

We will return, in Part III, to the path that coordinated effects enforcement took after the 1980s. For now, it is enough to note that economists and courts have generally continued to support the basic concentration-coordination inference that undergirded merger enforcement of the 1960s

---

[68] Hospital Corp. Of America v. FTC, 807 F.2d 1381, 1386 (7th Cir. 1986).

[69] FTC v. PPG Indus., Inc., 798 F.2d 1500, 1503 (D.C. Cir. 1986). In scholarship, Bork was less open to the need for intervention against oligopolistic market structures. *See, e.g.*, BORK, *supra* note 62, at 227 (commenting that "non-collusive oligopolistic behavior . . . rarely result in any significant ability to restrict output [if it even exists outside of economics textbooks]").

[70] Hosp. Corp. of Am., 807 F.2d at 1387; *see also* FTC v. Elders Grain, Inc., 868 F.2d 901, 905 (7th Cir. 1989) (undertaking similar analysis).

[71] RICHARD A. POSNER, ANTITRUST LAW (2d ed. 2001).

and 1980s. In a meta-analysis of published empirical studies, Orly Ashenfelter and coauthors conclude that "[o]verall, the results from the merger retrospective literature show that mergers in oligopolistic markets can result in economically meaningful price increases."[72] The reasoning of courts like the Third Circuit in *Valspar* evinces judicial confidence in the ability of oligopolists in concentrated markets to coordinate on anticompetitive ends.[73] And merger review continues to be seen as an opportunity to prevent anticompetitive coordination from arising. The D.C. Circuit has described "[t]he combination of a concentrated market and barriers to entry" as "a recipe for price coordination."[74] When mergers would result in heavily concentrated markets, this court has demanded a showing of "structural market barriers to collusion," unique to that industry, if defendants aim to rebut "the ordinary presumption of collusion."[75]

C. The cost of an opportunity wasted

The importance of coordinated effects enforcement in the broader framework of antitrust law is not that this is the main way antitrust law addresses oligopolistic coordination; it is that this is the *only* way antitrust law addresses oligopolistic coordination. Setting aside the rare case of a

---

[72] Orley Ashenfelter et al., *Did Robert Bork Understate the Competitive Impact of Mergers? Evidence from Consummated Mergers*, 57 J.L. & ECON. S67 (2014); *see also* JOHN KWOKA, MERGERS, MERGER CONTROL, AND REMEDIES: A RETROSPECTIVE ANALYSIS OF U.S. POLICY 113 (2015) (surveying previous retrospective studies and reporting price effects in most of the surveyed studies).

[73] *See supra* notes 39–41 and accompanying text.

[74] FTC. v. H.J. Heinz Co., 246 F.3d 708, 724 (D.C. Cir. 2001).

[75] *Id.* at 725.

consummated merger that can be effectively challenged and unwound after the fact,[76] the opportunity to challenge a proposed merger under Section 7 of the Clayton act is usually the last opportunity to prevent oligopolistic coordination from taking off,[77] or to preserve opportunities for coordination to destabilize and fall apart.[78]

The lack of antitrust oversight of oligopolistic market structures—anything that would prevent or react to coordinated exercises of market power—recommends aggressive treatment of concentration-increasing mergers when coordinated effects are a plausible result. Professor Herbert Hovenkamp has commented that reliance on merger intervention as an incipient remedy is "most fully developed for the traditional horizontal merger that makes an industry more concentrated, thus increasing the

---

[76] Challenges to consummated mergers present several challenges. One is the difficulty of "unscrambling the eggs" when operations have been combined. *See, e.g.*, William J. Baer, *Reflections on Twenty Years of Merger Enforcement Under the Hart-Scott-Rodino Act*, 65 ANTITRUST L.J. 825, 830 ("Once a merger takes place and the firms' operations are integrated, it can be very difficult, or impossible, to unscramble the eggs and recon- struct a viable, divestable group of assets."). Another is the challenge of proving illegality, even with the benefit of observed post-merger behavior. *See, e.g.*, 5 PHILIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 1205 at 310–11 (4th ed. 2014) (discussing difficulties in proving whether post-merger price increases are the causal effect of a merger). There is reason to doubt the ability of litigants to rely on post-merger evidence when challenging a consummated mater. *See id.* ¶ 1205a at 267–70 (discussing this issue in detail). *But see generally* Menesh S. Patel, *Merger Breakups*, 2020 WIS. L. REV. 975 (2020) (providing a careful treatment of the ways that consummated merger challenges may be effective).

[77] *See, e.g.*, Hovenkamp, *supra* note 12, at 53 ("Mergers significantly increasing the likelihood of such behavior represent a realistic threat of post-merger anticompetitive conduct that the antitrust laws will not be able to discipline effectively in many instances.").

[78] *See* Sullivan, *supra* note 51 (describing entrenchment theories of harm in merger challenges).

likelihood of collusion or collusion-like behavior."[79] He recommends "increased scrutiny of coordination-facilitating mergers" in situations in which subsequent coordination would be unlikely to require express agreement,[80] such as where oligopolists would be able to coordinate on price elevation or other anticompetitive conduct without the need for detailed communication or agreement.[81]

The cost of missing this final opportunity to intervene is great. In an individual case, failure to challenge a serious coordinated effects concern means releasing competitors to act as cooperatively as they can manage in the newly concentrated market. If those competitors succeed in anticompetitively coordinating without entering into any express agreements, then nothing in antitrust law will stop them from continuing to do so.[82] Society will pay the price of the missed opportunity to intervene for as long as the incentive to coordinate endures—perhaps decades.[83]

---

[79] Hovenkamp, *supra* note 12, at 51.

[80] *Id.* at 53.

[81] *Id.* at 54 (mentioning the behavior of the titanium dioxide producers in *Valspar* as an example).

[82] *See supra* notes 38–43 (discussing the inability of antitrust enforcers to remedy coordinated conduct that is not subject to express agreement among the participants).

[83] *Cf.* Margaret C. Levenstein & Valerie Y. Suslow, *Breaking Up Is Hard to Do: Determinants of Cartel Duration*, 54 J. L. & ECON. 455, 463 (2011) (describing a sample of observed cartels in which the average duration of collusion was 8.1 years); Joseph E. Harrington Jr. & Yanhao Wei, *What Can the Duration of Discovered Cartels Tell Us About the Duration of All Cartels?* 127 ECON. J. 1977, 2003 (2017) (estimating that observed cartel duration is only modestly biased as a measure of the duration of all cartels). Note, however, that the durability of explicit collusion may not correspond closely with that of oligopolistic coordination. One might suppose that patterns of cooperation among the few members of a oligopolistic market may be more lasting than the type of arrangements complex enough to require express agreement.

But bad as the individual case is, systemic failure to enforce coordinated effects theories threatens something worse. Consider the prevalence of express collusion. Despite the certain illegality of this conduct, and despite the risk of jail time for those caught participating in it, the lure of collusive profits is great enough to motivate competitors to take the gamble of joining collusive schemes.[84] If these firms are willing to take that big a risk for the chance to coordinate with their competitors, imagine how many more would be willing to take the comparatively riskless path of incrementally concentrating markets until they reach a point where coordination becomes possible without the need for illegal agreements.

The risk that underenforcement of coordinated effects theories would lead to systemic increases in market concentration is not idle speculation. Historic crackdowns on express collusion have heralded merger waves,[85]

---

[84] *See* JONATHAN B. BAKER, THE ANTITRUST PARADIGM: RESTORING A COMPETITIVE ECONOMY 14 (2019) (noting that DOJ regularly discovers new cartels); Levenstein & Suslow, *supra* note 83 (examining a sample of observed cartels); Margaret C. Levenstein and Valerie Y. Suslow, *What Determines Cartel Success?*, XLIV J. ECON. LIT. 43 (2006) (similar); see also John M. Connor & Robert H. Lande, *Cartels as Rational Business Strategy: Crime Pays*, 34 CARDOZO L. REV. 427 (2012) (considering the costs and benefits that firms presumably weigh when deciding whether to collude); *cf.* Christopher R. Leslie, *How to Hide A Price-Fixing Conspiracy: Denial, Deception, and Destruction of Evidence*, 2021 U. Ill. L. Rev. 1199 (2021) (identifying ways that conspirators may reduce the risk that they will be detected and punished).

[85] *See, e.g.*, Levenstein & Suslow, *supra* note 84, at 84 ("The Sherman Act (1890) banned price fixing for twenty-five years before the Clayton Act regulated mergers. In the intervening twenty-five years, concentration increased significantly in a large number of U.S. industries."); BAKER, *supra* note 84, at 36, 213 n.15 (describing a merger wave that followed a Supreme Court decision that made it easier for competitors to enter into concentration-increasing mergers); *see generally* George Bittlingmayer, *Did Antitrust Policy Cause the Great Merger Wave*?, 28 J.L. & ECON. 77 (1985) (considering in detail the evidence that early merger waves followed changes in antitrust enforcement); GEORGE SYMEONIDIS, THE EFFECTS OF COMPETITION: CARTEL POLICY AND THE EVOLUTION OF STRATEGY AND STRUCTURE IN BRITISH

ostensibly the result of would-be conspirators seeking legal ways to achieve the same anticompetitive ends frustrated by increased scrutiny of collusion.[86] Today, antitrust enforcers hunt out colluding firms and prosecute conspirators under unforgiving laws[87] while oligopolists in concentrated markets openly engage in functionally equivalent behavior.[88] The only thing that prevents competitors from coordinating by concentration is coordinated effects enforcement in merger challenges. Coordinated effects enforcement is antitrust law's singular tool for controlling market concentration and oligopolistic coordination.[89]

III. THE DECLINE OF COORDINATED EFFECTS ENFORCEMENT

Previous discussion surveyed the extent to which effective antitrust enforcement depends on effective coordinated effects enforcement. At the surface level, coordinated effects challenges apply the statutory standard:

INDUSTRY (2002) (describing an increase in concentration in UK industries following a change in law that made price fixing more clearly illegal).

[86] The empirical work relating to DOJ workload suggests that merger waves, with resource allocation shifting to merger control relative to cartel enforcement, does not seem to influence *express* collusion related enforcement. Vivek Ghosal & D. Daniel Sokol, *Policy Innovations, Political Preferences, and Cartel Prosecutions*, 48 REV. INDUS. ORG. 405, 420–24 (2016). Increasingly concentrated markets may, however, facilitate coordinated conduct. *See* LOUIS KAPLOW, COMPETITION POLICY AND PRICE FIXING 133–45 (2013).

[87] *See supra* notes 9, 34–36 and accompanying text; *see generally* Vivek Ghosal & D. Daniel Sokol, *The Rise and (Potential) Fall of U.S. Cartel Enforcement*, 2020 U. Ill. L. REV. 471 (2020).

[88] *See supra* notes 11, 39–43 and accompanying text.

