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There Is Nothing More Practical than the Practice of Theory: What Practitioners Think about Theoretical Results on National Brand-Store Brand Competition

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ABSTRACT

Private labels or store brands have witnessed significant growth in grocery products over the last two decades. As a result of this increased penetration, private labels is a topic of growing importance to retailers, who own the store brands, and to national brand manufacturers, who compete with the store brands. Academic researchers have also taken considerable interest in developing theories and results related to national brand – store brand competition. This research has three objectives: (i) to compile analytical results on national brand and store brand marketing obtained from mathematical models; (ii) to assess the credibility and usefulness of these results from the managers' perspective; and (iii) to identify avenues for further research on national brand - store brand competition.

A total of 44 analytical results (29 related to retailer strategies and 15 related to manufacturer strategies) were compiled from a survey of literature published between 1966 and 2006. Their credibility and usefulness are assessed from a survey of 65 experienced executives. These ratings are discussed and future research directions are identified. Thus, this research serves in part as a bridge between scholars and practitioners in the context of national brand and store brand marketing.

INTRODUCTION

Private labels or store brands are brands owned and marketed by the retailers. "Store brands now account for one of every five items sold in U.S. supermarkets, drug chains, and mass merchandisers. They represent more than $65 billion in current business at retail and are achieving new levels of growth every year." (http://plma.com/storeBrands/sbt07.html). Unit volume market share of store brands is projected to grow from 20% in 2000 to 27% by 2010 in the United States, and from 20% to 30% over the same period in Western Europe (http://www.planetretail.net). Private labels are also beginning to take root in developing economies such as Asia and South America (Tarnowski 2005). As a result of this increased penetration, the marketing of private labels is a topic of growing importance to retailers, who own the store brands, and to national brand manufacturers, who compete with the store brands.

There has been a significant growth in academic research on private labels, consistent with the increased managerial interest. Beginning in the 1960s, survey-based research focused on identifying the characteristics of store brand consumers. In the 1980s, research focus shifted to estimating the effect of marketing actions on national brand and private label sales using scanner data. Concurrently, numerous research studies employed mathematical models to specify equilibrium national brand and store brand strategies when these brands compete with each other.

This manuscript focuses on the third research stream – mathematical models of national brand-store brand competition. While the other two research streams are important, a unique feature of mathematical models is that, in general, they *theoretically* derive optimal marketing strategies for national brands and store brands that would enable retailers and manufacturers to achieve certain objectives such as profit maximization.

These theories address a number of important questions including:

1. *What market factors are conducive for private label growth?*
2. *How should retailers market their private labels?*
3. *What counterstrategies are effective for competing national brand manufacturers?*

However, it is my belief that the implications of these theories have not been translated adequately into managerial practice. There may be several reasons for this disconnect between theoretical results proposed by academics and their real-world application by managers:

1. Managers may not be aware of the theoretical results that academics have proposed.

2. Even if managers are made aware of the analytical results, they may not believe that the results are valid in the real world.

3. Even if the results are credible, managers may not find the results useful for national brand or private label marketing.

This project is motivated by the above three potential reasons that may impede the practice of theory. The first objective is to review the literature and compile the theoretical results from analytical models on national brand – store brand competition and translate them into managerial language. Because this would be the first review of the relevant literature, this compilation by itself would increase awareness and be useful to both managers and academic researchers. The second objective is to assess the credibility and usefulness of the proposed theoretical results from the manager's perspective. If the results are perceived to be credible and useful, then academics can be pleased that their theoretical work can be translated into managerial practice. However, if the results are not credible or useful, it would suggest that academics should either refine their modeling work or address issues that are more useful for managers. Thus, a third objective of the research is to ascertain future research directions based on the feedback received from practitioners.

In summary, the manuscript has three objectives: (i) to compile analytical results on national brand and store brand marketing obtained from mathematical models; (ii) to assess the credibility and usefulness of those results from the manager's perspective; and (iii) to identify avenues for further research on national brand - store brand competition. The remainder of this manuscript is organized as follows: First, we compile and present the analytical results. Next, we assess the credibility and usefulness of the results. Then, we discuss the results and identify directions for future research. We conclude by summarizing the key results and future research.

COMPILATION OF THEORETICAL RESULTS

We selected published articles that satisfied the following criteria: (i) incorporated the competition between national brand and store brand directly or indirectly; (ii) provided results or insights related to national brand and/or store brand marketing; (iii) arrived at those results or insights using mathematical analysis and related arguments; and (iv) were published between 1966 and May 2006. (This review was conducted in Summer 2006.) We identified relevant literature through a combination of online searches (e.g., Web of Science) and manual searches. There are 22 published journal articles that satisfy the above four criteria.[1]

From the 22 studies, we ascertained or inferred the analytical result(s) or insights produced by the research. These analytical results were primarily derived from game-theoretic models of national brand - store brand competition. The results generally specified the relationship $(x \rightarrow e)$ between an exogenous or independent variable (x) and an endogenous or dependent variable (e). Hence, for each analytical result, we attempted to identify the underlying exogenous variable (x), the endogenous variable (e), and the conditions under which the result $(x \rightarrow e)$ is stated to hold. Where the exogenous or endogenous variables were not clearly identified by the authors, we made our best inference. Those studies with common exogenous and endogenous variables were grouped together. Where the analysis showed that the results could go either way (+ and -), both results were stated as alternate views. Table 1 lists the 29 analytical results related to retailer strategies/store brand marketing. Table 2 lists the 15 results related to manufacturer strategies/national brand marketing.

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[1] The studies are: Abe (1995); Bontems, Dilhan, and Requillart (1999); Choi and Coughlan (2006); Connor and Peterson (1992); Corstjens and Lal (2000); Horowitz (2000); Lal (1990); Mills (1995); Mills (1999); Narasimhan (1988); Narasimhan and Wilcox (1998); Peles (1972); Raju, Srinivasan, and Lal (1990); Raju, Sethuraman, and Dhar (1995a); Raju, Sethuraman, and Dhar (1995b); Rao (1991); Sayman, Hoch, and Raju (2002); Sayman and. Raju (2004); Schmalensee (1978); Scott-Morton and Zettelmeyer (2004); Soberman and Parker (2004); Wu and Wang (2005)

We also obtained an explanation for each result, as provided by the authors, if available. Where a clear explanation was not provided by the authors, we inferred such explanation from their discussion, or used our judgment. The details of the results and their explanations, written in non-mathematical language, are provided in the appendix (Tables A1 and A2).

ASSESSING THE CREDIBILITY AND USEFULNESS OF THE RESULTS

We assessed the credibility and usefulness of each result by surveying relevant practitioners. We first stated each result and its explanation (as given in Tables A1 and A2) and then asked the respondents to rate the credibility and usefulness of the result on a 10-point scale.

Question for measuring credibility:

Based on the explanations provided or otherwise, please rate the credibility of the result, i.e., the likelihood that the result holds in grocery product markets. (1 = Not at all credible; 10 = Very credible)

Not at all Credible   1   2   3   4   5   6   7   8   9   10   Very Credible

Question for measuring usefulness:

Based on the explanations provided or otherwise, please rate the usefulness of the result for private label marketers in grocery products (1 = Not at all useful; 10 = Very useful)

Not at all Useful   1   2   3   4   5   6   7   8   9   10   Very Useful

Finally, we asked for comments (open-ended response) on each result and also prompted the respondents to offer directions for future research.

The 29 analytical results related to the retailer (R1-R29) were divided into two sets of 15 and 14 questions in order to reduce the respondent burden. Thus, we employed three questionnaires -- two for retailers and one for national brand managers. The surveys were pre-tested, refined, and administered online through Surveymonkey (www.surveymonkey.com). The survey instruments are available on request from the authors.

Our desired respondents were those involved in store brand marketing/merchandising (for the retailer results) and national brand marketing (for the manufacturer results). Links to the surveys were e-mailed to a sample of 350 retail executives, national brand managers, and grocery consultants based on lists obtained from *Chain Store Guide*, *The List, Inc.*, and informal contacts. Completed responses were received from 65 executives. The two retailer questionnaires were each completed by 21 executives, while the manufacturer questionnaire was completed by 23 national brand managers. Tables 1 and 2 present the median and mean credibility (C) scores and usefulness (U) scores for the retailer results and the manufacturer results, respectively. We now discuss the results.

DISCUSSION OF RESULTS – RETAILER STRATEGIES

Table 1 presents the credibility and usefulness ratings for the retailer results R1-R29. In general, there is a high positive correlation (0.66) between credibility score and usefulness score – results that were deemed credible were also deemed useful. This occurrence is not surprising – managers do not find a result to be useful if they do not believe in it. For our analysis, if the score is greater than 7/10, we deem the corresponding result as credible or useful. Twenty-four of the 29 results were deemed useful and/or credible suggesting the value of theoretical work for retailers. We now discuss the insights, intuition, and credibility/usefulness of some key retailer results.

