**Topics in Regulatory Economics and Policy Series**

**Michael A. Crew, Editor**
Graduate School of Management
Rutgers University
Newark, New Jersey, U.S.A.

**Previously published books in the series:**

Hillman, J., and R. Braeutigam:
*Price Level Regulation for Diversified Public Utilities*
Einhorn, M.:
*Price Caps and Incentive Regulation in Telecommunications*
Crew, M.:
*Competition and the Regulation in Telecommunications*
Crew, M., and P. Kleindorfer:
*Competition and Innovation in Postal Services*
Thompson, H.:
*Regulatory Finance: Financial Foundations of-Rate of Return Regulation*
Crew, M., and P. Kleindorfer:
*Economic Innovations in Public Utility Regulation*
Crew, M., and P. Kleindorfer:
*The Economics of Postal Service*
Crew, M., and P. Kleindorfer:
*Regulation and the Nature of Postal and Delivery Services*
Oren, S. and S. Smith.:
*Service Opportunities for Electric Utilities: Creating Differentiated Products*
Kolbe, A. L., W. B. Tye, and S. C. Myers:
*Regulatory Risk: Economic Principles and Applications to Natural Gas Pipelines*
Pechman, C.:
*Regulating Power: The Economics of Electricity in the Information Age*
Gordon, R. L.:
*Regulation and Economic Analysis: A Critique Over Two Centuries*
Blackmon, G.:
*Incentive Regulation and the Regulations of Incentives*
Crew, M.:
*Incentive Regulation for Public Utilities*
Crew, M.:
*Commercialization of Postal and Delivery Services*
Abbott, T. A.:
*Health Care Policy and Regulation*
Goff, B.:
*Regulation and Macroeconomic Performance*

# THE ECONOMICS OF THE ANTITRUST PROCESS

edited by

**Malcolm B. Coate**
Federal Trade Commission

and

**Andrew N. Kleit**
Louisiana State University

KLUWER ACADEMIC PUBLISHERS
Boston/Dordrecht/London

1996

## References


Baseman, Kenneth C., Warren-Boulton, F. R., and G. A. Woroch. 1995. "Microsoft Plays Hardball: Use of Exclusionary Pricing and Technical Incompatibility to Maintain Monopoly Power in Markets for Operating System Software." *Antitrust Bulletin* 40(2):265-315.

Berlot, Ed. 1994. Letter to Editor. *Byte* 19(8):18.

Easterbrook, Frank H. 1986. "On Identifying Exclusionary Conduct." *Notre Dame Law Review* 61(5):972-980.

Flynn, Ida M. and Ann M. McHoes. 1991. *Understanding Operating Systems*. Pacific Grove, CA: Brooks/Cole Publishing Company.

Fryer, Bronwyn. 1995. "The Software Police." *Wired* 3(5):88-96.

Ichibiah, Daniel and Susan L. Knepper. 1991. *The Making of Microsoft*. Rocklin, CA: Prima Publishing.

Mathisen, Terje. 1994. "Novell's Newest DOS." *Byte* 19(7):241.

Ordover, Janusz A. and John C. Panzar. 1982. "On the Nonlinear Pricing of Inputs." *International Economic Review* 23(3):659-675.

Posner, Richard A. and Frank H. Easterbrook. 1980. *Antitrust: Cases, Economic Notes and Other Materials*. Saint Paul, MN: West Publishing Company.

Rohm, Wendy G. 1994. "Oh No, Mr. Bill! The Inside Story of the U.S. Government's Antitrust Case Against Microsoft." *Wired* 2(4):90*ff.*

Salop, Steven C. and David T. Scheffman. 1987. "Cost Raising Strategies." *Journal of Industrial Economics* 36(1):19-34.

Scherer, F. M. 1992. "Schumpeter and Plausible Capitalism." *Journal of Economic Literature* 30(3):1416-1433.

Schulman, Andrew. 1994. *Unauthorized Windows 95*. San Mateo, CA: IDG Books Worldwide.

Schumpeter, Joseph A. 1950. *Capitalism, Socialism and Democracy* (third ed.). New York: Harper and Row.

Wallace, James and Jim Erickson. 1992. *Hard Drive: Bill Gates and the Making of the Microsoft Empire*. New York: John Wiley and Sons.




# Chapter 10

## Predatory Pricing in the Retail Trade: The *Wal-Mart* Case

Donald J. Boudreaux[1]

### 1. Introduction

In 1987, Wal-Mart began selling pharmaceuticals in Faulkner County, Arkansas. Consistent with its overall retail strategy, Wal-Mart sought to sell a high volume of pharmaceuticals at low margins. Wal-Mart's explicit policy was to never be undersold on a pharmacy item. Although the manager of each local Wal-Mart pharmacy had no authority to raise prices above those set at Wal-Mart's headquarters, each manager was permitted to lower prices to beat those charged by rival retailers even if these prices were lowered below the wholesale prices paid by Wal-Mart for the individual items it retailed.

Predictably – in light of antitrust's history of being used by firms to bludgeon their more successful rivals (Baumol and Ordover (1985); McChesney and Shughart (1995)) – Wal-Mart was sued in 1991 by three local pharmacies for attempting to monopolize the market for pharmaceuticals and health and beauty aids in Faulkner County. This suit, *American Drugs, Inc. v. Wal-Mart Stores, Inc.* (hereinafter "*Wal-Mart Stores*"), was brought in Arkansas state court under Arkansas's Unfair Practices Act, a 1937 statute reminiscent of the Robinson-Patman Act. Although Wal-Mart lost in a bench trial, it narrowly prevailed on appeal to the Arkansas Supreme Court which found that Wal-Mart's pricing practices could not reasonably have been intended to destroy competition (as is required by the Act).

Apart from the attention it received in the popular and business press, *Wal-Mart Stores* raises a host of interesting economic and antitrust issues. I explore some of these issues below. In particular, I ask what it means to assert that a retailer intends to monopolize an appropriately defined retail market through predatory pricing: when, if ever, are such attempts sensible? Can a retailer attempting to monopolize through a predatory-pricing strategy ever hope to do so by pricing some, though not all, of its retail items below invoice cost? Perhaps most fundamentally, I ask whether it can make any sense to distinguish predatory from non-predatory costs, as is now done with the Areeda-Turner test. I also explore the still-largely-unexplored question of the incentives of manufacturers or wholesalers to take steps to keep retailing competitive. I begin, however, with a fuller account of the *Wal-Mart Stores* litigation.

