Aggressive and Predatory Pricing: A Framework for Analysis

The authors examine competitive interaction in the context of aggressive pricing strategies. Although aggressive pricing by one firm may initially provide lower prices to consumers, the behavior also can be predatory and ultimately result in undesirable welfare consequences. To date, public policy analysis of such behavior has relied on traditional economic theory, with State and Federal policies creating conflicting guidelines for managers. The authors offer a framework for understanding aggressive and predatory pricing that incorporates research from marketing and related disciplines as well as traditional and newer streams of economic analysis. Distinguishing features of the framework include a broader delineation of indicators that potentially predatory behavior might have occurred, an expanded view of the possible motivations for aggressive and predatory pricing behavior that are not admitted in current analyses, and a more comprehensive analysis of competitors’ strategic responses to such pricing and the varying consequences of these responses. They further argue that the field of marketing is uniquely positioned to provide the kind of comprehensive measurement and modeling contributions needed to create policy guidelines that can be implemented in this area.

In recent years theorists in marketing, economics, and strategic planning have begun to examine competitive strategies—actions directed toward influencing the behavior of rival firms and encompassing competitive moves and countermeasures between firms (cf. Porter 1980; Weitz 1985). Within marketing, much of this research has focused on measuring the type and intensity of firms’ reactions to the strategic moves of rivals (cf. Chen and Miller 1994; Gatignon 1984; Gatignon, Anderson, and Helsen 1989; Hanssens 1980). Recently, marketers have begun to examine firms’ reactions to competitors’ signals regarding future actions (cf. Heil and Robertson 1991; Heil and Walters 1992; Moore 1992; Robertson, Elashiberg, and Rymon 1995).

Often, researchers focus on actions or signals that represent significant departures from competitive norms. For example, deep price cuts or large increases in advertising. Such actions may be termed aggressive if they are motivated by the desire to force rivals to react by taking actions that significantly impair the rivals’ performance or competitive viability. When these actions lead to a reduction in competition and undermine consumer welfare, they may be considered predatory. As Sullivan (1977, p. 111) observes, in contrast to the aggressive competitor,

the predator seeks not to win the field by greater efficiency, better services, or lower prices reflective of cost savings or modest profits. The predatory firm tries to inhibit

others in ways independent of the predator’s own ability to perform effectively in the market. Its [conduct] is calculated to impose losses on other firms, not to garner gains for itself.

Predatory pricing is the best known form of predatory behavior. It involves lowering prices to an unreasonably low (usually below-cost) or unprofitable level in a market in an effort to weaken, eliminate, or block the entry of a rival. While capturing the attention of law and economics scholars and the concern of policy makers, predation and predatory pricing has only recently begun to be addressed by marketers. For example, Gundlach (1990) surveys the nature, regulatory framework, and alternative rules for the various forms of predation, including both price and nonprice strategies. More recently, both Sheffet (1994) and Gundlach (1995) examine key Supreme Court decisions that address predatory pricing and the emergence of alternative economic explanations based on asymmetries of information for understanding such actions. In a related work, Heil and Langvardt (1994) focus on the implications of this research for antitrust in general, including predatory pricing.

We combine the previous contributions with insights developed by researchers in marketing and related disciplines to offer a more expansive critique of the theoretical foundations of current thinking and public policy toward predatory pricing. We offer a framework for understanding predation within the context of aggressive pricing. As in the recent economic scholarship cited in studies by Gundlach (1995), Sheffet (1994), and Heil and Langvardt (1994), in our framework, we view aggressive and predatory pricing in the light of dynamic competitive strategy. However, we extend that thinking to show how the specific situational opportunities, marketing strategies, and strategic orientations of individual businesses may condition competitive responses to a given aggressive pricing scenario. In turn, we show the
varying consequences of these competitive interactions for consumer welfare.

**Background**

The primary objective of public policy that addresses competitive interaction is distinguishing those strategies that are anticompetitive from those that simply involve aggressive competition and are procompetitive (Scherer, 1976). As can be surmised, this task is extremely difficult when price is involved. As stated by the Supreme Court,

> [T]he mechanism by which a firm engages in predatory pricing—lowering prices—is the same mechanism by which a firm stimulates competition; because 'cutting prices in order to increase business often is the very essence of competition ...[;] mistaken inferences ... are especially costly, because they chill the very conduct the antitrust laws are designed to protect (Brooke Group v. Brown & Williamson Tobacco Corporation 1993, p. 4699).

The Marlboro example (see Appendix A) illustrates the complexity of understanding and distinguishing predatory pricing. As we discuss subsequently, depending on the perspective taken, Philip Morris' price cuts on its Marlboro brand cigarettes may be viewed as simply aggressive price competition or alternately as a basis for achieving anticompetitive goals through predatory pricing. The difficulty of judging the welfare implications of such actions highlights the challenge facing policymakers.

**Public Policy**

Current policy assessments of predatory pricing rely on the narrow behavioral assumptions of neoclassical price theory. This body of thought envisions a model of economic behavior in which parties are assumed to be motivated exclusively by profit maximization, to possess perfect information, and to act calculatedly rational in their decisions.

**Federal.** According to the federal view, predatory pricing is considered "rarely tried and even more rarely successful" (Matsushita Electric Industrial Company v. Zenith Radio Corporation 1986, p. 589). This skepticism is due to the presumed irrationality of a firm pricing at predatory levels to maximize profits. Assuming a perfectly competitive environment, a firm engaging in such conduct would incur such severe short-term losses in its attempt at disadvantaging rivals that it would not rationally consider such a strategy. Even were the firm to engage in such conduct and successfully eliminate rivals, to be profitable, the predatory firm would need to recover losses through raising prices later to supracompetitive (i.e., above normal competitive) levels. In an environment of complete information, prices at such levels would attract new competitors (hoping to obtain surplus profits), thereby reducing the firm's chances of recouping its losses. Realizing this, the firm would calculate the probability of recovering lost profits to be low and avoid such conduct.

Policy embracing this view has developed in the Courts and federal antitrust agencies. In *Brooke Group Limited v. Brown & Williamson Tobacco Corporation* (1993, pp. 4702–703), the Supreme Court established a two-pronged framework for analyzing predatory pricing claims:

First, a plaintiff must prove that the prices complained of are below an appropriate measure of its rival's costs ... second ... is a demonstration that the competitor has a reasonable prospect [under Section 2a of the Robinson-Patman Act], or under Section 2 of the Sherman Act, a dangerous probability, of recouping its investment in below-cost prices.

For the first element, the cost measure normally applied is average variable cost; a surrogate for marginal cost (Areda and Turner 1975). Pricing below this level is presumed to be irrational for the profit-maximizing firm and therefore considered to infer predation. Above-cost pricing is almost always deemed procompetitive. Applying this standard to Marlboro, the above-cost price cuts of Philip Morris would not be considered predatory. For the second element, because predation requires recovery of lost profits, recoupment also is essential. It involves the determination that there is a "reasonable expectation" or "dangerous probability," given market circumstances, of recovering losses through supracompetitive prices. The absence of conditions favoring recoupment presents a situation in which it is difficult for the firm to achieve the (presumed) aims of predation. In the event that both below-cost pricing and recoupment are found, the welfare effects of such conduct are considered anticompetitive. Supracompetitive pricing is thought to lower consumer welfare through reducing allocative efficiency, or the efficient allocation of resources across society.

**State.** In contrast to federal skepticism, state courts have taken a more aggressive stance toward predatory pricing by adopting the single element of below-cost pricing as prima facie evidence of anticompetitive injury. Many states have "sales below cost" statutes or minimum markup laws (for a review of these laws, see Haynes 1988). Although the definition of below cost varies by state, the majority define it as average total cost, with others employing criterion similar to average total cost or average variable cost (Jordan 1995). Generally, each state requires that a price be set below cost for the purpose of injuring competition. Purpose itself, may be inferred from the below-cost price or through other means.

