

# Understanding Richard Posner on Exclusionary Conduct

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Over his antitrust career of now about 55 years, Judge (and Professor) Richard Posner has provided highly creative and incisive contributions to antitrust jurisprudence. These contributions have spanned the entire range of antitrust categories: procedure, mergers, vertical restraints, collusion, and exclusion. There is no topic on which he has not made important contributions. A single article cannot touch on, let alone do justice to, all of his ideas or conclusions.

This article focuses on exclusionary conduct, the area where I have a comparative advantage. Posner has written about exclusion generally as well as specific types of potentially exclusionary conduct. Reviewing his writings in this area is like drinking from a fire hose. As such, this article will focus on the areas of exclusionary conduct where I have the greatest interest. Aside from several judicial opinions, I will discuss his 1974 article on exclusionary conduct,<sup>1</sup> the 1976 first edition of his antitrust law treatise,<sup>2</sup> and mainly his 2001 second edition.<sup>3</sup>

Posner's analysis of exclusionary conduct in his 1974 article and the *First Edition* were highly influential. The two works presented the economic analysis of exclusion in a clear way that lawyers and judges could understand and use. They set out relatively simple analyses (and criticisms) of classic cases. His analysis of predatory pricing used cutting-edge game-theoretic analysis, although for the most part, his analysis of non-price exclusionary conduct did not. For economists like myself who entered antitrust in the mid-1970s at the beginning of modern industrial organization economics (which is associated with models of strategic behavior in oligopoly markets), his analysis of non-price exclusionary conduct was not a security blanket but rather an overly simple framework to rebut.

Posner's overall assessment of alleged exclusionary conduct is skeptical: "The category of exclusionary practices is too broad, embracing practices that may actually reduce the social costs of monopoly, and the courts are uncertain about the effects of possibly exclusionary practices in particular cases."<sup>4</sup> While he also makes the point that skepticism is not denial,<sup>5</sup> the thrust of his analysis emphasizes the impediments to a firm succeeding at anticompetitive exclusion. Except for predatory pricing, he is less likely to delve deeply into the reasons why exclusion would succeed.<sup>6</sup> This emphasis on one side of an argument is typical for mere humans. However, for a giant like Posner who has a well-deserved reputation of relentlessly following ideas, rather than ideology or fashion, it is humanizing as well as surprising.

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<sup>1</sup> Richard A. Posner, *Exclusionary Practices and the Antitrust Laws*, 41 U. CHI. L. REV. 506 (1974) [hereinafter Posner, Exclusionary Practices].

<sup>2</sup> RICHARD A. POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* (1st ed. 1976) [hereinafter POSNER, 1st ed.].

<sup>3</sup> RICHARD A. POSNER, *ANTITRUST LAW* 43 (2d ed. 2001) [hereinafter POSNER, 2d ed.].

<sup>4</sup> *Id.* at 43.

<sup>5</sup> *Id.* at 251.

<sup>6</sup> This issue will be discussed in more detail in the discussion of new economy markets. *See infra*, p. 15 et seq.

It also is noteworthy that Posner believes that there is little need for Section 2. This is because most exclusionary conduct (e.g., exclusive dealing, tying, and vertical mergers) involves agreements that could be attacked under Section 1, while vertical mergers also could be attacked under Section 7. The possible exceptions are predatory pricing, unilateral refusals to deal, threats, and so on. He suggests that Section 1 could apply to predatory pricing because there is normally a contract.<sup>7</sup>

### General Definition of Anticompetitive Exclusionary Conduct

Posner's proposed legal standard for anticompetitive exclusion has three prongs.<sup>8</sup> The plaintiff must prove that (1) "the defendant has monopoly power" and (2) "the challenged practice is likely in the circumstances to exclude an equally or more efficient firm from the defendant's market." The defendant can rebut this showing by proving that (3) "the practice is, on balance, efficient."

**The Monopoly Power Requirement.** Most importantly, Posner limits his concern to monopoly maintenance. Liability is limited solely to firms with monopoly power, not simply market power.<sup>9</sup> Thus, it would not be sufficient to prove that exclusionary vertical agreements such as exclusive dealing would reinforce the market power of the defendant or allow it to achieve monopoly power. Posner is very skeptical that exclusionary conduct can be used to achieve monopoly power and reduce efficiency when the excluding firm lacks monopoly power. Thus, his monopoly power prong refers to pre-existing monopoly power, not monopoly power achieved through the conduct in question.

Monopoly power can only be durable if there are entry barriers. This raises a contentious issue. George Stigler defined a barrier to entry as a cost that an entrant must bear that the incumbent did not need to bear, a definition which Posner uses.<sup>10</sup> However, economists have since made clear that this definition is not appropriate when evaluating the role of potential entry in preventing supracompetitive pricing by monopolists when there are sunk costs. In monopoly and oligopoly markets, post-entry price competition normally would cause prices to fall. The anticipation of this post-entry competition can deter entry. An entrant may anticipate that while pre-entry prices are high, post-entry competition might be so intense that prices will fall below the entrant's average total cost. If this were the case, then entry would be unprofitable and therefore deterred.<sup>11</sup>

This risk of entry failure becomes a deterrent when the entrant has any sunk costs, that is, costs that would not be recovered if it exits. This deterrent effect can occur even if the entrant has the same cost structure as the incumbent monopolist. Aside from sunk costs, risk occurs when the entrant has economies of scale and anticipates that its post-entry market share will be limited by product differentiation or various (even short-run) incumbency advantages, as well as by the

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<sup>7</sup> POSNER, 2d ed., *supra* note 3, at 260. I think that *Colgate* might provide some protection to the predator if Section 2 were repealed. See *United States v. Colgate & Co.*, 250 U.S. 300 (1919).

<sup>8</sup> POSNER, 2d ed., *supra* note 3, at 194–95.

<sup>9</sup> Posner makes the point that every firm selling a differentiated product has some market power. He does not explain in detail how much market power would qualify as monopoly power, except to mention in passing the traditional requirement of a sufficient market share.

<sup>10</sup> POSNER, 2d ed., *supra* note 3, at 74, 114–15.

<sup>11</sup> For a review, see Steven C. Salop, *Strategic Entry Deterrence*, 69 AM. ECON. REV. (PAPERS & PROCEEDINGS) 335 (1979). By contrast, Posner suggests that the optimal response of a monopolist facing entry normally would be to cede half the market to the entrant. POSNER, 2d ed., *supra* note 3, at 74. That might be the case if they could collude or perfectly coordinate. However, the monopolist would have an incentive to prevent the entrant from anticipating this coordination. The incumbent could better deter entry by committing to a policy that would lead to deeper post-entry price competition. That might be done by adopting a technology with lower marginal costs.

monopolist's anticipated pricing response. Given these conditions, a monopolist might be able to charge the monopoly price without attracting entry by an equally efficient entrant.<sup>12</sup> The 1992 and 2010 Merger Guidelines reflect this game-theoretic economic analysis that significant sunk costs and a requirement of minimum viable scale (not minimum efficient scale) may deter entry by equally efficient entrants.<sup>13</sup>

**The Meaning of “Exclude.”** One interpretative issue involves the definition of the term “exclude” in the second prong. One possibility could be total exclusion. For example, in the case of exclusive dealing with distributors, must the plaintiff show that it has no alternative distributors? Alternatively, is it enough for the plaintiff to show that it has been cut off from the most efficient distributors? Or can the plaintiff satisfy this prong simply by showing that its costs have been materially raised because it lacks fewer than the optimal number of distributors? That is, can it suffice to show that it becomes a less efficient entrant rather than having to show that it will be unable to enter at all or that its entry would be materially delayed or restricted?

Robert Bork applied the criterion that it would be sufficient to show that the entrant was cut off from the most efficient distribution network. In his 1974 article, Posner refers to possibly higher costs of two-level entry as potentially deterring entry.<sup>14</sup> He also refers to two-level entry as taking longer, so that there would be delayed entry. Nevertheless, he does not discuss explicitly the idea that forcing higher costs on a fringe competitor or new entrant might allow the entrant to survive, albeit with higher costs, which would allow the monopolist to charge higher prices.

