Market Strategies in Branded Dairy Product Markets

by

Ronald W. Cotterill
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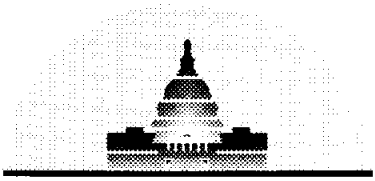

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Abstract

This paper documents the extent of cooperative penetration into branded dairy product markets and presents case study evidence on competitive strategies in the skim/low fat milk, whole milk, cottage cheese, butter, margarine, and ice cream markets. We employ data for 51 local market areas from the Information Resources, Inc. "Supermarket Review" data base for 1988 and 1989. Using national data, we identify the twenty top brands (by volume sales) and all cooperatives that market one or more brands in each of the above categories, and report their national market shares, average prices, number of local markets in which they are sold, and a summary of their local rankings. Using local data for selected brands, we graphically analyze how prices, quantities, and shares change over time in particular markets. We find that cooperatives have much stronger positions in local markets than their national market shares indicate. When looking at the brand share-price relationship for particular brands across local markets, we find examples of positive, negative, and no relationship.

Market Strategies in Branded Dairy Product Markets

1. Introduction

Dairy cooperatives face several strategic options, one of which is integrating forward into processing to market branded dairy products. This paper documents the extent of cooperative penetration into branded product markets and presents some rudimentary case study evidence on competitive strategies in those markets. We employ data for 51 local markets as well as national data from the Information Resources Inc. (IRI) "Supermarket Review" data base for 1988 and 1989. To our knowledge this paper is the first systematic examination of the position of cooperatives and investor owned branded dairy product marketers in local markets. We identify regional cooperative brands that do not rank high when looking at total national sales but have leading market positions in their chosen markets.

The next section of this paper provides information for the top 20 firms ranked by national sales and for all cooperatives that market one or more branded products in the following product categories: skim/low fat milk, whole milk, cottage cheese, butter, margarine, and ice cream. Although margarine is not a dairy product, we include it because it may be a close substitute for butter. Throughout this paper we assume that these product categories are relevant product market definitions for strategy analysis. For the present paper this is a workable assumption. However, a more detailed analysis may indicate that products such as skim/low fat milk and whole milk are in the same product market.

For each of the top 20 firms and other cooperatives we identify their 1989 national product category share, their average price for 1989, the number of local markets that the company is in, and the number of local markets where it ranks first, second, third, or fourth.

The third section of this chapter uses local market data on a few selected brands to analyze in graphic form how prices, quantities and category shares change over time in particular markets, and how a brand's price and category share vary for a particular time period across several local markets. These simple graphs provide considerable insight into brand marketing strategies. The last section contains conclusions.

2. National Market Position, National Price, and Local Market Positions

The IRI Supermarket Review data base uses scanner data collected from over 2400 supermarkets nationwide to estimate several economic variables for brands such as Land O'Lakes butter on a quarterly basis for 51 local markets. The graphic definitions of the local areas are illustrated in Figure 1. These local market areas range in population size from Boise, Idaho to the metropolitan New York area. Information Resources, Inc. and A.C. Nielsen are the only two companies that provide this type of data. Food manufacturers regularly use a more detailed version of these data (weekly reports for particular container sizes) for the daily operation of their brand marketing programs. Aggregation to quarters and brands may prevent analysis of very short run competitive dynamics. However, it should provide sufficient detail to track longer run strategic interaction.

Table 1 identifies total market private label sales and brand sales for the top 20 firms and all cooperatives in the skim/low fat product category. As is commonly known, private label volume dominates branded product movement. Private label volume accounts for 63 percent of skim/low fat national volume in 1989. The 1989 average price was $2.09 per gallon. Since not all skim/low fat milk was sold in gallon containers, and the price "per gallon" of milk sold in smaller unit sizes is generally higher, we have included the variable "units per gallon" to facilitate comparison of prices across companies and brands. Private label milk sales averaged 1.33 units per gallon. If all sales had been in gallons this variable would be 1 unit per gallon; if all sales were in half gallons it would be 2.0 units per gallon. Brands with higher units per gallon in Table 1, as expected, have higher average prices per gallon. A comparison of brand prices needs to control for differing units per gallon, if there is significant variation among brands.

Borden is the leading marketer of branded skim/low fat milk. Its share of national sales is only 2.9 percent and that share is distributed across seven brands, with the "Borden" brand capturing most sales (1.33 percent of national sales). The Borden brand has a $2.47 average price per gallon. This is well above the private label price. However, part of the brand differential is explained by the somewhat smaller unit size (1.51 versus 1.33 units per gallon). Borden Inc. sells its branded product in 27 of the 57 local markets and, based on sales of all its brands, it is the leading firm in 6, the second firm in 8, the third firm in 5, and the fourth firm in 4 local markets. Only in four out of its 28 markets does Borden Inc. rank below fourth.

Local category share ranking on a brand basis differs from company rankings because companies with large shares spread over several brands may have relatively low shares for individual brands. This is the case for Borden Inc. On a brand basis it occupies the leading market position in 5 rather than 6 markets. It sells its leading brand, Borden, in 18 local markets and it is the top brand in 2 markets. "Meadow Gold" is the leading brand in 2 markets and the "Lite Line" brand leads in another market.

Table 1 also indicates that after Borden Inc., Dean Foods and Philip Morris are distributed most broadly across markets. Each operates in 10 or more local markets. The largest cooperatively controlled firm in the skim/low fat category is Agway/Hood. It ranks number 8 nationally with sales in four local markets. Agway/Hood markets "Hood" and "Hood Nuform" brands and has relatively strong market position, being the number one brand market in one market and second in its three other markets.

Darigold Inc. ranks number 9 in national sales, and is the second largest cooperative. It sells in 2 IRI local markets and it is the leading seller of branded milk in each of them. The other two cooperatives in the top 20 are Highland Dairy Inc. (No. 12) and Prairie Farms Inc. (No. 19). Highland sells in 3 local markets, is number 4 in two and ranks fifth or higher in the other. Prairie Farms sells in 4 local markets and ranks second in one, fourth in another and fifth or lower in the other two.

Moving beyond the top 20 we have identified in Table 1, 14 other cooperatives operate in the skim/low fat product category. In the aggregate they operate in 23 local markets, rank first in 5, rank second in 6, rank third in 1, rank fourth in 7, and rank fifth or lower in only 2 markets. Thus, when one examines market share positions in local markets, cooperatives are considerably stronger than is indicated by their national product category shares.

Moving to the whole milk category, as reported in Table 2, one finds quite similar results. Borden Inc., Philip Morris and Dean Foods are again the large multi-market players. Nearly all of their local market operations rank in the top four. Three cooperatives are among the top 20 firms. These are Hiland Dairy Inc. (12), Flav-O-Rich Inc. (14) and Agway/Hood (18). These three cooperatives operate in 13 local markets and rank first in 1, second in 5, third in 3, fourth in 2, and fifth or lower in 2 local markets. Fourteen other cooperatives sell whole milk in 23 local markets and rank first in 7, second in 4, third in 2, fourth in 5, and fifth or lower in 5 local markets.

Table 3 examines the cottage cheese category. Private label volume again accounts for a significant share of category volume (40.5

percent). Average price for private label in 1989 is $1.01 per pound, and firms, on average, sell 1.27 units to distribute a pound of cottage cheese to consumers. As expected, the same large fluid processors appear in the top 20. Philip Morris/Kraft is the leading national firm with 6 brands accounting for 21 percent of national volume. Sealtest "Light n'Lively" is the leading brand with a 7.96 percent national share of cottage cheese volume. Its average price per pound is $1.36. This is $.35 higher than the private label price, and since Lite n'Lively is on average sold in larger containers than private label, this brand price differential may be somewhat understated. Philip Morris/Kraft sells cottage cheese in 40 of the 51 local market areas, and ranks first in volume in 22 markets, second in 7, third in 9, fourth in 1, and below fourth in only one local market.

Agway/Hood ranks third in national volume and is the largest cooperative processor. Its "Hood" brand, however, is sold in only six local markets, but it is the top ranking firm in five of them and number 3 in the sixth.

The other cooperatives in the top 20 are Darigold (9), Prairie Farms (12), Intermountain Milk Producers (14), Golden Guernsey Dairy (17), and Cabot Farmers' Cooperative Creamery (18). Together these firms operate in 15 local markets, rank first in 4, second in 1, third in 4, fourth in 5, and below fourth in only one local market. Cooperative cottage cheese processors that rank among the top 20 processors generally have achieved their size by building strong market positions in relatively few local markets. There are nine other cooperatives that sell branded cottage cheese. They operate in 16 local markets and rank first in 4, second in 2, third in 3, fourth in 3, and lower than fourth in 4 markets. Thus, all cooperatives report 37 brand positions in the 51 local markets and have a rank of fourth or higher in 32 cases. These cooperatives are leading brands in most of their local market areas.

Table 4 reports on the butter category. Again private label sales are a major competitive factor with 44 percent of the national market. The 1989 average price per pound for private label is $1.82 and on average 1.05 units are sold to distribute a pound of butter. In the branded product segment Land O'Lakes is the dominant market player. The cooperative has 31.4 percent of the national market, more than seven times the share of the second largest firm, Philip Morris (4.4 percent). The average price per pound for Land O'Lakes butter is $2.11 and is thus $.29 above the private label price. Land O'Lakes operates in all 51 local markets and ranks first in 38 markets, second in 8, third in 3, fourth in 4, and lower than fourth in only 1 market.

Unlike multi-market firms in milk and cottage cheese, Land O'Lakes has only two brands, with the "Land O'Lakes" brand accounting for more than 99 percent of its sales. Philip Morris/Kraft, the second largest seller of butter, offers three brands; however, its Breakstone brand accounts for over 90 percent of its butter sales. Borden, the third largest seller of butter, has five brands with "Kellers" and "Hotel Bar" accounting for 47 and 41 percent of total company butter sales respectively. Multiple brand strategies may not be as common in butter possibly because, to date, butter is a relatively homogenous product that has seen declining per capita consumption for health reasons. Perhaps the advances in fat substitutes and cholesterol removal technologies will offer options for new brands in the future.

Cooperatives are more common among the top 20 firms in butter than other dairy products industries. Besides Land O'Lakes, eight others rank in the top 20. Each of these firms' volume, however, is less than one tenth of Land O'Lakes' volume. In combination they sell branded butter in 33 markets and rank first in 7, second in 9, third in 6, fourth in 6 and below fourth in 5 local markets. Ten other cooperatives also market brands of butter. In combination they distribute in 13 local markets and rank first in 2, second in 3, third in 4, fourth in 2, and below fourth in 2 local markets. Butter sales in 1989 through supermarkets totaled approximately 310 million pounds. Margarine sales were much higher totaling 1,671 million pounds.

Table 5 reports product category position and price information for all 22 firms in the margarine and spreads category. Private label plays a much lower role here than it does in the dairy categories. Only 16 percent of margarine volume is private label. The 1989 average price per pound is $.49 and on average 0.84 units are sold to distribute a pound of margarine.

The brand structure of the margarine category is quite different than butter. The two leading firms, Unilever and RJR Nabisco, distribute several brands. As a company, Unilever ranks first in 25 local markets but ranks first in only 8 markets at the brand level. In the other 17 markets its leading position as a company comes from sales of two or more lower ranked brands. RJR Nabisco has two flagship brands, "Blue Bonnet" and "Fleischmanns", that each have 11.4 percent of the national market. Fleischmanns has a somewhat stronger position in local markets.

Philip Morris is the third largest firm with over 75 percent of its sales accounted for by its "Parkay" brand. Parkay is the number one brand in 20 local markets, more than any other brand.

Land O'Lakes is the largest cooperative in the margarine and spreads category. It ranks fifth in category sales, selling two brands.

"Land O'Lakes" margarine is sold in 39 local markets but its brand share is fifth or lower in 33 of them. Its "Country Morning Blend" margarine sells in 41 markets and is never one of the top four brands. Thus, in the margarine product category Land O'Lakes is not a leading competitor.

Table 6 reports on the ice cream category. Private label accounts for 40.8 percent of national volume and the price per half gallon averaged $1.88 in 1989. Philip Morris/Kraft is the largest player and distributes its brands in 46 of the 51 local markets. On a company basis it ranks first in 18, second in 9, third in 6, fourth in 5, and below fourth in 8 local markets. The brand structure in ice cream is highly differentiated with four types: regular, all natural premium, all natural super premium and light (lower calorie) ice cream. The leading national brand is Breyers, an all natural premium ice cream, sold by Philip Morris. The price for Breyers, at $3.46 per half gallon, is more than a dollar above the price for the leading regular ice cream, Sealtest ($2.37) which is also sold by Philip Morris. Frusen Gladje is the Philip Morris super premium brand. Note that it sold only in pints (4 units per half gallon) and its 1989 average price was $8.30 per half gallon or $2.07 per pint. Two ice cream operations that market only super premium brands are in the top 20 firms. Haagen Dazs brand (No. 7) sold by Grand Metropolitan PLC is also sold only in pints and averaged $2.26 per pint. Ben and Jerry's (No. 16) is sold in pints at an average price of $2.21 per pint. Haagen Dazs is the most widely distributed super premium selling in 43 markets and ranking third in 2 markets and fourth in 5 markets. Ben and Jerry's is distributed in 20 markets and ranks below fourth in all markets.

Agway/Hood is the largest cooperative ice cream processor (no. 6). Its leading brand is "Hood," a regular ice cream, and it also sells two light ice creams, "Hood Light" and "NuForm." Agway/Hood distributes in seven markets and ranks first in 2, second in 2, third in 1, and below fourth in 2. Note that "Hood Light" sells at a premium to regular "Hood" ($2.24 versus $2.04 per half gallon).

Three other cooperatives rank in the top 20: Flav-O-Rich (no. 14), Prairie Farms (no. 17), and Darigold (no. 20). Moving beyond the top 20, ten cooperatives distribute brands of ice cream. When all cooperative operations are totaled they sell brands in 36 markets, rank first in 9, second in 9, third in 4, fourth in 3 and below fourth in 11 local markets. No cooperative sells super premium ice cream. In the premium category Flav-O-Rich sells "Rich and Creamy" in seven markets and Prairie Farms sells "Old Recipe" in 3 markets. Neither brand ever ranks in the top four.

Clearly cooperatives have not moved into the new product niches as rapidly as IOF ice cream manufacturers. Ben and Jerry's, a start-up firm in Vermont, has had spectacular growth with its innovative super premium ice cream. Haagen Dazs was a similar start up venture that was subsequently acquired by Pillsbury, which was acquired by Grand Metropolitan. This suggests that, at least in some cases, successful new brand development requires creativity and not large firm size.

