

# Does “Bait and Switch” Really Benefit Consumers?

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## Abstract

While the field of marketing science has long been interested in the effects of promotional efforts, public policy issues involving illegal marketer fraud and deception have generally not been addressed in this body of work. One key exception to this generalization is a *Marketing Science* article suggesting that the practice of “bait and switch” may be beneficial to consumers and, furthermore, that the Federal Trade Commission should investigate revising its standards to legitimize this practice (Gerstner and Hess 1990). This finding and recommendation seemed so significant that it is surprising that the recommendation has not, to date, been explored in greater detail.

In this paper we further explore the impact of the two components of bait and switch: out of stock and upselling. We do this by using Moorthy’s (1993) theoretical modeling

framework to systematically extend and assess the Gerstner and Hess model. We find that the previously reported increase in consumer welfare that arises from allowing out-of-stock conditions at retailers is actually due to the utility created by salespersons’ explaining product features and benefits, not by the out of stock. Thus, the ramifications of both our legal and modeling analyses are that deceptive bait-and-switch practices result in harm to consumers and *should not* be legalized.

Our paper concludes by proposing worthwhile modeling issues for further exploration. In addition, we suggest that our procedure for analyzing public policy issues (by exploring the confluence of law, consumer behavior, and marketing models) can serve as a useful exemplar for further contributions to public policy by marketing scientists. (*Pricing; Promotion; Public Policy; Bait and Switch*)

## 1. Introduction

New Rapids Carpet Center, Inc., offered a “greatest carpet special ever,” offering both 150 square feet of carpet and an upright vacuum cleaner or rug for \$77. When consumers responded, the firm disparaged the product (stating only cheap people buy this carpet) or said it was unavailable. In only one case did a consumer insist on the special, and the firm simply never delivered it. Actual prices paid in response to the high-pressure sales tactics were much higher than the advertised special of \$77, often in excess of \$400 and as high as \$723. No customer ever received the “free gift.” The firm was found guilty of deceptive “bait and switch” practices, in addition to other violations (In re, New Rapids Carpet Center, Inc., et al. 1977).

The field of marketing science has long been interested in the effects of promotional efforts to influence consumers’ choices of stores or items to purchase. Many aspects of this topic have been effectively studied in such areas as advertising, pricing, selling efforts,

and deals. *Marketing Science* has been prominent in featuring such research. It is notable, however, that public policy issues involving illegal marketer fraud and deception have generally not been addressed in the body of marketing science work in promotion. Clearly it is possible for an individual promoter to gain short-term profits through the use of consumer deceptions in advertising, pricing, or selling practices (Lazear 1995),<sup>1</sup> but few marketing scientists have examined promotions that are deceptive or fraudulent in nature.

A notable exception to this generalization is a *Marketing Science* article by Gerstner and Hess (1990), hereafter GH. Their paper advances an inherently surprising conclusion: that “bait-and-switch” practices can

<sup>1</sup>We are indebted to Professor James Hess for bringing this reference to our attention.

benefit consumers, and that the Federal Trade Commission should investigate revising its standards to legitimize this heretofore fraudulent practice (GH, p. 121). As the only article on this topic in *Marketing Science* we could find, this recommendation leaves the field—and this journal—in a provocative position. Consequently, we decided to explore further and extend their model to better understand what leads to this recommendation.

When we do this we find that the conclusions for public policy are the reverse of those advanced by GH: we find that bait-and-switch practices should not be legalized. Our analysis is presented in five sections: (1) a brief exposition of the law on bait and switch; (2) a brief overview of the GH article and model; (3) an outline of Moorthy's (1993) framework as applied to bait and switch; (4) our application of this framework to GH and our findings; and (5) conclusions and implications.

## 2. The Law on "Bait and Switch"

### 2.1. FTC Guides

Before presenting GH's model, it is useful to briefly outline the major aspects of bait-and-switch practices and law. In the United States, deceptive practices are regulated through the Federal Trade Commission (FTC), whose mandate provides that "deceptive acts or practices, in or affecting commerce, are . . . unlawful" (Wheeler-Lea Act 1938). The FTC has defined deception to include any "representation, omission or practice that is likely to mislead the consumer acting reasonably in the circumstances, to the consumer's detriment" (Federal Trade Commission 1983a). Bait-and-switch practices are viewed to be deceptive and therefore unlawful.

