Cereal Sales Soggy Despite Price Cuts and Reduced Couponing

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The ready-to-eat (RTE) cereal industry is highly concentrated, with the top four companies accounting for 84 percent of all RTE cereal sales. This concentration of sales allows the major manufacturers to de-emphasize price competition. With few competitors, prices for branded cereals are well above costs of production. Furthermore, the dominant cereal makers heavily promote their brands with coupons and mass-media advertising to try to boost sales and win consumer loyalty. Consumers are also inundated with scores of cereals. Introducing many new brands and offering numerous spin-offs limit the success of new firms and the makers of store brand cereals.

Consumption of RTE cereals has increased tremendously since their introduction over a century ago. According to USDA's Economic Research Service, per capita consumption of RTE breakfast cereals rose from 4.4 pounds in 1939 to a peak of 14.8 pounds in 1994 (fig. 1). During the mid-1990's, high prices for branded cereals and the gaining popularity of more portable alternatives such as bagels and breakfast bars caused RTE cereal sales to stagnate. Grocery store sales tracked by Information Resources, Inc., indicate that annual household purchases of RTE cereals declined approximately 1.5 pounds between 1993 and 1997. Although sales have slipped for cereal makers in recent years, RTE cereal remains a favorite breakfast food among American consumers.

While the popularity of RTE cereals has contributed to the manufacturers' success over the past century, the small number of cereal makers and their marketing strategies have allowed the companies to sustain high profits and sales growth up until the early 1990's. In the 1980's and the first half of the 1990's, the RTE cereal industry was one of the most profitable of all food manufacturing industries, with profits averaging 17 percent of sales.

In addition, the RTE cereal companies' production costs are well below the total value of their cereal shipments (approximately equal to the wholesale value of the cereal), as indicated by the industry's price-cost margin (PCM). The PCM is defined as the total value of industry shipments less the cost of materials (specifically those for food ingredients and packaging) and

Many grocery stores devote an entire aisle to breakfast cereals to make room for some of the over 400 brands of ready-to-eat cereals available for stocking.

Credit: Ken Hammond, USDA.