Table 7 summarizes the market position of dairy marketing cooperatives in these five product categories. When one examines the column titled "national rank of cooperatives in top 20," the number of cooperatives ranges from three in the whole milk category to nine in butter. The total number of cooperatives in each category is relatively uniform ranging from 14 to 19 cooperatives. Thus, category-based joint marketing ventures or other forms of cooperation among cooperatives would require cooperation from relatively few cooperative organizations. The fact that cooperatives, and primarily Land O'Lakes, dominate the butter trade is well documented. There are 97 instances of cooperative distribution in the 51 markets, and a cooperative ranks first in 47 of the markets. Cottage cheese is a distant second in terms of cooperative penetration. Cooperatives have 37 instances of cooperative distribution of branded products in the 51 markets, and 13 first place positions.

If one totals market positions across the five dairy product categories and examines the percent penetration by cooperatives for each of the top four market positions, one obtains a crude measure of the relative position of cooperatives as a group. Cooperatives account for one third of the first place positions in these five categories, 20.8 percent of the second positions, 12.9 percent of the third positions and 17.6 percent of the fourth positions.

When combined with their extensive private label operations, which are undocumented in this paper, cooperatives are a significant competitive factor. Frankly we were somewhat surprised to learn that cooperative penetration into branded dairy product sales, beyond butter, is this extensive at the local market level. Low shares of national product movement do not translate into low market shares in local market areas. We turn now to an examination of particular investor owned firm (IOF) and cooperative brands to explore the significance of this new local market information for the formulation of marketing strategies.

3. Preliminary Case Studies of Related Brands

Except for related work by Haller (1993), previous quantitative analysis of branded food product manufacturers has exclusively employed aggregate national data on average profits, prices, volume movements, product category or more aggregate census category shares, and other structural variables to analyze strategy and performance issues. Examples include market structure-profit studies as reported in Cotterill and Iton (1993), brand-private level price difference studies such as Parker and Connor (1979), Wills (1985), and Connor and Peterson (1992) and conjectural variation studies such as Wann and Sexton (1993). As Rogers (Chapter 4) explained in the prior paper in this workshop, national advertising is important for many food products. It plays a central role in creating strong brand preferences and significant brand price premiums. The reported national average price differentials in Tables 1 through 6 of this paper affirm that leading brands in all product categories including the fluid milk categories, which is often regarded as an undifferentiated product, command premiums over private label prices.

The question that we can now analyze is how do leading brands compete in local market areas? The IRI Supermarket Review provides panel data for each brand; e.g., there are observations for the eight quarters of 1988-1989 across as many as 51 local markets. Rather than formally specify models and test them we will look at scatter plots of the data to see what they can tell us about competition and possible ways to model competition. This is primarily an inductive, case study approach. To do this effectively, however, it may be useful to briefly introduce some theoretical concepts to explain how different tests for market power are related and the conduct that each predicts we would observe in markets so that we have a framework for the discussion of diverse observed phenomena.

The residual demand approach estimates a demand curve for individual brands in differentiated product markets (Baker and Breshnahan, 1988). If the curve has negative slope the firm has power over price. The more inelastic the brand demand relationship, the more power the firm has. Here, we expand this concept in a fashion that helps to relate it to market share tests for power by introducing the concept of a followship demand curve. As illustrated in Figure 2, if all firms in an oligopolistic market raise and lower price together; i.e., follow each other's price, then each firm faces a followship demand curve and has a constant market share as prices fluctuate. The followship demand curve has negative slope because as all prices

decline market demand for the product increases. This type of pricing conduct suggests tacit collusion or price leadership rather than price chiseling, rivalry, or other procompetitive pricing strategies. A firm's conduct is rivalrous if, as illustrated in Figure 2, a price cut from p_0 to p_1 results in an expansion in quantity beyond that necessary to sustain a constant share. The quantity increase $Q_0\ Q_F$ is consistent with a constant share, and the second component of the observed quantity increase, $Q_F\ Q_A$, is indicative of rivalry. For the illustrated case the firm's increase in volume comes from capturing market share from other firms as well as increases in total market quantity demanded.

If rivalry is complete (perfect competition) the actual demand curve will be flat. Thus, the ratio of the slope of the actual demand curve to the followship demand curve ranges from zero (perfect competition) to 1 (perfect price coordination). This index of market power controls for the fact that different brands (firms) will have different residual elasticities due to different market shares and, thus, enables systematic comparison of the power index values across brands (firms).

In summary, if one observes a negative relationship between price and quantity (volume), the firm does have power over price. However, if the firm's observed negative price-volume relationship is consistent with a constant market share, i.e., there is no relationship between price and market share, then the conduct is collusive. Alternatively, if market share and brand price are negatively related then some interbrand rivalry is present.

This generalization of the residual demand analysis of pricing conduct predicts that market share and price are negatively related in rivalrous or competitive markets and not related in noncompetitive markets. How can one reconcile this with the general literature on oligopoly theory that predicts profit maximizing firms with larger market shares; i.e., more concentrated markets, may have higher prices? Following work by Harris (1988), we have been able to reconcile the two as follows. In a differentiated product oligopoly model a firm (brand) residual demand elasticity is a function of several variables including market share. As market share increases, the firm (brand) residual demand becomes more inelastic and the profit maximizing price increases. Intuitively, as a firm expands its share, it moves from a price taker, with infinitely elastic demand, towards a monopolist who faces the market demand curve. Thus, as illustrated in Figure 3, we would expect to find more inelastic residual demand curves, price followship, and higher prices in markets where market share is high. In low share markets the residual demand curve is flat (elastic), nonfollowship (rivalry) dominates, and prices are low. We

would note that this explanation assumes constant production and distribution costs, that differentiation is costless, and that different levels of differentiation generate the observed share distribution. The underlying model does allow for relaxation of these assumptions and, if larger share firms enjoy economies of scale, the cost efficiency effect may affect or even dominate the power effect of large share, producing no share price relationship or a negative relationship. We refer readers to Cotterill (1993) for a more rigorous presentation of this model.

This theory suggests that examination of a brand's price-volume conduct across time (eight quarters) in a particular market will generally produce a negative relationship between brand price and volume because quarterly time series analysis should capture short run shifts in supply conditions that trace out a relatively stable demand curve. In cross section analysis one may find a positive relationship between share and price if the power effect dominates the cost effect, no relationship if they cancel each other, and a negative relationship if cost effects dominate.

We will analyze the following brands: Land O'Lakes and Crystal Farms butter; Imperial, Parkay and Land O'Lakes margarine; Breyers and Hood ice cream; and Borden and Deans skim/low fat milk. The price-volume, price-share, and occasionally the price trend over time will be analyzed for brands over eight quarters in particular local markets. Then we will examine the cross section scatter plots between a brand's 1989 average price and its 1989 product category share. One *caveat* is in order. All reported brand prices are shelf prices and are not adjusted for manufacturer coupon redemption. Some of the very high brand prices in particular markets or particular quarters may be due to coupon merchandising strategies.

The first product that we examine is butter in the Chicago retail market area. Figure 4 illustrates the relationship between quarterly price and volume for Land O'Lakes, Crystal Farms and private label butter. Land O'Lakes is the leading brand in Chicago and sells at a hefty premium over private label. Crystal Farms is the second brand in Chicago and sells at approximately the private label price. The scatter plots for Land O'Lakes and private label seem to identify demand curves with substantial slope. Assuming that they do identify demand curves, the question is do increased sales come from other firms (increased market shares) as well as from moving down the market demand curve or do they come only from the latter (constant market shares)? Figure 5 provides a provisional answer. It displays the scatter plots for price and shares. For Land O'Lakes, share is constant or possibly positively related to price. Similarly the private label price changes do not produce large fluctuations in private label

share. Price followship seems to hold in this market where the combined share of Land O'Lakes and private label butter exceeds 90 percent. Crystal Farms butter is a very marginal player in this market. Its prices are not related to its volume or share. The lack of a price volume relationship for Crystal Farms suggests that it behaves as a competitive fringe firm, regarding market price conditions as a given that it cannot influence in its marketing activities.

Moving to the margarine market in the Chicago retail area produces a different story. Since private label is not a major player in margarine markets we will ignore it. Figure 6 is somewhat messy but it illustrates the price volume relationships in Chicago for Imperial, Land O'Lakes, and Parkay margarine. Land O'Lakes is generally the highest priced, then Parkay and then Imperial. Their volumes span the similar ranges. Each brand seems to identify a negatively sloped brand demand curve. The three brand demand curves seem to identify a single demand curve. However, recall that these brands are being sold at the same time for three different prices in the local market, so this is not the case. Figure 7 looks at price-share scatter plots for these three brands. First, note that in combination these three brands account for only 50-60 percent of margarine sales. All three brands exhibit significant negative relationships between price and category share. In fact, when comparing figures 6 and 7, it appears that most of the added volume due to lower prices comes from share gains and not increased total sales of margarine in the market. Thus, the Chicago margarine market seems very rivalrous. This is a very different conclusion than we reached for Chicago butter.

Shifting now to cross section analysis of butter and margarine brand prices, Figure 8 displays the scatter plot for the 1989 average price for Land O'Lakes butter and its category share in the 51 local markets. The brand price does not appear to be significantly correlated with its share and the correlation is, if anything, slightly negative. Figure 9 is a similar scatter plot for Land O'Lakes margarine. Price for this brand does appear to be somewhat positively related to share. Thus, it appears that Land O'lakes is following different geographic pricing strategies for these two products. This may be because of different cost-share relationships for the two products or because Land O'Lakes as a cooperative is pursuing a volume maximizing strategy for butter to move product and is pursuing a profit maximizing strategy for margarine to generate earnings for its dairy farmer members.

Figure 10 illustrates the price-share scatter plot for Philip Morris' "Parkay" margarine. Clearly, there is a negative relationship between brand price and local market share. Figure 11 is for Unilever's Imperial margarine. The possibility of a positive price share relation

surfaces again for this brand. In summary, these cross sectional scatter plots suggest that pricing strategies at the brand level in differentiated markets can vary significantly among firms and possibly among products in a single firm.

Figure 12 illustrates the quarterly price-volume relationships for Breyers, Hood, and private label ice cream in the Boston retail market area. Breyers, the leading national brand, sells at a premium that primarily reflects the fact that it is an all natural premium ice cream. The Hood and private label products are regular ice creams. Note that Hood consistently sells at a premium to private label. The price-volume points for Breyers identify what seems to be a demand curve that is considerably less elastic than the Hood or private label demand curves. Thus, Breyers seems to have and exercise considerably more pricing discretion than Hood. Figure 13 displays the corresponding price share relationships. Breyers' market share is considerably less sensitive to price changes than Hood's or the private label products. Again, just as for margarine, this suggests that the ice cream market is segmented and that premium ice cream does not compete as directly with regular ice cream as it does with other premium ice creams.

Figure 14 examines the cross section relationship between Breyers ice cream price and share for the local markets that it operated in during 1989. Clearly, there is a negative share-price relationship. Share-related cost effects seem to dominate market power as a source of profits. For whatever reason, consumers benefit when Breyers has a large market share.

Our last case study is skim/low fat milk for Borden and Deans. Figure 15 is the quarterly price trend for two brands, "Borden" and "Deans", and private label for 1988-1989 in the Chicago retail market area. Note that Deans, the market leader, sells at a significant premium over "Borden" and private label, which are nearly identical. Figure 16 examines the relationship between price and volume, and price and share for the Borden brand. The price-volume scatter plot looks more like a supply than a demand curve. The price-share scatter plot also appears to have a positive slope. We have checked the data carefully to make sure there are no computational errors. At this point we have no explanation for this conduct which is very divergent from all other brands analyzed in this paper. The upward trend in prices over 1988-1989 seems to be due to the strong outward shift in demand for milk and stable supply conditions. Possibly this shift is due to nonprice merchandising. We would welcome alternative explanations that future research may provide.

Figure 17 is for Deans milk in Chicago and exhibits the same strong positive relationship between price and volume as Borden.

However, the price-share relationship for Deans collapses into a vertical spike that suggests changes in Deans volume came from changes in total market volume, not from gains in share from other competitors. Note that Deans accounted for approximately 17 percent of product category sales, and Borden accounted for only 3.5 - 4.5 percent. Deans is the market leader and appears to have raised price in a strong enough fashion to limit its share gains. Borden raised price but not so strongly and, consequently, its market share expanded. Thus, we seem to have an example of a leader that wants to practice followship supply pricing (price leadership or collusion) and a much smaller rival that is content to chisel a little bit on the leader's intentions.

Private label skim/low fat milk behaves in a completely different fashion that is consistent with the conduct reported for all brands except Borden and Deans. Figure 18 reports price and volume and price and share on the same graph. Each suggests a strong negative relationship and, thus, a nonfollowship demand curve. Note that private label accounts for 51-58 percent of the market. When prices were higher in 1989, private label lost share, Borden gained share and Deans remained roughly constant. This seems consistent with the idea that the market leader tried to lead price up, the fringe brand chiseled by not raising price enough and gained share from private label brands that followed the leader.

Shifting to cross section share-price relationships, Figure 19 indicates that for the Borden brand there is little relationship between 1989 average price and 1989 average share across the 14 local markets that it supplies. Chicago is one of its lowest priced markets. Depending on how some of the extreme observations are explained by other variables in a more complex model, a significant positive or negative relation could, however, easily materialize. Figure 20 reports on the share-price relationships for the Deans brand in 10 local markets. There does appear to be a positive share-price relationship with Chicago being the largest share market and the third highest priced market.

4. Summary

Local market information from scanners as provided by Information Resources Inc. and A.C. Nielsen clearly provide researchers with the opportunity to establish powerful new insights on competitive strategy, market power and efficiency in the food system. Using the data, we are able to provide, for the first time, a

comprehensive look at the national and local market positions of cooperatives and investor owned firms in the dairy and margarine products categories. Because of their regional focus, cooperatives have stronger positions in local markets than is indicated by their relatively weak national market positions. Examining aggregate national market prices for brands indicates that there are substantial premiums for many regional as well as national brands. These data are adjusted for retailer coupons but not manufacturer coupons.

When we examine selected brands in selected local markets, we find that one gains substantially more insight into a firm's brand marketing strategies. Using time series data for a particular market, it seems quite easy to estimate demand curves and elasticities at the brand level. Our refinement of the residual demand concept enables one to compare observed brand elasticities to the collusive price followship elasticities. It seems to be a useful addition to the kit of tools for measuring market power.

When looking at the brand price-share relationship for a particular brand across local markets, examples of positive, negative, and no relationship seem to surface. Our provisional theory, and we stress that our thoughts are very provisional at this time, would predict that a negative relationship is due to cost efficiencies dominating the price enhancing effect of market power. In other words the residual demand curve is more inelastic in high share markets producing a steeper marginal revenue curve but the drop in marginal costs means that the consequent profit maximizing price in large share markets is lower. Market power is still being exercised because price is greater than marginal cost, but the cost reduction more than cancels the increased market power due to more inelastic demand.

