

WORKING PAPER

The Simple Economics of "Brand-Stretching"

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I. Introduction

In January of 1999, the *Coca-Cola* Company announced its plan to launch a new product line: fashion and sports apparel carrying the *Coca-Cola* label. In so doing, *Coca-Cola* seemed to be following the lead of many other name brand companies who in recent years have launched and marketed new products under the original brand name. This phenomenon is called “brand-stretching”, a term that refers to the extension of an established brand name, identified with a product in one market, to a new product in another market.¹ Examples include the extension of: 1) the Ralph Lauren *Polo* label from clothing to men’s toiletries and other products; 2) the *Virgin* brand name from airlines to beverages, cinema, and financial products; 3) the *Martha Stewart* label from a magazine title to both linen and paint product lines; and 4) the *Dr. Martens* brand from a well-known UK shoe and boot product to a new record label.

Our paper investigates the phenomenon of brand stretching. We begin by recognizing two interesting aspects of the many examples of brand stretching. The first is that the brand-stretching firm typically enters a market in which there is already some competition, and the second is that this new market venture is, from the perspective of production technology or SIC number, often “far” from the market in which the original brand was developed. Neither aspect fits particularly well with explanations of brand stretching that are based either on scope economies or on brand identity as a signal of quality [e.g., Wernerfelt (1988), Choi (1998) and Cabral (1998)]. It seems doubtful that *Coca-Cola* enjoys significant economies of scope between soft drink and clothing production. Similarly, it also stretches credulity a very good bit to argue that consumers buy *Ralph Lauren* after-shave because that brand name is a guarantor of quality in the after-shave market.

Indeed, the instances of entry *without* brand-stretching are equally revealing on this point. One would have thought, *a priori*, that first among the goods for which a large soft-drink firm would enjoy either scope economies or a concern for quality production would be the breakfast beverage market. Yet, both *Coca-Cola* and *Pepsi* chose to enter this market by purchasing an established brand—*Minute Maid* in the

case of *Coca-Cola* and *Tropicana* in the case of *Pepsi*—rather than “stretch” the name of *Pepsi* or *Coke* to a new product. If scope economies or quality reputation is central force behind brand extension, why should *Coca-Cola* find it optimal to stretch its brand name into the clothing market but not into the breakfast beverage one?

In our view, the anecdotes above and others strongly suggest that entry by brand extension reflects something other, and perhaps something much simpler, than the forces of scope economies and quality reputation reflected in previous literature. Specifically, we suspect that the attraction to consumers of branded goods lies in the complementary effect of a brand name—an effect similar to the one posited by Becker and Murphy (1993) for the case of advertising. They argue that the reason that advertising can positively affect a consumer’s utility and willingness to pay for a good is because consumers get greater utility or enjoyment from consuming a product that is well-known to others. Similarly, we argue that brand-stretching also works because consumers get extra utility from buying a product with a brand that is well-established and well known, even if the brand was established in a different product market. Rough evidence in support of this view is cited by Smith and Park (1990). They find that firms using brand extension spend less on advertising than do firms launching unbranded new products for the same level of sales. In other words, brand identity is a substitute for advertising and therefore should work in much the same manner as promotional efforts.

A central advantage of our approach to brand stretching is that it permits us to view this phenomenon as one manifestation of the process of entry, an issue of relevance to all industrial organization analyses. In particular, our analysis leads us to ask the question: which markets will be targeted for entry by brand-stretchers? Indeed, this focus on entry in which we view brand stretching as fundamentally an effort to exploit the advantages of market identity has a further benefit. The plain fact is that virtually every example of brand stretching of which we are aware involves entry by an established brand into a new market with *existing* incumbents.² Yet the existing literature, as reflected in the papers of Wernerfelt (1988), Choi (1988), Cabral (1998) and Tadellis (1998), are all cast in a monopoly setting in which the intensity of price competition is *not* part of the brand stretching story.³ Our approach is not vulnerable to

this criticism. Quite to the contrary, because we want to investigate how brand identity enhances an entrant's ability to compete against rivals we explicitly focus on the nature of competition in the market entered by the brand-stretching firm. As noted, this permits us to say something interesting about the process of entry. Specifically, we are able to examine the extent to which having the asset of a recognized brand in one market permits a firm to enter successfully a second market and what sort of second market is most profitable to enter.