Factors Influencing Store Brand Introduction

Analytical modelers have studied eight market characteristics that can potentially influence store brand introduction: (i) price substitutability between national brands and store brands; (ii) price substitutability among national brands; (iii) store brand quality; (iv) number of national brands; (v) category volume; (vi) category margin, (vii) economies of scale; and (viii) preference heterogeneity. Results related to some key characteristics are discussed below.

Is price substitutability good or bad for store brand introduction? A major selling point for a store brand is its lower prices relative to national brands. Therefore, it would seem obvious that a market with high price substitutability, where consumers have high propensity to switch brands

on the basis of price, should favor store brand introduction. Analytical results offer insights and refine this common belief in many ways.

First, a market with high price substitutability between national brands and store brands is conducive for increasing private label *market share*, as more consumers would switch from national brand to store brand for a given price differential. But, is it *profitable* for the retailer to introduce a store brand in that market? It seems likely, but not obvious. Researchers have shown that higher price substitutability between national brand and store brand increases the likelihood of store brand introduction by increasing the retailer's category profits (Result R1).

There are two explanations for this result. One rationale, offered by Raju et al (1995a) and related studies, points to the high margins obtained from store brands. In their model, in equilibrium, the retail margin on the store brand is greater than the corresponding margin on the national brand. High price substitutability between national brand and store brand increases the quantity of private labels sold. Therefore, switching consumers to higher margin private labels increases retailer profits.

A second explanation, forwarded by Mills (1995) and Scott-Morton and Zettelmeyer (2004), states that high price substitutability makes national brands less indispensable, i.e., reduces the incremental contribution of national brand to channel profits, thus eroding manufacturers' bargaining power. Hence, retailers are able to extract higher profits and share of channel profit if there is a store brand that resembles the national brand. Multiple explanations suggest different paths leading from the exogenous variable (x) to the endogenous variable (e), thus enhancing the credibility of the result. While managers generally believed that result R1 is credible and useful, their comments did not reveal the supremacy of one explanation over the other. They opined that the answer may depend on the nature of the product category and the positioning of the national brands.

Researchers also note that there is one other type of price substitutability that must be considered when introducing a private label, and the effect of that measure runs in the opposite direction. In particular, Result R3 states that a high level of price substitutability (price competition)

among national brands should deter store brand entry. When price competition among national brands is high, the average national brand retail price decreases. The decreased national brand price, in turn, depresses the price and retail margins for the store brand, resulting in lower category profits for the retailer. For example, if Coke and Pepsi compete with each other aggressively on price, there may be little room for a store brand to enter the market and be profitable. Managers generally agreed with the result. One manager offered a counter-view that intense competition will weaken the national brands and so make it easy for the store brand to succeed.

We believe Result R3 is not so obvious and has important implications for retailers because it draws attention to both the price competition between national brand and store brand *and* the price competition among national brands. The two types of price competition have opposing effects on profitability from store brand introduction.

How important is store brand quality for retailer profitability? Result R2 considers the role of quality in store brand introduction, beyond its ability to influence price substitutability. Raju et al. (1995a) and related studies capture this role through an intercept term in the store brand demand function, representing store brand strength or store brand loyalty. Corstjens and Lal (2000) operationalize quality of store brand in terms of the fraction of consumers who try the store brand and find it "acceptable." They show that, under certain broad parametric conditions, total retailer profits are increasing in store brand quality, even if the store brand does not have a cost or margin advantage. The basic intuition behind the results of Corstjens and Lal (2000) is that a high-quality store brand differentiates stores from each other and increases store loyalty. Hence, even when a high-quality store brand is not profitable, the optimal strategy might be to introduce the high-quality brand because ancillary benefits derived through the purchase of goods elsewhere in the store by the loyal consumer may be greater. Mangers generally agreed with the result. As one manager commented, "Exactly! For a store brand positioned as offering quality, it makes more business sense to focus on promoting store loyalty than simply go after national brands." Thus, managers appear to be not necessarily "inward"

looking (focused on national brands within the store) but "outward" looking (focused on competing stores) as well with their store brands. The result also highlights the need to incorporate retail competition in the analytical models on national brand – store brand competition.

__Can national brands crowd out store brands?__ Common belief would indicate that there is no place for a store brand when there are already a large number of national brands. Accordingly, Schmalensee (1978) argues that preemptive product differentiation and proliferation by incumbents in a market can deter a store brand entrant (Result R4A). Contrary to this common belief, Raju et al. (1995a) show analytically that retailers would find it more profitable to introduce a store brand in categories with a large number of national brands. They reason that it is easy to "sneak in" a store brand without affecting the profits of the existing brands when the number of existing national brands is large. While not explicitly modeling the number of national brands, Scott-Morton and Zettelmeyer (2004) argue that more manufacturers actively producing national brands indicates fewer barriers to entry; hence the retailer can easily find a supplier for its store brand.

Our assessment of credibility suggests that Result R4 dominates Result R4A. That is, categories with a large number of national brands may actually be conducive for store brand introduction. In addition to the explanations provided above, a supporting argument offered by the managers was that when there are many national brands, each one, on average, tends not to be very strong, and therefore provides an opportunity for store brands to enter.

__Are high-volume/high-margin categories conducive for store brand introduction?__
The fairly intuitive notion that, other things being equal, retailers eye the high volume/high margin categories when introducing private labels (Results R5 and R6) is validated in the credibility score. Pertinent comments from managers indicated that, in particular, retailers go after high household penetration and high purchase frequency categories (both are components of category volume) because they provide private labels with greater velocity and greater opportunity to be in the market basket and in the minds of consumers.

Should store brands be introduced in homogeneous or heterogeneous

markets? Suppose there are two markets, both having the same average relative preference (reservation price differential) for national brands over store brands. But, in one market, the distribution of preference is homogeneous around the mean – all households have the same relative preference. In the other market, the distribution of preference is heterogeneous – some prefer the national brand while some prefer the store brand. In which market should a store brand be introduced? Two models (Bontems et al. 1999; Narasimhan and Wilcox 1998) have shown that the likelihood of store brand introduction decreases with increase in heterogeneity (R8). The reason is that, by introducing a store brand in a homogeneous market, the retailer can avail its ability to significantly alter market shares through small changes in price differential, and thus gain profits. Managers assigned a modest credibility rating of 6 to this result. They did not quite understand why a store brand can not be targeted in a heterogeneous market at those who prefer the store brand. Heterogeneity in consumers is an important consideration in both the modeling world and the real world. There is a greater need for understanding the effect of consumer heterogeneity on store brand introduction and the marketing of national brands and store brands.

Factors Influencing Retailer Margins/Profits

This section relates to the effect of store brand introduction on national brand prices/margins and how retailers should profitably position their store brands.

Do national brand prices and margins go up or come down when a store brand is

introduced? The effect of store brand introduction on national brand wholesale price, retail price, and retail margin are interrelated and hence are discussed together. The conventional economic view holds that a store brand introduction increases price competition for the incumbent national brand. The increased price competition depresses both the wholesale price and the retail price of the national brand, as shown in Raju, Sethuraman, and Dhar (1995a). It also predicts that retailers' gross margin on national brand also decreases with store brand introduction.

On the other hand, the bargaining model of Scott-Morton and Zettelmeyer (2004) implies that retailers will be able to extract lower prices from the manufacturer by introducing (or threatening to introduce) a store brand of similar quality. In this scenario, the national brand wholesale price goes down but the retailer's price and margin on the national brand may go up.

Kim and Parker (1999) and Soberman and Parker (2004) offer a price discrimination view of store brands. They theorize that, as national brand manufacturers increase advertising, retailers increase the price of both national brands and private labels because advertising allows retailers to better price discriminate across two segments (national brand seekers vs. product seekers at whom the private labels can be targeted). Bontems et al. (1999) make a cost-based argument that the national brand manufacturer need not accommodate store brand entry by lowering its wholesale price, if obtaining a high-quality private label is costly for the retailer,.

Which direction has greater credibility in our review? First, let us consider the question of whether national brand wholesale price increases or decreases with a store brand introduction. Comparing M4 and M4A (Table 2), we find that there is a slightly higher credibility support for the notion that national brand wholesale price *decreases* with store brand presence (M4). Comparing R23 and R23A (Table 1), we find that there is no clear winner. Retail prices of national brands may decrease or increase with a store brand introduction. Comparing R9 and R9A (Table 1), we find that there is greater credibility for the result that national brand retail margin *increases* with store brand presence (R9). A compelling comment provided by a manager is that even if the national brand retail prices go down because of competition, they don't go down by as much as the wholesale price.

However, all the above results were assigned modest credibility, perhaps because of possible countervailing effects. In addition, retailers said the direction of movement of the national brand price will depend on the size and negotiating power of the retailer, strength of the national brands, store brand positioning, retailer objectives, and retail competition.

Do retailers get higher profit margins on the national brands or the store brands? A related, and equally important, question is whether retailers obtain better profit margins (price–cost) on the national brands or the store brands. Empirical researchers have made the distinction between dollar margin and percentage margin (margin as % of price) when discussing this question. Our assessment of credibility clearly shows that percentage margins are higher for private labels than for national brands (R10A). However, support is less strong for the dollar margin result (R10) -- many managers thought the result was highly credible while others believed that it was not.