Posner mentions a hypothetical based on Oliver Williamson's famous example of an industry-wide union contract that raises the cost of the more labor-intensive firms by more than that of the capital-intensive firms, thereby allowing the capital-intensive firms to raise prices by more than their costs have risen.<sup>15</sup> However, in this example, Posner focuses on the scenario where the labor-intensive firm would exit, not simply shrink.

**The Equally Efficient Competitor Standard.** Posner's focus is placed solely on exclusion of equally or more efficient competitors and not less efficient competitors. One interpretative issue involves the meaning of the phrase “equally or more efficient competitor.” A straightforward reading of this second prong of his standard might suggest that the defendant can rebut the plaintiff's case by showing that the excluded competitor is less efficient in fact. An alternative interpretation is that the conduct *would be capable of excluding* an equally or more efficient competitor, whether or not the specific excluded competitor is more or less efficient. The latter definition is stated elsewhere.<sup>16</sup> It also seems implied by Posner's analysis of the price/cost test for predatory pricing.

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<sup>12</sup> Posner inexplicably does not explicitly confront this issue. In his discussion of predatory pricing, he refers to exit costs (i.e., sunk costs) and contestability theory. POSNER, 2d ed., *supra* note 3, at 210. He cites William J. Baumol & Robert D. Willig, *Fixed Costs, Sunk Costs, Entry Barriers, and Sustainability of Monopoly*, 96 Q.J. ECON. 405, 420 (1981). POSNER, 2d ed., *supra* note 3, at 210 n.32. He argues that entrants generally would have exit costs. In discussing deconcentration policy elsewhere, however, the tenor of his discussion seems to reject the role of sunk costs in permitting monopoly pricing. *Id.* at 114–16. In this discussion, he is skeptical that non-recurring costs (which I believe means sunk capital costs) are significant.

<sup>13</sup> U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines § 3.3 (1992, rev. 1997); U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines § 9.2 (2010). *See also* Steven C. Salop, *Measuring Ease of Entry*, 31 ANTITRUST BULL. 551 (1986).

<sup>14</sup> Posner, *Exclusionary Practices*, *supra* note 1, at 524.

<sup>15</sup> Oliver E. Williamson, *Wage Rates as a Barrier to Entry: The Pennington Case in Perspective*, 82 Q.J. ECON. 85 (1968). Posner does not cite Williamson's *Pennington* article, citing instead W. Kip Viscusi, John M. Vernon & Joseph E. Harington Jr., *ECONOMICS OF REGULATION AND ANTITRUST* 183–84 (2d ed. 1995). His hypothetical also does not involve an industrywide bargaining agreement, but rather separate bargains with the various firms. In explaining why this strategy likely would fail, he explains that the union would fear that the remaining monopolist would become a monopsonist, a point discussed elsewhere in this article.

<sup>16</sup> POSNER, 2d ed., *supra* note 3, at 251.

However, this interpretation raises two other issues. First, it seems clear that if an entrant has the same technology as the incumbent monopolist but has higher costs because the exclusionary conduct itself limits its scale, that firm would be considered equally efficient. However, suppose an entrant has higher costs when it enters, but it would achieve the same costs as the monopolist in the future if it were not excluded. Is that entrant considered equally efficient? Posner does not address this issue. However, some commentators have suggested that he would not consider such firms equally efficient.<sup>17</sup>

Second, there is a question of how he would define an “equally efficient entrant” when products are differentiated. For example, suppose that the monopolist and entrant have identical fixed and marginal costs. Suppose that their products are differentiated, so that some consumers would prefer each of them if their prices were identical. If their market shares would each be 50 percent at identical prices, then the entrant clearly would be equally efficient. However, suppose instead that the monopolist would obtain 80 percent of the customers at identical prices. This could be said to suggest that the monopolist’s product is “better” for most consumers, so that the entrant could be characterized as less efficient. But, even if a high fraction of consumers do prefer the monopolist’s product, a significant number prefer the entrant’s product. Thus, if the entrant were forced to exit as a result of exclusionary conduct, some consumers would clearly be harmed and that harm would need to figure in the welfare balance.

This is an important point because it is common for entrants to sell differentiated products. In doing so, their entry is more likely to be accommodated by the incumbent monopolist. However, the entrant’s demand disadvantage also would make it cheaper for the monopolist to compensate distributors for an exclusive that closes off access to the entrant, even if the monopolist would not have the incentive to pay to exclude an entrant that would obtain half the market at equal prices. In this hypothetical, whether or not to characterize the entrant that would obtain only 20 percent of the business as less efficient becomes key to the use of the equally efficient entrant standard.

It is not clear where Posner comes out on this issue. In his discussion of predatory pricing, he notes that if products are differentiated, the predator might be able to reduce his losses from predation by creating a “fighting brand” that targets the entrant’s product.<sup>18</sup> My own conjecture is that Posner would treat such an entrant as equally efficient in a predatory pricing case if it had the same cost structure. But it is less clear if he would apply this same approach to exclusive dealing or other non-price exclusionary conduct.

**Harm to Efficiency.** This same efficiency issue also arises somewhat differently in determining whether the exclusion is “on balance, efficient.” Posner’s overarching standard is efficiency, i.e., total welfare, not consumer welfare. If the monopolist is more efficient than the excluded firm, then the shifting of production from the victim to the monopolist will increase production efficiency. Thus, it would appear to be a permissible defense available to the monopolist.

This also raises the question of whether the efficiency gains from the exclusion could offset the deadweight allocative efficiency loss from the reduction in total market output. It is easy to show that this outcome can occur. To illustrate, suppose that the monopolist’s constant marginal cost is

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<sup>17</sup> See, e.g., Marina Lao, *Defining Exclusionary Conduct Under Section 2: The Case for Non-Universal Standards*, in ANNUAL PROCEEDINGS OF THE FORDHAM COMPETITION LAW INSTITUTE: INTERNATIONAL ANTITRUST LAW AND POLICY 433, 447 (Barry E. Hawk ed., 2007); A. Douglas Melamed, *Exclusive Dealing Arrangements and Other Exclusionary Conduct—Are There Unifying Principles?*, 73 ANTITRUST L.J. 375, 388 (2006).

<sup>18</sup> POSNER, 2d ed., *supra* note 3, at 210.

*Posner's analysis of potential harm to efficiency is more complicated than Bork's because Posner recognizes that part of the "social cost of monopoly" includes the potential inefficient use of scarce resources to maintain its monopoly power.*

\$20 and the monopoly price is \$60.<sup>19</sup> Suppose that the market output at the monopoly price is 40 units, which yields the monopolist profits of \$1600.<sup>20</sup> Suppose that the less efficient entrant has a constant marginal cost of \$50 but has limited capacity, say ten units. This formulation captures in a simple way the idea of the entrant with limited ability to grow. In this situation, the monopolist in principle might set a limit price of just under \$50 to undercut the entrant and maintain a 100 percent market share and profits of \$1500.<sup>21</sup> However, it is easy to show that the monopolist increases profits by accommodating the entry and ceding the ten units to the entrant. Maximum profits occur when the monopolist sets a price of \$55 and sells 35 units, for total profits of \$1575.<sup>22</sup> The entrant would sell ten units for total market output of 45 units.

Starting from this but-for world of accommodation (i.e., no exclusion), suppose that the monopolist is able to pay the most efficient input suppliers to refuse to sell to the entrant, which would raise the entrant's costs to a level above \$60 so that it is unable to enter. As long as the monopolist can exclude the entrant with a payment of less than the increase in monopoly profits of \$25, it will be profitable. Now consider the impact on efficiency of the exclusion. The exclusion raises the price by \$5 (from \$55 to \$60) and reduces the output by five units (from 45 to 40), leading to a consumer deadweight loss of \$10 (i.e.,  $\frac{1}{2} \times \$5 \times 4$  units). The five unit reduction also creates a producer deadweight loss of \$175 (i.e., 5 units at a margin of \$35 over marginal cost). Thus, the total deadweight loss in allocative efficiency is \$200 (i.e.,  $200 = 25 + 175$ ). However, production efficiency rises because the ten units that the entrant would have produced at a cost of \$50 are now produced by the monopolist at a cost of \$20, resulting in an increase in production efficiency equal to \$300. The increase in production efficiency swamps the decrease in allocative efficiency, despite the reduction in market output.

