



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Retail Food Pricing: Horizontal and Vertical Determinants

by

D. I. Padberg
Department of Agricultural Economics
Texas A & M University
College Station, TX

Ron Knutson
Department of Agricultural Economics
Texas A & M University
College Station, TX

S. H. A. Jafri
Department of Social Sciences
College of Arts & Sciences
Tarleton State University
Stephenville, TX

Background

Food retailing is a dynamic mixture of supermarkets, hypermarkets, membership marts, and convenience stores. Of these, the most important is the supermarket. Introduced in the 1930s, supermarkets have grown to very large sized stores that offer the consumer much more than food. In 1965, the "typical" supermarket would offer 4,000 to 6,000 items for sale (NCFM 1966). In the early 1990s, most new store openings offer 15,000 to 18,000 items for sale. New, larger stores are frequently entering the market requiring the displacement of several of the existing competitors. Challenging the once-dominant position of supermarkets are the even larger hypermarkets and membership marts that deal in a wide variety of food and nonfood items, often in a "warehouse store" format.

A great part of the stream of food products flowing to supermarkets is manufactured by large industrial firms. These firms are highly sophisti-

cated marketers in their own right. In 1990, food manufacturing firms accounted for nine of the largest advertisers in the whole economy. Yet smaller firms have important roles. The interaction among smaller firms and massive organizations at both the manufacturer and distributor levels has had an important influence on retail pricing and competitive strategy (Handy and Padberg, 1971).

Competitive forces between and among alternative food outlets are intense. An important aspect of this competition involves discovering and maintaining the mix of prices and products that allow a firm to compete. The pricing patterns are chosen to convey to the consuming public a competitive image. Supermarkets are driven to be price competitive, although they do so in different ways and to different degrees. Complicating the pricing pattern is the array of promotional strategies and discount coupons offered by food manufacturers that are designed to "pull" the flow of products through supermarkets.

The growth of the supermarket, to a significant extent, results from vast expansion in the sale of non-foods. This "crossover" connecting foods and non-foods is continuing in the activities of the superstores being opened today by traditionally food-oriented companies. It is also a result of the increasing food sales of the large general merchandise discount stores, membership marts, etc. As we will see, this connection adds considerable complexity to retail food pricing.

There has generally been a tendency to study the food industry apart from the economy. Both manufacturers and distributors were highly specialized to food. A stereotypical structure emerged and was associated with an equally stereotypical behavior pattern. The supermarkets built between 1940 and 1960 were just about all alike. Sensitivity to market segments came later when markets became "saturated" with supermarkets (industry development stages are explained more fully in Padberg and Rogers, 1987). This monolithic structure focused on price competition--mainly competing with traditional family retailers having higher costs. During this period, the retail gross margin (margin above cost of goods as percent of sales) dropped below 15 percent (NCFM, 1966, p. 539). This stands as a rather remarkable efficiency achievement, especially since it includes some handling and packaging of perishable produce and meat products.

From this point, food retailers began to add non-food items and present a greater variety of store sizes and types. There was a "creaming" process where food retailers could take over some high volume products usually sold by drugstores or other retailers having a much higher gross margin (Brand, 1963, ch. 38). This had the effect of giving consumers a lower price while increasing margins and profits for supermarkets. Supermarket gross margins have steadily increased with changes in the product mix and with the addition of more services associated with merchandising to market segments. As a result, we now find that the larger general merchandise mart is able to skim off some of the higher volume food products traditionally offered by the supermarket. This pattern has a bit of the "wheel of retailing" character to it (Hollander, 1960).

Today, management in the food/non-food retail level is very concerned with strategic issues influencing competitiveness. How does management deal with the crossover to non-food? Will the traditional patterns of price and other competitive behavior which developed in food be effective as we mingle more with non-food realities? How should supermarket firms relate to even larger and more powerful manufacturers? What is the optimum response to competitive acts of rival large distributors? Under these high-stress conditions, what sort of food pricing behavior can the food producing industry and consumer expect at the retail level? As for agricultural interests, how are farmers and their organizations affected?

Price has several roles. In its classic role, it is a mechanism which values products in a vertical channel such that each handler is given an incentive for performing the various functions which give the product form, time, place and position utility (Bressler and King, 1970). Increasingly, these vertical signals may be provided by various forms of vertical integration in the production agricultural sector. In addition, the highly manufactured food products coming from the national brand conglomerates have sticky oligopoly price patterns that are generally insensitive to signals from the retail level.