As noted at the top of Figure 1, the term "bait and switch" actually refers to a family of practices in which advertising and personal selling are coordinated in an effort to take advantage of unsuspecting consumers. To provide specific guidance for marketers who wish to avoid bait-and-switch practices, the FTC provides the publication *Guides Against Bait Advertising* (1983b). The remainder of Figure 1 depicts the flow of the process and quotes phrases from the FTC guides. Notice that a three-stage process is involved: (1) the "bait" ad

is run; (2) a consumer responds by visiting the store or inviting a home sales call; and (3) the salesperson "switches" the prospect from the low-priced unit featured in the ad to another, more profitable, purchase. It should be stressed that this process is distinct from the normal, legal practice of "upselling" or "trading up," in which a salesperson simply attempts to persuade a consumer to purchase a higher priced unit. The guides help with this distinction by stressing the planned role of deception, as indicated in the four phrases describing a "bait" ad in Figure 1.

The lower portion of Figure 1 provides 10 examples of "switch" selling practices provided by the FTC guides. Notice that the first five examples reflect actions that make it unattractive or impossible for a consumer to purchase the advertised item. The sixth practice is directed toward sales plans or commission arrangements that manipulate salespersons away from such sales (in some bait-and-switch operations, salespersons are warned by managers that the advertised item is "nailed to the floor"—not to be sold under any conditions under pain of fines or termination). Examples 7 through 10 reflect "unselling" or switching after the customer has agreed to buy the advertised item.

### 2.2. Court Opinions

At the federal court level, interpretation of bait-and-switch practices has generally been consistent with the FTC guides, to which reference is often made. At the state level, many courts have adopted the Uniform Law version of Consumer Protection Laws, which specifically identify bait-and-switch practices as deceptive. In assessing bait-and-switch cases, moreover, court opinions have generally been clear as to the unfair nature of such acts. As one court (*In re, New Rapids Carpet Center, Inc., et al.* 1977) observed:

"Bait and switch" is too common a commercial practice and its unfairness is too well settled to require more than cursory comment. (p. 106)

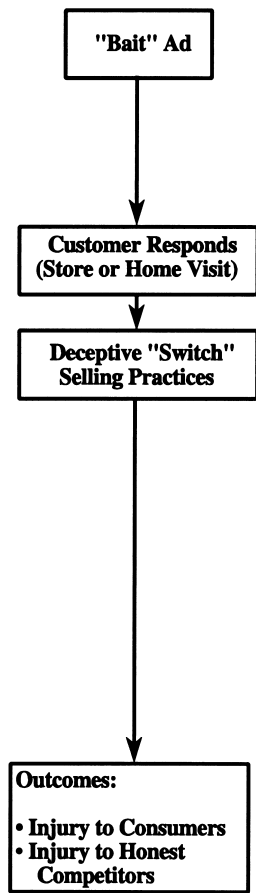
Based on many cases similar to *New Rapids*, several generalizations regarding the practice are appropriate:

- Actions are coordinated and practiced, relying on gaining sales through deception.
- Huge increases in actual prices paid by bait-and-switch victims are common: in *New Rapids* actual prices

**Figure 1** Legal Aspects of "Bait & Switch"

**I. Definition:** "Bait and switch" refers to a family of practices in which advertising and selling acts are coordinated so as to mislead, deceive, or defraud consumers. Typically, the initial ad offers an especially tempting price on a certain model as "bait" to lure unsuspecting customers to the store, whereupon the sales staff commences to "switch" the purchase to other units actually intended for sale, usually at a higher price.

**II. A depiction of the process (as described in the FTC guides):**



• **Not a bonafide offer to sell the advertised product.**

1. Alluring but insincere offer.
2. Primary purpose is to obtain leads to persons interested in buying [this type of] merchandise.
3. Advertisement creates a false impression . . .
4. Even though true facts are subsequently made known . . . law is violated if the . . . contract . . . is secured by deception.

• **Planned discouragement of purchase, or unselling after purchase of the advertised merchandise. Examples include:**

1. Refusal to show, demonstrate, or sell the advertised product . . .
2. Disparagement, by acts or words, of the advertised product . . .
3. Failure to have sufficient quantity available to meet reasonable demand . . .
4. Refusal to take orders . . . to be delivered within a reasonable time.
5. Showing . . . a product is defective, unusable, or impractical for the purpose . . . advertised.
6. . . . Penalizing salespersons . . . to prevent or discourage them from selling the advertised product.
7. Accepting a deposit, then switching the purchaser to a higher-priced product.
8. Failure to make delivery . . . within a reasonable time . . .
9. Disparagement [after sale] . . . of the advertised product . . . in any . . . respect.
10. Delivery of . . . product which is defective, unusable or impractical for the purpose represented . . . in the advertisement.

ranged from double to nine times the price featured in the bait ad.