Who should store brands target? Sayman, Hoch, and Raju (2002) introduced asymmetry among national brands by assuming that the intercept terms (intrinsic brand strengths) in the demand functions are different. Their analysis indicates that the greater the brand strength of the leading national brand, the more the incentive for the retailer to introduce the store brand; furthermore, the retailer should always position the store brand close to the leading national brand.

Scott-Morton and Zettelmeyer (2004) consider two segments of consumers–segment 1 prefers national brand 1 and segment 2 prefers national brand 2. Asymmetry is incorporated by the proportion of consumers representing each segment. Using a bargaining model, they show that retailers should position their store brand in that segment (1 or 2) which has a larger proportion of consumers and that the higher the manufacturer's bargaining power and the larger the segment of consumers favoring the leading national brand, the more the retailer benefits from introducing a store brand.

One intuition for the result is offered by Sethuraman and Srinivasan (2002). If there are two national brands, one with 80% market share and the other with 20% market share, other things being equal, there is greater incentive to introduce a store brand and target the same against the leading brand since the potential for obtaining larger revenues is greater.

The other intuition, proposed by Scott-Morton and Zettelmeyer (2004), relates to bargaining power. Leading brand manufacturers with large market shares are endowed with greater bargaining power by which they negotiate favorable supply terms for themselves. A store brand positioned to be a

close substitute of the leading national brand alters the balance of power and allows the retailers to negotiate better supply terms for them. Schmalensee (1978) also suggests that store brands are positioned to imitate the leading national brand in order to reduce manufacturer bargaining power.

The related result (R11) received high credibility and usefulness ratings. However, one manager opined that the decision to target the leading national brand may depend on the shares of #2 and #3 national brands. In this regard, Sayman et al. (2002) show that the greater the relative market share of the leading national brand(i.e., the dominance of the leading national brand) the more the retailer profits from targeting that brand with the store brand, so long as the cost of targeting the dominant national brand is not high.

How should store brands be differentiated? Results (R14, R15) pertaining to this question come from just one study (Choi and Coughlan 2006). These results received reasonably high credibility scores (7-8). In particular, feature differentiation of store brands can be an avenue for adding value to consumers and profits to retailers. For example, if two national brands offer just low-fat yogurts, offering fat-free yogurt as a store brand can expand the market and promote the store brand while maintaining healthy sales from the national brands.

Factors Influencing Store Brand Share

Analytical researchers have provided theoretical results specifying the relationship between store brand share and six market variables: (i) price substitutability between national brands and store brands; (ii) price substitutability among national brands; (iii) store brand quality; (iv) number of national brands; (v) national brand–store brand price differential; and (vi) manufacturing costs. These results are discussed below.

Does price substitutability increase or decrease store brand share? Again, the influence of price substitutability (price competition) on store brand share depends on the type of competition. Higher price substitutability (price competition) between national brand and store brand increases store brand share (R16); higher price competition among national brands decreases store

brand share (R18). Both results received high credibility ratings and were considered very useful. The negative effect of national brand price competition on store brand share (R18) is strongly supported by managers, with one retailer stating that they can't seem to sell private label soft drinks at any price since the national brands are always competing with each other.

How important is quality in influencing store brand share? The traditional view that store brands are meant to cater to those consumers who desire low prices, even if it means giving up on quality to some extent, suggests that quality may not be that important for gaining market share. Analytical modelers have parameterized quality through intrinsic store brand strength (Raju et al. 1995a) and proportion of consumers finding the store brand to be "acceptable" (Corstjens and Lal 2000). These authors have found a strong positive relationship between store brand quality and market share (Result R17). Empirical researchers have also found quality to be a strong determinant of store brand share, even more important than price (see Sethuraman 2006, pp.32-34, for more details). Managers also assigned a high credibility rating for this result. One manager stated that quality is an acid test of whether a retailer has a strong private label program.

Do store brands get a smaller share of the pie when there are many national brands? An apparently intuitive result (R19) is that store brand share will be lower if there are many national brands on the market since the same pie has to be divided among a larger number of sellers. Managers, however, expressed mixed views on this result. Some managers strongly refuted it saying it is highly category dependent. Private labels may actually thrive more when there are many small brands than when there are a few dominant brands. Thus, combining Result R19 with Result R4, it appears that the number of national brands in a category is neither a strong determinant of store brand entry, nor a strong deterrent of store brand share.

Can store brands price low and gain share? Since traditional private labels compete with national brands primarily on price, setting the price differential between national brand and store brand is a key strategic decision for the retailer. Basic economic theory states that, within a category, a high

price differential (price of store brand being much lower than the price of national brand) can lead to a high store brand share since more consumers will switch from the national brands to store brands. This result has also been shown in analytical models (Result R20). However, managers did not give this result a high credibility rating. They believed that this relationship is both category specific and mediated by store brand quality. In particular, when the quality of store brand is comparable to that of the national brand, charging a low price could wrongly signal a low-quality store brand and hurt its sales.

The above opinion expressed by some managers is, in some sense, the basis for the negative cross-category relationship between national brand-store brand price differential and store brand share (R21). When a store brand has high quality, it will gain high share even when the price differential is low. So, in some categories store brands will have high market share despite having a low price differential while in other categories, store brands will have a low share despite high price differential, leading to a negative correlation.

Does an increase in raw material cost hurt store brand share? Mills (1995) theorized that when raw material costs increase (e.g., the price of corn in cereals), the situation would favor the national brand because they can absorb the cost increases better than store brand suppliers. Some managers stoutly denied that raw material cost increases favor national brands (R22). They believed national brand manufacturers are more likely to pass on the cost increases to consumers than private label suppliers/marketers; therefore, national brand shares will be lower.

Factors Influencing Retail Prices and Promotions

This section discusses the key equilibrium results on store brand pricing and price promotions.

Can retailers reduce the price differential by closing the quality gap? There is strong managerial support for the theory that when national brand–store brand price substitutability increases (e.g., as retailers close the perceived quality gap) the price differential between national brand and store brand decreases (i.e., retailers can close the price gap (R24)). However, as Applebaum et al. (2003) and Sethuraman (2003) point out, retailers in general can not charge the same price for national

brands and store brands, even if consumers perceive their quality to be the same, because national brands command an approximately 10%-30% image premium, unrelated to perceived quality.

   Should store brands be price promoted? Price promotions are temporary discounts from regular prices. Following Varian (1980), a group of researchers contended that an important reason for the existence of price promotions is competition between the "strong" (national) brands and the "weak" (store) brands for the brand switching segment. However, both national brand and store brand sellers face a tradeoff when fighting for this segment. When national brands cut price to attract the brand switchers, they lose profits from its loyal segment that would pay a higher (reservation) price. When store brands cut price to attract more of the switching segment by increasing the price differential, they lose profits from the price shoppers who would buy the store brand even when the price differential is small (close to zero). Hence, a possible equilibrium strategy is for both national brands and store brands to charge a (high) regular price and a (low) promoted price with some probabilities (Narasimhan 1988) or to set a regular price first and occasionally cut prices in a sequential decision framework (Rao 1991).

   Three articles (Lal 1990; Rao 1991; Narasimhan 1988) state that the weak store brand promotes less often than the strong (premium) national brands, or does not engage in price discounting at all. By assumption, the store brand does not have a loyal segment that will pay a high price for the brand. Therefore, it positions itself through its regular price to capture the price shopper segment and a portion of the switching segment. The national brand charges a regular price to gain profits from its loyal customer base and occasionally makes forays into the switching segment through price reduction. Thus, the national brand manufacturers have greater incentive to engage in price promotions. Because store brands do not have a loyal segment, they should not be price promoted.

   However, retailers disagreed with the theoretical premise that store brands should not price promote or promote infrequently (R27 and R29). The reasons for promoting private labels, as stated by managers, included: (i) the need to protect store brand turf; (ii) the need to generate trial and repeat of

store brand; and (iii) the desire to simply promote what customers want. Some retailers said they would never adopt a store brand strategy that excludes price promotions and that the theory may hold for Every Day Low Price (EDLP) retailers. This disagreement is also reflected in empirical work which shows that private labels do actively engage in price promotions in grocery products. Ailawadi et al. (2006) explain (from CVS pharmacy data) that store brands have higher margins even after discounting, so promoting store brands is profitable for the retailer. Future research should understand the reasons for store brand price promotion through more theoretical and empirical investigation.

While disagreeing with the theoretical premise that store brands should not price promote or promote infrequently (R27 and R29), retailers agreed that a store brand with high loyalty should not offer deep discounts (R28).