In this paper we do not test whether residual demand for a brand becomes more inelastic as the share of a particular brand increases. This needs to be done to do a complete test of the theory. When one looks across brands in a particular market, smaller share brands in fact have less, not more, elastic residual demand curves. This seems to contradict our theory and suggests that it needs to be expanded to incorporate niche effects. However, there may not be a contradiction. Different brands are designed to occupy different product niches. For example, Hood regular and Hood Light ice cream, Ben and Jerry's ice cream and Breyers ice cream each are targeted at a particular niche or market segment. The industry is segmented into strategic groups with mobility barriers between them. However, changing the price or merchandizing strategies of one of these brands does not move them to a new niche. Thus, the observed negative price-share relationship for Breyers is not due to Philip Morris positioning Breyers in a high price

low share niche in one market and a low price-large share niche in another market.

A counter argument is that brands with a negative share-price relationship have inelastic demand at low rather than high share levels. This would be the case if the underlying preference structure for the product varies from one local market to the next and offsets the shift towards inelasticity as brand share increases.

The analysis of niche or strategic group effects requires that one pool several brands to capture the positioning of one brand versus another. This observation leads us to a major conclusion. The test of the market share-price relationship reported in this paper may be unduly restrictive. Here, we have examined the share-price relationship for only single brands across local markets. Large firms often market more than one brand in a market to serve different market niches and in most markets several smaller firms supply distinctive brands in particular niches. Also, the market share of a brand is not a complete measure of market structure and the prices of individual brands say little about the general price level of all brands in a market.

Work by Haller on cottage cheese and work in progress by Rogers on butter that pool all brands in the product category indicate that share-price relationships do exist across brands in more comprehensive models that control for costs and other determinants of brand price levels. For butter, Rogers does document that niche effects are important. Very small share brands do have higher prices, but price bottoms out and turns up in a quadratic fashion as share increases. This is consistent with the observed less elastic demand for some small share brands in this paper. Concerning interbrand competition, Haller demonstrates that cooperatives seem to prefer to maximize volume rather than profits on their cottage cheese sales, because there is no share-price relationship for cooperatives and their presence in a local market significantly reduces IOF branded cottage cheese prices. Moreover, both Rogers and Haller find a marginally significant positive impact of retailer concentration upon butter and cottage cheese prices.

The preliminary evidence presented here suggests that the most fruitful way to proceed may be to interview brand managers and other company executives to learn more about their marketing strategies. On this issue Ted Simmons, editor of Supermarket News reports that leading food manufacturing executives declare:

> the European model of retailing and distribution is coming to the U.S..... Each manufacturer must cut a specific deal for each account. There are no broad national or regional marketing programs. As the American retail industry keeps consolidating

> there will be a stronger trend toward the European model. Regional marketing is dead in the U.S. The only thing that really matters is account specific marketing (Simmons, p. 2).

Apparently this was not the case in 1989 for the brands analyzed here, otherwise diverting or centralized purchasing would have thwarted observed positive or negative relationships across local markets. Large questions remain unanswered. How, for example, do Philip Morris' executives explain the reported negative price-share relationship for Breyers Ice Cream and Parkay margarine? Are observed price differences, production, transport or distribution costs justified?

Answers to questions such as these will propel progress in marketing research. In our opinion, we are at the advent of a renaissance in applied agricultural marketing research. It will provide major new insights into the demand for food products, industrial organization models of oligopolistic food markets, and the performance of the food system. Scanner data clearly have come of age.

Table 1 Skim / Low Fat Milk: The 20 Largest Firms and All Cooperatives, 1989

Co-op	Mfr	Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
		PRIVATE LABEL	1288142		63.22	2.09	1.33					
1		BORDEN INC	59109		2.90	2.37	1.46	27	6	8	5	4
		BORDEN		27135	1.33	2.47	1.51	18	2	6	3	3
		MEADOW GOLD		22129	1.09	2.18	1.25	8	2	1	1	1
		VALLEY BELL		2843	0.14	2.42	1.42	1	0	0	0	0
		BORDEN VIVA		2323	0.11	2.60	2.48	3	0	0	1	1
		FARMSTEAD		2272	0.11	1.73	1.00	2	0	0	0	0
		LITE LINE		1801	0.09	3.47	2.55	3	1	0	0	0
		KNIGHTS		274	0.01	4.02	2.15	1	0	1	0	0
2		DEAN FOODS INC	49707		2.44	2.07	1.31	10	4	0	2	2
		DEANS		32447	1.59	2.23	1.46	10	4	1	1	1
		FIELDCREST		15927	0.78	1.77	1.00	3	0	2	0	1
		VERIFINE		1048	0.05	1.86	1.16	1	0	0	0	0
		DOLLS		151	0.01	1.75	1.08	1	0	0	0	0
3		MARIGOLD FOODS INC	44716		2.19	1.98	1.15	3	0	1	1	1
		KEMPS		39976	1.96	1.96	1.10	3	0	2	0	0
		QUALITY CHEKD		2540	0.12	2.37	2.03	1	0	0	0	0
4		PHILIP MORRIS CO INC	33855		1.66	2.24	1.61	18	5	1	4	1
		SEALTEST		16783	0.82	2.26	1.45	15	2	4	2	1
		KNUDSEN		11265	0.55	2.18	1.83	2	2	0	0	0
		PURITY		3479	0.17	2.54	1.42	1	1	0	0	0
		LIGHT N LIVELY		2091	0.10	1.74	1.94	4	0	0	0	0
5		HILLSIDE OLD MEADOW	26669		1.31	1.93	1.42	6	2	1	0	0
		HILLSIDE		26448	1.30	1.93	1.42	6	2	1	0	0
6		ANDERSON ERICKSON D	21301		1.05	1.94	1.23	1	0	0	1	0
		ANDERSON ERICKSON		21301	1.05	1.94	1.23	1	0	0	1	0
7		ARABIAN INVESTMENT	18583		0.91	2.74	2.63	1	1	0	0	0
		DELWOOD		18583	0.91	2.74	2.63	1	1	0	0	0
8	C	AGWAY INC	17964		0.88	2.65	1.95	4	1	3	0	0

(continues)

Table 1 (*continued*)

	Co-op	Mfr Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
		C HOOD		14389	0.71	2.46	1.79	4	1	3	0	0
		C NUFORM		3535	0.17	3.40	2.58	4	0	0	1	0
9	C	DARIGOLD, INC	15784		0.77	2.20	1.66	2	2	0	0	0
		C DARIGOLD		13334	0.65	2.21	1.62	2	2	0	0	0
		C DARIGLOD NU FRESH		1692	0.08	2.20	2.09	1	0	0	1	0
		C ALPINE		532	0.03	2.25	1.00	1	0	0	0	0
10		FARMLAND DRY	14451		0.71	2.41	1.74	1	0	1	0	0
11		CHIEF FRANCISCO INC D	13198		0.65	2.33	1.69	2	0	0	1	0
		TUSCAN FARMS		13198	0.65	2.33	1.69	2	0	0	1	0
12	C	HILAND DRY INC	12895		0.63	2.19	1.24	3	0	0	0	2
		C HILAND		12895	0.63	2.19	1.24	3	0	0	0	3
13		REITER FOODS INC	10525		0.52	1.66	1.13	3	1	1	1	0
		REITER		10525	0.52	1.66	1.13	3	1	1	1	0
14		LEHIGH VALLEY	10277		0.50	2.19	1.77	1	0	1	0	0
		LEHIGH VALLEY		9701	0.48	2.15	1.72	1	0	1	0	0
		SEALTEST LIGHT N LIV		550	0.03	2.82	2.76	1	0	0	0	0
15		SUNNYDALE FARMS INC	10235		0.50	2.44	1.70	1	0	0	0	1
		SUNNYDALE FARMS		10235	0.50	2.44	1.70	1	0	0	0	1
16		SMITH DRY PRODS CO	9568		0.47	1.75	1.16	2	1	1	0	0
		SMITHS		9521	0.47	1.75	1.16	2	1	1	0	0
17		JOHANNA FARMS INC	9066		0.44	2.12	1.50	1	1	0	0	0
		JOHANNA FARMS		9066	0.44	2.12	1.50	1	1	0	0	0
18		SUPERIOR DRY FRESH M	8905		0.44	2.02	1.42	1	1	0	0	0
		DAIRY FRESH		8905	0.44	2.02	1.42	1	1	0	0	0
19	C	PRAIRIE FARMS DRY INC	8848		0.43	2.19	1.32	4	0	1	0	1
		C PRAIRIE FARMS		8273	0.41	2.21	1.34	4	0	0	1	1
20		GARELICK FARMS INC	8727		0.43	2.64	1.75	3	1	1	0	1
		GARELICK FARMS		8636	0.42	2.63	1.72	3	1	1	0	1
27	C	GOLDEN GUERNSEY DRY	7179		0.35	2.08	1.41	2	1	0	0	0
		C GOLDEN GUERNSEY		7179	0.35	2.08	1.41	2	1	0	0	0
29	C	LAND O'LAKES, INC	6004		0.29	2.29	1.88	1	0	0	0	1
		C LAND O'LAKES		3023	0.15	2.13	1.90	1	0	0	0	1
33	C	FLAV-O-RICH (DAIRYMEN, INC)	5374		0.26	2.47	1.59	6	1	1	0	3
		C FLAV O RICH		4703	0.23	2.39	1.49	6	1	1	0	2
38	C	NIAGARA MILK COOP/W	4293		0.21	2.08	1.37	1	1	0	0	0
		C WENDTS		4209	0.21	2.08	1.37	1	1	0	0	0
40	C	UPSTATE MILK COOP INC	4144		0.20	2.06	1.55	1	0	1	0	0
		C SEALTEST		2935	0.14	2.02	1.77	1	0	1	0	0
		C UPSTATE		1208	0.06	2.14	1.00	1	0	0	0	1
42	C	ROBERTS DRY CO	3928		0.19	2.02	1.30	2	1	0	1	0
		C ROBERTS		3598	0.18	2.06	1.34	2	1	0	0	1
		C SWEETCLOVER		330	0.02	1.55	0.78	1	0	0	0	1
43	C	SWISS VALLEY FARMS CO	3845		0.19	2.02	1.43	1	0	1	0	0
		C SWISS VALLEY FARMS		3845	0.19	2.02	1.43	1	0	0	1	0
56	C	FARM FRESH DRY INC	3031		0.15	2.06	1.24	2	1	1	0	0
		C FARM FRESH		2569	0.13	2.02	1.20	2	1	1	0	0
		C FARM FRESH HEALTH BREAK	204		0.01	2.66	2.00	1	0	0	0	0
		C COUNTRY GIRL		172	0.01	1.89	1.10	1	0	0	1	0
		C SNYDERS		87	0.00	1.98	1.00	1	0	0	0	0
63	C	ZARDA BROTHERS DRY	2383		0.12	2.09	1.40	1	0	1	0	0
		C ZARDA		2383	0.12	2.09	1.40	1	1	0	0	0
64	C	INTERMOUNTAIN MILK	2372		0.12	2.09	1.67	1	0	1	0	0
		C CREAM O WEBER		2372	0.12	2.09	1.67	1	0	1	0	0
67	C	DAIRYLEA COOP INC	2141		0.11	2.25	2.15	1	0	0	0	1
		C DAIRYLEA		2141	0.11	2.25	2.15	1	0	0	0	1
89	C	COBLE DRY PROD	1011		0.05	2.61	1.35	1	0	0	0	0
		C COBLE		1011	0.05	2.61	1.35	1	0	0	0	0
100	C	VALLEY OF VIRGINIA	640		0.03	2.11	1.69	2	0	0	0	2
		C SHENANDOAH PRIDE		640	0.03	2.11	1.69	2	0	0	0	1
112	C	DAIRYMEN'S CREAMERY	467		0.02	2.03	1.42	1	0	1	0	0
		C DAIRYMENS		467	0.02	2.03	1.42	1	1	0	0	0

Note: The cutoff for inclusion is that a firm must have 0.5 percent of sales of skim/low fat milk in at least one local market. Thus very small local cooperatives are not included.
Source: Information Resources Inc.