[89] *Cf.* Carl Shapiro, *Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets*, 33 J. ECON. PERSPECTIVES 69, 72 (2019) (commenting that merger enforcement policy greatly influences which mergers are attempted and which are ultimately consummated).

these challenges oppose mergers the effect of which may be to lessen competition through coordination.[90] Beyond this, coordinated effects enforcement steps forward as the primary way that merger control considers changes in market concentration. We care about increased concentration when it enables or entrenches coordinated exercises of market power.[91] Indeed, coordinated effects challenges turn out to be just about the *only* way that antitrust law addresses oligopolistic coordination in concentrated markets.[92] Once patterns of anticompetitive coordination emerge, nothing else in the statutory framework is equipped to remedy the problem.[93]

Troublingly, the importance of coordinated effects enforcement is not reflected by enforcement patterns. After the 1980s, attention to coordinated effects theories dwindled within the federal agencies while comfort with market concentration increased dramatically. Together, these twin elements of the decline in coordinated effects enforcement have presented

---

[90] *See supra* note 21 and accompanying text (describing the statutory standard in Section 7 of the Clayton Act). Our focus in this Article is coordinated effects arising from mergers that increase market concentration but coordinated effects can also arise from vertical mergers, and these effects violate Section 7 as well. *See, e.g.*, U.S. DEP'T OF JUSTICE, VERTICAL MERGER GUIDELINES § 5 (June 30, 2020) (discussing coordinated effects from vertical mergers); Margaret C. Levenstein & Valerie Y. Suslow, *Vertical Mergers and Coordinated Effects: Implications for Merger Policy*, ANTITRUST CHRONICLE, November 2022, at 55 (same).

[91] Concentration also relates to the assessment of unilateral effects theories in homogeneous-goods markets, where the change in market shares of the merging firms can give rise to predicted anticompetitive effects for reasons other than anticompetitive coordination. *See, e.g.*, Daniel Greenfield, Bruce Kobayashi, Jeremy Sandford, Christopher Taylor & Nathan Wilson, *Economics at the FTC: Quantitative Analyses of Two Chemical Manufacturing Mergers*, 55 REV. INDUS. ORG. 607 (2019).

[92] *See supra* notes 76–81 and accompanying text.

[93] *See supra* notes 38–43 and accompanying text.

concentration-increasing mergers with inadequate opposition over a span of three consecutive decades.

A. The drop-off in coordinated effects challenges

The decline in the frequency of coordinated effects enforcement can be observed from different angles. It is evident in the content of litigated cases, the comments of agency officials, the focus of agency investigations, and the perceptions of members of the bar. All sources point to a slump in enforcement that started in the early 1990s and deepened thereafter.

Perhaps the most obvious way to see the decline is simply to look at litigated cases. Since the early 1990s, language and economic models have facilitated a (usually) clear distinction between two different theories of harm in horizontal merger challenges. The first theory, harm from coordinated effects, is the subject of this Article. The second theory, harm from unilateral effects, considers injuries that may arise simply from the loss of competition between the merging parties—an effect on competition best understood as something like the acquisition of monopoly power.[94] In contrast to coordinated effects theories, unilateral effects theories do not involve joint market power, do not consider oligopolistic incentives to coordinate, and do not depend on market concentration.[95]

---

[94] *See generally* Gregory J. Werden, *Unilateral Competitive Effects of Horizontal Mergers I: Basic Concepts and Models*, *in* 2 ISSUES IN COMPETITION LAW AND POLICY 1319 (ABA Section of Antitrust Law 2008) (explaining the economics of different unilateral effects theories); Louis Kaplow & Carl Shapiro, *Antitrust*, *in* 2 HANDBOOK OF LAW AND ECONOMICS 1073, §§ 4.1, 4.2 (A. Mitchell Polinsky & Steven Shavell eds., 2007) (describing the respective economic foundation of unilateral and coordinated effects theories in merger analysis).

[95] One previously noted exception is a unilateral effects theory in a homogeneous-goods market. *See supra* note 93. This is an uncommon theory in agency enforcement. *But see* Greenfield et al., *supra* note 93 (describing recent challenges on

As we have already discussed, coordinated effects theories were the primary concern of antitrust enforcers as late as the Chicago School era of the 1980s. The 1984 Merger Guidelines devoted four sentences to a brief gesture at an early version of unilateral effects reasoning.[96] But even a cursory review of recently decided merger cases reveals a sharp reversal in enforcement emphasis. Most merger challenges are now unilateral effects cases. Cases turning exclusively, or even significantly, on coordinated effects theories number in the single digits.[97] That number rises a bit when cases involving dual allegations of unilateral and coordinated effects are added to the tally.[98] But equal attention is rarely paid to each theory; for reasons to which we will soon return, unilateral effects theories dominate.[99]

---

these theories). Market shares can sometimes be relied upon as a proxy for substitution patterns in differentiated-goods unilateral effects analysis. *See* Joseph Farrell & Carl Shapiro, *Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition*, 10 B.E. J. THEORETICAL ECON. 1, 14 n.32 ("Models of unilateral effects in price-setting games in which market shares matter typically reach this result by assuming that diversion ratios mirror shares."). The situations in which this is appropriate are unusual. *See* Sullivan, *supra* note 53, at 1138 & n.225 (noting this limitation).

[96] *Compare* U.S. DEP'T OF JUSTICE, MERGER GUIDELINES § 3.12 (June 14, 1984) (describing the "leading firm proviso"), *with id.* at § 3.4 (focusing generally on factors relevant to coordinated effects analysis); *see also* Andrew R. Dick, *Coordinated Interaction: Pre-Merger Constraints and Post-Merger Effects*, 12 GEO. MASON L. REV. 65, 65 (2003) ("Horizontal Merger Guidelines . . . issued by the Department of Justice in 1982 and 1984, focused their attention squarely on coordinated effects.").

[97] *E.g.*, FTC v. RAG-Stiftung, 436 F. Supp. 3d 278 (D.D.C. 2020); Fed. Trade Comm'n v. Tronox Ltd., 332 F. Supp. 3d 187 (D.D.C. 2018); FTC v. Arch Coal, Inc., 329 F. Supp. 2d 109 (D.D.C. 2004); FTC v. H.J. Heinz Co., 116 F. Supp. 2d 190 (D.D.C. 2000), rev'd, 246 F.3d 708 (D.C. Cir. 2001).

[98] *E.g.*, United States v. Bertelsmann SE & Co. KGaA, No. CV 21-2886-FYP, 2022 WL 16748157 (D.D.C. Nov. 7, 2022); United States v. H & R Block, Inc., 833 F. Supp. 2d 36 (D.D.C. 2011); FTC v. CCC Holdings Inc., 605 F. Supp. 2d 26 (D.D.C. 2009).

[99] *See infra* Parts III.A, III.C.

Reported cases are, of course, a non-random subset of significant merger challenges,[100] but they reflect a broader trend in merger enforcement. Since the release of the 1992 Horizontal Merger Guidelines,[101] most litigated merger challenges have focused on unilateral effects theories.[102] Some observers, like then Assistant Attorney General Charles James have noted this change with curiosity: "[O]ne interesting side-effect of the 1992 Guidelines has been the emergence of unilateral effects as the predominant theory of economic harm pursued in government merger investigations and challenges."[103] Others, like Professors Herbert Hovenkamp and Carl Shapiro have stated it as a simple fact of agency workloads: "twenty-five years [after the release of the 1992 Guidelines] the clear majority of merger investigations focuses on unilateral effects; only a minority focuses on coordinated effects."[104] We are aware of no authority that claims coordinated effects are still the primary focus in merger enforcement.

---

[100] *See generally* George L. Priest and Benjamin Klein, *The Selection of Disputes for Litigatio*n, 13 J. LEGAL STUD. 1 (1984).

[101] 1992 HORIZONTAL MERGER GUIDELINES, *supra* note 17.

[102] *See generally* Jonathan B. Baker, *Why Did the Antitrust Agencies Embrace Unilateral Effects?*, 12 GEO. MASON L. REV. 31 (2003).

[103] Charles A. James, Rediscovering Coordinated Effects 7–8 (American Bar Association Annual Meeting Section of Antitrust Law Washington, DC August 13, 2002); *see also* Joe Sims & Deborah P. Herman, *The Effect of Twenty Years of Hart-Scott-Rodino on Merger Practice: A Case Study in the Law of Unintended Consequences Applied to Antitrust Legislation*, 65 ANTITRUST L.J. 865, 883 n.65 (1997) ("Unilateral effects are addressed in the 1992 Guidelines, but it was certainly not obvious that the concept was about to become the principal horizontal merger analytical tool.").

[104] Herbert Hovenkamp & Carl Shapiro, *Horizontal Mergers, Market Structure, and Burdens of Proof*, 127 YALE L.J. 1996, 2014 (2018); *see also* Alison Oldale, Joel Schrag, & Christopher Taylor, *The 2010 Horizontal Merger Guidelines at Ten: A*

True, agency heads sometimes demur to accusations of disinterest in coordinated effects. In 1998, then Senior Deputy Director for Antitrust at the FTC, Richard Parker, gave a speech pushing back against "those who may think that we only challenge horizontal mergers under a unilateral effects theory."[105] In 2002, then Deputy Assistant Attorney General William Kolasky objected to speculation that the DOJ had lost confidence in its ability to win coordinated effects challenges.[106] Similar expressions of commitment to coordinated effects enforcement can be found in other statements by agency officials.[107] But confidence in the strength of these convictions fizzles when held against the evidence.

In a review of data compiled from completed FTC investigations from 1989 to 2016, Malcolm Coate dryly concludes: "[a] trend towards unilateral effects analysis is observed."[108] The numbers are more emphatic. From the primary focus of roughly 85 percent of significant investigations in fis-

---

View from the FTC's Bureau of Economics, 58 REV. IND. ORG. 33, 38 (2021) (describing "merger investigations where the primary concern is unilateral anticompetitive effects" as "the bulk of Commission merger cases in recent years").

[105] Richard G. Parker, Trends in Merger Enforcement and Litigation, (Statement at Annual Briefing for Corporate Counsel, Washington, D.C., Sep. 16, 1998).

[106] William J. Kolasky, Coordinated Effects in Merger Review: From Dead Frenchmen to Beautiful Minds and Mavericks 2 (Address before the ABA Section of Antitrust Law Spring Meeting Washington, DC Apr. 24, 2002).

[107] *E.g.*, Terrell McSweeny & Brian O'Dea, *The Implications of Algorithmic Pricing for Coordinated Effects Analysis and Price Discrimination Markets in Antitrust Enforcement*, 32 ANTITRUST 75, 79 (2017) ("If new technologies make coordinated interaction more likely, competition enforcers will need to focus more on coordinated effects in merger analysis at lower market concentration thresholds.").

[108] Coate, *supra* note 18, at 2.

cal years 1989–90, the frequency of coordinated effects investigations declined almost linearly over the sample period, struggling in fiscal years 2015–16 to account for even 15 percent of investigations.[109]

In fairness, the early part of this decline was inevitable. The dominance of coordinated effects theories in the 1980s meant that any attention paid to unilateral effects analysis was necessarily going to displace some attention to coordinated effects analysis. But the same cannot be said of the continued slide past fifty percent and on toward 15 percent or less. That part of the decline seems unambiguous as evidence of evaporating agency attention to coordinated effects theories.

Agency transparency comparable to Coate's study has not been made available since 2016, but other sources of information paint a similarly uninspiring account of coordinated effects investigations in recent years. A recent mixed-method survey reveals single-theory coordinated effects investigations to be a non-factor in current enforcement.[110] While survey evidence does show that merging parties are often asked questions relating to both unilateral and coordinated effects theories, the primary concern of agency enforcers appears generally to gravitate to unilateral effects—an enforcement bias to which we will soon return.[111]

---

[109] *Id.* at 35 tbl.4. Reported figures exclude mergers to monopoly and describe what Coate refers to as the "complete sample covering 449 observations." Including monopolies in the denominator would further decrease the frequency of coordinated effects investigations in 2015–16 to roughly 10 percent. A second, overlapping sample, which Coate refers to as "the restricted sample covering 415" reflects the same trend, but with more variation.

[110] *See* Sokol & Ginn, *supra* note 19, Appendix 1.

[111] *See infra* Part III.