DISCUSSION OF RESULTS – MANUFACTURER STRATEGIES

Many analytical results, especially those related to national brand counter strategies, came from just one article (Mills 1999). Other results came from studies whose primary focus was on store brands (e.g., Raju et al. 1995a). Table 2 presents the median credibility and usefulness ratings. Managers, on average, have taken the middle road in assigning credibility ratings to the results. They believed many factors besides the particular exogenous variable played a role in deciding whether and how to counter private labels. For example, with respect to M1, skeptics stated that the decision to engage in dual branding also depended on potential cannibalization. Even a generally accepted and intuitive result that national brand manufacturers ought to differentiate to maintain or increase profits in the face of store brand competition (Result M2) received a, good but not very high, credibility rating of 7 out of 10. Counter-arguments included the need to account for cost of differentiation and whether consumers desire a differentiated product. We infer from these comments that, ceteris paribus, managers believe the analytical results would hold, but that one has to consider other factors when making a final decision. As with retailer results, the correlation between credibility (C) ratings and usefulness (U) score is positive and high (0.61), indicating that the two perceptions go hand-in-hand.

National Brand Non-Promotion (Counter) Strategies

Modelers have studied whether the following national brand strategies are appropriate for countering private labels: (i) dual branding; (ii) differentiation/quality; (iii) advertising; (iv) quantity discount; and (v) slotting allowances. Pertinent results are discussed below.

Is dual branding a solution? When selecting a store brand supplier, the retailer has three options: (i) procure from an independent (fringe) manufacturer; (ii) obtain from a national brand manufacturer (dual branding); or (iii) produce its own store brands. Broadly, there are two considerations for both the retailer and the manufacturer to participate in dual branding–cost consideration and strategic consideration.

The cost reason is advanced by Peles (1972) and Mills (1999). If, and only if, the national brand manufacturer has a cost advantage of supplying a private label, over other competitive suppliers, then, in equilibrium, the manufacturer will offer to produce the private label and the retailer will accept the offer so long as there are no externalities such as increased bargaining power. The intuition is that, if there is cost advantage, manufacturer can foreclose supplies from an independent manufacturer and the brand manufacturer makes more profit than it would selling just its own premium brand. Cost advantage can arise through economies of scale or excess capacity (Peles 1972; Quelch and Harding 1996). The corresponding result (M1) was deemed credible by national brand managers (7/10) but not that useful (5/10).

Price discrimination is one strategic consideration for dual branding. Soberman and Parker (2004) argue that if consumers are clearly segmented as product seekers –- buy only based on price and not advertising sensitive, and brand seekers –- prefer national brands, and are advertising sensitive, and if the manufacturer can determine the wholesale price of both the national brand and the private label, then the manufacturer should always be willing to supply private labels. In their model, the private label is a gift from the manufacturer to the retailer because they allow manufacturers to discriminate between the advertising-sensitive brand seekers and the price-sensitive product seekers. Price discrimination as a

motive for dual branding has been a subject of many Federal Trade Commission enquiries even from the 1960s (Stern 1966).

Other considerations for engaging in dual branding from a retailer perspective are: (i) quality assurance and (ii) increased cooperation from the national brand manufacturer, especially in a market where there are many store switchers. Considerations from the manufacturer perspective include (i) increased bargaining power with the retailer and (ii) possible cooperative arrangements with the retailer (Quelch and Harding 1996; Dunne and Narasimhan 1999).

Which other counterstrategies work? Differentiating their national brand from the store brand through quality or features is an effective manufacturer strategy for gaining share and profits (M2). Furthermore, the signaling model of Abe (1995) states that if a national brand is of high quality, then it should signal its quality through increased advertising (Result M3). In addition, offering a two-part tariff (quantity discount) to retailers to sell more national brands (M6) also received a good credibility rating (7 of 10). One national brand manager commented that offering quantity discounts was a "great idea and [I] hope the retailers can be convinced of the same!"

Which counterstrategy does not work? Interestingly, among all counterstrategy results (M1-M7), the strongest managerial support was for Result M7, which states that slotting allowances are *not* a viable strategy for deterring private label entry. Sudhir and Rao (2006) find the presence of private labels to be one of the drivers of slotting allowances, but do not offer slotting allowance as a strategy for preventing store brand introduction.

National Brand Price Promotions

These results explore the viability of coupons and price discounts as profitable national brand promotion strategies.

Do national brand coupons work? Mills (1999) discusses two types of coupons: (i) randomly distributed coupons, which any consumer can receive, and (ii) optimally distributed coupons, which are targeted only to those consumers who are most prone to purchasing private labels. He

shows that randomly distributed coupons are not a profitable approach to discouraging private labels; however, optimally distributed coupons are very effective. In fact, if the national brand manufacturer has sufficient information and a means of distributing coupons only to the private label consumers, then s/he should increase the regular price of the national brand and offer coupons to private label consumers. This strategy would not only increase manufacturer profits but also retailer category profits as well. Thus, targeted coupon programs act as an effective price discrimination device as well as a cooperative mechanism between the manufacturers and the retailer. Managers generally agreed that randomly distributed coupons may not be an effective counter-promotion strategy; rather, targeted coupons may be a more effective way to profitably convert private label consumers (Results M8 and M9). However, some managers warned that a coupon strategy is effective only in the short term and does not build brand loyalty or generate profits in the long term.

__Does store brand loyalty influence national brand price promotions__? The results on the effect of store brand loyalty on national brand price promotion frequency and depth (M10-M13) as well as the result on relative promotion frequency (M14) received generally low credibility scores. Some national brand managers questioned whether store brands have loyalty in the first place for them to induce national brands to change their promotion strategy; others questioned the need for private labels to engage in price promotions. Thus, while retailers believe there is a need to price promote their store brands, manufacturers believe store brands need not be promoted. On the other hand, some manufacturers thought even if there is a rationale for national brands to promote less than store brands (Result M14), national brands promote more, simply because they have larger promotion budgets. Interestingly, Result M15, which states that national brands offer deeper discounts than store brands, received higher credibility scores than the other promotion results.

CONCLUSIONS

In this project, we have compiled 44 analytical results related to national brands and store brands, assessed the credibility and usefulness of those results from the manager's perspective, and identified several directions for future research. We first summarize the results and implications for the retailers and then the manufacturers. Then, we present the future research directions, and, finally, we briefly state the limitations of our research.

Summary and Implications – Retailer Results

1. When national brands and store brands compete with each other, high levels of price substitutability between national brands and store brands generally favor store brand entry, store brand share, and retailer profits. Retailers can attempt to increase price substitutability by closing the perceived quality gap, through shelf positioning, packaging, and by using "compare and save" slogans.

2. Of equal importance, according to managers, is the potential for increased store differentiation and store brand loyalty through high-quality store brands. The retailers' objective with store brands is not simply to take market share away from national brands in the store, but also to induce store loyalty.

3. Intense national brand price competition can potentially deter store brand entry, decrease store brand share, and reduce store brand profits. Therefore, store brand managers need to focus on both the price competition between national brand and store brand *and* the price competition among national brands, when deciding on their private label program.

4. The conventional wisdom which states that new brands should not enter an already crowded market does not seem to apply to the introduction of private labels, partly because the retailers own the store brands and also have control over the pricing of national brands. In fact, analytical and managerial support marginally favors the introduction of a store brand when there are many national brands in the category.

5. The fairly intuitive notion that, other things being equal, retailers eye the high volume/high margin categories when introducing private labels is validated to a reasonable extent. According to managers, two components of category sales -- high household penetration and high purchase frequency -- are quite pertinent for store brand entry decision because, besides

profits, they provide private labels with greater velocity and greater opportunity to be in the market basket (and minds) of consumers.

6. Feedback from managers suggests that retail margins on national brands are more likely to remain the same or go up than come down in the face of store brand entry.

7. The retailers' gross profit margin percentage on private labels is clearly greater than the gross margin percentage on national brands. However dollar (absolute) margin may be higher or lower.

8. Feature differentiation (e.g., through package size or unique ingredient) of store brands by retailers can be a venue for adding value to consumers and making profits.

9. There is strong support for the theory which states that when retailers close the perceived quality gap, they can close the price gap as well. But, empirical literature warns that retailers can close the price gap only up to a point as national brands still enjoy an image premium, unrelated to perceived quality.

10. The theoretical premise that store brands should not price promote or promote infrequently was met with broad disagreement from retail executives. The reasons for promoting private labels included: (i) the need to protect store brand turf; (ii) the need to generate trial and repeat of store brand; (iii) the desire to simply promote what customers want; and (iv) the opportunity to obtain higher margins.

Summary and Implications – Manufacturer Results

1. In general, credibility for manufacturer results was lower than that for retailer results.

2. Theoretical results, combined with managerial support, indicate that national brand differentiation, advertising, and quantity discounts may be effective counterstrategies to combat private label penetration, but slotting allowances would not be a viable strategy to prevent private label entry.

3. National brand coupons specifically targeted at private label consumers, accompanied by regular price increases, may be a profitable strategy for both manufacturers and retailers, at least in the short term.

4. There is high external validity for the result that national brands offer larger dollar discounts than store brands; however, the evidence on the relative frequency of price promotions of national brands and store brands is mixed.

