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Store Brands and National Brands Price Differential and Impact on Category Performance

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Abstract: The proliferation of store brands in American food retailing has been evident for several years. The purpose of this study is to analyze product category price disparity of store brand and national brand products and impact on market share and profitability. In this study, within an empirical analysis based on scanner data from a supermarket retailer, sixteen dairy product categories are investigated over a period of three years (from June 2008 to June 2010). The empirical results indicate that while pricing of store brand has impact on market penetration, market share, profit percentage, and profit in dollars, there are other factors that impact these areas The major implications for retailers is that lower store brand pricing is of particular importance to market share and profitability.

Key words: pricing; store brands; national brands; category profitability
JEL codes: D4, L1

1. Introduction

One of the most important consumer market trends in the United States is the increasing presence of store brands. Store brands, also known as private brands (PB), are brands created and managed by a retailer, in contrast to national brands (NB), which are owned by a manufacturer. The rapid proliferation of store brands in United States food retailing has been a major force in retail marketing.

Store brands experienced record sales of $59 billion in 2012 in U.S. supermarkets representing 23.1% of unit share and 19.1% of dollar share volume. Since 2009, sales of store brands in U.S. supermarkets have increased +2.6% annually compared to +0.9% annually for national brands (plma.com/storeBrands). There are several factors driving the growth of store brands: (1) increased concentration in retailing, which enables grocery chains to operate with their own brands (2) more positive attitudes in consumers towards the quality of store brands and (3) pricing, which is significantly lower than that of national brands (A. C. Nielsen, 2011).

There has been research on how store brands provide leverage to retailers, who buys store brand products, and the category and market determinants of store brand share (Ailawadi & Keller 2004). Store brands and national brands are managed in many supermarkets within a framework known as category management. Category Management (CM) is a retail management initiative aimed at improving the overall performance for a retailer in a

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product category through the coordination of buying, merchandising, and pricing of the brands in the category (Pepe, 2008). The managerial literature, consultants' writings and articles, and academic literature of strategy are in agreement on representative measures which category results can be objectively evaluated. These measures of category performance versus objectives might be comprised of but are not limited to: change in category market share over the past year versus objectives; change in category dollar sales over the past year versus objectives; category profitability over the past year versus objectives, etc. (Gooner, 2001).

For food retailers, a major marketing decision is the pricing of national and store brands in a product category. The interrelationships of demands between national brand and store brand products makes the product-line pricing decision one of the major challenges facing marketing executives (Monroe, 1990). Since their origins in the 1960s, when they were aggressively priced generic offerings pitched at the low-quality end of the market, store brands have evolved to become closer in quality and pricing to national brands in the minds of consumers (A. C. Nielsen, 2011). The marketing strategies employed for both store brands and national brands rely mainly on two crucial factors: price and quality. Store brand products sell for approximately 30 per cent less than national brands, whereas national brands typically deliver discounts of 20-30 percent on promotion (Ailawadi et al., 2001). In quality terms, national brand products are still perceived to be superior to their store brand counterparts, although improvements in the latter are closing this gap (Steenkamp & Dekimpe, 1997).

A major marketing decision for retailers that sell store brands is to coordinate prices for a national brand and its store brand version. The purpose of this study is to analyze product category price disparity of store brand and national brand products and impact on category market share and profitability. In this study, within an empirical analysis based on scanner data from a supermarket retailer, sixteen dairy product categories are investigated over a period of three years (from June 2008 to June 2010). Specifically, this study seeks to answer the following research questions:

(1) Does the price disparity between store and national brand products impact category market share?

(2) Does the price disparity between store and national brand products impact category profit dollars?

(3) Does the price disparity between store and national brand products impact category profit percentage?

2. Conceptual Overview

To effectively manage private label and overall business, retailers employ a concept known as category management. "Category management is a process for managing product categories as business units and customizing them store-by store, so as to meet consumers' needs" (A. C. Nielsen, 1992). To effectively evaluate the effectiveness of category management, retailers need to monitor the performance of their categories by using metrics such as market share and profitability (A. C. Nielsen, 2006).

