Washington University Law Review

VOLUME 99 | NUMBER 3 | 2021

ANTITRUST HARM AND CAUSATION

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INTRODUCTION

This article addresses a question at the core of antitrust enforcement: how should government enforcers or other plaintiffs identify and address harm from antitrust violations? The inquiry naturally breaks into three issues: proof of the kind of harm that antitrust law requires, proof of causation, and formulation of effective remedies. The best criterion for assessing harm is likely or reasonably anticipated market output effects. Robert Bork and the neoliberal critique of antitrust that was prominent in the 1980s and 1990s undermined this view and did severe damage to antitrust policy by equating "consumer welfare" with actions that led to lower output and higher prices. Antitrust law is still recovering from that misstep.

The second issue, the required proof of causation, depends mainly on two things: the identity of the enforcer and the remedy that the plaintiff is seeking.[1] On the enforcer, the statutes settle the issue, requiring proof of causation for private plaintiffs but in most cases not for the government.[2] On the remedy, the statutes say almost nothing. As a policy matter, however, a simple injunction requires the least strenuous proof of causation, particularly where the cost of an erroneous injunction is not very high. By contrast, structural relief is the riskiest, has outcomes that can be difficult to predict, and high error costs. It requires proof not only that harm was caused by anticompetitive conduct, but also that nonstructural relief would be inadequate.[3]

For public enforcers such as the Antitrust Division or the Federal Trade Commission, enforcement involves both the condemnation of past harm and the management of future risks. The concern, as in most areas of public enforcement, is with behavior that is likely to have harmful anticompetitive consequences unless it is restrained. While a showing of actual harm can be important evidence, in most cases the public authorities need not show that harm has actually occurred, but only that the challenged conduct poses an unreasonable danger that it will occur.

By contrast, private enforcers operate under stricter causation standards that require an actual injury to the plaintiff itself for damages actions, or individually threatened injury for an injunction. These differences are explicit in the various federal statutes that authorize enforcement actions.[4] They are also similar to the division of requirements in the legal system

1. *See* discussion *infra* Part III.
2. *See* discussion *infra* Section III.A.
3. *See* discussion *infra* Section III.B.
4. *See* discussion *infra* Section II.A.2, III.B.

generally, particularly between public criminal law and the private law of tortious conduct.

I. ANTITRUST WELFARE AND HARM

A. The Blackboard Economics of Welfare Tradeoff Models

Many practices that are challenged under the antitrust laws have effects that can plausibly pull in two directions. On the one hand, they can enhance market power or facilitate its exercise, thus reducing output and harming consumers, labor and other input suppliers, and sometimes others. On the other hand, they can produce efficiencies that benefit consumers as well as the suppliers of labor and other inputs. If a practice plausibly produces only harmful effects but is unlikely to offer benefits, then antitrust law condemns it with only modest analysis. This is true, for example, of naked price fixing or market division, which are then said to be illegal per se.[5] At the other extreme, if a practice is highly unlikely to facilitate the exercise of market power and has a serious potential for beneficial effects, then we can approve it with little analysis. In the middle are worrying cases where the effect of the restraint can go in either direction. These call for more searching inquiry under a rule of reason.

B. The Williamson/Bork Welfare Tradeoff Model

In 1968, Oliver Williamson proposed that we think of the offsetting effects in these difficult cases as components in what he called a "welfare tradeoff" model.[6] On the one hand, a practice might facilitate the creation of monopoly, resulting in a harm to consumers that he identified with the "deadweight loss" of monopoly.[7] On the other hand, the practice might also reduce costs, which is a social benefit. Theoretically one can measure both of these effects and trade them off against each other. We could declare a practice as either harmful or beneficial depending on which number is larger.

In 1978, Robert H. Bork borrowed the idea of the welfare tradeoff and popularized it for use by antitrust lawyers, but he also renamed it the

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5. *See* 11 HERBERT HOVENKAMP, ANTITRUST LAW ¶1911 (4th ed. 2018) [hereinafter HOVENKAMP, ANTITRUST LAW].

6. Oliver E. Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs*, 58 AM. ECON. REV. 18 (1968) [hereinafter Williamson, *Welfare Tradeoffs*].

7. Oliver E. Williamson, *Economies as an Antitrust Defense Revisited*, 125 U. PA. L. REV. 699, 707–08 (1977) [hereinafter Williamson, *Antitrust Defense Revisited*].

"consumer welfare" model.[8] This was a departure from Bork's previous position, which had seen high output as antitrust's principal goal.[9] Copying from Williamson, Bork illustrated his newly adopted welfare-tradeoff model with the figure below, which is taken straight from his book.[10]

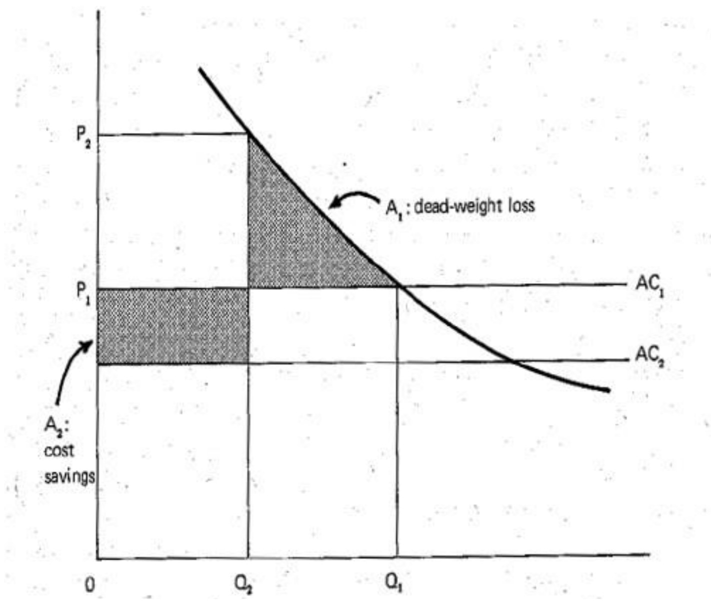

Figure 1

Bork hypothesized a merger, joint venture, or other practice that simultaneously increased the market power of its participants, producing the shaded deadweight loss area A_1; but also "cost savings," or efficiencies, designated by shaded area A_2. The unshaded square immediately above the A2 cost savings is a wealth transfer from consumers to producers. Consistent with neoclassical welfare economics generally, both Williamson and Bork deemed this white square to represent a "wash": it impoverished consumers but benefitted producers by the same amount and thus had no effect on overall welfare. Williamson's description of the wealth transfer as a wash was stated as an objection to critics who argued "that purchaser-interests and supplier-interests ought not to be weighted equally."[11] He simply observed that this transfer is "treated as a wash under the

8. ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF (1978) [hereinafter BORK, ANTITRUST PARADOX].

9. *See infra* notes 182–200 and accompanying text.

10. BORK, ANTITRUST PARADOX, *supra* note 8, at 107.

11. Williamson, *Antitrust Defense Revisited*, *supra* note 7, at 710.

conventional welfare economics model."[12] On that proposition he was historically correct. The idea that pure wealth transfers should be treated as welfare neutral was a central premise of neoclassical welfare economics since the 1930s.[13]

Bork's treatment, which was similar in most respects to Williamson's treatment, has been extremely influential among antitrust writers, cited more than 300 times in law review articles alone.[14] It has also been very controversial. People have firmly defended it, completely rejected it, or attempted to revise it.

One thing that has been largely missing, however, is serious discussion of the tradeoff model's factual robustness. The question is a simple one: what are the circumstances in which a merger or joint venture produces effects that resemble those in the picture? Or is this drawing simply an example of something that Ronald Coase derisively called "blackboard economics"—a phenomenon that exists in an economist's classroom musings but cannot be found anywhere in the real world?[15]

The real problem in Bork's figure is not the shaded deadweight loss triangle (A_1), the cost savings rectangle (A_2), or the unshaded neutral wealth transfer area. All three of these elements were well established in the economic literature. They have come up many times in discussions about the social cost of monopoly or about the magnitude and types of efficiency gains. Rather, the problem appears at the very bottom of Bork's figure, in the relationship between O_1 and O_2, which Bork did not separately mention and has received little discussion.

O_1 in the figure is the output of the firms involved in this merger or joint venture prior to its formation. O_2 represents the output of these same firms after the venture has been formed or the merger has occurred. In Bork's figure, O_2 is roughly halfway between the Origin, or zero output point on

12. *Id.* at 711.

13. Prior to that time many mainstream economists saw a transfer from wealthy to poor as increasing welfare. The idea was regarded as undermined by Lionel Robbins. *See* LIONEL ROBBINS, AN ESSAY ON THE NATURE AND SIGNIFICANCE OF ECONOMIC SCIENCE (2d ed. 1935). For good accounts of the controversy, see Mark Blaug, *The Fundamental Theorems of Modern Welfare Economics, Historically Contemplated*, 39 HIST. POL. ECON. 185 (2007); Robert Cooter & Peter Rappaport, *Were the Ordinalists Wrong About Welfare Economics?*, 22 J. ECON. LIT. 507 (1984).

14. Westlaw Search, WESTLAW, http://westlaw.com (search "Bork w/10 paradox & (paradox w/20 'consumer welfare')").

15. RONALD H. COASE, THE FIRM, THE MARKET, AND THE LAW 19, 28 (1989). According to Coase: "Blackboard economics is undoubtedly an exercise requiring great intellectual ability, and it may have a role in developing the skills of an economist, but it misdirects our attention when thinking about economic policy." *Id.* at 19.

See also Ronald H. Coase, *The Lighthouse in Economics*, 17 J.L. & ECON. 357 (1974); Donald N. (Dierdre) McCloskey, *The Lawyerly Rhetoric of Coase's* The Nature of the Firm, 18 J. CORP. L. 425 (1993).

the graph, and O_1. That is, this particular merger or joint venture produced both consumer harm (A_1) and offsetting cost savings (A_2), but in the process it reduced the output of the firm or firms involved by roughly one-half. For example, prior to a merger Alpha & Beta may have made 700 units and 300 units, respectively, each in their own plants. After the merger, however, their combined output is reduced to 500 units.

While the figure suggests a 50% output reduction, the actual amount depends on several assumptions. The relevant variables are the amount of market power both before and after the challenged restraint occurred, the magnitude of the efficiencies, and the slope and shape of the demand curve. I do not know why Bork drew the figure as he did. He could have drawn it any way he wanted because, after all, he was not building a real plant or creating a real merger or joint venture. He was simply pushing some chalk around on a blackboard.

Nevertheless, a little reflection should have provoked this question: when in the real world does a merger or joint venture reduce a firm's output so significantly at the same time that it produces significant cost savings? In the figure, the output reduction is 50% and the cost savings appear to be in the neighborhood of one-third of the total costs of production.[16] Output prior to the merger or joint venture was at the competitive level. Although costs are lower after this event occurs, output has been reduced to a little more than one-third of the competitive level.[17]

The most common efficiency associated with a firm's production changes is economies of scale.[18] Historically, suboptimal plant capacity has been fairly common in American markets, suggesting that bigger plants can yield lower costs.[19] There are also multiplant economies, which accrue to firms that operate multiple plants.[20] A merger does not make a plant larger, although it might help a firm achieve scale economies by shifting production among different plants or providing incentives to build new ones. Nevertheless, a merger of two firms with small plants does not itself produce a bigger plant. Rather, it simply yields one firm that owns two small

16. *See* Figure 1. That is the distance from P1 down to 0.

17. *See id.* The competitive level is the point where the demand curve intersects the lowered cost curve, AC2.

18. *See* 4A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶975b (4th ed. 2016).

19. Leonard Weiss, *Optimal Plant Size and the Extent of Suboptimal Capacity*, *in* ESSAYS ON INDUSTRIAL ORGANIZATION 136–41 (Robert T. Masson & P. David Qualls eds., 1976). *See also* Mark Hirschey, *Suboptimal Plant Capacity in U.S. Manufacturing*, 12 ECON. LETTERS 73 (1983).

20. *E.g.*, Alan R. Beckenstein, *Scale Economies in the Multiplant Firm: Theory and Empirical Evidence*, 6 BELL J. ECON. 644 (1975); F.M. SCHERER, ALAN BECKENSTEIN, ERICH KAUFER, R. DENNIS MURPHY & FRANCINE BOUGEON-MASSEN, THE ECONOMICS OF MULTI-PLANT OPERATION: AN INTERNATIONAL COMPARISONS STUDY (1975).

plants. Further, these economies typically occur at *higher* rather than lower output. The very idea of an economy of scale is a cost that declines as output goes up.

In addition, any market in which durable monopoly is a serious threat is virtually certain to have significant fixed costs, including plants and durable equipment, research and development, and intellectual property. One important characteristic of fixed costs is that they vary inversely with output. That is, if output is cut in half, fixed costs per unit over that range will double. This is so because fixed costs do not change as output changes. Per unit fixed costs are computed by dividing the fixed costs, a stationery number, by the number of units of output. For example, a firm might have fixed costs of $100 and be producing 100 units per time period, so its average fixed costs are $1 per unit. If this firm cuts its output in half, to 50 units, its average fixed costs will rise to $2 per unit. The firm in Bork's illustration must have been one for which fixed costs were negligible. If that is so, however, then what was the source of durable monopoly?

To be sure, there are other economies whose relationship to scale is less direct or that may even be achievable at lower output. For example, firms might merge or form joint ventures in order to acquire better management, equipment or an operational culture more conducive to innovation, a better portfolio of intellectual property rights, governmental licenses, or some other desirable input held by an acquired firm. For the most part, however, these are not the merger-specific efficiencies that the law requires.[21] That is, the firms can attain them by means other than merger.

Further, while a few mergers might facilitate innovation, there is little reason for thinking that mergers that actually lead to high concentration levels or monopolistic output reductions fall into that category. Indeed, theoretical and empirical studies overwhelmingly conclude the opposite: mergers in more concentrated markets are associated with less, not more, innovation.[22]

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21. *See* 4A AREEDA & HOVENKAMP, *supra* note 18, ¶973; *see also* Louis Kaplow, *Efficiencies in Merger Analysis*, 83 ANTITRUST L.J. 557, 585–86 (2021) (expressing strong doubt that many efficiencies, including some related to economies of scale, are merger specific).

22. *E.g.*, Giulio Federico, Gregor Langus & Tommaso Valletti, *Horizontal Mergers and Product Innovation*, 61 INT'L J. INDUS. ORG. 590 (2018); Giulio Federico, Gregor Langus & Tommaso Valletti, *A Simple Model of Mergers and Innovation*, 157 ECON. LETTERS 136 (2018) (post-merger firm generally reduces its innovation while competing non-merging firms increase it); Mitsuru Igami & Kosuke Uetake, *Mergers, Innovation, and Entry-Exit Dynamics: Consolidation of the Hard Disk Drive Industry 1996-2016*, 87 REV. ECON. STUD. 2672 (2020); William S. Comanor & Frederic M. Scherer, *Mergers an Innovation in the Pharmaceutical Industry*, 32 J. HEALTH ECON. 106 (2013); Carmine Ornaghi, *Mergers and Innovation in Big Pharma*, 27 INT'L J. INDUS. ORG. 70 (2009). *But see* Bruno Jullien & Yassine Lefouili, *Horizontal Mergers and Innovation*, 14 J. COMP. L. & ECON. 364 (2018); Michael L. Katz, *Big Tech Mergers: Innovation, Competition for the Market, and the Acquisition of Emerging Competitors*, 54 INFO. ECON. & POL'Y 1 (2020).

In some cases the cost savings may be so large that they completely offset the price increase caused by the challenged merger or other practice. In that case the result is higher output. Consumers are not harmed at all, however, so there is nothing to trade off. The 2010 Horizontal Merger Guidelines require such situations as a requirement for a successful "efficiency defense" to a merger—that is, the cost savings must be shown to be so significant that the post-merger price will be no higher than it was before the merger.[23]

C. Welfare Tradeoffs in the Statutory Language and History

Nothing in the language of the antitrust statutes or their legislative history discusses the welfare tradeoff. The Sherman Act refers only to agreements in restraint of trade and monopolization. At common law, "restraint of trade" referred to restraints that reduce output. Contemporary writers defined the concern with phrases such as "restriction of output," "limitation of output,"[24] or practices that "restrict production."[25] In his 1891 American treatise on restraints of trade at common law, George Stuart Patterson devoted an entire chapter to "Restrictions on Competition and Production."[26] Federal antitrust decisions have often identified antitrust harm with a reduction in output.[27]

Section 7 of the Clayton Act, where much of the discussion of welfare tradeoffs has been focused, prohibits mergers where the effect "may be substantially to lessen competition."[28] It never speaks of efficiencies at all,

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23. U.S. DEP'T OF JUST. & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES §10 (2010), https://www.justice.gov/atr/horizontal-merger-guidelines-08192010 [https://perma.cc/22VS-HSCS] [hereinafter 2010 HORIZONTAL MERGER GUIDELINES].

24. Book Note, *The Anti-Trust Act and the Supreme Court by William H. Taft*, 28 HARV. L. REV. 642, 643 (1915) (defining common law restraint of trade as "restriction of output") (reviewing WILLIAM H. TAFT, THE ANTI-TRUST ACT AND THE SUPREME COURT (1914)); Donald Dewey, *The Common-Law Background of Antitrust Policy*, 41 VA. L. REV. 759, 778 (1955) (similar); Charles Grove Haines, *Efforts to Define Unfair Competition*, 29 YALE L.J. 1 (1919) ("limitation of output"). *See also* Philip Marcus, *Antitrust Bugbears: Substitute Products-Oligopoly*, 105 U. PA. L. REV. 185, 195 (1956) (agreement among rivals to restrict output was in restraint of trade); William Letwin, *The First Decade of the Sherman Act*, 68 YALE L.J. 900, 903 (1959) (same).

25. TAFT, *supra* note 24, at 60.

26. GEORGE S. PATTERSON, THE LAW OF CONTRACTS IN RESTRAINT OF TRADE 38 (1891). *See also* William F. Dana, *"Monopoly" Under the National Anti-Trust Act*, 7 HARV. L. REV. 338, 359 (1894) (defining "monopoly" as a "limitation" of "competition" and "production," with a view to "advance prices.").

27. NCAA v. Alston, 141 S. Ct. 2141, 2155 (2021) ("actual effect on competition" measured as "capacity to reduce output and increase price" (quoting Ohio v. Am. Express, 138 S. Ct. 2274, 2284 (2018))); NCAA v. Bd. of Regents, 468 U.S. 85, 99 (1984) ("limitation on output"); Continental TV, Inc. v. GTE Sylvania, Inc., 433 U.S. 36, 70 (1977) (White, J., concurring) (speaking of "output enhancing" capacities of vertical restraints as justifying rule of reason).

28. 15 U.S.C. § 18.

and certainly does not address any kind of efficiency tradeoff or an efficiency defense.

The legislative history of the antitrust laws is not helpful either. A few scattered passages in the legislative history of the Sherman Act speak about efficiency or product superiority, but always in the absence of competitive harm. For example, in a widely quoted passage in the legislative history of the Sherman Act, Senator John Edward Kenna of West Virginia asked whether a rancher who was better than anyone else at raising shorthorn cattle for sale to Mexico violated the Sherman Act. Senator George F. Edmunds from Vermont responded that the statute would not condemn someone who "got the whole business because nobody could do it as well as he could."[29] Senator George Hoar of Massachusetts, a principal draftsperson of the statute, added to Senator Kenna's statement:

> [If] a man who merely by superior skill and intelligence, a breeder of horses or raiser of cattle, or manufacturer or artisan of any kind, got the whole business because nobody could do it as well as he could was not a monopolist, [unless] it involved something like the use . . . [of improper] competition, like the engrossing, the buying up of all other persons engaged in the same business.[30]

Clearly the context was the acquisition of monopoly through pure product superiority without an exclusionary practice.

Robert Bork's initial views were completely consistent with this history. Writing in 1966 about the legislative history of the Sherman Act, he identified Congress's concern as anticompetitive output reductions, concluding that "Sherman and his colleagues identified the phrase 'restraint of commerce' or 'restraint of trade' with 'restriction of output.'"[31] Sometime prior to writing the *Antitrust Paradox*, however, Bork changed his mind.[32] He rejected the statutory and legislative history and committed neoliberal antitrust to the justification of output-reducing practices.

The legislative history that is least consistent with a concern about high output is the Robinson-Patman Act. In defending that statute in the mid-

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29. 21 CONG. REC. 3151–3152 (1890) (statement of Sen. George F. Edmunds).

30. *Id.* at 3152 (statement of Sen. George Hoar). See EARL W. KINTNER, THE LEGISLATIVE HISTORY OF THE FEDERAL ANTITRUST LAWS AND RELATED STATUTES (1978) for a collection of the legislative history of all of the antitrust laws. *See also* Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency interpretation Challenged*, 34 HASTINGS L.J. 65 (1982) (finding predominant concern with high consumer prices); Robert H. Bork, *Legislative Intent and the Policy of the Sherman Act*, 9 J.L. & ECON. 7 (1966) [hereinafter Bork, *Legislative Intent*] (finding predominant concern with practices that increase efficiency rather than practices that decrease wealth "through restriction of output").