Table 2 Whole Milk: The 20 Largest Firms and All Cooperatives, 1989

Co-op Mfr		Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
		PRIVATE LABEL	792439		65.70	2.25	1.32					
1		BORDEN INC	55713		4.62	2.90	1.66	27	9	8	4	4
		BORDEN		43003	3.57	2.99	1.72	20	6	6	4	3
		MEADOW GOLD		8918	0.74	2.47	1.51	8	3	0	1	2
		FARMSTEAD		962	0.08	2.05	1.00	2	0	0	0	0
		KNIGHTS		335	0.03	4.27	2.25	1	0	1	0	0
2		PHILIP MORRIS CO INC	27795		2.30	2.33	1.57	19	5	1	6	2
		SALTEST		13628	1.13	2.53	1.64	17	2	3	3	4
		KNUDSEN		7694	0.64	2.27	1.64	2	2	0	0	0
		LIGHT N LIVELY		3847	0.32	1.47	1.01	4	0	0	1	1
		PURITY		2624	0.22	2.73	1.79	1	1	0	0	0
3		DEAN FOODS CO	20724		1.72	2.50	1.48	8	4	1	1	1
		DEANS		14746	1.22	2.62	1.64	8	3	2	1	0
		FIELDCREST		5476	0.45	2.13	1.00	3	0	2	0	1
		VERIFINE		220	0.02	2.22	1.30	1	0	0	0	0
		VITA		89	0.01	2.21	2.00	1	0	0	1	0
		BOWMAN		69	0.01	3.29	3.66	1	0	0	0	0
		FOREST HILL		51	0.00	2.69	1.42	1	0	0	0	0
4		ARABIAN INVEST BNKG	16195		1.34	2.76	2.55	1	1	0	0	0
		DELLWOOD		16195	1.34	2.76	2.55	1	1	0	0	0
5		HILLSIDE OLD MEADOW	12236		1.01	2.17	1.50	5	1	2	0	0
		HILLSIDE		12201	1.01	2.17	1.50	5	1	2	0	0
6		LEHIGH VALLEY	11304		0.94	2.74	2.36	9	0	0	1	3
		LEHIGH VALLEY		11216	0.93	2.74	2.36	9	0	0	1	3
7		FARMLAND DRY	10980		0.91	2.49	1.77	1	0	1	0	0
		FARMLAND DAIRIES		10980	0.91	2.49	1.77	1	0	1	0	0
8		CHEF FRANCISCO INC	10641		0.88	2.37	1.53	1	0	0	1	0
		TUSCAN FARMS		10641	0.88	2.37	1.53	1	0	0	1	0
9		UTOTEM INC	9770		0.81	2.38	1.50	2	1	1	0	0
		ABBOTTS		8477	0.70	2.39	1.51	1	1	0	0	0
		FAIRMONT		860	0.07	2.35	1.55	1	0	1	0	0
		COUNTRY CLUB		433	0.04	2.22	1.16	1	0	0	1	0
10		WHITMAN CORP	9673		0.80	2.20	1.50	5	0	0	1	4
		PET		9519	0.79	2.19	1.50	5	0	0	1	3
11		SUNNYDALE FARMS INC	8715		0.72	2.71	1.62	1	0	0	0	1
		SUNNYDALE FARMS		8715	0.72	2.71	1.62	1	0	0	0	1
12	C	HILAND DRY INC	8229		0.68	2.47	1.27	3	0	0	1	2
	C	HILAND		8229	0.68	2.47	1.27	3	0	0	0	2
13		MARIGOLD FOODS INC	6000		0.50	2.27	1.32	3	0	1	2	0
		KEMPS		5998	0.50	2.27	1.31	3	0	2	1	0
14	C	FLAV-O-RICH INC	5755		0.48	2.79	1.94	6	0	3	1	0
	C	FLAV O RICH		5297	0.44	2.76	1.90	6	1	2	0	0
15		PENN DRY INC	5695		0.47	2.14	1.34	1	1	0	0	0
		PENN SUPREME		5695	0.47	2.14	1.34	1	1	0	0	0
16		CRYSTAL CREAM & BUT	5641		0.47	2.07	1.35	2	1	0	1	0
		CRYSTAL		5597	0.46	2.07	1.31	2	1	0	1	0
17		JOHANNA FARMS INC	4818		0.40	2.20	1.57	1	0	1	0	0
		JOHANNA FARMS		4745	0.39	2.20	1.58	1	0	1	0	0
18	C	AGWAY INC	4691		0.39	2.96	2.41	4	1	2	1	0
	C	HOOD		4690	0.39	2.96	2.41	4	1	2	0	0
19		CROWLEY FOODS INC	4678		0.39	2.27	1.33	1	1	0	0	0
		CROWLEY		4678	0.39	2.27	1.33	1	1	0	0	0
20		NESTLE CO	4664		0.39	2.22	1.27	4	0	2	0	1
		CARNATION		4601	0.38	2.22	1.27	4	0	2	0	1
22	C	DARIGOLD INC	3801		0.32	2.50	1.80	2	2	0	0	0
	C	DARIGOLD		3801	0.32	2.50	1.80	2	2	0	0	0
25		PRAIRIE FARMS DRY, INC	3419		0.28	2.42	1.38	4	0	1	0	1
	C	PRAIRIE FARMS		3419	0.28	2.42	1.38	4	0	0	1	1
26		FARM FRESH DRY INC	3378		0.28	2.22	1.39	2	1	1	0	0
	C	FARM FRESH		2338	0.19	2.35	1.54	2	1	0	1	0
	C	SNYDERS		459	0.04	1.74	1.00	1	0	1	0	0
	C	COUNTRY GIRL		387	0.03	2.13	1.10	1	0	1	0	0
	C	BESTYET		195	0.02	1.98	1.00	1	0	0	0	0
41	C	GOLDEN GUERNSEY	2234		0.19	2.17	1.43	2	1	0	0	1
	C	GOLDEN GUERNSEY		2234	0.19	2.17	1.43	2	1	0	0	0

(continues)

Table 2 *(continued)*

	Co-op Mfr	Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
49	C	NIAGARA MILK COOP/W	1514		0.13	2.22	1.29	1	1	0	0	0
	C	WENDTS		1514	0.13	2.22	1.29	1	1	0	0	0
50	C	COBLE DRY PROD COOP	1498		0.12	2.72	1.38	1	0	0	0	0
	C	COBLE		1498	0.12	2.72	1.38	1	0	0	0	0
54	C	ZARDA BROTHERS DRY	1426		0.12	2.27	1.37	1	1	0	0	0
	C	ZARDA		1426	0.12	2.27	1.37	1	1	0	0	0
59	C	ROBERTS DRY CO	1269		0.11	2.31	1.55	2	1	0	1	0
	C	ROBERTS		1269	0.11	2.31	1.55	2	1	0	0	1
64	C	UPSTATE MILK COOP INC	1115		0.09	2.46	2.10	1	0	1	0	0
	C	SEALTEST		929	0.08	2.45	2.25	1	0	1	0	0
	C	UPSTATE		187	0.02	2.54	1.36	1	0	0	0	0
74	C	LAND O'LAKES INC	847		0.07	2.50	1.98	1	0	0	0	1
	C	LAND O LAKES		471	0.04	2.42	2.01	1	0	0	0	1
79	C	INTERMOUNTAIN MILK	816		0.07	2.49	2.33	2	0	1	0	1
	C	CREAM O WEBER		816	0.07	2.49	2.33	2	0	1	0	0
88	C	SWISS VALLEY FARMS	668		0.06	2.64	2.18	1	0	0	0	0
	C	SWISS VALLEY FARMS		668	0.06	2.64	2.18	1	0	0	0	0
92	C	VALLEY OF VIRGINIA	579		0.05	2.52	1.94	2	0	0	0	1
	C	SHENANDOAH PRIDE		579	0.05	2.52	1.94	2	0	0	0	0
135	C	DAIRYMEN'S CREAMERY	56		0.00	2.43	1.37	1	0	0	1	0
	C	DAIRYMENS		56	0.00	2.43	1.37	1	0	0	0	1

Note: The cutoff for inclusion is that a firm must have 0.5 percent of sales of whole milk in at least one local market. Thus very small local cooperatives are not included.
Source: Information Resources Inc.

Table 3 Cottage Cheese: The 20 Largest Firms and All Cooperatives, 1989

	Co-op Mfr	Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
		PRIVATE LABEL	234145		40.54	1.01	0.79					
1		PHILIP MORRIS CO	121505		21.04	1.36	0.91	40	22	7	9	1
		LIGHT N LIVELY		45967	7.96	1.35	0.89	31	14	7	7	1
		KNUDSEN		31368	5.43	1.43	0.97	5	3	1	1	0
		BREAKSTONE		22589	3.91	1.42	0.91	33	0	6	9	6
		SEALTEST		19416	3.36	1.20	0.87	29	0	8	8	3
		PURITY		1168	0.20	1.27	0.92	1	1	0	0	0
		KNUDSEN NICE N LIGHT		997	0.17	1.52	1.00	4	0	0	1	1
2		BORDEN INC	26424		4.57	1.22	0.86	25	6	6	3	4
		BORDEN		10526	1.82	1.36	0.95	16	3	3	2	4
		BORDEN VIVA		7493	1.30	1.07	0.79	7	2	1	1	0
		LITE LINE		4292	0.74	1.34	0.79	12	0	3	0	2
		MEADOW GOLD		3625	0.63	1.03	0.79	7	0	1	2	0
		GREAT SCOTT		239	0.04	0.89	0.67	1	0	0	0	0
3	C	AGWAY INC	21813		3.78	1.25	0.99	6	5	0	0	1
	C	HOOD		21813	3.78	1.25	0.99	6	5	0	1	0
4		QLTY CHEKD DRY PRO	16333		2.83	0.99	0.77	14	1	2	1	2
		KEMPS SLIM TRIM		13295	2.30	1.01	0.77	13	1	2	0	3
		QUALITY CHEKD		2363	0.41	0.90	0.73	4	0	0	0	0
		BAY VIEW FARMS		479	0.08	0.99	0.72	1	0	0	1	0
		CURLYS		101	0.02	0.79	0.97	1	0	0	0	0
5		FRIENDSHIP FOOD PROD	13038		2.26	1.48	1.08	5	0	4	1	0
		FRIENDLY FARMER		10289	1.78	1.43	0.94	4	1	1	1	0
		FRIENDSHIP		2749	0.48	1.69	1.62	4	0	0	0	0
6		DEAN FOODS CO	11694		2.02	1.33	0.94	10	0	5	0	1
		DEANS		10809	1.87	1.36	0.95	8	1	2	2	0
		FIELDCREST		664	0.11	0.79	0.67	2	0	0	0	1

(continues)

Table 3 *(continued)*

	Co-op	Mfr Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
		BOWMAN		90	0.02	1.40	0.88	1	0	0	0	0
		ALL JERSEY		53	0.01	0.88	0.67	1	0	0	0	0
		VERIFINE		45	0.01	1.30	0.92	1	0	0	0	0
7		CROWLEY FOODS, INC	10163		1.76	1.20	0.93	12	0	5	3	2
		CROWLEY		5417	0.94	1.11	0.85	6	0	1	0	2
		AXELROD		4747	0.82	1.31	1.02	7	0	0	0	3
8		ANDERSON ERICKSON	6655		1.15	0.98	0.84	2	0	0	0	0
		ANDERSON ERICKSON		6655	1.15	0.98	0.84	2	0	0	1	0
9	C	DARIGOLD, INC	6514		1.13	0.93	0.82	2	2	0	0	0
	C	DARIGOLD		6514	1.13	0.93	0.82	2	2	0	0	0
10		H J HEINZ CO	6263		1.08	1.20	0.96	23	0	4	1	8
		WEIGHT WATCHERS		6263	1.08	1.20	0.96	23	0	2	3	4
11		MARIGOLD FOODS INC	5551		0.96	1.12	0.75	4	0	1	0	0
		QUALITY CHEKD		2867	0.50	1.07	0.67	3	0	0	0	0
		KEMPS		1354	0.23	1.25	0.99	2	0	1	0	0
		KEMPS LITE		1330	0.23	1.10	0.67	3	0	0	0	0
12	C	PRAIRIE FARMS DRY, INC	4713		0.82	1.07	0.76	4	0	0	1	2
	C	PRAIRIE FARMS		4504	0.78	1.09	0.76	4	0	1	0	1
13		GENERAL MILLS	4542		0.79	1.63	0.87	6	1	2	0	0
		MICHIGAN		4542	0.79	1.63	0.87	6	2	0	1	0
14	C	INTERMOUNTAIN MILK	4261		0.74	1.00	0.82	3	1	1	0	1
	C	CREAM O WEBER		4261	0.74	1.00	0.82	3	1	0	1	1
15		OLD HOME FOODS INC	4019		0.70	1.75	0.92	1	1	0	0	0
		OLD HOME		3367	0.58	1.75	0.93	1	1	0	0	0
		SLENDRELLA		653	0.11	1.73	0.84	1	0	0	1	0
16		NORDICA INTL INC	3949		0.68	1.24	0.82	2	0	1	0	0
		NORDICA		3944	0.68	1.24	0.82	2	0	1	0	0
17	C	GOLDEN GUERNSEY DRY	3291		0.57	1.23	0.85	1	1	0	0	0
	C	GOLDEN GUERNSEY		3291	0.57	1.23	0.85	1	1	0	0	0
18	C	CABOT FRMRS' COOP	2982		0.52	0.88	0.98	5	0	0	3	2
	C	CABOT		2982	0.52	0.88	0.98	5	0	0	2	1
19		NESTLE CO	2745		0.48	0.97	0.85	3	0	1	1	0
		CARNATION		2745	0.48	0.97	0.85	3	0	1	1	0
20		REITER FOODS INC	2736		0.47	0.86	0.73	3	0	0	1	2
		REITER		2736	0.47	0.86	0.73	3	1	0	0	1
21	C	FARM FRESH DRY INC	2640		0.46	0.94	0.75	2	1	1	0	0
	C	FARM FRESH		2123	0.37	0.97	0.76	2	1	1	0	0
	C	COUNTRY GIRL		448	0.08	0.81	0.67	2	0	0	1	0
	C	FARM FRESH HEALTH		69	0.01	1.07	1.00	1	0	0	0	0
24	C	BISON FOODS CO	2329		0.40	1.19	0.93	1	1	0	0	0
	C	BISON		2329	0.40	1.19	0.93	1	1	0	0	0
31	C	ROBERTS DRY CO	1488		0.26	0.94	0.77	2	1	0	1	0
	C	ROBERTS		1488	0.26	0.94	0.77	2	1	0	0	1
34	C	SWISS VALLEY FARMS CO	1161		0.20	1.14	0.81	1	0	0	1	0
	C	SWISS VALLEY FARMS		1161	0.20	1.14	0.81	1	0	0	0	1
35	C	FLAV-O-RICH INC	1127		0.20	1.13	0.93	3	0	0	1	1
	C	FLAV O RICH		1127	0.20	1.13	0.93	3	0	0	0	0
38	C	ZARDA BROTHERS DRY	823		0.14	0.99	0.74	2	1	0	0	0
	C	ZARDA		823	0.14	0.99	0.74	2	1	0	0	0
40	C	LAND O'LAKES, INC	804		0.14	1.23	0.76	1	0	0	1	0
	C	LAND O LAKES		511	0.09	1.17	0.72	1	0	0	0	1
47	C	DAIRYLEA COOP INC	521		0.09	1.01	1.02	2	0	0	0	0
	C	DAIRYLEA		521	0.09	1.01	1.02	2	0	0	0	0
53	C	VALLEY OF VIRGINIA	399		0.07	0.94	0.79	2	0	1	1	0
	C	SHENANDOAH PRIDE		399	0.07	0.94	0.79	2	0	0	0	1

Note: The cutoff for inclusion is that a firm must have 0.5 percent of sales of cottage cheese in at least one local market. Thus very small local cooperatives are not included.
Source: Information Resources Inc.