Price patterns at the food retail level have been studied at length. It is less clear how the crossover with non-food may alter these patterns. Supermarket pricing patterns have arisen from several basic realities of the organizational setting of supermarkets and from food shoppers' attitudes and behavior influenced, in part, by food manufacturers:

- Retail food prices have special meaning in groups--"the product mix."
- Price can be used as a promotion device--the "price special"--which only works if it is an outrageous disequilibrium.
- Retailers have incentive to price their own brands to make them attractive in relation to the advertised brands of food manufacturers.

- Branded product food manufacturers have means, including coupons and other promotions, that get the attention of both consumers and retailers.
- Changing lifestyles and consumer priorities make opportunities for new competitors to find ways to break into the market.

In this environment, retailers likewise have reduced incentives to pay attention to the integrity of the vertical price patterns or signals and have more freedom and incentive to respond to the increasingly powerful "horizontal" influences. There is little financial reward or incentive to maintain the vertical integrity or discipline implied by the classic role of price (further, such behavior would interfere with choosing the most competitive price reactions and patterns). The modern food retailer spends more energy relating price patterns to the actions of other retailers than to actions of suppliers. These horizontal influences may lead to pricing that is not as effective at performing the equilibrating and market signal functions within the market channel.

After reviewing the evolution of retail food pricing theory, this paper will consider effects we may see from the crossover to nonfood. We will then consider how this modified pricing pattern may affect the price signals sent to farmers and ranchers in the 1990s. Implications for economists and policy makers will also be assessed.

Evolution of Retail Food Pricing Theory

As early as 1930, Cullen noted the potential for a severed relationship between the farm price and the retail price: "I want to sell 300 items at cost . . . 200 items at 5 percent above cost . . . 300 items at 15 percent above cost . . . [and] 300 items at 20 percent above cost" (Zimmerman, 1955). This pattern was a powerful way to relate to retail competitors, but made no sense in the vertical channel. The early supermarket merchandisers explored the interactions and dynamics of retail food prices informally and intuitively.

By the late 1950s and early 1960s there were many formal studies which probed retail price behavior. The consultants and professors

learned from these studies what the merchandisers had learned from experience (Brand, 1963; McKinsey, Produce, 1964; McKinsey, Lever Brothers, 1964; McKinsey, Birds Eye, 1964; McKinsey, General Foods, 1963; Nelson and Preston, 1966; Cassady, 1962; Progressive Grocer, Foodtown Study, 1954; Progressive Grocer, Super Valu Study, 1957; Progressive Grocer, Dillon Study, 1960; Nelson and Preston, 1966; NCFM, 1966; Holdren, 1960). Brand summarized the findings with the following conclusion: "Supermarket operators were the first retailers to deviate from the concept that all merchandise in a store, or at least within a department, had to be priced so as to maintain the same markup percentage" (Brand, 1963).

Despite the widely recognized incongruity of the vertical structure of prices, policy makers, farm organizations, farmers and even consumers expect farm prices and retail prices to move together. Accordingly, there was a recent congressional hearing investigating the apparent lack of correspondence of fluid milk and cheese prices with farm prices (U.S. Congress). In these hearings, there was little or no explanation or discussion of the complexity of supermarket pricing and the reality that it may well be unreasonable, or at least unlikely, to expect the retail price of milk and cheese to move in "lock step" with the farm price of milk.

A vocabulary of retail competition has emerged from efforts to create theories that explain retail behavior (Nystrom, 1970; Alderson and Shapiro, 1964; Nelson and Preston, 1966; Cassady, 1962; Holdren, 1960; NCFM, 1966). Pricing, although important, shared the stage with other elements of the marketing mix. While there is no uniform theory across these works, the following dimensions were generally recognized as important aspects of retail competition.

Price Variation Across the "Product Mix"

All large retailers (including K-mart, Walmart, etc.) realize that some of their products are more important than others. A special price on one product will have a greater impact on customers than a similar special on another product. If the retail price of some particular product

is out of line with competitors' prices, store traffic will suffer. Other products have less effect on store traffic. Merchandising plans for aggregations of products--the product mix--typically recognize and exploit the characteristics of these leader products.

The product mix concept recognizes that consumers buy a bundle of goods with various levels of price sensitivity. This is sometimes called the assortment dimension of competition (Nystrom 1970; Alderson and Shapiro, 1964). In all "mix" scenarios, there is recognition that the usual (equilibrating) function of price as applied in theory for single product cases is inadequate. How can we deal with products' prices in groups? How stable are these groups? Does each consumer see products in the same groupings? These are special characteristics which challenge a supermarket (or other large retailer) where pricing behavior deviates from the normal "equilibrating" functions.