## 2. The Litigation

Three local pharmacies in Faulkner County (American Drugs, Baker Drugs, and Mayflower Family Pharmacy) jointly sued Wal-Mart under an Arkansas statute designed to prohibit predatory pricing. Because plaintiffs sought, in addition to damages, to enjoin Wal-Mart's pricing practices, the case was removed to chancery court.[2]

Wal-Mart was accused of violating the statute in two distinct ways. The first was a straightforward predatory-pricing allegation based on the Areeda-Turner (1975) test: the plaintiffs accused Wal-Mart of attempting to monopolize the Faulkner County retail market for pharmaceuticals and health and beauty aids through its policy of retailing a handful of its pharmaceutical items at prices below the invoice costs Wal-Mart paid for these items. Plaintiffs' expert economist testified that the invoice cost of any pharmaceutical item is less than the average variable cost (AVC) of selling this item. It follows that Wal-Mart's below-invoice prices on a handful of items were also below AVC. Moreover, this expert economist argued that failure to maximize profits on any single product violates the Areeda-Turner test and is, thereby, evidence of predatory intent. Under this logic, the fact that below-invoice prices on pharmaceuticals items might increase Wal-Mart's profits on other items is irrelevant for a predatory-pricing inquiry.[3]

Second, Wal-Mart was accused of trapping gullible consumers who, lured onto Wal-Mart's premises by the promise of exceptionally low prices on select items, would also purchase items with exceptionally high retail mark ups. The plaintiff's pleadings against Wal-Mart lumped the second allegation in with the first; it is as if the plaintiffs and their attorneys saw no difference between the two allegations. I do not here address the allegation of 'low-price luring' because it is not really an allegation of predation, and the trial decision as well as the appellate opinion turned



exclusively on the plausibility of the claim that Wal-Mart attempted to monopolize the relevant market through predatory-pricing practices.

In particular, Wal-Mart allegedly violated the following statutory provision:

> It shall be unlawful for any . . . corporation . . . engaged in business within this state, to sell, offer for sale, or advertise for sale any article or product . . . at less than cost thereof to the vendor . . . for the purpose of injuring competitors and destroying competition.[4]

Thus, a successful plaintiff must prove three separate facts: (1) that the defendant priced (or offered to sell) a good "at less than cost to" the defendant; (2) that such below-cost pricing was done for the purpose of injuring competitors, *and* (3) that such below-cost pricing was done for the purpose of destroying competition.

The plaintiffs presented undisputed evidence that Wal-Mart occasionally priced individual pharmaceutical items below these items' invoice costs. Indeed, Wal-Mart admitted this much. Wal-Mart, however, denied that its practice of pricing a handful of items below invoice amounted to unlawful below-cost sales. Wal-Mart insisted that the relevant product is not any individual item; rather, the relevant product is a market basket of pharmaceuticals. Because there was no allegation that Wal-Mart ever sold any bundle of pharmaceuticals at an aggregate price below cost -- in fact, the Faulkner County Wal-Mart's pharmacy was continually profitable during the entire period of the alleged predation -- if the relevant product was defined as a market-basket of pharmaceuticals, then Wal-Mart would win the case outright.

The trial court, however, accepted the plaintiffs' argument that the statute was aimed at below-cost pricing of individual items and could not sensibly be interpreted to mean 'below-cost pricing of a market basket of goods.' I later discuss this issue in more depth.

The trial court then, having concluded that Wal-Mart did indeed price below cost, asked whether or not such pricing was intended to injure competitors and destroy competition. Recognizing that direct evidence of a firm's intent is virtually nonexistent, the trial court understandably sought to decipher intent by examining the facts and circumstances surrounding Wal-Mart's challenged pricing practices.

The court listed six circumstances that in combination strongly suggested to it that Wal-Mart's below-cost pricing was meant to harm competitors and destroy competition. These six circumstances are:

- The number and frequency of below-cost sales.
- The extent of below-cost sales.
- Wal-Mart's stated pricing policy -- "meet or beat the competition without regard to cost."
- Wal-Mart's stated purpose of below-cost sales -- to attract a disproportionate number of customers to Wal-Mart.[5]

• The in-store price comparison of products sold by competitors, including plaintiffs.

• The disparity in prices between Faulkner County prices of the relevant product-lines and other markets with more or less competition.

With no additional comment, the trial court concluded that the combination of these six circumstances proved that Wal-Mart priced with the requisite predatory intent. Therefore, Wal-Mart was ordered to stop charging below-invoice prices for its pharmaceuticals, as well as to pay treble damages (of $289,407) to the three plaintiffs.

Wal-Mart appealed. In January 1995, the Arkansas Supreme Court voted 4 to 3 to reverse the trial court and dismiss the case.[6] The high court ruled that these six circumstances provided inadequate grounds for the trial-court's inference of the requisite predatory intent. First, the high court was dissatisfied with the failure of the lower court to quantify the frequency, extent, and duration of Wal-Mart's below-cost sales.[7] Secondly, the high court implicitly criticized the trial-judge's failure to weigh alternative interpretations of Wal-Mart's pricing practices against the anti-competitive hypothesis advanced by the plaintiffs. The high court ruled that, because Wal-Mart regularly varied the few items it sold below invoice, its pricing practice was more plausibly one of loss-leading designed to attract greater traffic into the store. Greater customer traffic increases present profits, and so is not appropriately described as predatory: "the chancery court erred in inferring a purpose to destroy competition from a loss-leader strategy."[8] The court proceeded to point out that, under the lower-court's logic, loss-leading would become *prima facie* evidence of predatory intent; loss-leading would thus become illegal, "and we are not willing to invalidate, and indeed render illegal, the technique of using loss-leader products or services without a clear directive from the General Assembly that that is now the public policy of the State of Arkansas."[9]

The high court also found no necessary implication of intent to destroy competition from Wal-Mart's in-store price comparisons, nor from the disparity between the prices charged by the Faulkner County store and those charged by Wal-Mart stores elsewhere in Arkansas. "There is certainly no fault in comparative pricing. On the contrary, that tactic appears to foster and encourage competition . . . . Nor is the fact that Wal-Mart stores in other localities varied the prices of their products in response to local competition sufficient to prove that Conway Wal-Mart intended to destroy competition in Faulkner County."[10]

In short, a bare majority of Arkansas's Supreme Court understood that evidence of below-invoice pricing, even combined with local variations in prices, has a plausible pro-competitive explanation. As such, any inference of predatory intent from these facts alone is invalid.

The high court discussed three additional reasons why an inference of predatory intent is inappropriate in this case. The first is that the plaintiffs "all continued into 1993 making a profit."[11] Although it is not necessary that an alleged predator actually destroy a rival in order to violate the statute -- below-cost prices combined



with predatory intent is sufficient -- failure to destroy a rival is nevertheless evidence against an allegation of predatory intent. Presumably, a firm with pockets as deep as Wal-Mart could well have crushed each of the plaintiffs had it been so inclined.