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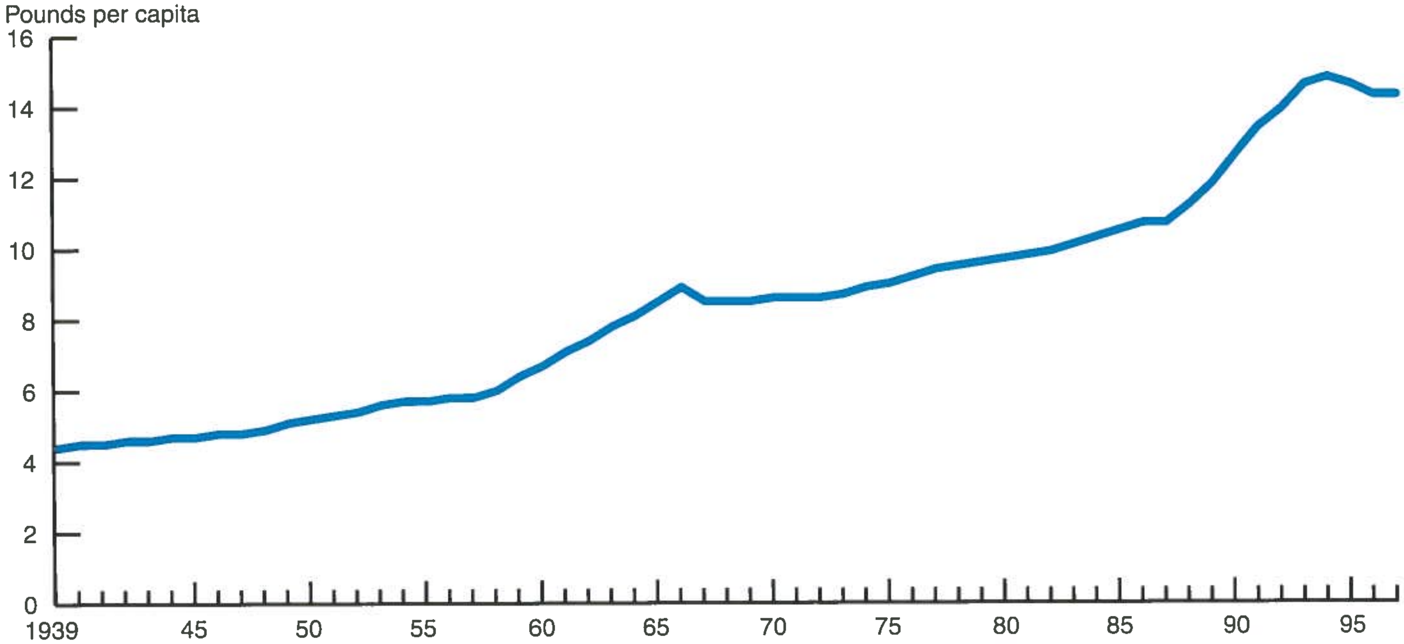
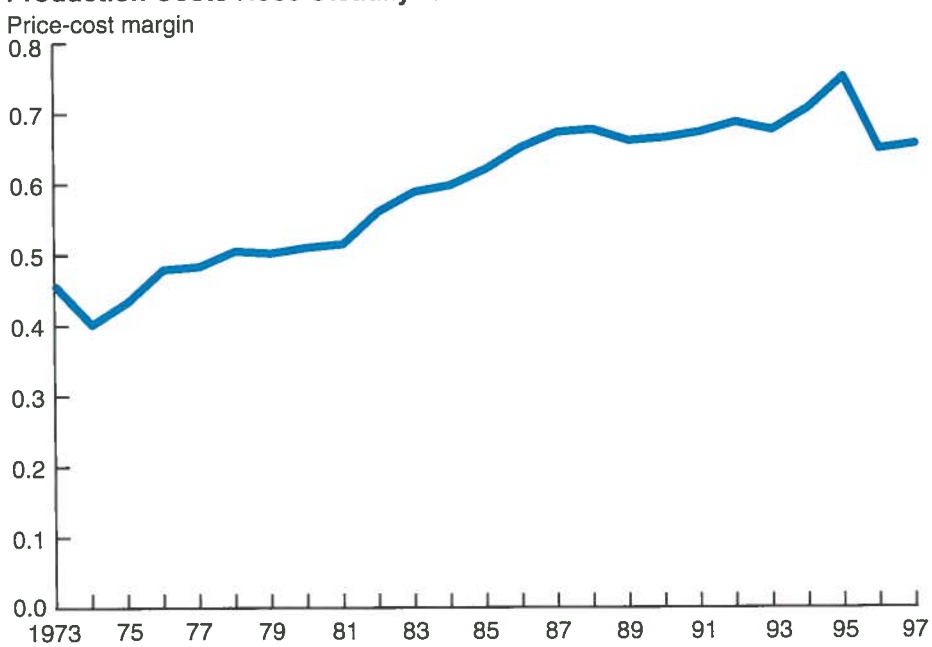
Figure 1
Per Capita RTE Cereal Consumption Stagnated in the Mid-1990's



Source: Economic Research Service, USDA.

wages paid to production workers divided by the value of shipments. In other words, the PCM denotes the proportion of total shipment value that is above production costs. Between 1973 and 1995, the RTE cereal industry's PCM (approximated with data from the cereal breakfast foods industry) climbed from 0.46 to 0.75 (fig. 2). The PCM's of other food manufacturing industries are much smaller. For example, the PCM's of the soft drink; frozen specialty foods; mayonnaise, sauces, and dressings; and cookies and crackers industries in 1997 were 0.37, 0.45, 0.46, and 0.55, respectively. In 1996, the RTE cereal industry's PCM slipped to 0.66, the lowest level in 11 years, because of deep price cuts that were intended to stimulate waning consumer demand. Consumers' consumption of RTE cereals declined in the early 1990's because of the high prices of name-brand cereals and the rising popularity of convenient breakfast foods such as bagels and toaster pastries.

Figure 2
Difference Between the Total Value of RTE Cereal Shipments and Production Costs Rose Steadily for Two Decades



Sources: U.S. Bureau of the Census, *Census of Manufactures* (various years) and *Annual Survey of Manufactures* (1992).