Juxtaposed against federal policy, the state view is characteristic of a more traditional industrial-organization perspective of antitrust—it focuses on industry concentration and as a consequence is adverse to large-scale firms. The loss of small competitors is an important consideration at the state level. State and federal standards differ primarily in that...
the state approach does not explicitly address recoupment, yet holds greater expectations that below-cost pricing by large firms will successfully achieve the aims of predation.

**Managerial and Public Policy Issues**

Pragmatically, the presence of different federal and state approaches underscores the importance of developing a more broadly accepted understanding of aggressive and predatory pricing. Separate standards increase the managerial uncertainty and costs of pricing decisions for firms through elevating their compliance burden. The noncomplementary nature of the theoretical views informing these standards further magnifies this burden. Managerial efficiency favors a unified perspective and approach for public policy assessment of predatory pricing.

At a more fundamental level, examination of the key theoretical assumptions that inform the federal and state approaches raises substantive questions as to whether these postulates appropriately reflect competitive and managerial behavior in today's complex and evolving business environment. For example,

1. Is it correct to assume that organizations are motivated exclusively by profit-maximization goals in determining price, or are other goals important in their decision making?
2. Do firms indeed possess complete information as a basis for making such decisions?
3. Are the decisions made always calculatedly rational in the traditional economic sense?
4. Finally, should the welfare of consumers be judged solely on the basis of allocative efficiency, or are other determinants important in assessing consumer welfare?

The restrictive nature of these assumptions raises theoretical concerns for using them as a basis on which to establish public policy.

In the quest for a more comprehensive and unified understanding of aggressive and predatory pricing that is unencumbered by the restrictive assumptions of neoclassical price theory, we argue that current policy could benefit from insights regarding competitive interaction and strategic decision making developed in marketing and its related fields. In the following sections, these insights are reviewed and their potential contribution examined. Applying these insights, we develop a marketing-based framework for analyzing aggressive and predatory pricing behavior. We then discuss the potential implications for application of such a framework to public policy, academic research, and marketing practice.

**Insights from Marketing and Related Disciplines on Competitive Pricing Behavior**

For analyzing predatory pricing, the federal model, as informed by traditional economic thinking, essentially seeks to determine whether

1. A firm is pricing below some measure of cost (e.g., sacrificing current profits);
2. The basis of such a price strategy is predicated on the rational calculation that losses incurred may be later recouped through increased prices (e.g., does it make economic sense that foregone profits may be recovered through later price increases?);
3. Competitors would likely respond by exiting the market, reducing output, or deciding not to enter (e.g., will the pricing strategy injure relevant competitors?); and
4. Given such an outcome, if consumers will be injured through later price increases on the part of the predator (e.g., will there be injury to consumer welfare?).

These determinations are made against the backdrop of stringent assumptions, including competitors possessing complete information, being motivated exclusively by profit maximization, operating within market conditions that generally mitigate market power, and being completely rational in their decision making, as well as injury to consumers occurring only through supracompetitive pricing. Put another way, the Supreme Court is pursuing a theory of predatory pricing that abides by the basic tenets of "economic reason" as constructed from the assumptions and logic that underlie neoclassical price theory (cf. Jordan 1995).

The expectation that any theory of predation should make sense or be based on economic reason is certainly a desirable attribute underlying any public policy. But, as researchers in both economics and marketing continue to examine business decision making from a dynamic, strategic perspective, the more apparent it becomes that the assumptions that underlie the current thinking may be insufficient for explaining aggressive and predatory pricing in today's competitive environments. In short, for explaining such conduct, a less restrictive understanding of competitive interaction and managerial decision making may be required. In this respect, researchers in marketing and its related disciplines are currently developing insights on how managers set pricing goals, the various ways in which price competition affects profitability and consumer choice, and how managers deal with the dynamics of the marketplace and imperfect information in arriving at price decisions. In Table 1, we summarize how these insights differ from the assumptions and thinking of the traditional economic perspective. In the following sections, we discuss the implications of such thinking for understanding predatory pricing.

**Motivations Underlying Predatory Conduct**

A key assumption underlying the economic perspectives of predatory pricing is that managers act to maximize profits through their price decisions. That is, their pricing decisions are driven by the singular goal to maximize profits. The traditional view is that managers would find it difficult to maximize profits in a perfectly competitive market through first incurring losses from pricing below cost and then attempting to recoup these losses later. This logic yields the view that predatory pricing rarely occurs or is rarely successful. It also underlies the recent Supreme Court standard, which now requires evidence of recoupment.

*Nonprofit maximizing goals in pricing.* Evidence from marketing and other disciplines has historically questioned the assumption of profit maximization as the exclusive motive for managerial decision making. There is general acceptance that managers often settle for satisfactory levels of
TABLE 1

Contrasting Perspectives Toward Predatory Pricing

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Traditional, Economics-Oriented</th>
<th>Emerging, Marketing-Oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions fostering predation</td>
<td>• Firm behavior is a function of industry structure; structural forces set conditions for predation</td>
<td>• Firm behavior is strategic, industry structure is important, but additional opportunities arise from differences in product or corporate goals, segment cross-elasticities, or informational asymmetries</td>
</tr>
<tr>
<td>Motives for aggressive pricing</td>
<td>• Purpose of predatory pricing is to defend or maintain market power to maximize profitability</td>
<td>• Multiple purposes exist, especially volume-related</td>
</tr>
<tr>
<td>Evidence of potential predation</td>
<td>• Only below-cost prices can be predatory</td>
<td>• Prices need not be below cost to be predatory</td>
</tr>
<tr>
<td>Managerial information</td>
<td>• Managers possess &quot;perfect&quot; information and can calculate payoffs</td>
<td>• Managers possess incomplete and asymmetric information but only make &quot;procedurally&quot; rational evaluations of outcomes</td>
</tr>
<tr>
<td>Managers’ risk attitudes</td>
<td>• Managers are risk-neutral or risk-averse</td>
<td>• Managers are risk-averse on gains; &quot;risk-affinitive&quot; on losses</td>
</tr>
<tr>
<td>Conjectures about competitors</td>
<td>• Managers predict competitors’ actions from industry structure</td>
<td>• Managers rely on signals and history, conjecture imperfectly, and often do not understand competitors’ payoffs</td>
</tr>
<tr>
<td>Recoupment assumptions</td>
<td>• Recoupment requires gains in market power and is unlikely</td>
<td>• Recoupment is frequently hard to predict, but the impact on competitive capabilities is predictable</td>
</tr>
<tr>
<td>Consumer welfare criteria</td>
<td>• Consumer welfare is defined as allocative efficiency and may be determined by changes in industry price or quantity of output</td>
<td>• Consumer welfare effects also include impact on quality, innovation, and satisfaction</td>
</tr>
</tbody>
</table>

outcomes rather than optimal levels (cf. Baumol 1967; Simon 1979). Recent research indicates that managers are motivated by a variety of other considerations in their pricing decision making. In the context of predatory pricing, Steltzer (1987, p. 5), for example, suggests that managers often may make decisions (including below-cost pricing) for reasons known only to themselves: “In short, predation [below-cost pricing] may not maximize profits. But it may nevertheless be a rational, far from unthinkable policy for business managers seeking to maximize their own career opportunities.” In particular, below-cost pricing can result in dramatic changes in market share, which, if employed as a criteria for evaluating managerial performance, may motivate some business managers to engage in such pricing decisions for nonpredatory reasons.