Second, the market was served by several other pharmacies in addition to Wal-Mart and the plaintiffs.[12] Many of these other pharmacies were national retailers. Recouping its predatory expenses would have required that Wal-Mart charge monopoly prices after rivals had been destroyed. Ability to charge monopoly prices, however, required either that Wal-Mart successfully prey on *all* of its rivals -- including national mail-order houses -- or that Wal-Mart successfully conspire to cartelize the market with those rivals against whom it did not prey. No allegations were made of either of these additional tactics. The lesson here is that allegations of predation against only a subset of rivals should be sufficient grounds for dismissal if the statute requires that the plaintiff prove an intent by the defendant to destroy competition.

Third, the Arkansas Supreme Court took explicit notice of the statute's depression-era origins. As the court pointed out, the legislature declared the statute to be "an emergency measure" aimed at avoiding bankruptcies which would "increas[e] the prevailing condition of depression."[13] Regardless of the prudential merits of assisting macroeconomic recovery through legislation aimed at stemming below-cost pricing, the court wisely ruled that this statute should not generally be available for use by plaintiffs dismayed by rivals' loss-leading policies. Arkansas's high court implicitly recognized what the United States Supreme Court explicitly spelled out nearly a decade earlier in the *Matsushita* decision: "cutting price in order to increase business is often the very essence of competition. Thus, mistaken inferences in [predatory-pricing cases] are especially costly, because they chill the very conduct the antitrust laws are designed to protect."[14]

## 3. Broader Economic Issues

Stepping back from the details of the *Wal-Mart Stores* ruling, it is interesting to investigate more generally some of the economic issues raised by this litigation. I focus on four. First, is predation possible when a firm charges prices below costs on only a handful of items that it and its rivals sell? Second, under what conditions will manufacturers who distribute through a suspected predator take steps to police against this downstream predation? Third, does monopolization at one stage of production necessarily harm firms upstream or downstream from the monopolist if bargaining between the upstream and downstream monopolists is possible? In a recent article, Hovenkamp (1991) argues that it does not. I argue below the contrary. Fourth and most fundamentally, does it make sense to distinguish predatory from non-predatory prices on the basis of costs?

### 3.1 Single Good or Market Basket?

The trial court in *Wal-Mart Stores* rejected Wal-Mart's argument that below-invoice pricing of a handful of items does not amount to below-cost pricing of the kind the statute aims to prohibit. Claiming to read the statute according to its plain meaning, the trial court noted that "'the Act' applies to 'any article or product' and not 'market basket' or 'overall product line' cost."[15] While it is true that the statute prohibits below-cost pricing of "any article or product," the trial-court's reasoning begs the question of how to define "article" or "product." The statute itself does not define these terms. Although it may appear superficially that the words "any article or product" means, literally, any individual article or product, well-accepted principles of statutory construction require that words be interpreted in accordance with the overall intention of the statute.[16] The statute claims to promote competition. It follows, then, that the interpretation of "any article or product" should accord with the statute's pro-competition purpose.[17]

So, it is appropriate to ask which interpretation best promotes the statute's pro-competitive goal: the trial-court's literal "individual item" interpretation, or Wal-Mart's "market basket" interpretation. If it is possible to monopolize a market by pricing a handful of items below cost, then the court's literal interpretation is justified. But because success at predation is impossible unless the predator's below-cost prices threaten rivals' existence -- otherwise competition persists -- below-cost pricing of a mere handful of all items comprising the relevant product market is unlikely to promote monopolization. Hence, the proper interpretation of the statute in this case requires that the relevant items be defined as a "market basket" of all pharmaceuticals -- a market basket which, if priced below cost, threatens competition in the retail pharmacy market.

If the product market is appropriately defined as a basket consisting of, say, analgesics, antihistamines, and decongestants, then below-cost pricing occurs only if the combined revenues received from the sales of these three products fall short of the combined costs to the retailer of these products. If this revenue exceeds the cost, then the retailer's pricing policy does not threaten the existence of equally efficient rivals. This conclusion holds even if one or two of these three products is priced below invoice cost. As long as the seller's combined revenues on sales of these three products exceed its combined costs of selling these products, all equally efficient rivals can mimic the seller's pricing scheme and avoid losses.

Of course, the foregoing discussion presumes the product market to be appropriately defined. It may be, say, that decongestants really constitute a market of their own. If so, it is irrelevant if the combined revenues on sales of analgesics, antihistamines, and decongestants exceed the combined costs of these three products. If a firm prices decongestants below cost, such pricing (were it a real threat to competition among sellers of decongestants) would threaten to monopolize an appropriately defined market. But once the product market is appropriately defined,



predation requires that the entire bundle of products comprising the market so defined be sold at prices that generate revenues below cost. Otherwise, equally efficient sellers of this product are not threatened with bankruptcy by the alleged predator's pricing behavior. Therefore, in *Wal-Mart Stores*, because all parties agreed that the relevant product market was "pharmaceuticals and health and beauty aids," the court misused the Areeda-Turner test to erroneously find that Wal-Mart's prices violated the statutory prohibition of below-cost pricing.

### 3.2 Manufacturers' Incentives to Keep Retailing Competitive

It has long been understood that monopolization of two or more stages of production of any good reduces the total amount of monopoly profits earned by the "successive monopolists."[18] That is, if only one stage of production is monopolized, all others being competitive, the size of the resulting monopoly profits at that one stage will be larger than the sum of the monopoly profits earned by two or more monopolists within a single vertical chain. It follows that a monopolist at one stage of production has an interest in avoiding monopolies at other stages of production. Every firm, monopolist or competitor, prefers to purchase its inputs from competitive suppliers rather than from monopolists; likewise, every supplier prefers to sell its outputs to competitive firms rather than to monopolists (who may or may not be monopsonists).[19] The reason is straightforward: downstream monopolists restrict output below levels that would prevail under downstream competition. Thus, demands for the outputs of upstream firms is lower than otherwise. And note that this is true regardless of whether the upstream stage is monopolized or competitive. All upstream firms suffer if there is downstream monopolization.

Thus, any manufacturer will take steps to ensure that the retail sector remains competitive if the benefits to the manufacturer exceed the manufacturer's costs of taking these steps.[20] As a practical matter, the likelihood that such steps will be worthwhile is positively correlated with the extent of monopoly power enjoyed by the manufacturer. A monopolist producing aspirin is more likely to police against downstream monopolization of pharmacies than is an aspirin maker who is one of hundreds of such producers. Even more generally, whether or not such policing occurs depends on how many manufacturers of retailed products stand to share in the benefits of policing.