- Customers are often poor, uneducated and susceptible to "hard-sell" techniques.
- "Easy credit" is often used as a means of supporting higher prices for the substitute item and for closing sales, but often sets the stage for later problems with debt collection practices.

• The post-sale actions of bait-and-switch sellers often reveal a contempt for their customers. These contemptuous behaviors include refusals to honor warranties, refusal to provide promised services or gifts, and abusive or inappropriate credit collection practices.

In summary, the legal record of bait-and-switch cases reveals a marketing exercise for which the phrase

caveat emptor (let the buyer beware) is all too appropriate.

### 3. An Overview of GH (1990)

#### 3.1. Conclusions Advanced

Given this background and the dubious reputation of bait and switch in law and public policy, we find the GH (1990) conclusions to be provocative. These include:

- "Consumers are better off with bait and switch ex ante" (p. 121).
- "Consumers can be better off under bait and switch even ex post" (p. 121).
- "The FTC should investigate further the ban on bait and switch because this marketing practice can promote marketing efficiency" (p. 121).

#### 3.2. A Summary of the GH Consumer Model

Our goal is to better understand what drives these conclusions to ascertain the generalizability of these findings. Since our model development builds on the GH approach, we briefly recapitulate their model (which covers only Example 3 under "switch" in Figure 1, the issue of product stocking and availability).<sup>2</sup> To facilitate this discussion, Table 1 presents an overview of the nomenclature in the GH model.

Within their model, consumers are assumed to observe and respond to a feature advertisement for a brand (the "featured brand") at price  $p$ . Upon visiting a store, the consumer finds the featured brand either

<sup>2</sup>Product stocking is also an issue in the FTC's treatment of supermarket advertising of price specials on foods. Since forecasting cannot be perfect, some degree of overstock or understock can be expected. As the cost of carrying added inventory to meet unforeseen demand can raise prices and hurt consumers (Balachander and Farquhar 1994, Hess and Gerstner 1987, Ibrahim and Thomas 1986), rain checks may be beneficial to consumers as a means to meet unexpected demand. The FTC therefore promulgated a Trade Regulation Rule (the "Unavailability Rule") covering this area in 1971, then amended this rule in 1989 to loosen restraints on sellers (*Federal Register* 1989). However, the unavailability rule differs from bait and switch. With the unavailability rule, retailers maintain *sufficient inventory* to meet anticipated demand. This clearly differs from *intentionally understocking* featured items for the purpose of switching unsuspecting consumers to more profitable brands. Neither GH nor our analysis addresses the issue of inventory costs.

**Table 1** Nomenclature

Variable	Definition
$c$	promoted brand's variable cost
$C$	featured brand's variable cost
$D$	consumer's cost of using a rain check
$F$	retailer's fixed cost
$M$	retailer's cost of promotion
$p$	featured brand's price
$p_s$	promoted brand's price
$t$	consumer's travel costs
$u$	consumer's utility
$V$	featured brand's value
$V + S$	promoted brand's value
$x$	number of consumers in the population
$\alpha$	out of stock probability
$\gamma$	fraction of consumers who value promoted brand at $V + S$

out of stock with probability  $\alpha$  or in stock with probability  $1 - \alpha$ . Consumers form expectations of (or foresee) the stockout probability,  $\alpha$ , prior to visiting the store. If the featured brand is not in stock, then the consumer is offered a rain check and exposed to a sales presentation for an alternative higher-priced model that is in stock. The cost to consumers of using a rain check is given by  $D$ . The salesperson attempts to educate consumers about the value of a substitute brand in the store (the "promoted brand"). Because this "upselling" alerts consumers to benefits they might not have otherwise considered or known, it adds a value,  $S$ , over that of the featured brand. The promoted brand sells for price  $p_s$ . GH's and our objective is to find the Bertrand equilibria value for  $\alpha$ ,  $p$ , and  $p_s$  and the resulting consumer equilibrium utility and firm equilibrium profit.

GH further assume a homogeneous population of consumers defined by their value for the featured brand,  $V$ , their value for the substitute brand,  $V + S$ , and their probability of being influenced by an in-store promotion,  $\gamma$ . As an illustration of this process, consider an advertised car model that does not have a special paint package. Salespersons then show customers the paint package option on a different car (e.g., promote or upsell). Each customer has a certain probability,  $\gamma$ , of being influenced by this promotion (e.g., likes the color of the paint package). Those who are influenced ascribe a certain value,  $S$ , to the option (e.g., the

paint package is worth \$500); those who are not  $(1 - \gamma)$  assign no added value to the option.