B. Growing comfort with rising concentration

Simultaneous with the declining frequency of coordinated effects investigations and challenges is another retreat in enforcement: rising comfort with market concentration, even concentration brought about by mergers. This retreat can again be observed from different angles.

Perhaps the most obvious window into rising comfort with market concentration is the content of the agencies' own merger guidelines. The Herfindahl-Hirschman Index ("HHI") is a popular way of quantifying market concentration:[112] an index value of 0 corresponds to a theoretical market of infinitely many tiny competitors, an index value of 10,000 corresponds to a market served by a monopolist (or monopsonist), with intermediate values reflecting concentration levels between these extremes. Since 1982, every iteration of the merger guidelines has relied on HHI thresholds in describing how agency enforcers will normally react to different levels of concentration in merger review.[113]

And since 1982, the amount of market concentration needed to attract agency attention has increased substantially. The 1982 Merger Guidelines identified an unconcentrated market by an HHI of less than 1,000 and a highly concentrated market by an HHI of more than 1,800.[114] Mergers resulting in unconcentrated markets were declared unlikely to be challenged while mergers resulting in highly concentrated markets were likely to be challenged.[115] The 2010 Horizontal Merger Guidelines raised both thresholds. These guidelines identify unconcentrated markets—unlikely to be

---

[112] *See* 2010 Horizontal Merger Guidelines, *supra* note 13, § 5.3 para. 5 & n.9 (describing and illustrating calculation of an HHI value).

[113] *See generally* Stephen Calkins, *The New Merger Guidelines and the Herfindahl-Hirschman Index*, 71 Calif. L. Rev. 402 (1983) (providing historic information about the adoption of this index).

[114] 1982 Merger Guidelines, *supra* note 65, § 1.5 para. 2.

[115] *Id.*

challenged by antitrust enforcers—by an HHI of 1,500 or less.[116] Put another way, the 2010 guidelines notion of an "unconcentrated" market is a market structure not much less concentrated than what the agencies used to call a "highly concentrated" market in 1982. The 2010 guidelines notion of a highly concentrated market is one with an HHI value of 2,500.[117]

As this Article goes to print, this trend in the guidelines thresholds does appear to be reversing. In a reflection of advocacy from various sources—this Article among them—the Agencies have released draft merger guidelines in which concentration thresholds are returned to something analogous to pre-2010 levels.[118] Critical reexamination of merger guidelines thresholds is certainly a positive step, but not itself strong reason to suspect a change in agency enforcement practices.

As Professors Carl Shapiro and Howard Shelanski note, "[d]uring the 10-year periods on either side of the 2010 revisions" of the merger guidelines, the agencies "rarely brought cases that [were] close to the Guidelines levels."[119] Indeed, between fiscal years 1996 and 2011, data released by the FTC reveals that the agency devoted roughly 76% of its enforcement efforts to markets with post-merger HHI figures north of 3,000,[120] and roughly 51% of its enforcement efforts to markets with post-merger HHI greater

---

[116] 2010 Horizontal Merger Guidelines, *supra* note 13, § 5.3 para. 6.

[117] *Id.*

[118] U.S. Department of Justice & Federal Trade Commission, Draft Merger Guidelines 7 (Jul. 19, 2023) [hereinafter Draft Merger Guidelines], https://www.justice.gov/d9/2023-07/2023-draft-merger-guidelines_0.pdf.

[119] *See* Carl Shapiro & Howard Shelanski, *Judicial Response to the 2010 Horizontal Merger Guidelines*, 58 Rev. Indus. Org. 51, 64 (2021).

[120] Federal Trade Commission, Horizontal Merger Investigation Data, Fiscal Years 1996-2011, at 8 tbl.3.1 (Jan. 2013), https://www.ftc.gov/sites/default/files/documents/reports/horizontal-merger-investigation-data-fiscal-years-1996-2011/130104horizontalmergerreport.pdf.

than 5,000.[121] To put this in perspective, an HHI of 5,000 characterizes a market consisting of two equal competitors. As Professor John Kwoka observes, all lower-concentration challenges occurred before 2003;[122] from 2004 to 2011, the FTC did not challenge a single merger with a post-merger HHI of less than 2,000.[123]

This retreat from challenging mergers anywhere below the peak of the market concentration spectrum aligns with how Professor William Kovacic characterizes the gradual escalation of what it has meant for a market to be worryingly concentrated:

> Using a rough structural measure, the threshold at which the federal agencies could be counted on to apply strict scrutiny and to be most likely to challenge involved a reduction of the number of significant competitors in the following manner: 1960s (12 to 11), 1970s (9 to 8), 1980s (6 to 5), 1990s (4 to 3), 2000s (4 to 3).[124]

True, this trend stalled after 2000. Shapiro and Shelanski report that the average post-merger HHI in a litigated merger challenge fell slightly, from 6,535 to 5,805, between 2010 and 2020.[125] But this seems to reflect the unfortunate truth that the trend had nowhere else to go. By every available measure, the amount of market concentration needed to provoke a challenge is several times what it was at the height of laissez-faire Chicago

---

[121] *Id.* (408 out of 870 markets).

[122] John Kwoka, *The Structural Presumption And The Safe Harbor In Merger Review: False Positives or Unwarranted Concerns?*, 81 ANTITRUST L.J. 837, 867 & tbl.5 (2017).

[123] *Id.*

[124] William E. Kovacic, *Assessing the Quality of Competition Policy: The Case of Horizontal Merger Enforcement*, 5 COMPETITION POL'Y INT'L 129, 143 (2009); *see also* Kwoka, *supra* note 122, at 867–68 (making a similar point).

[125] Shapiro & Shelanski, *supra* note 119, at 64.

School antitrust.[126] Over the past decade, little short of a merger to duopoly has been sufficient to reliably produce a litigated challenge.

C. Coordinated effects and market concentration

In the early 2000s, then-head of the Antitrust Division Charles James warned, "If we reach too quickly for unilateral effects theories to the exclusion of meaningful coordinated effects analysis, we might miss important cases that should be brought or craft our relief too narrowly in cases that we actually pursue."[127] Twenty years later, James has been proved prescient. Sophisticated companies act with knowledge of antitrust law's weaknesses and antitrust enforcers' biases and oversights.[128] And after three decades of weak and declining coordinated effects enforcement, it would be surprising indeed if markets had not become more concentrated.[129]

---

[126] *Cf.* Hospital Corp. of America v. FTC, 807 F.2d 1381 (7th Cir. 1986) (Posner, J.) (blocking two hospital acquisitions that would have led to the creation of the second largest provider of hospital services in a local market, with an increase in the market of the merged company from 14 percent to 26 percent).

[127] Charles A. James, Rediscovering Coordinated Effects, Tuesday, August 13, 2002, American Bar Association, Annual Meeting, Section of Antitrust Law, Washington, DC, https://www.justice.gov/atr/speech/rediscovering-coordinated-effects.

[128] BAKER, *supra* note 84, at 21 ("[B]usinesses are taught to exploit gaps in antitrust rules to deter entry and engage in coordinated conduct without Running afoul of those rules.").

[129] *Cf.* Jerry Nadler, Statement for the Subcommittee on Regulatory Reform, Commercial and Antitrust Law Hearing on "Oversight of the Antitrust Agencies," https://nadler.house.gov/news/documentsingle.aspx?DocumentID=391416 (attributing "waves of anticompetitive consolidation in industry after industry" to "lax merger enforcement").

Of course, cries of rising concentration now plaster headlines and kindle stump speeches. Politicians promise to fight "runaway corporate concentration."[130] Advocacy groups demand action to address the country's "concentration crisis."[131] People fear that that "massive concentration of economic power" is beginning to "fray[] our Nation's social fabric"[132] and "threaten[] . . . the American dream."[133] The decline of coordinated effects enforcement contributes to this trend, but we must be careful to distinguish increased concentration in oligopolistic markets (a consequence of weak coordinated effects enforcement) from trends in the concentration of broad sectors of the national economy (a different and more complicated phenomenon).

---

[130] KLOBUCHAR, *supra* note 2, at 178 ("I've worked to draw attention to the growing problems of runaway corporate concentration and monopoly power."); *see also* Donald Beyer Jr., Second Gilded Age: How Concentrated Corporate Power Undermines Shared Prosperity: Hearing Before the Joint Economic Committee, U.S. Senate, One Hundred Seventeenth Congress, First Session ("We are here today because corporate concentration imperils shared prosperity and exacerbates economic inequality.").

[131] OPEN MARKETS INSTITUTE, AMERICA'S CONCENTRATION CRISIS (June 2019), https://concentrationcrisis.openmarketsinstitute.org; *see also* CENTER FOR AMERICAN PROGRESS, AMERICA'S MONOPOLY PROBLEM: HOW THE GROWING CONCENTRATION OF ECONOMIC POWER AFFECTS THE ECONOMY, INNOVATION, AND DEMOCRACY (March 5, 2019), https://www.americanprogressaction.org/events/2019/02/27/173322/americas-monopoly-problem/.

[132] Nadler, *supra* note 129.

[133] S. 225, 117th Cong. § 2 (2021) ("Congress finds that . . . extensive consolidation is reducing competition and threatens to place the American dream further out of reach for many consumers in the United States[.]"); *see also* William A. Galston, *The Perils of Corporate Concentration*, WALL STREET J. (June 19, 2018, 7:06 PM), https://www.wsj.com/articles/the-perils-of-corporate-concentration-1529449577 ("[W]e have little choice but to rein in market concentration when it upsets the balance that makes the American dream possible.").

The latter type of concentration is what draws media and political attention. An executive order of the Biden administration directs the federal antitrust agencies "[t]o address the consolidation of industry in many markets across the economy."[134] Remarks by FTC Chair Lina Khan assert that "[e]vidence suggests that decades of mergers have been a key driver of consolidation across industries, with this latest merger wave threatening to concentrate our markets further yet."[135] Elsewhere, Khan writes that "[s]tudies reveal high concentration now to be a systemic, rather than isolated, feature of our economy."[136]

The evidence usually cited for these claims[137] includes recent works reporting modest but consistent increases in the concentration of large, national segments of the U.S. economy. For example, a 2016 report of the Council of Economic Advisors noted concentration increases in 10 out of 13 sectors of national industry between 1997 and 2012 (sectors like "Transportation and Warehousing" or "Retail Trade").[138] Using the same data, but slicing it a bit more narrowly, *The Economist* reported similar increases in concentration in about two thirds of industries over this period.[139] Using

---

[134] Exec. Order No. 14,036, 86 Fed. Reg. 36,987 § 5(c) (July 14, 2021).

[135] Lina M. Khan, Remarks of Chair Lina M. Khan Regarding the Request for Information on Merger Enforcement 1–2 (Jan. 18, 2022) https://www.ftc.gov/system/files/documents/public_statements/1599783/statement_of_chair_lina_m_khan_regarding_the_request_for_information_on_merger_enforcement_final.pdf. The remarks do not cite any authority as the source of this evidence.

[136] Lina M. Khan, *The End of Antitrust History Revisited*, 133 Harv. L. Rev. 1655, 1671 (2020).

[137] *E.g.*, *id.* at 1672.

[138] Council of Economic Advisors, Benefits of Competition and Indicators of Market Power 4, tbl.1 (April 2016), https://obamawhitehouse.archives.gov/sites/default/files/page/files/20160414_cea_competition_issue_brief.pdf.