A major concern in retail management operations is configuring and pricing product assortments offered within each category and across locations (Kahn, 1999). Assortment decisions affect a retailer's positioning and traffic generated at its stores with the traditional approach to satisfy this issue is offering larger assortments aimed at meeting the preferences of a diverse customer base. With the increased availability of store-level scanner data, management strategy has shifted away from assortment size towards assortment efficiency (Boyd & Bahn, 2009) and focusing on optimizing their product lines as a disaggregate level, making more frequent adjustments to the number and prices of brands carried (Amine & Cadenat, 2003).

One of the main managerial decisions encountered by category managers is the pricing of their product categories

and determining the price gap between store and national brands. On average, private label items are priced 10-30 percent lower than national brands in grocery product categories (Mills, 1995). Unlike national brands which may be purchased at virtually any chain, store brands are proprietary to the chains themselves. Store brands provide several advantages in competing with national brands. First, supermarkets control the retail price of all brands offered in their stores so they can manage a price disparity that favors the store brand. Second, supermarkets might emulate various products that national brands have without spending too much in product and design development since they contract the production of store brands with manufacturers, who most of the time are the same companies that produce national brands (Velez, 2003). Third, supermarkets decide which products will be sold in their stores as they are the owners of their outlets. Supermarkets also determine display space for products and decide how the products sold in the store are merchandised. Supermarkets can sell store brands at a lower price than national brands and still be more profitable and store brands represent one key point of difference among supermarkets.

3. Hypotheses

In their research on store brands, Hoch and Banerji (1993) identified that store brands obtain higher market share when advertising expenditures for manufacturers' brands are low. Previous research by Suarez (2005) indicated that an efficient store brand campaign may potentially result in increased market share for stores. National brand consumers, in general, are willing to pay some premium for their brands. Hence, consumers would continue to purchase a national brand if the price differential is small, and would switch to the store brand only if the price differential is above some threshold level. Some studies have found that in typical grocery products, a minimum price differential of 10 percent should be provided as a monetary incentive for consumers to buy the store brands instead of the national brands (Donegan, 1989). Previous research by Suarez (2005) indicated that an efficient store brand campaign may potentially result in increased market share for stores.

Due to their exclusivity, strong private labels boost store loyalty and gross margin opportunities may be greater (Levy & Weitz, 2007). Large retailers are now realizing that effective marketing of store brands can increase store loyalty, chain profitability, and product turnover (Richardson et al., 1996). Increasing the sales penetration of their quality store brands improves profits for retailers. This is because store brands are store specific and, "when consumers exhibit a varying degree of inertia in brand switching, quality store brands make it more costly for consumers to switch stores and lead to greater retailer loyalty" (Corstjens & Lal, 2000).

Based on previous studies, the following hypotheses are developed for this study:

H1: There is a significant positive relationship between store/national brand price disparity and category market share.

H2: There is a significant positive relationship between store/national brand price disparity and category profit dollars ($).

H3: There is a significant negative relationship between store/ national brand price disparity & category profit percentage (%)

4. Research Methodology

4.1 Regression Based on Pricing

A Supermarket retailer located in the northeast was used for this research. This Supermarket has annual sales exceeding $4.5 billion annually and places a major emphasis on the growth of their private label products. The

supermarket retail chain has over 130 stores dispersed over New England states and is representative of typical United Sates national grocery markets.

Category management is implemented at this Supermarket with the Grocery Department divided into 157 distinct and measurable product categories. The categories are divided based on consumer purchase patterns of similarities among products and the key objectives of each category manager is to increase sale, profits and market share of each product category.