Table 4 Butter: The 20 Largest Firms and All Cooperatives, 1989

	Co-op	Mfr Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
		PRIVATE LABEL	137534		44.25	1.82	1.05					
1	C	LAND O'LAKES INC	97695		31.43	2.11	1.08	51	38	8	3	1
		C LAND O LAKES		97547	31.38	2.11	1.08	51	39	7	2	2
		C AYRSHIRE		81	0.03	2.20	0.50	1	0	0	0	0
2		PHILIP MORRIS CO INC	13753		4.42	2.45	1.96	15	0	8	6	1
		BREAKSTONE		12992	4.18	2.44	1.97	12	0	8	3	1
		KNUDSEN		704	0.23	2.68	1.87	2	0	0	0	2
		PURITY		58	0.02	2.54	1.00	1	0	1	0	0
3		BORDEN INC	11399		3.67	2.10	1.02	17	1	3	7	3
		KELLERS		5403	1.74	1.99	1.00	5	1	1	1	2
		HOTEL BAR		4748	1.53	2.26	1.04	1	0	0	1	0
		MEADOW GOLD		772	0.25	1.80	1.01	5	0	0	1	2
		BORDEN		248	0.08	2.60	1.06	6	0	1	2	2
		COUNTRY STORE		230	0.07	1.86	1.00	4	0	0	1	0
4	C	CHALLENGE DRY PRODS	10918		3.51	2.37	1.22	8	4	1	1	2
		C CHALLENGE		9480	3.05	2.36	1.25	8	4	1	1	1
		C DANISH		1427	0.46	2.43	1.05	2	0	0	2	0
5		LOV-IT CREAMERY INC	4605		1.48	1.37	0.99	1	0	1	0	0
		BUTTER UP		3027	0.97	1.26	1.00	1	0	1	0	0
		LOV IT		1335	0.43	1.56	0.96	1	0	0	0	1
6		CRYSTAL FOODS INC	4254		1.37	1.69	0.98	11	1	5	1	3
		CRYSTAL FARMS		4254	1.37	1.69	0.98	11	1	5	1	2
7	C	DARIGOLD INC	2960		0.95	1.96	1.19	5	2	0	0	2
		C DARIGOLD		2364	0.76	2.06	1.24	4	2	0	0	0
		C MED O DEW		511	0.16	1.46	1.00	1	0	0	1	0
8		BEATRICE FOODS CO	2863		0.92	1.81	1.05	8	0	4	1	3
		SWIFT PREMIUM		1974	0.64	1.74	1.00	4	0	3	0	1
		SUGAR CREEK		371	0.12	1.94	1.04	2	0	0	1	1
		BREDAN		265	0.09	2.09	1.00	1	0	1	0	0
		SWIFTS BROOKFIELD		113	0.04	1.97	2.00	3	0	0	0	3
		SUMNERS		48	0.02	1.82	1.00	1	0	0	0	1
9	C	ASSC MILK PRDUC	2302		0.74	1.93	1.06	4	0	0	3	1
		C SOMMER MAID		1516	0.49	1.95	1.00	1	0	0	1	0
		C STATE BRAND		458	0.15	1.81	1.28	2	0	0	2	0
		C COUNTRY MAID		328	0.11	2.04	1.00	1	0	0	0	0
10	C	MID-AMERICA DAIRYMEN	1645		0.53	1.82	1.09	5	0	2	1	1
		C MID AMERICA FARMS		1286	0.41	1.81	1.09	4	0	1	1	0
		C RECIPE BOOK		250	0.08	1.67	1.00	1	0	0	0	1
		C COLORADO		87	0.03	2.34	1.00	1	0	1	0	0
11	C	CABOT FRMRS' COOP	1321		0.42	2.02	1.00	4	0	3	1	0
		C CABOT		1321	0.42	2.02	1.00	4	0	3	1	0
12	C	TILLAMOOK CNTY CR	1213		0.39	2.00	1.00	3	0	2	0	0
		C TILLAMOOK		1213	0.39	2.00	1.00	3	0	2	0	0
13	C	PRAIRIE FARMS DRY INC	954		0.31	1.81	1.02	1	0	1	0	0
		C PRAIRIE FARMS		954	0.31	1.81	1.00	1	0	1	0	0
14		QLTY CHEKD DRY PRO	918		0.30	1.87	1.00	7	0	1	1	3
		KEMPS SLIM TRIM		730	0.23	1.87	1.00	2	0	0	0	2
		SINTONS		112	0.04	1.73	1.00	1	0	0	0	1
		CURLYS		71	0.02	2.12	1.00	3	0	1	1	0
15		UNTD DAIRYMEN OF AZ	887		0.29	1.99	1.00	1	1	0	0	0
		SEAL OF ARIZONA		887	0.29	1.99	1.00	1	1	0	0	0
16	C	CACHE VALLEY DRY ASSN	832		0.27	1.86	1.00	3	1	0	0	0
		C CACHE VALLEY		832	0.27	1.86	1.00	3	1	0	0	0
17		LOUBAT-L. FRANK, INC	816		0.26	2.23	1.16	1	1	0	0	0
		AMERICAN BEAUTY		816	0.26	2.23	1.16	1	1	0	0	0
18		LEVEL VALLEY DRY CO	741		0.24	1.65	1.00	2	0	0	1	0
		VALLEY MAID		393	0.13	1.66	1.00	1	0	0	1	0
		LEVEL VALLEY		349	0.11	1.64	1.00	1	0	0	0	0
19		CRYSTAL CREAM & BUT	715		0.23	1.72	1.00	2	0	1	1	0
		CRYSTAL		715	0.23	2.01	1.00	2	0	1	1	0
20		ORRVILLE MILK DIV	685		0.22	1.73	1.00	1	0	1	0	0

(continues)

Table 4 *(continued)*

	Co-op	Mfr Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
		COTTAGE		685	0.22	1.73	1.00	1	0	1	0	0
21	C	BONGARDS CREAMERIES	609		0.20	1.55	1.00	1	0	0	1	0
	C	BONGARDS		609	0.20	1.55	1.00	1	0	0	1	0
22	C	GOLDEN GUERNSEY DRY	580		0.19	1.71	1.00	1	0	0	1	0
	C	GOLDEN GUERNSEY		580	0.19	1.71	1.00	1	0	0	1	0
23	C	CALIF COOP CREAMERY	497		0.16	1.78	1.00	1	0	0	1	0
	C	CALIFORNIA GOLD		497	0.16	1.78	1.00	1	0	0	1	0
27	C	INTERMOUNTAIN MILK	385		0.12	2.08	1.00	2	1	1	0	0
	C	CREAM O WEBER		337	0.11	2.08	1.00	2	0	1	1	0
	C	CRYSTAL		48	0.02	1.72	1.00	2	0	0	0	0
31	C	MICHIGAN MILK PRDUC	254		0.08	1.78	0.92	2	0	1	0	0
	C	RAMUS		146	0.05	1.74	1.00	1	0	1	0	0
	C	MICHIGAN		109	0.03	1.83	0.82	2	0	0	1	0
41	C	O-AT-KA MILK PRODS COOP	125		0.04	1.85	1.00	1	0	0	0	1
	C	GOLD COW		125	0.04	1.85	1.00	1	0	0	0	1
42	C	FARM FRESH DRY INC	93		0.03	2.48	1.00	2	0	1	0	1
	C	FARM FRESH		93	0.03	2.48	1.00	2	0	1	0	1
45	C	ROBERTS DRY CO	88		0.03	2.17	1.00	1	1	0	0	0
	C	ROBERTS		88	0.03	2.17	1.00	1	1	0	0	0
58	C	ZARDA BROTHERS DRY INC	38		0.01	2.14	1.00	1	0	0	1	0
	C	ZARDA		38	0.01	2.14	1.00	1	0	0	1	0
63	C	DAIRYMEN'S CREAMERY	19		0.01	2.06	1.00	1	0	0	0	0
	C	DAIRYMENS		19	0.01	2.06	1.00	1	0	0	0	0

Note: The cutoff for inclusion is that a firm must have 0.5 percent of sales of butter in at least one local market. Thus very small local cooperatives are not included.
Source: Information Resource Inc.

Table 5 Margarine and Spreads: All Firms, 1989

	Co-op	Mfr Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
		PRIVATE LABEL	268337		16.03	0.49	0.84					
1		UNILEVER	411802		24.59	0.88	0.84	51	25	16	10	0
		SHEDDS COUNTRY		172171	10.28	0.85	0.66	51	1	16	13	5
		IMPERIAL		109006	6.51	0.69	0.95	51	6	5	1	5
		PROMISE		78933	4.71	1.34	0.98	51	1	0	2	7
		SHEDDS		45537	2.72	0.61	0.99	50	0	0	0	0
		KRONA		1651	0.10	1.16	1.00	4	0	0	0	0
		ELGIN		1239	0.07	0.44	1.00	4	0	0	0	0
		IMPERIAL ALA MODE		710	0.04	1.13	0.77	3	0	0	0	0
		HOTEL		645	0.04	0.68	1.00	1	0	0	0	0
		SPRING VALLEY		193	0.01	0.57	1.00	1	0	0	0	0
		TASTEE SPREAD		184	0.01	0.55	0.41	1	0	0	0	0
		BLUE SEAL		41	0.00	0.47	1.00	1	0	0	0	0
2		RJR NABISCO INC/RJR	388555		23.21	0.97	0.90	51	19	21	10	1
		BLUE BONNET		192002	11.47	0.60	0.84	51	10	6	9	9
		FLEISCHMANNS		191607	11.44	1.32	0.96	51	10	10	14	12
		BLUE BONNET BETTER		4947	0.30	1.34	1.00	9	0	0	0	0
3		PHILIP MORRIS CO INC	286186		17.09	0.80	0.90	51	7	12	26	3
		PARKAY		221528	13.23	0.79	1.00	51	20	13	8	4
		PARKAY LIGHT		32046	1.91	0.70	0.41	51	0	0	0	0
		KRAFT TOUCH OF BTR		23073	1.38	0.81	0.62	28	0	0	0	0
		CHIFFON		7311	0.44	1.26	1.00	14	0	0	0	0
		KRAFT MIRACLE WHIP		1486	0.09	1.35	1.00	2	0	0	0	0
		MRS TUCKER		580	0.03	0.62	0.36	1	0	0	0	0
4		CNTRL SOYA CO INC	119940		7.16	1.21	0.98	51	0	1	1	32

(continues)

Table 5 *(continued)*

	Co-op	Mfr Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
		I CANT BELIEVE ITS N BTR		95267	5.69	1.37	1.00	51	0	1	3	2
		MRS FILBERTS		24666	1.47	0.62	0.90	15	0	0	0	1
5	C	LAND O'LAKES, INC	85602		5.11	1.13	1.00	43	0	1	3	7
	C	LAND O LAKES		58069	3.47	0.86	1.00	39	2	1	1	2
	C	COUNTRY MORNING BLEND	7533		1.64	1.70	1.00	41	0	0	0	
6	C	PC INTERNATIONAL	41018		2.45	1.13	0.94	51	0	0	0	1
		MAZOLA		33175	1.98	1.16	0.94	50	0	0	0	0
		NUCOA		5626	0.34	0.94	1.00	8	0	0	0	0
		MAZOLA LIGHT		2217	0.13	1.25	0.78	1	0	0	0	0
7		H J HEINZ CO	21915		1.31	0.97	1.00	51	0	0	0	0
		WEIGHT WATCHERS		21915	1.31	0.97	1.00	51	0	0	0	0
8		BORDEN INC	11405		0.68	0.77	0.86	9	0	0	1	3
		GOLD & SOFT		9602	0.57	0.79	0.92	8	0	0	0	3
		KELLERS		1130	0.07	0.67	0.68	1	0	0	0	0
		GREGGS		338	0.02	0.65	0.26	1	0	0	0	0
9		PVO INTL INC	8850		0.53	1.05	1.00	7	0	0	0	2
		SAFFOLA		8765	0.52	1.05	1.00	7	0	0	0	1
10		MIAMI MARGARINE CO	5243		0.31	0.54	0.97	6	0	0	0	1
		NUMAID		3591	0.21	0.61	0.95	3	1	0	0	0
		ROYAL SCOT		1470	0.09	0.38	1.02	4	0	0	0	0
11		DEAN FOODS CO	3346		0.20	0.36	0.59	3	0	0	0	0
		DEW FRESH		3204	0.19	0.36	0.57	3	0	0	0	0
12		CRYSTAL FOODS INC	2439		0.15	0.64	0.80	3	0	0	0	0
		CRYSTAL FARMS		2439	0.15	0.64	0.80	3	0	0	0	0
13		SUNNYLAND REFINING	2243		0.13	0.46	1.18	2	0	0	0	0
		SUNNYLAND		2214	0.13	0.45	1.19	2	0	0	0	0
14		WHITMAN CORP	2027		0.12	1.29	1.00	2	0	0	0	0
		HOLLYWOOD		2026	0.12	1.29	1.00	2	0	0	0	0
15	C	CHALLENGE DRY PRO	1256		0.07	1.41	1.00	4	0	0	0	0
	C	CHALLENGE DAIRY		1256	0.07	1.41	1.00	4	0	0	0	0
16		WILSEY FOODS INC	1224		0.07	0.70	0.97	4	0	0	0	0
		GOLD N SWEET		770	0.05	0.75	1.00	3	0	0	0	0
		TABLE MAID		446	0.03	0.60	0.91	1	0	0	0	0
17		QUAKER OATS CO	836		0.05	0.58	0.51	2	0	0	0	0
		VELVET SPREAD		815	0.05	0.58	0.50	2	0	0	0	0
18		HOLSUM FOODS	667		0.04	0.36	0.94	2	0	0	0	0
		CROWN		549	0.03	0.34	1.00	1	0	0	0	0
		TASTEE GOLD		64	0.00	0.44	0.33	1	0	0	0	0
19		OSCEOLA FOODS, INC	663		0.04	0.45	1.30	3	0	0	0	0
		DAIRY PRIDE		243	0.01	0.43	1.00	1	0	0	0	0
		RIVERVIEW		148	0.01	0.38	1.00	1	0	0	0	0
20	C	ASSC MILK PRDUC	210		0.01	0.57	1.00	1	0	0	0	0
	C	SOMMER MAID		210	0.01	0.57	1.00	1	0	0	0	0
21		HESS BROS FARMS INC	203		0.01	0.72	0.99	1	0	0	0	0
		HESS FOODS		203	0.01	0.72	0.99	1	0	0	0	0
22	C	PRAIRIE FARMS DRY, INC	136		0.01	0.43	1.00	1	0	0	0	0
	C	PRAIRIE FARMS		136	0.01	0.43	1.00	1	0	0	0	0

Note: The cutoff for inclusion is that a firm must have 0.5 percent of sales of margarine in at least one local market. Thus very small local cooperatives are not included.

Source: Information Resource Inc.