Posner's analysis of potential harm to efficiency is more complicated than Bork's<sup>23</sup> because Posner recognizes that part of the "social cost of monopoly" includes the potential inefficient use of scarce resources to maintain its monopoly power. While such investment could include welfare-increasing R&D, it also can include investment in the creation and maintenance of barriers to entry.<sup>24</sup> However, if they are merely expenditures that lack efficiency benefits, then they contribute to the deadweight loss of monopoly.

In principle, the monopolist might use up the entire monopoly profits maintaining the monopoly. In this situation, even though Posner's welfare standard is aggregate welfare (i.e., efficiency), not consumer welfare, the loss in aggregate welfare actually would equal the loss in consumer welfare. However, this is just a limiting case. If the monopolist need not spend the entire monopoly profits, then the loss in consumer welfare would exceed his definition of efficiency losses. In fact, if the expenditures made to raise or create entry barriers were pure transfers (e.g., campaign

<sup>19</sup> For this example, I am assuming the demand curve is linear with a choke price of \$100.

<sup>20</sup> With this linear demand, at a price of \$60, market demand would be 40 units and the monopolist's profits would be \$1600 (i.e., a price-cost margin of \$40 times the 40 units).

<sup>21</sup> With this linear demand, at a price just below \$50, market demand would be 50 units and the monopolist's profits would be \$1500 (i.e., a price-cost margin of \$30 times the 50 units).

<sup>22</sup> With this linear demand, at a price of \$55, market demand would be 45 units, of which the monopolist would sell 35 units, generating profits of \$1575 (i.e., a price-cost margin of \$35 times the 45 units).

<sup>23</sup> Bork relied on Williamson's famous diagram of total static welfare effects and then confusingly called it "consumer welfare." Oliver E. Williamson, *Economies as an Antitrust Defense: The Welfare Trade-Offs*, 58 AM. ECON. REV. 34 (1968).

<sup>24</sup> POSNER, 2d ed., *supra* note 3, at 13–14, 18; Posner, *Exclusionary Practices*, *supra* note 1, at 509 n.7.

contributions to legislators that supported their erecting entry barriers), the transfers would not count as deadweight efficiency losses.

### Predatory Pricing

Posner's analysis of predatory pricing had an economic sophistication that was lacking elsewhere. In his 1974 article, he rejected the standard "war of attrition" model of predatory pricing, whereby the monopolist will win only if it has deeper pockets. Instead, he applied a more sophisticated game-theoretic model by which predatory pricing threats would be credible.<sup>25</sup> In this model, predatory pricing could be used to create a reputation as a predator. That reputation would raise barriers to entry into other markets where the firm would potentially face competition by raising the entrant's anticipated cost of entry.

This predatory reputation model was forward-looking economic theory.<sup>26</sup> It also is complicated by what economists call the "last period" problem, which was first formalized in Reinhard Selten's seminal "chain store paradox" article published in 1978.<sup>27</sup> Suppose the predator operates in 100 separate markets. The reputation model suggests the firm would have the incentive to engage in predatory behavior when it faces entry competition in the first market because such conduct, while costly, would create a reputation that would deter entry in the other 99 markets. Selten showed that this formulation actually would "unravel" if players were fully rational. Consider what would happen in the 100th market. In that market, the monopolist would have no incentive to predate because it would not lead to further reputational effects. But consider now the 99th market. There are no reputational benefits from predating here because it is known that there will not be predation in the 100th market. And so on back to the first market, which means that the purported reputational effects cannot occur in equilibrium.

In the *Second Edition*, Posner refers to this unraveling issue.<sup>28</sup> He concludes that it is unlikely to deter predatory pricing.<sup>29</sup> I think that most economists would agree that the unraveling result is interesting but unlikely to be an issue in practice for a number of reasons.<sup>30</sup> What I find more noteworthy is that as far back as his 1974 article, before any of this game-theoretic literature was developed in industrial organization economics, Posner recognized a variant of the unraveling issue. He also made the point that the reputation model would not apply if the entrant were to enter all markets simultaneously since that would eliminate future reputational benefits.<sup>31</sup>

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<sup>25</sup> Posner, *Exclusionary Practices*, *supra* note 1, at 516–17.

<sup>26</sup> See, e.g., Paul Milgrom & John Roberts, *Predation, Reputation, and Entry Deterrence*, 27 J. ECON. THEORY 280 (1982); Garth Saloner, *Predation, Mergers, and Incomplete Information*, 18 RAND J. ECON. 165 (1987).

<sup>27</sup> Reinhard Selten, *The Chain Store Paradox*, 9 THEORY AND DECISION 127 (1978).

<sup>28</sup> POSNER, 2d ed., *supra* note 3, at 211–12 (citing Douglas G. Baird, Robert H. Gertner & Randal C. Picker, *GAME THEORY AND THE LAW* 180 (1994)).

<sup>29</sup> *Id.*

<sup>30</sup> See Milgrom & Roberts, *supra* note 26. This same unraveling issue arises in the repeated prisoner's dilemma game with a finite number of rounds. But as far back as the very first experimental play of the game in 1950 at RAND, the two players (UCLA professor Arman Alchian and game theorist John Williams) ended up reaching the cooperation outcome in about half of the 50 rounds. For a transcript of that game, see William Poundstone, *PRISONER'S DILEMMA: JOHN VON NEUMANN, GAME THEORY AND THE PUZZLE OF THE BOMB* (1992). The transcript is reproduced on Brad DeLong's website, [https://web.archive.org/web/20000903010012/http://www.j-bradford-delong.net/economists/prisoners\\_dilemma.html](https://web.archive.org/web/20000903010012/http://www.j-bradford-delong.net/economists/prisoners_dilemma.html).

<sup>31</sup> Posner, *Exclusionary Practices*, *supra* note 1, at 517.

Posner's economic analysis leads him to conclude that predatory pricing should be illegal under two alternative standards.<sup>32</sup> (Posner's proposal is more aggressive than the Areeda-Turner rule proposed during the same period.) First, pricing should be illegal if it involves pricing below short-run marginal cost. Second, it should be illegal if it involves pricing below long-run marginal cost and there is evidence of anticompetitive intent. Posner recognizes difficulties in measuring costs and determining intent.

Corresponding to the first prong of Posner's general test of anticompetitive conduct, only predatory pricing used to maintain monopoly would be actionable, not pricing by a firm with market power attempting to achieve monopoly power. However, he relaxes this limitation for new economy product markets, where he argues that predatory pricing to achieve a monopoly also would be actionable.

Applied to predatory pricing, the equally efficient competitor standard in Posner's second general prong could mean nothing more than setting a price standard that the alleged predator can only be liable if it prices below its own costs, as opposed to the costs of the alleged victim (whether higher or lower). This rule makes sense because the alleged predator generally would have no way of knowing the costs of the entrant. Pricing below one's own marginal cost would be economically irrational in the paradigmatic circumstances, so it might suggest an intent to monopolize. The first prong of Posner's standard reflects this interpretation. The second alternative standard also fits this interpretation. If price exceeds marginal cost, then anticompetitive intent cannot be inferred automatically. Thus, Posner adds an explicit intent provision. The recoupment prong in *Brooke Group*<sup>33</sup> also can be given an intent interpretation in that no profit-maximizing firm would knowingly engage in predation if it could not recoup.

Under the third prong of Posner's general standard, the defendant might argue that the below-cost pricing was efficient because incremental sales will generate complementary product sales, such as aftermarket service. Alternatively, the defendant might argue that this is the introduction of a new product such that it must invest in obtaining consumer trial of the product. I see no reason to think that he intended the defendant to be able to defend below-cost pricing conduct by saying that it is efficient to destroy the rival firm because it is a less efficient firm. However, I see no statement that such a defense would be impermissible.