In the context of marketing, a variety of motivations for below-cost pricing which are not oriented toward profit maximization have been identified. In particular, motivations for below-cost pricing often stem from strategic objectives that focus on volume sales. For example, Urban and Dickson (1994) provide empirical evidence on the preference for volume-oriented pricing over profit-oriented pricing. In an experimental setting, they found that decision makers in manufacturing firms favored a price strategy that was volume-oriented and considered customers as long-term assets. The Marlboro example generally reflects this orientation. Philip Morris appears to have been willing to risk its immediate profit goals in an attempt to bolster volume-related objectives. Volume-oriented strategies emphasizing customer retention and “customer lifetime value” are increasingly pervasive among marketing managers today.

The development of database marketing techniques enable managers to target deep discounts toward their most valued customers (cf. Blattberg and Deighton 1991). Because these discounts are linked to cumulative quantity purchases, they can effectively preempet competitors from that part of the firm’s customer base.

Pricing that is designed to achieve long-term customer satisfaction or other volume-oriented objectives can be characterized as profit-oriented, because short-term profits may be traded for long-term gains. However, under such logic the long-term payback, or recoupment period, may be difficult to calculate precisely, and the profit nature of such gains may be difficult to identify clearly. For this to occur, man-
agers must be able to project when “normal” prices will return so as to provide such payback returns. But in many industries, particularly in high fixed-cost markets (e.g., airlines), in which volume-oriented pricing practices are often employed, aggressive pricing can easily lead to long periods of depressed prices that frustrate such projections. Furthermore, the ability to project repeat business or other long-term gains from customers whose loyalty has been purchased by abnormally low prices is tenuous. So even if managers think aggressive, volume-oriented pricing is profit-based (i.e., likely to lead to profit-maximizing outcomes), the difficulty of identifying the recovery period and nature of returns makes such a determination extremely difficult.

Finally, economists might argue that if managers were indeed maximizing something other than profits, then more efficient firms would drive these irrational firms out of business. However, firms that attempt to maximize volume may well enjoy adequate profits to remain viable. Or, firms may be able to rely on a stable of other profitable products and divisions to remain profitable. Moreover, if competitors are truly injured by aggressive volume pricing, they may not be in a position to retaliate and drive inefficient firms from the market.

The implication of finding that managers may be driven by motives other than profit maximization for current public policy toward predatory pricing is to raise questions regarding the basic logic that underlies evidentiary requirements of legal inquiries at the state (below-cost pricing) and federal (below-cost pricing and recoupment) levels. If managers can be viewed as rationally engaging in nonprofit-maximizing strategies that result in below-cost pricing for nonpredatory reasons, any standard that relies on a finding of the same or relies on it for its basis (i.e., recoupment) must be viewed as indeterminate for identifying anticompetitive predation.

**Conditions Influencing Predation**

Traditional economic thought maintains that predation is only feasible if certain market conditions hold (cf. Isaac and Smith 1985; Scherer 1976). These conditions inure to the predator the requisite market power (i.e., power to control price) and therefore the ability to recoup lost profits that attend a predatory pricing episode. Some conditions provide predators with the ability to drive out competitors in a price war and thus enhance market power. To the extent that a predator’s only competitors are small, fringe suppliers and that the predator has superior financial resources (i.e., “deep pockets”) from which to draw, the likelihood of outlastling competitors is enhanced. Often these deep pockets are available through using profits in one business unit to subsidize another. Another set of conditions are those that keep a predator’s potential losses from low prices below those of its rivals. If a predator has a lower cost structure or a lower cost of capital than a competitor, then the losses incurred at below-cost pricing are larger for the targeted rival. Similarly, a predator that enjoys a price premium normally has a larger unit profit margin and thus in a price war enjoys the advantage of lesser absolute losses per unit.

Although the assumption of a perfectly competitive market, which underlies traditional economic theory, presumes these conditions are unlikely to occur, current policy perspectives that adopt this view admit such circumstances do arise. In this context, the large retailer seems to be an excellent model of a predator capable of recouping lost profits from below-cost pricing. Such firms have size advantages that yield lower costs of goods sold and other scale economies, they have multiple stores in multiple markets to enable cross-subsidization, and much of their competition is from small (fringe) stores. Thus, even under current policy, the potential that predation may occur under certain conditions appears to be, at least, accepted.

**Additional Influences.** An important issue, however, is whether these traditional structural indicators of market power are sufficiently inclusive and therefore instructive for predicting conditions favorable toward predatory pricing. Recent models in economics have admitted informational asymmetry to the conditions that may facilitate predation. The presence of informational asymmetries permits a firm to induce rivals to act in such a way (e.g., exit a market, set a price, determine output) as to result in a predatory outcome (cf. Ordover and Saloner 1989).

The so-called market signaling models are predicated on the notion that rival firms’ reactions to a verbal statement (e.g., an announced plan to change price) or an action (e.g., an actual price change) are based on that firm’s inferences about the motives and intentions of the acting firm. Thus, one firm may interpret a rival’s price cut as a signal that the rival has superior knowledge of falling demand or has a cost advantage. This perception may cause the firm to reduce output or exit the market and thus enable the predator to recoup initial losses. Note that below-cost pricing is not necessary to achieve predation in these cases. A firm need only convince the prey that the predator’s cost function will allow it to set prices that will make it difficult for the prey to recover long-term average costs (cf. Milgrom and Roberts 1990).

Reputational models portray situations in which asymmetries of information exist about the payoff function of rivals. By using aggressive pricing in some markets, a firm may convince rivals that it is irrational (i.e., accepts short-term losses willingly), so they should anticipate similar behavior in future markets (see Weigelt and Camerer 1988). McCall (1987) notes that predatory reputation may enable a firm to discipline incumbent rivals to follow a particular pricing system or other tacitly agreed to policy (e.g., price fixing).

More extensive discussions of these models and their application to marketing thought are available in studies by Gundlach (1995), Heil and Langvardt (1994), and Moorthy (1985). For some industries, the extent to which firms can retain informational advantages envisioned under these models seems limited if only because of the vested interests of nonpartisan information gatherers in the financial community. In the context of the tobacco industry (see Appendix A for the Marlboro example), it seems unlikely that R. J. Reynolds (RJR) would be significantly informationally disadvantaged relative to costs or demand given the extensive Wall Street scouting of firms in this business. The an-

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nouncement that Philip Morris was prepared to lose $2 billion clearly signaled a hostile intent and might be interpreted as an attempt to develop a reputation for aggressive conduct, but RJR's competitive response would be unlikely to be shaped solely by Philip Morris' action. A persuasive exception to this thinking concerns professionally managed, large-scale firms that compete with small, family-owned fringe competitors (as is the case in many retail sectors). In general, powerful incumbents are likely to be the competitors holding informational advantages when such asymmetries do exist. Thus, informational advantages appear to be correlated with the traditional market power indicators.

Additional asymmetry issues identifiable from the context of marketing are those related to goals or demand segments served by a firm. These conditions further extend the domain of circumstances favorable toward predation. With respect to goals, it is well known that family businesses often have different goals (e.g., "being the boss" or maintaining family control) that are not as profit-driven as those of their corporate competition. (Indeed, such goals are important exit barriers in some industries.) Similarly, in large corporations, business goals for the various units are often a reflection of some business portfolio model. For example, it is certainly likely that the cigarette business has a different role in the product portfolio of product-market specialist Liggett & Myers than in that of Philip Morris. Because cigarettes may play different roles in the long-term plans of each corporation, the relative importance of volume and profit goals (both short- and long-term) and therefore the willingness to sacrifice short-term profits for volume is also likely to vary.