Product Group Cohesiveness

There is another reason that retail food price behavior is different for some products than for others. We expect shoppers to buy groceries in groups. When a consumer purchases eggs, or some other grocery product, s/he is likely to purchase several of items that go with preparation of meals in the kitchen, such as lettuce, bacon, canned or frozen vegetables, etc. We have traditionally purchased our food in the form of many related, unprepared items. These many items mean that our purchases are groups of items, dependent upon each other. Since the beginning of the supermarket, the convenience of one stop shopping has been an important motivation in food shopping. This pattern of buying food in groups may be on the threshold of change.

Household shopping in the past has involved many products that do not stand alone. Individually, they are incomplete. They are ingredients used in preparing meals in the kitchen. Their value potential is achieved through combining them with other ingredients as well as with homemaker time, energy, and skill. Scarcity of homemaker time and energy makes one stop shopping important. Putting all these factors

together, the weekly food purchase has been made up of a group of products with considerable cohesiveness. If the merchant motivated the homemaker to buy some of the products, there was strong reason to expect that s/he would buy the whole group of items at the same time and place. Whether the "bait" was location, friendliness, product variety or especially low prices on a few visible items, if the bait worked (if the shopper came to the store), it was likely that shopping for the entire group would result.

This pattern we may call the "Family Fed Era (FFE)." The nature of the household (family), the economy, and the culture made this a dominant pattern over most of this century. As massive changes occur in the family and especially involvement of women in work outside the home, the family- and kitchen-centered pattern is becoming less dominant. Institutions are fabricating meals much more frequently. We buy these meals at restaurants, fast food places, the work place and as processed entrees purchased in the supermarket or at some other food retailer establishment. We may call this pattern the "Institutionally Fed Era (IFE)." This newer pattern will have its greatest effect on food shopping by making the group of food products we purchase less cohesive. More of the products we buy in the future will be "stand alone" products. They will not need to be purchased with a group of other products. The combining of components is already done.

Most of the theory in place relates to FFE and the supermarket. It is important to understand this topic. In addition, we must look forward to the likely impact of IFE upon the supermarkets we already have and on other retail patterns emerging.

Developing a Price Image

The literature contains substantial discussion of the consumers' process of developing an image of food prices. This discussion typically includes consideration of a "psychological" (Nystrom) or, more appropriately, a "secondary" (Alderson and Shapiro) level of competition. This secondary level of competition refers to a residual structure in the consumers' mind which puts the shopping experience and transaction prices into a compara-

tive context. Since it is impossible to know prices for thousands of "convenience goods" like one would for "shopping goods" (Porter, 1974), the consumer tries to generalize. This process is natural and largely unconscious (Oxenfeldt, 1968; Brown, 1969). Certain items which are consciously observed and discussed receive greater weight in this generalization than the numerous smaller and much less considered transactions.

Most of the retailers' merchandising strategies are designed to affect this process. Price specials suggest visible elements of the aggregate price or price image. Of course, these price specials are usually temporary, but their effect on the price image may be more lasting. Ads showing the same shopping cart full of groceries priced out at their own prices as well as several competitors' prices have the same purpose.

Dinner Plate Theorem

One explanation for retail price variation across the product mix is the dinner plate theorem (Figure 1). This theory suggests that the most price sensitive items would be in the center (bottom) of the plate. They have this position because they are central to our eating habits. Volume and purchase frequency are high compared to other products in our food consumption patterns. The price of these items would be depressed below normal levels (they are being used as bait). This may not mean that retail prices are below wholesale cost of goods, but certainly the prices of these products do not cover their share of retailing costs. These prices are depressed in two ways. Everyday prices are low because these items are the focus of price reviews of competitors and consequent adjustments. In addition, these items are natural choices for periodic price specials. In order to offset the low prices on center plate items, other items less central to the awareness and the eating habits of consumers must bear more than their share of the marketing costs. They will be priced so their margins will rise in a gradation from the bottom (center) of the plate. Some are more peripheral than others and they will carry higher margins and prices.

If one studies the rate of movement of products, there will be an imperfect but strong

negative correlation between movement and margin. Indeed, one way to look for items on your store's "price sensitive" list which you may have missed is to check rates of product movement. Alternatively, some items, like meat items, may be on this list even with moderate movement rates because their price levels are well known.

Price Variation Through Time

Retail food prices show a pattern of variation over time which is again typically inconsistent with the conventional equilibrating role of price. Convenience stores seem to always have a major brand of beer on "sale." Supermarkets typically have a newspaper ad of items on sale "this week." There are several types of these temporary or periodic special prices.