31. Bork, *Legislative Intent*, *supra* note 30, at 16.

32. *See* discussion *infra* notes 182–200 and accompanying text.

thirties, Representative Wright Patman of Texas argued that "it is one of the first duties of government to protect the weak against the strong and prevent men from injuring one another," and that "greed should be restrained and the Golden Rule practiced."[33] The Robinson-Patman Act, unlike the Sherman Act, abjured high output. Rather, it was more dedicated to the protection of a special interest—namely, small grocers—from larger and lower cost sellers.[34] For that reason Congressman Emanuel Celler of New York, who later drafted aggressive amendments to the merger statute, opposed the Robinson-Patman Act. He argued that "this is a bill that seeks to help a very small segment of our business population."[35]

The legislative history of the 1950 (Celler-Kefauver) amendments to the merger statute also reflects concerns about small business, but it does not exhibit the Robinson-Patman Act's hostility toward cost savings as an affirmative evil.[36] The closest it comes is an inquiry by Senator Estes Kefauver from Tennessee concerning a merger between two newspapers that combined "in order to save the expense of operating in two separate buildings."[37] Senator Herbert O'Conor of Maryland replied that the merger would not be unlawful. "It may well be that by effecting a better arrangement for a more profitable undertaking in the manner described, competition would be stimulated rather than lessened."[38] There is also a statement in the House Committee Report to the effect that the statute was not intended to prohibit mergers between two small firms that enabled them to compete more effectively with larger ones.[39]

None of the discussions in the debates or other legislative history refer to situations where conduct caused actual competitive harm that might require proof of an offsetting welfare tradeoff. The first set of Merger Guidelines, issued by the Department of Justice in 1968, rejected an efficiency defense, even though these Guidelines would have condemned mergers on far smaller market shares than we do today.[40] The Guidelines' statement recognized economies of scale as the only relevant efficiency, and concluded that the given standards would not normally apply to firms so

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33. 80 CONG. REC. 3447 (1936).

34. *See* Hugh C. Hansen, *Robinson-Patman Law: A Review and Analysis*, 51 FORDHAM L. REV. 1113, 1123–24 (1983).

35. 80 CONG. REC. 8108 (1936) (statement of Rep. Celler). Representative Celler later helped promote the Celler-Kefauver Amendments to the merger law. *See* United States v. Von's Grocery Co., 384 U.S. 270, 275–77 (1966) (explaining the importance of the Celler-Kefauver amendments).

36. Celler-Kefauver Act, ch. 1184, 64 Stat. 1125 (1950) (codified as 15 U.S.C. §§ 18, 21).

37. 96 CONG. REC. 16456 (1950).

38. *Id.* (statements of Senators Kefauver and O'Conor).

39. *See* H.R. REP. NO. 81-1191, at 8 (1949).

40. U.S. DEP'T OF JUST. & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES (1968), https://www.justice.gov/archives/atr/1968-merger-guidelines [https://perma.cc/36NG-7UDT].

small that they could achieve greater efficiency through merger.[41] The 1982 revision of the Guidelines was the first to identify merger law's concern as price increases and also took efficiencies more seriously.[42] However, the revised Guidelines also refused to consider "a claim of specific efficiencies as a mitigating factor for a merger that would otherwise be challenged."[43]

Subsequent editions of the merger Guidelines culminating with the current ones all state the same goals and acknowledge an efficiency defense, although with strict proof requirements.[44] The defense refuses to engage in a welfare tradeoff. Rather, under the current 2010 Guidelines the efficiency must be shown to be so substantial that the merger "is not likely to be anticompetitive in any relevant market."[45] This means essentially that the efficiency must be large enough to reverse completely any upward price effects resulting from the merger, so that the predicted post-merger price is no higher than the pre-merger price.[46] In that case, there is nothing to trade off.

This approach effectively does away with the idea of a distinct efficiency "defense" in the transactions where it applies. The notion that there should be an efficiency "defense" arose in a setting when harmful effects were very crudely estimated by drawing inferences from market structure and share. In that case the efficiency defense served to show that the inference from structure overstated the concern because there were offsetting efficiencies.

But the Guidelines' current approach is entirely different. As the 2010 Guidelines articulate the "defense," it is really just a way of saying that the merger does not "substantially . . . lessen competition" *at all*, because there

41. *Id.* The 1968 Guidelines' complete statement on economies is below:

> Unless there are exceptional circumstances, the Department will not accept as a justification for an acquisition normally subject to challenge under its horizontal merger standards the claim that the merger will produce economies (i.e., improvements in efficiency) because, among other reasons, (i) the Department's adherence to the standards will usually result in no challenge being made to mergers of the kind most likely to involve companies operating significantly below the size necessary to achieve significant economies of scale; (ii) where substantial economies are potentially available to a firm, they can normally be realized through internal expansion; and (iii) there usually are severe difficulties in accurately establishing the existence and magnitude of economies claimed for a merger.

Id. at § 10.

42. U.S. DEP'T OF JUST. & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES § 1 (1982), https://www.justice.gov/archives/atr/1982-merger-guidelines [https://perma.cc/NS4C-5BHV] ("The unifying theme of the Guidelines is that mergers should not be permitted to create or enhance 'market power,'" defined as the power "profitably to maintain pries above competitive levels . . . .").

43. *Id.* at § V.1.A.

44. The Antitrust Division maintains archival copies of all editions of the merger guidelines through the current ones. *See Antitrust Division*, U.S. DEP'T OF JUST., https://www.justice.gov/atr/merger-enforcement [https://perma.cc/Z8ED-AGAV].

45. 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 23, at § 10.

46. *Id.* For analysis, see AREEDA & HOVENKAMP, ANTITRUST LAW, *supra* note 18, at ¶¶970-974 (4th ed. 2016).

is no prediction of a price increase.[47] The role of the defense is to defeat a prima facie case of harm to competition, but if the merger does not harm competition in any relevant market to begin with, as the Guidelines require, the prima facie case against the merger has not been established and there is no need for a defense. The 2020 Vertical Merger Guidelines deal with efficiencies mainly by incorporating the relevant discussions from the 2010 Horizontal Merger Guidelines.[48]

D. Producer Profits as Consumer Welfare

One of the perverse features of the Bork welfare tradeoff model is that, while he renamed it "consumer welfare," it counted increased producer profits as an element of that consumer welfare. As a result, mergers such as the one illustrated in Bork's figure presented above could be said to further "consumer welfare" even though they both reduced output and produced higher consumer prices. When coupled with Bork's view that efficiencies cannot be measured in individual cases,[49] it meant that decision makers could convince themselves that they were protecting "consumer welfare" when the practice in question harmed actual consumers, provided that it increased the seller's profits by even more. This view of consumer welfare has contaminated antitrust policy ever since.[50]

One rationale for counting producer profits as part of "consumer" welfare is the belief that profits will be competed away and the benefits will go to consumers. In a world in which markets moved unavoidably toward a competitive equilibrium that might be true, and that was in fact an assumption of some Chicago School economists—namely, that the model

47. 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 23, at § 1.

48. U.S. DEP'T OF JUST. & FED. TRADE COMM'N, VERTICAL MERGER GUIDELINES § 6 (2020), https://www.ftc.gov/system/files/documents/reports/us-department-justice-federal-trade-commission-vertical-merger-guidelines/vertical_merger_guidelines_6-30-20.pdf [https://perma.cc/24HQ-NU9V]. In September 2021, the FTC withdrew the Vertical Merger Guidelines, based in part on a misunderstanding about how the efficiency defense operates. At this writing the Antitrust Division continues to follow them. On the FTC's withdrawal, see Fed. Trade Comm'n, Statement of Chair Lina M. Khan, Commissioner Rohit Chopra, and Commissioner Rebecca Kelly Slaughter on the Withdrawal of the Vertical Merger Guidelines (Sept. 15, 2021), https://www.ftc.gov/system/files/documents/public_statements/1596396/statement_of_chair_lina_m_khan_commissioner_rohit_chopra_and_commissioner_rebecca_kelly_slaughter_on.pdf [https://perma.cc/FD3V-CM2P]. For a critique, see Carl Shapiro & Herbert Hovenkamp, *How Will the FTC Evaluate Vertical Mergers?*, PROMARKET (Sept. 23, 2021), https://promarket.org/2021/09/23/ftc-vertical-mergers-antitrust-shapiro-hovenkamp/ [https://perma.cc/C96X-YB68].

49. *See* BORK, ANTITRUST PARADOX, *supra* note 8, at 126 (1978) (problem of measuring efficiencies is "utterly insoluble").

50. *See infra* notes 211–215 and accompanying text.

of perfect competition would triumph.[51] Market imperfections are merely ephemeral hiccups and profits will induce competitive entry. In that case, the argument goes, ultimately consumers will benefit even from practices that harm them in the short run, provided they produce sufficient profits.[52]

Today it seems clear, however, that in most markets imperfect competition is durable, stable, and does much better in empirical testing.[53] Indeed, over the last four decades price-cost margins have moved steadily upward.[54] As a result, today there is no reason to think that the gains from higher margins resulting from a merger will be competed away, and good reason for thinking that is unlikely to happen. Tolerating higher margins at consumers' expense, trusting that competition would bring output up and benefit consumers in the long run, would be naïve and irresponsible.

Nevertheless, Bork's approach has managed to evoke a great deal of support because it brings profits to business firms. Consumers are individually small, diverse, and poorly organized. The same thing is true of most labor, which is also injured by reduced output. Producers, by and large, are not, and for them an interest in high profits is a common denominator. One thing that the Bork formulation offered was an anti-enforcement rhetoric that could evoke consumer welfare as its rationale even as individual antitrust decisions facilitated a great deal of consumer harm. This has emerged as one of the most significant instances of special interest capture in any area of law. Indeed, it is made all the more harmful because the antitrust laws, unlike specific regulatory provisions where capture is likely, are not limited to a particular regulated market.

E. Identifying Antitrust Harm

The federal antitrust laws speak in unambiguously economic terms about the harms that they prohibit. The Sherman Act is directed toward conduct that "restrains trade" or "monopolizes" markets.[55] The Clayton Act prohibits conduct whose effect may be substantially to "lessen competition"

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51. *E.g.*, George J. Stigler, *Perfect Competition, Historically Contemplated*, 65 J. POL. ECON. 1, 17 (1957) (speaking of model of perfect competition as "triumphing" over all rivals).

52. *See* Herbert Hovenkamp, *The Looming Crisis in Antitrust Economics*, 101 B.U. L. REV. 489, 496–97 (2021) [hereinafter Hovenkamp, *The Looming Crisis*].

53. On this point, see Herbert Hovenkamp, *Antitrust Error Costs*, PENN J. BUS. L. (forthcoming 2022), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3853282 [hereinafter Hovenkamp, *Antitrust Error Costs*].

54. *See* Jan De Loecker, Jan Eeckhout & Gabriel Unger, *The Rise of Market Power and the Macroeconomic Implications*, 135 Q.J. ECON. 561 (2020); Herbert Hovenkamp & Carl Shapiro, *Horizontal Mergers, Market Structure, and Burdens of Proof*, 127 YALE L.J. 1996 (2018).

55. 15 U.S.C. § 1 (prohibiting contracts, combinations, or conspiracies in restraint of trade); § 2 (prohibiting those who monopolize or attempt to monopolize commerce).

or "tend to create a monopoly."[56] Even so, economic harm can be measured in different ways. While no measure is without its faults, antitrust's dominant concern with the preservation of competitive markets seems well justified. A competitive market is one in which output is as high and as a result prices as low as are consistent with sustainable competition. As noted above, early writers about the Sherman Act often expressed its harms in terms of anticompetitive output restrictions, the same as those employed by the common law.[57] High output benefits not only consumers, but also suppliers, including those who supply labor. In general, these groups are better off as output is higher and prices lower. To be sure, not every interest group is better off, particularly competitors with higher costs. While competitive markets give them their own chance to expand, those who lose out will be injured as their rivals become bigger and more efficient.

There are good reasons for preferring output rather than price as the primary indicator of consumer welfare. Firms almost always have more control over output than they do over price. This is most true in competitive markets. A seller in a perfectly competitive market lacks any control over price but almost always controls its own output. For example, a corn farmer cannot meaningfully ask "what price should I charge" for this year's crop. She will charge the market price. While she has the power to charge less, she has no incentive to do so because she can sell all she produces at the market price. The one absolute power she does have, however, is to determine output consistent with her own needs for profit. The decision whether to plant 1000, 500, 100, or even zero acres of corn is entirely hers.

The question of consumer "welfare" is a step removed from the output question and much more difficult to measure. Welfare in this context refers to aggregate surplus, or consumer gains in wealth satisfaction from a transaction. Narrowly focused, the consumer gains (or losses) from any transaction are computed by multiplying the number of units of output by the amount of consumer surplus generated on each sale. These gains are easy to describe on a picture, as in the Williamson/Bork figure,[58] but not nearly as easy to estimate empirically as output alone. There may also be a few situations in which higher output leads to lower consumer welfare.[59] But these situations are isolated, idiosyncratic, and have almost never been

56. All three substantive antitrust sections of the Clayton Act prohibit the conduct they cover when it threatens to "substantially … lessen competition or tend to create a monopoly." *See* § 13 (price discrimination); § 14 (tying and exclusive dealing); § 18 (mergers).

57. *See supra* notes 24–48 and accompanying text.

58. *See* Figure 1.

59. *See* discussion *infra* Section II.B.1.

relevant in actual antitrust litigation. Further, in each instance attempting to measure consumer welfare independently would fare no better.

This leads to some questions. *First*, if high sustainable output is the goal, how should we measure it? *Second*, are there situations in which antitrust should prefer lower output alternatives in order to benefit some particular group, such as labor, small business competitors, or others?

F. Measuring Relevant Output

Antitrust is concerned with restraints that reduce market output, with the result that purchaser prices rise. For example, a cartel often fixes prices by setting output limitations on each member. As market output falls, prices go up. When the question is exclusionary practices, however, a restraint may actually increase the actor's own output even as it reduces market output. Anticompetitive exclusive dealing that commandeers retail outlets will ordinarily increase the output of the firm imposing the exclusive dealing—the whole point is to enable that firm rather than its competitors to sell through the affected outlets.[60] But to the extent that exclusive dealing results in higher prices by eliminating competitive alternatives, overall market output will go down. One corollary of this fact is that one cannot estimate the anticompetitive effects of an exclusionary practice by looking at the defendant's own output. The relevant question is effects on market output.

Output is not necessarily easy to measure. In its simplest form it refers to the number of identical units of something that a firm or market produces. Measuring output in that case requires little more than counting—for example, the number of bushels of wheat or identical automobiles. It may also require some basic understanding of production and its costs.

Measuring "sustainable" output requires a dig into a firm's cost structure. In order for output to be sustainable the seller must earn enough to cover its costs, earning a competitive rate of return. Different costs affect output in different ways. One widely misunderstood example of how costs affect output and pricing is the Amazon *eBooks* case,[61] in which the Justice Department successfully prosecuted a cartel of book publishers organized by Apple in order to force Amazon to increase eBook prices. Critics of that decision observed that Amazon's aggressive pricing of eBooks hurt

60. *E.g.*, United States v. Dentsply Int'l, Inc., 399 F.3d 181 (3d Cir. 2005), *cert. denied*, 546 U.S. 1089 (2006); McWane, Inc. v. FTC, 783 F.3d 814 (11th Cir. 2015). *See* 11 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW (4th ed. 2018).

61. United States v. Apple, Inc., 791 F.3d 290 (2d Cir. 2015), *cert. denied*, 136 S. Ct. 1376 (2016).

traditional book sellers, which was true. The attackers also claimed predatory pricing, which was almost certainly not true under existing law.[62]

Traditional book publishing has a fairly conventional mixture of fixed and variable costs. Acquisition and design costs are largely fixed. They do not change as the number of copies increases or decreases. Production costs, including materials, are largely variable, except for the production equipment itself. Depending on the nature of the agreement with the author, another common variable cost is royalties. In a traditional royalty agreement paying the author, say, 10% of the sales price, that cost is variable: each additional sale incurs this cost. By contrast, if the author is paid a flat rate—say a one-time payment of $25,000—then the royalty is a fixed cost for that particular title.

Just as so much digital output, the eBook introduced a product for which nearly all costs other than electronic distribution and royalties were fixed. That includes all of the costs of creating an ebook, such as manuscript acquisition, editing, formatting, and production. These costs are incurred at the front end and do not vary with the number of books that are sold. The ebook also largely eliminated conventional production, shipping, and inventory costs. One remaining variable cost is the very small cost of electronic distribution, which covers the processing of orders and transmitting the electronic file to the customer. Another is percentage royalty costs.

In a competitive equilibrium, prices are driven toward marginal cost, which consists of variable costs. This means that under competition the price of an ebook would be reduced to little more than distribution and royalty costs. Because books are highly differentiated and protected from copying, one would expect the real-world price to be higher than that. That is, pricing behavior would resemble monopolistic competition more than perfect competition.[63] To the extent individual customers preferred one title over another and were willing to pay more, prices would be above marginal cost.[64]

62. *E.g.*, Carl T. Bogus, *Books and Olive Oil: Why Antitrust Must Deal with Consolidated Corporate Power*, 52 MICH. J.L. REFORM 265 (2019); Guy A. Rub, *Amazon and the New World of Publishing*, 14 I/S: J.L. & POL'Y FOR INFO. SOC'Y 367 (2018); Jared Killeen, *Throwing the E-Book at Publishers: What the Apple Case Tells Us About Antitrust Law*, 22 J.L. & POL'Y 341 (2013).

63. Monopolistic competition assumes product differentiation but free entry. By contrast, the copyright laws lead to product differentiation but restrictions on copying, so entry into a particular title is blocked. For a good analysis of the industry, see Marcel Canoy, Jan C. Van Ours & Frederick Van Der Ploeg, *The Economics of Books*, *in* 1 HANDBOOK OF THE ECONOMICS OF ART AND CULTURE 722 (Victor A. Ginsburg & David Throsby eds., 2006).

64. *See* Michael Spence, *Product Selection, Fixed Costs, and Monopolistic Competition*, 43 REV. ECON. STUD. 217 (1976).

These facts are borne out by examining the price of classic books that have been digitized and for which copyright has expired. As a result, no royalty is due, copying is free and easy, and the market comes closer to perfect competition. For many of these the price is zero, both on Amazon as well as other sellers.[65] By contrast, books that are under copyright almost always sell at positive prices, although often less than the same title in a traditional format.

Given these significant cost differences, simply observing that Amazon sells ebooks for less money than the same books in hard or soft covers tells us nothing. Further, it is not antitrust's job to make any kind of preemptive decision excluding ebooks or preferring a particular publishing format or technology. While antitrust policy has a powerful role in limiting anticompetitive *restraints* on innovation, it has no authorization to limit innovations simply because they injure firms dedicated to older technology. Nor does it attempt to limit firms from pricing efficiently under the cost structure that their new technology facilitates. Ultimately the market will determine the place of ebooks in the general book market, and here the jury is still out.[66] Differentiation applies not only to different titles, but also to different technologies. Consumer preferences being what they are, there will likely always be a place for both traditional and electronic books.

"Output" may also refer to quality or variety as opposed to numerical units, and these can be very difficult to measure.[67] Antitrust is rarely saddled with the task of measuring quality or variety directly, however, except sometimes when computing damages. A liability finding requires only that a particular practice restrains quality or variety unreasonably. This is one critical difference between antitrust and many types of sector-specific regulation. For example, the United States Department of Agriculture is empowered to set grading standards for agricultural products.[68] The antitrust laws do not "grade" products or make substantive quality determinations.

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65. For example, at a price of zero an Amazon customer can purchase Herman Melville's *Moby Dick* or the *White Whale*, F. Scott Fitzgerald's *The Great Gatsby*, Virginia Woolf's *The Complete Works*, Walt Whitman's *Leaves of Grass*; Charles Dickens's *A Tale of Two Cities*, and hundreds of others. They can also be obtained at a price of zero from other sources. *See, e.g.*, PROJECT GUTENBERG, http://gutenberg.org (last visited Oct. 6, 2021); FREE-EBOOKS, http://free-ebooks.net (last visited Oct. 6, 2021); OPEN LIBRARY, http://openlibrary.org (last visited Oct. 6, 2021).

66. *See, e.g.*, ABOUT EBOOKS, https://about.ebooks.com/ebook-industry-news-feed/ (last visited Oct. 6, 2021) (ebooks accounted for about 19% of 2020 books sales by revenue, and 36% by units—suggesting that the price of the average ebook is about ½ the price of an average traditional book; Amazon's share of ebooks is about 67%).

67. *See, e.g.*, Susan J. Devlin, H.K. Dong & Marbue Brown, *Selecting a Scale for Measuring Quality*, 5 MKTG. RES. 12 (1993); Carol L. Karnes, Sri V. Sridharan & John J. Kanet, *Measuring Quality from the Consumer's Perspective: A Methodology and its Application*, 39 INT'L J. PROD. ECON. 215 (1995).

68. 7 U.S.C. §§ 1621 et seq. *See, e.g.*, 7 C.F.R. § 53 (1977) (livestock grades).

However, they do frequently intervene when non-public grading entities do so anticompetitively.