Viewed in terms of demand segments served, current research shows that price competition among brands of different quality levels is often asymmetric. Blattberg and Wisniewski's (1989) work, for example, suggests that in markets with both high-price-tier, high-quality brands and low-price-tier, low-quality brands, the distribution of consumer preferences may be bimodal. The evidence cited for this inference is that price "deals" on brands in the high-price tier draw sales from other high-price brands and lower-tier brands as the price gap between tiers narrows. (This pattern is observable in the Marlboro case.) However, price deals for low-tier brands do not result in substantial shifts in sales from high-tier brands. (Bemmaor and Mouchoux [1991] report similar findings.) The consequence of these findings is that private label brands are extremely dependent on the price umbrella of higher-priced national brands. Thus, differences in real or perceived quality can facilitate predation even at above-cost prices because of the asymmetric cross-elasticities between demand segments. Indeed, mere brand awareness may be sufficient to establish such asymmetric demand if incumbent brands are competing with fledgling firms (cf. Rosenbaum 1987).

Because competing firms have differing resources, market power, and managerial capabilities, it is conceivable that these differences occasionally result in informational asymmetries that could foster predation. We argue, however, that differences across firms in the goals established for a given product category or in the cross-elasticities their brands face in the marketplace are fundamentally much more important to the decision to engage in aggressive pricing behavior. For example, product line consequences of price can be important. Philip Morris' decision to slash prices on Marlboro was likely made only after considering the cross-elasticity of demand with respect to other brands in its line, such as Basic and Virginia Slims. (Reibstein and Gatignon [1984] offer a framework for assessing the impact of product line price differentials.) Precisely because predatory pricing is a strategic behavior, we must appreciate the strategic role a given product category plays in an organization's long-range plan to adequately predict pricing behavior. However, assessments of the differences in the elasticity of demand curves facing different competitors (resulting from product differentiation) and in strategically sourced product goals are not evident in traditional explanations for predatory pricing. Their incorporation in developing thought on predation seems especially relevant.

**Managerial Decision Making Under Uncertainty**

Traditional economic thinking regarding managerial decision-making processes is based on a narrow model of calculated, profit-maximizing behavior under conditions of complete information concerning demand, competitors, and so on. Advocates of judgment-based marketing decision models do not appear to accept this assumption. Rather, they argue that managers tap multiple sources of objective and subjective information in making decisions rather than in calibrating data sets (cf. Little and Lodish 1981). Businesspeople may make good decisions on the basis of poor information, because either the measurements or models required for optimal decisions are nonexistent. Although decision support systems are designed to help reduce the magnitude of this problem, judgmental inputs remain important, as even the best models are inexact when attempting to model dynamic effects (Little 1979). As Little (p. 22) states, "Managers ... do not formulate problems in model terms because that is not the way they naturally think. They want to think about strategy not analysis."

As we noted previously, though some economists admit incomplete information into the mix to show the possibility of "rational" predation, the signaling and reputation models make strong assumptions concerning managerial conjecturing and information processing (cf. Milgrom and Roberts 1990; Moorthy 1985). For example, the signaling models to which we previously alluded presume that managers make correct conjectures about the meaning of rivals' signals. Recent behavioral research is less sanguine about these assumptions.

**The rationality of decision making.** Several researchers from management (Amit, Domowitz, and Fershtman 1988; Porter 1980) and marketing (Dolan 1981; Moore and Urban 1994; Moorthy 1985), for example, have begun to focus on the extent to which the process of conjecturing and decision making by individual people and managers is only procedurally rational. That is, rather than being perfectly rational, these processes reflect only a desire and ability to make the best possible decision under the circumstances to
achieve particular goals. Such research recognizes the possibility of multiple and complex goals and is concerned with how decision makers collect information, form expectations regarding outcomes, and use information in making decisions. One conclusion of this research shows that managers rarely may be assumed to engage in perfectly calculated decision making in an economic sense. In the instance of Philip Morris, with the extremely negative reaction of the stock market, it seems unlikely that the firm had a precise calculation of when the $2 billion loss for 1993 might be recouped. Perhaps Philip Morris had other goals in mind for which this aggressive price cut seemed necessary. Although the literature on decision making under uncertainty is vast and growing, a few research streams seem of special relevance to the issue of predatory pricing.

One area of importance is well summarized by Gerla (1985), who notes that the psychology of risk taking has potential applicability for understanding predatory pricing behavior. Evidence suggests that managers considering risky strategies do not estimate or weigh probabilities accurately, are risk-averse with respect to strategies for gains, and are “risk-affinitive” with respect to losses. For example, when the choice is between a certain but modest loss of share to competitors from no action and the risky option of predatory pricing, managers are likely to be predisposed toward the risky option. (Such a situation seems similar to that faced by Philip Morris in the cigarette business in early 1993 with the erosion of Marlboro’s share.) This tendency is reinforced by the likelihood that the small probability of success through predation will likely be overestimated.

The accuracy of managers’ conjectures is also the subject of several recent inquiries. Moore and Urbany (1994), for example, discuss three factors that can lead to misjudgments of competitors’ reactions to a strategic move. As they point out, managers (1) may not bother to forecast competitors’ capabilities or situations, (2) may misunderstand competitors’ capabilities or situations, or (3) may predict reactions incorrectly because of a failure to see things from the competitor’s point of view. It also has been pointed out that a potentially dangerous judgmental bias is to expect competitors to act the same way as the decision-making firm would act (Boulding et al. 1994).

Others have made similar arguments: Zajac and Bazer- man (1991), for example, note that managers have blind spots in assessing competitive reactions and may not consider competitors’ payoffs. Indeed, Moorthy (1985, p. 276) argues that price wars often result because competitors are uncertain about each other’s payoffs and mistakenly pursue tough reputational strategies. On the other hand, Saporito (1992) suggests that price wars may be due simply to errors firms make in forecasting the length of time it takes to drive weaker competitors from a market; when exit barriers are strong and prolonged by unexpected bankruptcy, price cutting begets more price cutting.

Errors in predicting competitive response or in the con-
sequences of responses have also been found to occur from inaccurate information processing by so-called experts. Mahajan’s (1992) experiments examining the “overconfidence effect” suggest that decision makers may overestimate their ability to “diagnose” the information they initially retrieve. Those with greater domain expertise are especially likely to overinflate the value of initial information and reduce their processing efforts.

In the terminology of game theory, a sequence of competitive decisions made over time is a repeated game. The contribution of the previously described signaling and reputation models is their identification of possible predatory strategies extending from such sequential processes and managerial decision making. However, these models do not account for manager risk taking or for variance in the accuracy of conjectures employed for making decisions. The previous findings suggest that these models could be fruitfully extended to recognize that (1) managers’ assessments of the risk of an action may be situationally determined and (2) competitive conjecturing is (understandably) mediocre or erroneous in many settings.

The implication of such an extension relates directly to the-recougment standard by challenging prior assumptions regarding managers’ assessments of the prospect of recovering lost profits after a predatory episode. In short, if we accept that managers may apply differing risk propensities as well as be incapable of accurately assessing the potential of recoupment, the basis of requiring such a finding for predation is questionable.

Those who defend the recoupment standard may point out that the recoupment argument does not assume that managers are always capable of accurately assessing the chances for recoupment, only that recoupment is the motive. That managers may err does not mean there are not serious consequences (e.g., destructive price wars or reductions in quality, output, or innovation) that ultimately result in diminished vigor of competition with potentially adverse effects on consumer welfare. The recoupment standard thus fails to protect the market from myopic or “risk-affinitive” managers engaging in aggressive pricing that causes such consequences. In other words, because the Supreme Court’s standard only blocks low prices as anticompetitive if it forecasts a high probability of recoupment, it would not attempt to block low prices that it deems are based on “errors” in judgment or are “irrational.” In either case injury to consumer welfare may well occur.