RTE Cereals Emerged in the 1860's and Took Off in the 1930's

The birth of RTE cereals can be traced back to around 1860 when the pioneer brands of RTE cereal were marketed as health foods. Processing innovations such as granulation, flaking, shredding, and puffing paved the way for other types of natural cereal like Henry D. Perky's shredded wheat in 1894. Perky, from his Niagara Falls, New York, factory, was the first individual to mass produce and nationally distribute RTE cereal. Perky sold his Shredded Wheat Company to the National Biscuit Company (later known as Nabisco) in 1928.

In the early 1900's, the center of the RTE cereal industry moved to Battle Creek, Michigan. It was there that J. H. Kellogg operated a sanitarium that stressed vegetarian nutrition as a healthy lifestyle, and he sent his own RTE cereals to former patients. One of his patients, C. W. Post, founded a cereal foods company and clinic. Post introduced Grape Nuts and Toasties (corn flakes) in 1898 and 1904, respectively, and he was the first RTE cereal manufacturer to promote his products with nationwide advertising campaigns. Fierce competition began when Kellogg's brother, W. K. Kellogg, produced his own version of corn flakes in 1906. Kellogg advertised his cereal in magazines and mailed free samples to individuals. Kellogg, Post, and Nabisco, the three leading firms nearly 100 years ago, were each independently operated until Post acquired Nabisco in 1993.

Consumers began to regard RTE cereals as different from cooked cereals (for example, oatmeal, cream of wheat, and cream of farina) in the 1920's and 1930's, and the demand for RTE cereals grew as the American economy expanded. Many companies entered the RTE cereal market due to the success of Kellogg and Post. Quaker, the dominant manufacturer of oatmeal, diversified its product line with puffed wheat and rice cereals. By the late 1930's, RTE cereals were more popular than hot cereals. Presweetening cereals and fortifying them with vitamins and minerals in the 1940's and 1950's boosted the popularity of RTE cereals even further.

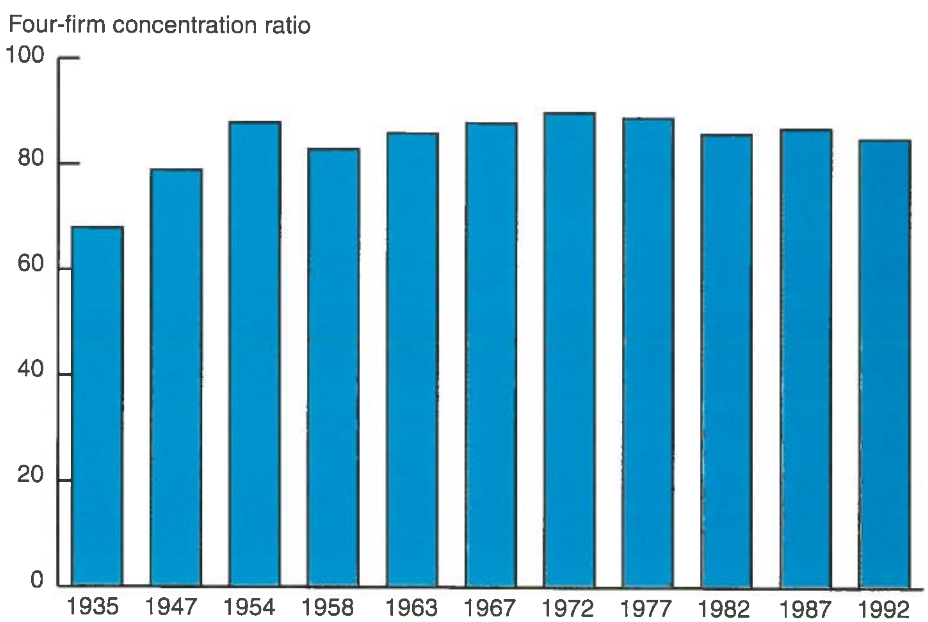
Number of Companies and Plants Have Shrunk