The "Fire Sale"

Most price specials are designed to attract attention to the store. Yet, in some cases, specials reflect an over-supply condition. These equilibrating price specials are, in essence, a fire sale--the bananas are getting overripe, too many strawberries were ordered, or the bacon is going out of date. Such fire sales are now relatively few and far between. More often than not, out of date or condition products go to the poor and homeless. Retailers are hesitant to emphasize food products in a serious over-supply. Their value goes down precipitously. It is often difficult to maintain an image of high product quality while being a scavenger. Products in conditions of a market glut make the worst price special one can think of (consumers don't want more of the products which have already saturated the market--they want a special on something they are looking for).

The Advertised Price Special

Most supermarket advertising is focused on price. Ads give most emphasis to price sensitive items. In this way, advertising relates not only to the immediate transactions explicitly, but also to the psychological image or secondary level of competition. There is some feeling that television is easily adapted to image advertising (Lead and German, 1985). Price-oriented ads in print

media, however, are by far the most important part of supermarket advertising.

With supermarket newspaper advertising covering a large number of stores, price specials must be anticipated and planned considerably in advance. Sometimes this is developed to coincide with produce coming into the market seasonally, but this is not the usual case. Retail price specials, therefore, are different from the equilibrating process economists teach. In fact, the most successful specials are spectacular disequilibria. They get more attention if they are out of line with expectations. They are typically not justifiable by costs nor by basic supply-side economics.

The selection of specials seems to have more to do with the store's perception of consumer preference and behavior than with supply and demand. Therefore, supermarket price specials are better understood as promotions (NCFM, 1966). They give a signal to consumers that is designed to promote individual products, the mix of products, and the store. That signal may be inconsistent with the economic conditions of the supply of the particular product. It is effective in selling the product mix and in affecting the price image consumers have of stores even though it cannot be comfortably classified in the economists' vocabulary of rational price behavior.

Variable Price Merchandising

Retailer price changes through time have been called "variable price merchandising" (Collins and Preston, 1966). The pattern they describe resembles the price special but seems not to be tied to a week or to an advertising cycle. This more continuous pattern is more like what is currently observed in convenience stores. The general merchandise discounter may also use this pattern. Both of these retailers are less affected by the weekly advertising pattern than is the more conventional supermarket. Therefore, the "saturation" which resulted from shopping last week is not important. Some major brand is always on special. One comes off and another goes on. As Collins and Preston indicate, ". . . multiple prices may be varied so that both the average price of any single item and the average price level of all

items are the same over time as if no price changes took place . . ." (1966, pp. 4-5).

Branded Product Specials

Many of the products that are priced as specials by supermarkets are branded product promotions. These specials generally stem from efforts by food manufacturers. Such specials may be in the form of a coupon designed to create only a temporary incentive for purchase rather than a reduced price image which could develop in the absence of the coupon. Branded item promotions are rarely of a fire sale variety. Such promotions are designed as part of a marketing strategy by the food processor. Manufacturers like the visibility their brand gets in the retail ad. Food retailers use these to fill out the ad and provide the advertising allowance. They have little impact on the retailer's margin, the immediate product flow, or the consumer's long-range image of price levels.

High-Margin Items

Some items that are regularly featured as specials by supermarkets can better be classified as high-margin items. They fail to fall in any of the other categories, although they may frequently be the subject of branded product promotions. Soft drinks, snacks and frozen desserts are classic examples. Manufacturers often price them to stores with high margins allowing for manufacturer-supported deep specials. These items vary widely in price because there is tremendous price flexibility in the higher-than-normal margin itself, whether from the perspective of the manufacturer/distributor or the supermarket. Thus, a six-pack of name brand soft drinks may range in price from a 99 cent special to \$2.39 over a period of one or two weeks. Such wide margins exist only on highly processed and/or highly differentiated products.

Interestingly, high-margin items have a major impact on demand for other products sold with a considerably narrower margin. For example, milk increasingly competes with soft drinks as a mealtime beverage. One possible reason for this increased competition is the frequent specials run on soft drinks. Because milk has a narrower margin, soft drinks frequently sell at prices sub-

stantially lower than milk. Over time, supermarkets have become less inclined to special milk because large price cuts comparable to those for soft drinks would mean a loss. The potential for a loss on soft drinks is less, particularly with a manufacturer/distributor who is willing to participate in the promotion.