For example, if competitors agree with one another to use an inferior product,[69] to exclude certain types or producers of a service,[70] or to resist development of a certain technology,[71] the court need not make its own judgment whether one version or the other is of higher quality. Its function is not to set the standard, but only to ensure that the standard has been set by competitive market forces. For example, the restraint that was challenged in the *Allied Tube* case was the defendant's collective exclusion of newly introduced PVC (plastic) electrical conduit, which competed with the defendant's well established steel conduit.[72] The defendants had packed a standard setting meeting with a large number of voting members who were instructed to ignore the merits and simply vote against the plaintiff's product.[73] It was taking advantage of a very poorly designed standard setting structure that did not effectively limit who could vote or take any steps to control for interest biases.[74]

In evaluating this conduct, the court did not need to decide that PVC conduit was superior. The unrestrained market ultimately made that decision. Antitrust tribunals examine the structure of the standard-setting organization and the process by which the standard was achieved.[75] They are rightfully suspicious of situations where the people passing judgment on a standard are competitors of the person who is being excluded and there are not adequate procedural protections in place.[76]

69. *E.g.*, Nat'l Macaroni Mfrs. Ass'n v. FTC, 345 F.2d 421 (7th Cir. 1965) (condemning pasta producers' agreement to use cheaper farina wheat rather than durum semolina wheat in their products).

70. *E.g.*, Wilk v. Am. Medical Ass'n, 895 F.2d 352 (7th Cir. 1990) (condemning AMA rules excluding chiropractors from parts of medical practice). *See also* N. Carolina State Bd. of Dental Exam'rs v. FTC, 574 U.S. 494 (2015) (similar; teeth whitening by nondentists, who charged less).

71. United States v. Auto. Mfrs. Ass'n, 307 F. Supp. 617 (C.D. Cal. 1969) (approving consent decree prohibiting automobile manufacturers from agreeing to restrain development of air pollution control equipment).

72. Allied Tube & Conduit Corp. v. Indian Head, Inc., 486 U.S. 492 (1988) (defendants used standard setting organization to boycott cheaper and superior electric conduit product).

73. *See* Indian Head, Inc. v. Allied Tube & Conduit Corp., 817 F.2d 938, 947 (2d Cir. 1987), *aff'd*, 486 U.S. 492 (1988) (noting jury finding that Allied Tube recruited 230 people to pack a standard setting meeting, with neither the knowledge or inclination to vote favorably).

74. *Id.* (noting that most of those voting were newly registered members whom Allied subsidized "for the sole purpose of achieving an anticompetitive result"). In the wake of the meeting the standard setting organization, NFPA changed its participation and voting rules. *Id.* By contrast, if those setting the standard are not competitors of the excluded firm, the antitrust case is usually dismissed. *E.g.*, Moore v. Boating Indus. Ass'ns, 819 F.2d 693 (7th Cir. 1987) (boating association represented mainly purchasers of boat trailer taillights and would have no reason to exclude a high quality light).

75. *See* 13 HERBERT HOVENKAMP, ANTITRUST LAW ¶¶2230–32 (4th ed. 2019).

76. Wilk v. Am. Medical Ass'n, 895 F.2d 352 (7th Cir. 1990); *Allied Tube*, 486 U.S. at 492; N. Carolina State Bd. of Dental Exam'rs v. FTC, 574 U.S. 494, 494 (2015).

Likewise, in *Wilk v. AMA*, the Seventh Circuit held that the AMA violated the antitrust laws by enforcing accreditation rules that denied chiropractors access to important parts of the health care market, including accredited hospitals.[77] While the AMA certainly had authority to exclude dangerous medical procedures, it could not limit the variety of procedures so as to exclude a practice that consumers, insurers, and even some state legislatures regarded as beneficial. From that point, the market could determine the place of chiropractors in health care. In decisions such as *Wilk*, so-called standard setting amounts to little more than efforts to exclude lower cost alternatives. That was also true in the *North Carolina Dental* decision, which struck down a dental board's rule that prevented non-dentists such as hygienists or cosmetologists from whitening teeth.[78]

Output effects can often be estimated by looking at the natural consequences of the restraint itself. One example is the *Amex* case, which involved an unsuccessful antitrust challenge to a credit card anti-steering rule.[79] Because AmEx charged higher merchant fees than rival credit cards charged, merchants had an incentive to "steer" customers by offering them a price break or some other service in exchange for the customer's use of a cheaper card. For example, if the Amex merchant fee on a large purchase was $30 while the fee for using a Visa card was only $20, the merchant might offer the customer a $5 discount or other benefit to use the Visa card instead. The customer might accept or decline this offer, depending on whether the incremental benefits she received from using the Amex card were worth more than $5. The customer's acceptance of that offer would benefit both the merchant and the customer, but the no-steering rule prevented the merchant from making this offer.[80]

Looking only at the parties to the transaction, the agreement to use a different card was a Pareto superior deal that the anti-steering rule prevented.[81] To be sure, it benefitted Amex, which was not a party to the steering agreement but who had the power to prevent a transaction that would have benefitted both its customer and its merchant. It also harmed Visa, the competing platform that was denied a profitable sale that both the merchant and the customer would have preferred. The steering deal would have enabled the parties to internalize the costs and benefits of the Amex card, using it only when it created value greater than its costs. That

77. *Wilk*, 895 F.2d at 352.

78. *See generally N. Carolina State Bd. of Dental Exam'rs*, 574 U.S. 494 (2015).

79. Ohio v. Am. Express Co., 138 S. Ct. 2274 (2018). For analysis, see Erik Hovenkamp, *Platform Antitrust*, 44 J. CORP. L. 713 (2019).

80. *See* Herbert Hovenkamp, *Platforms and the Rule of Reason: The American Express Case*, 2019 COLUM. BUS. L. REV. 35, 43–44 [hereinafter Hovenkamp, *Platforms and the Rule of Reason*].

81. On the Pareto principle, see *infra* notes 164–169 and accompanying text.

unfavorable effect of the anti-steering rule was enough to provide robust support for the inference that the rule reduced output.[82]

One element of output that is difficult to measure is innovation. Once again, however, antitrust rarely needs to measure innovation as such. It does not operate like the Patent Act[83] to make substantive determinations whether a proposed invention makes a sufficient contribution over existing technology. Rather, it need only consider whether a particular practice restrains innovation unreasonably. For example, consider Microsoft's pressure on Intel to refrain from developing the "JAVA-enabled" microprocessor chip, which could process multiple code languages. The chip was intended to enable Microsoft's competitors to offer improved products.[84] In the process, it threatened Microsoft's dominance. In order to condemn this restraint, the court did not need to determine that the JAVA-enabled chip was superior to Microsoft's existing technology, and it certainly did not have to quantify the value of any additional capabilities that the JAVA-enabled chip might produce. Rather, it needed only to determine that Microsoft was imposing a restraint that interfered with Intel's efforts to develop such a chip. This prevented the excluded product from having a fair chance in the marketplace.

Measuring the output of two-sided markets is especially difficult, although much less difficult than measuring the participant *welfare* that such markets create. Once again, however, antitrust law need not determine the optimal measure. It needs to determine only whether a particular practice threatens competitive output unreasonably. In a two-sided market, parties on the two sides interact with the market, often a digital platform. Sometimes the parties on the two sides interact directly with one another, although in other cases they do not. A good example of the former is Uber, where riders make deals with drivers, using the platform as an intermediary. The platform matches them up in response to a rider's request, computes the fare, and processes the transaction. A case in which the two parties usually do not interact directly with one another is Google Search, where users on one side obtain searches which are paid for by advertising or search placement fees on the other side. Many two-sided platforms, such as Google Search or Facebook, are free to users on one side. Others, such as Uber, subscription periodicals, or most dating sites, charge fees on both sides.

In considering the effects of restraints on two-sided markets, a few principles are important. *First*, it is not antitrust's job to determine what

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82. Given that AmEx was able to impose the rule without losing merchants also indicates that it had ample market power.

83. 35 U.S.C. §§ 1–376.

84. United States v. Microsoft Corp., 253 F.3d 34, 77–78 (D.C. Cir. 2001).

would be the optimal output, but only whether a particular restraint limits output unreasonably. *Second*, the relevant question, at least for exclusionary practices, is effects on market output, not the output of the particular firm or firms in question. *Third*, the principal focus should be on the side of the market where a challenged restraint is occurring, although activity on the other side often provides useful information.

To illustrate, Amazon has been accused of using anticompetitive most favored nation clauses in its contracts with suppliers.[85] These contracts require the suppliers not to deal with competitors that offer lower prices than Amazon, or else not to sell to others at a lower price than it sells to Amazon. To the extent these agreements succeed they will increase Amazon's own output because they impose higher prices on Amazon's rivals. However, market output will go down because they result in higher prices overall. That movement in market output is the relevant one for antitrust purposes.

Another challenged practice involving the platforms is systematic acquisition of small upstart firms, with the result that it is much less likely that a significant rival to one of them will emerge. This was an important allegation in the FTC's challenge to Facebook's acquisition of Instagram.[86] Once again, this challenge does not require anyone to determine Facebook's optimal output, but only whether a merger substantially lessened the likelihood that output-increasing competition would have emerged but for the merger.[87]

In most cases, even those involving complex two-sided markets, some relatively simple but close analysis is all that is needed to identify the threat to output. Then of course the court must still be satisfied that the facts support the antitrust concern.

G. Alternatives to Output

A second question concerning the definition of antitrust harm as reduced output is whether there should be exceptions? This question divides into two parts. The first is whether antitrust policy should promote some goal unrelated to output in order to benefit a particular economic group or give voice to some non-economic concern. The second, which is addressed in the next sub-section, is whether and to what extent output fails as a useful

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85. *See infra* notes 116–121 and accompanying text.

86. FTC v. Facebook, Inc., No. 20-CV-03590-JEB (D.D.C. June 26, 2021). *See* Herbert Hovenkamp, *Why the FTC Antitrust Case Against Facebook Was Dismissed*, PROMARKET (July 8, 2021), https://promarket.org/2021/07/08/ftc-antitrust-facebook-breakup-lawsuit-dismissed-fix/ [https://perma.cc/6Jf6-8J7M].

87. *See* Herbert Hovenkamp, *Antitrust and Platform Monopoly*, 130 YALE L.J. 1952, 2039–49 (2021) [hereinafter Hovenkamp, *Platform Monopoly*].

measure of antitrust harm. That is, how many actionable situations are there when higher output is actually accompanied by lower consumer welfare?

On the first question, should antitrust law makers sometimes prefer a solution likely to reduce output and raise prices in order to protect some alternative interest group or value? For example, should it do more specifically directed toward the declining position of labor in the economy? Most critically, an antitrust policy of favoring expanded output generally benefits labor, which profits as greater production creates bigger labor markets. Particularly at the lower end of the scale, labor tends to be compensated by hourly wages, which are a variable cost. As a result, losses in output produce losses in demand for labor. In addition, mergers that suppress competition in the labor market are output reducing, just as much as mergers that suppress competition in product markets. Antitrust also prohibits anti-poaching agreements or other collusive activity targeting labor.[88]

Protection of labor should have a greater role in merger policy than it currently does. For example, mergers that increase labor market concentration unreasonably can suppress wages by reducing competition for jobs.[89] But doing this does not require a departure from antitrust's general mandate to expand output. Further, interfering with anticompetitive restraints in labor markets does not require any kind of a priori estimate of the "correct" number of jobs or amount of compensation that labor should receive.[90]

Antitrust policy might conceivably benefit labor by doing things that reduce output. These might include guaranteed minimum wages, better working conditions, freedom from discrimination or harassment, job security, or collective bargaining rights. While these are all important goals, however, they are not antitrust goals. There is no sensible way to include them in the competition-enforcing language of the antitrust laws. Judges asked to do so would be at sea. Like most regulatory goals, they require a degree of legislative or administrative specificity that the antitrust concern for competitive markets does not capture. Further, in every one of these areas legislative systems are in place to address the problem. Even if we agree that these other policies are imperfect, antitrust has neither the mandate nor the toolbox it would need to rule the entire world of labor

88. *See, e.g.*, *In re* Ry. Indus. Emp. No-Poach Antitrust Litig., 395 F. Supp. 3d 464 (W.D. Pa. 2019); Butler v. Jimmy John's Franchise, LLC, 331 F. Supp. 3d 786 (S.D. Ill. 2018).

89. *See* Ioana Marinescu & Herbert Hovenkamp, *Anticompetitive Mergers in Labor Markets*, 94 IND. L.J. 1031 (2019).

90. For a good perspective, see ERIC A. POSNER, HOW ANTITRUST FAILED WORKERS (2021).

policy. Presumptively, at least, both consumers and labor are harmed when output is anticompetitively suppressed.

Concerns related to large digital platforms such as Amazon, Apple, Facebook, and Google often reach beyond antitrust. Many regard them as too big, too politically powerful or biased, too casual or greedy with private information, or abusive in some other way.[91] Unless that harm is related to an output reduction, however, it is untethered from the antitrust laws. Antitrust was never intended to control the universe, its statutes do not hint of that, or create any kind of manual for doing so. Excessive private political power, theft of information or intellectual property rights, and the destruction of brick-and-mortar main street could all be cognizable harms worthy of legal attention. But antitrust is not the appropriate vehicle, unless the harm in question is a consequence of an anticompetitive output reduction.

The round of antitrust complaints filed by federal and state enforcers since late in 2020 are completely consistent with this definition.[92] They do not seek to break up either Google or Facebook on the simple theory that they are too large. Rather, they target specific exclusionary practices or, particularly in the case of Facebook, anticompetitive acquisitions. The requested relief is quite consistent with antitrust's general goal of preserving large output and low prices.[93]

Antitrust policy has the difficult job of threading the needle between two extremes.[94] On one side are those that overvalue producer profits while understating the value of high output for the economy generally, but particularly for consumers and labor. On the other side are those who rightfully acknowledge that problems of monopoly exist, but who would correct them by injecting small business protectionism, concerns about large size or political power, or other noneconomic goals into the domain of antitrust.

Consider a statement released by the Biden-Sanders Unity Task Force in July, 2020, prior to the Presidential election, which speaks about the need

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91. For different perspectives, see ZEPHYR TEACHOUT, BREAK 'EM UP: RECOVERING OUR FREEDOM FROM BIG AG, BIG TECH, AND BIG MONEY (2020); JOSH HAWLEY, THE TYRANNY OF BIG TECH (2021).

92. *See* Complaint, United States v. Google, LLC, No. 1:20-cv-03010 (D.D.C., Oct. 20, 2020); Complaint, Colorado v. Google, No. 1:20-cv-03715-APM (D.D.C. Dec. 17, 2020). *See also* FTC v. Facebook, Inc., No. 1:20-cv-03590-JEB (D.D.C. June 28, 2021) (dismissing FTC's complaint without prejudice); New York v. Facebook, Inc., No. 1:20-cv-03589 (D.D.C. June 28, 2021) (dismissing complaint by several state AGs with prejudice). In August 2021, the FTC filed an amended complaint. First Amended Complaint for Injunctive and Other Equitable Relief. *See* FTC v. Facebook, Inc., No. 1:20-cv-03590-JEB (D.D.C. Aug. 19, 2021).

93. For analysis, see Hovenkamp, *Platform Monopoly*, *supra* note 87.

94. *See* Hovenkamp, *The Looming Crisis*, *supra* note 52.

for greater antitrust enforcement in several areas.[95] It expresses concern about health care mergers that raise price, an acknowledged problem that clearly falls within antitrust's concerns about lower output and higher prices.[96] It does the same thing for anticompetitive outcomes in agricultural processing.[97] It would also "[c]harge antitrust regulators with systematically incorporating broader criteria into their analytical considerations, including in particular the impact of corporate consolidation on the labor market, underserved communities, and racial equity."[98] It also speaks of using the antitrust laws to reverse the impact of Trump-administration mergers "to repair the damage done to working people and to reverse the impact on racial inequity."[99]

On the other side, a dissenting report to the Democrat-controlled House Judiciary Committee's statement on platforms disagrees with the majority about many issues, but it shares the concern that something must be done about big tech. In particular, however, it laments that big tech "has used its monopolistic position in the marketplace to censor speech," and to exercise "overt bias against conservative outlets and personalities."[100]

In contrast to these statements, President Biden's 2021 Executive order on Promoting Competition in the American Economy[101] expresses its antitrust concerns entirely in the language of competition and monopoly. It never suggests that firms should be broken up simply because they are big, or that antitrust policy should subordinate its essentially economic concerns

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95. BIDEN-SANDERS UNITY TASK FORCE RECOMMENDATIONS (July 8, 2020), https://joebiden.com/wp-content/uploads/2020/07/UNITY-TASK-FORCE-RECOMMENDATIONS.pdf [https://perma.cc/46EJ-WTKD].

96. *Id.* at 33.

97. *Id.* at 52, 68.

98. *Id.* at 67.

99. *Id.* at 74.

100. REP. KEN BUCK, THE THIRD WAY 6 (2020), https://buck.house.gov/sites/buck.house.gov/files/wysiwyg_uploaded/Buck%20Report.pdf [https://perma.cc/HW7X-LJ5D]. More specifically, the Buck Report claims:

> Notably, Google used its dominant advertising technology product to demonetize conservative media outlets, including The Federalist. YouTube, a Google subsidiary, blocked videos from Republican politicians and media groups. Amazon censored conservative organizations, including the Family Research Council and the Alliance Defending Freedom by blocking Americans' ability to donate to these groups through the AmazonSmile tool. Facebook's algorithms, advertising policies, and content moderation rules have all combined to discriminate against conservative viewpoints, shadow ban conservative organizations and individuals, and suppress political speech. The majority also left Twitter and its suppression of speech out of the investigation completely.

Id.

101. Exec. Order No. 14036, 86 Fed. Reg. 36,987 (July 14, 2021).

to more political ones.[102] The Executive Order quoted the Supreme Court for the proposition that the Sherman Act:

> rests on the premise that the unrestrained interaction of competitive forces will yield the best allocation of our economic resources, the lowest prices, the highest quality and the greatest material progress, while at the same time providing an environment conducive to the preservation of our democratic political and social institutions.[103]

That is, concerns for competition and output are the dog. Concerns for preservation of political and social institutions are important, but *within antitrust policy* they are merely the tail. The concern is to promote economic competition without harming political and social institutions. Antitrust policy, in contrast to legal policy generally, is not the appropriate tool for pursuing particular goals of social equality, free speech, or environmental quality. While race and gender equality are essential policy goals, they are best left to the constitutional and statutory institutions intended to address them.

To be sure, attaining more competitive markets can address problems that also reveal themselves in other areas. More competitive markets are conducive to free speech to the extent that they preserve alternative channels of communication. Ideological exclusion in dominated markets is a problem for speech doctrine in communications. It can also be an antitrust problem because diversity of viewpoints is part of the quality and variety of output that antitrust should encourage.[104] The Federal Communications Commission (FCC) reviews mergers that involve the transfer of telecommunications licenses under a "public interest" test that can include effect on the diversity of viewpoints.[105] If no such license transfer is involved, then the merger is viewed only under the antitrust laws. Antitrust has frankly done an inadequate job of protecting structures that guarantee consumers' right to a diversity of viewpoints, and the FCC's public interest

102. *See* Herbert Hovenkamp, *President Biden's Executive Order on Promoting Competition: An Antitrust Analysis* (U. Pa. Carey L. Sch. Inst. for L. & Econ. Working Paper, Rsch. Paper No. 21-24, 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3887776.

103. Exec. Order No. 14036, *supra* note 101, at 36,989 (quoting N. Pac. Ry. Co. v. United States, 356 U.S. 1, 4 (1958)).

104. *See, e.g.*, Howard A. Shelanski, *Antitrust Law as Mass Media Regulation: Can Merger Standards Protect the Public Interest?*, 94 CAL. L. REV. 371 (2006); *see also* Daniel E. Ho & Kevin M. Quinn, *Viewpoint Diversity and Media Consolidation: An Empirical Study*, 61 STAN. L. REV. 781 (2009).

105. *See* 47 U.S.C. § 214(a), (c). *See also* Christopher S. Yoo, *Merger Review by the Federal Trade Commission*, 45 REV. INDUS. ORG. 295 (2014); Jon Sallet, *FCC Transaction Review: Competition and the Public Interest*, FCC (Aug. 12, 2014, 12:39 PM), https://www.fcc.gov/news-events/blog/2014/08/12/fcc-transaction-review-competition-and-public-interest#fn3 [https://perma.cc/3594-CHAG].

standard is too vague to be reliable.[106] However, antitrust's approach to this is not to regulate viewpoint but rather to limit anticompetitive restraints so that alternative viewpoints can emerge.

For example, under United States law if a single firm should select voices based on ideology, antitrust intervention has no place in most circumstances, although civil rights law might be relevant. A possible exception would be if such viewpoint discrimination by a dominant firm were used to deny third-party access to a commercial competitor.[107] However, if two or more firms agreed with one another to accept commercial advertising only from left-leaning or right-leaning organizations, that would be actionable as an economic restraint of trade.[108] Antitrust's appropriate mission is to control economic restraints, some of which may have a non-economic component.[109] If Fox and MSNBC should agree with each other to divide the market along ideological lines, antitrust could intervene.