Future Research

Since this research is a review of mathematical models of national brand/store brand competition, our recommendations are primarily geared toward analytical modelers.

1. <u>Incorporate retail competition</u>. Retailers commented that store differentiation might be a goal for introducing a private label, and that store competition may mediate some of the stated results. Only one study (Corstjens and Lal 2000) has incorporated retail competition, and only in a limited sense. Empirical researchers have investigated the effects of retail concentration and competition on national brand–store brand prices and private label share (e.g., Cotterill and Putsis 2000; Dhar and Hoch 1997). Analytical models incorporating retail competition can complement these empirical results, test the robustness of existing results, and provide additional insights.

2. <u>Incorporate asymmetric national brands</u>. National brand managers believed that the manner in which private labels react to national brands and national brands strategize against private labels depends on the nature of #1, #2, and #3 national brands. Hence, incorporating multiple, asymmetric national brands would better reflect the real-world market conditions. Some researchers (e.g., Sayman et al. 2002) have studied asymmetric national brand competition, but more work is needed.

3. <u>Incorporate non-price variables</u>. Almost all the analytical models incorporate only price. The effect of advertising and other non-price variables (display/feature, shelf space) needs to be investigated in future research.

4. <u>Investigate dual branding</u>. To manufacture or not to manufacture private labels is a question faced by many national brand manufacturers (see Quelch and Harding 1996 and Dunne and Narasimhan 1999 for managerial perspectives). Yet, there is no comprehensive analytical framework for understanding dual branding.

5. <u>Identify reasons for private label price promotions</u>. While many theories propose that store brands should engage in limited price promotions, if at all, retailers seem to think otherwise. What is the incentive for retailers to promote their private labels – is it a reactive (defending their share) or a proactive strategy? What market conditions are conducive for private label price promotions? These questions can be investigated.

6. Include multiple retailer objectives. Besides category profits, other objectives that retailers consider are brand turnover, market share, and profit per square foot. These objectives can be incorporated into the models to see if strategies differ. In particular, retailers and manufacturers stated that many results depend on the purpose for which private labels have been introduced. Thus, analytical modelers can help in developing a taxonomy that maps market conditions and retailer objectives to their private label programs.

7. Address manufacturer strategies. There is a dearth of studies focusing on the manufacturer side of national brand–store competition. More studies on manufacturer strategies are needed (e.g., dual branding, pricing, promotions, and advertising).

8. Unified analytical framework. Ideally, a unified analytical framework that is flexible enough to incorporate many of the retailer and manufacturer structural dimensions (e.g., retail competition, non-linear demand) would go a long way in directly assessing the robustness of various analytical results. Since these models would not yield closed-form solutions, researchers may need to resort to simulations and other numerical analysis procedures.

9. Extend to non-grocery products. Finally, the analytical models and empirical work have predominantly focused on grocery products. Would the results be different for non-grocery products, such as appliances and apparel? Future research should incorporate the institutional and market structures pertinent to the non-grocery product markets.

Limitations

The methods used in compiling the analytical results and in measuring their credibility and usefulness have several limitations. When compiling the results, where the authors did not clearly state the analytical results or the intuition, we used our best judgment in inferring the results, providing the intuition, and grouping those results. We may have missed some results or modified the intuition to some extent.

We used single-item scales for measuring credibility and usefulness. More complicated questions or multiple-item scales could have been used to measure the credibility construct. However, our pretests revealed that respondents felt the questionnaire to be highly burdensome if they had to answer many questions for each of the 15 results. Furthermore, a recent study (Bergkvist and Rossiter 2007) has shown that multi-item scales are not necessarily more accurate than single-item measures.

Finally, our credibility scores come directly from managers (potential end users). Thus, this project serves as a bridge between scholars and practitioners. However, the relatively low response rate from the executives yielded smaller-than-desired sample sizes, limiting the ability to generalize across a wide spectrum of managers.

Despite these limitations, we believe our analysis yielded several insights and fruitful avenues for further research. Future research can address the limitations stated above and/or revisit the National Brand /Store Brand competition literature (say 10 years later) to see if we have added to the existing set of results and/or enhanced their credibility and usefulness.

Table 1
Analytical Results on Retailer (Store Brand) Strategies and their
Credibility (C), Usefulness (U) Scores
(Maximum C, U Scores = 10)

Result #	Exogenous (Independent) Variable	Endogenous (Dependent) Variable	Sign	C	U
Factors Influencing Store Brand Introduction					
R1	Price substitutability between national brands and store brands–also captured through perceived quality differential and size of switching segment	Retailer profits from store brand introduction	+	**8** 7.2 (.34)	**7** 7.5 (.24)
R2	Store brand quality (also measured as base level demand) that generates store brand loyalty/store loyalty	Retailer profits from store brand introduction	+	**8** 7.8 (.44)	**8** 7.4 (.40)
R3	Price competition among national brands	Retailer profits from store brand introduction	-	**7** 6.9 (.54)	**8** 7.0 (.57)
R4	Number of national brands	Retailer profits from store brand introduction	+	**7** 6.7 (.37)	**6** 6.3 (.52)
R4A	Number of national brands	Retailer profits from store brand introduction	-	**3** 3.9 (.52)	**5** 5.0 (.60)
R5	Category dollar sales volume	Retailer profits from store brand introduction	+	**8** 8.4 (.26)	**7** 8.0 (.26)
R6	Category dollar margin	Retailer profits from store brand introduction	+	**7** 6.7 (.56)	**7** 6.5 (.55)
R7	Manufacturing economies of scale	Store brand Introduction through dual branding	+	**7** 6.7 (.56)	**7** 7.0 (.33)
R8	Preference heterogeneity	Store brand Introduction	-	**6** 5.9 (.36)	**7** 6.2 (.44)
Factors Influencing Retailer Margin / Profits					
R9	Store brand introduction	Retailers' gross profit margin on national brand	+	**7** 6.6 (.50)	**7** 6.1 (.40)
R9A	Store brand Introduction	Retailers' gross profit margin on national brand	-	**5** 3.3 (.59)	**5** 5.3 (.45)
R10	Store brand introduction	Relative gross profit margin $ margin store brand > $ margin national brand		**7** 6.4 (.56)	**8** 7.4 (.33)
R10A	Store brand introduction	Relative gross profit margin % margin store brand > % margin national brand		**9** 9.1 (.18)	**8** 8.1 (.32)
R11	Targeting leading national brand with a store brand	Retailer profits	+	**8** 7.1 (.49)	**8** 7.3 (.43)
R12	Differentiation between two national brands	Retailer profits from carrying two store brands	+	**7** 6.3 (.53)	**8** 8.3 (.35)
R13	Ratio of market share of leading national brand to the number two national brand	Retail profits from carrying two store brands	-	**7** 5.7 (.61)	**6** 6.2 (.45)
R14	When two national brands are differentiated across feature and quality	Retail profits - positioning high (low) quality store brand against high (low) quality national brand	+	**7** 6.7 (.49)	**7** 7.1 (.36)
R15	When two national brands are undifferentiated in feature dimension	Retail profits from feature differentiation with store brand	+	**8** 8.1 (.44)	**7** 7.0 (.50)

Result #	Exogenous (Independent) Variable	Endogenous (Dependent) Variable	Sign	C	U
Factors Influencing Store Brand Share					
R16	Price substitutability between national brands and store brands	Market share of store brands	+	**9** 7.9 (.49)	**8** 7.6 (.50)
R17	Store brand quality that generates store brand loyalty and store loyalty	Market share of store brands	+	**8** 6.9 (.65)	**7** 7.0 (.46)
R18	Price competition among national brands	Market share of store brands	-	**9** 8.0(.58)	**9** 7.6(.45)
R19	Number of national brands	Market share of store brands	-	**7** 5.9 (,62)	**7** 5.6 (.57)
R20	Price differential between national brands and store brands	Market share of store brands within category	+	**7** 7.3 (.61)	**7** 7.0 (.41)
R21	Price differential between national brands and store brands	Market share of store brands across category	-	**6** 5.6 (.57)	**7** 6.6 (.44)
R22	Common marginal cost of manufacturing national brand and store brand (e.g., raw material cost for both brands)	Market share of store brands	-	**3** 3.8 (.41)	**5** 4.7 (.36)
Factors Influencing Retail Prices					
R23	Introduction of a store brand that is a close substitute of the national brand	Retail price of national brand	-	**5** 4.7 (.58)	**6** 5.7 (.45)
R23A	Introduction of a quality-equivalent store brand in a market segmented on price / advertising sensitivities	Retail price of national brand	+	**5** 4.8 (.71)	**7** 5.5 (.60)
R24	Price substitutability between national brands and store brands	Price differential between national brands-store brands	-	**9** 7.6 (.44)	**9** 8.4 (.25)
R25	Market concentration among national brand manufacturers	Price differential between national brands-store brands	+	**8** 6.7 (.49)	**7** 6.9 (.32)
R26	National brand advertising	Price differential between national brands-store brands	+	**8** 8.5 (.16)	**7** 6.3 (.44)
Factors Influencing Store Brand Price Promotions					
R27	Degree of store brand loyalty	Frequency of price promotions of store brands	-	**3** 3.9 (.54)	**7** 5.7 (.53)
R28	Degree of store brand loyalty	Depth of price promotions of store brands	-	**8** 7.8 (.38)	**9** 8.3 (.36)
R29	Market consisting only of price shoppers and those who prefer national brands	Store brand price promotions – zero or infrequent		**1** 2.3 (.38)	**6** 5.7 (.61)

Note: Numbers in bold are median values. Numbers below the median are mean and standard deviation (in parenthesis).