Sixteen dairy product categories were selected for analysis in this study and represented an annual sales volume of $262 million. The sixteen product categories are as follows: (1) Butter (2) Cheese (3) Cottage Cheese (4) Dessert Topping (5) Dips (6) Eggs (7) Margarine (8) Milk (9) Other Refrigerated (10) Refrigerated Dough (11) Cream (12) Refrigerated Juice (13) Ricotta (14) Sour Cream (15) Tex-Mex (16) Yogurt.

Thirty-nine data points were obtained, each of which represented a four week period between June 2008 and June 2010. Retailer Point of Sale (POS) scanner information provided data to measure category performance. Regression analysis was performed on all sixteen product categories.

Average private label price and Average national brand price (in aggregation) was obtained for each of the 16 categories in each period. The average pricing disparity between private label and national brands formed the basis of the analysis. We regressed market share, profit in dollars, and profit by percentage versus Delta. Delta is defined as the raw difference between store and national brand. We used the raw difference to investigate whether the raw amount of the price difference mattered, that is — would customers purchase the national brand if the price difference was only a small amount, five cents for example, but switch to the private label when the difference became significant, for instance a quarter.

Table 1 is sorted by delta from low to high. Note that for cheese on average store and national brand had a delta of zero — that is, they were priced the same on average. Note that larger Delta could be caused by lower store brand price, higher national brand price, or a combination. The way in which the Delta was changed may be an issue for future study.

Table 1 Regression Summary Dairy Category

		Market share		Profit dollars		Profit percentage	
Raw Delta	Product	P-value	Coeff	P-value	Coeff	P-value	Coeff
0.00	Cheese	0.51	0.41	0.76	-61298.90	0.62	1.80
0.12	Cottage cheese	0.02	-1.17	0.00	-60467.80	0.01	3.39
0.31	Dessert topping	0.27	-0.94	0.19	-60467.80	0.04	1.44
0.34	Ricotta	0.14	-0.35	0.21	12467.03	0.12	2.98
0.34	Yogurt	0.43	1.19	0.46	134075.40	0.28	-2.91
0.44	Cream	0.14	-1.28	0.42	146075.50	0.16	4.06
0.47	Milk	0.68	0.11	0.00	-351300.00	0.07	-4.87
0.48	Texmex	0.37	-1.91	0.04	12139.23	0.07	4.91
0.50	Other refrig	0.94	0.14	0.56	-4942.89	0.99	0.01
0.50	Juice	0.21	-0.31	0.03	10649.20	0.02	5.27
0.52	Sour cream	0.01	-1.45	0.73	-5365.21	0.03	-6.73
0.57	Dips	0.16	0.79	0.50	12610.8	0.01	7.84
0.68	Margarine	0.37	-0.68	0.25	-36847.60	0.00	5.90
0.74	Butter	0.55	-0.31	0.53	-23039.00	0.88	-0.41
0.77	Refrig dough	0.23	1.19	0.11	-151476.00	1.00	0.00
1.44	Eggs	0.36	-2.34	0.15	-120725.00	0.44	-5.15

This display is sorted by delta from low to high. Note the (underlined) cells with a p-value below .05 as they indicate significant regression results at 95% level of significance. Interestingly for five of the six products in which Delta had a significant effect on Profit %, a larger Delta caused a larger profit percentage. But the change was not large on a practical level — for instance the 3.39 coefficient for cottage cheese means that for a $1 increase (LARGE) in delta, there would be a 3.39% raw increase in profit % (roughly 10% on a percentage basis).

4.2 Time Series Regression

A time series regression was also performed. Independent variables were year and four week period. There were thirteen four-week periods in each of the three years of data, which were represented by dummy categorical variables to investigate seasonality in market share, profit in dollars, and profit by percentage. Results discussed in the following paragraphs are displayed in Appendix 1.

First, results of the regression shows that all three measures; market share, profit in dollars, and profit by percentage are effected by year. Market share has five categories increasing with year, while three categories decrease by year, with the remaining eight categories not affected by year. Profit in dollars has thirteen categories increasing by year, while two categories decrease by year, and one category remains the same over the three year period studied. It is quite likely that this measure is affected by factors other than pricing, such as the competitive environment. Profit by percentage has eight categories increasing with year, while two decrease by year and six remain the same. It would be useful to investigate if there were changes in manufacturing processes that led to increased efficiencies or if increased volume led to efficiencies.