[139] *Too Much of a Good Thing*, Economist, March 26, 2016, https://www.economist.com/briefing/2016/03/26/too-much-of-a-good-thing.

different data and methodology, a 2019 study by Gustavo Grullon, Yelena Larkin, and Roni Michaely reported concentration increases in 80% of industries between 1997 and 2014.[140] In 2007, Sam Peltzman identified a similar trend in many manufacturing industries following the 1980s.[141]

But concentration in broadly defined national industries is not the same as concentration in oligopolistic markets. Relevant markets in antitrust cases are usually drawn narrowly to reflect how mergers and other challenged conduct could affect market power.[142] Oligopolistic coordination, for example, emerges when a handful of competitors begin to coordinate in the joint exercise of market power. A merger that reduces the number of washer-dryer manufacturers from four to three might raise coordination

[140] Gustavo Grullon, Yelena Larkin, & Roni Michaely, *Are U.S. Industries Becoming More Concentrated?*, 23 REV. FIN. 697, 704 (2019) ("The concentration index has increased in 80% of the industries, and the magnitude of the change is concentrated in the extreme range of the spectrum. Specifically, the median increase in HHI is 41%, while the mean increase is 90%.").

[141] Sam Peltzman, *Industrial Concentration Under the Rule of Reason*, 57 J. L. & ECON S101 (2014).

[142] *See* Carl Shapiro, *Antitrust in a Time of Populism*, 61 INT'L J. INDUS. ORG. 714, 715 (2018) (similarly observing that "the two-digit industry groupings [used to define economic sectors in the CEA report] are far too broad to assess market power"); *see also* 2010 Horizontal Merger Guidelines, *supra* note 16, § 4 (presenting market definition in terms of relevant product markets and relevant geographic markets, potentially narrowed to reflect customer-based price discrimination).

concerns.[143] A three percent increase in the concentration of United States "manufacturing"[144] does not.[145]

This difference in the implication of rising concentration in broad versus narrow markets matters because increases in national, industrial concentration are not reliable proxies for changes in the concentration of oligopolistic markets. A sharp demonstration of this point is a recent paper by Esteban Rossi-Hansberg, Pierre-Daniel Sarte, and Nicholas Trachter that reports diverging trends in national and local concentration:

> [T]he observed positive trend in market concentration at the national level has been accompanied by a corresponding negative trend in average local market concentration. . . . We observe an increase in concentration at the national level overall across the vast majority of sectors and industries but a fall in concentration when it is measured at the core-based statistical area (CBSA), county, or ZIP code levels. The narrower the geographic definition, the faster is the decline in local concentration.[146]

---

[143] *Cf.* Hubbard, *supra* note 2 ("[T]hree companies control 100% of the [washer and dryer manufacturing] market.").

[144] *Too much of a good thing*, *supra* note 138, tbl.2. The table does not provide actual number changes. Three percent is an eyeball guess at the depicted change.

[145] Sean P. Sullivan, *Seven Myths of Market Definition*, ANTITRUST CHRONICLE, Apr. 2022, at 7 ("In a market defined by NAICS code, for example, concentration is not an economically defensible predictor of coordinated effects.").

[146] Esteban Rossi-Hansberg, Pierre-Daniel Sarte, and Nicholas Trachter, *Diverging Trends in National and Local Concentration*, 35 NBER MACROECONOMICS ANNUAL 2021 115, 116 (2021) (internal footnotes omitted).

How can these divergent trends be reconciled? In brief, the growth of large, national companies has led to entry and expansion in many local markets.[147] Walmart's growth has come, in part, from entering local markets—usually with the result being more competitors serving these markets after entry than before.[148]

But while broad and national concentration trends are unreliable indicators of concentration trends in narrower markets, there *is* evidence that concentration has been rising in many narrow segments of the economy.[149] Examples can be pulled from everyday life. Beer[150] and passenger airlines[151]

---

[147] *Id.* at 117 ("Among industries with diverging trends, large firms have become bigger but the associated geographic expansion of these firms, through the opening of more plants in new local markets, has lowered local concentration thus suggesting increased local competition.").

[148] *Id.*

[149] *Cf. Shapiro*, *supra* note 142, at 722 (beginning a review of trends in national concentration reports with the following qualification: "Nothing in this section should be taken as questioning or contradicting separate claims regarding changes in concentration in specific markets or sectors, including some markets for airline service, financial services, health care, telecommunications, and information technology. In a number of these sectors, we have far more detailed evidence of increases in concentration and/or declines in competition.").

[150] BAKER, *supra* note 84, at 11 ("Step into a store's beer aisle, and the choices may seem overwhelming. Yet the owners of Budweiser and Miller control many popular brands and sell nearly three-fourths of the beer purchased in the United States."); Nathan H. Miller & Matthew C. Weinberg, *Understanding the Price Effects of the MillerCoors Joint Venture*, 85 ECONOMETRICA 1763, 1766–67 (2017) (describing the structure of the U.S. beer industry).

[151] BAKER, *supra* note 84, at 22 ("In 2005, the United States had nine major airlines, including regional and low-cost carriers; today, after multiple mergers, there are four.").

are markets that have become highly concentrated through mergers. Hospitals[152] and primary care providers[153] have also become extremely concentrated in many cities, again, as a result of mergers. Some industries are now so nationally concentrated that they are necessarily concentration in narrower markets as well: examples include secondary market financing (largest four firms accounted for 100% of revenues in 2017), home centers (96%), warehouse clubs and supercenters (94%), computer storage device manufacturing (90%), passenger car rental (90%), to name a few.[154]

These oligopolistic market structures emerged and solidified amid a long run of enforcement wins for the federal antitrust agencies. The agencies won 17 out of 21 litigated horizontal merger challenges between August 2010 and July 2020.[155] Yet they did not even oppose concentration increasing mergers in some of these markets. This failure to act cannot be explained by anything as simple as leadership priorities. Current AAG, Jonathan Kanter recently stated that "[l]ike concerted action, oligopoly behavior exacerbated by mergers deprives the marketplace of independent

---

[152] *See* Brent D. Fulton, *Health Care Market Concentration Trends in the United States: Evidence and Policy Responses*, 36 HEALTH AFF. 1530, 1533–34 and Exhibit 1 (2017) (reporting average local concentration of hospitals at nearly double what the 2010 Horizontal Merger Guidelines label as highly concentrated in 2010 and increasing by a further five percent from 2010 to 2016).

[153] *Id.* at 1533–34 & ex.2 (reporting that the concentration of primary care organizations increased by almost 29 percent between 2010 and 2016, rendering 90 percent of MSAs highly concentrated by the standards of the 2010 Horizontal Merger Guidelines").

[154] ROBERT D. ATKINSON & FILIPE LAGE DE SOUSA, NO, MONOPOLY HAS NOT GROWN 10 tbl.2 (Information Technology & Innovation Foundation, Jun. 2021), https://www2.itif.org/2021-no-monopoly-has-not-grown.pdf.

[155] Shapiro & Shelanski, *supra* note 119, tbl.1.

decision-making centers and warrants intervention."[156] But if rising concentration contributes to oligopolistic coordination, and if merger challenges could be used to prevent increases in concentration, why are the agencies still failing to intervene?

IV. REVERSING THE DECLINE

It would make a good story for the decline of coordinated effects to be a result of bad faith and laziness. Others have accused the antitrust agencies of lax merger enforcement since the 1980s,[157] and the pattern we describe fits that narrative in some respects. But facts do not support the lax enforcement narrative.[158] What we observe is not a decline in merger enforcement; it is a shift from one enforcement focus to another. The question is not why the agencies are not bringing merger challenges, but why they are not bringing coordinated effects challenges. Why, despite alarm over rising concentration, this singularly tailored counterforce in the antitrust arsenal is not being deployed.

---

[156] Jonathan Kanter, Respecting the Antitrust Laws and Reflecting Market Realities, Tuesday, September 13, 2022, Georgetown Antitrust Law Symposium, https://www.justice.gov/opa/speech/assistant-attorney-general-jonathan-kanter-delivers-keynote-speech-georgetown-antitrust.

[157] *See* KLOBUCHAR, *supra* note 2, at 146 (describing "the early 1980s shift away from rigorous antitrust enforcement"); *id.* 149–50 (describing periods of "lax antitrust enforcement" since the 1980s); Nadler, *supra* note 129 (criticizing "lax merger enforcement"); Jacob M. Schlesinger, Brent Kendall and John D. McKinnon, *EXCHANGE — Hunting For Giants*, WALL ST. J., Jun 8, 2019 ("Since the early 1980s, antitrust enforcement by many measures has fallen.").

[158] D. Daniel Sokol & Sean P. Sullivan, *Coordinated Effects and the Half-Truth of the Lax Enforcement Narrative*, ANTITRUST CHRON., Jul 2023, at 5 ("The claims of advocates of the lax enforcement narrative — that overall merger enforcement has declined in intensity or efficacy over a span of decades — are not supported by the evidence.")

The decline of coordinated effects enforcement traces to three related developments in antitrust enforcement policy and decisional law. First, increasingly since the 1980s, antitrust commentators and even some courts have become unjustifiably skeptical of market concentration evidence as a predictor of anticompetitive coordination.[159] Second, the same courts and commentators have introduced novel proof requirements in coordinated effects cases, effectively demanding that enforcers prove coordinated effects predictions twice: once using market structure evidence and a second time using non-structural evidence.[160] Third, enforcers and commentors have developed unrealistic expectations about the need for, and ability of, merger challenges to quantify predicted anticompetitive effects.[161] Together, these changes in merger law and enforcement policy have encumbered coordinated effects theories with excessive proof burdens. To reverse the decline of coordinated effects enforcement, we must reverse these law and policy changes.

A. Unjustified skepticism about market structure evidence

The most severe injury to coordinated effects enforcement has been the souring of market structure evidence in the mouths of courts and commentators over the past 30 years.

The perceived probative force of market structure evidence hit its zenith in the 1960s. In the era of Warren Court antitrust, non-trivial increases in market share and market concentration were sufficient to motivate injunction and recission of mergers.[162] The Court invoked mainstream economic

---

[159] *See infra* Part IV.A.

[160] *See infra* Part IV.B.

[161] *See infra* Part IV.C.

[162] *E.g.*, United States v. Phila. Nat'l Bank, 374 U.S. 321, 363 (1963) ("[I]ntense congressional concern with the trend toward concentration warrants dispensing,

thinking (of the time) to support its strong reaction to market structure changes.[163] The agencies adopted a similarly structural approach in merger guidelines[164] and in merger challenges.[165]

But strong reliance on market structure evidence as a way of predicting anticompetitive effects did not last. The economic research that motivated structure-conduct-performance reasoning crumbled under scrutiny in the 1970s.[166] Put simply, the original structure-conduct-performance studies

---

in certain cases, with elaborate proof of market structure, market behavior, or probable anticompetitive effects. Specifically, we think that a merger which produces a firm controlling an undue percentage share of the relevant market, and results in a significant increase in the concentration of firms in that market is so inherently likely to lessen competition substantially that it must be enjoined in the absence of evidence clearly showing that the merger is not likely to have such anticompetitive effects.").

[163] *E.g.*, *id.* at 365 n.41 ("Kaysen and Turner . . . suggest that 20% should be the line of prima facie unlawfulness; Stigler suggests that any acquisition by a firm controlling 20% of the market after the merger is presumptively unlawful; Markham mentions 25%. Bok's principal test is increase in market concentration, and he suggests a figure of 7% or 8%.).

[164] Harry First, *Is Antitrust "Law"?*, 10 ANTITRUST 9, 10 (1995) ("Merger Guidelines were first issued in 1968, and they were reflective of the structuralist viewpoint of the times.").