II. The Model

Our framework is quite simple. We assume a firm—a potential brand-stretcher—that has a known brand of a good in some market. The share of this brand in its home or base market is denoted by S_E . Because of this market share, the firm's brand name has an identity—a proprietary name that could potentially enhance the firm's competitive position in a second or target market into which it is considering entry. The target market has N identical firms who compete in prices for consumers. The incumbent firms market identical products and have the same costs. Moreover we assume that the incumbent firms as well as the entrant firm have constant unit production costs, which we set equal to zero. The entrant, however, incurs a one-time entry fee of K .

We model consumer behavior in the target market in the following manner. We assume that consumers buy at most one product per period, and that consumer willingness to pay for each of the incumbent firm's product can be ranked vertically by an index q . We further assume that the parameter q is distributed continuously and uniformly between 0 and 1. Because consumers value recognition they are willing to pay more for a product that is recognized by others. A natural way to measure this brand recognition factor is by the market share of the brand-name product in the home or base market. That is, we assume that the brand-stretcher's recognition in the target market is related to its brand's market share in its home market. All else equal, the larger is that share the more identified is the firm's brand.

Specifically, in the absence of any entry into the target market, the market share of each incumbent firm is $1/N$. Consumer willingness to pay for the entrant's product is assumed to be positively related to the *difference* between the entrant's market share in its base market and $1/N$. This is a means of insuring that brand recognition can accrue to both the would-be entrant and the incumbent firms *and* that such an identity must ultimately come from having a visible presence in the market. Formally, we assume that:

$$\text{Willingness to Pay for Entrant's Product} = \mathbf{q} + \left(\mathbf{a}S_E - \frac{1}{N} \right) \mathbf{q} ; \text{ where } 0 < \mathbf{a} < 1 \quad (1)$$

The parameter \mathbf{a} is a measure of “carry-over” strength normalized between 0 and 1. The closer α is to unity, the more fully the entrant's home market identity transfers to the target market. The size of α could be related to some measure of the commonality between the home and target markets, for example, the degree to which they share common consumers. Or, it could be related to some measure of “closeness”, in terms of fashion, between the home and target market. In the case of Coca-Cola, for example, one might regard clothing as “closer” to the home or soft-drink market than, say, power tools are. If so, the \mathbf{a} term would be larger when Coca-Cola compares entry into clothing with entry into power tool production. Alternatively, \mathbf{a} may be related to the actual size of the home market. Thus, one might expect the same market share to have more carry-over power the larger is the base market. Rather than specify the precise functional determinants of \mathbf{a} , we simply wish to make clear its interpretation as a measure of just how effectively the home market identity of the potential brand-stretcher carries over into another market. Relating the willingness-to-pay for the entrant's new product to the *difference* between $\mathbf{a}S_E$ and $1/N$ means that consumers are only willing to pay more for the brand-stretchers product only if it is more recognized than an incumbent firm's product.

Another aspect of equation (1) is that the value of brand recognition is proportionally greater for those consumers with the greatest willingness to pay. For example, those consumers with a low willingness-to-pay for the product of an incumbent—those with low \mathbf{q} values—will have their valuation of the entrant's product very little altered by its brand. Indeed, those who have a zero willingness-to-pay for an

incumbent's product also have a zero willingness to pay for the product of the brand-stretching entrant. However, as the willingness-to-pay for an incumbent's product rises, so does the impact of the entrant's brand identity. It is the high q customers who place the greatest weight on consuming known brands. If q is taken as an index of wealth, this might be interpreted as meaning that it is the wealthier consumers who put a greater weight on purchasing trendy brands and designer labels.

Concentration, as measured by $1/N$, in the target market affects the value of the brand. To see this compare the following two polar cases: a highly competitive target market and one that is a monopoly. In a highly competitive target market, zero is a close approximation of an incumbent's market share $1/N$. In this case, the brand-stretching firm's product will enter with a strong advantage relative to the incumbent firms. Any consumer q_i who is willing to pay q_i for existing products will be willing to pay $(1 + aS_E)q_i$ for the new product offered by the brand stretcher. Consumers obtain greater utility from an identified brand than from any of the many existing perfect substitutes. On the other hand, if the target market is monopolized and $N = 1$, then the entrant will typically enter at a disadvantage in terms of consumer willingness-to-pay. Any consumer q_i who is willing to pay q_i for the incumbent monopolist's product will be willing to pay only $aS_E q_i$ for the brand-stretching entrant's product.