Consumer Welfare Consequences of Predation

A final issue involves extant views of predatory pricing, which relate to the notion of consumer welfare. The federal perspective on consumer welfare (conditioned by economic theory) is that healthy competition should ensure allocative efficiency and low prices. As long as aggressive pricing is procompetitive, policymakers should take no action that insulates inefficient competitors from price competition. In contrast, the state views sometimes seem to reflect an overriding concern for preserving competitors. A market-orient- ed view shares the economics view that consumer welfare is enhanced by healthy competition and not by preserving

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3According to Dickson (1992, p. 69), “Imperfect procedural rationality is deliberation under conditions of limited knowledge and uncertainty. Competitive rationality is the imperfect procedural rationality of economic rivals.”
weak competitors for their own sakes. Yet, this view suggests that the benefits of competition not only include low prices, but also nonprice benefits such as high quality, innovation, and variety.

It is well known that consumers switch brands regularly in many categories and that some of this switching reflects a desire for variety (cf. McAlister and Pessmier 1982). Indeed, many brands and retailers survive in markets by virtue of "niche" strategies that offer unique benefits (including low prices) to narrowly targeted segments. These brands can be threatened when the price gap between the dominant, mainstream offering and such fringe competitors grows. As Scherer (1976) points out, a dominant premium-priced brand can often use periodic price cuts (at above cost) to reduce the attractiveness of an industry to new low-priced potential entrants, which results in increased demand for a premium product from those who would prefer a lesser-priced alternative.

Although some economists may argue that such is the nature of competition "on the merits," our point is that consumer welfare can be judged on dimensions beyond prices and aggregate output levels; the diversity in output and the average quality of output are nontrivial dimensions of consumer welfare. Some economists might observe, however, that if consumers really valued variety, the demand for the weaker firms' varieties should be relatively insensitive to price competition. This is a difficult point to refute if the buyers' desire for variety is just a preference for having many choices available at a given point in time. But in some markets the benefit of variety is the ability to vary brand choices over time (i.e., to have a mix of consumption experiences). Such brands tend to have low purchase frequencies relative to their rate of household penetration (Kahn, Kalwani, and Morrison 1988). Buyers may well stock up on steeply discounted alternatives in the short run, thus unintentionally causing the collapse of shallow-pocketed firms that provide variety.

That consumers lose when price competition is arbitrarily restricted to preserve inefficient competitors or those offering minor nonprice benefits is indisputable; but to ignore the relevance of nonprice benefits to consumers is to accept a view of competition that presumes homogeneity. In fact, outside of pure commodity markets, nonprice competition is often the most vibrant aspect of a market, and marketers would argue that markets containing both price and nonprice competitors best serve the welfare of consumers.3

**Toward a Marketing-Based Framework for Analyzing Aggressive and Predatory Pricing**

Applying the previous insights and building on current thinking, we here frame an approach for understanding and analyzing predatory pricing in the context of aggressive pricing behavior. Following our contention that extant thought is unnecessarily constrained in its ability to sufficiently reflect today's competitive and organizational decision making, we propose a framework that is not restricted by the narrow assumptions of traditional economic price theory. However, its foundation parallels the basic outline of extant thinking. That thinking is based on four principles:

1. Aggressive pricing involves an economic sacrifice to the aggressor firm.
2. The firm's pricing behavior is presumably based on managerial evaluations of the possible outcomes of the behavior so that the long-term benefits are thought to be worth the sacrifice (i.e., makes economic sense).
3. A consequence of aggressive pricing is harm to one or more competitors.
4. To be predatory, the consequence of the injury to competitors must be injury to consumer welfare.

Important differences, however, distinguish our view of aggressive and predatory pricing in terms of how these principles are interpreted and applied. First, our view differs in that we offer a less restrictive interpretation of these principles. In Table 2, we summarize these key differences across the principles identified for analyzing aggressive pricing with a view toward judging predation. Under the marketing-oriented view, additional dimensions supplement the traditional perspective for each of these principles. Second, as with the traditional perspective, all four principles are fundamental to a finding of predatory pricing. In applying these principles, however, our framework incorporates a broader view of competitive responses to aggressive pricing in terms of the strategic options and enabling conditions underlying competitors' choices of response.

**Interpretation of the Four Principles**

**Economic sacrifice.** Current policy requires prices to be below cost to consider a claim of predation. More precisely, average variable cost appears to be the preferred measure of whether sufficient economic sacrifice has been incurred. As we previously noted, though, scholars adopting a dynamic perspective of competition have shown that the aims of predation may be achieved even at above-cost prices. Such arguments, however, are not new. Various economists have argued against the use of short-term marginal cost or average variable costs as indicators that equally efficient firms are likely to be excluded because of a predatory pricing episode (cf. Posner 1976; Scherer 1976). Scherer (1976), for example, has suggested that prices above marginal costs are likely to be exclusionary in many cases. This is especially true if one competitor is advantaged in terms of retailer relations or brand image (Rosenbaum 1987). Joskow and Kleverick (1979) also note that firms cannot be expected to earn normal returns on investments if they are forced to set prices below average total cost. Indeed, for high fixed-cost industries, the gap between average variable cost and average total cost can be enormous; therefore, substantial sacrifices

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3Indeed, Dixit and Stiglitz (1977) demonstrate that even monopolistically competitive situations, economists' market solutions to the number of competitors are likely to yield too few firms to reflect demand satisfactorily. With asymmetric demand and cost considerations, they observe a bias against competitors with high costs and inelastic demands.
TABLE 2
Traditional Versus Prospective Analysis of Aggressive Pricing

<table>
<thead>
<tr>
<th>Principles</th>
<th>Traditional Economics Perspective</th>
<th>Additional Dimensions in Marketing-Oriented View</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic sacrifice</td>
<td>Below-cost pricing</td>
<td>Significant reduction in short-term profits resulting from steep price reductions lasting for more than one purchase cycle</td>
</tr>
<tr>
<td>Economic sense</td>
<td>Set supracompetitive prices in the future to recoup losses from below-cost prices</td>
<td>Set prices to: •Control discounting •Stop erosion of share •Cross-sell existing customers •Shift demand to more profitable segments •Retain high-volume buyers •Force competitors to shift resources across categories</td>
</tr>
<tr>
<td>Harm to competitors</td>
<td>Entry likely to be deterred, exit forced, or output reduced</td>
<td>Competitors may be forced to retrench to core markets or reduce fixed or variable costs</td>
</tr>
<tr>
<td>Consumer welfare consequences</td>
<td>Impact of competitors’ responses on •Demand/supply balance •Competitive price levels</td>
<td>Impact of competitors’ responses on •Innovation •Choice •Competitive price levels •Quality of output (as reflected in customer satisfaction)</td>
</tr>
</tbody>
</table>

may be incurred even at prices that are well above average variable costs.

The meaningfulness of a below-cost test is even more problematic in the case of the multiproduct firm. Above-cost reductions in profitability on cash cows can represent a substantial sacrifice to the firm even beyond their direct effect on corporate earnings, because these products are expected to underwrite the firm’s efforts to develop successful products in other categories. Although Philip Morris has deep pockets, its decision to pursue a strategy for one strategic business unit that management knew would cost the company $2 billion in one year is clearly an economic sacrifice.

With these limitations, we eschew the use of narrow cost tests in favor of a less restrictive interpretation of economic sacrifice. In our view, price reductions can create sufficient economic sacrifice to be of concern if the cuts result in substantial profit reductions. Although it is likely that in high variable-cost firms such profit reductions most often result from prices that are below average variable costs, prices below average total cost can cause equal or greater absolute losses in high fixed-cost firms. On the other hand, in each of these cases, aggressive pricing does not constitute economic sacrifice if short-term volume gains offset the lower margin.