Table 2
Analytical Results on Manufacturer (National Brand) Strategies and their Credibility (C), Usefulness (U) Scores
(Maximum C, U Scores = 10)

Result #	Exogenous (Independent) Variable	Endogenous (Dependent) Variable	Sign	C	U
National Brand Non-Promotion (counter) Strategies					
M1	National brand manufacturer has cost advantage over competing private label supplier	National brand manufacturer producing store brands for retailer (dual branding)	+	**7** 6.6 (.38)	**5** 5.7 (.38)
M2	Quality that differentiates the national brand from store brand	Manufacturer profits	+	**7** 6.9 (.56)	**7** 6.4 (.56)
M3	National brand quality	National brand advertising	+	**7** 7.0 (.63)	**6** 6.7 (.64)
M4	Introduction of a quality store brand when cost of store brand does not increase with its quality	National brand wholesale price	-	**5** 4.3 (.40)	**5** 4.25 (.40)
M4A	Introduction of a quality store brand when cost of store brand increases with its quality	National brand wholesale price	+	**4** 4.0 (.34)	**4** 4.0 (.35)
M5	Store brand supply cost	National brand wholesale price	+	**3** 3.1 (.32)	**3** 3.3 (.38)
M6	Two-part tariff (quantity discounts)	Manufacturer profits	+	**7** 6.5 (.61)	**6** 6.3 (.61)
M7	Slotting allowances	Manufacturer profits by discouraging private label entry	0	**8** 7.6 (.40)	**7** 7.7 (.47)
National Brand Price Promotions					
M8	Randomly distributed coupons	Manufacturer profits	0	**7** 7.1 (.53)	**7** 7.1 (.53)
M9	Coupons targeted at store brand consumers	Manufacturer profits	+	**7** 7.1 (.57)	**6** 6.9 (.61)
M10	Dual branding	Price promotions of national brands	-	**5** 4.1 (.28)	**5** 4.1 (.28)
M11	Proportion of consumers switching between national brands and store brands	National brand trade deal	+	**7** 7.3 (.36)	**6** 7.1 (.38)
M12	Degree of store brand loyalty	Frequency of national brand price promotions	-	**6** 6.1 (.51)	**7** 7.1 (.46)
M13	Degree of store brand loyalty	Depth of national brand price promotions	+	**6** 6.3 (.73)	**5** 5.1 (.73)
M14	National brand with high loyalty and store brand with low loyalty	Frequency of national brand price promotion < Frequency of store brand price promotion		**5** 5.7 (.64)	**7** 6.9 (.40)
M15	National brand with high loyalty and store brand with low loyalty	Depth of national brand discount > Depth of store brand discount		**8** 7.4 (.35)	**5** 5.7 (.64)

Note: Numbers in bold are median values. Numbers below the median are mean and standard deviation (in parenthesis).

<u>APPENDIX – Table A1</u>

Analytical Results Related to Retailer / Store Brand (SB) Marketing Strategies

Result #	Result	Brief Explanation
R1	*Higher price substitutability between the national brand and the store brand increases retailer profits from store brand introduction.*	Retailers generally obtain a higher margin on private labels than on national brands. A close substitute makes more consumers switch from the lower-retail-margin national brands to the higher-retail-margin store brand. Hence, a retailer gains more profits. <u>Another explanation:</u> When a retailer introduces a store brand that is a close substitute of the national brand (similar in quality), it makes the national brand manufacturer more dispensable. Hence, the retailer is able to increase its negotiation power and get better price and other terms of trade from the manufacturer, thus increasing the retailer's category profits.
R2	*Retailer profits from store brand introduction can increase with an increase in quality of the store brand.*	It is profitable to introduce a high-quality store brand because a high-quality store brand helps differentiate retail stores and create store brand loyalty and store loyalty.
R3	*Other things equal, higher price substitutability among the national brands decreases retailer profits from store brand introduction.*	When national brands compete intensely on price (e.g., Coke and Pepsi), the national brand retail prices go down considerably. This would force the store brand to be priced even lower, leaving little room for the store brand to be profitable. So, the retailer may be better off exploiting the competition among the national brands than introducing a store brand.
R4	*It is profitable for the retailer to introduce a store brand in categories with a large number of national brands.*	The introduction of a store brand reduces the retailer's profits on the national brands. However, if there are already a large number of national brands to begin with, the introduction of an additional store brand does not affect the retailer's profits on the national brands as much. In other words, it is easy to sneak in a store brand without affecting the retailer's profits from the existing brands, if the number of national brands is large.
R4A	*When there are several national brands on the market, it is less profitable to introduce a store brand than when there are fewer national brands.*	Private labels tend to produce recognizable imitations of established brands but charge a lower price. If national brands are proliferated such that leading brands have small shares, the market share of a private label that is imitating such a brand will be low, thus reducing its profitability and attractiveness. In other words, when there are already many national brands, it is difficult for a store brand to enter and sell large enough quantities to be profitable.
R5	*When conditions are conducive for store brands, the higher the category sales, the greater is the profit incentive for a retailer to introduce a store brand*	Retailers gain profits from the sale of their store brands. Store brand gross profit equals Category sales (times) SB market share (times) SB gross margin.. For given SB margins and SB share, higher category sales implies higher profitability for retailer to cover for fixed costs and earn profits.
R6	*High margin categories are more attractive for a retailer to introduce a store brand.*	For the same level of sales, high margin categories have greater potential to yield high profits. Retailers can exploit this potential to a greater extent by introducing a store brand.
R7	*Large economies of scale in manufacturing (i.e., the ability to drive down manufacturing cost by producing large quantities) will encourage store brand introduction.*	When there is high economy of scale advantage, national brand manufacturers can reduce cost by producing in large quantities. The excess production can then be supplied as store brands to retailers.

R8	*For the same average consumer preference for store brand in a market, the greater the consumer heterogeneity (variation) around the mean preference, the lower is the incentive to introduce a store brand.*	If the market is more homogeneous in terms of their preferences, then the consumers are concentrated. Retailer can position the store brand to the homogeneous market and get large sales and profits. If the preferences are widely dispersed, it is difficult for the retailer to position the store brand in one particular concentrated segment and gain high profits.
R9	*Retailer's margin and profits on the national brand increases with the introduction of a close store brand substitute.*	When a close store brand substitute is introduced, because of increased competitive pressure, both the wholesale price and the retail price of national brand go down. However, the decrease in retail price is less than the decrease in wholesale price, with the result the retail margin on the national brand increases.
R9A	*Retailer's margin and profits on the national brand decreases with the introduction of a close store brand substitute.*	When a close store brand substitute is introduced, because of increased competitive pressure, both the wholesale and retail price of national brand goes down. Because the national brands face increased competition from the store brand, retailer's margin and profits on the national brand also go down.
R10	*When a private label is viable, retailers' gross dollar profit margin on the private labels is generally greater than the retailer's gross dollar profit margin on the national brands.*	Double marginalization (i.e., having to pay the wholesale price to the manufacturer) squeezes the retailer's margins on the national brands. However, because store brands are generally directly obtained from the supplier, there is no double marginalization; hence the retail margins are higher on the private label.
R10A	*When a private label is viable, retailers' gross percentage profit margin on the private labels is generally greater than the retailer's gross percentage profit margin on the national brands.*	Same explanation as above
R11	*Cost permitting, it is more profitable for a retailer to target the leading (#1 share) national brand than it is to target the #2 or #3 national brand.*	When a store brand targets the leading national brand, the retailer is able to extract better terms of trade thus lowering wholesale price and increasing retail margin on the national brand. In addition, by targeting the high-share brand, the retailer sells greater quantities of the store brand thus increasing its profits from both the national brand and the store brand.
R12	*It is better to carry two store brands when the two national brands are differentiated than when they are substitutes.*	When national brands are differentiated (low cross-price sensitivity), it is more appropriate to have two store brands to target each of the different national brands and extract profits from them.
R13	*It is better to carry two store brands when the ratio of market share of top two national brands is low (close to 1).*	In order for a retailer to carry two store brands, the second national brand should also be somewhat strong (high market share) so that it is profitable to position against that brand. Therefore, the ratio of the two market shares should be small (closer to 1) for the retailer to carry two store brands.
R14	*When two national brands are differentiated across feature and quality, a higher quality store brand is better off feature positioning closer to the stronger (higher quality) national brand, while the lower quality store brand is better off positioning closer to the weaker(lower quality) national brand.*	When the national brands are differentiated, it is best to position against one of the national brands rather than position in the middle. This is because positioning in the middle yields little sales from either of the brands and hence less profits. However, if the national brand is higher quality but the store brand can not match that quality, positioning the store brand as a knock-off of the strong national brand may not be convincing enough to generate demand. Therefore, a lower quality store brand is better off imitating the weaker national brand.