Many of the small, regional companies that began in the early 1900's went out of business over the next few decades. By 1947, only 55 companies made RTE cereal. The RTE cereal industry has remained highly concentrated for nearly half a century, as indicated by the industry's four-firm concentration ratio (fig. 3). This measure of industry concentration is calculated by adding together the market shares of the top four firms. Although the current level of concentration in the breakfast cereal industry is below the peak reached in 1972, the four-firm concentration ratio has remained above 80 for almost 40 years. Today, four companies—Kellogg, General Mills, Post, and Quaker—make practically all of the branded RTE cereal in the United States. According to John M. Connor, a professor of agricultural economics at Purdue University, there are only 6 to 13 domestic manufacturers of any given variety of cereal (for example, raisin bran).

Production of RTE cereal at the plant level has also become increasingly concentrated over the years. In the first decade of the 20th century, over 100 plants manufactured both hot and cold cereals. During the following 30 years, the number of plants fell dramatically. By 1940, only 30 to 35 plants produced nearly all RTE cereals. The most recent census information indicates that, in 1997, 36 plants produced all RTE cereals.

The dominant cereal manufacturers lower their per unit production

Figure 3
RTE Cereal Industry Has Been Highly Concentrated for Over 40 Years



Source: U.S. Bureau of the Census, *Concentration Ratios in Manufacturing* (various years). The four-firm concentration ratios were taken from the cereal breakfast foods industry, which includes the RTE cereal industry as well as other cereal manufacturing industries (in particular, those that produce hot and infant cereals).

costs by operating large plants that each supply 40 to 60 million pounds of cereal annually. The major producers also operate plants at several locations and, therefore, achieve multiplant economies mainly through reduced shipping costs by transporting final boxed cereal over shorter distances. The companies also increase their efficiency by producing several brands at one plant. Multiproduct economies arise due to synergies in handling and using common ingredients, equipment, and overhead.

In addition, the large cereal manufacturers enjoy economies of advertising. In other words, large firms can efficiently promote their brands with less advertising expenditures per unit than small companies. Primarily, large RTE cereal firms are able to negotiate significant discounts because advertising space in newspapers and magazines as well as television and radio time are purchased in volume or blocks. Moreover, the benefits accrued from promoting the large companies' brands typically spill over to similar cereals that the firms produce. For example, when General Mills advertises the traditional version of its Cheerios brand cereal, it indirectly promotes the other flavors and varieties (including honey and nut, frosted, apple cinnamon and multigrain) in the Cheerios line.

Price Competition Stymied

Because of the small number of firms, the major RTE cereal manufacturers realize that their actions are interdependent. Any given strategy not only affects the profit of the acting firm but also influences the performance of the other companies and the industry as a whole. As a result, the dominant producers deemphasize price competition and have done so since the mid-1940's. One company's price hikes are usually matched by the other firms, and price cuts are resisted to prevent destructive discounting practices within the industry.

Thus, branded cereal prices are well above costs of production. Compared with other processed food manufacturers, RTE cereal makers use a small amount of materials (including grains, sugar, dried fruit, nuts, oils, cardboard boxes, and plastic bags) relative to sales (27 percent in 1997). Economists have shown that, in the 1970's and 1980's, consumers paid prices for RTE cereals that were 18 to 38 percent above production costs. Significant price enhancements over production costs have also occurred in other food manufacturing industries such as the soft drink, oils and margarine, and flour mixes industries. For over 10 years, prior to the 1996 industry-wide price cuts, cereal price advances were greater than food-at-home price increases. Analyses by Ronald W. Cotterill of the Food Marketing Policy Center at the University of Connecticut indicate that cereal prices rose 91 percent from 1983 to 1994 while food prices, in general, increased only 45 percent during the same period.

Nearly all of the overall price increase was due to changes in the prices of branded cereals. Private-label cereals (also known as store brands) are not highly promoted or differentiated. Therefore, they are sold at prices that are significantly less than those of branded cereals. Connor noted that between 1989 and 1991, the average price difference between private-label and branded cereals was 43 to 47 percent.