Discount/Warehouse Stores

We indicated above that supermarket gross margins got down to less than 15 percent of sales during the early 1950s. This was achieved with spartan stores which handled a short list of products at high volume. Although industry-wide averages have not been so low since, food merchants have tried to develop several store formats into that market niche. The most current format is the "warehouse store." Merchandise is sold by the case. Most products are displayed in their packing cases. The store ambiance resembles a warehouse. Modern general merchandise discounters or membership marts often use a similar format and are aggressive competitors in some food lines.

Modern membership marts constitute a formidable challenge to supermarket pricing strategies because they do not just involve the sale of a few items at a low price. Rather, almost any item can be purchased at a price that may be competitive with supermarket specials. What the consumer sacrifices is selection or variety. A broadening of the number of items offered at special level prices and in larger lots by membership marts makes it much more difficult for modern supermarkets to compete. The supermarkets' base for recovering losses or near losses on higher margin items is considerably narrowed. Consumers, therefore, tend to perceive conventional supermarkets as being high priced or as taking a wider margin.

Those supermarkets most likely to be affected by the advent of membership marts are the ones that have attempted to have a lower price image. The supermarket's higher margin items are skimmed off by the lower margin membership marts in much the same way supermarkets raided higher margin drugstore items in the 1950s-60s.

Psychological Pricing

Most discussions of retail price behavior include the notion of pricing in odd numbers, multiple units, and numbers ending in nine. These and other tricks have some influence on both immediate transactions and price images.

Location

A dimension of competition and pricing relates to location. It originates from the variability of exposure, status, and convenience associated with different sites. Much of the discussion of price behavior relates to different locations. It is expected that there would be some interaction between location and the choice of the most advantageous market niche in terms of the surrounding customer and competitor combinations. Most retailers pursue this dimension of competition aggressively. The typical chain distribution center/division headquarters would have a real estate specialist actively pursuing this dimension of competition.

Price Leadership

In a food retailing context, it is important to distinguish between oligopoly price leadership and leader pricing, which refers to price specials. Early analysts of food retailing instinctively adopted the general pattern of single product price behavior which was developed for manufacturing oligopolies (Nystrom, 1970). While economic theory suggests that price leadership is common in oligopoly structures, only a few studies have tested for observable patterns of food retail price leadership (Nelson and Preston, 1966). Patterns of price leadership have typically not been significant in these studies. In the most usual pattern, competitors' price levels, as measured by a "market basket" of 100 or so products, change places frequently--usually from week to week (NCFM, 1966; and Kaufman and Handy, 1989).

Zone Pricing

In the early days of supermarkets, both chains and voluntary group independents could have a common price pattern at all their stores. This was possible because supermarkets were

mainly competing with the inferior "mom and pop" independents and were seldom stressed by much competitive intensity. As these small stores were eliminated, supermarkets found themselves confronting each other, often in conditions of excess capacity or "over storing." As competitive forces became more intense, the common pricing pattern was inadequate. The optimal pattern of pricing would be one in which each store identified the "special list" of items most important in its community and for its particular market niche. Even stores across the street from each other would have different market niches and would optimally have different price patterns.

Both chains and group independents found it feasible to develop several (perhaps five or six) price "zones." Each zone relates to a generic niche (upscale, middle class, blue collar, etc.). The pricing patterns would be fine-tuned continually with new ones added and others deleted as necessary. In this way, these larger organizations could have some sensitivity and flexibility concerning the needs of the particular community and still retain the necessary level of managerial and accounting control. As conditions in communities changed or as competitive initiatives evolved, store managers would negotiate with their divisional merchandisers for pricing modifications for their zone or to be transferred to another zone.

Predatory or Unfair Pricing

Retail food pricing motivated by the desire to eliminate a competitor is defined as "predatory." In a complex pattern of anti-trust laws, predatory pricing is illegal. Several unresolved questions make application of these laws difficult. If a single store independent enters the market area in which a chain has stores, what inference should be drawn if the chain competes with only the nearest store or two? Is the legality of a price war different if the chain lowered its prices initially to meet competition? If the entrant is a warehouse store (giving little service), is the chain undercutting prices by offering an equal price level (while offering more services)? If so, how should one relate service levels to product prices?

Competition between single store firms and chains bring up difficult interpretations of these

laws. At the same time, competition between these different structures makes the matter of predatory pricing very important.

Changing Consumer Needs and Behavior

A serious effort by large chains to have the image of the lowest prices together with a lot of price checking and reactive behavior resulted in aggregate price differences from store to store that were small--only 2 to 4 percent. Supporting this strategy was the massive difference between the prices of retailer brands (private label) products and the advertised brands of frequently as much as 30 to 40 percent. Balancing this niche was a pattern of smaller retail firms without access to low cost private label products. It was natural for them to choose a niche featuring a greater emphasis on national brands and variety. These stores typically catered to upscale consumers with large, attractive facilities and a well developed pattern of services. This balance came into place in the 1960s and was the fundamental pattern of food retail competition through the 1980s.