Aside from limiting his standard just to monopoly maintenance, it seems that Posner's position is very close to the predatory pricing proposal of Bolton, Brodley, and Riordan.<sup>34</sup> Moreover, Posner appears to expand the scope of this standard to include attempts to monopolize in his treatment of new economy markets.<sup>35</sup>

In discussing predatory pricing, Posner is somewhat dismissive of the impact of game theory models in antitrust. He explains that these models have made "limited inroads" because their required conditions are so exacting.<sup>36</sup> While the "chain store paradox" may not be a good reason to reject the reputational value of predatory pricing, his general criticism of game theory is sur-

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<sup>32</sup> *Id.* at 518–20.

<sup>33</sup> *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993).

<sup>34</sup> Patrick Bolton, Joseph F. Brodley & Michael H. Riordan, *Predatory Pricing: Strategic Theory and Legal Policy*, 88 GEO. L. REV. 2239 (2000).

<sup>35</sup> POSNER, 2d ed., *supra* note 3, at 255–56. He refers to the increased risk of predatory pricing, but he does not explicitly change the standard to include attempts to monopolize.

<sup>36</sup> *Id.* at 212. Posner's discussion includes game-theoretic oligopoly models, which he criticizes as not providing insights beyond those of non-game theory models such as Stigler's. *Id.* at 60. He also cites a skeptical 1986 article by Frank Fisher at the time that strategic models were still new. *Id.* at 60 n.11.

prising. Posner's own analysis of predatory pricing clearly embraces a game-theoretic analysis that predatory pricing can be a rational way to deter entry because the predator can gain a dynamic reputation that will deter entry in other markets, even if he did not provide equations setting out exact conditions.<sup>37</sup> Similarly, while he characterizes Stigler's famous oligopoly collusion model as price theory,<sup>38</sup> that model really is game theoretic. Moreover, the conditions under which collusion is stable or unstable depend on a complex array of factors that he discusses in detail.<sup>39</sup>

### Non-Price Exclusionary Conduct

Posner also applies his analysis to a variety of non-price exclusionary conduct: exclusive dealing, tying and bundling, vertical mergers (or more generally, vertical integration), exclusionary group boycotts, and unilateral refusals to deal. As a general matter, Posner is very reluctant to find non-price exclusionary conduct to be anticompetitive. It appears that he is more often swayed by the efficiency benefits explanation for the conduct than by the anticompetitive effects explanation. In addition, despite his concern with possible efficiency losses from rent-seeking conduct designed to raise entry barriers, that concern may be offset by the idea that the prospect of greater monopoly profits might drive investment.<sup>40</sup>

**Exclusive Dealing.** Posner is skeptical that exclusive dealing can succeed in helping a firm achieve or maintain market or monopoly power. However, he accepts that it can occur. His treatment of exclusive dealing is expanded in the *Second Edition*. Whereas in the *First Edition*, *Standard Fashion*<sup>41</sup> is mentioned in a single footnote<sup>42</sup> as a potentially valid case of entry deterrence, Posner devotes several pages to the case in the "new economy" chapter of the *Second Edition*, concluding that it remains good law.<sup>43</sup>

He also suggests that when exclusive dealing or other conduct does succeed, it generally will only delay entry because of the need for two-level entry, not deter entry permanently. In his manufacturer/distribution example, he suggests that the need to enter distribution as well as manufacturing will cause delays because it will take time for independent distributors to enter.<sup>44</sup> This can occur in his paradigmatic example of a manufacturer acquiring (or obtaining exclusive contracts with) all the distributors operating in a highly competitive distribution market without any natural impediments to entry.

Posner also explains that this simultaneous entry will increase the required scale of entry. This can increase the costs of the new entrant relative to those of the existing firm, and can create a risk premium.<sup>45</sup> The monopolist would not have faced this risk premium when it entered. Thus, this would create a barrier to entry under Stigler's narrow definition.

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<sup>37</sup> The standard Chicago-school argument that predatory pricing is irrational also rests on the game theoretic observation that the strategy would fail if an entrant undertakes the counterstrategy of simply lining up financing.

<sup>38</sup> Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 933 (1979).

<sup>39</sup> POSNER, 2d ed., *supra* note 3, at 69–79.

<sup>40</sup> Posner's discussion of the various categories of exclusionary conduct involves considerable cross-referencing. While this creates conceptual unity, it sometimes makes the presentation denser. This density is magnified by Posner's inclination to include interesting tangents.

<sup>41</sup> *Standard Fashion Co. v. Magrane-Houston Co.*, 258 U.S. 346 (1922).

<sup>42</sup> POSNER, 1st ed., *supra* note 2, at 202 n.48.

<sup>43</sup> POSNER, 2d ed., *supra* note 3, at 252–55.

<sup>44</sup> *Id.* at 225.

<sup>45</sup> *Id.*

This type of risk premium can essentially lead to entry being permanently deterred (or delayed for a very long time until exogenous market conditions significantly change). If potential entrants have higher costs, that may be sufficient to deter entry. This is particularly likely when there are significant economies of scale and sunk costs.<sup>46</sup> The fear that the entrant may fail or the fear that this distribution will increase the risk premium for both the manufacturing and the distribution entrants. Finally, there also may only be a relatively short window of opportunity for entry, which also could make delay essentially long term or permanent.

While Posner does not acknowledge permanent deterrence in his discussion, he does so in his tying discussion.

[T]ying can in principle exclude an equally or even more efficient new entrant by forcing the entrant to enter with a more complex product than otherwise. Provided that such entry is riskier and hence more costly (rather than simply requiring more capital at the same average cost), entry will be slowed or deterred.<sup>47</sup>

Posner suggests that input suppliers might be reluctant to go along with foreclosure, fearing that once the excluding firm vanquishes its rivals, it might turn against the input suppliers and exercise monopsony power.<sup>48</sup> This conceivably might be the case for a single input supplier with foresight. However, when there are multiple input suppliers, resistance would be less likely because it would require coordination.<sup>49</sup> Each input supplier would have the incentive to free ride by cooperating with the monopolist. In addition, the fear of monopsony may be unfounded if the input suppliers also have sufficient customers in other markets. Even with a limited number of input suppliers, they may go along because the monopolist can share the monopoly profits with them.

Posner acknowledges this free-rider problem in the context of his discussion of both predatory pricing and *United Shoe Machinery*.<sup>50</sup> He makes the point that this view of the free-rider problem would imply that no cartel would ever succeed. He also suggests that totally overlooking this type of free riding would have been less likely in *United Shoe Machinery*<sup>51</sup> because there were only a small number of shoe manufacturer customers.<sup>52</sup> Thus, each might be large enough to recognize that free riding would not succeed because the competitors to United Shoe would end up not being viable.

He also discusses a similar possible constraint on achieving or maintaining a monopoly through exclusive dealing: the smaller competitor or entrant might counterbid to get non-exclusive distribution services (or another input). Indeed, for the same reason, Posner opines in *Roland Machinery* that exclusive dealing contracts terminable in less than one year are treated as presumptively lawful.<sup>53</sup>

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<sup>46</sup> Or, if the entrant requires multiple distributors in order to reach the entire market, or, if distribution involves economies of scale or scope, potential entrants may be unable to gain sufficient scale to be viable, serving only the entrant. This also may deter distributor entrants.

<sup>47</sup> *Id.* at 236 (emphasis added).

<sup>48</sup> Posner uses the example of a union that makes a contract more favorable to the larger capital-intensive coal producer. *Id.* at 197. This was Williamson's original formulation. See Williamson, *supra* note 15.

<sup>49</sup> See Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209, 273–77 (1986).

<sup>50</sup> POSNER, 2d ed., *supra* note 3, at 232.

<sup>51</sup> *United Shoe Mach. Corp. v. United States*, 347 U.S. 521 (1954); *aff'g United States v. United Shoe Mach. Corp.*, 110 F. Supp. 295, 343 (D. Mass. 1953) (Illegal monopolization from anticompetitive leasing practices).

<sup>52</sup> *Id.* I was surprised by this latter factual claim. The low concentration found in *Brown Shoe*, *Brown Shoe Co. v. United States*, 370 U.S. 294 (1962), suggests that there likely were many shoe manufacturers.

<sup>53</sup> *Roland Mach. Co. v. Dresser Indus.*, 749 F.2d 380, 395 (7th Cir. 1984).