The incumbent firms and the entrant brand stretcher compete in prices for consumers in the target market. If there are two or more identical incumbent firms then price competition among them for consumers will lead them to set price equal to zero (marginal cost). If, on the other hand, there is a monopoly in the target market then there is price competition only between the incumbent and the entrant, each of whom market a differentiated product. We analyze each case separately.

IIA: The Target Market with $N \geq 2$ Incumbent Firms

A consumer who is willing to pay q for a good marketed by any of the incumbent firms is willing to pay

$\left(1 + aS_E - \frac{1}{N}\right)q$ for the brand-stretching entrant's product. As noted before, price competition among

the incumbent firms, who market goods that consumers view as perfect substitutes, leads these firms to set a price P_I equal to zero. Therefore a necessary condition for the brand stretcher to enter the target

market is that $\mathbf{a}S_E - \frac{1}{N} > 0$, otherwise no consumer will buy the branded product at a positive price.

Suppose then that $\mathbf{a}S_E - \frac{1}{N} > 0$. Denote by P_E the price set by the brand stretcher in the target market.

A consumer \mathbf{q} will buy the brand name product at price P_E when $\left(1 + \mathbf{a}S_E - \frac{1}{N}\right)\mathbf{q} - P_E \geq \mathbf{q}$. The

marginal consumer, who is indifferent between buying the brand name good at price P_E or one of the perfect substitutable goods of an incumbent firm at a price equal to zero is defined by:

$$\hat{\mathbf{q}} = \frac{P_E}{\mathbf{a}S_E - \frac{1}{N}} \quad (2)$$

Demand for the entrant's name brand product q_E^d is then:

$$q_E^d = \int_{\hat{\mathbf{q}}}^1 d\mathbf{q} = 1 - \frac{P_E}{\mathbf{a}S_E - \frac{1}{N}} \quad (3)$$

In turn, this yields the profit-maximizing price, P_E^* for the entrant to set in response to the price competition from incumbents:

$$P_E^* = \frac{\mathbf{a}S_E - \frac{1}{N}}{2} \quad (4)$$

which yields the resultant profit:

$$P_E = \frac{\mathbf{a}S_E - \frac{1}{N}}{4} - K \quad (5)$$

The entrant's profit is increasing in both $\mathbf{a}S_E$ and N . The larger the entrant's home market share S_E , the greater is its brand's recognition, and as a result, the more profitable is brand stretching. Moreover the

less concentrated or more competitive is the industry, or the larger is N , the more profitable is brand stretching. A brand-stretching firm with strong brand recognition will find entry into relatively competitive industries more profitable, notwithstanding the zero profit being earned by incumbent firms.

IIB: The Target Market is a Monopoly or $N = 1$

When the target market is monopolized, the brand-stretching entrant will enter at a disadvantage in terms of consumers' willingness-to-pay. Now equation (1) implies that the consumer who is willing to pay \mathbf{q} for a good marketed by the incumbent monopolist in the market is willing to pay only $\mathbf{aS}_E\mathbf{q}$ for the brand-stretching entrant's new product. Denote by P_I and P_E , the incumbent firm's post entry price and the entrant's price, respectively. For $P_I > P_E$ the marginal consumer $\hat{\mathbf{q}}$ who is just indifferent between buying the monopoly incumbent's product at price P_I and the entrant's product at price P_E is:

$$\hat{\mathbf{q}} = \frac{P_I - P_E}{1 - \mathbf{aS}_E} \quad (5)$$

Hence, for $P_I > P_E$, all consumers with $\mathbf{q} \geq \hat{\mathbf{q}}$ continue to buy the incumbent firm's product, and demand for the incumbent, q_I^d is:

$$q_I^d = \int_{\hat{\mathbf{q}}}^1 d\mathbf{q} = 1 - \frac{P_I - P_E}{1 - \mathbf{aS}_E} \quad (6)$$