Table 6 Ice Cream: The 20 Largest Firms and All Cooperatives, 1989

Co-op Mfr		Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
		PRIVATE LABEL	324006		40.78	1.88	0.97					
1		PHILIP MORRIS CO INC	122087		15.37	3.20	1.11	46	18	9	6	5
		BREYERS		72479	9.12	3.46	1.03	45	12	9	10	5
		SEALTEST		41755	5.26	2.37	1.03	29	4	11	2	3
		FRUSEN GLADJE		3073	0.39	8.30	4.00	11	0	0	0	0
		PURITY		1094	0.14	3.12	1.09	1	1	0	0	0
		KNUDSEN		1056	0.13	3.46	1.28	2	0	0	0	0
		LIGHT N LIVELY		1045	0.13	2.66	1.00	3	0	0	0	0
2		BORDEN INC	39420		4.96	2.23	0.99	36	1	17	4	7
		BORDEN		21340	2.69	2.11	0.95	25	1	2	8	5
		MEADOW GOLD		6189	0.78	2.17	0.90	10	0	3	1	1
		LADY BORDEN		3023	0.38	3.20	1.28	11	0	0	0	2
		BORDEN OLD FASH		2539	0.32	2.66	1.00	10	0	0	1	1
		GLACIER CLUB		2256	0.28	1.58	1.00	5	0	0	1	0
		FARMSTEAD		1763	0.22	1.38	1.00	5	0	0	0	1
		BORDEN EAGLE		1038	0.13	3.69	1.22	7	0	0	0	0
		MEADOW GOLD SUPR		637	0.08	2.44	1.10	2	0	0	0	0
		ROYAL DANISH		228	0.03	1.69	1.00	2	0	0	0	0
3		DREYER'S GRAND ICE	38369		4.83	4.38	1.33	22	6	5	1	4
		DREYERS EDYS		25445	3.20	4.37	1.35	22	5	4	2	3
		DREYERS EDYS GR LT		12924	1.63	4.40	1.28	21	0	3	2	2
4		BLUE BELL CREAMER	30040		3.78	3.36	1.17	5	3	1	0	0
		BLUE BELL		19587	2.47	3.33	1.02	5	3	1	0	0
		BLUE BELL SUPREME		10453	1.32	3.43	1.46	5	0	3	0	1
5		MARIGOLD FOODS INC	16955		2.13	1.81	0.66	8	1	0	1	1
		KEMPS		14870	1.87	1.86	0.62	8	1	0	1	0
		VALUE PAK		1820	0.23	1.42	0.96	4	0	0	0	0
6	C	AGWAY INC	12974		1.63	2.06	1.01	7	2	2	1	0
	C	HOOD		10829	1.36	2.04	1.01	5	3	0	1	1
	C	HOOD LIGHT		1820	0.23	2.24	1.00	7	0	0	0	0
	C	NUFORM		324	0.04	1.73	1.00	3	0	0	0	0
7		GRANDMET	10642		1.34	9.06	4.00	43	0	0	2	5
		HAAGEN DAZS		10642	1.34	9.06	4.00	43	0	0	2	1
8		MAYFIELD DRY FARMS	9793		1.23	2.30	1.06	2	0	1	0	0
		MAYFIELD DAIRY		9793	1.23	2.30	1.06	2	1	0	0	0
9		QLTY CHEKD DRY PROD	8515		1.07	2.21	0.97	11	2	0	2	0
		BABCOCK		3435	0.43	2.09	1.00	3	1	0	0	0
		RUGGLES		1687	0.21	3.00	1.00	3	1	0	0	0
		QUALITY CHEKD		820	0.10	2.00	1.00	4	0	0	0	0
		BAY VIEW FARMS		623	0.08	1.83	1.00	1	0	0	0	0
		FESTIVAL		566	0.07	1.57	1.00	1	0	0	0	0
		3 RIVERS		273	0.03	1.65	0.40	1	0	0	0	0
		WHALE OF A PAIL		174	0.02	1.59	0.40	1	0	0	0	0
		WATTS HARDY		122	0.02	1.47	0.76	1	0	0	0	0
		GILT EDGE FARMS		116	0.01	1.05	1.00	1	0	0	0	0
		MOVENPICK		115	0.01	4.44	1.31	1	0	0	0	0
		SUNNYSIDE FARMS		112	0.01	2.12	1.00	1	0	0	0	0
		SINTONS		101	0.01	1.90	0.72	1	0	0	0	0
		NUT TREE		68	0.01	3.51	1.00	1	0	0	0	0
10		TURKEY HILL DRY INC	8279		1.04	2.56	1.00	2	0	1	0	0
		TURKEY HILL		8279	1.04	2.56	1.00	2	0	1	0	0
11		STEVE'S HOMEMADE	6984		0.88	3.78	1.40	4	0	1	0	0
		DOLLY MADISON		3878	0.49	2.62	1.00	2	0	0	1	0
		T & W		1853	0.23	4.07	1.18	1	0	0	0	0
		STEVES		826	0.10	8.68	4.00	1	0	0	0	0
		SWENSONS		427	0.05	3.64	1.00	1	0	0	0	0
12		WHITMAN CORP	6789		0.85	2.37	1.02	6	0	0	0	3
		PET		5836	0.73	2.48	1.04	5	0	0	1	1

(continues)

Table 6 *(continued)*

	Co-op Mfr	Brand	Mfr Vol (1000 gals)	Brd Vol (1000 gals)	Market Share	Avg Pr. per gal	Units per gal	No of Mkts	Frequency of Rank #1	#2	#3	#4
		COUNTRY LOVES		662	0.08	1.64	1.00	1	0	0	0	0
13		WELLS DRY INC	6385		0.80	2.08	0.88	9	1	0	3	1
		BLUEBUNNY		6026	0.76	2.07	0.87	9	1	1	2	1
		COUNTRY RICH		219	0.03	1.59	1.00	2	0	0	0	0
		WELLS TRADITIONAL		111	0.01	3.57	1.00	1	0	0	0	0
14	C	FLAV-O-RICH INC	6145		0.77	2.27	0.99	8	0	3	3	2
	C	FLAV O RICH		3845	0.48	2.10	1.02	8	0	0	1	1
	C	RICH & CREAMY		1481	0.19	3.00	1.00	7	0	0	0	0
	C	DAIRY CHARM		471	0.06	1.65	0.89	1	0	0	1	0
	C	CREAMI RICH		192	0.02	2.12	0.50	1	0	0	0	0
	C	DIXIELAND		156	0.02	1.52	1.00	2	0	0	0	1
15		DEAN FOODS CO	5674		0.71	2.15	1.03	5	0	2	0	0
		FIELDCREST		2583	0.33	1.55	0.95	3	0	1	1	0
		DEANS		2080	0.26	2.86	1.27	3	0	0	0	0
		VERIFINE		515	0.06	1.98	0.65	1	0	0	0	0
		COUNTRY CHARM		394	0.05	2.72	1.00	2	0	0	0	0
		FAMILY PAK		90	0.01	1.48	0.40	1	0	0	0	0
16		BEN & JERRY'S HMDE	5234		0.66	8.86	4.00	20	0	0	0	2
		BEN & JERRYS		5234	0.66	8.86	4.00	20	0	0	0	0
17	C	PRAIRIE FARMS DRY, INC	4944		0.62	2.18	0.89	3	1	1	0	1
	C	PRAIRIE FARMS		3529	0.44	2.08	0.85	3	1	1	0	0
	C	OLD RECIPE		969	0.12	2.86	1.00	3	0	0	0	0
	C	FAMILY PAK		351	0.04	1.46	0.91	1	0	0	0	0
	C	PRAIRIE FARM SUPREME		96	0.01	1.60	1.00	1	0	0	0	0
18		UNTD DRY FARMERS INC	4604		0.58	3.73	1.21	6	1	0	1	2
		HOMEMADE		4516	0.57	3.76	1.21	6	1	1	1	2
19		HENDRIE'S, INC	4432		0.56	2.16	1.04	4	0	0	3	1
		HENDRIES		4432	0.56	2.16	1.04	4	0	1	1	1
20	C	DARIGOLD, INC	4090		0.51	2.04	1.00	2	1	1	0	0
	C	DARIGOLD		4081	0.51	2.04	0.99	2	2	0	0	0
22	C	INTERMOUNTAIN MILK		3662	0.46	1.99	0.87	3	2	0	0	0
	C	CREAM O WEBER		3417	0.43	2.00	0.86	3	2	0	0	0
	C	CRYSTAL		246	0.03	1.81	1.00	2	0	0	0	0
30		C LAND O'LAKES, INC	2699		0.34	1.91	0.64	1	0	1	0	0
	C	LAND O LAKES		2041	0.26	1.77	0.60	1	0	1	0	0
	C	COUNTRY CREAMERY		131	0.02	3.35	1.00	1	0	0	0	0
38	C	FARM FRESH DRY INC	1882		0.24	1.90	1.00	2	2	0	0	0
	C	FARM FRESH		1812	0.23	1.87	0.99	2	2	0	0	0
	C	GOODTIME		29	0.00	1.58	1.00	1	0	0	0	0
	C	COUNTRY GIRL		20	0.00	1.59	1.00	1	0	0	0	0
42	C	HILAND DRY INC	1762		0.22	2.38	0.98	2	0	0	0	0
	C	HILAND		1584	0.20	2.40	0.95	2	0	0	0	0
48	C	MORNING GLORY FARMS	1415		0.18	2.00	0.67	1	0	0	0	0
	C	MORNING GLORY		1385	0.17	1.97	0.65	1	0	0	0	0
52	C	ZARDA BROTHERS DRY	1201		0.15	2.06	0.95	2	1	0	0	0
	C	ZARDA		1143	0.14	2.07	0.96	2	1	0	0	0
	C	COUNTRY FARM		38	0.00	1.95	0.40	1	0	0	0	0
63	C	COBLE DRY PROD. COOP	820		0.10	1.66	0.40	1	0	0	0	0
	C	COBLE		820	0.10	1.66	0.40	1	0	0	0	0
86	C	ROBERTS DRY CO	405		0.05	2.13	0.97	2	0	1	0	0
	C	ROBERTS		385	0.05	2.13	1.00	2	0	1	0	0
115	C	TILLAMOOK CNTY CR	97		0.01	3.77	1.00	1	0	0	0	0
	C	TILLAMOOK		97	0.01	3.77	1.00	1	0	0	0	0
127	C	DAIRYMEN'S CREAM	20		0.00	3.70	1.05	1	0	0	0	0
	C	DAIRYMENS		20	0.00	3.70	1.05	1	0	0	0	0

Note: The cutoff for inclusion is that a firm must have 0.5 percent of sales of ice cream in at least one local market. Thus very small local cooperatives are not included.
Source: Information Resources Inc.

Table 7 Market Positions of Cooperatives in Five Product Categories: 1989.

Category	National Rank of Coops in top 20	No. of Coops in Category	No. of Local Markets	Frequencies of Share Rank for all Cooperatives				
				1	2	3	4	5 or >
Low fat/skim milk	8, 9, 12, 19	18	36	8	11	1	10	6
Whole milk	12, 14, 18	16	36	8	9	5	7	7
Cottage cheese	3, 9, 12, 14, 17, 18	15	37	13	3	7	9	5
Butter	1, 4, 7, 9, 10, 11 12, 13, 16	19	97	47	20	13	9	8
Ice Cream	6, 14, 17, 20	14	36	9	9	4	3	11
Market position totals for five dairy product categories		-	242	85	53	33	45	74
Percent Penetration[a]		-	-	33.3	20.8	12.9	17.6	-

[a] Defined as the number of coops in rank divided by the total number of positions available (5 categories X 51 local markets = 255 positions) expressed as a percent.

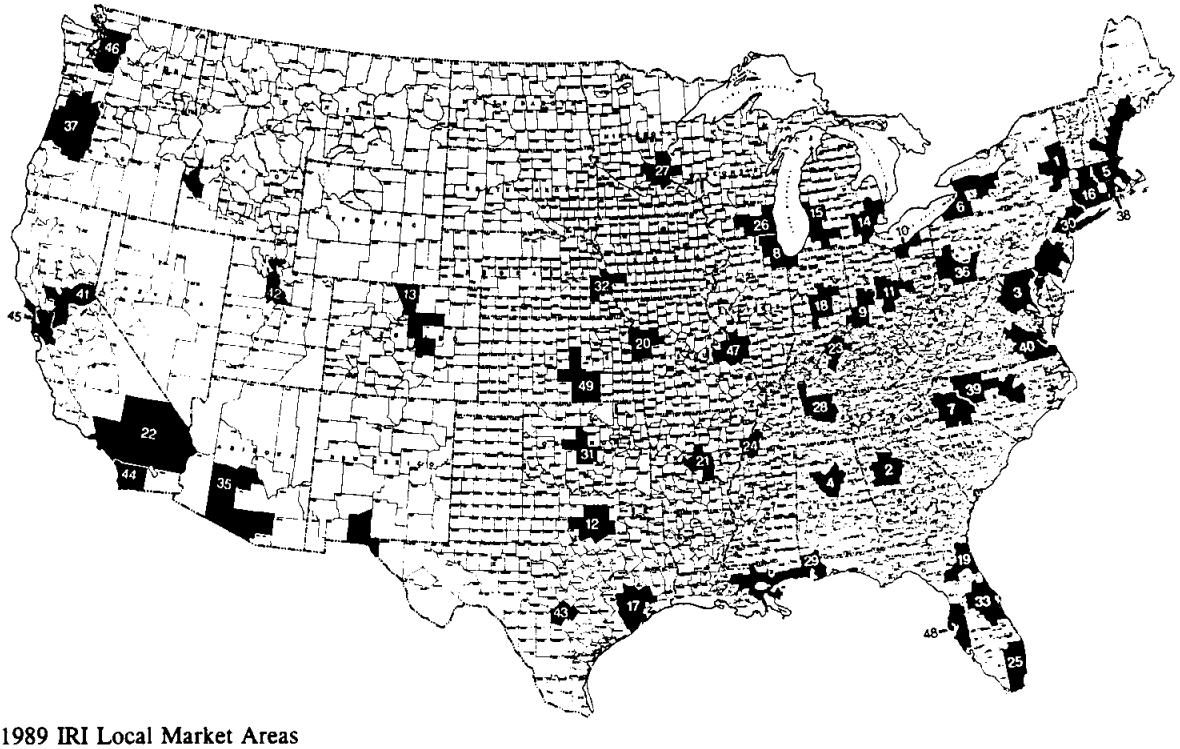

Figure 1 1989 IRI Local Market Areas
Source: Progressive Grocer's 1990 Market Scope, Maclean Hunter Media, Inc., Stamford, CT.