However, counterbidding likely would be unsuccessful much of the time, even if exclusives have short duration. In the case of entrants, the monopolist might strike the exclusives before the entrant comes on the scene, thereby delaying entry. The monopolist also has a systematic bidding advantage because it is working to protect its monopoly profits, whereas the entrant is only bidding to achieve more competitive duopoly profits. For example, suppose that monopoly profits are \$250 per year. If the equally efficient entrant achieves non-exclusive distribution and survives, suppose that the duopoly profits are \$70 each for the entrant and now-former monopolist. Given these profits, the entrant would be willing to bid up to \$70 for the non-exclusive distribution. By contrast, the monopolist would be willing to bid up to \$180 (i.e.,  $\$180 = \$250 - \$70$ ) to deter the entry.<sup>54</sup> Thus, the monopolist normally would prevail with a bid of at least \$71. This amounts to the monopolist being willing to share some of the monopoly profits with the input suppliers (here distributors). While Posner observes this point in *JTC Petroleum*,<sup>55</sup> he does not do so in his general treatment of exclusive dealing in the *Second Edition*. With short-term exclusives, this same scenario would be replicated every period, resulting in deterrence, not just delay.<sup>56</sup>

One possible reason why Posner might have ignored this analysis is a belief that there generally are a large number of input suppliers, and the entrant only needs one or two distributors to be viable. For example, suppose in my example that there are three potential distributors and the entrant only needs one to compete equally with the incumbent. The monopolist would need to pay \$71 to each one of them to deter entry, for a total of \$213, which is more than its gain from deterring entry. However, this door swings both ways. If the entrant needs to obtain two non-exclusive distributors to be viable, and if the entrant won the bidding for the first one of them, the monopolist would have the incentive to pay more than the entrant's duopoly profits of \$70 to the remaining two in order to deter the entry. Anticipating this outcome, the entrant would have no incentive to try to outbid the monopolist even for the first distributor. Thus, an entrant's failure to counterbid might be rational behavior, not laziness.<sup>57</sup>

Posner also may have had in mind that the equally efficient entrant would not be bidding for a non-exclusive, but rather would have been bidding head-to-head for its own exclusives. If this were an exclusive for the entire market, the monopolist would not have a bidding advantage. However, in most monopoly maintenance situations, the entrant is attempting to gain a non-exclusive foothold in the market against a somewhat entrenched monopolist. It is not attempting to become exclusive. For example, this would describe the situation facing WEOL in *Lorain Journal*,<sup>58</sup> or Netscape in competing with Microsoft's Internet Explorer.

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<sup>54</sup> The more intense the post-entry competition, the larger the disparity in maximum bids will be. If the post-entry competition would drive duopoly profits down to \$10, then the monopolist would be willing to bid up to \$190 and the entrant would be willing to bid only \$10.

<sup>55</sup> *JTC Petroleum Co. v. Piasa Motor Fuels*, 190 F.3d 775 (7th Cir. 1999).

<sup>56</sup> Posner cites to Aghion and Bolton's formal model of how the monopolist could use excessive liquidated damages payments for breach of contract to deter an entrant from inducing breach in the context of a customer foreclosure ("naked exclusion") scenario. Philippe Aghion & Patrick Bolton, *Contracts as a Barrier to Entry*, 77 AM. ECON. REV. 388 (1987). However, Posner is somewhat dismissive of this model because penalty provisions violate contract law. POSNER, 2d ed., *supra* note 3, at 232–33.

<sup>57</sup> For a more detailed analysis of this bidding model, see Steven C. Salop, *The Raising Rivals' Cost Foreclosure Paradigm, Conditional Pricing Practices, and the Flawed Incremental Price-Cost Test*, 81 ANTITRUST L.J. 371 (2017).

<sup>58</sup> *Lorain J. Co. v. United States*, 342 U.S. 143 (1951).

**Exclusionary Group Boycotts.** While Posner is skeptical of the outcome of some of the cases, including *Terminal Railroad*,<sup>59</sup> he recognized the competitive concerns from exclusionary group boycotts, such as those in *Eastern States*<sup>60</sup> and *Fashion Originators Guild*.<sup>61</sup>

In his *JTC Petroleum opinion*, Posner presented a very interesting analysis of the role and mechanism of an exclusionary group boycott in a cartel matter.<sup>62</sup> In his description of the case, a road contractor cartel paid premium prices to several producers of emulsified asphalt to refuse to sell their critical input to JTC, a disruptive competitor. By neutralizing JTC, the cartel was able to maintain cartel prices. This was a Section 1 cartel case, and Posner characterizes the conduct as a group boycott. He also explains that the case would not be different if there were a single downstream firm instead of a cartel. He discusses the Granitz and Klein analysis of Standard Oil's agreements with railroads as conduct that both raised the costs of Standard Oil's refining competitors and stabilized the railroad cartel.<sup>63</sup>

It was somewhat surprising that Posner does not generalize *JTC Petroleum* to draw out its broader implications for the analysis of exclusive dealing and similar exclusionary conduct. For example, the economic analysis of *JTC Petroleum* clearly goes beyond the case of a group of upstream firms supporting a downstream cartel. Suppose there were a single downstream monopolist firm (like Standard Oil) and multiple competing upstream input suppliers. Suppose that the monopolist enters into exclusive dealing agreements with each of the input suppliers, which obligate each of them to raise their price or refuse to sell to new entrants. Alternatively, suppose that a dominant downstream firm strikes exclusive dealing agreements with some of the differentiated upstream suppliers and the remaining suppliers have the incentive to raise their prices to the smaller competitors, either unilaterally or from legal tacit coordination, not pursuant to a horizontal agreement. Again, the outcome would be the same. In both cases, those exclusive dealing agreements would allow the monopolist to achieve or maintain its monopoly prices by raising rivals' costs. The monopolist could defeat counterbidding by the excluded rival by sharing the monopoly profits with the input suppliers. However, this broader approach does not show up in his basic analysis of exclusive dealing.

Similarly, Posner makes the point in his analysis of exclusive dealing that input suppliers would not want to take actions that would create a downstream monopolist that might gain monopsony power over them. That is true. However, there is a readily available answer. In *JTC Petroleum*, the cartel compensated the suppliers. The same point would apply to a monopolist or dominant firm. It can compensate the suppliers for refusing to deal with the small rivals. Even if they anticipated the monopsony, the suppliers would face free-rider problems in coordinating their resistance to the downstream firm's payoffs. Posner recognizes the same type of free-riding concern in his analysis of predatory pricing in explaining why buyers do not resist the predatory price.<sup>64</sup> However, he does not do so in the analysis of exclusive dealing.<sup>65</sup>

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<sup>59</sup> *United States v. Terminal R.R. Ass'n*, 224 U.S. 383 (1912).

<sup>60</sup> *E. States Retail Lumber Dealers' Ass'n v. United States*, 234 U.S. 600 (1914).

<sup>61</sup> *Fashion Originators' Guild v. FTC*, 312 U.S. 457 (1941).

<sup>62</sup> *JTC Petroleum Co. v. Piasa Motor Fuels, Inc.*, 190 F.3d 775 (7th Cir. 1999).

<sup>63</sup> Elizabeth Granitz & Benjamin Klein, *Monopolization by "Raising Rivals' Costs": The Standard Oil Case*, 39 J.L. & Econ. 1 (1996).

<sup>64</sup> POSNER, 2d ed., *supra* note 3, at 208.

<sup>65</sup> *Id.* at 197.

In his analysis of exclusive dealing, Posner emphasizes that exclusives might force an entrant to enter at two levels (e.g., manufacturing and distribution), which would simply delay entry as the entrant or other firms enter the second level. But, the *JTC Petroleum* example can suggest why entry would be deterred, not just delayed: there may only be a limited number of asphalt pits in the local area and transportation costs may limit long distance deliveries.