Define \mathbf{q}_0 to be the consumer who is just indifferent between buying and not buying the entrant's new product at price P_E . Therefore, it follows that $\mathbf{q}_0 = \frac{P_E}{\mathbf{aS}_E}$, and the demand for the brand-stretching entrant, q_E^d is:

$$q_E^d = \int_{\mathbf{q}_0}^{\hat{\mathbf{q}}} d\mathbf{q} = \frac{P_I - P_E}{1 - \mathbf{aS}_E} - \frac{P_E}{\mathbf{aS}_E} \quad (7)$$

For the case $P_I > P_E$ it is straightforward to show that the best response price functions for the incumbent and the entrant are

$$P_I^* = \frac{1 - \mathbf{aS}_E + P_E}{2}$$

(8)

$$P_E^* = \frac{aS_E P_I}{2}$$

It remains to consider whether or not the case $P_I \leq P_E$ is a possible equilibrium outcome. Note that if the condition $P_I \leq P_E$ holds then the entrant sells to *no* consumers. This is because the incumbent's product is better known than the entrant's and so is more highly valued by consumers. In such a case, the entrant will always find it in its own interest to set a price P_E below P_I . Alternatively, the incumbent never has to lower its price below the entrant's in order to attract a marginal customer. To do so would simply throw away profit.

Since we can rule out the possibility that $P_I \leq P_E$, the Nash equilibrium prices are determined by the equations in (8), and we have:

$$P_I^* = \left[\frac{1 - aS_E}{2 - (aS_E/2)} \right] \text{ and } P_E^* = \frac{aS_E(1 - aS)}{4 - aS} \quad (9)$$

Note that the incumbent will never set a price greater than $P_I = 1/2$. That is the pre-entry monopoly price and entry by the brand-stretcher can only serve to lower that price

In equilibrium, the brand-stretching entrant will earn a profit of:

$$P_E = P_E q_E^d = \left[\frac{aS_E(1 - aS_E)}{4 - aS_E} \right] \left[\frac{\frac{1 - aS_E}{2 - (aS_E/2)} - \frac{aS_E(1 - aS_E)}{4 - aS_E}}{1 - aS_E} - \frac{aS_E(1 - aS_E)}{4 - aS_E} \right] - K \quad (10)$$

which simplifies to:

$$P_E = \frac{aS_E(1 - aS_E)}{4 - aS_E} - K \quad (11)$$

III.C. Competition versus Monopoly

Comparison of equations (5) and (11) allows us to see under what conditions a brand stretching entrant prefers to enter a market in which there is competition, i.e. $N \geq 2$ firms, rather than a monopolized market

with one incumbent. Specifically, we find that if that if the entrant firm's brand recognition in the target market, as measured by $\mathbf{a}S_E$, is greater than $\hat{\mathbf{a}}\hat{S}_E(N)$, where $\hat{\mathbf{a}}\hat{S}_E(N) = \frac{\sqrt{(1+48N)} - 1}{6N}$ then it is more profitable to enter the target market with competition rather than to invade a monopoly. Observe as well that if $\mathbf{a},S_E > \hat{\mathbf{a}}\hat{S}_E(N)$, then the necessary condition for entry into the target market with competition, $\mathbf{a}S_E > \frac{1}{N}$, is also satisfied.

Table 1 shows for each value of N , the critical brand recognition factor $\hat{\mathbf{a}}\hat{S}_E(N)$ at which point the brand-stretching entrant will prefer to enter the market with N incumbents rather than a monopoly. Note that this critical value is a decreasing function of N . For a given $\mathbf{a}S_E$, the potential entrant will find that markets that are less concentrated are both easier and more profitable to enter.⁴

The third column of Table 1 measures the attractiveness of brand-stretching entry into a competitive market in a slightly different and perhaps more useful fashion from the standpoint of management. Here, we show the extent to which the brand stretcher's identity must increase consumer willingness to pay for a brand name product in a target market with N incumbents in order for entry to be more profitable in that market than entry against a monopolist. This minimum percentage increase in willingness to pay is given by $\hat{\mathbf{a}}\hat{S}_E(N) - \frac{1}{N}$. Therefore if the brand stretcher's image is sufficiently strong that it can increase consumer willingness to pay by more than this percentage, entry into a target market with N competitors is more profitable than entry against an incumbent monopoly.