**Economic sense.** The current view is that economic sense reflects the narrow logic that economic sacrifices will be incurred by an aggressive firm only when a reasonable inference is held that such sacrifices may be recovered through future price increases. This perspective underlies the court’s requirement that a reasonable prospect or dangerous probability of recoupment in the form of price increases be established for any claim of predation. Such a view of managerial decision making, however, does not take into consideration the strategic nature of competitive interaction and the multitude of tactical scenarios that can attend a pricing decision.

As is indicated in Table 2, we believe that aggressive and potentially predatory pricing may make economic sense for a variety of reasons, with the logic of future recoupment in the form of supracompetitive prices representing only one such reason. Indeed, competitive strategy is extremely complex and varied. Just as retailers may recover losses from price leaders through increased sales of complementary products without setting supracompetitive prices, firms may reap many kinds of benefits that may not have recoupment as an aim. For example, under some competitive conditions, profit reductions due to lower margins may be less damaging than reductions that result from eroding market share if no pricing action were taken. In such cases, aggressive pricing may simply represent a lower loss strategy. Alternatively, a firm competing across several product markets may sacrifice profits in one category to induce a rival to shift resources away from another category. Giving up profit in one market may enable the firm to achieve greater profits overall. Or, firms selling a line of substitute products at different margins may sacrifice margins on high-end products if the result is a shifting of volume out of the low-priced end of the market. Finally, aggressive pricing in markets characterized by extensive discounting may signal competitors to reduce promotions or face the risk of a price war. (Note that all of

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these examples are potential explanations of the Philip Morris action.)

In each example, the decision to risk economic sacrifice may make sense to an aggressive firm, yet not involve future price increases or any other form of recoupment. That said, economic sense is assumed if there is a logical competitive rationale for using aggressive pricing.

Harm to competitors. It is well established that it is not the purpose of antitrust policy to protect individual competitors. However, unless one or more competitors are injured through aggressive pricing, there can be no injury to competition; and injury to competition is a necessary condition for injuring consumer welfare.

In the traditional theory of predation, competitive injury occurs when entry is deterred (lower prices make markets less attractive) or when existing competitors are forced to reduce output or to exit. Injury of this form yields the requisite conditions that enable a predatory firm to harm competition through raising prices above supra-competitive levels. When injured, the competition is reduced, leaving the predator with sufficient market power to control prices.

Competitive injury may occur through the traditional means of entry deterrence, reduced output, and exit, but we believe there also are other forms of competitor injury. Harm to competition need not be limited to injury that results in competitive exit or retrenchment with resultant supra-competitive prices. As we have pointed out, firms that face aggressive pricing by their rivals often defy traditional logic by remaining in markets at the lower prices even though they sustain significant profit losses. Rather than exiting or reducing their output, these firms adjust to the new, lower profit level through nonprice responses, such as reducing research and development, advertising, customer service, or variety. Marlboro certainly could benefit from forcing competitors to exit the discount segment (thereby reducing variety) and restrict advertising and new product development efforts in response to a substantial decline in industry profitability. Firms’ specific reactions to an aggressive pricing episode depend on their unique organizational goals, competitive conditions, and decision-making processes. Because aggressive pricing causes major competitors to reduce nonprice competitive initiatives in order to remain viable, a market can gravitate toward commodity status. Once this occurs, the aggressor—having successfully disciplined the market through a price war (or threat of one)—may be able to exert some form of price leadership to achieve supra-competitive prices. Thus, competitive harm can include not only forced exit or output reduction, but also—from a marketing perspective—a decline in competitive mentality and nonprice initiatives. Moreover, as we discuss subsequently, traditional assessments of market conditions must be supplemented to foresee the full possibilities of such harm.

Consequences for welfare. Extant theory relies on a narrow, efficiency-based conception of consumer welfare; in contrast, in a marketing perspective, consumer welfare is more broadly defined. From the marketing perspective, allocative efficiency requires a continuously vibrant market of independent actors. If competitive exit or output reduction occur (the traditional routes to facilitate recoupment), supra-competitive prices will emerge. But discarding key points of differentiation is much like output reduction; rivals give up their ambitions. The demise of non-price competition can be directly detrimental (e.g., fewer flights from Denver to Phoenix; substitution for high-cost, natural ingredients in food products) because vibrant, non-price competition is gone, or indirectly detrimental, if the loss of competition occurs because of market disciplining. In the latter case, firms that have pared costs to remain in a market are unlikely to be aggressive competitors on either price or nonprice dimensions. As marketers learn more about the nature of competitive interaction, the partial substitutability of price and nonprice strategies becomes more evident (cf. Ramaswamy, Gatignon, and Reibstein 1994). Thus, a dynamic perspective on aggressive pricing and predation must recognize the possibility of reduced consumer welfare due to the loss of nonprice benefits and the potential for price leadership and collusion that results from the loss of product differentiation in the market.

Conditions Influencing Successful Predation: The Role of Competitors’ Responses

In the traditional view, the principles previously discussed are applied through the concept of market power (cf. Baldwin 1987). That is, predatory pricing is deemed possible (i.e., makes economic sense) only if the economic sacrifices incurred (i.e., from below-cost prices) can be recouped through later supra-competitive prices. Recoupment itself requires market power or the ability to set supra-competitive prices, which means that harm to competitors and consumers has (necessarily) resulted. Market power is determined through evaluation of market structure conditions. In the context of the traditional perspective, knowledge of a firm’s market power therefore provides a parsimonious set of conditions for assessing the response of competitors to an aggressive and potentially predatory pricing episode. Rather than be confined to traditional assessments of market power as informed by market structure analysis, our framework relies on a broader set of conditions. Hence, for evaluating the conditions that influence the possibility of predatory pricing, we go beyond considering market structure to embrace the strategic process of competitive interaction and managerial decision making that underlie the responses of individual firms to aggressive pricing.

Some work in marketing on competitive reactions presumes that competitive reactivity (i.e., the magnitude of response to a rival’s market action) is a characteristic of a market (Gatignon 1984, p. 389). Other research concludes that the likelihood and magnitude of response are shaped by the visibility and reversibility of the aggressor’s action and the ease with which rivals can respond (Chen and MacMillan 1992; Chen and Miller 1994). However, that individual firms in the same market facing the same competitive conditions will not all react to a competitor’s action in the same way is well established by empirical research in marketing (cf. Ramaswamy, Gatignon, and Reibstein 1994). Research on responses to competitive entry indicates that incumbent
firms respond by using those marketing variables that are the firm’s best weapons in terms of elasticity of market response (Gatignon, Anderson, and Helson 1989). Thus, price actions may stimulate price responses from some competitors and nonprice responses from others. Similarly, some competitors may exit a market when confronted with aggressive pricing, whereas others may remain and attempt to adapt or respond. As Dickson (1992, p. 71, emphasis added) points out, “In a theory of dynamic competition ... the focus shifts to the study of variation in the adaptability of individual sellers over time.”

Such observations suggest that firms’ responses to aggressive pricing are truly strategic behaviors, as opposed to exogenously determined reactions. Therefore, we view market structure considerations as but one element in the set of conditions influencing responses to aggressive pricing and the prospect of successful predation. For example, if price responses were viewed in the context of a typical strategic planning portfolio model, it would be recognized that firms would need to respond in the context of their competitive market structures. At the same time, a certain level of free will exists as firms decide on the appropriate goals and strategies for individual products or business units; a firm may choose to maximize gains over profit gains and elect to withdraw, defend, or aggressively respond. In a dynamic setting, how a particular firm responds also depends on how its organizational culture, information resources, and personality (risk orientation) and skills of the decision maker shape the decision-making process (Dickson 1992).