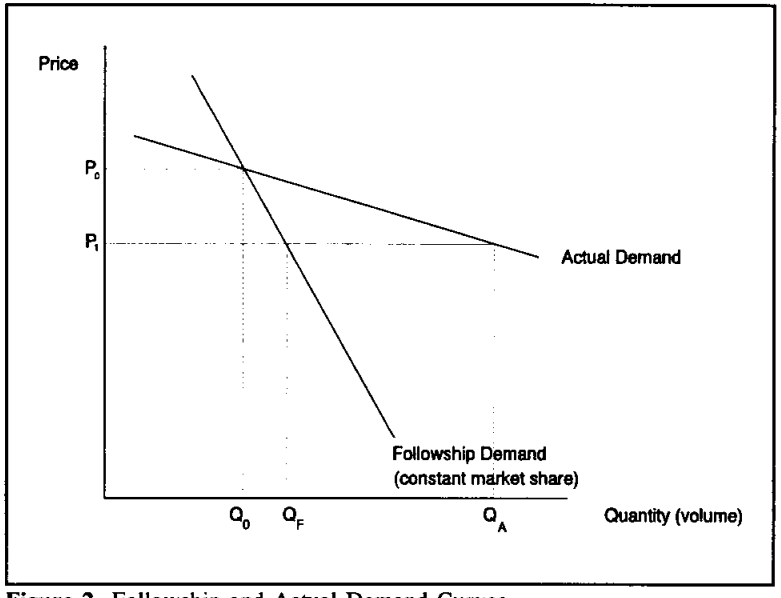

Figure 2 Followship and Actual Demand Curves

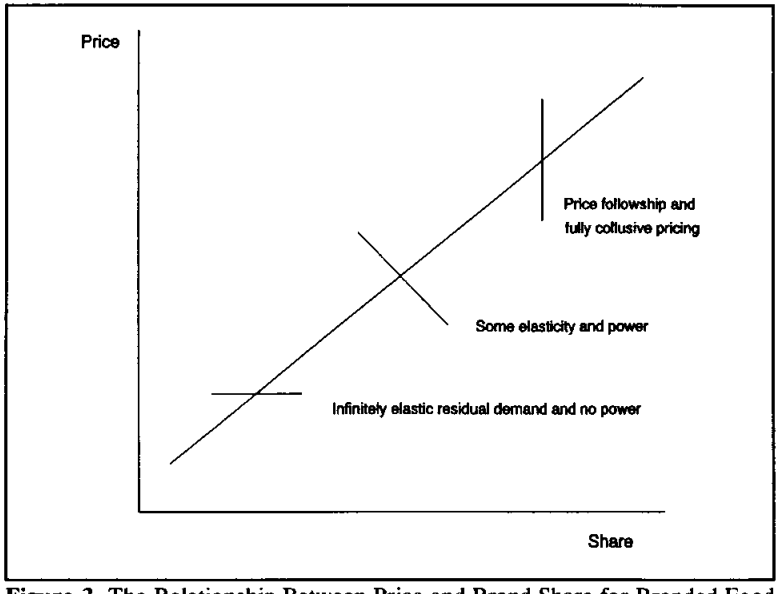

Figure 3 The Relationship Between Price and Brand Share for Branded Food Products