The antitrust laws' spare language provides an elastic mandate and is directed to the courts. This gives the antitrust statutes great flexibility, and complaints to the effect that they are "outdated" are wrongheaded.[110] However, this elasticity also creates a danger that they can be used to achieve goals through the judicial system that cannot be achieved legislatively. While the language of the antitrust laws sweeps broadly, it is nevertheless limited to concerns for economic competition.

Antitrust is a microeconomic discipline, concerned with the performance of individual markets rather than the economy as a whole. Nevertheless, high output in a particular market may contribute to a well-functioning overall economy. Macroeconomic measures such as GDP are based on the aggregate production of goods and services in the entire economy under

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106. *See* Trey O'Callaghan, *Unprotected and Unpersuaded: The FCC's Flawed Merger Review Procedures*, 15 DUKE L. & TECH. REV. 39 (2016).

107. *Cf.*, Lorain J. v. United States, 342 U.S. 143 (1951) (antitrust condemnation of newspaper for refusing to deal with firms that advertised on a competing radio station).

108. Assuming, of course, that the restraint was sufficiently commercial. *See* 1B PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶260, 262 (5th ed. 2021).

109. *Cf.* FTC v. Superior Ct. Trial Lawyers Ass'n, 493 U.S. 411 (1990) (antitrust law reached trial lawyers' boycott for higher fees, even if purpose was in part to protect defendants' right to counsel via a commercial boycott that contained an element of political expression); Missouri v. Nat'l Org. for Women, Inc., 620 F.2d 1301 (8th Cir. 1980) (political boycott organized by National Organization for Women of states that had declined to ratify proposed Equal Rights Amendment not within Sherman Act's limitation to restraints on "commerce").

110. *E.g.*, Tara Lachapelle, *100-Year-Old Antitrust Laws Are No Match for Big Tech*, BLOOMBERGQUINT (Aug. 5, 2020, 12:01 PM), https://www.bloombergquint.com/gadfly/-5-trillion-data-hogs-amazon-apple-facebook-and-google-need-better-policing [https://perma.cc/9QBMNW82].

consideration.[111] The issue of macroeconomic impact is almost never relevant in any particular antitrust case, but it can be important at the legislative or policy level. Increasingly people have observed a link between competition policy—particularly high price-cost margins—and the performance of the economy as a whole.[112] It also explains why the Biden administration was wise to apply a "whole of government" approach to market competitiveness in its Executive Order on Competitiveness. Antitrust is a very important legal vehicle for promoting competition but it is not the only one.[113]

If antitrust is faithful to its concern for competitive markets, then what lies outside of its boundaries? First, bigness itself is not an antitrust issue unless it leads to reduced output in some market. That is, the maintenance of competitive markets is consistent with large firms that operate in large markets. It favors economies of scale and scope, provided that the overall structure of the market is competitive.[114] To be sure, very large firms can injure small firms that have higher costs or lower quality products. That is not an antitrust problem. What is an antitrust problem is firms that use anticompetitive restraints in order to attain or maintain a position of dominance.

The impact on small firms is much more complex than the popular impression, however, and requires close analysis. Traditionally we think of large and small firms selling the same thing as competitors, and of course they are. Historically, for example, family-owned stores competed with giants such as A&P or Wal-Mart, and often lost out. But modern distribution is much more networked, particularly in the digital era. Small firms not only compete with larger firms, but they also rely on one another for distribution. That is they are often complements as well as competitors. For example, Amazon sells products for millions of small retailers. These sales get rolled into Amazon's revenue, but they are also part of the revenue of these smaller businesses that provide the goods. To the extent that Amazon and third party

111. For a good discussion, see JOHN BELLAMY FOSTER & ROBERT W. MCCHESNEY, THE ENDLESS CRISIS: HOW MONOPOLY-FINANCE CAPITAL PRODUCES STAGNATION AND UPHEAVAL FROM THE USA TO CHINA (2017).

112. For good commentary, see Jonathan B. Baker, *Overlapping Financial Investor Ownership, Market Power, and Antitrust Enforcement: My Qualified Agreement with Professor Elhauge*, 129 HARV. L. REV. FORUM 212, 219–25 (2016); Anna Gelpern & Adam J. Letivin, *Considering Law and Macroeconomics*, 83 L. & CONTEMP. PROBS. i (2020); Chad Syverson, *Macroeconomics and Market Power: Context, Implications, and Open Questions*, 33 J. ECON. PERSPS. 23 (2019); Tay-Cheng Ma, *Antitrust and Democracy: Perspectives from Efficiency and Equity*, 12 J. COMP. L. & ECON. 233 (2016).

113. *See supra* notes 91–92 and accompanying text.

114. An economy of scale is a cost that declines as a firm produces a larger amount. An economy of scope is a cost that declines as someone produces a larger variety of products, or in a larger number of places. For example, because of joint costs a firm might be able to produce toasters and space heaters out of the same plant more cheaply than two firms that each produced one of the two products.

sellers compete—for example, when AmazonBasics batteries are sold in competition with Duracell batteries—the firms act in both a competitor and a supplier relationship.[115]

Amazon is a very large retailer that, setting aside the impact of most favored nation clauses,[116] sells at low prices and has maintained high consumer satisfaction.[117] Amazon has undoubtedly injured many small firms forced to compete with its prices and distribution. But that is not the entire story. Amazon also acts as broker, or distributor, for millions of small firms who use its digitized retail fulfillment services.[118] In addition, when a very large firm produces more, it creates opportunities for other firms that sell complements, that distribute the products that a large firm produces, or that supply it with inputs. So once again it is important not to paint with too broad a brush. Indeed, as of 2021 roughly 55% of Amazon's sales were from third-party sellers of all sizes, and that percentage has been increasing.[119] Blowing up Amazon or forcing it to segregate in-house from third-party products would very likely injure many more small businesses than it would help. That does not mean, however, that antitrust is powerless. To the extent that Amazon uses anticompetitive agreements with vendors or other trading partners to enhance its own position, these could be enjoined under the antitrust laws.[120]

The impact of most favored nation clauses (MFNs) could be significant, and here antitrust can do a great deal of good. Most favored nation agreements can come in different firms, but often they require a firm to charge other firms more than it is charging the firm that imposes the MFN, or forbid a supplier from doing business with a firm that charges less. The result can be to create a price umbrella that permits the dominant firm to keep its own price high. For example, one complaint alleges that Amazon requires sellers to pledge that products sold to Amazon "must have a price that is equal to or lower than the price of the same item being sold by the

115. On the workings of Amazon's "buy box," which assigns a sale to a particular vendor, whether internal or external, see Erik Hovenkamp, *The Antitrust Duty to Deal in the Age of Big Tech*., 131 YALE L.J. (forthcoming 2022) [hereinafter Hovenkamp, *Antitrust Duty*].

116. *See infra* note 120 and accompanying text.

117. *See* Jon Markman, *How Amazon.com Remains the Ruler of Retail*, FORBES (Jan. 30, 2020) (stating that Amazon is number one in consumer satisfaction for three consecutive years).

118. For statistics, see Chris Dunne, *Amazon Has 1,029,528 New Sellers This Year (Plus Other Stats)*, EDESK, https://blog.edesk.com/resources/amazon-statistics/ [https://www.perma.cc/QW5A-2GB5] (noting that Amazon has five million independent sellers, with 1.7 million currently listing products for sale).

119. *See Share of Paid Units Sold by third-Party Sellers on Amazon Platform*, STATISTA, https://www.statista.com/statistics/259782/third-party-seller-share-of-amazon-platform/ [https://perma.cc/PWT9-SUUN].

120. *See* Hovenkamp, *Platform Monopoly*, *supra* note 87, at 2020–21.

seller on other sites," even when Amazon charges more for distribution services.[121]

MFN clauses are not invariably anticompetitive, but antitrust policy has been insufficiently concerned about them. In particular, it has overlooked situations where their use by very large firms is widespread and where the firm imposing the MFN is highly desirable or otherwise has a strong position in the market. Here, market share usually does not capture the competitive threat. In fact, if distribution is differentiated, market share generally understates the problem.[122]

A practice such as imposition of anticompetitive MFN clauses can usually be remedied, at least prospectively, with a simple injunction—a remedy that is far less disruptive of business overall and likely to increase rather than reduce output. Often the simplest and least disruptive remedies are the best ones.

H. When Consumer Welfare and Output Diverge

Output is not the same thing as welfare. Cardinal measures of purchaser welfare—something that antitrust never does—are a product of output multiplied by surplus. In order to assess the amount of consumer welfare generated by consumer sales of 100 units we would have to know both the number of units and the amount of consumer surplus generated by each purchased unit. For example, if a purchaser valued a unit by $8 but the price was only $5, that purchase would yield a $3 surplus. If we knew the surplus created on each sale and the number of sales, we could compute the increase in consumer welfare.

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121. Complaint at ¶57, Greenberg v. Amazon, 2021 WL 2774516 (W.D. Wash. July 2, 2021); Complaint at ¶4, De Coster v. Amazon, No. 2:21-cv-693 (W.D. Wash. May 26, 2021) (Amazon forbids firms from selling at a lower price on a different platform even if that platform charges a lower commission). That complaint goes on to allege:

> The outcome is the same both under the PMFN ["platform most favored nation"] clause and under the "fair pricing" provision: both have "the effect of getting sellers to raise prices elsewhere, rather than risk lower revenue from Amazon." This, in turn, leads to higher prices on all sites, rather than lower prices on all sites, due to price competition between Amazon and other ecommerce outlet providers that would have otherwise offered lower commissions, or whose lower commission levels would have created actual price competition between them and Amazon. Had Amazon not restrained that price competition, lower commissions for sellers on both Amazon and other ecommerce outlet providers would have translated into lower consumer prices.

Id. at ¶86.

For further exploration of the economics, see Jonathan B. Baker & Fiona Scott Morton, *Antitrust Enforcement Against Platform MFN's*, 127 YALE L.J 2176 (2018).

122. For more development of this point, see Herbert Hovenkamp, *Vertical Control*, N.Y.U. L. REV. ONLINE 2021 (forthcoming), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3793733.

It is quite possible for output to generate false signals about welfare—for example, when the number of units is greater but the surplus on each unit is lower or in some cases negative. In that case greater output may actually lead to less welfare. That naturally invites the question of how often output measures send false signals, and more importantly, how often it makes a difference. Antitrust necessarily employs applied economics, where the perfect is the enemy of the good. Nevertheless, a few apparent disjunctions between output and welfare must still be addressed.

One problem that is largely confined to textbooks is goods with perfectly inelastic demand.[123] Suppose that a good is so essential to survival that its output is completely nonresponsive to changes in price. In that case a higher price would not result in reduced output but it would reduce purchaser welfare because the surplus on each purchase would be lower.

Whether such a good exists is an open question, but antitrust has never explicitly encountered one. In his dissenting opinion in the *Dr. Miles* case, which declared resale price maintenance unlawful, Justice Holmes briefly opined that there might be certain goods such as "short rations in a shipwreck," which legal policy would have to address, but then observed that Dr. Miles medicines did not fall into that category.[124] If antitrust policy or legal policy more generally would address such a problem, however, it would undoubtedly be through a rule that *increased* output, and on the theory that greater output would improve user welfare. That is, the problem with excessively inelastic demand is one of output that is too low. For highly inelastic goods like the proverbial scarce and life-saving drug with no alternatives, if antitrust were to provide a solution it would be with a dealing order whose purpose would be to increase output. Regulatory policy would very likely do the same thing. So there is no disjunction between antitrust policy and output here.

Another problem is predatory pricing, which under the classic formulation occurs when a firm lowers its price to below cost, excludes its rivals, and then "recoups" its investment by raising prices.[125] The high output that occurs during the predation period is not an increase in consumer

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123. *See, e.g.*, Steven C. Salop & Charlotte Slaiman, *A New Section 5 Policy Statement Can Help the FTC Defend Competition*, PUBLIC KNOWLEDGE (July 20, 2021), https://publicknowledge.medium.com/a-new-section-5-policy-statement-can-help-the-ftc-defend-competition-a76451eacb39 [https://perma.cc/A8FQ-SSCA].

124. Dr. Miles Medical Co. v. John D. Park & Sons Co., 220 U.S. 373, 412 (1911) (Holmes, J., dissenting) ("There may be necessaries that sooner or later must be dealt with like short rations in a shipwreck, but they are not Dr. Miles's medicines.").

125. *See* HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE §§8.1–8.4 (6th ed. 2020) [hereinafter HOVENKAMP, FEDERAL ANTITRUST POLICY]; 3A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶724-726 (4th ed. 2015).

welfare if the end game is successful monopoly. For that reason, we speak of antitrust goals in terms of "sustainable" output. One feature of classic predatory pricing is that below cost pricing is not sustainable because the predator is losing money. Similarly, in industries with very high fixed costs and too many firms, competition may drive prices so low that businesses are unable to recover their fixed costs. During those periods output is high but not sustainable. Eventually the situation will be corrected, whether by bankruptcy, merger, collusion, or regulation.[126]

Another possible disjunction between welfare and output is fraud and false claims. Fraud is rarely actionable as an antitrust violation, but it is certainly conceivable that a firm can create or maintain a monopoly through the use of fraudulent claims. The great majority of cases involve attacking a rival's product rather than exaggerating the qualities of one's own. Such attacks reduce the rival's output and in the presence of market power may reduce overall market output as well. In that case, however, output and antitrust harm are in perfect alignment. By contrast, a defendant's false claim exaggerating the quality of its own product or failing to disclose defects could increase its own output in the short run. But if monopoly is in prospect, and it rarely is, then the longer run effect would be lower output.[127]

The principal dividing line between business torts and antitrust violations is the impact of the conduct on overall *market* output. A tort such as product disparagement generally works by reducing the output of the rival(s) whose products are disparaged. That is sufficient for tort liability, but antitrust liability requires an impact on market output, and this is where most tort-related antitrust claims fall short. By contrast to product disparagement, the business torts of "passing off" or "deceit," which involve false representations about one's own product, will have a positive effect on the defendant's output, even as it is causing harm.[128] For example, if a firm makes false claims about diet pills its sales could go up. But unless monopoly is in prospect, market output will not be affected.[129]

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126. *See* Herbert Hovenkamp, *The Antitrust Movement and the Rise of Industrial Organization*, 68 TEX. L. REV. 105, 122–44 (1989); Herbert Hovenkamp, *Regulation and the Marginalist Revolution*, 71 FLA. L. REV. 455, 465–79 (2019).

127. *See* 3B PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶782 (5th ed. 2021) (on product disparagement, exaggerated claims, and other business torts that might increase output in the short run).

128. *E.g.*, Gould v. Flato, 10 N.Y.S.2d 361 (N.Y. Sup. Ct. 1938) (misrepresenting quality of pearl necklace).

129. *E.g.*, Consumer Prot. Div. Off. of Atty. Gen. v. Consumer Publ. Co., Inc., 501 A.2d 48 (Md. 1985) (cease and desist order for false claims about mail order diet pills); *In re* Physicians Weight Loss Ctrs. of Am., 116 F.T.C. 1484 (F.T.C. 1993) (weight loss programs). *Cf.* Newport Sand Bank Co. v. Monarch Sand Min. Co., 137 S.W. 784 (Ky. 1911) (finding that it was not unlawful where two sand companies were located in Newport for later arriving firm to call its product "Newport Sand" as finding liability would effectively give plaintiff a monopoly). *See also* Justice Holmes's opinion in Mosler Safe

Another set of critiques of the use of high output as an antitrust welfare measure has a little more bite. They involve situations when a practice captures one set of consumers while harming others. For example, some vertical restraints such as resale price maintenance can be used to bring marginal, or new, customers into a market at the same time that they injure inframarginal, or established, customers. If the losses to inframarginal customers exceeds the gains to marginal customers, such a restraint could reduce welfare even as it increases output. This idea has been around for decades, but I am not aware of an antitrust case that has relied on it.[130]

Factually, it is true that in the absence of price discrimination pricing is driven by the preferences of the marginal customer.[131] Most of the time the inframarginal customer gets a free ride, in the sense that it gets to pay the price determined by the marginal customer. For example, if most crowbar users are pulling old nails out of boards their preferences will drive the market price of crowbars—say, $10. I, however, want to use one to open a Spanish treasure chest and would be willing to pay much more, but the competitive market entitles me to pay $10 as well.

The flip side of this observation is that a firm seeking to expand output might spend resources in a way that brings in marginal customers, leaving inframarginal customers unaffected or worse off. While this is also factually possible, it has nothing to do with vertical restraints. In fact, every time a seller invests in a service or promotion that benefits customers unevenly the same thing can happen. For example, suppose that my tiny ten-table pizza restaurant in Philadelphia is doing well in the local neighborhood but I decide I can make more by reaching out further with free delivery. Because delivery is costly, I raise my prices a small amount. If this innovation is successful my output will increase by the number of delivered pizzas, and those new customers will experience an increase in welfare. The ones who are already coming into the dining room and who are not deterred by the higher prices experience a loss. It is quite possible that the welfare losses experienced by my inframarginal, or established, customers is larger than the welfare gain experienced by my newly acquired delivery (marginal)

Co. v. Ely-Norris Safe, 273 U.S. 132 (1927) (dismissing for lack of proof of lost sales where defendant copied design feature that made its safe resemble the plaintiff's very popular safe).

130. For this idea's original development, see William S. Comanor, *The Two Economics of Vertical Restraints*, 5 REV. INDUS. ORG. 99, 107 (1990); William S. Comanor & John B. Kirkwood, *Resale Price Maintenance and Antitrust Policy*, 3 CONTEMP. POL'Y ISSUES 9, 12 (1985). *See also* 8 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶1612b (4th ed. 2018); John M. Newman, *The Output-Welfare Fallacy in Antitrust Analysis*, 107 IOWA L. REV. (forthcoming 2022).

131. *Cf.* Town Sound and Custom Tops, Inc. v. Chrysler Motors Corp., 959 F.2d 468, 489–90 (3d Cir. 1992) (observing that pricing is driven by the marginal customer and that inframarginal customers are going along for the ride, but not drawing any welfare implications).

customers. In that case the inauguration of free delivery could increase output while reducing consumer welfare overall. Note, however, that this occurs whether I perform this act internally, or whether I use a vertical restraint imposed on another firm. That is, contrary to Comanor's and Kirkwood's assumption, vertical restraints have nothing to do with it.[132]

In any event, none of this is relevant for antitrust policy. First, it can happen whether or not my pizza joint has any market power, so it is not a practice related to monopoly. Second, policing it would require an examination of every business practice whose benefits are not shared evenly by all customers. For example, Costco's offering of free sausage samplers will not benefit vegetarians. The local Ford dealer's policy of giving free test drives will not benefit knowledgeable customers who do not need a test drive. Third, in a market with any degree of dynamism, which very likely includes them all, output-increasing experiments should be encouraged, and many of those are designed to bring in marginal buyers. Perhaps more to the point, we have been litigating vertical restraints cases under the rule of reason now for more than forty years,[133] and there is not a single one under which a vertical nonprice restraint has been found that both raised output and harmed consumers. The inframarginal customer story seems to be another instance of blackboard economics.

Another externality problem that can produce the appearance of a disconnect between output and consumer welfare is two-sided markets, discussed previously.[134] One problem is that if we look myopically at one side alone prices may appear not to reflect cost. For example, Facebook and Google Search are free to users because they obtain their revenue mainly from advertisers. Free usage may be thought to result in excessive output, which could be inefficient and thus create a disjunction between output and welfare. Credit cards produce a similar phenomenon: usage is free or sometimes even has a negative price to cardholders, but they are costly to merchants who accept them.

So does this mean that we have too many Facebook users, Google searchers, or credit card users? No, it means only that two-sided markets determine their equilibrium in different ways. Welfare is still driven by usage.[135] The reason Facebook is free is that the revenues to be gained by a

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132. *See supra* note 130.

133. Cont'l T.V., Inc. v. GTE Sylvania, Inc., 433 U.S. 36, 70 (1977) (adopting rule of reason for vertical nonprice restraints).

134. *See supra* notes 84–87 and accompanying text.

135. On equilibrium in two-sided markets, see Hovenkamp, *Platform Monopoly*, *supra* note 87, at 1993; Mei Lin, Shaojin Li & Andrew B. Whinston, *Innovation and Price Competition in a Two-Sided Market*, 28 J. MGMT. & INFO. SYS. 171 (2011).

user fee would be more than offset by the accompanying loss in advertising revenue that would result from a smaller audience.

None of this is an antitrust issue until a platform does something thought to be anticompetitive. Even then, any theory of a disjunction between welfare and output would have to identify a link between *higher* output and antitrust harm. Network externalities can certainly create benefits for large networks, but it is not antitrust's purpose to deprive consumers or other users of these advantages simply because they are too big. The existence of market-dominating networks does suggest, however, that antitrust policy would do better by preserving the network intact and creating competition inside the network. That is what we did with the telephone system by means of interoperability requirements.[136] A single phone system that connects everyone is more valuable than any combination of multiple, incompatible phone systems. But this proposition is strictly consistent with the idea that higher output yields higher welfare.

Two-sided markets also experience differences between marginal and inframarginal customers. For example, merchants accept credit cards and pay for them in order to increase their business, but the benefits are unevenly distributed. Cash customers are injured to the extent that merchant fees are spread through product prices. Because different cards impose different costs, users of low fee cards can also be injured to the extent that merchants are asked to accommodate high fee cards such as AmEx.