With the questions in Appendix B, we use the insights emerging from scholars in marketing and related disciplines to provide a basis for assessing the potential competitive responses and consequences associated with aggressive pricing that tends toward predation. These insights are categorized into four sets of conditions (see Appendix B) that influence the willingness and ability of firms to respond to aggressive and potentially predatory pricing. The specific conditions reflect the relative resources, constraints, or positions of advantage (e.g., power and countervailing power) that might be available to various competitors in a market. A governing assumption is that power is not simply binary (firms have either deep or shallow pockets) but that there are shades of difference, whose gradations reflect differences in the opportunities, information, or strategic orientation that facilitate a firm’s ability to adapt to a changing competitive situation (i.e., yield the firm some countervailing power).

Thus, opportunities may be available to one competitor in a market but not others, which creates variations between firms in terms of the range of available response strategies (e.g., one competitor may have greater cross-subsidization opportunities, be less reliant on a market as a source of cash flow, or have a stronger commitment to a market than another competitor). These additional conditions can confer countervailing power to firms with lesser resources than an aggressive price leader, thus reducing the extent of competitive injury sustained. Examples of countervailing power include finding market niches, being able to accept substantially lower sales or profit goals, and being willing and able to take a risk that the predator is bluffing.

Recent research that addresses reactions to signals and actions appears to broadly support our viewpoint. A fundamental question addressed by much of this research is, What determines the magnitude of a firm’s competitive response? (cf. Heil and Walters 1992; Robertson, Eliashberg, and Rymon 1995). Whether a response is retaliatory (high magnitude), matching, or passive (low magnitude) appears to be influenced by characteristics of the signal (e.g., the hostility and severity of consequences embedded in it), the reacting firm’s strategic situation (e.g., opportunities for niching strategies, channel power, commitment to the market), and traditional industry market structure variables (Chen and MacMillan 1992; Heil and Robertson 1991). For assessing the prospect of successful predation involving price, we consider each of these factors an important element of inquiry.

### Analyzing an Aggressive and Potentially Predatory Pricing Episode

In the Figure, we portray the flow of analysis and key linkages among the four principles in our framework. Fundamental to this process is a view of competitive response to aggressive pricing that is based on the previously discussed expanded notion of countervailing power. If there is some economic sacrifice by an aggressive firm, rivals may respond in various ways, depending on their perceptions and countervailing power. These responses determine the potential consequences to competitive rivalry and consumer welfare.

If the countervailing power of competitors is sufficient to either meet or ignore the aggressive pricing without incurring substantial economic harm, neither competition nor consumer welfare is at risk. Indeed, consumer welfare is enhanced if prices remain low. In the absence of countervailing power, aggressive pricing is more likely to result in significant exit or output reduction; therefore, the traditional market power indicators are likely to be sufficient for the analysis. If competitors possess enough countervailing power to remain in business, but only at the cost of economically damaging losses, we argue that both price and nonprice determinants of consumer welfare may be at risk. To salvage a minimum level of profitability in such an environment, management’s choices are the following:

1. Reduce variable costs by lowering labor, material, or setup costs (by reducing product quality or variety) to offset the lower price.
2. Offset price reductions by lowering fixed costs for advertising, customer service, and research and development or by reducing selling and distribution costs by retrofitting to the most profitable channels or territories.
3. Cooperatively establish a “fair” price or marketing effort level either through collusion or by pursuing the “tit-for-tat”

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4]Lambkin and Day (1989) offer a parallel perspective, showing how a competitive shake-out results in failures, subpar performers, and survivors.
FIGURE
Predicting Competitive and Welfare Consequences of Aggressive Pricing

<table>
<thead>
<tr>
<th>Economic Sense</th>
<th>Economic Sacrifice</th>
<th>Competitors' Countercountervailing Power</th>
<th>Potential Competitor Injury</th>
<th>Competitors' Responses</th>
<th>Potential Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>- No countervailing power</td>
<td>- Severe</td>
<td>- Exit</td>
<td>- Supracompetitive prices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Some countervailing power</td>
<td>- Significant</td>
<td>- Significant output reduction</td>
<td>- Loss of variety</td>
</tr>
<tr>
<td><em>Expected benefit</em></td>
<td><em>Aggressive price cut</em></td>
<td></td>
<td>- Cooperate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Significant countervailing power</td>
<td>- Reduce fixed costs to meet price cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Reduce variable costs to meet price cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Ignore price cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Meet price cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Lower prices</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*See list of economic sense dimensions in Table 2.*

strategy that has been judged as best in prisoner dilemma-type game situations (cf. Axelrod 1980; Fader and Hauser 1988).\(^3\)

Economic theory and marketing logic suggest that firms that unilaterally reduce marketing efforts cause their own demise. However, just as in the case of price, a broad loss in competitive effort on quality, variety, customer service, or innovation reduces pressure on the leader to continue offering these benefits, thereby further compounding the loss to consumer welfare. Whether these consequences are harmful enough to warrant a charge of predation remains a policy question that can only be answered in the context of an individual case.

Discussion

That price aggression is a highly visible action as well as one that can be swiftly matched means that a relatively high probability of retaliation can be expected (Chen and Miller 1994). So why do firms attack with price? Chen and Miller (1994, p. 97) suggest that “[p]aradoxically, it may be that the attacks that have the greatest potential payoffs are the most likely to be visible.” In other words, aggressive behavior must, in some way, make economic sense. The framework we present offers an approach for understanding the economic sense of aggressive pricing and competitors’ responses to aggressive and potentially predatory pricing, as well as for identifying the potential consequences for competition and consumer welfare. Although its principle foundations parallel extant thinking, important differences distinguish the application and interpretation of these principles for analyzing such conduct. As we observed, the dominant economic theory currently informing public policy argues that predation is irrational and would therefore not occur. But the stringent assumptions underlying that thinking challenge its legitimacy. Although parsimonious models of managerial decision making can be useful, rivals in markets characterized by intensive competition require complex decision-making processes to judge the sense of their actions. As Dickson (1992, p. 72) argues, “Competitive innovation-imitation depends on the accuracy of a firm’s environmental analyses. Little attention has been paid to how marketing decision-makers scan the entire marketplace environment, [and] structure such analysis ... in their innovation-imitation decision-making.”

Recent scholarship focusing on competitive interactions and managers’ strategic decision-making processes argues for a dynamic view of price and nonprice competition, in which complex goals, signals, and conjectures under imperfect information dominate. To date, little of this research has emphasized pricing strategy. Chen and MacMillan (1992) argue that researchers interested in competitive interaction have underestimated the role of price decisions because they appear to be tactical actions when in fact they are often decisions of great magnitude (as in aggressive pricing). Because price is a readily measurable
competitive instrument, it is relatively easy to include in econometric estimations of reaction matrices. But, though such studies help document the nature of competitors’ reactions, they do not help us understand the strategic reasons for the observed reaction patterns (Weitz 1985). Additionally, the nature of competitive responses can be varied—even across rivals in the same market. In this respect, one of our key motivations is to foster further research on competitive interaction and strategic decision making in the area of pricing and on the choice between price and nonprice dimensions of competitive strategy.

Because the framework presented here integrates various explanations underlying aggressive pricing behavior and competitive response, it offers a guide for structuring further public policy thinking regarding predation. A consequence of this framework is to open the vast middle ground between those situations in which aggressive pricing causes no competitive harm and those in which competitors are driven out of a market. As we suggest in the Figure, the middle ground (i.e., where significant injury occurs) recognizes the potential impact of aggressive pricing on collusive pricing practices, nonprice competition, and nonprice dimensions of consumer welfare. Current thinking ignores these consequences.