***Tying, Leverage, and the Single Monopoly Profit Theorem.*** Posner is skeptical of the leverage theory for tying. One reason is the single monopoly profit theory. As he puts it, “a second—and fatal—weakness of the leverage theory is its failure to explain why a firm with a monopoly in one product would want to monopolize a second product as well.”<sup>66</sup> He recognizes the fact that when the monopoly in the tying product is not protected by prohibitive barriers to entry, tying might delay entry into the tying product by requiring two-level entry.<sup>67</sup> He also notes that this can deter entry if it is more costly to produce a more complex product.<sup>68</sup> However, his treatment of tying does not recognize that the fixed proportions assumption of the single monopoly profit theory ignores the fact that tying might permit the monopolist to achieve a monopoly over consumers who purchase the tied product but do not purchase the tying product.

***Vertical Mergers.*** Posner’s analysis of vertical mergers as a way to maintain monopoly is closely related to his analysis of exclusive dealing.<sup>69</sup> This is not surprising in that he characterizes exclusive dealing as analogous to vertical integration by contract. The main competitive issue he analyzes in this section of the *Second Edition* is foreclosing competitors from access to the monopoly products of the merged firm. Posner concludes that vertical mergers should be forbidden only when undertaken by a monopolist, and then only where the merger is undertaken with anticompetitive intent either to exclude or to shore up a cartel.<sup>70</sup>

Posner notes that integration of two successive monopolists will lead to lower prices.<sup>71</sup> He repeats the point made earlier in the tying section that there is no benefit to integrating in order to leverage into a second monopoly because there is only a single monopoly profit.<sup>72</sup> He then focuses on the possibility that vertical integration by a monopolist might delay entry that otherwise might undo that monopoly. He explains that entry will be delayed because the cost of entry falls by slowing down the process. At the same time, he accepts that the entrant may have higher costs because there is a risk premium from having to coordinate with distributors.<sup>73</sup> However, he does not recognize in this discussion that these coordination problems might deter entry instead of simply delaying it.

Overall, Posner views “predatory” vertical integration as an “iffy” proposition. As partial support, he cites my failure to mention any real-world cases of anticompetitive vertical integration in a short

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<sup>66</sup> *Id.* at 198–99.

<sup>67</sup> *Id.* at 202.

<sup>68</sup> *Id.* at 236.

<sup>69</sup> *Id.* at 224.

<sup>70</sup> *Id.* at 227–28.

<sup>71</sup> *Id.* at 228. This is the “elimination of double marginalization” benefit.

<sup>72</sup> *Id.* at 224–25.

<sup>73</sup> *Id.* at 225–26.

summary article on leverage theory in the *New Palgrave Dictionary*.<sup>74</sup> However, I would have thought that he was well aware of the exclusionary conduct of integrated firms like AT&T,<sup>75</sup> electricity providers,<sup>76</sup> and long distance railroads.<sup>77</sup> On the chance that he writes a Third Edition, Daniel Culley and I have now catalogued the 52 vertical and complementary merger matters challenged by the FTC or DOJ in the 1994–July 2018 period.<sup>78</sup>

***Unilateral Refusals to Deal.*** Posner uses a single-firm version of *JTC Petroleum* to frame a discussion of unilateral refusals to deal.<sup>79</sup> He also discusses *Kodak*<sup>80</sup> and *Aspen Skiing*.<sup>81</sup>

According to Posner, *Kodak* was wrongly decided.<sup>82</sup> Kodak may have had market power over the installed base of copier owners, but all sellers of durable products that involve such after-market components have this power, and the buyers could have protected themselves by contract. Kodak lacked market power in the original equipment market, such that the loss of reputation would limit the harm. In his view, price discrimination is a better explanation for Kodak's behavior than exclusion.<sup>83</sup>

Posner does not mention or rebut the counterargument that this was a classic “last period” hold-up problem that was both inefficient and harmed consumers in the installed base. Had Kodak announced a change in policy to be applied only to newly purchased machines, there would not have been harm to the installed base and the plaintiff's case would have collapsed.

The price discrimination explanation is creative but pretextual. It fails to explain why Kodak suddenly decided that it was profitable to price discriminate, just at the moment that its copier business was in decline. Buyers presumably did not protect themselves by contract because they relied on Kodak's reputation, failing to anticipate that Kodak's fortunes might change in the future before their copiers wore out. It is true that the harm was temporary because it only applied to the current installed base, but that is not a bar to finding an antitrust violation and deterring future ones. Moreover, the contract would not have been trivial to negotiate and enforce. Would it require Kodak to sell parts to any or all ISOs at the same price as self-servicers? Or would it set terms under which Kodak could terminate certain ISOs? By the same token, consumers, in principle,

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<sup>74</sup> *Id.* at 226 n.53 (discussing Steven C. Salop, *Vertical Mergers and Monopoly Leverage*, in *THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW* (Peter Newman ed., 1998)). My work does focus more on theory, reflecting my comparative advantage and the fact that there are other economists with more empirical expertise. I note, however, that Posner does not cite an earlier, longer article that does address several matters. See Michael H. Riordan & Steven C. Salop, *Evaluating Vertical Mergers: A Post-Chicago Approach*, 63 *ANTITRUST L.J.* 513 (1995). More importantly, he does not engage on the various critiques of the Chicago-school approach set out in numerous articles. For example, he continues to embrace the single monopoly profit theory.

<sup>75</sup> *MCI Commc'ns v. AT&T Co.*, 708 F.2d 1081 (7th Cir. 1983); *Litton Sys., Inc. v. AT&T Co.*, 700 F.2d 785, 798–800 (2d Cir. 1983).

<sup>76</sup> *Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973).

<sup>77</sup> The single monopoly profit theory was tested and rejected for railroad markets. Curtis M. Grimm, Clifford Winston & Carol A. Evans, *Foreclosure of Railroad Markets: A Test of Chicago Leverage Theory*, 35 *J.L. & ECON.* 295 (1992).

<sup>78</sup> Steven C. Salop & Daniel P. Culley, *Vertical Merger Enforcement Actions: 1994–July 2018* (Aug. 23, 2018), <https://ssrn.com/abstract=2684107>. These counts update the earlier enforcement statistics cited in Steven C. Salop & Daniel P. Culley, *Revising the U.S. Vertical Merger Guidelines: Policy Issues and an Interim Guide for Practitioners*, 4 *J. ANTITRUST ENFORCEMENT* 1 (2016).

<sup>79</sup> *Posner*, 2d ed., *supra* note 3, at 242–43.

<sup>80</sup> *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451 (1992).

<sup>81</sup> *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985).

<sup>82</sup> *Id.* at 236–37.

<sup>83</sup> Posner's price discrimination analysis follows Benjamin Klein, *Market Power in Antitrust: Economic Analysis After Kodak*, 3 *SUP. CT. ECON. REV.* 43 (1993), which he cites. *Id.* at 236 n.68.

could have contracted with Microsoft to prevent it from integrating Internet Explorer into Windows or signing exclusive browser contracts with a critical number of ISPs.

Posner also is critical of the *Aspen Skiing* case.<sup>84</sup> He makes the valid point that the joint weekly lift ticket was set at the cartel price and the squabble apparently began over the division of the cartel profits. But he ignores the rest of the case. After the breakdown of the joint ticket cartel, the plaintiff, Highlands, attempted to purchase daily tickets from the defendant, Ski Co., at the same retail price as the defendant sold to other purchasers, but Ski Co. refused to do so in an apparent attempt to destroy the plaintiff's business.<sup>85</sup>

He is critical of the remedies in these two cases as forcing the court to engage in price setting like a regulatory agency.<sup>86</sup> But this is not exactly correct. A sufficient remedy in both *Kodak* and *Aspen Skiing* could have been a non-discrimination provision that would require Kodak to sell to ISOs at the same price as they sold to self-servicers and require Ski Co. to sell daily tickets to Highlands at the same price as they sold to other bulk purchasers. This is not a particularly intrusive remedy.

The 1986 *Olympia*<sup>87</sup> case has some similarities with these two cases. (Posner's *Olympia* opinion was written shortly after *Aspen Skiing* and several years before *Kodak*.) He does not discuss *Olympia* explicitly in the *Second Edition*. Posner carefully distinguishes *Aspen Skiing* as a case in which some cooperation was "indispensable" to competition.<sup>88</sup> By contrast, *Olympia* could have hired its own sales persons as other competitors did.<sup>89</sup> In the language of raising rivals' costs, Western Union's withdrawal of cooperation may have raised *Olympia*'s costs. But it likely did not lead to a reduction in market competition because other telex sellers that had their own sales forces would be sufficient to maintain competition. Posner also treats as reasonable Western Union's rationale of reducing its own inventory.