Here, the Supreme Court made an error in the *Amex* decision because it did not examine the underlying transactions carefully. As noted above, AmEx's anti-steering rule harmed both merchants and cardholders by excluding a lower cost alternative.[137] Nothing about the two-sided transactional mechanism or the decision suggests a disjunction between output and consumer welfare. Quite the contrary, the anti-steering rule that AmEx imposed was anticompetitive precisely because it resulted in higher prices, and thus lower output.[138]

More generally, there are good reasons for thinking that output is a good measure for welfare on two-sided markets even if one side is free. These markets generally are more valuable as the number of users increases, and free services is a good way to increase user output. The link between output and welfare is strong in two sided markets to the extent they become more valuable as they have more users.

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136. On using interoperability requirements as a remedy for platform monopoly, see Hovenkamp, *Platform Monopoly*, *supra* note 87, at 2032–38.

137. *See supra* notes 79–82 and accompanying text.

138. *See* Hovenkamp, *Platforms and the Rule of Reason*, *supra* note 80, at 53–54.

I. Antitrust Welfare Tests and Protection of Labor

One policy obstacle to the achievement of competitive markets is the fact that competition itself is a public good, particularly where consumers and labor are concerned. Consumers are individually small, not well organized, and have diverse tastes and preferences. Labor is much more poorly organized today than it was several generations ago, and this shows up in its declining share of productive output.[139] By contrast, large firms with high margins have been able to speak to policy makers with a single voice in pursuit of profits. As a result, both consumers and labor have lost out in many policy battles since the 1980s, and underdeterrent antitrust policy has often been a facilitator.[140]

Nevertheless, the term "consumer welfare" has been so contaminated by Bork's inclusion of producer profits in its definition that it is no longer helpful. Bork's approach breaks the link between welfare and output by finding welfare improvements when output is less and consumers are actually harmed.[141] In any event, whether we call it consumer welfare or something else, antitrust should strive for markets that produce maximum output consistent with sustainable competition.

Describing antitrust's goal as the promotion of "consumer welfare" focuses on monopolistic prices paid by consumers. While that is true as far as it goes, articulating the goal in this way raises conceptual problems when we think about suppliers of inputs, including labor. For example, the antitrust concern with labor is mainly with wage suppression, which means that wages are low as the result of an anticompetitive restraint or merger.[142] This is true of monopsony, or buy-side restraints generally. This seems inconsistent with an antitrust insistence on low prices. It can also fuel a

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139. *See, e.g.*, David Autor, David Dorn, Lawrence F. Katz, Christina Patterson & John Van Reenen, *The Fall of the Labor Share and the Rise of Superstar Firms* (Nat'l Bur. Econ. Res., Working Paper No. 23396, 2017), https://www.nber.org/system/files/working_papers/w23396/w23396.pdf [https://perma.cc/DTW7-Z3CC]. *See also* Simcha Barkai, *Declining Labor and Capital Shares*, 75 J. FIN. 2421 (2020); James Manyika, Jan Mischke, Jacques Bughin, Jonathan Woetzel, Mekala Krishnan & Samuel Cudre, *A New Look at the Declining Labor Share of Income in the United States*, MCKINSEY (May 22, 2019), https://www.mckinsey.com/featured-insights/employment-and-growth/a-new-look-at-the-declining-labor-share-of-income-in-the-united-states# [https://perma.cc/XQ9H-K6Y5]. *See also* Gene M. Grossman & Ezra Oberfield, *The Elusive Explanation for the Declining Labor Share* (Nat'l Bur. Econ. Res., Working Paper No. 29165), https://www.nber.org/papers/w29165 [https://perma.cc/HYW5-JYDN] (showing how a number of diverse methodologies have all concluded that the labor share has declined significantly).

140. *See* Herbert Hovenkamp & Fiona M. Scott Morton, *Framing the Chicago School of Antitrust Analysis*, 168 U. PA. L. REV. 1843 (2020).

141. *See supra* notes 8–10 and accompanying text.

142. *E.g.*, NCAA v. Alston, 141 S. Ct 2141 (2021) (condemning NCAA agreement restricting compensation of student athletes, who were treated as employees). In a different context, see C. Scott Hemphill & Nancy L. Rose, *Mergers that Harm Sellers*, 127 YALE L.J. 2078, 2080 (2018).

common misperception, which is that low wages or suppressed input prices naturally lead to low consumer prices. The contrary is more likely to be true: monopsony suppression of labor or other input prices is often accompanied by *higher* selling prices on the output side.

When wage suppression is an act of monopsony it is likely to raise output prices in the product market and almost certainly will not lower them. While that result might seem counterintuitive, it is actually robust, and results from the fact that the firm with monopoly power over laborers uses less labor and thus will produce less as well. In the unlikely event that firm is a perfect competitor in the product market it will simply sell less, although at the same price. In the more common case where it also has market power in the product market, its prices there will go up even as wages go down.[143] The basic theory is clear and uncontroversial.

Antitrust policy has an important but circumscribed role in protecting worker welfare, which is to ensure two things: first, that labor markets are not restrained, and second, that product output and thus job opportunities are as large as is consistent with the maintenance of competitive markets. While both of these are good things, they hardly add up to a recipe for solving every labor problem. As noted earlier, antitrust law is not a good device for setting minimum wages, for regulating working conditions and occupational safety, protecting pensions or ensuring retirement security, protecting workers from discrimination or harassment in the workplace, or other things related to worker welfare. This is just another way of saying that antitrust's purpose is not to swallow up all of legal policy respecting labor.

One place where antitrust policy has been particularly restrictive is in the protection of labor from restraints in product markets. Labor, particularly for those earning hourly wages, is predominantly a variable cost. When a firm or a group of firms either monopolizes or cartelizes a product market the result is higher prices for consumers but also reduced demand for labor.[144] Current antitrust law permits damages actions by consumers for

143. *See* ROGER D. BLAIR & JEFFREY L. HARRISON, MONOPSONY IN LAW AND ECONOMICS 48 (2010); HOVENKAMP, FEDERAL ANTITRUST POLICY, *supra* note 125, §1.2b. On the impact of mergers that are anticompetitive in labor markets, see Ioana Marinescu & Herbert Hovenkamp, *supra* note 89, at 1031.

144. *See, e.g.*, Jason E. Taylor, *The Output Effects of Government Sponsored Cartels During the New Deal*, 50 J. INDUS. ECON. 1, 9 (2002) (estimating that government sponsored cartels that were characteristic of the First New Deal reduced output by roughly 10%). *See also* Einer Elhauge, *Horizontal Shareholding*, 129 HARV. L. REV. 1267, 1285–86 (2016) ("Economic analysis shows that NIRA cartels lowered investment by 60%, employment by 11%, and output by 13%, causing about 60% of the post-1933 depression in national output."). *Cf.* Bishnupriya Gupta, *The International Tea Cartel During the Great Depression, 1929-1933*, 61 J. ECON. HIST. 144 (2001) (examining the output reduction of 349 British-owned firms to test the effectiveness of the International Tea Agreements of

product market restraints, as well as damages actions by employees for restraints in the labor market. However, it does not permit actions by employees for anticompetitive activities targeting product markets, even though it is clear that employees can either lose their jobs or suffer hours reductions as a result of the cartel's output reduction.[145]

As is the case with so many issues of private plaintiff antitrust standing, the decisions that reject it do not usually deny that harm has occurred. However, they do despair of determining how it should be measured.[146] This is not because any coherent theory suggests that such employees are not injured. Translating a product overcharge into consumer harm is comparatively easy. By contrast, computing harm to labor would require a measurement of the output reduction, and then an assessment of how the defendants allocated the reduction among laborers. These concerns can become quite significant when antitrust damages must be computed, although they do not carry as much weight in actions seeking an injunction. Further, in the process of rejecting employee challenges to product market restraints, courts overlook the fact that employees are often in a far better position to detect violations and to detect them much earlier than they would be detected by consumers.[147]

In addition is the problem of net employee harm when the output and input markets are not equally competitive. For example, a cartel of widget makers may have considerable power to raise price and reduce widget production, but at least some of the cartel's employees may work in highly competitive labor markets and can readily switch to a different job. In sum,

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1930 and 1933); Jason E. Taylor, *Cartel Code Attributes and Cartel Performance: An Industry-Level Analysis of the National Industrial Recovery Act*, 50 J.L. & ECON. 597, 613 (2007) (examining 66 industries using NIRA data and finding that output growth was 1.1% slower than the economy as a whole for those industries that implemented their own cartel codes).

145. *See* 2A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶352d (5th ed. 2021) (addressing existing law).

146. *E.g.*, Contreras v. Grower Shipper Vegetable Ass'n, 484 F.2d 1346 (9th Cir. 1973), *cert. denied*, 415 U.S. 932 (1974) (agricultural employees not in target area of employers' alleged conspiracy to enhance lettuce prices); Conf. of Studio Unions v. Loew's, Inc., 193 F.2d 51 (9th Cir. 1951), *cert. denied*, 342 U.S. 919 (1952) (stage employees lacked standing to complain of restraints in the film market where they were employed); Burns v. Lavender Hill Herb Farm, Inc., No. 01-7019, 2005 WL 1006321 (E.D. Pa. Apr. 28, 2005), *aff'd*, 167 Fed. App'x 891, (3d Cir. 2006) (former farm employee lacked standing to claim that farm conspired to monopolize organic products by misrepresenting its product); Irish v. Ferguson, No. 12–0174, 2013 WL 4766743 (M.D. Pa. Sept. 3, 2013) (employees and independent contractors serving a real estate brokerage firm lacked standing to sue for alleged conspiracy in real estate market); Mans v. Sunray DX Oil Co., 352 F. Supp. 1095 (N.D. Okla. 1971) (employee injury too incidental or remote from product market violation); Walder v. Paramount Publix Corp., 132 F. Supp. 912, 916 (S.D.N.Y. 1955). *But see* Wilson v. Ringsby Truck Lines, Inc., 320 F. Supp. 699 (D. Colo. 1970) (granting standing to truck drivers whose wages allegedly declined with the demand for their services after truck owners unlawfully divided markets, causing a reduction in operations).

147. *See* Herbert Hovenkamp, *Antitrust's Protected Classes*, 88 MICH. L. REV. 1 (1989).

the price increase works in the widget market because customers do not have good substitutes, but that may not be true of the labor market.

Whether warranted or not, limitations on private lawsuits in this area indicate that this is a place where public lawsuits should ramp up. The lack of specific causation requirements for public suits[148] enable the antitrust agencies to pursue such restraints even when private plaintiffs cannot. This should make it an especially good target for FTC enforcement.

An antitrust welfare goal measured as output serves the customer's interest in low prices and also in markets that produce as wide a variety of goods and services as competition can offer. It also serves the interest of labor, which is best off when production is highest. Concurrently, it benefits input suppliers and other participants in the market process. For example, if the output of toasters increases, consumers benefit from the lower prices. Labor benefits because more toaster production increases the demand for labor. Retailers, suppliers of electric components, shipping companies, taxing authorities, and virtually everyone with a stake in the production of toasters benefits as well.

The overall relationship between labor and antitrust is complex and has changed over time. During the early years of Sherman Act enforcement, organized labor was widely believed to be a source of monopoly. Many of the earliest antitrust criminal prosecutions were directed at labor unions.[149] Labor organizer Eugene Debs went to prison in 1895 after being convicted under the Sherman Act.[150] Congress came to labor's rescue in §6 of the Clayton Act, passed in 1914,[151] and then again during the New Deal.[152] The result was the development of an antitrust immunity for organized labor that today protects most collective bargaining agreements and reaches even agreements among employers, provided that they are part of the collective bargaining process.[153]

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148. *See infra* notes 218–224 and accompanying text.

149. *See, e.g.*, Herbert Hovenkamp, *Labor Conspiracies in American Law*, 66 TEX. L. REV. 919 (1988) [hereinafter Hovenkamp, *Labor Conspiracies*].

150. *See In re* Debs, 158 U.S. 564, 596–600 (1895) (denying habeas corpus; upholding Sherman Act conspiracy conviction under Congressional power to control railway commerce); Hovenkamp, *Labor Conspiracies*, *supra* note 149, at 920.

151. 15 U.S.C. § 17 ("The labor of a human being is not a commodity or article of commerce. Nothing contained in the antitrust laws shall be construed to forbid the existence and operation of labor, agricultural, or horticultural organizations, instituted for the purposes of mutual help.").

152. Norris-LaGuardia Act, 29 U.S.C. §§ 101 et seq; National Labor Relations Act, 29 U.S.C. §§ 151, et. seq.; later qualified by the Taft-Hartley Act, 29 U.S.C. § 141 et seq. *See* Hovenkamp, *Labor Conspiracies*, *supra* note 149, at 928, 929, 962.

153. Brown v. Pro Football, Inc., 518 U.S. 231 (1996) (extending labor antitrust immunity to agreement among multiple NFL team owners involved in a multi-employer collective bargaining unit). *See* 1B PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶255-257 (5th ed. 2020).

But years of anti-union activity largely deprived the unions of the economic power and turned the tables. As a result, most of the antitrust concerns about labor today are with anticompetitive practices that suppress wages, not with worker power to extract higher wages.[154] Agreements among employers not to hire away one another's employees ("anti-poaching" agreements) are unlawful per se[155] and can even be criminal offenses.[156] Today a fair amount of litigation is directed at overly broad use of labor noncompetition agreements, which are formally vertical but can be subject to antitrust attack when they are used by many firms in a market to impede worker mobility. For example, a fast food franchisor might insert a noncompetition agreement in each of its many contracts with franchisees, forbidding them from hiring away one another's employees.[157] The resulting limitations on labor mobility serve to keep vulnerable laborers down.

Are there situations in which a practice that the consumer welfare principle would approve might nevertheless harm labor? Perhaps. For example, a practice might reduce the demand for labor as a result of innovation or other cost savings in the product market rather than a decrease in output. For example, some mergers may increase product market output while reducing the demand for labor. Consider the merger between Chrysler and Jeep, two producers of automobiles.[158] The merger was small as automobile mergers go. It very likely did not decrease automobile output and was lawful under the antitrust laws. Nevertheless, a likely result of such

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154. *See* Ioana Marinescu & Herbert Hovenkamp, *supra* note 89, at 1031; Herbert Hovenkamp, *Competition Policy for Labour Markets*, OECD DIRECTORATE FIN. & ENTER. AFFS. (June 5, 2019), https://one.oecd.org/document/DAF/COMP/WD(2019)67/en/pdf [https://perma.cc/233N-SCHP]. *See also* Suresh Naidu, Eric Posner & E. Glen Weyl, *Antitrust Remedies for Labor Market Power*, 132 HARV. L. REV. 537 (2018).

155. *See* U.S. DEP'T OF JUST., NO MORE NO-POACH: THE ANTITRUST DIVISION CONTINUES TO INVESTIGATE AND PROSECUTE "NO-POACH" AND WAGE-FIXING AGREEMENTS (2018), https://www.justice.gov/atr/division-operations/division-update-spring-2018/antitrust-division-continues-investigate-and-prosecute-no-poach-and-wage-fixing-agreements [https://perma.cc/R2QH-3NBW]. In January 2021, the Antitrust Division obtained a criminal indictment for labor market collusion in the market for outpatient medical services. *See* Press Release, U.S. Dep't of Just., Health Care Company Indicted for Labor Market Collusion (Jan. 7, 2021), https://www.justice.gov/opa/pr/health-care-company-indicted-labor-market-collusion [https://perma.cc/97TQ-7B32] [hereinafter DOJ Press Release Indictment].

156. *See* DOJ Press Release Indictment, *supra* note 155 (announcing first criminal indictment for an agreement among employers not to solicit one another's higher level employees).

157. *E.g.*, Deslandes v. McDonald's USA, LLC, No. 17 C 4857, 2018 WL 3105955 (N.D. Ill. June 25, 2018) (parallel use of noncompetition agreements among McDonald's franchisees). *See* HOVENKAMP, FEDERAL ANTITRUST POLICY, *supra* note 125, §4.1d.

158. The acquisition, which occurred in 1987, was with American Motors, which at that time had already acquired Jeep. *See* John Holusha, *Chrysler is Buying American Motors; Cost Is $1.5 Billion*, N.Y. TIMES (Mar. 10, 1987), https://www.nytimes.com/1987/03/10/business/chrysler-is-buying-american-motors-cost-is-1.5-billion.html [https://perma.cc/RN3H-MWX9].

a merger would be consolidation of dealerships and some elimination of duplicate jobs.[159] As a result, the demand for labor—at least for specific jobs—might go down even as the post-merger firm's automobile production went up. After the merger it might be cheaper for Chrysler and better for consumers if Chryslers and Jeeps were sold through a common dealership. Sales and service can be performed by a common staff, reducing the number of employees to less than the number required by two separate facilities.[160] At the same time, however, the overall automobile market remains competitive on both the consumer side and the input (labor) side. To the extent this consolidation reduces Chrysler/Jeep's costs, the firm's output of automobiles would increase.

Most consolidation-driven job reductions fail to raise antitrust issues. Indeed, consolidation reduces the demand for labor even though the firms could not possibly injure competition in any market. For example, if two family lawyers in New York City should form a partnership, they might decide to share a single secretary or legal assistant. A job would be eliminated, but without any competitive harm to any market. So antitrust policy does not condemn every practice that reduces the demand for labor, but only those practices that do so anticompetitively, by suppressing the demand for labor rather than by reducing the amount of it that a firm needs. It is not antitrust's purpose to subsidize employment by requiring firms to use employees that they do not need. The merger that reduces the demand for labor through efficient consolidation is no different in principle than any other production change that requires less labor—for example, when a manufacturer shifts from a labor-intensive assembly process to a more automated one that requires fewer employees.

If we really wanted to protect jobs from all changes unrelated to product output that reduce the demand for labor, we would do better to change the patent laws rather than antitrust law. Changes in technology almost certainly have greater and more explicit effects on labor than do procompetitive mergers or other antitrust practices. For example, a "Job Protection from Innovation Act" might provide that patent applications must show as a

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159. *See* BILL CANIS & MICHAELA D. PLATZER, CONG. RSCH. SERV., R40712, U.S. MOTOR VEHICLE INDUSTRY RESTRUCTURING AND DEALERSHIP TERMINATIONS 1, 3 (2009) (noting consolidation of Chrysler, Dodge, and Jeep dealerships, including termination of some dealers where consolidation was deemed impossible).

160. The reasonableness of merger-generated labor force reductions are sometimes litigated under employment law. *See e.g.*, Mesaros v. FirstEnergy Corp., No. 5:04 CV 2451, 2005 WL 2460739 (N.D. Ohio Oct. 5, 2005) (rejecting age discrimination complaint from employee who was terminated as a result of merger-drive reduction in workforce); Bogart v. N.Y.C. Health and Hosps. Corp., No. 98 CIV. 6118 (TPG), 2001 WL 504874 (S.D.N.Y. May 11, 2001); Coreas v. L-3 Communic. Corp., No. 3:11-CV-00327-BF, 2012 WL 2959347 (N.D. Tex. July 20, 2012) (similar).

condition of patentability that their invention will not lead to a loss of jobs. No one advocates for such a statute because its economically harmful implications are too clear.

One problem is that distinguishing pro- from anti-competitive reductions in labor is not always easy. Sometimes the difference can be inferred from market structure. For example, if two small firms in a large field merge and eliminate a certain number of duplicate jobs the reason is highly likely to be more efficient use of resources. That would be true of the two lawyers who formed a partnership in New York, out of a field of thousands of competitors. As the employee-side market share of the two firms becomes larger, however, anticompetitive explanations become more plausible. Then it becomes necessary for a tribunal to investigate whether efficient consolidation or inefficient labor suppression is occurring. For example, if the only two hospitals in a town should merge, suppression of nurses' wages is a real possibility that should be investigated.[161] Nevertheless, even these two hospitals might be able to reduce costs through efficient consolidation. For all of these reasons the structural indicators used in the Merger Guidelines are a helpful first step.[162] If applied to labor, they can help enforcers identify threatening levels of labor concentration that might result in downward pressure in wages or working conditions.[163]

Efficient changes that reduce the demand for labor typically result from an identifiable change in product or process design that explains why less labor is necessary. For example, in the Chrysler-Jeep merger case the post-merger firm can point to the physical consolidation of dealerships and elimination of duplicate jobs. Assessing a merger of hospitals in a concentrated market could be more difficult. Suppose the only two hospitals in a community should merge and that one feared consequence is suppression of nursing wages. Wages may decline because the merger eliminates duplication, as in the Chrysler-Jeep example, but in that case there should be visible evidence of consolidations, such as the use of one facility or process where formerly there were two.

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161. *Cf.* United States v. Anthem, Inc., 855 F.3d 345, 371–74 (D. C. Cir. 2018) (Kavanaugh, J., dissenting) (noting dispute about whether lower provider rates result from hospital merger would result from increase efficiency or anticompetitive suppression of input prices). *See also* Elena Prager & Matthew Schmitt, *Employer Consolidation and Wages: Evidence from Hospitals* (Wash. Ctr. for Equitable Growth Working Paper), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3391889 (citing evidence that hospital mergers in concentrated markets can result in wage suppression for employees such as nurses and that the dominant explanation if employer power over labor).