GH also assume that consumers face high search costs, so they will either buy the featured brand, obtain a rain check, or buy the substitute brand. An added impetus for this assumption is that, in equilibrium, the prices and out of stock percentages consumers can expect to find across stores are all equal, therefore disincenting further search. The consumer obtains an expected level of utility

$$u = (1 - \alpha)(V - p) + \alpha((1 - \gamma)(V - p - D) + \gamma(V + S - p_s)), \quad (1)$$

where  $V + S - p_s$  represents the value the consumer obtains from the substitute brand and  $V - p - D$  is the value the consumer obtains from using the rain check (where  $D$  represents the diminution in value of a brand that results from exercising a rain check). As consumers must either buy the promoted brand or select a rain check, the retailer can raise the price of the substitute brand,  $p_s$ , so that its value to consumers equals that of having to use the rain check, that is  $V + S - p_s = V - p - D$ . Thus, (1) reduces to

$$u = u(p, \alpha) = (1 - \alpha)(V - p) + \alpha(V - p - D). \quad (2)$$

$D$  is assumed to be proportional to an inconvenience cost (including travel costs),  $t$ , and the number of consumers using rain checks (e.g., longer lines for processing rain checks),  $\alpha(1 - \gamma)$ . Thus,  $D = \alpha(1 - \gamma)t$ .

### 3.3. A Summary of the GH Store Competition Model

In GH, store profits are a function of the  $p, p_s, \alpha, \gamma$ , the featured brand cost,  $C$ , the promoted brand cost,  $c$ , the cost of the value added selling (alternatively "upselling"),  $M$ , the number of consumers,  $x$ , and fixed costs,  $F$ . GH further assume that stores will not promote unless the value of the promotion exceeds its costs,  $\gamma S > M$ . The store's expected profit is determined by the profits from the advertised model if it is in stock plus the profits from the rain check and substitute if the featured model is out of stock. Specifically,

$$\begin{aligned} \pi(p, p_s, \alpha) &= (1 - \alpha)x(p - C) \\ &+ \alpha x[(1 - \gamma)(p - C - M) + \gamma(p_s - c - M)] - F. \end{aligned} \quad (3)$$

Like GH, we assume  $c = C$  for simplicity. Making use of the fact that  $V + S - p_s = V - p - D$  and assuming, without loss of generality, that fixed costs are zero, (3) simplifies to

$$\begin{aligned} \pi(p, \alpha) &= x(p - C) \\ &+ \alpha \gamma x[S + \alpha(1 - \gamma)t] - \alpha x M. \end{aligned} \quad (4)$$

GH assume a Bertrand equilibria. To find the equilibrium values of  $p^*$  and  $\alpha^*$ , GH substitute  $u_0$  for  $u$  in (2), which results in  $p(u_0, \alpha)$ . They substitute  $p(u_0, \alpha)$  into (4) to eliminate  $p$ , making  $\pi$  a function of  $\alpha$  and  $u_0$ ,  $\pi(\alpha, u_0)$ . As profit is a function of  $\alpha$ , the optimum  $\alpha$  can be found by setting the partial derivative of (4) with respect to  $\alpha$ ,  $\partial \pi(\alpha, u_0) / \partial \alpha$ , to zero. Once  $\alpha^*$  is known,  $p^*$  is found by setting (4) to zero and substituting  $\alpha^*$  for  $\alpha$  (in Bertrand equilibria, competitive pressures drive all firms to zero profit, hence the reason for setting (4) to zero). The resulting  $\alpha^*$  and  $p^*$  are given by

$$\alpha^* = \frac{(\gamma S - M)}{(2(1 - \gamma)^2 t)} \quad (5)$$

$$p^* = C - \alpha^{*2}(1 - \gamma)(2 - \gamma)t. \quad (6)$$

To find the resulting utility, one substitutes  $\alpha^*$  and  $p^*$  into (2), yielding

$$u^* = V - C + \alpha^{*2}(1 - \gamma)^2 t. \quad (7)$$

One can easily see from (7) that  $u^* \geq V - C$ ; therefore, utility is higher in the GH bait-and-switch scenario. However, we note that out of stock, as captured by  $\alpha^*$ , and upselling, which is influenced by  $\gamma$ , are both present (and confounded), so it is difficult to assess the underlying cause of this gain in utility.