R15	*When two national brands are undifferentiated in the feature dimension, it is optimal for the private label to feature-differentiate from the national brand. The higher the private label quality, the more it can differentiate.*	Feature differentiation of the private label is optimal when the national brands are not feature differentiated because of the value consumers place on variety. For example, one consumer buys national brand pasta for herself, which is available in small packages, but provides store brand pasta for her son in large packages that is not available in any of the national brands. In this case, package size feature differentiates between national brand and store brand, provides the store brand with healthy sales and profits, while maintaining retail sales and profits from the national brands.
R16	*As the price substitutability between national brand and store brand increases, store brand share increases.*	A close store brand substitute for a national brand makes more people switch from the national brand to the store brand for the same price differential, thus increasing store brand share.
R17	*A high-quality store brand will generally command a high market share in equilibrium.*	A high-quality store brand develops brand loyalty and thus can command reasonable sales even when its price is not much lower than that of the national brand.
R18	*When national brands compete intensely with one another on price, store brand share will be lower.*	The intense price competition among national brands will drive their prices down. Because of lower national brand prices, the store brand will not be in a position to offer a significant price advantage to consumers for switching to the store brand; hence the store brand share will be lower.
R19	*The larger the number of national brands, the smaller is the share of store brand.*	The same pie (total category sales) has to be divided among a larger number of competing suppliers.
R20	*Store brand market share increases with the price differential between national brand and store brand.*	When the price differential increases, the price of the store brand is much lower than the price of the national brand; therefore, more consumers switch from the national brand to the store brand.
R21	*In a cross-section of product categories where retailers sell both national brands and store brands, the private labels market share is inversely related to the price differential. That is, private label shares are higher in categories where the price differential between national and store brands is smaller.*	If consumers are more sensitive to the difference between national brand and store brand prices, they are likely to switch brands in significant numbers even when the price differential is low. Therefore, in categories where the cross-price sensitivity is high, the retailer can set low price differential and still obtain a large market share, hence the negative correlation.
R22	*As the common costs of the national brand and the store brand (e.g., raw material costs) increase by the same amount, store brand share decreases.*	The high-priced/high-quality national brands can absorb cost increases better than low-priced store brand because costs represent a significant portion of the total price for the low-priced brand. Thus, if costs on two substitute goods increase by the same amount, real income held constant, consumers shift to consumption of the higher quality product.
R23	*When the retailer introduces a store brand that is a close substitute of the national brand, both the wholesale price and the retail price of the national brand go down.*	The competitive pressure from the quality-equivalent store brand forces the national brand manufacturer to bring down its wholesale prices and the retail prices also decrease to compete with the store brand.
R23A	*When the retailer introduces a store brand that is quality equivalent to the national brand in a market with low- and high-advertising sensitive segments, both the wholesale price and the retail price of the national brand can increase. .*	When a quality equivalent store brand is introduced, it is possible that both wholesale and retail price of the national brand go up, because the retailer can use the store brand to better discriminate between the low-advertising sensitive segment, who will be served with the lower priced store brand, and the high-advertising sensitive segment, who will be offered the national brand at a higher price.

R24	*As the substitutability between national brand and store brand increases, i.e., as retailers close the quality gap between national brand and the private label, the price differential between the brands decreases.*	Higher substitutability between national brand and store brand means for the same price differential between national brand and store brand, the store brands can draw more national brand consumers. Hence, the retailer is able to increase the store brand prices, keep the price differential between the two brands low, and still maintain healthy sales.
R25	*When the market is highly concentrated, with a few national brands accounting for a large market share, the percentage price differential between the national brands and the store brand will be higher.*	When the market is concentrated, the few dominant national brands have high market power, and therefore can charge a premium over the store brand, compared to a market where there are many national brands in a highly competitive market.
R26	*Other things equal, the price differential between national brand and store brand is generally higher when national brands are heavily advertised than when they are not advertised heavily.*	National brand advertising makes those brands less substitutable with the store brands. Furthermore, advertising implies market power, barriers to entry, greater product differentiation, and also acts as a signal of quality. Therefore, national brands can charge higher prices relative to the store brand in highly advertised categories than in less advertised categories.
R27	*As the loyalty for the store brand increases, that is, it takes larger price differential to switch store brand consumers, store brand should be promoted less often.*	The primary purpose of store brand discount is to protect its own base from encroachment by the national brands. If the store brand loyalty is higher, then its sales is not threatened by the national brand manufacturer and therefore it does not discount often.
R28	*As the loyalty for the store brand increases, the depth of store brand discount decreases.*	When store brand has high loyalty, the national brand needs to discount deep to get the store brand consumers. For the same reason, the store brand does not have to offer deep discount to protect its turf because consumers are already loyal to the store brand.
R29	*When there are very few customers who prefer the store brands to the national brands (at equal prices), store brands should generally maintain a single constant price and should not be price promoted.*	Price promotion is used by brand manufacturers to maintain high regular price for its loyal customer base but occasionally making forays into the switcher segment through temporary price reduction. Since private labels have no significant loyal base, they are largely geared toward brand switchers and price shoppers. Therefore, maintaining a constant low price with little promotions is the optimal strategy for the store brands.

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APPENDIX – Table A2

Analytical Results Related to **Manufacturer/National Brand (NB)** Marketing Strategies

Result #	Result	Explanation
M1	*When faced with store brand competition, a dual branding strategy (producing private labels for the retailer) can increase manufacturer profits if and only if the national brand manufacturer has a cost advantage over competing independent private label suppliers.*	By foreclosing sales from the independent private label manufacturer, the national brand manufacturer obtains more sales and more profits than it would have if it had sold only the national brand.
M2	*An effective manufacturer counter- strategy in the face of store brand competition is to increase national brand quality and differentiate from the store brand, thus increase the national brand's share/profits.*	Lack of differentiation, whether in quality or feature, directly reduces the sales, margins, and profits for the manufacturer since the store brand can take away consumers of the national brand. Having a high-quality national brand creates barriers to imitation and protects the national brands from sales erosion.
M3	*Given a high-quality national brand, it is important to advertise the national brand as high quality to differentiate it from the lower quality store brand.*	A national brand of high-quality should communicate to the consumer that it is of high-quality. Consumer will get the message and be willing to pay a premium for the difference in quality. If low quality manufactures try to advertise and charge a high price, consumers will learn of this disguise and not pay such a high price at a future date.
M4	*When the cost of supplying a private label does not increase with the quality of the private label, the national brand wholesale price decreases with an increase in store brand quality.*	A high-quality store brand implies a stronger substitute for the national brand, hence the national brand manufacturer is forced to reduce its wholesale price.
M4A	*When the cost of private label increases with its quality, national brand wholesale price may actually go up with introduction of a quality-equivalent private label.*	There are two countervailing effects. First, when the quality of private label increases, price competition with the branded product is more intense and it leads to a decrease in the wholesale price of the branded product. However, a second effect acts in the opposite direction. When the quality of private label increases, its marginal cost increases reducing its price competitiveness. So, the manufacturer can increase the wholesale price of the branded product. The second effect is stronger particularly when the national brand manufacturer has a cost advantage.
M5	*When store brand supply price is increased, the national brand's wholesale price increases.*	As store brand cost increases, retailers need to price the store brand higher. This provides leverage for the national brand manufacturer to raise its wholesale price.
M6	*If the manufacturer has adequate information about demand, a two-part tariff in the form of quantity discount offered to the retailer on the national brand can discourage private label sales and increase manufacturer profits.*	Quantity discount implies that the retailer gets lower wholesale price if s/he sells larger quantities of the national brand. This can encourage the retailer to sell more national brands and, in the process, both the manufacturer and the retailer may be better off.
M7	*Slotting allowances or offering a lump-sum payment to the retailer in return for not carrying a private label would not be a viable strategy for the national brand manufacturer in countering private label entry.*	Because the retailer gets the store brand at cost, its margins on the private label is high. Hence, it can be shown that the manufacturer's increase in profits by not keeping the private label is less than the retailer's decrease in profits by not carrying the store brand. So, the allowance that manufacturer should be willing to give to retailer would not be enough incentive for the retailer not to carry the store brand.