Practically, what steps might an upstream monopolist take to help ensure that retailing remains competitive? If we put aside antitrust-law's artificial restrictions on manufacturers' ability to contract with retailers,[21] one possible manufacturer response comes immediately to mind, namely, minimum resale price maintenance (RPM). If a manufacturer suspects a retailer of attempting to monopolize the retail market through predatorially low prices (and if the manufacturer believes that the predatory retailer has a substantial chance of success), the manufacturer can insist

in its contracts with the renegade retailer on minimum resale prices above predatory levels.

Other upstream strategies include refusing to deal with a suspected downstream predator, charging higher wholesale prices to the suspected predator than those charged to the predator's rivals (or otherwise giving the prey discounts on products and special assistance with retailing efforts), and threatening a downstream predator with *maximum* RPM or sales quotas if the downstream stage becomes monopolized.[22]

While minimum RPM directly blocks a retailer's ability to sell below cost those items covered by RPM contracts, these other strategies raise the costs of attempted monopolization. Refusals to deal might do so in one of two ways. First, the manufacturer of the predatorially priced product might refuse to sell this product to the suspect retailer. The retailer must then find a less-desirable item to use in price predation.[23] Second, because a monopolist retailer harms several manufacturers, an individual manufacturer suspicious of a retailer's motives might pull its products even if this firm's products are not those on which the retailer is charging predatorially low prices. *If* the manufacturer's brand is important enough to the retail trade that any retailer not carrying this brand is at a substantial competitive disadvantage, then refusals to deal by this manufacturer can play an important role in policing against downstream monopolization. (I address below the *incentives* of upstream firms to police.) For example, if Coca-Cola believes that Kroger is a serious threat to monopolize grocery retailing in a particular (and appropriately defined) geographic market, then Coca-Cola could threaten to pull its products from Kroger if Kroger continues its monopolizing efforts. Coca-Cola may do so whether Kroger charges predatorially low retail prices on Coca-Cola products or on other items.

The same is true for price discrimination. Rather than refuse to deal, a manufacturer might charge higher wholesale prices to the monopolizing retailer. Rivals of the predator are thereby advantaged relative to the predator and are, hence, better able to survive a predatory price war.

Finally, the threat of maximum RPM or sales quotas makes predation less attractive to retailers. Maximum RPM or sales quotas can force a monopolist retailer to price competitively. Consequently, a retailer that succeeds in ousting rivals will be unable to recoup its predation losses through monopoly pricing. Predation, therefore, is less attractive as a business strategy to the extent that maximum RPM or sales quotas are available to manufacturers.[24]

Of course, as suggested above, free-rider problems may well frustrate efforts by suppliers to police against downstream monopolization. I do not here investigate in full the details of market arrangements that promote downstream policing by manufacturers. I am content now to suggest the possibility, and to make a few general remarks. One obvious implication of this discussion is that a retailer who distributes exclusively one manufacturer's products is in no position to predatorially



price in a way antagonistic to the manufacturer's interest. If, say, an independently owned Texaco service station sought to monopolize the retail market for Texaco gasoline in a particular town, Texaco could quite easily thwart this retailer's scheme.[25] Free-rider problems do not here exist, and Texaco could be certain that whatever retaliation it takes against the retailer would have a substantial effect on the retailer's ability to successfully conduct business.

But manufacturer policing against retailer monopolization becomes less effective with increases in the number of different manufacturers whose products are handled by a predatory retailer. The reason is twofold. First, free-rider problems might block policing efforts. Even if a manufacturer could effectively threaten to penalize a predatory retailer, efforts to free-ride on the policing efforts of other similarly situated manufacturers might block all policing efforts. Second, a manufacturer may have inadequate clout to punish a predatory retailer. When retailers carry the products of several manufacturers, only manufacturers whose goods are essential to retailing success have sufficient clout to police effectively against monopolizing efforts by retailers.[26] A supermarket contractually bound to sell okra at a price no lower than invoice cost is unlikely to be dissuaded from pursuing its monopolizing ways. In contrast, a supermarket contractually prohibited from charging a predatory price on Coca-Cola may well find that it cannot now as easily monopolize the retail grocery trade as it would were it able to sell Coca-Cola at predatorially low prices.

A corollary of this second consideration is that policing by manufacturers is more likely when retail success depends upon being a "full-service" retailer – that is, when consumers punish retailers who do not carry consistently adequate stocks of a minimally wide range of retail goods. In such situations, any one manufacturer will more likely be able to stymie a retailer's predatory success by refusing to deal with a retailer (or by dealing only on unfavorable terms)[27] .

The retail pharmacy market seems to be especially of this type. Each major drug manufacturer is the exclusive producer of several patented drugs; failure of a retailer to carry any one of these drugs might substantially disadvantage a retail pharmacy relative to its rivals. Although retail pharmacies in Faulkner County each carried the products of dozens of manufacturers, failure to stock one particular product from any one of these manufacturers might expose a pharmacy to serious market discipline: if a customer asks for, say, Suprax,[28] and the pharmacy does not carry Suprax, this pharmacy may well suffer a substantial diminution of customer patronage if there is no good substitute for Suprax produced by any other pharmaceutical manufacturer. Thus, the clout of each pharmaceutical supplier to police against retail monopolization is arguably strong enough to render untenable any inference of predatory intent on the part of Wal-Mart. Putting aside other reasons why Wal-Mart's actions were not plausibly predatory, each drug manufacturer would plausibly have had incentives to police against monopolization of pharmaceutical retailing.

I assumed away, in the above discussion, existing antitrust prohibitions. Under a legal regime with no antitrust restrictions, it is possible in many circumstances – and plausible in some – that policing by upstream suppliers against retailers will adequately thwart downstream monopolization attempts. Matters are different under the existing antitrust regime. While antitrust law does not now discourage *all* varieties of policing efforts – unilateral refusals to deal and sales quotas are examples of supplier strategies available under existing law – many other policing methods are illegal. For example, the proscription against both minimum and maximum RPM blocks what may well be the single most effective tool potentially available to upstream suppliers to keep retail markets free of predators.[29] Similarly, the Clayton Act (as modified by Robinson-Patman) prevents suppliers from assisting with differentially lower wholesale prices the prey of a suspected retail predator. Indeed, Sherman Act §1 prohibitions against collusion may obstruct cooperation among suppliers to coordinate and share the costs of disciplining predatory retailers. Whatever benefits are served by existing antitrust laws must be weighed against these (as well as other, better-known)[30] costs.