The majority of private-label cereals are produced by Ralcorp and two smaller companies, Gilster Mary Lee and Malt-O-Meal. Interestingly, none of the major cereal makers produce private-label brands. Up until 1996, Ralcorp was the only branded RTE cereal manufacturer that also produced store brand cereals, and it controlled 60 percent of the private-label cereal market. In December 1996, General Mills acquired Ralcorp's branded cereal line. The products, marketed under the Ralston name, included the Chex line of cereals as well as Almond Delight and Cookie Crisp. Ralcorp realized that it could not operate profitably as the fifth largest manufacturer of branded cereals (in terms of sales volume), and the company decided to focus on its private-label cereal business. General Mills purchased the Ralston cereals in order to capture the Chex brands' 3-percent market share and solidify the company's number two position behind Kellogg.

The total market share of private-label cereals is small but has grown over the past two decades. The rising sales of these brands can be partly attributed to the increasing price differential between branded and private-label cereals. In 1999, private-label cereals accounted for over 10 percent of the total volume of RTE cereal sold, up from less than 3 percent in 1980.

RTE Cereals Are Heavily Promoted

Rivalry arises among the RTE cereal manufacturers through a variety of nonprice strategies. Advertising is used to differentiate similar cereals and to try to create consumer loyalty to particular brands. Connor's research shows that the major branded cereal producers spend 10 to 15 percent of the value of their sales on mass-media advertising, a significantly higher amount than in most other food manufacturing industries. This high spending raises the level of introductory advertising that is required for potential entrants to make consumers aware of their new brands. Cereal manufacturers also compete with each other by offering trade deals (such as free cases of cereal), and to a lesser extent, wholesale price discounts to encourage retailers to stock their products.

For RTE cereals, couponing is the predominant promotional strategy. Company couponing expenditures average 17 to 20 percent of sales. Coupons are designed to persuade price-sensitive consumers to purchase brands that they would not normally buy without some type of discount. Couponing is an expensive promotional strategy because the firms incur costs beyond the total dollar value of the coupons. For example, while the total redemption value of the 44 billion breakfast cereal coupons issued in 1993 was $915 million, cereal manufacturers spent an additional $300 to $400 million on printing, distributing, and processing the coupons.

RTE cereal coupons have a high redemption rate because breakfast cereals are purchased frequently and the values of the coupons are larger than those for most other food products. In 1993, the redemption rate for RTE cereal coupons was 3.8 percent as compared with 2.2 percent for all grocery coupons. Moreover, approximately one-third of the volume of RTE cereal is purchased with coupons. The face values of coupons vary across firms and cereal type. Among the top four manufacturers, the average coupon value rises as firm market share falls. This relationship implies that the cereal makers issue coupons to try to increase their market shares. Some firms such as General Mills have been successful with this strategy. Other companies, namely Kellogg, have lost significant market share over the past 10 years despite the issuance of billions of cents-off coupons.

The coupon values offered to consumers by large cereal makers are typically higher than those offered by small producers (for example, Kashi, Health Valley, Organic Milling, and Weetabix). Large RTE cereal manufacturers also issue bigger cents-off coupons for new cereals than for established brands because the firms try to ease consumers' uncertainty about new brands with greater savings. Compared with those for adult brands, large cereal makers' cents-off coupons are typically smaller for presweetened cereals. The difference in size may be due to children's preference for presweetened cereals and parents' willingness to purchase them for their children. Specialized cereals such as granolas and brands with fruit and nuts have relatively large coupon values. The larger savings on those cereals may exist because they appeal to a narrow segment of consumers, and larger price cuts may be required to entice the purchasers of other types of cereal to switch to specialized brands.

Companies Produce Numerous Brands and Occupy Prime Shelf Space

In addition to hefty couponing budgets, top manufacturers of branded cereals produce an enormous number of brands that cover every possible niche in the market. This strategy, known as product proliferation, is a way by which the leading firms compete with each other. Product proliferation also minimizes the market penetration of small firms and private-label cereal makers. In most cases, new offerings of RTE cereal are variants of established brands. For example, General Mills offers Cheerios in several other flavors besides the traditional version. In the mid-1980's, cereal makers were introducing 60 new brands each year. In 1989, that number jumped to over 100 brands. By 1996, over 400 different brands of RTE cereal were available for stocking at grocery stores nationwide.