### 3.4. Using Moorthy's (1993) Theoretical Modeling Framework to Extend GH

The foregoing is sufficient to illustrate that the GH model is internally consistent and that its conclusions are correct given its premises. It also shows why we previously noted that their analysis only addresses the availability aspect of bait and switch, and thus does

not capture many of the fraudulent and deceptive aspects that characterize bait-and-switch cases in law and public policy.<sup>3</sup>

Still, their conclusion that "lack of availability" increases consumer utility remains an intriguing finding. Moreover, as the GH approach is based on "theoretical modeling" techniques, we can use the framework first expounded by Moorthy (1993) to develop a rigorous assessment of the causes of the consumer surplus they discovered. Specifically, Moorthy argues that theoretical models such as GH are "logical experiments" where conditions (different assumptions) represent treatments and findings represent results. Causality may be ascribed if a change in a treatment leads to a change in a result. Thus, theoretical modeling, through manipulating some assumptions and controlling others, leads to a high degree of internal validity and a strong test of causality, similar to lab experiments that manipulate some factors while controlling for others.

This logical experiment approach suggests a means of isolating the cause of the consumer surplus found by GH. Specifically, the GH consumer model embeds two manipulations: i) allowing for upselling and ii) allowing for out of stock. These factors are manipulated simultaneously because the model assumes a consumer always buys the advertised item if it is in stock. By relaxing this assumption, a logical experiment can be designed to manipulate the factors separately to ascertain which one causes the result. In so doing, it is crucial that all other factors be controlled.

Thus, in this paper, we will extend the GH model by designing a full,  $2 \times 2$  factorial model, predicated upon their approach and assumptions but attempting to hold all other aspects constant. Figure 2 presents a

<sup>3</sup>The three examples provided in the GH paper illustrate this point. For two of the three, the GH model does not comport with the text point being made. For example, in the paper's opening illustration of bait and switch (p. 114), according to the formal model, the consumer would not be exposed to selling efforts for any alternatives and would choose to purchase the advertised mattress (even though it had been presented in a deliberately unattractive manner to discourage purchases). Furthermore, in one of the two illustrations of the value of upselling (p. 122), applying the formal model would mean that the author would have been unable to purchase the more appealing VCR with remote control, since the advertised model was apparently in stock and would therefore be purchased without any upselling presentation.

graphical representation of the theoretical model we develop. Its purpose is to allow us to assess *why* the "upselling/out of stock" condition dominated for GH: Is this due to upselling alone, out of stock alone, or both in combination? We next present our logical experiment and its results.

## 4. Disentangling the Effects of Upselling and Out of Stock

### 4.1. The Refined Consumer Model

To disentangle the effect of upselling from the effect of out of stock, we take two steps. First, we constrain out of stock to zero and assess the impact on consumer welfare and store profits. Second, we allow upselling to all customers who visit the store in response to an ad. These steps in effect allow us to investigate cell 3 in Figure 2B. Equation (1) therefore becomes

$$u = u(p, \gamma) = (1 - \gamma)(V - p) + \gamma(V + S - p_s). \quad (8)$$

The  $\alpha$  terms drop from the equation as there are no out of stocks. We then assume that a store will charge a price on the substitute brand,  $p_s$ , such that the consumers influenced by the in-store sales promotion will have their value of the substitute brand approach the value for the featured brand, that is

$$V + S - p_s = V - p. \quad (9)$$

The right side of the expression no longer contains the term  $-D$ , as rain checks are not needed due to stock availability. Using (9), (8) reduces to  $u(p, \gamma) = V - p$ .

### 4.2. The Refined Store Competition Model

Here we proceed with the same logic as in GH, albeit using our new conditions. Since there now exists no out of stock, store profits are given by

$$\pi(p) = (1 - \gamma)x(p - c - M) + \gamma x(p_s - C - M) - F. \quad (10)$$

The first term represents profits from those who purchase the advertised feature; the second term represents the profits arising from consumers who buy the upsold model. The expression for profit is essentially identical to the bracketed term in (3). We assume  $c =$

**Figure 2 The Theoretical Model**

2A. The GH Model

	Upselling	No Upselling
Out of Stock	X	
No Stockouts		X

The GH (1990) model creates a two-cell comparison in which out of stock is paired with upselling and compared against in stock, no upselling. The out of stock, upselling condition provides the greater consumer utility.

2B. Full Factorial Design

	Upselling	No Upselling
Out of Stock	X <span style="float: right;">1</span>	X <span style="float: right;">2</span>
No Stockouts	X <span style="float: right;">3</span>	X <span style="float: right;">4</span>

The full factorial super model (Moorthy 1993) enables comparisons of two additional cells. Of primary interest is cell 3, in which upselling occurs even when the featured product is in stock and available for purchase.

