

Chapter 9

Food Advertising in the United States

Anthony E. Gallo

Food manufacturers spent \$7 billion in advertising in 1997. Most of this advertising focused on highly processed and highly packaged foods—which also tend to be the foods consumed in large quantities in the United States relative to Federal dietary recommendations such as the Dietary Guidelines for Americans. Advertising expenditures on meat, fruits, and vegetables are negligible. In contrast, the U.S. Department of Agriculture spent \$333.3 million on nutrition education, evaluation, and demonstrations. This is approximately what the food industry spent on advertising just for coffee, tea, and cocoa, or for snacks and nuts; slightly more than half (60 percent) the amount spent on advertising for carbonated soft drinks, and less than half the amount spent promoting beer, or candy and gum, or breakfast cereals.

Introduction

Advertising and promotion are pivotal to the marketing of the American food supply. The U.S. food marketing system is the second largest advertiser in the American economy, and a leading supporter of network, spot, and cable television, newspapers, magazines, billboards, and commercial radio. Groceries account for about 70 percent of all manufacturers' coupons. Food manufacturers also spend massive amounts promoting the product to the retailer—through discounts and allowances, incentives, and actual slotting allowances—in order to secure scarce space on the Nation's grocery shelves.

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Table 1—Advertising by food industry, 1995-97

Item	1995	1996	1997
		<i>\$ million</i>	
Total media ¹	9,947	10,486	11,082
Eating and drinking places ²	2,645	2,961	3,148
Food retailers	795	804	860
Food manufacturers	6,507	6,721	7,074

¹ Magazines, Sunday magazines, newspapers, national newspapers, outdoor, network and spot television, network and spot radio, syndicated television, and cable television networks.

² Includes hotel restaurants not otherwise counted among eating and drinking places.

Source: Compiled from BAR/LNA Multi-Media Service data USDA/ERS.

Why so much advertising? There are several reasons for it. First, the food market is huge, capturing about 12.5 percent of consumer income, and there is vigorous competition among food firms to compete for this market. Second, food is a repeat-purchase item, lending itself to swift changes in consumer opinions. Third, food is one of the most highly branded items in the American economy, thus lending itself to major advertising.

For purposes of this chapter, advertising refers to printed and electronic media, and excludes coupons, trading stamps, and games, which comprise a significant portion of total product promotion.

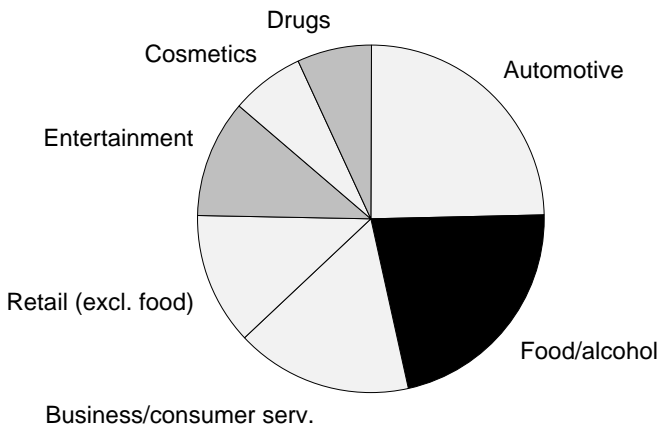
Advertising in the U.S. Food Marketing System

Advertising by the American food and alcohol industry—which includes food manufacturers, retailers, and foodservice—comprises nearly 16 percent of the \$73-billion mass media advertising market, second only to the automotive industry, which accounts for 18 percent (fig. 1). Toiletries and drugs, a significant portion of which are sold through the U.S. grocery system, account for an additional 5 percent each.

Food manufacturers account for most of the mass media advertising on food. In 1997, the Nation's food manufacturers accounted for nearly two-thirds—\$7 billion of the \$11 billion—spent by the U.S. food system on advertising (table 1). Advertising by foodservice—

Figure 1

Largest advertisers in the United States, 1997



Food and alcohol includes food manufacturing, retailing, and foodservice.

Source: USDA/Economic Research Service.

mostly by fast-food places—accounted for an additional 28 percent, up from about 5 percent in 1980, reflecting the strong growth in fast-food restaurants. Foodstores accounted for the remaining 8 percent of the food industry’s mass media advertising.

Television is the favorite medium used by food manufacturers. Over 75 percent of the \$7 billion spent by food manufacturers for advertising in 1997 was allocated to television (table 2). Fast-food restaurants allocated over 95 percent of their budgets to television.

Television is the most widely used medium because it can reach large audiences and instill brand name recognition. Much television advertising is also aimed toward people who do not read newspapers, such as children. Food retailers, on the other hand, depend more on local newspapers to communicate prices for a large number of items.