Changes in consumer and household behavior have resulted in a crossover between food and non-foods. Small households and households where all of the adults work outside the home become much more dependent on prepared food products and food away from home (IFE). They may experience extended periods where no meals are prepared "from scratch." For this reason, they buy little of the perishable food products for kitchen preparation of meals. What they do buy, they can buy in large quantities and put in the freezer or on the shelf. This supply channel becomes the primary food supply. Where they are available, merchandise marts or membership marts become an attractive source for this food supply. The supermarket becomes the place to get "fill in" purchases. Hence, ironically, supermarkets may compete with convenience stores--especially for beverages, snacks, etc. in this new (IFE) pattern.

Membership marts or other low margin general merchandiser retailers position themselves to supply this primary and large quantity purchase pattern. In the old balance, consumers would have made a major shopping trip to the supermar-

ket perhaps once a week with fill in purchases at other supermarkets or convenience stores two or three times per week. In this newer pattern, consumers may get almost one-half of their "food at home" purchases at a merchandise mart by shopping (with their cooler to bring home a large supply of frozen foods) once a month. It is unclear how supermarkets and convenience stores will share the other half.

Food products, especially many of the stand-alone type, become an important part of the merchandiser mart's competitive strategy. Food may be used for bait to draw shoppers who will also buy from the much broader offerings in the merchandise mart. This pattern has been attempted many times over in recent decades. In the older patterns it didn't work very well. There seems to be some indication that it works better now. If this pattern becomes important, it will be most difficult for supermarkets to compete.

While this new market segment is growing and will become an important component in the total, the more traditional patterns are still in place. The newer superstores will be affected by these changes because they compete with the merchandise mart in both food and non-food. Merchandising both food and non-food is challenging, and adjusting to significant changes in the structure of competitors will add to the complexity.

Supermarket Pricing in the 1990s

The patterns of supermarket price behavior are a logical consequence of the structure of the supermarket industry combined with consumers' perceptions, behavior and needs. It is likely that merchants will adapt the historic pricing patterns (perhaps adding some new ones) to emerging needs of consumers. We see the following scenario developing.

Superstores will find themselves less connected to "the weekly shopping trip" concept of merchandising. More of the food market will relate to packaged, prepared foods for small households where every adult works (IFE). Supermarkets will be vigorously involved in that

market channel, but will share it with "once a month" trips to the merchandise mart.

The price special, dinner plate theorem and the weekly ads will continue to be effective as supermarkets compete with each other for patronage of the weekly shopper (FFE). They will be less effective in competition for the "once a month shopping for prepared foods" business. A pattern of variable price merchandising may develop for products in this market segment. It may be useful for superstores to always have some major brand prepared dinners on special just like the convenience store does with beer and soft drinks. This pattern is not related to the weekly cycle of specials and price ads, but is intended to make (especially the superstore) more competitive with the merchandise mart.

It is possible that the upscale supermarket or superstore will have some advantages in competing with the merchandise mart. These stores are more differentiated from the merchandise mart by the higher service format and more attractive decor. Supermarkets and superstores more specialized to cost reduction and low prices will find it difficult to compete with merchandise marts, which draw large, regional traffic flows. Time in the checkout line will be given increasing attention.

The "fill in" market segment is an interesting challenge. For the small households (IFE) who maintain an inventory of prepared food (TV dinners, prepared entrees, etc., probably restocked at the merchandise mart) there will be food shopping for milk, soft drinks, beer, some fruits and vegetables, snacks, bakery, etc. This doesn't really fit the present convenience stores. They are positioned to do fill in for the "weekly supermarket shopper." They don't have produce or bakery. It is possible that we will see convenience stores growing in scope to relate to this market segment. Conventional supermarkets will also make adjustments to position themselves for this market segment. Pricing behavior in this segment will resemble convenient store pricing more than supermarket pricing patterns. They will have more stand-alone products and have less dependence on the cohesive product group.

There are constantly changing market factors affecting the consumer's choice of a shopping place. Their purpose for shopping, their sense of alternatives available and their image of the store's relevant aggregate price level is unsettled and incomplete. These are the developments most important in the retailers' competitive behavior. Considerable energy, expertise and agonizing are expended in developing competitive decisions in the traditional competitive balance, while at the same time contemplating the new patterns. In comparison to price dynamics in the vertical channel, these competitive considerations are dominant in retailers' behavior.