### *3.3 Hovenkamp on Vertical Agreements*

The claim that firms at one stage of production might discipline monopolists at other stages is not new (e.g., Kleit and Coate (1993)), although I am unaware of any argument that such discipline might obstruct predation. Typically, this claim is made in the context of a buyer with some monopsony power forcing down prices charged by a supplier garnering monopoly power through merger. If the buyer has substantial bargaining power, there is less need to worry about monopolization at the supply stage. A handful of recent antitrust decisions explicitly rely upon this insight to strike down attempts to block mergers. For example, in *U.S. v. Country Lake Foods*,[31] a U.S. District Court refused to condemn a merger of fluid-milk processors. Although this merger resulted in high concentration among fluid-milk suppliers, the court focused on the fact that the three largest customers of these suppliers purchase 90% of these suppliers' output of fluid milk. The court was persuaded by the defendant's claim that the dominance and sophistication of its buyers would stifle any attempt by the defendant to behave anticompetitively following the merger.

A similar conclusion was reached in *U.S. v. Syufy*,[32] although in this case a merger among *buyers* was challenged. In *Syufy*, Judge Alex Kozinski rebuffed the government's efforts to block a merger of Las Vegas movie exhibitors. Judge Kozinski held that the substantial market power of movie producers is sufficient to check any monopoly power that might exist among Las Vegas theaters.

Hovenkamp challenges the logical bases of these rulings. After rightly pointing out that "[f]irms generally prefer neither to purchase from monopolists nor to sell to them," Hovenkamp argues -- contrary to *Country Lake Foods*, *Syufy*, and similar



rulings – that this fact does not imply that firms at one stage of production have incentives to destroy monopoly power at another. Hovenkamp's conclusion is inspired by the Coase Theorem, which "suggests that vertically related firms would prefer to share the profits of monopoly rather than to compete them away. Vertically related firms tend to make bargains that maximize *joint* profits." (Hovenkamp (1991, 1371) (original emphasis).) Hovenkamp concludes from this fact that monopolist suppliers do not necessarily wish to sell to competitive retailers, and that monopolist buyers do not necessarily wish to purchase from competitive suppliers. Rather than eliminate monopoly power at stage $n$ of the production process, a monopolist at stage $m$ will allow the monopoly at stage $n$ to persist if the monopolist at stage n shares its monopoly profits with the monopolist at stage $m$.

Hovenkamp's conclusion is incorrect. Maximizing joint profits requires that all stages of the production process, save one, perform competitively. Although Hovenkamp correctly suggests that vertically related monopolists may have incentives to cooperate, such cooperation will result in one or the other pricing competitively. Failure to cooperate in this way among vertically related monopolists -- or failure of one monopolist to compel the other to behave competitively – results in the "double marginalization" problem. When two or more vertically related firms each skim off monopoly profits, each taking the outputs and demands of all other vertically related firms as given, aggregate monopoly profits in this industry are lower than if only one stage of the production process behaves monopolistically.[33]

Of course, competitors as well as monopolists want their vertically related brethren to behave competitively. But unfortunately for firms in competitive industries, free-rider problems may prohibit them from challenging the exercise of monopoly power by a buyer or supplier. In contrast, firms with monopoly power have not only unsullied interests in the competitive behavior of each of their vertically related firms, they also are more likely than competitors to possess effective means of forcing vertically related firms to behave competitively.

One or the other of two vertically related monopolists might, with sufficient bargaining skills, force the other to behave competitively. If no one firm can prevail on the other to behave competitively, a vertical merger may result.[34] In either case, vertically related monopolists have both the incentive and the ability to solve the double-marginalization problem by getting rid of monopoly effects at all but one stage of production.

### *3.4 'Predatory' versus 'Non-predatory' Prices*

Until now, I have not questioned the use of some measure of cost (e.g., AVC) to distinguish predatory from non-predatory prices. However, cost-based distinctions, most notably the Areeda-Turner test, are biased in favor of false-positive findings - - i.e., falsely identifying low prices as predatory prices.[35]

A price is predatory if it is reasonably intended to secure a monopoly. But the symptoms of predation are strikingly similar to those of healthy competition. To relieve courts of the impossible task of divining defendants' intent, Areeda-Turner (1975) constructed a cost-based test that allegedly offers courts an objective way to identify predation. Under the Areeda-Turner test, prices above average total cost (ATC) are *per se* legal, prices lower than ATC but not below AVC are presumptively non-predatory, and prices below AVC are presumptively predatory.

While the Areeda-Turner test improved courts' treatment of predation claims by shifting attention away from belligerent language often found in internal company memoranda (Elzinga and Mills (1994)), this test is fundamentally flawed. The legal treatment of predation would be further improved if *all* pricing practices were *per se* legal. No one should have standing to sue for predation based upon a defendant's low prices. The reasons are fourfold: (1) misidentifying competitively low prices as predatory chills competitive behavior; (2) costs are inherently difficult to measure because they are only imperfectly proxied by accounting data;[36] (3) firms will almost never pursue monopolization through below-cost pricing; and (4) the relationship between price and cost at any moment says nothing about predatory intent or likelihood of predatory success.

The first two reasons are widely recognized and will not be discussed further. Although much has been written about the third reason (Easterbrook (1981a)), still more can be said. But saying more requires first an understanding of the fourth reason -- that is, why the relationship between price and cost yields no information about predatory intent.

The Areeda-Turner test rests squarely on the belief that $P < AVC$ conveys relevant information about the firm's predatory design. The reason $P < AVC$ is believed to announce clearly a firm's predatory design is that such a price causes unnecessary losses for the firm and, hence, "is not a reasonable way for a firm to increase profits -- unless the increase is the present value of future monopoly pricing" (Hovenkamp (1985, 173)). Because a firm in conventional partial-equilibrium price theory has no good reason to charge prices below AVC, a firm observed charging such a price must be doing something other than maximizing profits. That something is concluded to be attempted monopolization.[37]

This conclusion (of a type philosophers label "the fallacy of the residual") is invalid. Due to its unavoidably limited scope, the partial-equilibrium model defines only a limited number of profit-maximizing reasons for firms to reduce prices, and no reasons at all for a firm to cut prices below cost. But it does not necessarily follow that an observed price decrease, inexplicable within the model on profit-maximizing grounds, is predatory. Predation is only one among several possible residual explanations for an observed reduction in price below AVC.[38]

The conventional model upon which Areeda-Turner relies is designed to explain pricing and output decisions by firms producing given products to satisfy given demands within the confines of well-defined and given constraints on resources,



knowledge, and production techniques. Among the real-world phenomena this model cannot explain are firms' product-selection and marketing decisions. Product-selection choices are analytically prior to the model, while marketing decisions are implicitly assumed to be unnecessary (because consumer demand for the industry output is exogenous to the model). However, in reality firms must decide which kinds and qualities of products to produce as well as how to market these products. If pricing decisions are often part of a firm's product-development and marketing plan, prices below conventionally measured costs are not validly classified as predatory simply because the conventional model has no room for such pricing practices. Such prices may be a legitimate investment in marketing.