[165] *But see* Oliver E. Williamson, *Economics and Antitrust Enforcement: Transition Years*, 17 ANTITRUST 61 (2003) (noting ways in which DOJ enforcement under Donald Turner edged back from extreme positions in structuralism and other regards).

[166] *See generally* Richard Schmalensee, *Inter-industry Studies of Structure and Performance*, *in* 2 HANDBOOK OF INDUSTRIAL ORGANIZATION 951 (R. Schmalensee & R. D. Willig eds., 1989) (surveying this literature).

were persuasively critiqued for failing to identify a causal relationship between market concentration and market power.[167] Subsequent research attempted to repair the record, typically finding a weak but positive correlation between market concentration and competitive outcomes.[168] But the disgrace of the initial structure-conduct-performance work has proven memorable, and commentators today often encode evidence of a weak empirical link between market concentration and competitive outcomes as evidence of no link at all.[169]

Economists have turned hostile to market structure evidence in other ways as well. In 2002, Professor Jonathan Baker published an influential article accusing antitrust jurisprudence and commentary of "devot[ing]

---

[167] *See* Steven Berry, Martin Gaynor, and Fiona Scott Morton, *Do Increasing Markups Matter? Lessons from Empirical Industrial Organization*, 33 J. ECON. PERSP. 44, 46–48 (2019) (explaining conceptual and practical limits of early economic work purporting to identify links between market structure and competitive performance).

[168] *See* Schmalensee, *supra* note 166, at 988 (synthesizing the literature as supporting the stylized fact that "[i]n cross-section comparisons involving markets in the same industry, seller concentration is positively related to the level of price"); *Salop*, *supra* note 58 ("[T]here is considerable empirical evidence consistent with a positive but weak relationship between market concentration and price."); Andrew R. Dick, *Coordinated Interaction: Pre-Merger Constraints and Post-Merger Effects*, 12 GEO. MASON L. REV. 65, 68 (2003) (similar).

[169] *E.g.*, Douglas H. Ginsburg & Joshua D. Wright, *Philadelphia National Bank: Bad Economics, Bad Law, Good Riddance*, 80 ANTITRUST L.J. 377, 380 (2015) ("[M]arket structure is an inappropriate starting point for the analysis of likely competitive effects. Market structure and competitive effects are not systematically correlated."); Timothy J. Muris, I*mproving the Economic Foundations of Competition Policy*, 12 GEO. MASON L. REV. 1, 10 (2003) ("The SCP paradigm was overturned because its empirical support evaporated."); Timothy J. Muris, *GTE Sylvania and the Empirical Foundations of Antitrust*, 68 ANTITRUST L.J. 899, 904 (2001) ("Because concentration is not a sufficient basis to attack horizontal mergers . . . the foundation of merger policy was built on quicksand.").

surprisingly little attention to understanding when and how the loss of a firm will facilitate collusion"[170] and criticizing reliance on the predictive power of market structure changes because "its underlying empirical support is not strong."[171] In 2010, Professors Joseph Farrell and Carl Shapiro published an article introducing an important new tool for evaluating unilateral effects of mergers.[172] They pitched their approach as "more solidly grounded in the underlying economics of unilateral effects than is the conventional approach based on market definition and market concentration."[173] While Farrell and Shapiro limited their criticism of market concentration evidence—which they called "clumsy and inaccurate"—to its use in the evaluation of unilateral effects,[174] the message that now echoes around antitrust circles is not so discerning. References to market definition and market structure analysis as "crude,"[175] "imprecise,"[176] and "indirect"[177] are now commonplace.

Revulsion at market structure evidence has had predictable effects on merger enforcement. As Shapiro notes, every major revision of the horizontal merger guidelines has reduced the weight given to market shares

---

[170] Jonathan B. Baker, *Mavericks, Mergers, and Exclusion: Proving Coordinated Competitive Effects Under the Antitrust Laws*, 77 N.Y.U. L. Rev. 135, 137 (2002).

[171] *Id.* at 139.

[172] Joseph Farrell & Carl Shapiro, *Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition*, 10 B.E. J. Theoretical Econ. 1 (2010).

[173] *Id.* at 34.

[174] *Id.* at 1.

[175] *E.g.*, Dennis W. Carlton, Market Definition: Use and Abuse, 3 Competition Pol'y Int'l 3, 3 (2007).

[176] *E.g.*, Dennis W. Carlton & Mark A. Israel, *Effects of the 2010 Horizontal Merger Guidelines on Merger Review: Based on Ten Years of Practical Experience*, 58 Rev. Indus. Org. 213, 214 (2021).

[177] *E.g.*, Daniel A. Crane, *Market Power Without Market Definition*, 90 Notre Dame L. Rev. 31, 31 (2014).

and market structure evidence.[178] True, draft merger guidelines now stand to break this trend,[179] but the changes lack force of law unless adopted by courts, and important opinions have already incorporated the retreat from structural reasoning evinced in earlier guidelines. In 1990, for example, the D.C. Circuit used its review of *United States v. Baker Hughes*[180] to discredit the use of market structure evidence in merger cases.[181] In its influential articulation of the steps in merger analysis, the court treated market structure evidence as entitled to little weight,[182] being "simply . . . a convenient starting point for a broader inquiry."[183] The opprobrium attached to market structure evidence has at times been so severe that advocates of market structure reasoning have been pressed to defend preserving any role at all for this evidence in merger review.[184]

The structuralism of the 1960s was excessive, but the extremity of the modern overcorrection is no better. Because they often depend on market structure evidence, coordinated effects theories have withered during the

---

[178] Carl Shapiro, *Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets*, 33 J. ECON. PERSP. 69, 77 (2019) ("With each revision [of the merger guidelines], less weight was given to market shares and greater weight was attached to more direct evidence about how competition has taken place in the industry and how the merger would likely alter that competition.").

[179] *See supra* note 118 and accompanying text (referencing reduced concentration thresholds in the draft merger guidelines).

[180] United States v. Baker Hughes Inc., 908 F.2d 981, 992 (D.C. Cir. 1990).

[181] *See* Sean P. Sullivan, *What Structural Presumption? Reuniting Evidence and Economics on the Role of Market Concentration in Horizontal Merger Analysis*, 42 J. CORP. L. 403, 421–433 (2016) (explaining the revisionism in *Baker Hughes*).

[182] *Id.* at 992 (rejecting the possibility that market structure evidence could place "a heavy burden of production on a defendant" as "anomalous where, as here, it is easy to establish a prima facie case").

[183] *Id.* at 984.

[184] *See* Jonathan B. Baker & Steven C. Salop, *Should Concentration Be Dropped from the Merger Guidelines?*, 33 WEST LA. L. REV. 3, 7-9 (2001).

extended assault on market structure reasoning.[185] And, because they do not depend on market structure evidence, unilateral effects theories have flourished.[186] There are growing calls to remedy the overcorrection. Baker,[187] Farrell,[188] Shapiro[189] and others[190] propose to increase reliance on market structure evidence in the form of presumptions of illegality based on market concentration evidence. And, as noted before, draft merger guidelines seem poised to reverse earlier elevation of market structure thresholds.[191] But these proposals are no cure for 30 years of neglect.

---

[185] *See* Shapiro, *supra* note 178 (commenting that this rejection of market structure evidence has made it more difficult for enforcement agencies to prevail in court, which in turn influences what mergers they choose to challenge).

[186] *See supra* Part III.A.

[187] *See* Jonathan B. Baker & Joseph Farrell, *Oligopoly Coordination, Economic Analysis, And The Prophylactic Role Of Horizontal Merger Enforcement*, 168 U. PENN. L. REV. 1985, 2017 (2020) ("In our view, the plausibility of persistent coordinated conduct in oligopoly markets combined with the limitations in the precision of our predictive tools strengthens the case for a structural merger policy, by which coordinated effects are presumed when a horizontal merger increases concentration significantly in a concentrated market"). We do not mean to imply that these calls reflect a change of view by any of these scholars. *See, e.g.*, *id.* at 2010 (proposing an approach to coordinated effects evaluation that "allows the plaintiff to explain, and the court to understand, why the merger matters—and not simply to look to the structural presumption that associates higher concentration with greater odds of successful purposive coordination").

[188] *See supra* note 187.

[189] Shapiro, *supra* note 178, at 77 (suggesting, as a way of improving merger enforcement, that "the structural presumption against mergers that increase concentration in a properly defined relevant market could be strengthened").

[190] *See* Kwoka, *supra* note 122, at 871–72; *see generally* Hovenkamp & Shapiro, *supra* note 104 (arguing that economic theory strongly supports the structural presumption in merger analysis and proposing ways to strengthen the presumption).

[191] *See supra* note 118 and accompanying text.

To be blunt, calls for renewed reliance on market structure will go nowhere without correction to the status of market structure evidence in coordinated effects analysis. Antitrust is a pragmatic field. The only enduring path to greater weight for market structure evidence is persuasive demonstration that market structure evidence *deserves* to be given greater weight. This is no small undertaking, but necessary steps in the process are easy to see and understand.

First, it is time to put to rest confused notions of how concentration in poorly defined industries relates to the risk of anticompetitive coordination. The "weak link"[192] between concentration and prices in diffuse markets has almost no bearing on the structural inferences at issue in coordinated effects cases.[193] This is because both the meaning and importance of market structure evidence derive from how markets are defined and how market structure relates to specific types of market power.[194]

Relevant markets in most merger cases since the 1980s have been defined by the Hypothetical Monopolist Test—a systematic approach for identifying groups of competitors with the joint market power to engage in anticompetitive coordination.[195] It is changes in the structure of these narrow markets—not broad industries—that matter when evaluating the

---

[192] *E.g.*, Carlton, supra note 175, at 4 ("Unfortunately, there is only a weak link between change in market share and change in competitive performance.").

[193] *Cf.* Sullivan, *supra* note 53, at 1145 ("[W]eakness in the observed relationship between concentration and market power could owe as much to muddled market thinking as it does to any actual absence of economic relationships in the data.").

[194] William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 952–53 (1981) (noting that the market power implications of share figures depend on how a market is defined); Frank H. Easterbrook, *Is There a Ratchet in Antitrust Law*, 60 TEX. L. REV. 705, 716 (1982) ("'[C]oncentration' is an artifact of market definition.").

[195] *See* David Glasner & Sean P. Sullivan, *The Logic of Market Definition*, 83 ANTITRUST L.J. 293, 314–15 (2020).

potential for mergers to entrench or enable oligopolistic coordination.[196] The question is whether mergers resulting in, say, the combination of two out of five significant competitors are likely to increase or entrench patterns of coordination.

Second, in answering the question just posed, we should look to empirical work on market concentration and competitive effects *in the type of oligopolistic markets at issue* in coordinated effects analysis. Retrospective studies are one potential source of information. We do not claim that it is easy to perform quality retrospective analysis of completed mergers.[197] But we do consider it remarkable that no retrospective study to our knowledge has rejected market structure evidence as a useful predictor of anticompetitive effects, while some, like the works of Professor John Kwoka, purport to find a strong relationship between market concentration and apparent anticompetitive effects of mergers.[198]

Experimental economics research on oligopolistic coordination is another source of information. Even cast in the most unfavorable light, experimental studies have reliably shown that two competitors are able to tacitly collude in a laboratory setting.[199] Four or more competitors struggle

---

[196] *See* Levenstein & Suslow, *supra* note 83, at 459 (providing a clear explanation of the theoretical connection between the number of competitors and the feasibility of one type of coordination); Kwoka, *supra* note 122, at 847 (similar).