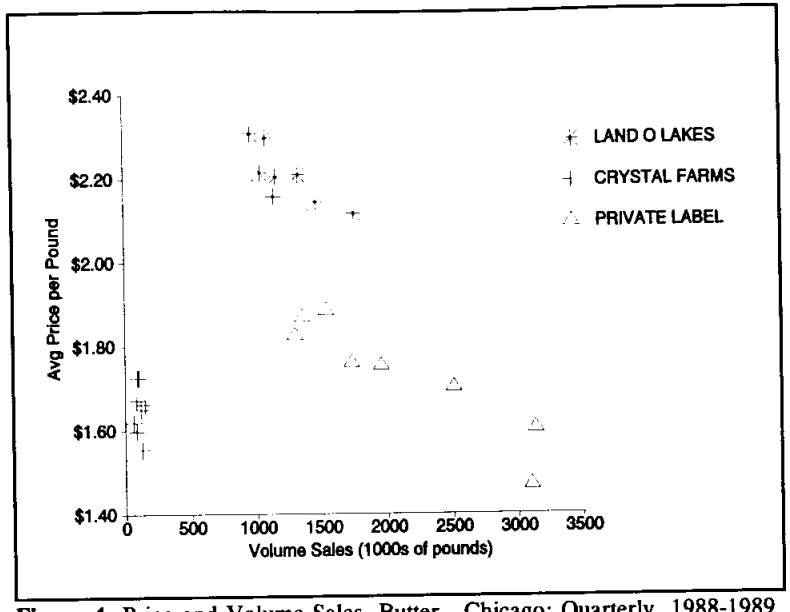

Figure 4 Price and Volume Sales, Butter - Chicago: Quarterly, 1988-1989

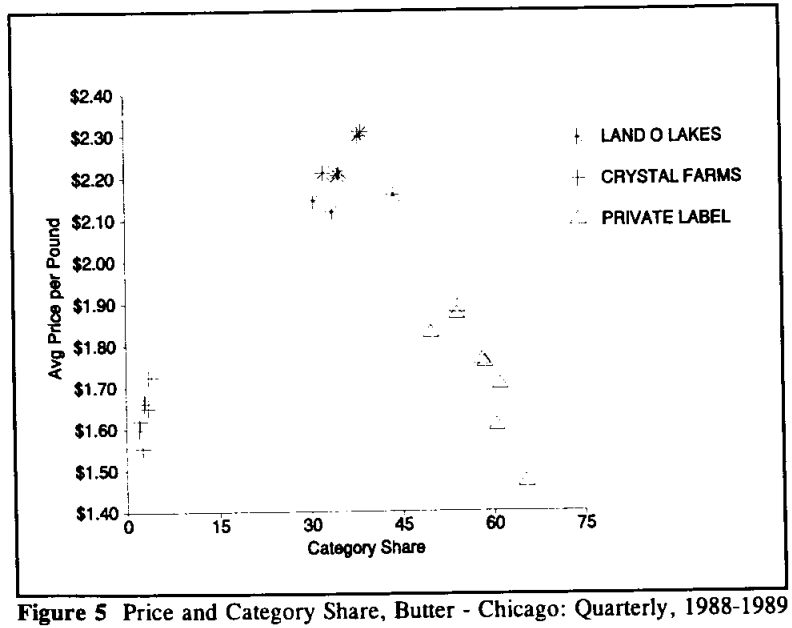

Figure 5 Price and Category Share, Butter - Chicago: Quarterly, 1988-1989

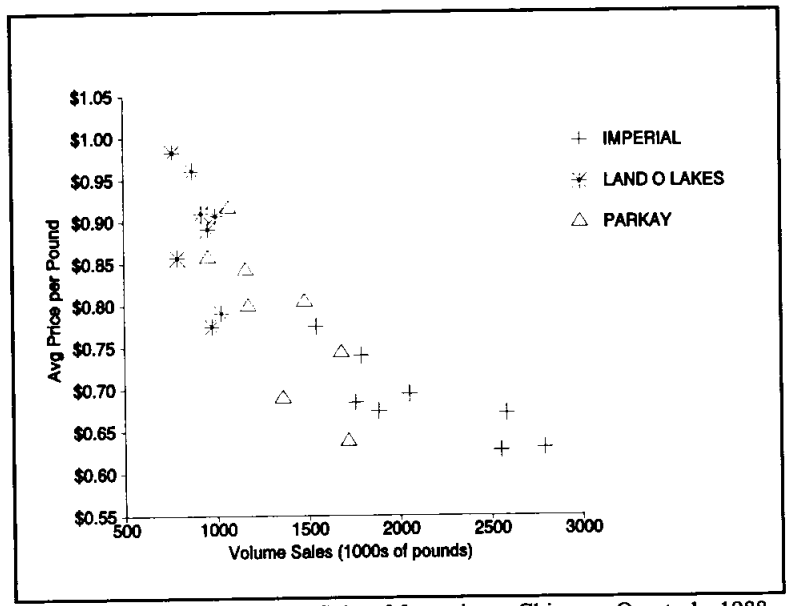

Figure 6 Price and Volume Sales, Margarine - Chicago: Quarterly 1988 - 1989

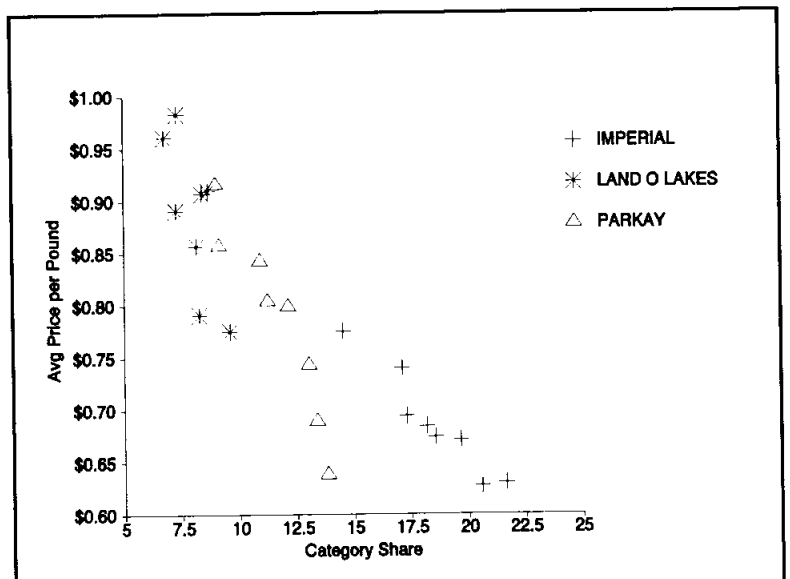

Figure 7 Price and Category Share: Margarine - Chicago: Quarterly 1988-1989

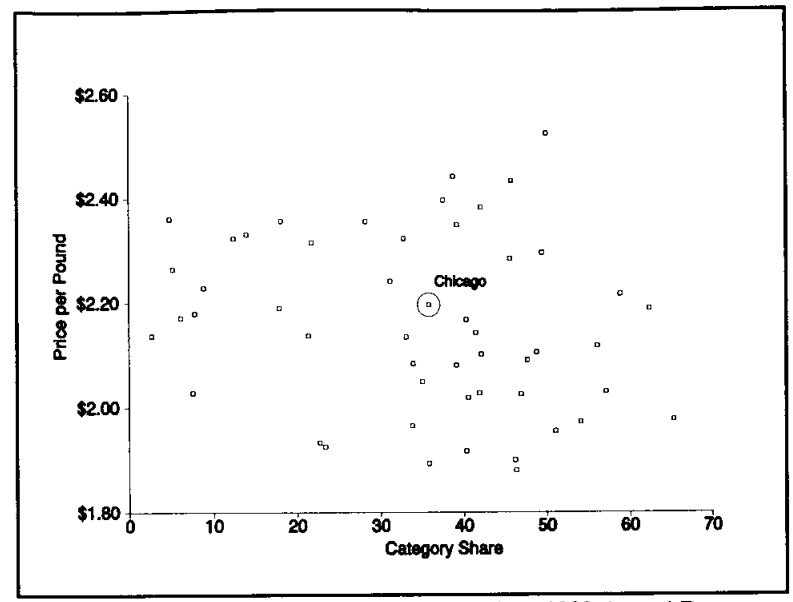

Figure 8 Price and Share, Butter - Land O'Lakes: 1989 Annual Data

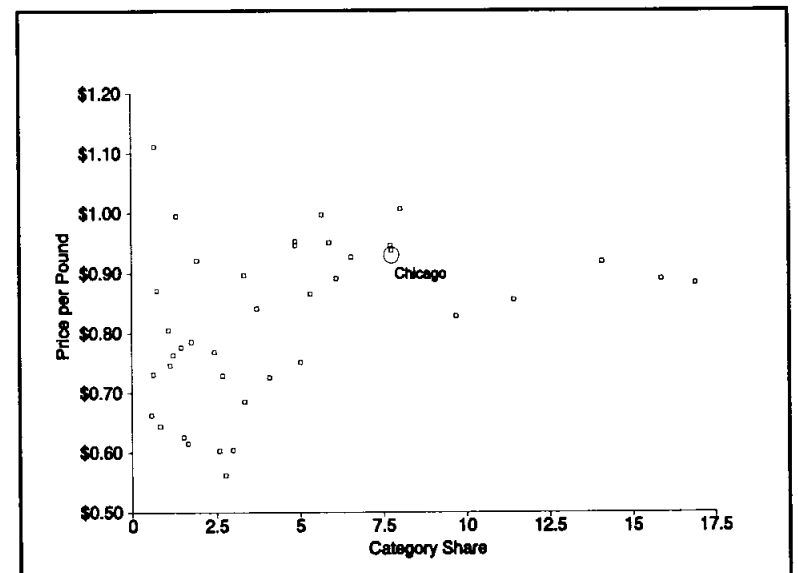

Figure 9 Price and Category Share, Land O'Lakes Margarine: Annual 1989

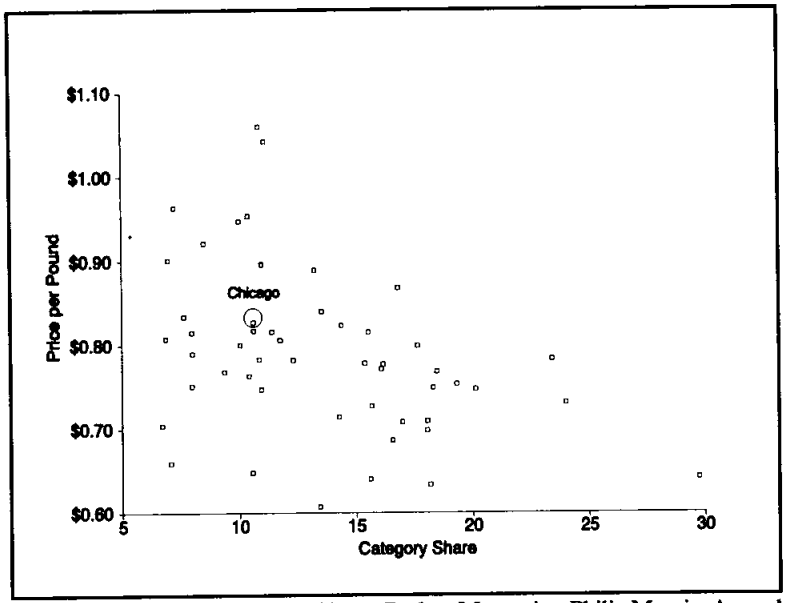

Figure 10 Price and Category Share, Parkay Margarine-Philip Morris: Annual 1989

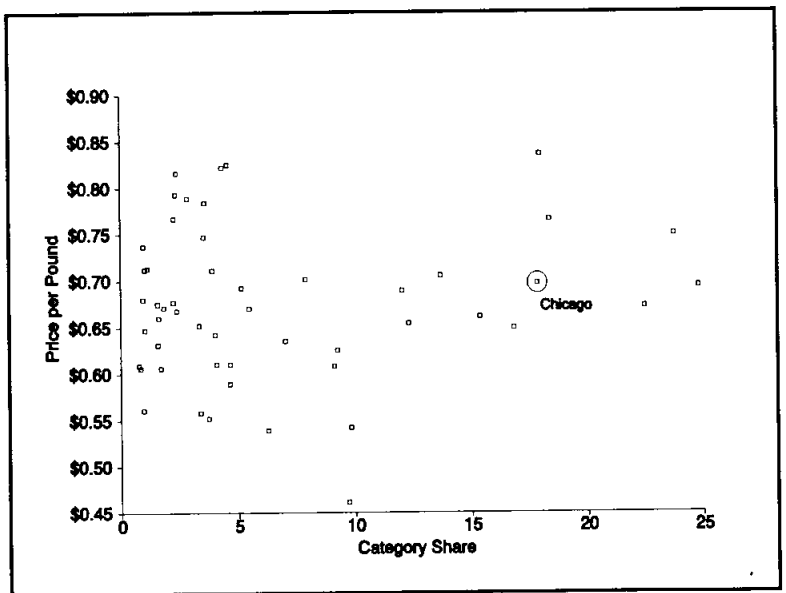

Figure 11 Price and Category Share, Imperial Margarine-Unilever: Annual 1989

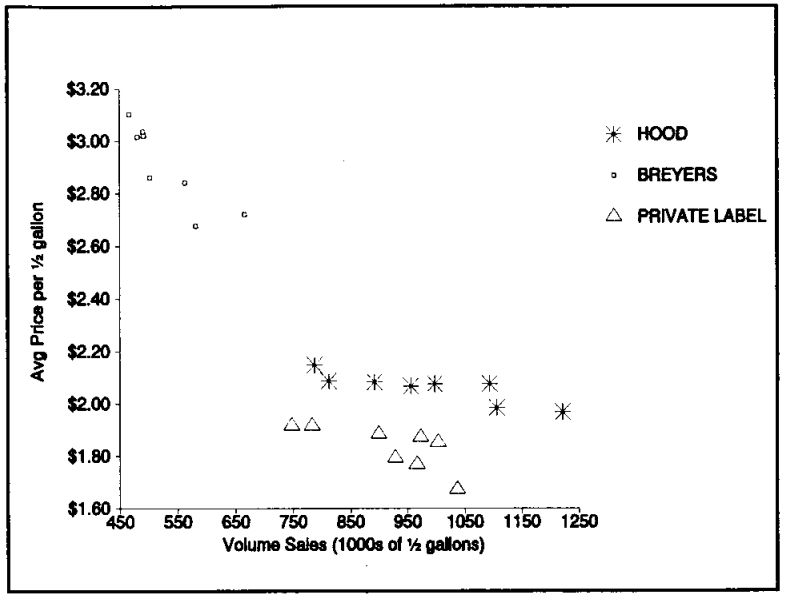

Figure 12 Price and Volume Sales, Ice Cream-Boston: Quarterly, 1988-1989

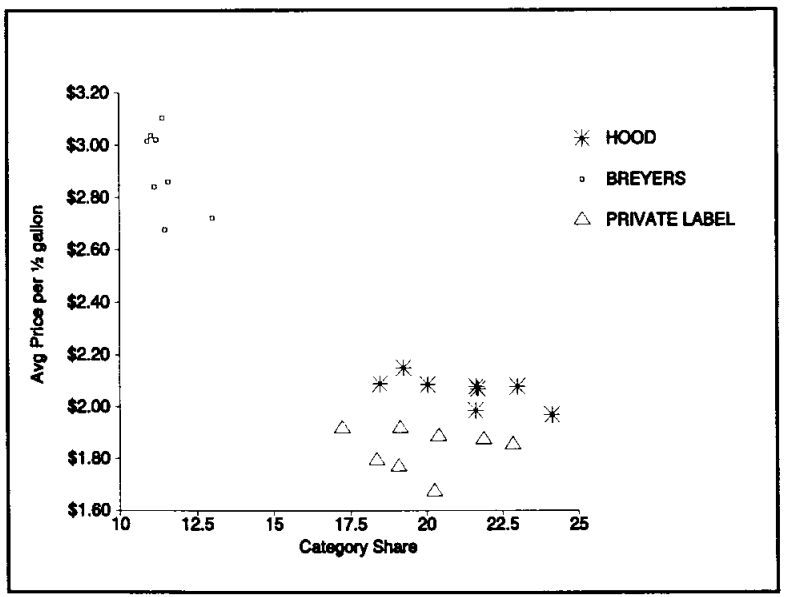

Figure 13 Price and Category Share, Ice Cream-Boston: Quarterly, 1988-1989

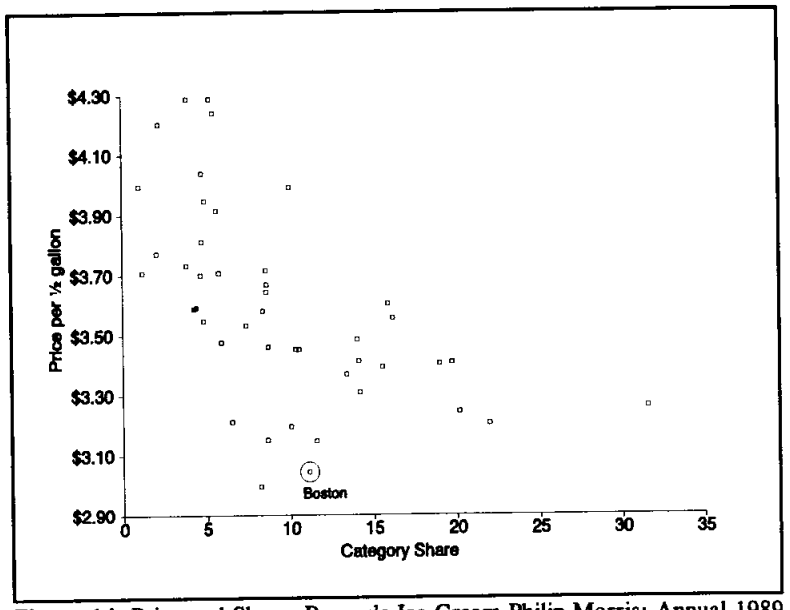

Figure 14 Price and Share, Breyer's Ice Cream-Philip Morris: Annual 1989 Data

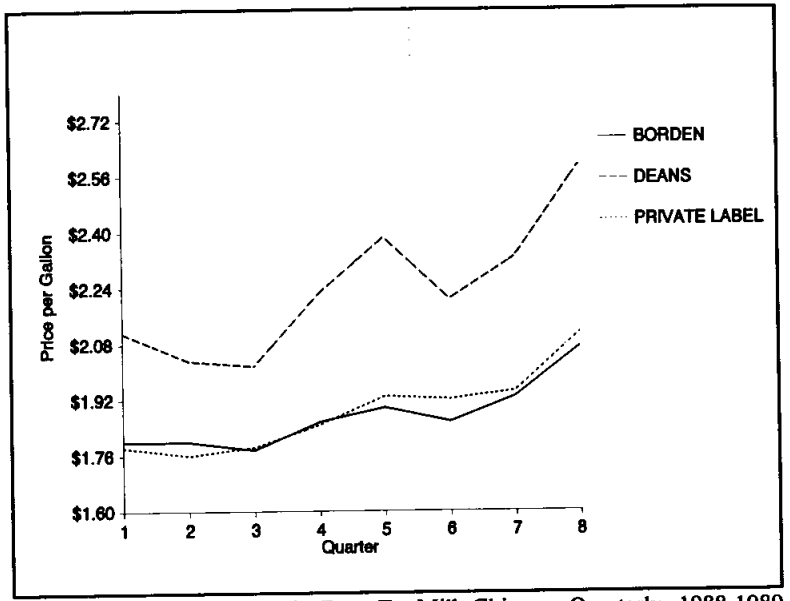

Figure 15 Price Trend, Skim/Low Fat Milk-Chicago: Quarterly, 1988-1989

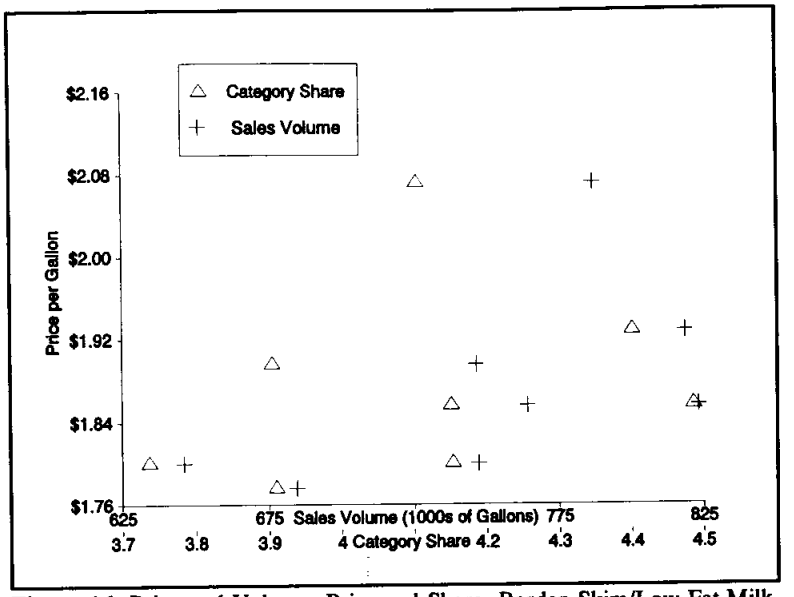

Figure 16 Price and Volume, Price and Share, Borden Skim/Low Fat Milk-Chicago: Quarterly, 1988-1989

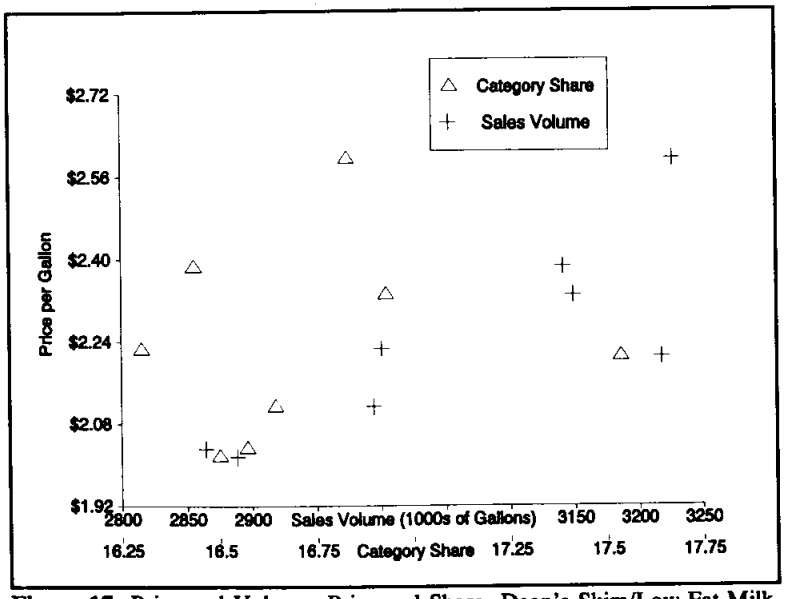

Figure 17 Price and Volume, Price and Share, Dean's Skim/Low Fat Milk-Chicago: Quarterly, 1988-1989

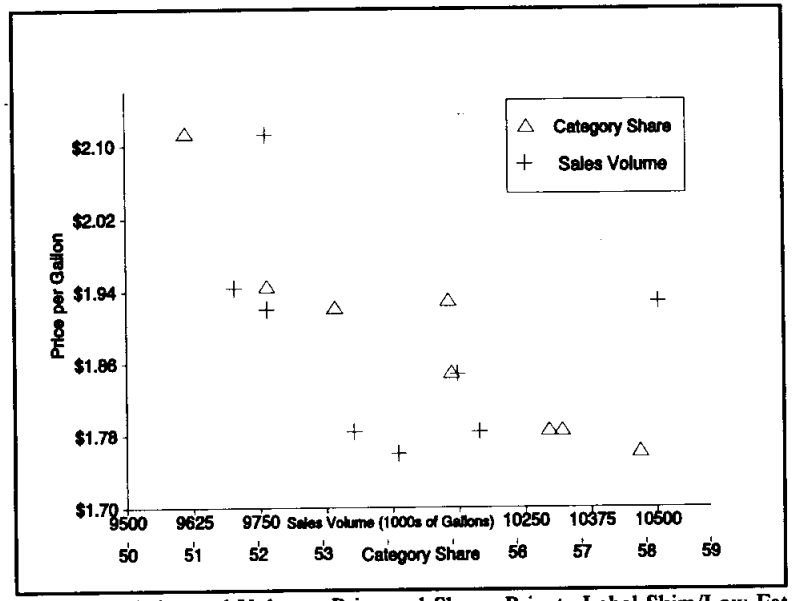

Figure 18 Price and Volume, Price and Share, Private Label Skim/Low Fat Milk-Chicago: Quarterly, 1988-1989

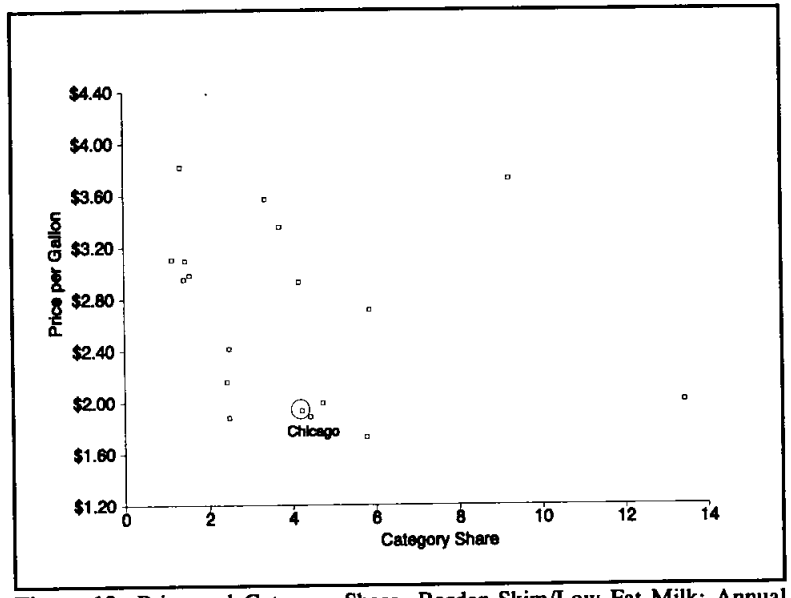

Figure 19 Price and Category Share, Borden-Skim/Low Fat Milk: Annual 1989

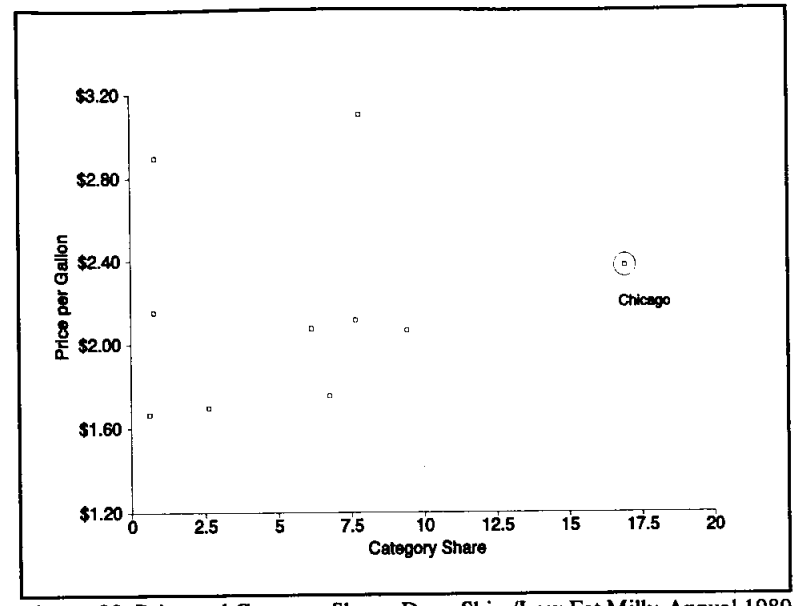

Figure 20 Price and Category Share, Dean-Skim/Low Fat Milk: Annual 1989

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