For example, a firm may decide that if it can today build up strong and long-lasting consumer loyalty, construction tomorrow of a larger and more efficient factory will be justified. But how to get the required consumer loyalty? One way might be to charge, for a time, prices below AVC. Or, as was probably true for Wal-Mart, a firm can charge prices below AVC on some products in an attempt to strengthen consumer loyalty as well as to increase current customer flow through its stores.

Under the Areeda-Turner test, such prices are predatory. However, suppose the firm seeks to engender consumer loyalty by some means other than pricing below AVC, such as by spending extra funds training sales clerks to be singularly friendly and knowledgeable. There is no economically relevant difference between these alternative means of building consumer loyalty.[39] In both cases, the firm "loses" money today in the hopes of recouping these "losses" tomorrow. Also in both cases, rivals are harmed if the firm succeeds; in both cases, rivals may go out of business altogether. And yet predation is declared only when a firm charges price below AVC. If training sales clerks is regarded as a healthy competitive exercise, it is not clear why pricing below AVC is undesirable: both investments help the firm, harm rivals, and benefit consumers (at least until the firm becomes a monopolist). Because the Areeda-Turner test ignores possible efficiency justifications for prices below AVC, it too quickly labels all such prices as predatory.

None of the foregoing denies that a firm's pricing practices can ruin rivals and leave the firm with a monopoly. But it does point out not only that prices below AVC are an investment, but that these investments differ in no fundamental way from other investments that attract consumers at the expense of rivals. Pricing below cost is a particular form of investment, and nothing in the conventional model suggests that investments in the form of prices below AVC are any more (or less) likely than other investments to generate monopolized markets. A genuine theory of predation must plausibly distinguish investments likely to generate welfare-reducing monopolies from investments unlikely to do so. Focus on the relationship of price to cost does not adequately distinguish predatory from nonpredatory investments.

There are, though, several well-known reasons for doubting that predation *ever* takes the form of below-cost pricing (Easterbrook (1981a)). To these well-known reasons, I add others suggested by the realization that a would-be predator typically has available investment opportunities that can substitute for below-cost pricing as a means of harming rivals. Given that a predator can harm rivals on numerous non-price margins, there is reason to be skeptical that an aspiring monopolist will charge prices below cost as a means of monopolizing a market.

Consider the advantages of harming rivals on non-price margins (say, by offering higher product quality) relative to predatory pricing:

(1) Non-price improvements are more difficult than price cuts for rivals to mimic. What can be easier to imitate than a price cut? No special skills, organizational sophistication, or technical know-how is required to lower prices. Rivals need to know only how to read numbers. In contrast, matching an increase in product quality or an improvement in production or distribution techniques inevitably requires some skill on the part of rivals. Indeed, while the dullest rival will have no trouble mimicking a price cut, some rivals might never be able to mimic a non-price change.

(2) Non-price improvements take more time to mimic than do price cuts. The longer it takes for rivals to mimic a predator, the greater are rivals' losses during the period of predation. Thus, exit of rivals in the face of non-price predation will be more sure and more quick than in the face of price predation (under which rivals can quickly, certainly, and precisely mimic the predatory tactic). Also, re-entry into the monopolized industry will be slower under non-price predation. Because rivals are, by hypothesis, as efficient as the predator, only a genuine non-price improvement has any chance of giving the predator a durable advantage over rivals -- an advantage that not only is difficult or impossible to mimic today, but may be difficult or impossible to mimic in the future.

(3) Non-price improvements might yield profits to the predator even before rivals are run out of the industry. An improvement in product quality by a predator might increase consumer demands for the predator's output so substantially that the predator recovers all costs of product improvement even before all rivals are driven from the industry. No such profits are available during predatory price wars. Moreover, the future demand for the product may be higher when the predator improves the quality of its product than when the predator simply charges below-cost prices.

In short, *if* there is predation, it will typically not take the form of easy-to-mimic price cuts. Savvy predators will likely choose non-price predatory tactics. This fact does not mean that courts should search more earnestly for instances of non-price predation. Questions of the real-world likelihood of predation and of the ability of courts to police against it are separate from the question of the form predation will take if and when it occurs. All I argue here is that if predation ever occurs, it will likely be in non-price form.[40] Determining the kinds of activities



that constitute predation, and assessing their likelihood of success along with the prospects of policing against such predation, are matters for another investigation.

## 4. Conclusion

Economics provides little justification for the suit alleging that Wal-Mart's low prices were part of a predatory scheme to monopolize pharmaceutical retailing in Faulkner County, Arkansas. The traditional argument pointing to the futility of predatory pricing applies in this case: if Wal-Mart priced predatorially, continued competition from Kroger and other pharmacies (including mail-order pharmacies) would have assured that Wal-Mart's losses would have swamped any future monopoly profits. Less familiar arguments, however, also support the Arkansas Supreme Court's ruling that Wal-Mart was not, in fact, engaged in predatory behavior. Because suppliers of pharmaceuticals have an interest in competition among pharmaceutical retailers, these suppliers might have policed against any genuinely predatory attempts by Wal-Mart. Failure of these suppliers to discipline Wal-Mart (or even to complain about Wal-Mart's retailing practices) suggests, though it does not prove, that Wal-Mart was in fact not behaving in a way that promoted monopolization.

Unfortunately, it is impossible to tell if policing by pharmaceutical manufacturers against a predatory Wal-Mart would have ensued. More needs to be known about the effects of the number of suppliers, the role of brand names, and the effects of different varieties of distribution contracts before we can identify with some assurance when suppliers will, and when they will not, actively and effectively police against predation attempts by retailers. But the possibility of policing by suppliers exists. It is one that students of antitrust ought to investigate. The fruits of such investigation may well prove useful to courts in future predation cases.

### Notes

1. The author wrote an *amicus brief,* submitted by the Institute for Justice, in support of Wal-Mart's appeal. Malcolm Coate, Don Dewey, Ken Elzinga, David Fontaine, Dave Kaserman, Andrew Kleit, Dwight Lee, John Lopatka, Fred McChesney, Roger Meiners, Adam Pritchard, Curtis Simon, Steve Walters, and Bruce Yandle all offered valuable discussion and comments.

2. *American Drugs, Inc. v. Wal-Mart Stores, Inc.*, E-92-1158 (Oct. 1993).