[197] See generally Gregory J. Werden, *Inconvenient truths on merger retrospective studies*, 3 J. ANTITRUST ENFORCEMENT 287, 288–93 (2015) (critiquing the ability of merger retrospectives to identify and estimate the actual price effects of mergers).

[198] *See* Kwoka, s*upra* note 122, at 862 (reporting "no benign mergers with five or fewer remaining competitors"); *id.* at 865 ("the vast majority of mergers resulting in six or fewer significant competitors . . . have anticompetitive consequences").

[199] *See generally* Niklas Horstmann, Jan Krämer & Daniel Schnurr, *Number Effects and Tacit Collusion in Experimental Oligopolies*, LXV1 J. INDUS. ECON. 650 (2018) (reporting strictly decreasing rates of tacit collusion as the number of par-

to stabilize purely tacit collusion,[200] but have greater success when allowed to engage in non-binding communication.[201] Put another way, college students, with limited financial stakes in the game, and with no ability to learn or communicate except through price and quantity decisions, are often able to turn oligopolistic interdependence into super-competitive pricing. If coordination is possible for small numbers of competitors under such inhospitable conditions, we should hesitate to doubt that it is possible for somewhat larger numbers of competitors in markets that have persisted for years, that offer myriad opportunities for subtle communication, and that support the lifestyles and livelihoods of the participants.

Third, if the previous evidence is insufficient to persuade the skeptical observer that market structure could be an important predictor of coordinated effects in merger cases, then internal consistency should at least compel correlative rejection of decisions like that of the Third Circuit in *Valspar*.[202] There is no logical way to maintain the defensive inference that

---

ticipants declines from four); Christoph Engel, *How Much Collusion? A Meta-Analysis of Oligopoly Experiments*, 3 J. COMPETITION L. & ECON. 491 (2007) (surveying sensitivity of experimental collusion results to number of participants and other variables).

[200] *See* Steffen Huck, Hans-Theo Normann & Jörg Oechssler, *Two are few and four are many: number effects in experimental oligopolies*, 53 J. ECON. BEHAV. & ORG. 435, 444 (2004) ("The review of the existing literature on Cournot experiments and our own new experiments suggest that while firms in duopolies sometimes manage to collude, this seems to be difficult to achieve in markets with more firms."); *see also* Horstmann, Krämer & Schnurr, *supra* note 199.

[201] *See, e.g.*, Miguel A. Fonseca & Hans-Theo Normann, *Explicit vs. tacit collusion—The impact of communication in oligopoly experiments*, 56 EUR. ECON. REV. 1759 (2012) (reporting that communication increases the effectiveness of coordination, particularly for moderately concentrated oligopolies).

[202] *See supra* notes 31–41 and accompanying text.

high concentration makes express collusion unnecessary in concerted-action cases while simultaneously doubting that mergers leading to highly concentrated markets may entrench or enable oligopolistic coordination.

B. Novel proof burdens beyond market structure

Another obstacle to coordinated effects enforcement is the insistence of enforcers, and some courts, that proof of coordinated effects requires more than market structure evidence. As described in the 2010 Horizontal Merger Guidelines, government enforcers set for themselves three elements to justify a coordinated effects challenge:

> The Agencies are likely to challenge a merger if the following three conditions are all met: (1) the merger would significantly increase concentration and lead to a moderately or highly concentrated market; (2) that market shows signs of vulnerability to coordinated conduct . . . ; and (3) the Agencies have a credible basis on which to conclude that the merger may enhance that vulnerability.[203]

This articulation of the requirements of coordinated effects theories encompasses two separate proof challenges. First, structural evidence must be produced to demonstrate that a merger risks coordinated effects (element 1).[204] Second, *non-structural* evidence must be produced to provide a

[203] 2010 Horizontal Merger Guidelines, *supra* note 13, § 7.1 para. 2.

[204] Failure to satisfy the first element is treated as precluding analysis of the other elements. *Id.* § 7.1 para. 1 ("[Vulnerability analysis] applies to moderately and highly concentrated markets, as unconcentrated markets are unlikely to be vulnerable to coordinated conduct.").

second, independent basis for inferring that a merger enhances the vulnerability of a market to coordination (elements 2 and 3).[205]

The second proof challenge is a recent addition. No Supreme Court opinion has ever saddled plaintiffs with the inflexible requirement of producing non-structural reasons to believe that a merger will increase or entrench coordination.[206] True, the Court's decisions recognize the relevance of non-structure factors in evaluating mergers.[207] But the relevance of non-structural evidence in the Court's opinions lies in the ability of these factors to influence the usual inference of coordinated effects from market structure evidence,[208] not in the expectation that they would establish an independent basis for concern.

---

[205] The guidelines never clearly state what counts as something that would enhance vulnerability to coordinated. From the enumeration of the elements and related text, however, it appears that changes in market structure are not among them. *See, e.g.*, *id.* ("[T]he Agencies evaluate the risk of coordinated effects using measures of market concentration . . . in conjunction with an assessment of whether a market is vulnerable to coordinated conduct."); *id.* § 7.2 (omitting market structure changes from the list of features that make a market vulnerable to coordination).

[206] *See* Sullivan, *supra* note 181, at 415–21 (reviewing Supreme Court decisions on the inference of anticompetitive injury from market structure evidence).

[207] *See* United States v. Phila. Nat'l Bank, 374 U.S. 321, 363 (1963) (substituting market structure evidence for detail market analysis "in the absence of evidence clearly showing that the merger is not likely to have such anticompetitive effects"); United States v. Gen. Dynamics Corp., 415 U.S. 486, 501 (1974) (looking beyond market structure only in the even that market shares fail to "give a proper picture of a company's future ability to compete").

[208] *Cf.* George J. Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44 (1964) (identifying factors that might make collusion easier or harder, without identifying any as necessary conditions for collusion irrespective of market structure); Ian Ayres, *How Cartels Punish: A Structural Theory of Self-Enforcing Collusion*, 87 COLUM. L. REV. 295 (1987) (similar).

Agency enforcement generally hewed to Supreme Court reasoning in the 1960s and 1970s. Nothing in the 1968 Merger Guidelines suggests that enforcers demanded anything more at that time.[209]

Nor is the requirement of an independent non-structural basis for inferring coordination evident in the record of the 1980s. In *Hospital Corporation of America v. FTC*, Judge Posner explained that a reduction in the number of competitors in a market "is significant in assessing the competitive vitality of [that] market" because "[t]he fewer competitors there are in a market, the easier it is for them to coordinate their pricing."[210] Posner went on to evaluate factors like potential entry, demand elasticity, and prior cooperative conduct in considering how they informed the structural inference of coordination but did not seek independent proof of coordination in these factors.[211] In this respect, the opinion mirrored the 1982 Merger Guidelines, which similarly used non-structural factors as an aid for interpreting market structure evidence, not as an independent element in addition to it:

> In evaluating mergers, the Department will consider the following [non-structural] factors as they relate to the ease and profitability of collusion. Where relevant, the factors are most likely to

---

[209] U.S. DEP'T OF JUSTICE, MERGER GUIDELINES § 8 (May 30, 1968) (identifying non-market share considerations that could support a challenge when market concentration would not, or that might justify modification of market share measurements).

[210] Hosp. Corp. of Am. v. F.T.C., 807 F.2d 1381, 1387 (7th Cir. 1986).

[211] *Id.* at 1388 ("In showing that the challenged acquisitions gave four firms control over an entire market so that they would have little reason to fear a competitive reaction if they raised prices above the competitive level, the Commission went far to justify its prediction of probable anticompetitive effects. Maybe it need have gone no further. But it did.").

> be important where the Department's decision whether to challenge a merger is otherwise close.[212]

It was not until the 1990s that non-structural factors began to be demanded as independent proof that a merger would lead to coordinated conduct. In *Baker Hughes*, the D.C. Circuit recommended a novel framework for evaluating mergers:[213] the plaintiff could use market structure evidence to establish a presumption of harm, but if the defendant produced evidence to rebut that presumption, then the plaintiff was required to meet "the burden of producing additional evidence of anticompetitive effect[s]."[214] Since "evidence on a variety of factors can rebut a prima facie case" in the *Baker Hughes* framework,[215] the plaintiff is typically obligated to prove coordination cases two ways: once by market structure evidence and a second time by "producing additional evidence"[216] that the merger would embolden or entrench coordination.

A decade later, Professor Baker launched a similarly influential campaign for non-structural evidence of coordination. Baker criticized the inference of coordinated effects from market structure evidence as presumption "without analysis."[217] In "the dinner party story"—his colorful label for inferring that one oligopolist's acquisition of another would tend to facilitate coordination—Baker spotted no answer to "the question of why the

---

[212] 1982 MERGER GUIDELINES, *supra* note 65, § III.C para. 1.

[213] The opinion refers to this framework as "familiar." United States v. Baker Hughes Inc., 908 F.2d 981, 982 (D.C. Cir. 1990). This is hard to reconcile with the absence of prior authority for the framework. Sullivan, *supra* note 181, at 422–23.

[214] *Baker Hughes*, 908 F.2d at 983.

[215] *Id.* at 984.

[216] *Id.* at 983.

[217] Baker, *supra* note 170, at 138.

particular merger under review is likely to help the industry solve its coordination problems."[218] This did not lead him to reject all reliance on market structure evidence, which he described as important when better evidence was unavailable.[219] But Baker generally sought non-structural proof that a merger would facilitate coordination as a way to "shore up the shaky foundation of coordinated competitive effects analysis."[220]

Baker's own solution was to identify problematic mergers by deciding whether they involved maverick firms, somewhat circularly defined as firms that resist the attempts of others to coordinate.[221] Concern with maverick firms has since preoccupied coordinated effects thinking. The acquisition of a maverick firm is the only example that the 2010 Horizontal Merger Guidelines provide to illustrate a non-structural basis for inferring that a merger will cause coordinated effects.[222] Maverick firms continue to occupy a prominent position in draft merger guidelines.[223] And scholarlily commentary is quiet on what besides maverick firms could constitute non-structural proof of coordinated effects.[224]

It takes no imagination to see why requiring a plaintiff to twice prove the risk of coordinated effects would tend to stifle these challenges. This would be so even if non-structural evidence of the risk of coordination was easy to produce—and it is not. Despite their theoretical appeal, maverick

---

[218] *Id.* at 139.

[219] *Id.* at 198.

[220] *Id.* at 140.

[221] *Id.* at 163.

[222] 2010 Horizontal Merger Guidelines, *supra* note 13, § 7.1 para. 2 ("An acquisition eliminating a maverick firm . . . in a market vulnerable to coordinated conduct is likely to cause adverse coordinated effects.").

[223] DRAFT MERGER GUIDELINES, *supra* note 118.

[224] *See, e.g.*, David Scheffman & Mary Coleman, *Quantitative Analysis of Potential Competitive Effects from a Merger*, 12 GEO. MASON L. REV. 319, 328–29 (2003).

firms have proven to be elusive prey.[225] They are frequently invoked by plaintiffs but rarely found to support coordination theories.[226] Other non-structural vulnerability factors encompass a dizzying array of considerations.[227] Many support alternative and even opposing inferences.[228] The exercise of evaluating arguments and counter-arguments on these factors

[225] William E. Kovacic, Robert C. Marshall, Leslie M. Marx & Steven P. Schulenberg, *Quantitative Analysis of Coordinated Effects*, 76 ANTITRUST L.J. 397, 401 (2009) (commenting on the ambiguity of evaluating maverick theories "[s]ince there is no direct and unambiguous definition, empirical or otherwise, for a 'maverick' firm").