TABLE 1

Brand-Identity Requirements for Profitable Entry Into an
 N -Firm Market Rather than Into a Monopolized One

N	$\hat{a}S_E(N)$	$\hat{a}S_E(N) - \frac{1}{N}$
2	0.74	24%
3	0.61	28%
4	0.54	29%
5	0.48	28%
6	0.44	28%
7	0.41	27%
8	0.39	26%
9	0.37	25%
10	0.35	25%
15	0.29	22%
20	0.25	20%
30	0.21	17%
40	0.18	15%
50	0.16	14%
100	0.11	10%

The results displayed in Table 1 are quite consistent with the empirical literature [see Caves (1998)] that entry rates increase as concentration declines, even if they conflict with the standard textbook analysis that monopoly and the associated monopoly profit is what attracts entry. Here, increasing concentration typically makes an industry a less tempting target because of the stronger brand identities that larger market shares confer on the incumbent firms. That is, only entrants with very strong brand images in their home market, i.e., high values of aS_E , can hope to penetrate profitably a highly concentrated industry. Of course, the parameter a is likely to vary across industries so the calculation of where brand stretching is most profitable will depend upon both the extent to which recognition carries over and the concentration of the target market.

The central implication of our analysis though, which Table 1 documents, is clear. Firms with a given degree of brand identity as measured by $\mathbf{a}S_E$ will tend to seek out unconcentrated markets as the locus of their brand-stretching entry. To put it somewhat differently, firms with a low value of $\mathbf{a}S_E$ will tend to enter concentrated markets by some means other than marketing a new product under their known brand name. Here, the entry of Coca-Cola and Pepsi into the breakfast beverage market may again be instructive. Although both firms have strong brand names, entry into that market via the Coke or Pepsi label, recognizable as they are, might still not have been enough to overcome the established identities of Minute Maid and Tropicana, especially in light of the price competition between those two firms. Hence, in this market, entry occurred via acquisition of existing brands rather than by means of brand extension. It is also important to note that, unlike entry into target market with competition, the profitability of entry into a monopolized one is *not* monotonic in $\mathbf{a}S_E$. The profit expression in equation (11) is maximized at around a value of $\mathbf{a}S_E = 0.57$. Beyond this point, a stronger market identity that carries over more fully into the target market that is monopolized actually hurts the entrant firm. The subtlety of this result is worth comment. Consider two firms, one with a brand identity factor $\mathbf{a}S_E = 0.8$ and one with a brand identity factor $\mathbf{a}S_E = 0.6$. As Table 1 makes clear, the first of these firms will find it more profitable to enter via brand-stretching into a duopoly rather than take on a monopoly but the second will not. Indeed, the second firm with a weaker market image will find it easier to take on the monopolist than the first (which is not to say that such entry will necessarily be profitable). The intuition behind this result is equally clear. As $\mathbf{a}S_E$ rises above 0.57, the brand-stretching entrant offers a product that, in the eyes of consumers, more closely substitutes with the incumbent's well-established brand. In turn, this intensifies the price competition in the target market and thereby lowers the entrant's profit.

The practical implications of the foregoing result are equally clear. First, to the extent that firms with a powerful brand image are forced to choose from a set of target markets each of which is dominated by a single, powerful incumbent, they will tend to choose to enter those markets in which their brand image does not carry over so completely. That is, they will choose to enter markets that in the metric of product

space are somewhat distant from the entrant's base market, i.e., ones in which a is low, so that the post-entry price game will not be so mutually destructive. The second and related point is that firms with fairly weak product identities or a low value of aS_E may be those most likely to stretch their brand into a monopolized market. Such firms must enter by charging a low price to gain any customers at all. Yet it is precisely the low aS_E values of these firms that means their products and low prices impose little pressure on the incumbent. Thus, we may observe strong brands being extended into fairly competitive industries while it is the small, weakly identified brands that actually enter monopolized markets.