According to Richard Schmalensee, a professor at Massachusetts Institute of Technology, crowding the market with many brands allows the dominant RTE cereal producers to deter the entry of new companies and prevent fierce price competition that would hurt all established sellers. Offering numerous brands lowers the potential market share that a new cereal can acquire and reduces the probability that a new firm will have sales large enough to cover plant and production costs.

Product proliferation affects existing manufacturers to a lesser degree than potential entrants because the incumbents are established and have plants in operation. Furthermore, consumer acceptance of new brands is easier for established firms since consumers are familiar with the incumbents' other products. Moreover, a manufacturer's new product is more likely to succeed if the firm has a reputation for producing high-quality goods.

Shelf space and the location of brands on store shelves are extremely important to branded food manufacturers, including RTE cereal makers. Although most grocery stores have an entire aisle devoted to breakfast cereals, shelf space is still limited. Dominant branded food manufacturers negotiate product placement by sending sales representatives to individual stores. Since shelf space and product location are usually determined by past sales volume, large companies obtain the majority of shelf space as well as the most desirable locations: placement at the eye-level of adults and in the middle of the aisle. There may be little, if any, shelf space for small companies' products. If retailers stock these smaller companies' brands, they are usually placed at the ends of the aisle. Not having prominent placement of their products makes it difficult for small firms to compete. Small companies may be able to obtain good shelf positions by offering deals to retailers, such as giving free cases of their products, or offering temporary reductions on the wholesale prices of their brands. However, these strategies are costly and cut into profits.

RTE Cereal Industry Comes Under Fire

Some regulatory agencies, elected officials, and consumer advocacy groups have been critical of the RTE cereal industry. These critics believe that the large cereal makers' pricing practices and marketing strategies have caused consumers to pay prices which greatly exceed the cost of producing the cereals. In 1972, the Federal Trade Commission (FTC) charged Kellogg, General Mills, Quaker, and General Foods (later known as Post) with monopolizing the industry through highly effective tacit collusion and not competing on the basis of price (Quaker was dropped from the suit in 1978). The FTC also alleged that the large cereal manufacturers were using product proliferation as a barrier to entry. After nearly 10 years of litigation, the companies were exonerated in September 1981.

Although the FTC did not oppose the 1993 merger of Post and Nabisco, it did not go unchallenged. Robert Abrams, the New York State attorney general, filed a motion to rescind the purchase and force Philip Morris (the parent company of Post) to sell Nabisco. When the case was tried in Federal court, the presiding judge ruled that Post's acquisition of Nabisco's 3-percent market share would not substantially lessen competition in the RTE cereal industry.

In 1995, Representatives Sam Gejdenson (D-CT) and Charles Schumer (D-NY) again sparked media and public scrutiny of the breakfast cereal industry with their report entitled "Consumers in a Box." Gejdenson and Schumer asserted that high retail prices and excessive promotional activities have hurt consumers.

Companies Cut Prices

For years, expenses for couponing, advertising, and trade promotions had exceeded the branded cereal manufacturers' costs of producing and shipping their cereals. Although some economists have taken the position that nonprice competition is wasteful and inefficient relative to price competition, it was not until the early 1990's that cereal makers began to reconsider the amount of money that was being spent on advertisements and promotions.

Household purchases of branded RTE cereals stagnated in the mid-1990's because of their high retail prices and consumers' switching to more portable foods such as bagels and breakfast bars. According to Information Resources, Inc., the average household purchased almost 25 pounds of cereal in 1993. Four years later, that value had declined to just over 23 pounds. Similarly, data from USDA's Economic Research Service indicate that per capita consumption of RTE breakfast cereals fell slightly in the mid-1990's after rising almost 6 pounds per person over the previous 20 years. Cereal sales were also shifting from national to store brands due to the 40 to 50 percent difference in their prices. Intense promotional spending, combined with waning consumer demand, contributed to the RTE cereal industry's lackluster performance in the early 1990's and forced the major manufacturers to address the situation hoping to improve sales and profits.