[226] *E.g.*, United States v. H & R Block, Inc., 833 F. Supp. 2d 36, 79 (D.D.C. 2011) ("The parties have spilled substantial ink debating TaxACT's maverick status. The arguments over whether TaxACT is or is not a 'maverick'—or whether perhaps it once was a maverick but has not been a maverick recently—have not been particularly helpful to the Court's analysis."); FTC v. Arch Coal, Inc., 329 F. Supp. 2d 109, 146 (D.D.C. 2004) (citing authority that a merger does not risk coordinated effects if it does not involve a maverick firm and then finding that the acquired firm is not a maverick); New York v. Deutsche Telekom AG, 439 F. Supp. 3d 179, 235 (S.D.N.Y. 2020) ("[T]hat Plaintiff States characterize two of the largest four firms in the [market] as 'mavericks' reflects that the market is not so vulnerable as they otherwise suggest.").

[227] *See* Baker & Farrell, *supra* note 187, at 1992 ("One typical list includes: a small number of firms, simple or homogenous products, open and transparent transactions, excess capacity in the hands of rivals, predictable demand, small and frequent transactions, small buyers, inelastic market demand, low marginal costs relative to price, and high customer switching costs.").

[228] An example is the presence of excess capacity. Excess capacity is sometimes regarded as a destabilizing influence in coordination schemes, since it implies large short-term gains to undercutting rivals. *See, e.g.*, FTC. v. Elders Grain, Inc., 868 F.2d 901, 905–06 (7th Cir. 1989). But excess capacity can also be a byproduct of successful coordination. *Id.* at 906. And the threat of price wars fueled by excess capacity can be a strong deterrent to any firm's interest in defecting from a coordination scheme. *Cf.* Edward J. Green & Robert H. Porter, *Noncooperative Collusion Under Imperfect Price Information*, 52 ECONOMETRICA 87 (1984).

may increase the nuance with which courts come to understand coordination theories, but it rarely produces independent reasons for expecting a merger to entrench or enable coordination.[229] Market structure evidence supports these inferences, but over recent decades has come to be seen as insufficient proof.[230]

As long as this two-threshold requirement stands, calls to strengthen the structural presumption in merger analysis have little hope of reinvigorating coordinated effects challenges.[231] Market structure is only the first element of requirements for bringing a coordinated effects challenge in the 2010 Horizontal Merger Guidelines;[232] only the prima facie stage of the *Baker Hughes* framework.[233] Unless market structure evidence is restored to the position of being sufficient on its own to support a coordinated effects theory, the difficulty of producing non-structural evidence of "why

---

Another example is prior efforts at collusion. Evidence of prior attempts to collude, successful or not, is often cited as evidence that a market is vulnerable to coordination. *E.g.*, 2010 Horizontal Merger Guidelines, *supra* note 13, § 7.2 para. 1. But the fact that firms attempted to collude may also raises doubts about the market's vulnerability to coordination. If oligopolistic coordination was feasible, why would firms have taken the risk of attempting express collusion? And if prior attempts at collusion had failed, does that not suggest that future attempts to coordination will fail as well?

[229] *See* Scheffman & Coleman, *supra* note 224, at 326–27 (criticizing this type of "Check List" as unable to distinguish markets that are actually vulnerable to coordiation and failing to focus "on why the merger should affect the likelihood of coordination"); Dick, *supra* note 168, at 67 (providing a similarly unfavorable review of the "checklist" approach to assessing vulnerability factors).

[230] *See supra* notes 213–220 and accompanying text.

[231] *See supra* notes 82–84.

[232] *See supra* notes 203–205 and accompanying text.

[233] *See supra* notes 213–216 and accompanying text.

the merger matters"[234] will continue to enfeeble coordinated effects challenges.

In summary, the problem with current practice is that it treats market structure evidence and non-structural evidence as jointly necessary to prove a coordinated effects theory; the solution is to treat each mode of proof as individually sufficient. This change would bring current practice in line with Supreme Court precedent and prior enforcement policy.[235] It would also free coordinated effects challenges to better reflect the theory of harm in individual cases: purely structural inferences when concern arises strictly from how a merger changes concentration, non-structural inferences when concern arises from considerations relating to individual competitor incentives and other competitive dynamics. Non-structural factors can of course be assessed when evaluating market structure inferences, as they always have been.[236] This does not diminish the ability of the market structure evidence to stand on its own in proving a coordinated effects challenge.[237]

Gratifyingly, as this Article goes to print, draft merger guidelines promise to realize at least part of our proposal. As drafted, the revised guidelines presume post-merger conditions to be "susceptible to coordinated interaction if any of the three primary factors are present," the first factor being high market concentration.[238] Ambiguities in the draft language leave some uncertainty whether market structure evidence could be sufficient to prove

---

[234] Baker & Farrell, *supra* note 187, at 2010.

[235] *See supra* notes 206–212 and accompanying text.

[236] *See supra* notes 209–212 and accompanying text.

[237] *E.g.*, FTC v. H.J. Heinz Co., 246 F.3d 708, 725 (D.C. Cir. 2001) ("Because the district court failed to specify any 'structural market barriers to collusion' that are unique to the baby food industry, its conclusion that the ordinary presumption of collusion in a merger to duopoly was rebutted is clearly erroneous.").

[238] DRAFT MERGER GUIDELINES, *supra* note 118, at 9–10.

coordinated effects theories, or would only be sufficient to prove susceptibility to coordination.[239] Our proposal is the former, and the draft guidelines would be improved by unambiguous statement to that effect. The guidelines would also be improved by discussion of how non-structural factors could both strengthen and detract from structural inferences.[240]

C. Unrealistic expectations about predictive precision

Finally, a third important obstacle to coordinated effects challenges is the expectation, developed by many enforcers and antitrust economists in the decades since the 1980s, that merger challenges should include precise predictions of anticompetitive harm. This expectation is not the longstanding and binding requirement that merger challenges articulate more than speculative justifications for predicting harm.[241] Rather, it reflects a belief

---

[239] The draft guidelines list three "primary factors" that indicate "post-merger market conditions are susceptible to coordinated interaction," and several "secondary factors" that indicate "a merger may meaningfully increase the risk of coordination." *Id.* at 9–10. This leaves unclear whether susceptibility to coordination is different than increased risk of coordination. The interpretation that these are different flows from the plain language of the draft and is consistent with the vulnerability and enhanced vulnerability analysis of earlier guidelines. *See, e.g.*, 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 13, § 7. The interpretation that they are the same flows from a holistic reading of the draft guidelines and from an ambiguous final sentence: "Not all secondary factors must be present for a market to be susceptible to coordination." DRAFT MERGER GUIDELINES, *supra* note 118, at 10.

[240] DRAFT MERGER GUIDELINES, *supra* note 118, at 10 (discussing factors that increase coordination concerns without addressing factors that mitigate these concerns).

[241] *See* Brown Shoe Co. v. United States, 370 U.S. 294, 325 (1962) (requiring evidence to establish "a reasonable probability that the merger will substantially lessen competition"); *id.* at 323 (interpreting Section 7 to proscribe mergers "with a probable anticompetitive effect," not those with only "ephemeral possibilities" of harm).

that challenges based on quantified predictions of harm are more persuasive or more reliable than those lacking quantification. Economic models of anticompetitive coordination do not permit precise prediction of what coordination will take place, which leads quantification-obsessed observers to dismiss coordinated effects theories as unreliable, inadequately theorized, and imprecise.[242]

Like previously discussed changes in antitrust thinking and enforcement policy, the demand for predictive precision in merger challenges drives enforcers to favor unilateral effects theories over coordination theories. The unlikely reason for this asymmetry is an artifact of mathematical game theory. The models typically used to justify unilateral effects predictions happen—when bolstered by simplifying assumptions—to admit unique equilibria.[243] If economists are willing to assume that firms behave according to equilibrium strategies both before and after a merger, then the predicted effects of a merger can be expressed as the difference between two deterministic states of play.[244] As a concrete example, an economic expert could take the stand to testify that a unilateral effects model predicts a

[242] *See supra* notes 217–220 and accompanying text.

[243] *See generally* Margaret E. Slade, *Merger-Simulations of Unilateral Effects: What Can We Learn from the UK Brewing Industry?*, *in* CASES IN EUROPEAN COMPETITION POLICY: THE ECONOMIC ANALYSIS 312, 313-21 (Bruce Lyons ed., 2009) (providing intuitive and technical exposition of common unilateral effects models); Gregory J. Werden, *Unilateral Competitive Effects of Horizontal Mergers I: Basic Concepts and Models*, *in* 2 ISSUES IN COMPETITION LAW AND POLICY 1319 (Wayne Dale Collins, ed., 2008) (same); Gregory J. Werden & Luke M. Froeb, *Unilateral Effects of Horizontal Mergers*, *in* HANDBOOK OF ANTITRUST ECONOMICS 43 (Paolo Buccirossi ed., 2008) (same).

[244] *See supra* note 243 and sources cited therein.

21 percent increases in the price of one of the merging firms following a merger.[245]

Game theory models of anticompetitive coordination do not permit as many simplifying assumptions. Models of coordination often depend on how competitors interact over time.[246] This complicates the game. As a result, common models of anticompetitive coordination do not have unique equilibria; they can rationalize different forms of coordination, as well as paths of play in which coordination does not arise at all.[247] This flexibility to explain different types of behavior might seem like a strength of the models, and in some ways it is. But it also means that these models do not support unique quantitative predictions of the effects of mergers.[248] At best, they predict a range of possible forms of coordination.[249]

---

[245] FTC v. Swedish Match, 131 F. Supp. 2d 151, 169 (D.D.C. 2000) (predicting an 11 percent increase in the price of one merging company's brand and a 21 percent increase in the price of the other company's brands).

[246] *See generally* Marc Ivaldi, Bruno Jullien, Patrick Rey, Paul Seabright & Jean Tirole, The Economics of Tacit Collusion (Final Report for DG Competition, European Commission, Mar. 2003) (discussing the economics of tacit collusion).

[247] *See* Carl Shapiro, *Theories of Oligopoly Behavior*, *in* 1 Handbook of Industrial Organization 329, 361–66 (Richard Schmalensee and Robert D. Willig, eds., 1989) (discussing the multiplicity of equilibria in coordination games).

[248] Across several important works, Louis Kaplow has closely surveyed the state of economic modeling on this topic, including the limits of what economic theory can predict or identify as a predictor of coordinated effects. *See, e.g.*, Louis Kaplow, *Replacing the Structural Presumption*, 84 Antitrust L.J. 565, 585–87, 592–95 (2022) (discussing what market structure and other information may contribute to predicting coordinated effects); Kaplow & Shapiro, *supra* note 94, at 1149–52 (similar); *see generally* Kaplow, *supra* note 11 (considering similar exercises of join market power).

[249] *Cf.* Daniel Gore, Stephen Lewis, Andrea Lofaro & Frances Dethmers, The Economic Assessment of Mergers under European Competition Law 369 (2013)

In the eyes of many observers, this multiplicity of equilibria makes coordinated effects theories less precise than their unilateral effects counterparts. We have already discussed the views of economists who criticize market structure evidence as "clumsy," "crude," and "imprecise."[250] The determinate predictions of unilateral effects models are seen as simpler and more "direct" statements of competitive harm.[251] Enforcers interpret the inability of coordination models to quantify predicted effects as the inability of these models to predict anticompetitive effects, and further interpret this assumed inability to predict anticompetitive effects as the inability of these models to prove coordinated effects at trial.[252]

Professors Steven Salop and Fiona Scott Morton recently voiced concern that excessive focus on predictive precision may cause enforcers to disregard coordinated effects challenges:

("[T]he standard economic theory of tacit coordination is essentially silent on how firms select between equilibria. . . . As such, it is difficult to predict the circumstances in which a particular merger may be expected to give rise to such a switch in firm behaviour.").