3. Trial record, at 1844, 1855. Thus, the plaintiff's expert economist, Dr. Ralph Scott, dismissed the argument that Wal-Mart's pricing policy should be analyzed on a market-basket rather than individual-product basis. This expert reasoned that "those are revenue issues rather than cost issues." *Id.* In other words, because some items were priced below average variable cost, predatory intent is established regardless of any effect that such pricing might have had on the profits Wal-Mart earned on sales of other products.

4. Arkansas Code § 4-75-209(a)(1).

5. The trial court reported as an undisputed fact that Wal-Mart's purpose was to attract a "disproportionate number of customers to Wal-Mart." But this conclusion was unjustified. Wal-Mart's executives never testified that Wal-Mart sought to attract a "disproportionate number of customers," nor was any evidence offered to support this finding. Apparently, the trial judge misused an innocent statement from the testimony of Wal-Mart's expert economist as the basis for finding that Wal-Mart sought to attract disproportionate numbers of customers.

At trial, Wal-Mart's expert explained why high-volume retailers might price some items below invoice cost. The context of this testimony makes clear that Wal-Mart's witness was not testifying about Wal-Mart's formal company policy. Rather, the witness meant only to explain that below-invoice pricing is a way to help attract a number of customers into the store who otherwise would not come to the store.

6. *Wal-Mart Stores, Inc. v. American Drugs, Inc.*, 819 S.W. 2d 30 (1995). Plaintiffs' petition for rehearing was denied.

7. "The individual items sold below cost, the frequency of those sales, the duration of those sales, and the extent of such sales are not revealed in the chancery court's opinion. And that is a critical point in this case." *Id.*, at 34.

8. *Id.*, at 34.

9. *Id.*, at 34-5.

10. *Id.* at 35.

11. *Id.* at 36. Indeed, one plaintiff virtually admitted at trial that Wal-Mart caused him to behave more efficiently:

> Q. [from Wal-Mart's attorney] Your gross profit in the year that Wal-Mart went into business against you in the pharmacy, your gross profit increased by $110,000 dollars. Do you see that?
>
> A. I may have done a lot of belt tightening during that year.

Trial record, at 1634.

12. The court lumped this second reason in with the first. *Wal-Mart Stores*, at 36. These reasons are, however, distinct. Failure to run the plaintiffs from the market is evidence supporting the claim that the defendant – especially one as wealthy as Wal-Mart – never acted with a specific design to bankrupt the plaintiffs. The existence of other established rivals is evidence against the proposition that the defendant acted with an intent to destroy competition generally in the market. It is more costly to run many rivals from an industry than to bankrupt only a few. Or, what may be the same thing, an industry with several firms suggests that the optimal-size firm in that industry minimizes its costs at an output level far below total market demand. Maintaining a monopoly in an industry characterized by steeply increasing costs, and when the optimal number of minimum-cost firms is two or more, is unlikely to be profitable.

13. *Id.*, at 36.

14. *Matsushita Electric Industrial Co. v. Zenith Radio Corp.*, 475 U.S. 574, 594 (1986; Powell, J.).



15. Trial court opinion, at 5.

16. Otherwise, e.g., no store could ever give away goods as prizes in promotional campaigns. On principles of statutory construction, see Sutherland (1992).

17. See also, e.g., *Western Union Financial Services, Inc. v. First Data Corp., et al.* 25 Cal. Rptr. 2d 341 (Dec. 14, 1993). Western Union sued First Data Corp. under California's Unfair Practices statute (which is similar, though not identical, to the Arkansas statute at issue in *Wal-Mart Stores*). The charge was predatory pricing of money-transfer services. In *Western Union*, the California appellate court stated that the proper definition of the product in question must accord with the statute's pro-competition intention.

18. Spengler (1950); Bork (1954); Machlup and Taber (1960); and Blair and Kaserman (1983). Sullivan and Hovenkamp (1989, 368) sum up: "Any firm, even a monopolist, is best off if all other firms in the distribution chain are behaving competitively."

19. The labels "downstream" and "upstream" are arbitrary in many cases: "downstream" firms can often be recast as upstream suppliers of services (e.g., retailers supplying retail services to "downstream" manufacturers). See Krattenmaker and Salop (1986, 226-27).

20. For a general model showing how a sophisticated seller whose sales are a large portion of an input market might encourage competitive entry by buyers in the face of sunk costs, see Kleit and Coate (1993).

21. Contractual provisions between suppliers and distributors are per se illegal if these provisions specify the prices at which – or the pricing parameters within which – distributors can resell goods. See *Dr. Miles Medical Co. v. John D. Park & Sons Co.*, 220 U.S. 373 (1911).

22. To help maintain competitive retailing, manufacturers can also enter retailing, finance the prey during the price war, or finance new entrants after the price war. I here ignore these strategies because I wish to focus on strategies unique to suppliers to thwart attempted downstream monopolization.

23. A rational predatory retailer will lower prices to predatory levels on those items that are most likely to attract the largest amounts of sales revenues away from the predator's rivals. Such items are probably those with significant brand-name recognition and whose sales account for a relatively large portion of overall sales by rivals. If the predatory retailer is denied the ability to price such items predatorially, the predator must of necessity either abandon its predatory plans or price predatorially items of less significance to the survival of rivals.

24. For a clear discussion of the role of recoupment in predation analysis, see Elzinga and Mills (1989).

25. Of course, the Texaco retailer could lower its prices to predatory levels hoping to monopolize the town's entire retail gasoline market. In this case, there would be no conflict between Texaco and its retailer. But we do not expect to see such price cutting initiated by the retailer; attempts to monopolize the retail trade exclusively for one brand are more likely to begin with a wholesale price cut by the manufacturer. The reason is that price cutting by the manufacturer better ensures that all of the manufacturer's retailers charge the same predatory price. If the optimal number of retailers for a manufacturer in a particular locale is greater than one, price cutting initiated at the wholesale level better coordinates all of the manufacturer's retailers. Retailers acting on their own run the risk of driving other retailers of the same brand into bankruptcy. And this the manufacturer does not want.

26. Of course, policing by manufacturers might still be possible even when the predatory retailer carries the products of thousands of different manufacturers: if the products of one or two of these manufacturers are 'essential' to retailing success (e.g., as Kellogg's breakfast cereals arguably are to the retail grocery trade), then a threat to pull such products might be sufficient to discipline the retailer.

27. More generally, policing by a manufacturer is more likely the fewer the number of competing *brands* a retailer carries of any product the stocking of which is critical to retail success.