In April 1996, Post slashed the wholesale prices of its entire product line by 20 percent so that it could reduce the firm's reliance on couponing to promote its brands. Post also lowered the face values of its coupons as well as the number of cents-off coupons offered. Two months later, the other major players followed Post with similar actions. General Mills cut the prices

Ready-to-eat cereal makers issue billions of coupons annually to entice price-sensitive consumers to purchase their brands. Cereal coupons have a high redemption rate because the products are purchased frequently and the discounts are large.

Lower Coupon Values Offset Cereal Price Cuts

About one-third of branded breakfast cereal was being purchased using manufacturers' coupons prior to Post's 1996 price cuts. Consequently, cereal manufacturers had considerable opportunity to offset their price cuts with reduced couponing. The manufacturers could not, however, require retailers to pass along their wholesale price reductions to consumers. Retailers set shelf prices.

We used consumer panel data from Information Resources, Inc., for 1996 through 1998 to determine the influences of manufacturer couponing and shelf prices on the prices consumers paid for breakfast cereal after the 1996 price cuts. The data contain breakfast cereal purchases by more than 50,000 panel members. The data include shelf prices for branded and private-label cereals, the percentage of cereal purchased using a coupon, and average coupon values redeemed.

In the first full 4-week period following Post's April 15, 1996, announcement, overall branded cereal prices fell 3.5 percent (see figure). (The base price for calculating the reductions was $3.18 per pound—the shelf price of branded cereals for the 4-week period ending before Post's announcement.)

The rapid price reductions for branded cereals indicate that retailers passed on the manufacturer wholesale price reductions to consumers. In mid-October 1996, shelf prices for cereal had decreased by 9 percent relative to the base price. Price decreases in February and April 1997 relative to the base price were almost 10 percent. Shelf prices for cereal remained below their levels prior to Post's April 1996 announced wholesale price reduction for over 2 years, although the shelf price reductions became smaller over time.

Declines in the number and face values for coupons from mid-1996 to the end of 1998 partially offset shelf price reductions, lowering the price reduction for consumers who use coupons. The effective percentage price reduction in the figure is an average over all consumers (both coupon users and noncoupon users). These percentage reductions are calculated as follows. First, the effective coupon value is calculated by multiplying the average coupon value redeemed times the percentage of consumers using coupons. Then, the effective coupon value is subtracted from the shelf price to provide an effective shelf price. (A 1-cent decrease in effective coupon value is the same as a 1-cent increase in shelf price for all consumers.) Lastly, the percentage reduction in the effective shelf price is calculated.

During the 3-year study period, the average difference between actual and effective price reductions was 3.3 percentage points. The actual shelf price reduction over the 3 years averaged 7.1 percent. These results indicate that almost half of the shelf price reduction was offset by reductions in the quantity of coupons and their face values. Our analysis shows that the savings to consumers who use coupons from the branded cereal manufacturers' 1996 price cuts are greatly overestimated if coupon effects are ignored. However, noncoupon users received the full benefit of the price cuts as shown by the top (actual) line in the figure.