Seasonality had almost no effect on market share, with two categories having slightly higher sales during one four week period. Profit in dollars had a large degree of seasonality present, with fourteen of the sixteen categories showing seasonal effects. Interestingly the periods exhibiting the most seasonality were during the two holiday periods near the end and beginning of the calendar year. Profit by percentage has a small amount of seasonality. The product category exhibiting the largest amount of seasonality was eggs, perhaps to supply issues.

5. Results

H1: There is a significant positive relationship between store/national brand price Delta and category market share.

- At a 95% level of significance, 2 of 16 categories (cottage cheese and sour cream) showed a negative relationship.

H2: There is a significant positive relationship between store/national brand price disparity and category profit dollars ($).

- At a 95% level of significance, 2 of 16 categories (cottage cheese and milk) showed a negative relationship.
- At a 95% level of significance, 1 of 16 categories (juice) showed a positive relationship.

H3: There is a significant negative relationship between store/national brand price disparity and category profit percentage (%).

- At a 95% level of significance, 5 of 16 categories (cottage cheese, dessert topping, juice, dips, and margarine) showed a positive relationship.
- At a 95% level of significance, 1 of 16 categories (sour cream) showed a negative relationship.

6. Conclusions, Limitations, and Future Studies

(1) Due to the weaker than expected effect of price disparity, other factors (promotions, consumer loyalty, price controls in certain categories, etc.) should be studied.

(2) Performance of individual brands in each category instead of overall results should be analyzed.

(3) The supermarket retailer utilizes a high-low (promotional) pricing strategy. Future research should focus on the impact for a supermarket using an EDLP (everyday low pricing) strategy.

(4) Since there was an impact of year on output measures, it would be useful to investigate "dynamic Delta", that is does the Delta in a given four week period represent a decrease or increase over the Delta from the previous period. Another related issue is whether the change in Delta was due to change in store brand pricing, a change in national brand pricing, or a combination of both.

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Appendix 1 Time Series Regression

Market Share – X indicates significant positive coefficient at alpha = 0.05 (P1 is base period). Y indicates significant negative coefficient at alpha = 0.05

Product	Year	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13
Dips	X									X			
Cheese													
Cottage Cheese													
Ricotta													
Butter											X		
Cream	X												
Margarine													
Eggs	Y												
Dessert Toppings	Y												
Milk													
Other Ref.	Y												
Ref. Dough	X												
Juice													
Sour Cream													
Tex Mex	X												
Yogurt	X												

Profit $

Product	Year	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13
Dips	X	X	X						X				
Cheese	X								X				
Cottage Cheese	X					Y	Y	Y	Y	Y	Y	Y	
Ricotta	X					X	X		X		X	X	
Butter	X							X	X				
Cream	X							X	X	X	X	X	X
Margarine	X					X	X	X	X	X	X		
Eggs	Y					Y		Y					
Dessert Toppings	X			Y	Y	Y	Y	X	Y				
Milk	Y												
Other Ref.	X						X	X	X	X	X	X	X
Ref. Dough	X					X	X	X	X	X	X	X	
Juice													
Sour Cream	X		X					X	X				
Tex Mex	X									X			
Yogurt	X						Y	Y	Y				

Profit %

Product	Year	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13
Dips	X												
Cheese	X												
Cottage Cheese													
Ricotta	X												
Butter	X												
Cream	X												
Margarine	X					X							
Eggs	Y					Y		Y	Y	Y			
Dessert Toppings													
Milk	Y				X								Y
Other Ref.	X							Y	Y	Y			
Ref. Dough								Y	Y				
Juice													
Sour Cream	X												
Tex Mex													
Yogurt													