Application of the framework and principles to public policy requires the development of indicators of economic sacrifice, nonprice competition, and welfare consequences. Doubtless there will be controversy over such measures. On the other hand, there has been considerable disagreement over the measurement of below cost, and the welfare consequence known as supercompetitive prices is not amenable to precise calibration. Because the field of marketing is frequently involved in measurement challenges and underscores the virtues of quality, service, variety, and innovation to consumers and strategists, it is especially well positioned to tackle the challenge of developing multidimensional indicators of consumer welfare.

As researchers in marketing begin to examine further the nature of aggressive and predatory pricing, they also may wish to consider the related practices of dumping and nonprice predation. A practice that has been related to predatory pricing involves international dumping, or the importation of products into the United States at prices substantially less than the actual market value or wholesale price in the principal market of the country of their production and the attendant costs of importation combined. This practice has received considerable attention by both policymakers and managers, with analogies to predatory pricing in an international context. Although similarities in conduct exist, the basis for policy development of U.S. antidumping laws has been below-market price, “fairness,” and free trade, whereas predation policy’s concern is for below-cost price and consumer welfare (cf. Feltham et al. 1991). With respect to nonprice predation, whereas marketing traditionally has viewed the marketing mix as composed of interchangeable variables for addressing consumer needs and competing amongst rivals, antitrust policy has distinguished predatory pricing conduct from conduct involving other marketing mix variables. However, in addition to pricing strategies, firms may employ strategies of predation that attempt to increase competitors’ costs. Gundlach (1990) reviews a variety of different forms of nonprice predation that may result in anticompetitive outcomes. Research addressing the nature of both these practices and the contrasting philosophies that inform each provide fruitful inquiry for further research.

Finally, it is notable that antitrust inquiry based on strict adherence to the simplifying assumptions and deductive logic of neoclassical price theory so prevalent in the 1980s appears to be evolving toward more careful examination and factual inquiry. Considerable antitrust scholarship (see Royall 1995) and at least one Supreme Court decision (Eastman Kodak Company v. Image Technical Service 1992) have observed the limited usefulness of simplified economic models and tests for understanding the complex economic forces operating in today’s business environments. Rather than relying on such circumscribed views, these scholars and judges favor a melding of prior antitrust thinking with the enriched explanations of less constrained thought. Our framework offers such an integration within the domain of predatory pricing.

Appendix A

The Marlboro Story: Aggressive Competition or Predatory Pricing?

In April of 1993, Philip Morris announced major price cuts on its Marlboro brand, the cigarette industry leader, admitting that the proposed plan could cost the company $2 billion in lost operating income for the year. The announcement led Wall Street to mark down Philip Morris’ market value by 20% in one day. Within a few months it became apparent that the plan was not simply a short-term promotion but a price cut that would be in effect for some time.

What strategic objectives motivated these cuts? Industry analyses fell into two camps. In one, the strategic target was viewed as the growing discount segment of the market. Price-oriented competitors had been taking a steadily increasing share of the market for several years, with a substantial portion of this growth coming from Marlboro. Although Philip Morris was a player in that segment (primarily with its Basic brand), it was estimated that a pack of discount cigarettes earned only about one nickel per pack for the manufacturer—about one-tenth the margin of premium cigarettes. By narrowing the gap between premiums and discount from as much as $1 to perhaps 45¢, arguably Marlboro would draw market share back from the discount segment—both from lower margin Philip Morris brands and from competitors’ brands (Financial Times 1993). As one Wall Street analyst put it, “The job that has to be done is ... destroying the two price points below the full-price brands. That’s the objective and what they want to do” (Supermarket News 1993, p. 15).

The alternative view was that Philip Morris’ real target was its major competitor, RJR, manufacturer of 12 doz. strong brands, including Winston, Camel, and Vantage. Heavily burdened by the debt from its famous leveraged buyout in 1989, RJR was viewed as ill-equipped for a price war involving its premium priced cash cows. RJR was said to need 9¢ per $1 of sales just for debt service. Being highly leveraged, RJR’s effective tax rate was only 8%, whereas Philip Morris’ 32% rate enabled it to significantly share any

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earnings reductions with the U.S. Treasury. Moreover, market tests conducted in Oregon the previous winter demonstrated that Marlboro share gains came equally from discount and competing premium brands. The conclusion was that Philip Morris hoped to inflict significant damage on RJR by increasing Marlboro’s market share in the premium segment or forcing RJR to cut prices on its premium brands and push up prices on RJR discount brands (Chakravarty and Feldman 1993).

As events unfolded, RJR ultimately reduced its premium prices. Discount competitors also unveiled new brands in lower (but not in superdiscount) price ranges. The narrowing price gap between premium and discount brands did result in sales growth for the Marlboro brand. Philip Morris’ discount brand suffered a 10% decline, and RJR chose to exit the generic and private label segment altogether. R. J. Reynolds lagged behind Philip Morris’s Marlboro in cutting prices, and its premium brands did not keep pace with Marlboro’s growth. Overall, RJR’s share of the total cigarette market fell from 32.5% in the first half of 1993 to 27.4% in the first half of 1994 (Teinowitz 1994). According to one analysis, the value of the Marlboro brand fell 36% in 1993 due to a 32% decline in brand-related operating profits. But the value of RJR Nabisco’s Camel and Winston brands declined by 59% in the same period (Ourusoff 1994, p. 14).

Did consumers benefit (health questions aside) from the price competition unleashed by Philip Morris? Did Philip Morris benefit? Did Philip Morris have a high probability of recouping the profits lost from this price action if RJR could be eliminated or rendered less competitive? Did Philip Morris’ management do a poor job of conjecturing RJR’s response? Did they underestimate the cost of the price war, or overestimate the gain in market share, or was the decision made without regard to any profit goal? Did management even attempt to calculate the long-term profit impact of this action? Did Philip Morris act out of confidence by “sending a message” to its competitors that they should refrain from aggressive behavior? Or, did Philip Morris act out of fear, “rolling the dice” in the belief that inaction could only result in continued erosion of its premium cigarette business? Was Philip Morris management acting rationally?

Viewed from a legal perspective, the foregoing questions are moot. The cost of the price war finally became too high for Philip Morris, which gradually ended its deep discounting program. But had the aggressive pricing continued, what would have been the consequences? Would the prospect of significant damage to RJR, Brown & Williamson, or Liggett & Myers have provided fertile ground for predatory pricing charges? Or does any price above cost constitute competition “on the merits”?

Appendix B
Assessing Conditions Influencing the Competitive Responses and Consequences of Aggressive Pricing

1. Are there asymmetries in the abilities of firms to conduct a price war or recoup lost profits (market power)?
   - Superior financial resources
   - Larger market share
   - Cross-subsidization opportunities from other business units
   - Lower production or capital costs
   - Higher profit margins

2. Are there informational asymmetries that enable a predator to influence the exit, entry, output, or pricing decisions of competitors?
   - Prey believes predator has superior knowledge of cost or demand conditions
   - Prey believes predator has deeper pockets
   - Prey believes predator is likely to repeat history of aggressive pricing
   - Prey lacks knowledge of predator’s payoffs

3. Are there differences in the strategic product and/or market opportunities that enable one firm to use price more aggressively than the competition to build sales?
   - Firm has a premium price and/or quality image creating asymmetric cross-elasticity (making price competition advantageous for the aggressor)
   - Firm has a wider range of complementary goods and services (facilitating recoupment)
   - No niches are available to rivals to hide from price competition

4. Are there differences in firms’ strategic orientations that moderate the importance of profitability?
   - Differences in a product’s role in the firm’s portfolio (e.g., cash cow, star)
   - Differences in overall firm goals that may create exit barriers (e.g., family business)
   - Differences in the tolerance for risk

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