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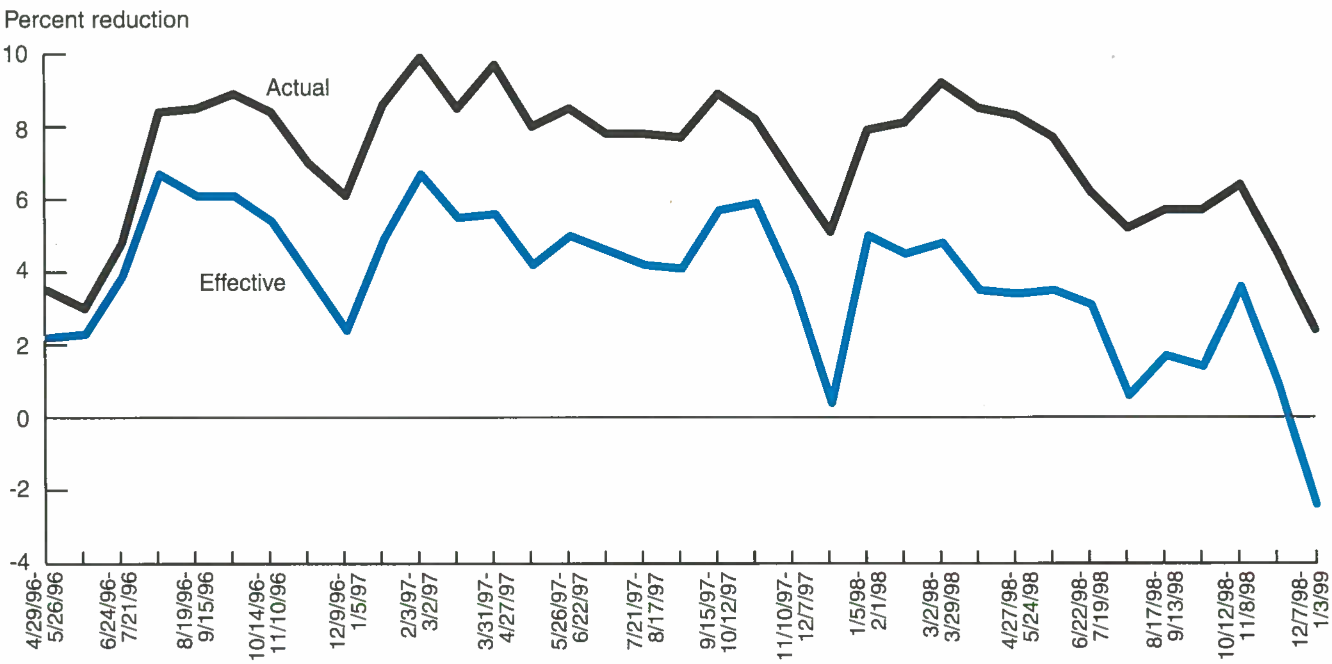
Actual and Effective Shelf Price Reductions for Branded Cereals



of nearly half of its cereals by 11 percent. In addition, Kellogg dropped the prices of those brands that competed directly with Post's cereals by 19 percent (approximately two-thirds of Kellogg's brands). Both General Mills and Kellogg also reduced some of their coupons' face values. While Kellogg, General Mills, and Post significantly lowered the prices of their cereals, it is suspected that the simultaneous reduction in the number and values of their coupons caused the net price effects to be much smaller than those claimed by the firms (see box).

Although the industrywide price cuts of 1996 were designed to stimulate sales and increase firm profitability, the manufacturers have struggled since then to achieve those goals. The industry's margin over production costs declined 12 percent in 1996 because of the slashing of cereal prices (fig. 2). The RTE cereal industry's PCM in 1997 was slightly higher than in the previous year, but it was still significantly less than the peak reached in 1995. It is possible that the firms underestimated consumers' sensitivity to price changes net of coupon savings. That is, because the net prices of cereals did not decline dramatically, consumers did not significantly increase their consumption of RTE cereals. On the other hand, the shift in consumers' preferences to portable breakfast foods may represent a long-term or even permanent change.

Despite the RTE cereal industry's reduced profitability over the past few years, Post and General Mills have gained significant market share, mainly at the expense of Kellogg. In 1970, Kellogg's domestic market share reached 47 percent. However, the company's market share has dropped precipitously since that time. Kellogg's slide has been due, in part, to the fact that its brands are easily imitated by private-label cereal makers. While Kellogg remains the top manufacturer in the industry with 31 percent of total volume in 1999, General Mills has surpassed Kellogg in terms of the share of total dollars spent on RTE cereals. General Mills' share of total RTE cereal volume was 26 percent in 1999. Post's 1996 price cuts and its acquisition of Nabisco boosted the company's market share to 17 percent in 1999, up from 12.5 percent in 1992. Quaker's sales currently cover approximately 10 percent of the RTE cereal market.

The price cuts do not seem to indicate a permanent change in the RTE cereal industry's pricing behavior. Cereal makers counteracted their 1996 price reductions with fewer coupons and smaller face values, thus making the effective price cuts smaller than what were stated by the firms. The industry's profitability did not significantly improve, and the major cereal producers have reacted in recent years by raising prices again (as evidenced by the industry's rising PCM). Therefore, it appears that despite waning consumer demand for RTE cereals, the leading firms will try to maintain profitability through intense nonprice promotional strategies.

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