C as in GH. Using (9) to solve for  $p_s(p)$ , combining with (10), and simplifying yields

$$\pi(p) = x(p - C + \gamma S - M). \quad (11)$$

To find the optimal price,  $p^*$ , we again solve for the price that yields zero economic profits,

$$p^* = C - (\gamma S - M). \quad (12)$$

Here we find, as did GH, that the price of the advertised feature is below its costs. The subsidy  $(\gamma S - M)$  is due to the value added from upselling. Substituting (12) and (9) into (8) yields  $u^*$ ,

$$u^* = (V - C) + (\gamma S - M). \quad (13)$$

In Appendix 1, we show that utility in this scenario is higher than the utility with stock outs. In fact, the increase in utility to consumers is given by

$$\Delta u = (\gamma S - M)(1 - \alpha/2). \quad (14)$$

As  $\gamma S - M > 0$  and  $1 - (\alpha/2) > 0$ ,  $\Delta u$  is  $> 0$ . Thus, utility to consumers is higher in a no out of stock environment if value-added upselling occurs. Under these conditions, a bait-and-switch limitation on out of stocks has a positive impact on consumer utility and no effect on store profits. *Therefore, it is clear that GH's recommendation that the FTC reconsider the legality of bait and switch is predicated upon value that can be added from*

*upselling at the store. Taken by itself, allowing planned shortages (out of stock) results in a net welfare loss. Furthermore, as  $\alpha$  is inversely proportional to the inconvenience cost of rain checks,  $t$ , consumer welfare gains from restricting out of stocks increase as inconvenience costs increase.*

### 4.3. Comparing Solutions

Thus far, we have covered the cases of no out of stock with upselling and out of stock with upselling (cells 3 and 1 in Figure 2B). In cell 4, no out of stocks and no upselling, all brands are sold at cost under the Bertrand equilibrium, and consumer welfare or utility is simply given by  $V - c$ . Finally, in cell 2, given stock outs with no upselling allowed, the consumer receives utility  $u = (1 - \alpha)(V - p) + \alpha(V - p - D)$ . Store profits are given by  $\pi(p, \alpha) = (1 - \alpha)(p - c) + \alpha(p - c) = p - c = \pi(p)$ . Setting profits to zero in a Bertrand solution yields  $p^* = c$ . Solving  $u$  for  $p(\alpha)$  and substituting into  $\pi(p, \alpha)$  yields  $\pi(\alpha) = V - u - c - \alpha D$ , which is maximized at  $\alpha^* = 0$ , or no stock outs (this result suggests that consumers will visit firms that carry products in stock to avoid inconvenience costs). In addition,  $u^* = V - p^* - \alpha^* D = V - c$ .

Figure 3 compares the consumer welfare in all four cells. The store profits in all cases are zero so changes in welfare across conditions are independent of store profits.

**Figure 3** Consumer Utility by Cell

	Upselling	No Upselling
Out of Stock	$V - c + [\alpha^{*2}(1 - \gamma)^2f]$	$V - c - (\alpha^*D)$
No Stock Outs	$V - c + (\gamma S - M)$	$V - c$

Note that the third terms in the upselling column are both positive: this suggests that upselling is the primary factor driving the increase in utility in this model.<sup>4</sup> In fact, cell 3 presents the highest utility of all: it offers no out of stock, but with in-store upselling. Thus, a  $2 \times 2$  full factorial analysis of the bait-and-switch problem extends the findings of GH by distinguishing the relative welfare contributed by the out of stock from that contributed by the upselling activity. Given the GH assumptions and approach, our extension of their model shows a large, positive main effect of upselling on consumer welfare,<sup>5</sup> as well as a positive interaction between upselling and no out of stocks.

## 5. Conclusions and Implications

The *Marketing Science* article by Gerstner and Hess (1990) succeeded in drawing our attention to some interesting issues at the nexus of marketing models, consumer behavior, and public policy. Our contribution in the present paper is twofold. First, in accord with Moorthy's (1993) theoretical modeling approach, we have extended the GH model to uncover the source of their findings. Based on the results of this extended analysis, we would not support their recommendation that the FTC reopen discussion on the legality of bait and switch. Second, we have sought to demonstrate

<sup>4</sup>Strictly speaking, examining the effect of "upselling" alone would require that cell 1, the GH model, allow upselling to all consumers, not just those who find the product out of stock. Otherwise, it is possible that the incremental utility cell 3 provides over cell 1 is due to an increase in the fraction of people that receives upselling rather than an elimination of stock outs. Appendix 2 presents this analysis and shows that we can rule out this competing explanation.