The foregoing results differs markedly from models that focus on brand extension as an indication of quality or the exploitation of core competencies such as Sappington and Wernerfelt (1985) and Cabral (1998). In those models, there is a strong incentive for firms to stretch the initial brand to new products that are "close" to the original one, e.g., from *Crest* toothpaste to *Crest* mouthwash. We do not wish to deny that core competencies and quality issues are important elements in the general phenomenon of brand extension. Yet as we have argued above, there are numerous examples of brand-stretching which suggest that much of this phenomenon is hard to understand in terms of quality assurance or scope economies alone. In its purest form, brand-stretching seems to be about the market exploitation of a successful label in competition against firms beyond those in the original market. Viewed in this light, the issue becomes how the locus of such exploitation is related to the nature of the competition in the target market.

Concluding Remarks

"Brand-stretching"—the attachment of a specific label successful in one market to a new product line offered by the firm in its effort to enter a different market—has been a visible phenomenon in recent years. It is becoming an increasingly important phenomenon as the market place becomes more global and firms enter new markets in different countries. As such, brand stretching is an important manifestation of the more general phenomenon of entry, and it is important to consider what aspects of market structure make such entry profitable.

Recent studies of the brand-stretching phenomenon omit much of the important part of the story in that they focus on multi-period monopoly models in which the entrant does not have to worry about pre-existing competitors, and in which the brand label serves as quality indicator. By contrast, our view is that any analysis of entry by brand extension must focus explicitly on price competition in the post-entry market and how the entrant's brand-stretching enhances its ability to face such competition. In addition, we argue that many if not most of the observed cases of brand extension are difficult to understand as quality assurances and are more likely to reflect efforts to exploit the "crowd appeal" effect emphasized by Becker and Murphy (1993) in their analysis of advertising. In this view, the attraction of designer labels such as *Martha Stewart* linens or *Harley Davidson* aftershave is essentially the fact that consumers like to use products whose brand name is recognized by other consumers.

Our model examines brand stretching in a simple model. The model indicates that brand-stretching will generally be more profitable the less concentrated is the market targeted for entry and more profitable the stronger the entrant's brand identity in its home or base market. To some extent, having a solid brand identity also facilitates entry against an incumbent monopolist. In this case, however, there can be "too much of a good thing." If the entrant's brand image is very strong, its product becomes a close substitute for the incumbent's brand, thereby intensifying the post-entry price competition and lowering the profit for both firms. Indeed, small no-name entrants may find it more profitable to take on an incumbent monopoly than would a well-established brand. Together, these results may explain the tendency for "brand-stretching" firms to pursue markets that are either competitive with many pre-existing brands, e.g., toiletries, or that are in some sense "far" from the firm's base market into which the firm's strong home market identity in its home market does not carry over. The findings may also explain the observed longevity of dominant firms. Such firms have so clear a brand identity that potential entrants, *even* those with a similarly strong image in their home markets will prefer to enter industries with a much more competitive structure. Paradoxically, only firms with a weak brand image may find it profitable to enter a market dominated by a single incumbent.

Notes

1. See, for example, “Coke Clothers To Be the Next Real Thing: To Be Unfolded Worldwide.” *The National Post*, January 21, 1999, p. C12.
2. In Cabral’s (1998) model, for instance, consumers pay their full reservation price, i.e., all surplus goes to the monopolist. Thus, the equilibrium in that model is such that the entire market would move to any rival offering to sell for just one penny less than the price charged by the one firm assumed by the model. The absence of price competition in such a model seems to be a serious omission.
3. Examples include *Canon’s* entry into the office copier market, *Harley Davidson’s* marketing of an aftershave, and *Cadbury’s* entry into the cream liqueur market. See “These Boots Are Made for your CD Player.” *The Independent*, March 2, 1997, p. 9.
4. Low concentration may need to be interpreted here as the presence of many existing brands even if many of those brands are ultimately owned by a common firm. The cosmetics and fashion apparel industry, for example, have many brands but a number of these are owned by the same firm. Thus, although *Nine West* shoes also markets *Enzo Angiolini*, *Easy Spirit*, *Evan Picone*, *Calvin Klein*, and *Pappagallo* shoes, most consumers apparently view these as competing brands. [See M. Petersen, “Shoe Store Owners Battle Nine West Over Pricing System”, *New York Times*, January 13, 1999, p. C1.

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