One interesting aspect of Posner's discussion is his concern with over-deterrence. He makes the point that if a monopolist cannot terminate a cooperative relationship with competitors, it may be deterred from even implementing such a relationship to begin with.<sup>90</sup> This issue could be applied to the *Kodak* case. One apparent difference in the two cases is that Kodak's cooperation with ISOs had gone on for many years and apparently was mutually beneficial in that the ISOs offered high quality service that presumably made Kodak copiers more attractive to consumers. In addition, Kodak's termination of the relationship only came at a time when Kodak's business model worsened and was heading towards collapse. These facts suggest that it was unlikely that Kodak would have been deterred by the knowledge that it would not be able to withdraw later.

**Competitor Complaints About Mergers.** One place where Posner's skepticism approached denial was his treatment of competitor complaints in his opinion reviewing the FTC's decision in the *Hospital Corporation of America* merger. Towards the end of his discussion of liability, Posner opines:

Hospital Corporation's most telling point is that the impetus for the Commission's complaint came from a competitor. [. . .] The hospital that complained to the Commission must have thought that the

<sup>84</sup> *Aspen Skiing Co.*, 472 U.S. 585.

<sup>85</sup> *Id.* at 607–10.

<sup>86</sup> POSNER, 2d ed., *supra* note 3, at 242–43.

<sup>87</sup> *Olympia Equip. Leasing Co. v. W. Union Tel. Co.*, 797 F.2d 370 (7th Cir. 1986).

<sup>88</sup> *Id.* at 379.

<sup>89</sup> *Id.*

<sup>90</sup> *Id.* at 379–80.

*One interesting aspect of Posner's discussion is his concern with over-deterrence. He makes the point that if a monopolist cannot terminate a cooperative relationship with competitors, it may be deterred from even implementing such a relationship to begin with.*

acquisitions would lead to lower rather than higher prices—which would benefit consumers, and hence, under contemporary principles of antitrust law, would support the view that the acquisitions were lawful.<sup>91</sup>

Posner's analysis ignores the possibility that the complaining competitor may have been concerned with possible exclusionary conduct by Hospital Corporation. For example, the complaining competitor may have been concerned that the merger might increase Hospital Corporation's incentives to expend resources in the "certificate of need" regulatory process to oppose the complaining hospital from expanding its capacity. His failure to consider this exclusionary incentive as possibly motivating the competitor complaint is hard to understand in that the opinion had already discussed the possibility that colluding hospitals could use the certificate of need law to "enable them to delay any competitive sally by a noncolluding competitor."<sup>92</sup>

**Excess Capacity and Intense Post-Entry Competition as a Barrier to Entry.** A key insight of the strategic (i.e., game-theoretic) approach to antitrust economics involves the fact that when there are sunk costs, the anticipation of post-entry competition can deter entry by an equally or more efficient rival and permit the incumbent firm to maintain the monopoly price without fear of entry. There is a large literature on this issue and the companion concept of "contestable" markets when there are no sunk costs and prices cannot adjust quickly to entry. As a general matter, economists have concluded that most markets are not contestable because they involve sunk costs and incumbent firms can quickly respond to entry with price reductions.<sup>93</sup>

Posner alludes to this issue in his analysis of predatory pricing. He makes the point that construction of excess capacity by the monopolist makes a threat of below-cost pricing more credible.<sup>94</sup> He then makes the further point that a firm might adopt a technology with higher fixed costs and lower marginal costs as a way of "warning" potential entrants that it is quite likely to reduce its price drastically in the event of entry.<sup>95</sup>

This latter observation that a monopolist might adopt a technology that would induce it to drastically reduce its price in the event of entry in order to deter entry is important for another reason. It suggests that the creation of excess capacity with correspondingly lower marginal costs might be considered as anticompetitive conduct under Section 2.<sup>96</sup> Thus, it could be highly relevant to a discussion of the economics of the excess capacity allegations in *Alcoa*.<sup>97</sup>

## Exclusionary Conduct in New Economy Markets

Posner analyzes exclusionary conduct in "new economy" markets in a new chapter added to the 2001 *Second Edition* of his treatise.<sup>98</sup> The Posner of this chapter seems a bit like a New Man. While

<sup>91</sup> *Hospital Corp. of Am. v. FTC*, 807 F.2d 1381, 1391–92 (7th Cir. 1986).

<sup>92</sup> *Id.* at 1387.

<sup>93</sup> Joseph E. Stiglitz, *Technological Change, Sunk Costs, and Competition*, 3 BROOKINGS PAPERS ON ECONOMIC ACTIVITY 883 (1987); Martin L. Weitzman, *Contestable Markets: An Uprising in the Theory of Industry Structure: Comment*, 73 AM. ECON. REV. 486 (1983).

<sup>94</sup> POSNER, 2d ed., *supra* note 3, at 220. See also Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 942 (1979).

<sup>95</sup> POSNER, 2d ed., *supra* note 3, at 220. He notes that this observation is very old. *Id.* at 220 n.45.

<sup>96</sup> That analysis would have to take into account the fact that a technology with lower marginal cost would incentivize the monopolist to charge a somewhat lower (albeit still monopoly) price. Thus, the net competitive impact of the conduct would depend on the likelihood of entry and the impact of that entry on prices versus the magnitude of the reduction in marginal costs and prices absent entry.

<sup>97</sup> *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 431 (2d Cir. 1945).

<sup>98</sup> POSNER, 2d ed., *supra* note 3, at 245–46. An earlier version of some of the analysis in this chapter is contained in Richard A. Posner, *Antitrust in the New Economy* (John M. Olin Program in Law and Economics, Working Paper No. 106, 2000).

*Posner analyzes exclusionary conduct in “new economy” markets in a new chapter added to the 2001 Second Edition of his treatise. The Posner of this chapter seems a bit like a New Man. While he remains*

he remains skeptical that exclusionary conduct will be anticompetitive, he emphasizes that skepticism is not the same as denial.<sup>99</sup> He recognizes that network effects and economies of scale may deter entry, despite the high rates of innovation.<sup>100</sup> He recognizes that exclusive dealing, tying, and vertical integration can protect monopolies by raising barriers to entry that significantly delay entry.<sup>101</sup> He recognizes that tying may increase the entrant’s costs by more than it raises the monopolist’s costs.<sup>102</sup> He sees an increased risk of predatory pricing, suggesting that predatory pricing can be used to achieve a monopoly, not simply to maintain a monopoly, which was the view in the previous chapter.<sup>103</sup>

His treatment of exclusionary conduct in Chapter 7 of the *Second Edition* characterizes “raising rivals’ costs” as “not a happy formula” because raising competitors’ costs is neither necessary nor sufficient to maintain monopoly.<sup>104</sup> It is correct that conduct that raises a competitor’s costs may not result in higher prices or monopoly power and may be efficient. Thomas Krattenmaker and I thus explain in our article that it is necessary for the plaintiff to also obtain “power over price” (i.e., downstream anticompetitive effects) as well as cost increases.<sup>105</sup> And he is correct that exclusionary conduct (whether exclusive dealing, tying or predatory pricing) instead can reduce rivals’ revenues, which can deter entry or cause exit. The revenue-reducing impact of exclusive dealing is the focus of the “naked foreclosure” literature. It also is why Michael Riordan and I discuss “customer foreclosure” as well as “input foreclosure.”<sup>106</sup> I agree that a better term is “RRC/Foreclosure conduct” rather than just “RRC conduct.”<sup>107</sup> Had we used that term earlier, it might have reduced his apparent confusion.

In any case, in the new economy markets chapter of the *Second Edition*, the new Posner is happier. Indeed, he says that the idea of raising rivals’ costs was discovered first by Director and Levi.<sup>108</sup> He explains why *Standard Fashions*<sup>109</sup> was good law both then and now.<sup>110</sup>

*skeptical that exclusionary conduct will be anticompetitive, he emphasizes that skepticism is not the same as denial.*

<sup>99</sup> POSNER, 2d ed., *supra* note 3, at 251.