<sup>5</sup>To complete this analysis, we need also to address the possibility that a ban on out of stock might cause retailers to be worse off (have lower profits). If this is the case, they may choose not to upsell and, consequently, consumers will also be worse off. In Appendix 3 we show that it is optimal for retailers to upsell. We thank the area editor for raising this issue.

that marketing science can make a legitimate contribution to understanding how public policy affects both consumers and honest marketers seeking to compete in a fair marketplace. It is our experience that the FTC considers such contributions seriously. It is important that marketing scientists not withdraw from discussions of significant policy issues that can affect millions of marketer/consumer transactions and that represent the character of the marketplace environment within which we want to operate.

In this vein, the paper by GH is a useful application of marketing modeling to marketing issues in public policy. It offers a rich basis for extensions such as ours in future work. With reference to bait and switch specifically, we would suggest that further models need to incorporate explicitly the planned fraud and deceit that characterize many bait-and-switch schemes and that have been the main reason the practice has been so roundly deplored in law and public policy. As steps toward this goal, the explicit inclusion of disparagement of the advertised model would enrich our refinements, as would the explicit consideration of competitive effects and other deceptive "switch" selling tactics. Recent related work on high-pressure selling (e.g., Chu et al. 1995; Wernerfelt 1994) shows promise in this regard. Relatedly, our findings employ the assumption that  $\gamma$  (the proportion of consumers who respond favorably to the promoted item) is equivalent in the "out of stock" and "no out of stock" contexts.<sup>6</sup> However, it can be shown that, if retailer actions (e.g., increased selling pressure on consumers) increase  $\gamma$  in the out of stock case, that no out of stocks will occur

<sup>6</sup>We assume that  $\gamma$  is equivalent in the "no out of stock" and "out of stock" contexts for two reasons. First, the upselling of the promoted brand yields the same information utility regardless of whether the featured model is in stock. As indicated by our automobile example, the percentage of consumers who prefer the color of the optional paint package (after the salesperson shows it to them) should be similar in each context. Second, in equilibrium, retailers raise the price of the substitute brand as much as possible in each context (for example, it is more inconvenient for consumers to buy the featured brand when out of stock, leading the retailers, in those instances, to further raise the price of the substitute brand). Thus, the added consumer surplus provided by the substitute brand over its alternative is zero in both contexts. Thus, consumers will be no more likely to switch when the featured brand is out of stock than when it is in stock.



and consumers will be no better off even when  $\gamma$  differs across the contexts. Moreover, if any disparagement of the featured brand accompanies the greater selling effort, consumers will be strictly worse off in the bait-and-switch condition (proof available from authors). Another extension regards relaxing the assumption that consumers will not shop at other stores when the featured brand is out of stock. We expect that relaxing this assumption would likely result in no out of stocks in equilibrium. Consumers' ease of buying elsewhere is analogous to having a rain check cost of essentially zero. When this happens, the bait retailer cannot raise prices on the substitute brand to take advantage of the consumer costs arising from the difficulties of purchasing an out of stock item. This would eliminate the corresponding subsidy to the featured brand, eliminate out of stocks, and reduce consumer utility to  $V - c$ . Thus, higher store-switching costs may favor bait-and-switch practices. In contrast, upselling will likely still add to consumer utility due to the information utility conveyed by the promotion. Second, the assumption of perfect competition in the Bertrand equilibria belies the reality of bait-and-switch schemes' seizing on marketplace imperfections to extract prices and profits that would not be otherwise available. As such, this is a worthy challenge for future research.

Overall, GH deserve credit for pointing to benefits of upselling and for opening new avenues of investigation into estimating effects of coordinated efforts of advertising, selling, and pricing. Along these lines, we hope to see increased attention from marketing scientists to issues of marketing and public policy. Issues in this sphere are often important and complex and can benefit from the rigor of the marketing scientist's approach, particularly when leavened by interactions with the perspectives of law and behavioral science.<sup>7</sup>

#### Appendix 1

The incremental utility in the no out of stock condition is given by

$$u_{NBS}^* - u_{BS}^* = (V - C) + (\gamma S - M) - [(V - C) + \alpha^2(1 - \gamma)^2t]. \quad (A1)$$

<sup>7</sup>The authors wish to thank Professors Scott Baier, Thomas Cosimano, Joseph Guiltinan, the editor, area editor, and two reviewers for their insights and suggestions. Any remaining errors are the sole responsibility of the authors.