162. 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 23.

163. On merger law's concentration thresholds, see 4 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶925-932 (4th ed. 2017). On their application in buy-side markets, see *id.*, ¶¶980-982.

J. *Economic Welfare Tradeoffs and Bork's Switch*

Antitrust policy has not always articulated a consumer welfare principle. However, the measurement of "welfare" has been a lively topic in neoclassical economics for a long time. Most of the debate since the early twentieth century concerned variations on the Pareto principle.[164] The substance of the debate considered how to turn some perception of individual welfare into conclusions about the aggregate welfare of society. Under the Pareto principle no change can be said to improve welfare unless it makes at least one person better off and no one worse off. A voluntary agreement with no effect on anyone else qualifies because it makes both parties better off. Thus, economics' strong preference for free market exchange. No policy that affects larger groups is a Pareto improvement unless it has unanimous consent.[165] Since every government policy produces both gainers and losers, pure Pareto left economic policy with few options.

While the idea of an antitrust welfare "tradeoff" first entered the debate in the 1960s and 1970s,[166] the notion of a tradeoff involving economic actions that harmed some people while benefitting others was familiar in welfare economics by the 1930s. Nicholas Kaldor and John Hicks tried to find workarounds consistent with the Pareto Principle that might nevertheless permit economic decision making imposed on unwilling actors.[167] Under the Kaldor-Hicks approach, a change improves welfare if the gains experienced by gainers is sufficiently large that they are able to compensate the losers fully out of their gains and still be at least as well off.[168] Both Pareto and Kaldor-Hicks are attempts at a "general" welfare test, or one that attempts to aggregate welfare over all affected parties. Kaldor-Hicks acknowledges the possibility of welfare tradeoffs, while pure Pareto does not. Kaldor-Hicks also lies at the heart of modern cost-benefit analysis, which seeks to net out expected social costs and benefits of a

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164. *See generally* VILFREDO PARETO, MANUAL OF POLITICAL ECONOMY (Aldo Montesano trans., 1971) (1906).

165. For a good introduction to the issues, see Howard F. Chang, *A Liberal Theory of Social Welfare: Fairness, Utility, and the Pareto Principle*, 110 YALE L.J. 173 (2000).

166. *See supra* notes 6–13 and accompanying text.

167. Nicholas Kaldor, *Welfare Propositions of Economics and Inter-personal Comparisons of Utility*, 49 ECON. J. 553 (1939); John R. Hicks, *The Foundations of Welfare Economics*, 49 ECON. J. 696 (1939). *See also* ARTHUR C. PIGOU, THE ECONOMICS OF WELFARE (1920).

168. *See* Jules L. Coleman, *Efficiency, Utility, and Wealth Maximization*, 8 HOFSTRA L. REV. 509 (1980).

particular policy.[169] Unlike pure Pareto, it typically requires cardinal (i.e., quantifiable) measures of the gains and losses.

A move from competition to monopoly flunks the Kaldor-Hicks principle because the losses (wealth transfer from higher prices plus deadweight loss) would be greater than the gains (higher profits).[170] Thus the idea that welfare "tradeoffs" exist in policy making was well known in economics[171] before Williamson wrote his famous article on welfare tradeoffs in antitrust.[172]

Williamson added the important idea that some creations of monopoly could be accompanied by productive efficiency gains. As a result, we should not evaluate monopoly by comparing it to competition under the same cost conditions, which always show monopoly to be bad. Rather, one must look at how the monopoly is created in order to see if there are compensating productive efficiency gains. So the revised statement about monopoly becomes something like this: a movement from competition to monopoly is bad only if the resulting deadweight loss exceeds any gains from efficiency. This is a general welfare test because it looks at all those who are affected in one way or the other by the creation of monopoly. Impact on output is not decisive because a welfare improvement can conceivably result from practices that reduce output as well as those that increase it. The principal difference is that a practice that reduces output will require efficiency gains to make it welfare improving. Other things being equal, a practice that simply increases output will improve welfare even if there are no gains in productive efficiency.[173] That of course leaves the previously discussed engineering problem, which is formidable, although neither Williamson nor Bork addressed it: when output goes down, perhaps significantly, where do these efficiency gains come from?[174]

The Williamson proposal would proclaim an antitrust practice such as a merger to be competitively harmful only if the resulting welfare losses from increased monopoly exceeded any welfare gains from increased productive

169. *See* Robin W. Broadway, *The Welfare Foundations of Cost-benefit Analysis*, 84 ECON. J. 926 (1974).

170. *See* Abba P. Lerner, *The Concept of Monopoly and the Measurement of Monopoly Power*, 1 REV. ECON. STUD. 157 (1934). *See also* Nancy Ruggles, *The Welfare Basis of the Marginal Cost Pricing Principles*, 17 REV. ECON. STUD. 29 (1949); David Schwartzman, *The Burden of Monopoly*, 68 J. POL. ECON. 627 (1960).

171. *E.g.*, I.M.D. LITTLE, A CRITIQUE OF WELFARE ECONOMICS (1950); James M. Buchanan, *Positive Economics, Welfare Economics and Political Economy*, 2 J.L. & ECON. 124 (1959); Robert E. Baldwin, *A Comparison of Welfare Criteria*, 21 REV. ECON. STUD. 154 (1953); Kenneth J. Arrow, *Little's Critique of Welfare Economics*, 41 AM. ECON. REV. 923 (1951).

172. Williamson, *Welfare Tradeoffs*, *supra* note 6, at 18.

173. For example, a movement from monopoly toward competition increases welfare even if costs do not change.

174. *See supra* notes 15–17 and accompanying text.

efficiency.[175] In making this argument, Williamson identified monopoly welfare with the deadweight loss that results from reduced output and higher prices.[176] As contemporary economist critics pointed out, by the time Williamson was writing it was already clear that this approach seriously understated the social cost of monopoly. In particular, Williamson underestimated the price increases that would result and ignored the social costs of the processes by which monopoly is created.[177] If a monopoly is worth $100, then a firm would be willing to spend any amount up to $100 to attain it, and those expenditures might be socially costly rent seeking or predatory destruction.[178]

Also significant was that Williamson performed this analysis by starting out with perfect competition as a baseline and then looked for increased monopoly losses and increased productive efficiency as a market moved from that point to monopoly.[179] If he had started out with a market that already exhibited significant monopoly and estimated the effects of a further increase in monopoly, he would have come to much different conclusions. In such cases a much greater productive efficiency gain is needed to offset the incremental welfare loss from monopoly.[180]

"Consumer" welfare is not what Williamson was contemplating in his tradeoff article. It branded practices as efficient, and thus not worthy of antitrust attack, even if they reduced output and harmed consumers. By contrast, "consumer" welfare properly defined looks exclusively at the welfare of consumers and is unwilling to make tradeoffs with others. If something harms consumers it decreases consumer welfare. This distinctive concept of consumer welfare also shows up in the economics literature in the mid- twentieth century, mainly in discussions of welfare economics and tax policy.[181] In antitrust writing, however, it is largely a creature of the 1960s and after.

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175. Williamson, *Welfare Tradeoffs*, *supra* note 6, at 21. Bork also discusses this proposal. *See* BORK, ANTITRUST PARADOX, *supra* note 8, at 107.

176. *See supra* note 7 and accompanying text.

177. *See* Michael E. DePrano & Jeffrey B. Nugent, *Economies as an Antitrust Defense: Comment*, 59 AM. ECON. REV. 947, 949–50 (1969) (relying on David R. Kamerschen, *An Estimation of the Welfare Losses from Monopoly in the American Economy*, 4 WESTERN ECON. J. 221 (1966)).

178. *See* Richard A. Posner, *The Social Costs of Monopoly and Regulation*, 83 J. POL. ECON. 807 (1975).

179. *See* Williamson, *Welfare Tradeoffs*, *supra* note 6, at 21 (graph illustrating perfect competition as starting point).

180. *See* Herbert Hovenkamp, *Is Antitrust's Consumer Welfare Principle Imperiled?*, 45 J. CORP. L. 65, 70, n.17 (2019) [hereinafter Hovenkamp, *Imperiled*]. In the context of mergers in imperfect markets, see HOVENKAMP, FEDERAL ANTITRUST POLICY, *supra* note 125, §12.2b.

181. *See, e.g.*, John Kenneth Galbraith, *Countervailing Power*, 44 AM. ECON. REV. 1 (1954) (defending value of consumer welfare as an economic goal, although unclear about the precise meaning); John C. Haranyi, *Welfare Economics of Variable Tastes*, 21 REV. ECON. STUD. 204 (1953) (discussing

Robert Bork actually adopted a strictly defined consumer welfare approach to antitrust in the 1960s but then switched to a Williamsonian welfare tradeoff approach when he wrote *The Antitrust Paradox* in 1978.[182] In 1965, Bork had argued that "the sole appropriate value in this field of antitrust is the maximization of consumer want satisfaction."[183] Whatever "consumer want satisfaction" might mean, increased producer profits does not seem to capture it. Bork expressly tied his conception of consumer welfare to increases in output. For example, he argued, the two things prohibited by the Sherman Act, collusion and exclusion, were bad because they "enable[ed] the parties to restrict output, thus creating misallocation of resources."[184] In his thinking at that time, the plausible effects of a competition-affecting practice was either "efficiency or restriction of output," but not both.[185] He wrote a year later that:

> Acceptance of consumer want satisfaction as the law's ultimate value requires the courts to employ as their primary criterion the impact of any agreement upon output, and thus to determine whether the net effect of the agreement is to create efficiency, and thereby increase output or, alternatively, to restrict output.[186]

In a 1966 article on the legislative history of the Sherman Act, Bork identified the concern with output reductions numerous times.[187] Consistent with the many observations of others,[188] he argued that the overall goal of the statute was to prohibit agreements that decrease consumer wealth

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how changes in consumer taste affect consumer welfare); R. K. Davidson, *The Alleged Excess Burden of an Excise Tax in the Case of an Individual Consumer*, 20 REV. ECON. STUD. 209 (1952) (discussing effect of excise taxes when passed on from merchant to consumer); Alex Hunter, *Product Differentiation and Welfare Economics*, 69 Q.J. ECON. 533 (1955) (product differentiation increases consumer welfare because consumers prefer a variety of products); Arnold C. Harberger, *Monopoly and Resource Allocation*, 44 AM. ECON. REV. 77 84 (1954) (monopoly harms consumer welfare); Robert S. Lynd, *The Consumer Becomes a "Problem,"* 173 ANNALS AM. ACAD. POL. & SOC. SCI. 1 (1934) (prominent New Deal era sociologist decrying shift of government policy concern away from the welfare of consumers and toward that of business). *See also* Covey T. Oliver, *The Fair Trade Acts*, 17 TEX. L. REV. 391 (1939) (arguing that resale price maintenance ("fair trade") harms consumer welfare). *Cf*. John A. Hobson, *Neo-Classical Economics in Britain*, 40 POL. SCI. Q. 337 (1925) (arguing that neoclassicalism rejected classicism's theory of value based on costs to one that was based on the aggregate welfare of producers and consumers).

182. *See* BORK, ANTITRUST PARADOX, *supra* note 8, at 107–12.

183. Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division*, 74 YALE L.J 775, 781 (1965) [hereinafter Bork, *Rule of Reason I*].

184. *Id*. at 775; Robert H. Bork, *A Reply to Professors Gould and Yamey*, 76 YALE L.J. 731, 740 (1968) ("[o]utput effect is a valid criterion because it is related to consumer welfare").

185. Bork, *Rule of Reason I*, *supra* note 183, at 832.

186. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division II*, 75 YALE L.J. 373, 375 (1966) (emphasis added).

187. Bork, *Legislative Intent*, *supra* note 30, at 7.

188. *See supra* notes 30–32 and accompanying text.

"through restriction of output,"[189] that the concern with cartels was that "output should not be artificially restricted,"[190] that the concern for monopolies was to identify practices that might "impose lower output and higher prices upon consumers." Speaking of John Sherman's bill, he concluded that "[i]it could hardly be clearer that Sherman wanted to stop restrictions of output and permit efficiency."[191]

The entire thrust of Bork's argument in the 1960s was that the purpose of the antitrust laws was to pursue practices that reduce output. These pieces were all written prior to the publication of Oliver Williamson's welfare tradeoff article in 1968.

By the time Bork published *The Antitrust Paradox* a decade later, however, he had read Williamson and changed his mind.[192] Now he was willing to accept that even a practice such as a merger that reduced output significantly could be efficient if the gains from productive efficiency exceeded the welfare losses of the output reduction.

While Bork accepted the welfare tradeoff model in *The Antitrust Paradox*, he largely limited it to the tradeoff that occurs between consumers and producers, not giving much attention to effects on third parties.[193] To illustrate, under this model a price-increasing joint venture that produced $1000 in consumer losses from higher prices, but $1200 in increased producer profits from a combination of cost reductions and higher margins would be counted as a welfare gain and thus should be legal.[194] Bork did not consider the economic harm done to third parties such as excluded competitors, and these can be significant.[195]

One particularly damaging feature of the welfare tradeoff model as Williamson developed it and Bork paraphrased it was that a relatively small profit increase for producers would be sufficient to offset rather large price increases to consumers. As a result, even practices that reduced output and raised price significantly were thought to increase welfare. Williamson concluded that under typical assumptions about elasticities of demand a cost

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189. Bork, *Legislative Intent*, *supra* note 30, at 7.

190. *Id.* at 11.

191. *Id.* at 15 n.11. Bork continued:

> Apparently Sherman thought of production and trade as separable phases of the economic process, and the two phrases together are subsumed within the modern phrase "restriction of output." The idea that restriction of output was at the root of the problem to be dealt with, was expressed by others as well. Senator Pugh and Representative Heard both expressed that idea.

Id. at 16 n.16.

192. BORK, ANTITRUST PARADOX, *supra* note 8, at 107–12.

193. *Id.*

194. For graphic illustrations, see HOVENKAMP, FEDERAL ANTITRUST POLICY, *supra* note 125, §12.2b.

195. *See id.* at §1.3c, d.

reduction of 1%–4% would be sufficient to offset a price increase of about 20%.[196] "More generally it is evident that a relatively modest cost reduction is usually sufficient to offset relatively large price increases."[197] This led Williamson to conclude that "a merger which yields non- trivial real economies must produce substantial market power and result in relatively large price increases for the net allocative effects to be negative."[198] This conclusion was controversial.[199]

Further, both Williamson and Bork found wealth transfers from consumers to producers to be irrelevant to the calculus of antitrust welfare. As Bork quoted Williamson:

> Inasmuch as the income redistribution which occurs is usually large relative to the size of the dead-weight loss, attaching even a slight weight to income distribution effects can sometimes influence the overall valuation significantly.[200]

For example, a practice that produced $1000 in monopoly profits and a corresponding loss of $1000 in consumers' surplus would be efficient if it produced a $200 deadweight loss offset by $210 in productive efficiency savings. These numbers, which are not unrealistic, entailed that antitrust policy would close its eyes to enormous price increases above cost in the name of unproven efficiencies. It also placed a thumb on the antitrust scales in favor of maldistribution of wealth—and all in defense of a regime that resulted in lower output.

For Bork, one key to making this work was his argument that the efficiencies themselves cannot be measured but must be assumed.

K. The Measurement of Efficiencies

Williamson's model for welfare tradeoffs would impose severe measurement difficulties on any court that tried to use it as a legal test, at least in close cases.[201] Using it would require cardinal measures of economic welfare changes resulting from the creation of monopoly power. Output is only one portion of this calculus. Someone would also need to know the amount of lost consumer surplus on each sale.

196. Williamson, *Welfare Tradeoffs*, *supra* note 6, at 22.
197. *Id.*
198. *Id.* at 23.
199. *See* DePrano & Nugent, *supra* note 177.
200. BORK, ANTITRUST PARADOX, *supra* note 8, at 111 (quoting Williamson, *Welfare Tradeoffs*, *supra* note 6, at 28).
201. On the measurement difficulties of assessing antitrust practices under a general welfare test, see Hovenkamp, *Imperiled*, *supra* note 180, at 71–72.

Bork acknowledged this problem in *The Antitrust Paradox* but came up with a damaging solution from which antitrust policy has not fully recovered. Not only did he consider the welfare tradeoff to be incapable of measurement, he denied that efficiencies themselves could be quantified. Using economies of scale as an example, he concluded that the problem of efficiency measurement is "utterly insoluble."[202] Rather, efficiencies should be taken on faith. Bork reached this conclusion by going off on a tangent that had nothing to do with the question at hand, which was how to measure economies of scale. Rather, he looked at all of the factors that affect firm size, including management, finance, and marketing. He concluded that if a firm had to defend a merger on efficiency grounds the court "could not begin to assign a quantitative value" to such claims.[203]

Bork never explained the basis for this conclusion. The efficiencies in question are production efficiencies, which are cost reductions or quality improvements that attend changes in a firm's scope, technology, or methods. They are measured by computing savings in production or distribution costs, multiplied by the predicted number of production units to which the new technology will apply. They do not require anything as inchoate as the measure of surplus, which is the amount something costs subtracted from the buyer's subjective willingness to pay.

To be sure, measurement of cost savings can be difficult, but to say that the problem of efficiency measurement is "utterly insoluble" suggests that a firm has no means for determining whether an investment in new technology or processes is worthwhile. More importantly, it also suggests that a firm contemplating acquisition of another firm would have no mechanism for estimating how much it should be willing to pay.

But the fact is that efficiencies are routinely traded on markets. Bork's skepticism is belied by the fact that firms do these things all the time. A firm considering whether to invest, say, $50,000,000 in improved assembly line technology must be able to estimate expected gains sufficiently to conclude that this is a good investment.[204] Many mergers occur at substantial premiums above current stock prices—a fact that was already well known

202. BORK, ANTITRUST PARADOX, *supra* note 8, at 126.

203. *See id.* at 126–27 (citing E.A.G. ROBINSON, THE STRUCTURE OF COMPETITIVE INDUSTRY 12 (1958)).

204. On the methodologies, see ROBIN C. SICKLES & VALENTIN ZELENYUK, MEASUREMENT OF PRODUCTIVITY AND EFFICIENCY: THEORY AND PRACTICE (2019); THE OXFORD HANDBOOK OF PRODUCTIVITY ANALYSIS (Emili Grifell-Tatje et al. eds., 2018); THE MEASUREMENT OF PRODUCTIVE EFFICIENCY AND PRODUCTIVITY GROWTH (Harold O. Fried, C.A. Knox Lovell & Shelton S. Schmidt eds., 2008); Hitesh Doshi, Praveen Kumar & Vijay Yerramilli, *Uncertainty, Capital Investment, and Risk Management*, 64 MGMT. SCI. 5461 (2018) (arguing that investment uncertainty exists but impacts mainly smaller firms).

at Bork's time.[205] Willingness to pay a particular premium is rational only on the assumption that the firm has been able to make at least a serviceable estimate of gains. As with any predictive science, estimating productive efficiency gains from a particular future investment involves assumptions that may not always obtain, and thus a certain amount of risk. To say that these changes are utterly incapable of measurement, however, reflects Bork's lack of understanding about how firms make decisions.

So how did Bork justify his emphasis on efficiencies and the tradeoff model, given his belief that they were impossible to prove? The answer was his equally strong but completely unfounded belief that very few practices, and almost no mergers, threatened high prices in the first place. If a merger of two firms could not possibly lead to a price increase, then the only explanation that makes the merger rational is efficiencies. According to Bork, "price theory tells us that many practices the law now views as dangerous do not contain any potential for restriction of output."[206] He concluded, "In such cases there is no trade-off problem."[207] The only book on price theory that Bork cited for these propositions was George Stigler's 1966 volume, which was a failed attempt to shore up the model of perfect competition.[208]

Bork concluded that mergers creating a post-merger market share of less than 60 to 70 percent should simply be ignored because they posed no threat of higher prices.[209] Of course, that entire argument falls apart if the danger of anticompetitive price increases occurs at market share numbers smaller than that—and today a wealth of empirical data indicates that this is true.[210]

Bork's conception of "consumer welfare" so as to include producer profits haunts antitrust policy to this day.[211] Under it, for example, the dissenters in the Supreme Court's *Actavis* decision could speak of antitrust as adhering to a consumer welfare principle even as they would have approved a practice (a pay-for-delay patent settlement) that resulted in very substantially higher prices to consumers.[212] Or the majority in the *American*

205. *E.g.*, James F. Nielsen and Ronald W. Melicher, *A Financial Analysis of Acquisition and Merger Premiums*, 8 J. FIN. & QUAN. ANALYSIS 139 (1973) (concluding that estimated efficiencies and synergies drove most acquisition prices at a premium above stock value).

206. BORK, ANTITRUST PARADOX, *supra* note 8, at 128.

207. *Id.*

208. GEORGE J. STIGLER, THE THEORY OF PRICE (3d ed. 1966). On Stigler's losing battle to protect perfect competition models from various imperfect competition alternatives, see Hovenkamp, *Antitrust Error Costs*, *supra* note 53.

209. *Id.* at 221.

210. *See* HOVENKAMP, FEDERAL ANTITRUST POLICY, *supra* note 125, §12.1.

211. *See, e.g.*, Daniel A. Crane, *The Tempting of Antitrust: Robert Bork and the Goals of Antitrust Policy*, 79 ANTITRUST L.J. 835, 836 (2014).