<sup>100</sup> *Id.* at 250.

<sup>101</sup> *Id.* at 253–55.

<sup>102</sup> *Id.* at 255.

<sup>103</sup> *Id.*

<sup>104</sup> *Id.* at 196–97.

<sup>105</sup> Krattenmaker & Salop, *supra* note 49, at 242.

<sup>106</sup> Riordan & Salop, *supra* note 74, at 527–57.

<sup>107</sup> I have adopted this terminology to avoid such confusion. See Salop, *supra* note 57, at 376.

<sup>108</sup> Posner focuses on conduct that raises costs and forces two-level or “multi-component” entry. As a “saltwater” economist, I was unaware of this article back in the late 1970s. My own development of the idea flowed from the combination of the following: Williamson’s *Pennington* article, *supra* note 15; Bork’s comment that “[b]y disturbing optimal distribution patterns one rival can impose costs upon another, that is, force the other to accept higher costs.” ROBERT BORK, *THE ANTITRUST PARADOX* 156 (1978); the articles presented at the FTC’s “Strategy, Predation, and Antitrust Analysis” conference that I organized in 1980, particularly the drafts of Janusz A. Ordover & Robert D. Willig, *An Economic Definition of Predation: Pricing and Product Innovation*, 91 *YALE L.J.* 8 (1981), and Richard J. Gilbert, *Patents, Sleeping Patents, and Entry Deterrence*, 17 *J. REPRINTS ANTITRUST L. & ECON.* 205 (1987–1988); discussions with David Scheffman, Michael Katz, and Carl Shapiro. It is apparent in retrospect that we should have invited Posner to the conference. For those interested in the conference papers, the published volume is FEDERAL TRADE COMMISSION, *STRATEGY, PREDATION AND ANTITRUST ANALYSIS* (Steven C. Salop ed., 1981), <https://www.ftc.gov/sites/default/files/documents/reports/strategy-predation-and-antitrust-analysis/198109strategy-predation.pdf>.

<sup>109</sup> *Standard Fashion Co. v. Magrane-Houston Co.*, 258 U.S. 346 (1922).

<sup>110</sup> POSNER, 2d ed., *supra* note 3, at 255. By contrast, *Standard Fashion* warrants only a footnote as an exception to the usual analysis in his earlier work. See Posner, *Exclusionary Practices*, *supra* note 1, at 528 n.50; POSNER, 1st ed., *supra* note 2, at 202 n.48. However, in the context of the technology and demand characteristics of the new economy markets, it is given more emphasis.

As mentioned above, Posner recognizes that exclusive dealing, tying, and vertical integration can protect monopolies by raising barriers to entry that delay entry.<sup>111</sup> This is because “piecemeal entry” is the norm. As he explains,

A firm may wish to enter the market by producing one component of the network or one value-added service, but if a competitor by virtue of owning or having an exclusive-dealing contract with the network refuses to cooperate with the firm, the firm will have to duplicate the network to get distribution of the product.<sup>112</sup>

Stated in different terms, the need to enter more broadly could raise the entrant's costs. In network markets, the idea that this will merely delay entry is less convincing to me. The potential entrants into the other components will face similar duplication issues and it will be difficult for all these firms to coordinate their entries and their pricing. Therefore, the delay may be very long, that is, essentially permanent for the current generation of the technology. It may have to wait until there is another generational inflection point.

Posner still sees an important efficiency potential for these practices.<sup>113</sup> This leads him to propose the following tentative presumption and burden-shifting legal standard:

If the practice is one employed widely in industries that resemble the monopolist's but are competitive, there should be a presumption that the monopolist is entitled to use it as well [and] the burden should shift to the plaintiff to show that, nevertheless, forbidding the use of the practice will, by increasing the rate or speed of new entry, completely offset the effect of the prohibition on the monopolist's costs.<sup>114</sup>

The idea that the existence of a practice in similar competitive markets implies its efficiency benefits raises two issues.<sup>115</sup> First, new economy markets by their nature are not highly competitive in the static sense. Therefore, it may be difficult to find good comparisons. If other firms are using the process while competing to become the monopolist, that may indicate the efficacy of the practice in reducing the efficiency of rivals instead of raising the monopolist's efficiency. Second, as discussed in *Microsoft*,<sup>116</sup> the test is backward-looking. The novel but innovative use of a practice in this market will not be entitled to the presumption.

What explains the difference between his analysis of traditional exclusion and his analysis of the new economy markets? Posner explains that the technology and demand structures of old economy and new economy markets are very different. In his view, the technologies of old economy markets are inherently competitive. Economies of scale are not the norm. Firms tend to have rising marginal costs and multiple plants with modest minimum efficient scale and minimum viable scale. He also flags stable markets and slow innovation.<sup>117</sup>

By contrast, Posner characterizes new economy markets as having significant economies of scale and declining average costs over the relevant range. Intellectual property, for example, has

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<sup>111</sup> POSNER, 2d ed., *supra* note 3, at 253–55.

<sup>112</sup> *Id.* at 252.

<sup>113</sup> *Id.* at 253.

<sup>114</sup> *Id.* at 253–54.

<sup>115</sup> I do not know if Posner was the originator of the idea that the prevalence of a practice in other competitive markets implies that the practice likely is efficient. It also is proposed in Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1 (1984). Of course, even if a practice is efficient, those benefits do not necessarily trump the potential anticompetitive effects of the conduct when it is employed by a dominant or powerful oligopoly firm.

<sup>116</sup> *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001).

<sup>117</sup> POSNER, 2d ed., *supra* note 3, at 245.

essentially zero marginal costs of distribution. They often have network effects, which are demand-side economies of scale. He states that these markets are characterized by low-entry costs, rapid innovation, and frequent entry and exit.<sup>118</sup>

If old economy markets are inherently perfectly competitive or close to it, then exclusionary conduct would not raise significant competitive concerns. However, many old economy (“old” in the sense of pre-1980) markets would not fit this characterization. AT&T is an obvious example. There were economies of scale in the local loop, and classic network effects. In fact, the Bell System was the source of the original insights about network externalities. Railroads are another example.<sup>119</sup>

He discusses in detail *Standard Fashion*, where there were economies of scale because the patterns business had a major intellectual property component. There also may be economies of scope in designing multiple variants of a basic pattern. As such, it might have been like the new economy markets, but before its time. But the idea that a firm might need wide distribution to be viable is not so limited. In *Lorain Journal*, the radio station WEOL similarly had large fixed costs and zero marginal cost of distributing its radio signal. There, the cost of attracting advertisers was also a fixed cost, as the cost of a sales call to an advertiser is the same whether the radio station has 10 listeners or 10,000. If there were lack of innovation, that would tend to retard entry, not the opposite.

But some more traditional old economy markets other than telephony and railroads could also be characterized by large economies of scale and declining average costs. While a retail chain like Walmart is old economy, there appear to be large economies of scale in retailing. Larger retailers have reduced costs of warehousing, delivery, shelving plans, and so on. They also have procurement economies of scale from the ability to negotiate lower prices from their vendors. Advertising also involves economies of scale. And what appears to have dislodged Walmart is Amazon, a classic Schumpeterian visionary.

Industrial production may be characterized by large fixed costs and low marginal costs over a significant range of production. They also may have economies of multi-plant production to spread technical know-how and reduce logistical costs. If they often involve large sunk capital costs, that will increase entry risks. However, maybe this was more so in 1930, 1950, or 1970 than now.

## Conclusion

I hope that this survey makes it clear that Posner has been a major force in antitrust law, economics, and policy for over 55 years. While I do not always agree with his ideas, and it is clear that he generally disagrees with mine, he has been the star around which all of us have orbited. ●

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<sup>118</sup> *Id.* at 245–46.

<sup>119</sup> Dennis W. Carlton & J. Mark Klammer, *The Need for Coordination Among Firms, with Special References to Network Industries*, 50 U. CHI. L. REV. 446 (1983).