Making use of (5) to substitute for  $\alpha^*$ , simplifying, and then using (5) again to substitute  $\alpha^*$  back into the equation leads to the expression for the incremental utility as  $(\gamma S - M)(1 - (\alpha/2))$ . Recall, by assumption,  $(\gamma S - M) > 0$ . As  $0 \leq \alpha \leq 1$ , the term  $(1 - (\alpha/2))$  is always greater than zero. Hence, the utility gains to consumers arise from prohibiting out of stocks.

#### Appendix 2

If upselling is allowed to all consumers in GH, then the consumer utility function becomes

$$u = (1 - \alpha)[(1 - \gamma)(V - p) + \gamma(V + S - p_{si})] + \alpha [(1 - \gamma)(V - p - D) + \gamma(V + S - p_{so})], \quad (A2)$$

where  $p_{si}$  is the price the retailer charges for the promoted brand if the featured brand is in stock and  $p_{so}$  is the price for the promoted brand if the featured brand is out of stock. We allow two prices because the retailer is able to command more for the promoted brand if the featured brand happens to be out of stock.

The corresponding store profits are given by

$$\pi = (1 - \alpha)[(1 - \gamma)(p - C - M) + \gamma(p_{si} - C - M)] + \alpha [(1 - \gamma)(p - C - M) + \gamma(p_{so} - C - M)]. \quad (A3)$$

Assuming, as before that  $p_{so}$  and  $p_{si}$  are adjusted such that  $V + S - p_{si} = V - p$  and  $V + S - p_{so} = V - p - D$  and making use of the previously outlined procedures to find the optimal stock-out levels, prices, and the corresponding consumer utility, it can be shown that,  $\alpha^* = 0$ ,  $p^* = C - (\gamma S - M)$ , and  $u^* = V - C + (\gamma S - M)$ . Thus, retailers will never intentionally understock (because consumers, knowing  $\alpha$ , will go to other stores where they do not suffer the inconvenience of an out of stock) and the solution degenerates to the no out of stock, upselling condition.

#### Appendix 3

The practice of featuring a model at a low price, then offering to sell other models to those people who respond, clearly can offer added utility for consumers. To the extent that stores choose to upsell is *exogenous*, constraining out of stock to zero adds welfare to consumers. However, if the decision to upsell is *endogenous*, Equations (8) and (10) will change. This can be important, as it is not immediately obvious whether a ban on out of stock might induce resellers not to upsell. If this were the case, consumers would no longer be better off. To assess this decision, another decision variable,  $\delta$ , could be added to the profit equation to represent the percent of customers that a store will upsell to. Equation (10) becomes

$$\pi(p, p_s, \delta) = x(1 - \delta)[(p - c)] + x \delta [(1 - \gamma)(p - c - M) + \gamma(p_s - c - M)] - F. \quad (A4)$$

If  $\delta = 1$ , upselling occurs 100% of the time and (A4) reduces to (10). If  $\delta = 0$ , there is no upselling and the problem reduces to our no-stock-out, no-value-added selling cell. Next, let the consumer utility as a function of upselling be given by

$$u(\delta, p) = (1 - \delta)(V - p) + \delta[(1 - \gamma)(V - p) + \gamma(V + S - p_s)]. \quad (\text{A5})$$

We assume that stores will adjust their price on the substitute brand so that  $V + S - p_s = V - p$ . Using this result, (A5) reduces to

$$u(p) = (V - p), \quad (\text{A6})$$

which is equal to (2). The utility equation is therefore independent of  $\gamma$  and  $\delta$ , suggesting that  $\delta$  can be separately maximized in Profit Equation (A4). Equation (A4) for profits is linear in  $\delta$  (i.e., profits =  $q\delta + r$ ). If the coefficient,  $q$ , of the  $\delta$  term is positive, then  $\delta = 1$  maximizes profits as profits increase linearly with  $\delta$ . Collecting terms in (A4) and making use of the relationship  $V + S - p_s = V - p$  when the featured brand is in stock, we see that the coefficient of the  $\delta$  term is

$$x(\gamma S - M). \quad (\text{A7})$$

As  $x > 0$ , and  $\gamma S - M \geq 0$ , (A7) is greater than zero. Thus,  $\delta^* = 1$  and the profit-maximizing solution is to upsell to all consumers. This result suggests that stores are likely to continue to upsell even when out of stock does not occur, thereby maximizing consumer welfare.

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