[250] *See supra* notes 175–177 and accompanying text.

[251] *E.g.*, Shapiro & Shelanski, *supra* note 119, at 52 ("[T]he 2010 Guidelines putting increased focus on direct evidence of competitive effects—especially for unilateral competitive effects."); Malcolm B. Coate & Jeffrey H. Fischer, *Is Market Definition Still Needed After All These Years*, 2 J. ANTITRUST ENF'T 422, 448 (2014) (contrasting merger analysis based on market definition with direct estimation of the likely effects of a merger).

[252] *E.g.*, James, *supra* note 103, at 8 ("[E]ven once all of the factors have been analyzed, we have yet to develop any well-accepted science that specifies the precise level of market concentration or the minimum number of competitors at which coordination is likely."); Kolasky, *supra* note 106, at 10 ("[W]hile economic theory can teach us a great deal about the conditions that are necessary for coordination, it has been less successful in identifying what conditions are sufficient for coordination — that is, to predict when coordination will in fact occur.").

> [P]art of the reason that coordinated effects concerns have been given less emphasis in recent cases may be that economists have not developed an econometrically intensive measure to predict their prevalence. But if agencies or courts imagine that the lack of an econometric technique is the same thing as the lack of an answer—or a lack of importance—then entire classes of harm will go unenforced.[253]

Our message is that we can drop the "if" from Salop and Scott Morton's warning. The inability of coordinated effects models to discretely quantify harm *is* being interpreted as lack of an answer. Coordinated effects challenges *are* going unenforced.[254] The question is what can be done to reverse this trend.

One solution would be for antitrust economists and enforcers to stop demanding unreasonable precision in coordinated effects challenges. Few areas of law demand precision in establishing liability.[255] Nothing suggests that fact finders are worse at sifting through competing evidence and uncertainty in antitrust cases than they are in other complicated and disputed subject areas.[256] If anything, Congressional intent that Section 7 be applied

---

[253] Steven C. Salop & Fiona Scott Morton, *The 2010 HMGs Ten Years Later: Where Do We Go From Here?*, 58 REV. INDUS. ORG. 81, 93 (2021).

[254] *See supra* Part III (surveying the decline of coordinated effects enforcement).

[255] *Cf.* In re Winship, 397 U.S. 358, 371–72 (1970) (Harlan, J., concurring) ("In a civil suit between two private parties for money damages, for example, we view it as no more serious in general for there to be an erroneous verdict in the defendant's favor than for there to be an erroneous verdict in the plaintiff's favor. A preponderance of the evidence standard therefore seems peculiarly appropriate for . . . it simply requires the trier of fact 'to believe that the existence of a fact is more probable than its nonexistence before (he) may find in favor of the party who has the burden to persuade the (judge) of the fact's existence.').

[256] True, modern antitrust cases assume a great deal of shared knowledge and rely too heavily on terms of art and jargon. But the basic difficulty of the deciding

to prevent merger harms in their incipiency seems to suggest that less exacting precision should be required when predicting the effects of mergers than is expected in other contexts.[257]

Another solution would be for antitrust practitioners to stop believing (or pretending) that unilateral effects predictions are the direct and precise estimates of harm that they are often portrayed to be. Unilateral effects models produce literal predictions of the effects of mergers only when competitors operate according to the stringent assumptions of the underlying models.[258] Is it reasonable to assume that competitors are behaving

---

between contested factual positions in antitrust case seems little different than the difficulty of deciding between contested theories in, say, negligence or criminal law cases. Indeed, for seasoned trial attorneys, conflicting evidence and conflicting expert testimony are the expected focus of jury questions. *See, e.g.*, Dallas Cnty. v. Com. Union Assur. Co., 286 F.2d 388, 390 (5th Cir. 1961) ("The County produced witnesses who testified they saw lighting strike the clock tower; the insurers produced witnesses who testified an examination of the debris showed that lightning did not strike the clock tower. Some witnesses said the char was fresh and smelled smoky; other witnesses said was obviously old and had no fresh smoky smell at all. Both sides presented a great mass of engineering testimony bearing on the design, construction, overload or lack of overload. All of this was for the jury to evaluate. The jury chose to believe the insurers' witnesses and brought in a verdict for the defendants.").

[257] *See* Brown Shoe Co. v. United States, 370 U.S. 294, 317–18 (1962) (reading Congress as providing "authority for arresting mergers at a time when the trend to a lessening of competition in a line of commerce was still in its incipiency"); *id.* at 323 n.39 (quoting the final Senate Report on the amendment of Section 7 for the proposition that "A requirement of certainty and actuality of injury to competition is incompatible with any effort to supplement the Sherman Act by reaching incipient restraints."); Hovenkamp, *supra* note 12, at 46–49 (providing a modern interpretation of the incipiency standard and its use in merger analysis).

[258] *See* Gregory J. Werden & Luke M Froeb, *Choosing Among Tools for Assessing Unilateral Merger Effects*, 7 EUR. COMPETITION J. 155, 158 (2011) ("Merger simulation provides a precise, quantitative prediction of the unilateral effects of the merger; however, the prediction is valid only if the model actually captures the essence

according to Nash equilibrium strategies both before and after significant mergers? Can we confidently assert that repeated interactions and informational asymmetries are not giving rise to any other equilibria than the supposedly unique equilibria relied on when calculating the unilateral effects predictions? Are we really certain that no coordinated behavior has been or could be taking place? The violation of any of these assumptions will call into question the validity of unilateral-effect models, or at least the accuracy of predicted effects.

In 1989, Professor Franklin Fisher chided antitrust economists for giving expert testimony that purported to predict competitive behavior by assuming that "real markets" followed the rules of simple toy models of competition.[259] He called these predictions "theory run riot."[260] We do not deny that unilateral effects models can yield powerful evidence about the competitive effects of mergers, but we do see a need for a reality check on what these models stand for in merger challenges.

In most cases, what unilateral effects models stand for is qualitative, directional evidence of the likely anticompetitive effects of a merger—the same thing that coordinated effects models support. The exacting assumptions of unilateral effects models are rarely a perfect fit to observed competition, so the predictions of these models are best viewed as arguments by analogy.[261] Even when the behavioral assumptions of unilateral effects

---

of competition in a particular industry, and only if the merger itself does not fundamentally change how competitors interact.").

[259] Franklin M. Fisher, *Games Economists Play: A Noncooperative View*, 20 RAND J. ECON. 113, 115 (1989).

[260] *Id.*

[261] *See, e.g.*, Duncan Cameron, Mark Glick & David Mangum, *Good Riddance to Market Definition?*, 57 ANTITRUST BULL. 719, 734 (2012) (advising against reading unilateral effects predictions as "accurate and reliable measures of market power when applied in the complexity of the real world"); see also Steven C. Salop, Invigorating Vertical Merger Enforcement, 127 Yale. L.J. 1962, 1979 (2018) (commenting

models do seem to fit reality, different specifications of things like costs and demand systems can drive similar models to widely different predictions.[262] Finally, for all their mathematical elegance, unilateral effects models are entitled to no greater weight than their value in predicting the actual consequences of mergers. It is difficult to test the predictions of unilateral effects models, but efforts to do so have not yielded glowing reviews.[263]

None of these properties of unilateral effects models are reasons to doubt their usefulness as evidence in merger challenges but all of them are reasons to doubt the apparent distinction between unilateral effects chal-

---

in a related context that "quantitative methodologies can be useful" but rather than representing "precise predicted price changes" should be seen as "imprecise indicators of the direction and strength of incentives" because they often "ignore impacts on certain prices," "do not take into account all the possible determinants of prices or interactions among the various prices" and "generally focus only on a subset of the possible harms that are easiest to quantify with available data").

[262] *See, e.g.*, Slade, *supra* note 243, at 331–38 (exploring and illustrating the sensitivity of unilateral effects predictions to different modeling assumptions); Philip Crooke, Luke Froeb, Steven Tschantz & Gregory J. Werden, *Effects of Assumed Demand Form on Simulated Postmerger Equilibria*, 15 REV. INDUS. ORG. 205, 206-08 (1999) (similar).

[263] *See* Dennis W. Carlton & Mark Israel, *Will the New Guidelines Clarify or Obscure Antitrust Policy?*, ANTITRUST SOURCE, Oct. 2010, at 1, 4 ("[T]here is only weak empirical evidence establishing the usefulness of merger simulation as a tool to predict anticompetitive mergers."); *see generally* Jonas Björnerstedt & Frank Verboven, *Does Merger Simulation Work? Evidence from the Swedish Analgesics Market*, 8 AM. ECON. J. 125 (2016) (reporting mixed results about the match between merger simulation predictions and the apparent price and share effects of a merger); Matthew C. Weinberg, *More Evidence on the Performance of Merger Simulations*, 101 AM. ECON. REV., May 2011, at 51, 51 (finding merger simulation to substantially underpredict the estimated price effects of a merger); Craig Peters, *Evaluating the Performance of Merger Simulation: Evidence from the U.S. Airline Industry*, 49 J.L. & ECON. 627, 627 (2006) (providing a generally negative review of merger simulation as a prediction of observed merger effects).

lenges and coordinated effects challenges. Comfort proceeding with unilateral effects challenges—despite the sensitivities, uncertainties, and possible imprecision of the methodology—should translate into comfort proceeding with coordinated effects challenges.

V. CONCLUSION

In summary, public concern about rising market concentration and the prevalence of tightly interdependent oligopolies warrants antitrust attention. But that attention is not forthcoming. Scrutiny of market concentration, and its ability to foster oligopolistic coordination, has been dormant in the federal antitrust agencies for over thirty years. Antitrust enforcers have taken their eyes off coordinated effects enforcement, and in so doing have taken their eyes off market concentration.[264]

We want to reverse this trend. To that end, this Article has demonstrated the need for robust coordinated effects enforcement.[265] It has documented the decline of coordinated effects enforcement and the rise in market concentration that this lapse in enforcement empowered.[266] And it has identified key causes of the decline in coordinated effects enforcement: the changes in antitrust thinking and enforcement policy that must be reversed to revive coordinated effects enforcement.[267]

Restoration of coordinated effects enforcement in merger review awaits three corrections in antitrust thinking. First, appropriate weight must be

---

[264] On this point, we agree with critics of current antitrust enforcement. *See, e.g.*, KLOBUCHAR, *supra* note 2, at 147 (accusing the agencies of having "largely closed their eyes to the creeping problem of corporation consolidation, choosing not to pay attention—or recklessly paying insufficient attention—to what was happening in America's economy.").

[265] *See supra* Part II.

[266] *See supra* Part III.

[267] *See supra* Part IV.

given to market structure evidence.[268] Second, market structure evidence must be allowed to stand as sufficient proof of a merger's potential for coordinated effects; it cannot remain merely a necessary condition in that proof.[269] Third, merger challenges that do not quantify predictions of anticompetitive harm must not be treated as categorically inferior to those that do.[270]

These changes are not small and will not be lightly adopted. Each change will face opposition. But we reiterate our motivating thesis: public concern about rising market concentration and the prevalence of oligopolistic market structures warrants antitrust attention. The path back to effective coordinated effects enforcement will not be easy. But we know what the path is. And we should take it.

[268] *See supra* Part IV.A.

[269] *See supra* Part IV.B.

[270] *See supra* Part IV.C.