Consequences

For Producers

A great part of the goods the food retailer sells is made up of highly manufactured products. These products are produced in quantities which the manufacturer is able to move through the market. Unless sold on special, their prices are quite stable. As the agricultural production sector becomes more vertically integrated, coordination comes more from planning and management than from price signals. There is less for the retailer to respond to in terms of the classic or equilibrating role of price. In addition, the household doesn't want to participate in the equilibrating process by buying attractively priced surpluses and canning or preserving (or even storing) in the home. In this situation, the behavior of the retailer (responding more to horizontal signals than vertical signals) is compatible with the behavior of both their suppliers and their customers.

It is when unprocessed and especially perishable products come to the retailer that problems arise. Fruits and vegetables, meats and dairy typically have some processed products and some fresh products. Often the fresh market products are produced in variable quantities and qualities. They need a pattern of price flexibility that is much greater than is usual in the large supermarket.

When over-production occurs, prices of these perishable products become depressed. If the retail level fails to pass this price cut along to

consumers, the market will not clear and prices will be further depressed in a continuing cycle. While these fresh products make up less than 18 percent of the value of food at retail, they represent a special area where the retail price behavior is a problem for producers. In the case of the most visible and high volume products, such as beef, the problem may be minimized, because retailers may be more likely to respond due to phenomena such as the dinner plate theorem, or simply because the product has high political visibility. Less visible products, having neither high consumer price sensitivity nor political strength, may experience rather severe retail price insensitivity. The fundamental process for clearing the market may be significantly impaired.

To a degree, it is possible that the advent of the merchandise mart could make food markets perform better from the produce perspective because of the existence of a more consistently low margin on a wider variety of products. However, some of the major items on which price correspondence tends to be a problem from a producer perspective, such as fruits and vegetables, are not as extensively handled by the membership marts.

For Economists

The economic principles vigorously taught our college sophomores relate to pricing patterns one would expect of a purely competitive, oligopolist, or monopolist manufacturer. Rarely does this educational process discriminate concerning other parts of the frequently complex distribution channel. Few economists have much of a sense of the specialized patterns of economic behavior typical of distribution firms. This subject is seen as an "institutional" matter. It does not play in the more popular economics specialties such as macro-economics or econometrics. For this reason, both among laymen and professionals, there is little awareness of supermarket pricing patterns. Business college marketing professors know more about supermarket pricing than do either economists or agricultural economists.

Retail prices are difficult to observe. This is especially true of food retailing. Managers are sensitive to margins and profits for the store, but

find little motivation for keeping every price in tune with costs or other economic factors. Also, inter-relatedness between products (the capacity for the prices of some products to encourage the sales of others) invites distortion across the product mix. In addition, variations through time cause observations at any particular time to be less than completely representative of the "actual price." Careful attention should be paid to these realities when retail price data are collected or when interpreting analyses of prices gathered without sensitivity to these characteristics. Because of these problems, retail price data are a weak spot in food sector data sets.

For Public Policy

Real world discussions and investigations into retail price behavior and margins have to be frustrating for producers, economists and the policy makers that represent them. Producers, economists and policy makers have a tendency to look for villains. More often than not, these villains are thought to be food processors and retailers who profit by anticipating producer price increases as well as from price reductions. The real world is not that simple. Pricing decisions by processors and food retailers involve highly complex issues of pricing a product mix consisting, in the case of retailers, of over 15,000 items.

Our framework of distribution firms is the most developed in the world (Padberg and Thorpe, 1974; Padberg, 1973). It has produced a distinguished record of performance for many years. It serves as an effective compliment to our progressive food manufacturers and to consumers who prefer a high rate of change within the products they buy and eat. In addition to offering choice, they offer economy as well. The unique patterns of competition which have evolved in this industry are basically functional and effective. Despite all of these positive achievements, the supermarket may not be very effective in transmitting price signals within the vertical channel to producers.

For the farmer, the major result of this pattern of supermarket and food processor pricing is to increase the penalty for over production. It leads to a more careful look at alternative ways to

control the flow of products to market—market orders, cooperatives, integration, etc. It seems highly doubtful that there is any choice the retail food industry could make to improve their performance relative to producers while at the same time satisfying the market niches and desires created by consumers.