28. Suprax, manufactured exclusively by Lederle Co., is an antibiotic prescribed by physicians for ear infections.

29. It is well understood that the law's prohibition of maximum RPM weakens suppliers' abilities to keep distributors from extracting monopoly profits from consumers. See Easterbrook (1981b) and Blair and Kaserman (1981). The argument here builds upon this insight: if maximum RPM were legal, a supplier behaving predatorially today has less chance of recouping its predation losses tomorrow (even if it drives all rivals from the market) because of the threat of maximum RPM. Therefore, predation today is less likely.

30. Schwartz (1986) offers a particularly persuasive indictment of the Robinson-Patman Act -- the federal version of the state statute under which Wal-Mart was sued in *Wal-Mart Stores*. After surveying a variety of real-world consequences of Robinson-Patman, Schwartz concludes that "What is clear is that the Act has produced numerous perverse results . . . ." [at 756].

31. 754 F. Supp. 669 (D. Minn. 1990).

32. 903 F.2d 659 (9th Cir. 1990).

33. See Kaserman and Mayo (1995, 306-07): "Thus, with a separate monopolist at each of the two successive stages of production, consumers are worse off than they were with a single monopoly at either stage or an integrated monopolist that controls both stages. Final output price is higher, and quantity is lower.

"In addition, the sum of profits of the two separate monopolists is less than the profits that could be earned by a single vertical monopolist."

34. *Id.* at 307. See also Klein, Crawford, and Alchian (1978).

35. The Areeda-Turner test has been accused by earlier critics of bias in favor of false-*negative* findings. See, e.g., Scherer and Ross (1990), 472-479. None of these earlier critics question the soundness of cost-based distinctions between predatory and non-predatory prices.

36. Boudreaux, Elzinga, and Mills (1995) relate an example from a recent antitrust case of the exorbitant complexity of estimating costs from accounting data.

37. Identical reasoning was used by the plaintiffs' expert economist in the Wal-Mart case. See Trial Record, at 1844, 1855.

38. That is, because the neoclassical partial-equilibrium model (like all useful models) does not explain everything, it is illegitimate to conclude that actions inconsistent with what the model does explain are necessarily irrational, inefficient, or socially noxious.



39. Or, if there is an economically relevant difference between these two means, this difference is not exposed by the conventional model within which predatory pricing is analyzed. Again, below-cost pricing within the model is read as evidence of predation for no reason other than that below-cost pricing is inconsistent with forms of profit-maximizing behaviors identified within the model. Moreover, even if predation were the only reason a real-world firm would ever charge prices below AVC, nothing in the conventional model suggests that below-cost pricing is more or less likely than other forms of investments (e.g., product-quality improvements) to result in monopolies.

40. For the record, I do not believe that non-price predation, appropriately defined, occurs with any frequency in reality. My intuition is buttressed by the recent research of Lopatka and Kleit (1995). Moreover, to the extent that non-price predation does occur, traditional tort, contract, and criminal-law remedies are adequate to combat it.

**References**


Areeda, Phillip and Donald F. Turner. 1975. "Predatory Pricing and Related Practices Under Section 2 of the Sherman Act." *Harvard Law Review* 88(4):697-733.

Baumol, William J. and Janusz A. Ordover. 1985. "Use of Antitrust to Subvert Competition." *Journal of Law and Economics* 28(2):247-265.

Blair, Roger D. and David L. Kaserman. 1981. "The *Albrecht* Rule and Consumer Welfare: An Economic Analysis." *University of Florida Law Review* 33(4):461-484.

Blair, Roger D. and David L. Kaserman. 1983. *The Law and Economics of Vertical Integration and Control.* New York: Academic Press.

Bork, Robert H. 1954. "Vertical Integration and the Sherman Act: The Legal History of an Economic Misconception." *University of Chicago Law Review* 22(1):157-201.

Boudreaux, Donald J., Kenneth G. Elzinga, and David E. Mills. 1995. "From Fruit Pies to Cigarettes: The Supreme Court's Predation Odyssey." *Supreme Court Economic Review* 4(1):57-93.

Easterbrook, Frank H. 1981a. "Predatory Strategies and Counterstrategies." *University of Chicago Law Review* 48(2):263-337.

Easterbrook, Frank H. 1981b. "Maximum Price Fixing." *University of Chicago Law Review* 48(4):886-910.

Elzinga, Kenneth G. and David E. Mills. 1989. "Testing for Predation: Is Recoupment Feasible?" *Antitrust Bulletin* 34(4):869-893.

Elzinga, Kenneth G. and David E. Mills. 1994. "Trumping the Areeda-Turner Test: The Recoupment Standard in *Brooke Group*." *Antitrust Law Journal* 62(3):559-584.

Hovenkamp, Herbert. 1985. *Economics and Federal Antitrust Law.* St. Paul: West Publishing Co.

Hovenkamp, Herbert 1991. "Mergers and Buyers." *Virginia Law Review* 77(7):1369-1383.

Kaserman, David L. and John W. Mayo. 1995. *Government and Business.* Fort Worth: Dryden Press.

Klein, Benjamin, Robert A. Crawford, and Armen A. Alchian. 1978. "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process." *Journal of Law and Economics* 21(2):297-326.





Kleit, Andrew N. and Malcolm B. Coate. 1993. "Are Judges Leading Economic Theory? Sunk Costs, the Threat of Entry and the Competitive Process." *Southern Economic Journal* 60(1):103-118.

Krattenmaker, Thomas G. and Steven C. Salop. 1986. "Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price." *Yale Law Journal* 96(2):209-293.

Lopatka, John E. and Andrew N. Kleit. 1995. "The Mystery of *Lorain Journal* and the Quest for Foreclosure in Antitrust." *Texas Law Review* 73(6):1255-1306.

Machlup, Fritz and Martha Taber. 1960. "Bilateral Monopoly, Successive Monopoly, and Vertical Integration." *Economica* 27(1):101-119.

McChesney, Fred S. and William F. Shughart II. (eds.) 1995. *The Causes and Consequences of Antitrust: The Public Choice Perspective.* Chicago: University of Chicago Press.

Scherer, F. M. and David Ross. 1990. *Industrial Market Structure and Economic Performance*, 3rd ed., Boston: Houghton Mifflin Co.

Schwartz, Marius 1986. "The Perverse Effects of the Robinson-Patman Act." *Antitrust Bulletin* 31(3):733-757.

Spengler, Joseph J. 1950. "Vertical Integration and Antitrust Policy." *Journal of Political Economy* 58(4):347-352.

Sullivan, E. Thomas and Herbert Hovenkamp. 1989. *Antitrust Law, Policy and Procedure*, 2nd ed., Charlottesville, VA: Michie Publishing Co.

Sutherland, J.B. 1992. *Statutory Construction*, 5th ed., New York: Clark Boardman Callaghan.