212. *See* FTC v. Actavis, Inc., 570 U.S. 136, 161 (2013) (Roberts, C.J., dissenting). In a pay-for-delay settlement a patentee with a weak patent pays an alleged infringer to stay out of the market, thus

Express decision could profess adherence to the consumer welfare principle even as they were approving a practice that resulted in higher consumer prices and merchant costs every single time it was applied.[213] In both cases the practice was highly profitable to producers, and that was all that mattered. Never mind that consumers were consistently harmed.

Very likely, one of the reasons that the consumer welfare principle has faced so much opposition from antitrust progressives[214] is that many people do not understand its meaning. By identifying the principle with Bork, they see high profits and reduced opportunities for labor as its principal products.[215] Of course, this is not true of everyone. Some of the consumer welfare principle's detractors simply prefer a regime that protects small business or opposes large firms because of their political power or perhaps some other reason. In that case, consumers and labor pay the price.

II. CAUSATION AND REMEDIES

Antitrust enforcement requires both a theory of harm and a theory of causation. The rhetoric of antitrust enforcement often speaks of private plaintiffs as "private attorneys general."[216] In fact, however, both the statutory structure of antitrust's enforcement provisions as well as nonstatutory doctrine distinguishes sharply between public and private enforcers. For example, the Supreme Court's *Illinois Brick* decision evoked the "private attorneys general" bromide even as it restricted the range of private enforcement to something far less than the power of the enforcement agencies.[217] The federal government can enforce the law against price fixing

keeping generic competition out for the duration of the delay. *See* HOVENKAMP, FEDERAL ANTITRUST POLICY, *supra* note 125, §5.5c3.

213. Ohio v. Am. Express, 138 S. Ct. 2274, 2290 (2018) (majority opinion). *See* Erik Hovenkamp, *Platform Antitrust*, 44 J. CORP. L. 713 (2018); HOVENKAMP, FEDERAL ANTITRUST POLICY, *supra* note 125, §10.10. The challenged practice forbad merchants from offering customers a lower price in exchange for using a cheaper credit card.

214. *See* Hovenkamp, *Imperiled*, *supra* note 180.

215. *E.g.*, BARRY LYNN, CORNERED: THE NEW MONOPOLY CAPITALISM AND THE ECONOMICS OF DESTRUCTION 136 (2011); Thomas J. Horton, *The Coming Extinction of Homo Economicus and the Eclipse of the Chicago School of Antitrust: Applying Evolutionary Biology to structural and Behavioral Antitrust Analyses*, 42 LOY. U. CHI. L.J. 469, 502 (2011); Carl T. Bogus, *The New Road to Serfdom: The Curse of Bigness and the Failure of Antitrust*, 43 MICH. J.L. REFORM 1, 16–17 (2015); Sandeep Vaheesan, *The Twilight of the Technocrats' Monopoly on Antitrust*?, 127 YALE L.J. FORUM 980, 988 (2018).

216. Illinois Brick v. Illinois, 431 U.S. 720, 746 (1977); Perma Life Mufflers, Inc. v. Int'l Parts Corp., 392 U.S. 134, 147 (1968) (Fortas, J., concurring); O'Bannon v. NCAA, 739 Fed. App'x 890, 894 (9th Cir. 2018); Novell, Inc. v. Microsoft Corp., 505 F.3d 302, 317–18 (4th Cir. 2007); *In re* High-Tech Employee Antitrust Litig., 985 F.2d 1167, 1179 (N.D. Cal. 2013).

217. *Illinois Brick*, 431 U.S. at 746 (limiting private damages recoveries to direct purchasers).

whether or not it is a direct purchaser and—indeed, even if it is not a purchaser at all.

The distinction between private and public enforcement is reflected mainly in causation requirements, which draw heavily from traditional criminal law and tort theory. Only the private enforcer must show particular causation and individual harm. For example, the police officer can enforce the law against drunk driving even though there is no accident, and no one is hurt. The legal violation is all that is required, because the rationale for the police officer's duties is management of risk to the public. A private plaintiff, by contrast, ordinarily needs to show some kind of actual or specifically threatened injury caused by the violation.

A. Causation in the Antitrust Remedial Provisions

The antitrust statutes create a tort-like approach to causation in private actions. By contrast, the public enforcement statutes contain no causation requirement at all. Under them, the Attorney General has the authority to "prevent and restrain" antitrust violations, with no express requirement that the violation has caused any harm.[218] The Federal Trade Commission operates under similar authority "to prevent" firms "from using unfair methods of competition"—once again, with no causation requirement.[219]

These provisions stand in sharp contrast to antitrust's private action provisions. Section 4 of the Clayton Act awards treble damages to a private plaintiff who can prove that he was "injured in his business or property by reason of anything forbidden in the antitrust laws."[220] Section 15 of the Clayton Act provides an injunction to a firm who can show "threatened loss or damage by a violation of the antitrust laws . . . ."[221]

218. 15 U.S.C. § 25:

> The several district courts of the United States are invested with jurisdiction to prevent and restrain violations of this Act, and it shall be the duty of the several United States attorneys, in their respective districts, under the direction of the Attorney General, to institute proceedings in equity to prevent and restrain such violations.

219. 15 U.S.C. § 45(2):

> The Commission is hereby empowered and directed to prevent persons . . . from using unfair methods of competition in or affecting commerce and unfair or deceptive acts or practices in or affecting commerce.

220. § 15.

221. § 26.

The difference in substantive reach between the private and public equity provisions is also notable. The statute authorizing private antitrust injunctions permits them:

> under the same conditions and principles as injunctive relief against threatened conduct that will cause loss or damage is granted by courts of equity, under the rules governing such proceedings . . .[222]

Those conditions and principles include a showing of an "inadequate remedy at all," "irreparable harm," and "a balance of interests favoring injunctive relief."[223]

By contrast, the statute authorizing the United States as enforcer to obtain an injunction imposes no such limitation. It simply authorizes the government to use the courts to "prevent and restrain" antitrust violations, *simpliciter*.[224] The inference is thus strong that Congress did not intend to limit the Antitrust Division's equity enforcement power to historical principles of equity. As Judge Wyzanski once observed, "[i]n the antitrust field the courts have been accorded, by common consent, an authority they have in no other branch of enacted law . . . ."[225] That language is also broad enough to authorize disgorgement, or the defendant's return of unlawfully-acquired gains. The realistic threat of having to pay a penalty is an important component of any program to prevent and restrain violations.

Section 13(b) of the Federal Trade Commission Act,[226] by contrast, was drafted more narrowly. It authorizes the FTC to obtain "a permanent injunction" in federal court against conduct that "is violating, or is about to violate" a law that the FTC enforces. In its decision in *AMG Capital Management, LLC v. FTC*, the Supreme Court held that this provision did not authorize the FTC to seek the equitable remedies of restitution or disgorgement, which refer to remedies requiring the violator to give up unlawfully obtained monopoly gains.[227] As a matter of statutory interpretation, that appears to be the correct answer, but it creates a gaping

222. *Id.*

223. *E.g.*, eBay, Inc. v. MercExchange, LLC, 547 U.S. 388, 391 (2006) (listing the four requirements for a permanent injunction as (1) irreparable injury; (2) inadequacy of remedies at law, such as damages; (3) that the balance of hardships favors the plaintiff; and (4) that the public interest would not be disserved by an injunction). *See also* Beacon Theatres, Inc,. v. Westover, 359 U.S. 500 (1959) (antitrust claim).

224. 15 U.S.C. § 25.

225. United States v. United Shoe Mach. Corp., 110 F. Supp. 295, 348 (D. Mass. 1953), *aff'd per curiam*, 347 U.S. 521 (1954).

226. 15 U.S.C. § 53(b).

227. AMG Cap. Mgmt., LLC v. FTC, 141 S. Ct. 1341 (2021). *But see* Liu v. SEC, 140 S. Ct. 1936 (2020) (permitting disgorgement limited to wrongfully obtained profits under statute that gave the SEC power to grant 'any equitable relief that may be appropriate or necessary . . . ."). Only Justice Thomas objected, complaining that disgorgement is not an equitable remedy at all. *Id.* at 1950.

hole in enforcement policy that needs Congressional action. It is like telling Police that they can ticket speeders but issue only warnings—almost certainly not effective to combat speeding. In order to be effectively deterred, firms need to be threatened with a remedy that is sufficient at the margin to make the conduct unprofitable, and this statute as now interpreted falls very far short.[228]

One other causation-related requirement that applies to private parties but not public enforcers is "antitrust injury," which is a nontextualist limitation on both private damages actions and private suits in equity. Literally, Section 4 of the Clayton Act says that "any person" who is injured "by reason of anything forbidden in the antitrust laws" has standing to obtain damages. That is, it requires only cause-in-fact plus injury. The additional requirement of antitrust injury originated with Justice Thurgood Marshall's opinion in *Brunswick v. Pueblo Bowl-O-Mat*, a damages action challenging a vertical merger.[229] Pueblo, the plaintiff, operated a bowling alley in Pueblo, Colorado. Its competitor Belmont Lanes was in financial distress and deeply indebted to its franchisor, Brunswick.[230] Under a program of buying up failing franchisees, Brunswick purchased Belmont Lanes, injected new money into it, and rehabilitated it. Pueblo's lawsuit claimed that the acquisition was an unlawful merger, and that it was injured by the need to compete with a rejuvenated rival.

Clearly, if these allegations were substantiated Pueblo suffered injury-in-fact that was "caused" by the acquisition. We can generally presume that a firm is injured when its failing competitor is rehabilitated. Whether the acquisition was substantively unlawful under the merger laws is another matter, and the Supreme Court did not resolve it.[231]

Nevertheless, the facts require a double take: the plaintiff was effectively complaining about *more* rather than less competition in the Pueblo, Colorado, bowling market. This particular vertical merger actually increased output. That was too much even for Justice Marshall, a liberal

228. On optimal deterrence, see HOVENKAMP, FEDERAL ANTITRUST POLICY, *supra* note 125, §17.2. An important classic treatment is William M. Landes, *Optimal Sanctions for Antitrust Violations*, 50 U. CHI. L. REV. 652 (1983). *See also* § 15(a).

229. Brunswick Corp. v. Pueblo Bowl-O-Mat, 429 U.S. 477 (1977).

230. For a fuller statement of the facts, see NBO Indus. Treadway Co., Inc. v. Brunswick Corp., 523 F.2d 262 (3d Cir. 1975), which the Supreme Court reversed.

231. The Third Circuit did not resolve the legality question either but rejected the defendant's request for a judgment notwithstanding the verdict and remanded for a new trial. NBO Indus. Treadway Cos., Inc. v. Brunswick Corp., 523 F.2d 262, 279 (3d Cir. 1975), *vacated sub nom.* Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477 (1977). The district court had approved a jury's verdict finding a violation. *See* Treadway Cos., Inc. v. Brunswick Corp., 364 F. Supp. 316 (D.N.J. 1973).

who believed in aggressive antitrust enforcement.[232] He concluded for the Court that a private plaintiff must show not merely injury-in-fact caused by an antitrust violation, but also "antitrust injury." That means injury "of the type the antitrust laws were intended to prevent and that flows from that which makes defendant's acts unlawful."[233] Manifestly it was not the purpose of the merger laws to protect firms from being injured by increased competition. A few years later the Supreme Court extended *Brunswick* to private actions seeking an injunction.[234] The doctrine does not apply to the government acting as enforcer because, as previously noted, the government need not show injury at all.

Given that antitrust's remedial statutes articulate these causation requirements, it would seem superfluous to have additional causation requirements in the substantive statutes themselves. In fact, however, the issue is more complicated.

Section 1 of the Sherman Act prohibits contracts in restraint of trade, leaving it to the courts to define that term. After Justice Peckham's initial indication in the *Trans-Missouri* case that Section 1 reaches "every" contract the Court backtracked and concluded that it prohibited only those agreements that restrain trade "unreasonably."[235] Section 2's monopolization provision is similarly interpreted to reach only acts that appear to be reasonably capable of monopolizing.[236] Nothing in the statutory language considers exactly what these requirements are, or even whether there need to be any effects at all.

Showing that an agreement restrains trade requires adequate evidence that the agreement is of a type that realistically threatens an output reduction and corresponding price increase. The government as enforcer needs to show that, but it need not show actual injury. The private plaintiff must

232. *E.g.*, United States v. Topco Assocs., Inc., 405 U.S. 596, 610 (1972) (Marshall, J.) (applying per se rule against ancillary restraint in joint venture with a small market share after declaring that the antitrust laws are "the Magna Carta of free enterprise").

233. *Brunswick*, 429 U.S. at 489.

234. Cargill, Inc. v. Monfort of Colo., Inc., 479 U.S. 104 (1986).

235. United States v. Trans-Missouri Freight Ass'n, 166 U.S. 290, 312–13, 328 (1897) ("[T]he plain and ordinary meaning of such language is not limited to that kind of contract alone which is in unreasonable restraint of trade, but all contracts are included in such language."). This holding was limited by *Standard Oil Co. of New Jersey v. United States*. *See* 221 U.S. 1, 58–65 (1911) ("the standard of reason … was intended to be the measure"); United States v. Am. Tobacco Co., 221 U.S. 106, 180–81 (1911); *see also* United States v. Trenton Potteries Co., 273 U.S. 392, 396 (1927) ("That only those restraints upon interstate commerce which are unreasonable are prohibited by the Sherman Law was the rule laid down by the opinions of this Court in the *Standard Oil* and *Tobacco* Cases.").

236. *See* 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶651 (4th ed. 2015). *See also* United States v. Microsoft, 253 F.3d 34, 79 (D.C. Cir. 2001) (quoting ¶651) ("reasonably appear capable of making a significant contribution to . . . maintaining monopoly power").

additionally show individual injury resulting from a restraint of trade.[237] But this is a requirement of the private action provision, Section 4 of the Clayton Act, not of Section 1 of the Sherman Act directly. This injury could be an overcharge in the case of damages, or market exclusion in the case of a boycott or exclusive dealing agreement.

Section 2 monopolization cases work the same way. The government must show conduct that reasonably seems capable of causing reduced output and increased prices by excluding a rival. The private plaintiff must additionally show an actual effect producing an injury in order to support a damages action or individually threatened harm to support an injunction. The required private effect could be either a higher price which it paid, or lost profits from market exclusion.

The substantive provisions of the Clayton Act differ from the Sherman Act in that they explicitly incorporate an "effects" test. All three of the Clayton Act's substantive provisions reach conduct only "where the effect may be substantially to lessen competition or tend to create a monopoly."[238] Section 2 of the Act, later amended by the Robinson-Patman act, prohibits certain price differences, but using that qualifying language.[239] Section 3 of the Clayton Act, which governs exclusive dealing and tying, prohibits sales on the condition that the buyer not deal with a competitor, "where the effect of such . . . sale . . . may be to substantially lessen competition or tend to create a monopoly . . . ."[240] Finally, Section 7 of the Clayton Act prohibits covered mergers under the same conditions.[241]

For all three Clayton Act provisions, the causation requirement is diluted by the language "where the effect may be," indicating that certainty is not a requirement. The courts subsequently made clear that this effects language was triggered by "probabilities" rather than "certainties."[242] To that extent they incorporate risk management concerns into the calculus of violation. However, a private plaintiff still needs to enforce them under either Section

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237. *See* 2 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶338 (5th ed. 2021).

238. 15 U.S.C. § 18.

239. § 13. The Robinson-Patman amendments, added in 1936 added "or to injure, destroy, or prevent competition with any person who either grants or knowingly receives the benefit of such discrimination . . . ." *Id.*

240. § 14.

241. § 18 ("[W]here in any line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly.").

242. *E.g.*, Brown Shoe Co. v. United States, 370 U.S. 294, 323 (1962) (Congress was indicating "that its concern was with probabilities, not certainties."). *See also* FTC v. Procter & Gamble Co., 386 U.S. 568 (1967) ("The section [of the Clayton Act] can deal only with probabilities, not with certainties."). More recently, see St. Alphonsus Medical Center-Nampa, Inc. v. St. Luke's Health Sys., Ltd., 778 F.3d 775, 783 (9th Cir. 2015) (quoting *Brown Shoe*, 370 U.S. at 323) ("judicial analysis necessarily focuses on 'probabilities, not certainties'").

4 or Section 16 of the Clayton Act, and thus needs to show causation and either actual harm under Section 4, or individually threatened harm under Section 16.[243]

Clearly, the statutes do not require that the conduct actually raised price or excluded firms from the market, but only that the effect "may be" that they would do so. This is a more express invitation to include an element of risk management into public enforcement. For example, it enables such procedures as pre-merger evaluation and condemnation of proposed acquisitions, which necessarily occur before there is any measurable harm.[244] The additional requirement imposed on private challengers derives purely from the private action statutes and requires actual or individually threatened harm. For example, merely showing a merger that crosses a particular concentration threshold can permit the government to obtain an injunction, but a private plaintiff would have to show some more specific harm, such as a threat of higher prices or market exclusion.[245]

B. Restraints on Innovation: Public v. Private Enforcement

Many of the harms that antitrust law condemns are apparent even though they are difficult to quantify. One is antitrust's legitimate concern with restraints on innovation. Such restraints are particularly pernicious because the social value of innovation is very high. Indeed, today a broad consensus exists that the economic gains from innovation exceed the gains from increased competition under constant technology, and by a significant amount.[246] A corollary is that a restraint on innovation can cause

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243. *See supra* notes 220–221 and accompanying text.

244. *See* 4A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶990 (4th ed. 2017).

245. *See* Steves and Sons, Inc. v. JELD-WEN, Inc., 988 F.3d 690 (4th Cir. 2021) (finding actual harm in market exclusion from an unlawful merger and ordering divestiture at the behest of a private plaintiff); Erin Fischer, *Private Merger Challenges Under § 16 of the Clayton Act: Caution Post-* JELD-WEN, 170 U. PA. L. REV. (forthcoming 2021).

246. The classic statement is Robert M. Solow, *Technical Change and the Aggregate Production Function*, 39 REV. ECON. STUD. 32 (1957) (concluding that 90% of economic growth came from innovation rather than market competition under constant technology). The literature uses a wide range of methodologies and techniques but is virtually unanimous that innovation is a heavy if not the dominant contributor to economic growth. *See, e.g.*, Rana P. Maradana, Rudra P. Pradhan, Saurav Dash, Kunal Gaurav, Manju Jayakumar & Debaleena Chatterjee, *Does Innovation Promote Economic Growth? Evidence from European Countries*, 6 J. INNOVATION & ENTREPRENEURSHIP 1 (2017); Iftekhar Hasan & Christopher L. Tucci, *The Innovation-Economic Growth Nexus: Global Evidence*, 39 RES. POL'Y 1264 (2010); Bart Verspagen, *Innovation and Economic Growth*, *in* THE OXFORD HANDBOOK OF INNOVATION (Jan Fagerberg and David C. Mowery eds., 2009). For other, older work, see WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW (2003); LAWRENCE LESSIG, THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD (2001); Robert P. Merges, *One Hundred Years of Solicitude: Intellectual Property Law, 1900-2000*, 88 CAL. L. REV. 2187, 2235 (2000); Adam B. Jaffe, *The U.S. Patent System in*

significantly more economic harm than a restraint on price or output of an existing product or technology.

One big problem, however, is that innovation is much less well disciplined, and thus less predictable in individual cases, than is price competition under constant technology.[247] Today we have good tools for relating changes in output to price and making predictions about the price effects of mergers or other practices that tend to limit output. Innovation, by contrast, is radically unpredictable.[248]

Significant risk but uncertain individual prediction is a frequent characteristic of antitrust enforcement, but particularly in highly innovative markets. One consequence of this is differentiated causation requirements depending on who the plaintiff is. For the public enforcer, the principal concern is management of risks, many of which are uncertain. For the private plaintiff, the concern is actual or individually threatened harm to its own business or prospects.

A good illustration of the application of these principles to innovation is the *Microsoft* litigation, a case initially brought by the government and seeking equity relief for conduct that included restraints on innovation. Against the defendant's argument for stronger proof of causation the court found no case law support for a plaintiff's requirement to "present direct proof that a defendant's continued monopoly power is precisely attributable to its anticompetitive conduct."[249] Rather, the court held in such a case causation could be inferred "from the fact that a defendant has engaged in anticompetitive conduct that 'reasonably appear[s] capable of making a significant contribution to . . . maintaining monopoly power.'"[250] The court then added,

> We may infer causation when exclusionary conduct is aimed at producers of nascent competitive technologies as well as when it is aimed at producers of established substitutes. Admittedly, in the former case there is added uncertainty, inasmuch as nascent threats are merely potential substitutes. But the underlying proof problem is the same—neither plaintiffs nor the court can confidently reconstruct

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Transition: Policy Innovation and the Innovation Process, 29 RES. POL'Y 531 (2000); JARED DIAMOND, GUNS, GERMS & STEEL: THE FATES OF HUMAN SOCIETIES, ch. 13 (1999).

247. *See, e.g.*, Stephen J. Kline & Nathan Rosenberg, *An Overview of Innovation* 173, *in* NATHAN ROSENBERG, STUDIES ON SCIENCE AND THE INNOVATION PROCESS (2009); Jonathan B. Baker, *Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation*, 74 ANTITRUST L.J. 575 (2007); JOSEPH A. SCHUMPETER, THE THEORY OF ECONOMIC DEVELOPMENT (1911).