Bibliography

- Alderson, W., 1963, "Administered Prices and Retail Grocery Advertising." *Journal of Advertising Research*. 3, 2-6.
- Alderson, W. and Shapiro, S. J., 1964, "Towards a Theory of Retail Competition." In Cox, R., W. Alderson, and S. J. Shapiro (eds.), *Theory in Marketing*, 1909-212. (Second Series: Homewood, IL)
- Andrews, P. S. W., 1964, *On Competition in Economic Theory*. London.
- Brand, E. A., 1963, *Modern Supermarket Operation*, Fairchild Pub., N.Y.
- Bressler, R. G. and King, R. A., 1970, *Markets, Prices, and Interregional Trade*. John Wiley & Sons, N.Y.
- Brown, F. E., 1969, "Price Image Versus Price Reality." *Journal of Marketing Research*. 6, 185-91.
- Cassady, R., Jr., 1962, *Competition and Price Making in Food Retailing*. Ronald Pr., N.Y.
- Due, J. F., "A Theory of Retail Price Determination." *Southern Economic Journal*. 7, 380-97.
- Handy, C. R. and Padberg, D. I., 1971, "A Model of Competitive Behavior in the Food Industries." *AJAE*. V.53 #2.
- Holdren, B. R., 1960, *The Structure of a Retail Market and the Market Behavior of Retail Units*. Englewood Cliffs, N.J.
- Hollander, S. C., 1960, "The Wheel of Retailing," *Journal of Marketing*, July, pp. 37-42.

- Holton, R. H., 1957, "Price Discrimination at Retail: The Supermarket Case." *Journal of Industrial Economics*. 6, 13-32.
- Kaufman, P. R. and Handy, C. R., 1989, *Supermarket Prices and Price Differences: City, Firm, and Store-Level Determinants*. Tech. Bul.#1776, ERS, USDA.
- Leed, T. W. and German, G. A., 1985, *Food Merchandising Principles and Practices*. Lebharr-Friedman, N.Y.
- McClelland, W. G., 1959, "Pricing for Profit in Retailing." *Journal of Ind. Econ.* 7, 159-74.
- McKinsey & Company, Inc., 1964, *Birds Eye Study--The Economics of Frozen Foods*. N.Y.
- McKinsey & Company, Inc., 1964, *Lever Brothers Study--Increasing Distributor Profits on Soaps and Detergents*. N.Y.
- McKinsey & Company, Inc., 1965, *Lever Promotion Study--Four Keys to Managing Advertising & Display Programs More Effectively*. N.Y.
- McKinsey & Company, Inc., 1964, *Produce Study--Applying the DPP Approach to Produce*. Cleveland, OH.
- National Commission on Food Marketing (NCFM), 1966, *Organization and Competition in Food Retailing*. Tech. Study No. 7, USGPO, Washington, D.C.
- Nelson, P. E. and Preston, L. E., 1966, *Price Merchandising in Food Retailing: A Case Study*. Institute of Business and Economic Research, Berkeley, CA.
- Nystrom, Harry, 1970, *Retail Pricing: An Integrated Economic and Psychological Approach*. The Economic Research Institute, Stockholm.
- Oxenfeldt, A. R., 1968, "How Housewives Form Price Impressions." *Journal of Advertising Research*. 8, 9-17.
- Padberg, D. I., 1968, *Economics of Food Retailing*, Cornell University.
- _____, 1973, "The Role of Distributor Brands in the Food Industry." *Markenartikel*.
- _____, and Rogers, R. T., 1987, "The Cyclical Nature of Politics and the U.S. Food System." *Journal of Food Distribution Research*. V. XVIII, #2, Sept. 1987, pp. 5-14.
- _____, and Thorpe, David, 1974, "Channels of Grocery Distribution: Changing Stages in Evolution--a Comparison of USA and UK." *Journal of Agricultural Economics*, 42.
- Porter, Michael E., 1974, "Consumer Behavior, Retail Power and Market Performance in Consumer Goods Industries." *Rev. Econ. and Stat.* 56:419-36.
- Preston, L. E., 1963, *Profits, Competition and Rules of Thumb in Retail Food Pricing*. Berkeley, CA.
- Progressive Grocer, 1955, *Foodtown Stores Study*, N.Y.
- Progressive Grocer, 1957, *Super Valu Study*, N.Y.
- Progressive Grocer, 1960, *Dillon Study*, N.Y.
- Shawver, D. L., 1956, *The Development of Theories of Retail Price Determination*. Urbana, IL (Illinois Studies in the Social Sciences, #39).
- U.S. Congress, House of Representatives, Subcommittee on Livestock, Dairy and Poultry, 1991, *Review of Farm-to-Retail Prices and Marketing Relationships in the U.S. Dairy Industry*. House Print 102-10, Apr. 10, 1991, Washington, D.C.
- Zimmerman, M. M., 1955, *The Super Market*, McGraw-Hill, N.Y.