M8	*Distributing coupons randomly may not be an effective manufacturer counter- strategy to private label penetration.*	A national brand coupon is effective when it attracts store brand consumers who are unwilling to pay a premium for national brands, while maintaining sales from its loyal customers at the regular price. A randomly distributed coupon strategy could be used equally by loyal customers and price sensitive customers. This essentially leaves manufacturer and retailer profits unchanged.
M9	*A national brand coupon strategy specifically targeting the more price sensitive store brand customers is an effective counter-strategy against private labels*	A targeted coupon strategy acts as a good price discrimination mechanism. Consumers with low price sensitivity who are willing to pay a high price will continue to buy national brands at the higher prices. Consumers with moderate price sensitivity will switch to national brand because of the coupons, which actually gives more money to the retailer and additional sales to manufacturer. The highly price sensitive consumers continue to buy store brand. With a coupon strategy, the regular price of national brand increases and both the manufacturer and the retailer can earn higher profits.
M10	*If the leading national brand manufacturer also supplies the private label (dual branding), price promotions by national brands will also be reduced under certain conditions.*	By offering a private label to the retailer, the providing manufacturer gives itself less incentive to promote because, by promoting the national brand, it will be hurting private label sales from which it gets a share of the profit. At the same time, since the private label takes away some market share from competing brands, they have less resource available for promotion. The retailer also discourages competing manufacturers from promoting, to protect is own sales.
M11	*The larger the size of the consumer segment switching between national brands and store brands, the greater is the likelihood for the retailer to obtain trade deals from national brand manufacturers.*	When the size of the switching segment is large, the manufacturer has the incentive to attract those consumers (switchers) by offering temporary lower prices through trade deals.
M12	*As the loyalty for the (weak) store brand increases, that is, it takes larger price differential to switch store brand consumers, national brands should engage in less frequent price promotions.*	When the store brand has high loyalty, the national brand will have to discount deep to get the store brand consumers to switch, which decreases the national brand profits. So, the manufacturer does not have an incentive to discount the national brand often.
M13	*As loyalty for store brand increases, that is, it takes larger price differential to switch store brand consumers, national brands should be offered with deeper discount.*	The regular price of national brand caters to the national brand loyal segment. By definition, high store brand loyalty means the national brand has to offer a large price differential to switch store brand consumers. Therefore, the national brand has to be offered at a deep discount to cater to the switchers.
M14	*Strong (national) brand with high brand loyalty promotes less often than the weak (store) brand with low brand loyalty.*	Both brands are essentially fighting for the consumer segment loyal to the weaker brand. To get these consumers, the stronger brand must also offer a lower price to its own loyal consumers, who are willing to pay the high regular price. Therefore, a price reduction is less attractive for the stronger brand and hence the national brand promotes less often than the store brand.
M15	*Average discount of strong (national) brand with high brand loyalty is larger than average discount of weak (store) brand with low loyalty.*	The premium national brand keeps its regular price high to cater to its loyal customers. The store brand keeps its price low to attract the more price sensitive customers. Temporary price discounts are offered by the stronger brand to switch the store brand consumers while they are used by the store brand to retrieve them. Hence, because the regular price is high, the premium national brand has to offer deeper discount.

REFERENCES

Abe, Makoto (1995), "Price and Advertising Strategy of a National Brand against its Private-Label Clone: A Signaling Game Approach," Journal of Business Research, 33, 241-250.

Ailawadi, Kusum, Bari A. Harlam, Jacques Cesar, and David Trounce (2006), "Promotion Profitability for a Retailer: The Role of Promotion, Brand Category, and Store Characteristics," Journal of Marketing Research, 43 (November), 518-535.

Applebaum, Eidan, Eitan Gerstner, and Prasad Naik (2003), "The Effects of Expert Quality Evaluations vs. Brand Name on Price Premiums," Journal of Product and Brand Management, 12 (3), 154-65.

Bergkvist, Lars and John Rossiter (2007), "The Predictive Validity of Multiple-Item Versus Single-Item Measures of the Same Constructs," Journal of Marketing Research, 44 (May), 175-184.

Bontems, Phillippe, Sylvette Monier-Dilhan and Vincent Requillart (1999), "Strategic Effects of Private Labels," European Review of Agricultural Economics, 26 (2), 147-165.

Choi, Chan S. and Anne T. Coughlan (2006), "Private Label Positioning: Quality versus Feature Differentiation from National Brand," Journal of Retailing, 82 (2), 79-93.

Connor, John M. and Everett B. Petersen (1992), "Market Structure Determinants of National Brand-Private Label Price Differences of Manufactured Food Products," Journal of Industrial Economics, 60, 157-171.

Corstjens, Marcel and Rajiv Lal (2000), "Building Store Loyalty Through Store Brands," Journal of Marketing Research, 37 (August), 281-291.

Cotterill, Ronald W. and William P. Putsis (2000), "Market Share and Price Setting Behavior for Private Labels and National Brands," Review of Industrial Organization, 17, 19-39.

Dhar, Sanjay K. and Stephen J. Hoch (1997), "Why Store Brand Penetration Varies by Retailer," Marketing Science, 16 (Summer), 208-27.

Dunne, David and Chakravarthi Narasimhan (1999), "The New Appeal of Private Labels," Harvard Business Review, May-June, 41-52.

Horowitz, I. (2000), "An Option-Pricing Look at the Introduction of Private Labels," Journal of the Operational Research Society, 51, 221-230.

Kim, Nawoon and Philip M. Parker (1999), "Collusive Conduct in Private Label Markets," International Journal of Research in Marketing, 16, 143-155.

Lal, Rajiv (1990), "Manufacturer Trade Deals and Retail Price Promotions," Journal of Marketing Research, 27, 428-444.

Mills, David E. (1995), "Why Retailers Sell Private Labels," Journal of Economics and Management Strategy, 4(3) 509-528.

_____ (1999), "Private Labels and Manufacturer Counter Strategies," <u>European Review of Agricultural Economics</u>, 26 (7), 125-145.

Narasimhan, Chakravarthi (1988), "Competitive Promotional Strategies," <u>Journal of Business</u>, 61 (October), 427-450.

_____ and Ronald Wilcox (1998), "Private Labels and the Channel Relationship: A Cross-Category Analysis," <u>Journal of Business</u>, 71 (4), 573-600.

Peles, Yoram (1972), "On the Uses of Private Brands," <u>Journal of Industrial Economics</u>, 12, 173-178.

Quelch, John A., and David Harding (1996), "Brands versus Private Labels: Fighting to Win," <u>Harvard Business Review</u>, (January-February), 99-109.

Raju, Jagmohan S, V. Srinivasan and Rajiv Lal (1990), "The Effects of Brand Loyalty on Competitive Price Promotional Strategies," <u>Management Science</u>, 36 (3), 276-304.

_____, Raj Sethuraman, and Sanjay K. Dhar (1995a), "The Introduction and Performance of Store Brands," <u>Management Science</u>, 41 (6), 957-978.

_____, _____, and _____ (1995b), "National Brand-Store Brand Price Differential and Store Brand Market Share," <u>Pricing Strategy and Practice</u>, 3(2), 17-24.

Rao, Ram C. (1991), "Pricing and Promotions in Asymmetric Duopolies," <u>Marketing Science</u>, 10(2), 131-144.

Sayman, Serdar, Stephen J. Hoch, and Jagmohan S. Raju (2002), "Positioning Store Brands," <u>Marketing Science</u>, 21 (Fall), 378-397.

_____ and Jagmohan Raju (2004), "How Category Characteristics Affect the Number of Store Brands Offered by The Retailer: A Model and Empirical Analysis," <u>Journal of Retailing</u>, 80, 279-287.

Schmalensee, Richard. (1978), Entry Deterrence in the Ready-to-Eat Breakfast Cereal Industry," <u>Bell Journal of Economics</u>, 9, 305-327.

Scott-Morton, Fiona and Florian Zettelmeyer (2004), "The Strategic Positioning of Store Brands in Retailer—Manufacturer Negotiations," <u>Review of Industrial Organization</u>, 24,161-194.

Sethuraman, Raj (2003), "Measuring National Brands' Equity over Store Brands," <u>Review of Marketing Science</u>, 1 (2), 1-26.

_____ (2006), "Private Label Marketing Strategies in Packaged Goods; Management Beliefs and Research Insights," Marketing Science Institute Working Paper No. 06-108 (June).

_____ and V. Srinivasan (2002), "The Asymmetric Share Effect: An Empirical Generalization on Cross-Price Effects," <u>Journal of Marketing Research</u>, 39 (August), 379-386.

Soberman, David and Philip M. Parker (2004), "Private Labels: Psychological Versioning of Typical Consumer Products," <u>International Journal of Industrial Organization</u>, 22 (September), 849-861.

Stern, Louis W. (1966), "The New World of Private Brands," California Management Review, 8 (3), 43-50.

Sudhir, K. and Vithala R. Rao (2006), "Do Slotting Allowances Enhance Efficiency or Hinder Competition?" Journal of Marketing Research, 43 (May), 137-155.

Tarnowski, Joseph (2005), "Private Label: Think Global, Act Label," Progressive Grocer, November.

Varian, Hal R. (1980), "A Model of Sales," American Economic Review, 70 (4), 651-659.

Wu, Chi-Chang and Chih-Jen Wang (2005), "A Positive Theory of Private Label: A Strategic Role of Private Label in a Duopoly National-Brand Market," Marketing Letters, 16 (2), 143-161.