248. *See* Herbert Hovenkamp, *Restraints on Innovation*, 29 CARDOZO L. REV. 247 (2007).

249. United States vs. Microsoft Corp., 253 F.3d 34, 79 (D.C. Cir. 2001) (en banc) (per curiam).

250. *Id.* (quoting 3 PHILLIP E AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶651C (3d ed. 1996)).

> a product's hypothetical technological development in a world absent the defendant's exclusionary conduct. To some degree, "the defendant is made to suffer the uncertain consequences of its own undesirable conduct."[251]

The issue was whether Microsoft's conduct had served to restrain the development of a rival internet browser, Netscape Navigator, facilitated by the Java computer language. The court explained:

> Given this rather edentulous test for causation, the question in this case is not whether Java or Navigator would actually have developed into viable platform substitutes, but (1) whether as a general matter the exclusion of nascent threats is the type of conduct that is reasonably capable of contributing significantly to a defendant's continued monopoly power and (2) whether Java and Navigator reasonably constituted nascent threats at the time Microsoft engaged in the anticompetitive conduct at issue. As to the first, suffice it to say that it would be inimical to the purpose of the Sherman Act to allow monopolists free reign to squash nascent, albeit unproven, competitors at will—particularly in industries marked by rapid technological advance and frequent paradigm shifts. As to the second, the District Court made ample findings that both Navigator and Java showed potential as middleware platform threats.[252]

These conclusions, which are equally relevant to cases involving Google, Facebook, or other digital platforms, stand in sharp contrast to those in follow-on private litigation against Microsoft challenging the same conduct. The facts in the Fourth Circuit's *Kloth v. Microsoft* decision[253] were taken entirely from the government's litigation. The plaintiffs were purchasers and users of Windows computers claiming that Microsoft's conduct targeting Java technology restrained innovation and denied them the benefits of a more competitive market by "suppressing competitive technologies."[254]

In rejecting that claim, the Fourth Circuit agreed with the District Court that:

> It would be entirely speculative and beyond the competence of a judicial proceeding to create in hindsight a technological universe that never came into existence . . . It would be even more speculative

251. *Id.*
252. *Microsoft*, 253 F.3d at 79 (citations omitted).
253. Kloth vs. Microsoft Corp., 444 F.3d 312 (4th Cir. 2006).
254. *Id.* at 322.

> to determine the relevant benefits and detriments that non-Microsoft products would have brought to the market and the relative monetary value . . . to a diffuse population of end users.[255]

As a result, the court concluded, "the harms that the plaintiffs have alleged with respect to the loss of competitive technologies are so diffuse that they could not possibly be adequately measured."[256] Further, the problem "is not one of discovery and specific evidence, but of the nature of the injury claimed."[257]

Analytically, these two approaches to the same conduct seem stunningly different. The important difference does not lie in the conduct, however, but in the identity of the plaintiff and the remedy. The plaintiffs in *Kloth* were private persons seeking damages. They had to show not only a violation of Section 2 of the Sherman Act, but also that they had suffered measurable damages "by reason of" an antitrust violation, as the private enforcement statute requires. Quantifying the injury that might result from an innovation that was never developed would be impossible. The court also dismissed a request for an injunction as stale under the doctrine of laches.[258] The relevant harm was in the past, making an injunction useless. In the case of simple equity relief from conduct that was still ongoing, the private plaintiffs' case would be stronger, because they would need to show only "threatened" loss and they would not need to quantify it.[259]

C. The Relationship of Violation, Causation, and Remedy

The antitrust enforcement statutes say almost nothing about the relationship between remedies and specific antitrust violations. As previously noted, the public enforcement provision authorizes the Attorney General to "prevent and restrain" violations of "this act," referring to all of the antitrust laws. Further, the statute does this through an unrestricted grant of equitable power that does not distinguish among the various antitrust statutes and does not relate any particular violation to any particular remedy.

When criminal enforcement is on the table, the problem of indefiniteness is even more severe. For example, both Sections 1 and 2 of the Sherman Act expressly call for criminal liability without saying anything about the

255. *Id.* at 324 (quoting *In re* Microsoft Corp. Antitrust Litig., 127 F. Supp. 2d 702, 711 (D. Md. 2001).

256. *Id.*

257. *Id.*

258. *Id.* at 325–26.

259. 15 U.S.C. § 26; *see supra* note 84 and accompanying text.

difference between civil and criminal violations.[260] Section 1 makes every contract, combination or conspiracy in restraint of trade a felony.[261] Section 2 declares that "Every person who shall monopolize . . . shall be deemed guilty of a felony."[262]

Notwithstanding this language, today most violations of Section 1 of the Sherman Act are civil, as are virtually all pure Section 2 violations. Over the years, the courts and enforcement agencies have evolved a kind of common law of antitrust crimes. Both the Department of Justice[263] and the Supreme Court[264] have produced guidance about when criminal liability is appropriate.

For civil enforcement, the courts have evolved some presumptions for relating particular antitrust offenses to particular remedies. For example, outside of the merger context, "structural" (i.e., breakup) relief against single firms is largely restricted to Section 2 of the Sherman Act. This is a possible explanation of the legal theory behind the various government antitrust complaints initially filed in late 2020 against Google and Facebook.[265] The overwhelming majority of practices alleged in the complaints are for various types of agreements. These include simple deals, such as Google's payment of money to Apple to make Google Search the default browser on iPhones. They also include restrictions in various developmental agreements with app creators, advertisers, or others preventing them from favoring or using competing technologies. Further, they complain about licensing agreements, such as Google restrictions imposed on the manufacturers of Android devices.[266] While these practices are diverse, what they all have in common is that they are reachable under Section 1 of the Sherman Act, and there is an established history of applying Section 1 in these ways.

260. 15 U.S.C. §§ 1, 2.

261. § 1 ("Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a felony.").

262. § 2.

263. *See Criminal Enforcement*, U.S. DEP'T OF JUST., https://www.justice.gov/atr/criminal-enforcement [https://perma.cc/43VA-FLXB].

264. *E.g.*, United States v. U.S. Gypsum Co., 438 U.S. 422 (1978) (criminal Section 1 case requires proof of mens rea); *see also* 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶303c3 (5th ed. 2021).

265. *See* Complaint, United States v. Google, LLC, No. 1:20-cv-03010 (D.D.C. Oct. 20, 2020); Complaint, Colorado v. Google, No. 1:20-cv-03715 (D.D.C. Dec. 17, 2020); Amended Complaint, FTC v. Facebook, Inc., 1:20-cv-03590-JEB (D.D.C. Aug. 19, 2021).

266. *See* Hovenkamp, *Platform Monopoly*, *supra* note 87 (analyzing the allegations in these various complaints).

Nevertheless, the Antitrust Division's complaint against Google is entirely under Section 2, as is the Colorado state AG complaint.[267] The Federal Trade Commission's amended *Facebook* complaint[268] also proceeds entirely under the principles of Section 2 of the Sherman Act,[269] even though that complaint challenges Facebook's acquisitions of Instagram and WhatApp—practices that are more commonly challenged as mergers under Section 7 of the Clayton Act, or occasionally as unlawful combinations under Section 1 of the Sherman Act.

In general, it is easier to obtain liability for practices challengeable under Section 1 of the Sherman Act or Section 7 of the Clayton Act than it is for Section 2. Further, the requisite market share minimums are typically lower. For example, exclusionary contracts are generally reachable under Section 1 on market shares in the range of 30% to 40%, lower than the dominance requirement of Section 2. This was an issue with the original Facebook complaint, where the FTC alleged a market share in the low 60s, at the low end of the range for Section 2 cases. In dismissing that complaint, the court observed as much and also cited other inadequacies in the proposed market definition. However, it gave the FTC a chance to fix the problem.[270]

This nearly exclusive use of Section 2 when much of the conduct at issue involves agreements suggests that the Agencies will attempt to make a case for breakup remedies. Historically, Section 2 is the preferred vehicle for obtaining structural relief and we generally think of monopolization cases as "structural." Nevertheless, a forced breakup is a highly disruptive remedy that should be applied only when we are reasonably sure that competition cannot be made to work as the firm in question is currently structured. That is a factual and essentially economic inquiry, not an exercise in statutory interpretation. The statutes do not speak to the issue, and nothing in the

267. Colorado v. Google LLC, No. 1:20-cv-03715 (D.D.C. Dec. 17, 2020). The Texas AG complaint does include a claim under Section, but that complaint also includes an allegation of a market division or price fixing agreement between Google and Facebook. Complaint at ¶2, Texas v. Google, No. 4:20-cv-00957-SDJ (E.D. Tex. Dec. 16, 2020).

268. The original complaint had been dismissed, largely for inadequate allegations of market definition and market power. *See* FTC v. Facebook, Inc., No. CV 20-3590, 2021 WL 2643627 (D.D.C. June 28, 2021).

269. While the FTC cannot enforce the Sherman Act directly, Section 5 of the Federal Trade Commission Act authorizes the FTC to condemn "unfair methods of competition," which includes everything covered by the Sherman Act plus an unspecified increment. *See* FTC v. Brown Shoe Co., Inc., 384 U.S. 316, 321 (1966) ("[The] broad power of the Commission is particularly well established with regard to trade practices which conflict with the basic policies of the Sherman and Clayton Acts even though such practices may not actually violate these laws"); 2 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶302 (5th ed. 2021).

270. *FTC v. Facebook, Inc.*, 2021 WL 2643627 at *23. For my own suggestions, see Herbert Hovenkamp, *Why the FTC Antitrust Case Against Facebook Was Dismissed*, PROMARKET (July 8, 2021), https://promarket.org/2021/07/08/ftc-antitrust-facebook-breakup-lawsuit-dismissed-fix/ [https://perma.cc/6VCQ-XLQP].

language of either the substantive or the enforcement provisions links the kind of remedy to any particular violation.

The best way to think of the remedy problem is to pay less attention to which substantive antitrust statute is being invoked and look straight to the issue of justification for and likely effects of a particular remedy. This is fundamentally a question of harm and causation, not of statutory interpretation. If a firm is found to have engaged in unlawful exclusionary contracting that is or threatens to be ongoing, the appropriate remedy in most cases is an injunction, whether the action is under Section 1 or Section 2 of the Sherman Act.[271] The social loss of enjoining conduct already determined to be unlawful is small if the decision on substance was correct, and *far* less disruptive for all the affected interests if the substantive decision was incorrect.[272] This should tip the scale in favor of injunctive relief in any case except one in which the structure and the conduct are inseparable.

We often think of causation and remedies as separate and free-standing components in legal queries about harm. In fact they are not. The proof of causation that courts require often varies with the remedy that the plaintiff is seeking. Compelled structural relief is an aggressive and disruptive remedy that can be extremely costly when it is unsuccessful. For that reason, courts have been more circumspect about using it and insist on a clear link between the challenged harm and the structure being undone. By contrast, injunctive relief can be much more targeted so as to undo the harmful consequences of the defendant's conduct, and can generally do so without all of the social costs, including harms to consumers, labor, suppliers and others that threaten to undermine the efficacy of structural relief. In *Microsoft*, the D.C. Circuit made this distinction explicit, noting that Microsoft's complaints about the evidence of causation were relevant mainly to the question whether the court should provide a structural remedy or simply enjoin the unlawful conduct.[273]

To illustrate, Amazon has been accused in a number of private complaints of imposing anticompetitive most-favored-nation (MFN) clauses, which restrict the ability of its suppliers to deal with rivals that

271. For an example of a government Section 2 case against a contract practice seeking only an injunction, see United States v. Dentsply, Inc., 399 F.3d 181, 184 (3d Cir. 2005) (government requested an injunction against exclusive dealing, even though defendant's market share was 75–80% and fifteen times larger than any rival).

272. For further exploration, see 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶653 (5th ed. 2021).

273. *See* United States v. Microsoft Corp., 253 F.3d 34, 80 (D.C. Cir. 2001). ("Microsoft's concerns over causation have more purchase in connection with the appropriate remedy issue, i.e., whether the court should impose a structural remedy or merely enjoin the offensive conduct . . . .").

charge lower prices than Amazon.[274] Although fact finding has not been done at this writing, it is at least possible that such clauses can contribute to both higher margins and exclusion of rivals—that is, they harm both consumers and competitors. If these clauses are found to be unlawful, should that warrant a breakup of Amazon? On the contrary, Amazon's widespread use of MFN clauses indicates that it perceives significant threats of competition. At the same time, the Amazon marketplace appears to have considerable social value. If so, the best antitrust remedy is one that removes anticompetitive restraints, not one that breaks it up.

Injunctions can raise their own issues concerning complexity. The easiest to create and administer is the simple prohibitory injunction. The biggest problem is producing the correct fit between the scope of the injunction and the range of conduct sought to be prohibited. By contrast, mandatory injunctions that require future dealing are more difficult to define and enforce. This explains a great deal of the traditional judicial hostility toward mandatory dealing orders—particularly if the injunctions name prices or other terms that may need subsequently to be modified. That issue arose in both the *Kodak* case on remand, and in the Supreme Court's more recent decision in *NCAA v. Alston*.

Eastman *Kodak Co. v. Image Technical Services*[275] is a widely criticized decision in which the Court held that a nondominant manufacturer of photocopiers could have had a monopoly in its own aftermarket parts and service.[276] As a result, it could have a duty to supply aftermarket repair parts to independent service technicians who wished to maintain Kodak's photocopiers. After remand the plaintiffs won the subsequent trial. The court issued a dealing order requiring Kodak to supply its full catalog of parts, whether generic or not, to the independent service organizations.[277] The Ninth Circuit substantially affirmed that order, with a few modifications.[278] The dealing order naturally raised a question of price. The district court required that Kodak charge "reasonable" prices.[279] Lacking a baseline for reasonableness, the court referenced a deal with Danka Office Imaging, another manufacturer of photocopiers. Kodak had in the interval sold its entire copier and copier service division and exited from the

274. *See* notes 117–20 and accompanying text.

275. 504 U.S. § 451 (1992).

276. For criticism, see HOVENKAMP, FEDERAL ANTITRUST POLICY, *supra* note 125, §3.3.

277. Image Tech. Serv., Inc. v. Eastman Kodak Co., No. C 87-1686, 1996 WL 101173 (N.D. Cal. Feb. 28, 1996).

278. Image Tech. Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195 (9th Cir. 1997), *cert. denied*, 523 U.S. 1094 (1998).

279. *Eastman Kodak Co.*, 1996 WL 101173 at *4.

market.[280] The court concluded that the nominal contract prices attributed to parts in this deal should govern price determination in the dealing order.

More recently, the Supreme Court upheld all parts of a detailed antitrust injunction against the NCAA respecting compensation for student athletes.[281] The order affected multiple components of compensation, including both benefits that were directly related to the students' education (such as tuition) and those that were not. Its guiding principle was that the NCAA could limit compensation to the full cost of education, but not further. While the order was complex, the Supreme Court noted that to date the parties had sought clarification from the court only once.[282]

Structural relief should be on the table when the conduct is inherent in the existing structure. As a result, it cannot effectively be remedied by an injunction. This presupposes, however, that a court could not foresee anticompetitive conduct, could not draft an injunction broad enough to cover probable competitive harm, or that an injunction alone would not be sufficient for some other reason.[283]

One question relevant to the determination of remedies is whether some firms, but particularly large digital platforms such as Facebook or Google, are "winner-take-all" markets, or natural monopolies. While many people believe that they are, the weight of the evidence is strongly to the contrary for most of them.[284] The dominant firm in a true winner-take-all market does not need unlawful exclusionary practices in order to be dominant, which is not to say that it might never commit such conduct. If a market is truly winner-take-all then a simple injunction against anticompetitive conduct will not bring its dominance to an end. Without proof of anticompetitive conduct, however, a court could not order a breakup, although legislation could.

In true winner-take-all markets most breakups will not work either. The post-breakup firms will compete until one of them once again emerges as

280. *Image Tech.*, 125 F.3d at 1229 n.1 (Gilmore, J., concurring in part). Kodak's exit from the photocopier market was completed two years later in 1999. *See* Alec Klein, *Kodak Plans to Sell Copier Unit to Printing Giant Heidelberg*, WALL ST. J. (Mar. 17, 1999, 10:12 AM), https://www.wsj.com/articles/SB921630748943078230 [https://perma.cc/33WZ-RWSD].

281. NCAA v. Alston, 141 S. Ct. 2141 (2021). For the text of the District Court's injunction, see *In re* NCAA Athletic Grant-in-aid Cap Antitrust Litigation, 2019 WL 1593939 (N.D. Cal. March 8, 2019).

282. *Id.* at 2153 (noting order in which district court clarified the meaning of compensation and benefits "related to education"); *id.* at 2154 (noting that the NCAA had sought clarification only once in a three-year period).

283. *See, e.g.*, United States v. DuPont, 366 U.S. 316, 333–34 (1961) (following a merger declared unlawful, a simple injunction applying to voting rights would be ineffective; divestiture of unlawfully acquired shares was the most likely effective remedy).

284. *See* Hovenkamp, *Platform Monopoly*, *supra* note 87, at 1969–2000 (most platform assets are not winner-take-all; Google Search may be an exception).

the winner and we will be right back where we started from. The nature of a true natural monopoly is that the equilibrium number of sellers is one.[285] Breaking it up will impose higher costs or lower levels of customer satisfaction for a time, until a winner re-emerges.

A much more promising remedy where it applies is forced interoperability such as occurred in the telephone company breakup in the early 1980s. That would permit the network to retain its economies of scale or scope with all of the welfare gains that accrue to a large network, while permitting competition within the network. The thinking behind the AT&T remedy was that the telephone system needed to be a unitary network, but that the single firm that controlled it was engaging in exclusionary practices against destabilizing technologies.[286] The decree preserved the unitary networked but forced interoperability as a device for maintaining competition.

Not all injunctions are the same. Affirmative injunctions with a managerial component are more difficult to enforce effectively. As noted above, in *NCAA v. Alston*[287] the Supreme Court displayed a surprising amount of tolerance for a detailed decree. In cases involving relatively discrete anticompetitive practices, however, prohibitory injunctions are likely to be sufficient. They are easier to enforce, may not require any subsequent supervision whatsoever,[288] and are usually the least disruptive and least likely to injure consumers, labor, or other constituencies.

CONCLUSION

The temptation to get judges to do what Congress will not is strong. "I know it when I see it" approaches attempt to combine antitrust's economic goals with concerns about political power, firm size or industrial concentration for its own sake, or some conception of fairness. While well intended, they threaten to return us to a day when antitrust used very expansive rhetoric but was able to accomplish almost nothing.[289]

At the other extreme, rolling monopoly profits into a conception of consumer welfare as Robert Bork did does at least as much harm. Bork

285. *Id.* at 1988–96.

286. *See id.* at 2032–39.

287. NCAA v. Alston, 141 S. Ct. 2141, 2163–65 (2021). *See supra* notes 281–282 and accompanying text.

288. *E.g.*, United States v. Dentsply Int'l, Inc., 399 F.3d 181 (3d Cir. 2005), *cert. denied*, 546 U.S. 1089 (2006) (enjoining exclusive dealing).

289. *See* Richard Hofstadter, *What Happened to the Antitrust Movement?*, *in* THE PARANOID STYLE IN AMERICAN POLITICS AND OTHER ESSAYS 188 (1st ed. 1965), *reprinted in* THE MAKING OF COMPETITION POLICY: LEGAL AND ECONOMIC SOURCES (Daniel A. Crane & Herbert Hovenkamp eds., 2013).

presented a model of business efficiency and market power that is not likely to exist in the real world, and if so only rarely. The result of his approach has been not only higher prices, but also reduced output and innovation, harm to labor and to almost everyone else in the supply chain. In our era price-cost margins are unreasonably high,[290] labor's share of the returns to production has declined sharply,[291] economic growth is less than it was prior to 1980,[292] and economic inequality is near an all-time high.[293]

Antitrust is not a cure-all for these problems, but it should have a role. It does best when it sticks to its essentially microeconomic purposes and lets other legislative agendas handle the rest. Even so, pushing output back up to competitive levels can do a great deal of good when combined with other policy choices.

Statutory causation requirements favor public enforcement in areas such as technology and restraints on innovation, where many antitrust complaints implicate conduct whose precise effects are difficult to foresee but where the risk of harmful consequences can still be high. That distinction is particularly appropriate given the private motives that dominate so much of private antitrust litigation. Nevertheless, it places on the public enforcers an obligation to enforce in areas of realistic but often uncertain risk.

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290. *See* Hovenkamp & Shapiro, *supra* note 54.

291. David Autor, David Dorn, Lawrence F. Katz, Christina Patterson & John Van Reenen, *Concentrating on the Fall of the Labor Share*, 107 AM. ECON. REV. 180, 181–83 (2017).

292. *See United States GDP Annual Growth Rate*, TRADING ECON., https://tradingeconomics.com/united-states/gdp-growth-annual [https://perma.cc/XP75-TBXT].

293. *See* LARRY M. BARTELS, UNEQUAL DEMOCRACY: THE POLITICAL ECONOMY OF THE NEW GILDED AGE 1–32 (2d ed. 2016).