Advertising Intensity

The intensity of advertising can be measured by comparing food’s share of advertising to its share of disposable income. For example, whereas food and alcohol accounted for 12.4 percent of the Nation’s

Table 2—Media use by food manufacturers, 1997

Media	Food advertising by food manufacturers
	<i>\$ million</i>
Magazines	1,099
Sunday magazines	71
Newspapers	46
National newspapers	10
Outdoor	70
Network television	3,230
Spot television	1,389
Syndicated television	466
Cable TV network	430
Network radio	104
Network sport radio	160
Total	7,074

Source: 1997 LNA data, compiled by USDA/ERS.

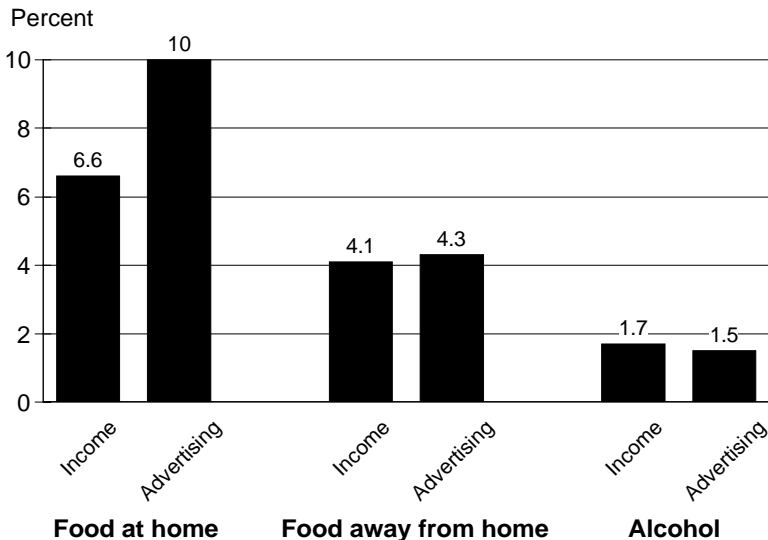
disposable income in 1997, they accounted for nearly 16 percent of advertising expenditures (food alone accounted for 10.7 percent of disposable income and 14.3 percent of advertising expenditures).

Advertising by food manufacturers—rather than by restaurants, food-stores, or even alcohol manufacturers—is the greatest contributor to the high intensity of food advertising. Purchases of food at home accounted for less than 7 percent of income in 1997, but advertising by food manufacturers accounted for 10 percent of all advertising that year (fig. 2). The foodservice share of advertising, at 4.3 percent, was slightly larger than the 4.1 percent of income consumers spent on food away from home. This low advertising intensity occurs because only about half of local restaurants do any advertising, and relatively little of it. Most advertising by the foodservice industry is by fast-food restaurants. Alcoholic beverages accounted for about 1.7 percent of the Nation's income in 1997, slightly larger than alcohol's share of mass media advertising. However, advertising intensity for alcohol may increase now that voluntary constraints to advertising on television have been removed.

Within the food manufacturing sector, advertising expenditures tend to be highest for the most highly processed and highly packaged foods—which tend to be highly branded and which can be easily dif-

Figure 2

Food's share of advertising compared with income, 1997



Source: USDA/Economic Research Service.

ferentiated. Of the \$7 billion spent on advertising by food manufacturers in 1997, more than one-fifth (22 percent) was devoted to prepared, convenience foods (table 3). Alcoholic beverages accounted for an additional 15 percent, as did candy, confectionery, and salty snacks. Soft drinks/bottled water and cooking products/seasonings are also large advertisers. Advertising expenditures on meat, fruits, and vegetables are negligible.

Advertising intensity by product category is shown in table 4. Meat, poultry, and fish, which accounted for 27 percent of the consumer at-home food budget in 1995, accounted for 4 percent of all advertising by food manufacturers that year, and therefore have a low advertising intensity ratio of 0.1. Dairy products, which accounted for about 12 percent of consumer expenditures on food at home, have an advertising intensity ratio of 0.6. Soft drinks, which accounted for less than 5 percent of expenditures on food at home, have a ratio of 1.8. Prepared, convenience foods, have an advertising intensity ratio of 1.9; confectionery and sweets have the highest ratio—2.4. The share

Table 3—Advertising expenditures by food manufacturers, 1997

Product category	Advertising expenditures	
	\$ million	Share
Prepared, convenience foods ¹	1,563	22.1
Confectionery and snacks ²	1,095	15.5
Alcoholic beverages	1,082	15.3
Soft drinks and bottled water	702	9.9
Cooking products and seasoning ³	675	9.5
Beverages ⁴	625	8.8
Dairy products and substitutes	505	7.1
Bakery goods	408	5.8
Meat, poultry, and fish	210	3.0
Fruits, vegetables, grains, and beans	159	2.2
General promotions	50	0.7
Total	7,074	100.0

¹ Soups, cereals, jams, jellies, peanut butter, health and dietary foods, infant foods, pasta products and dinners, all other prepared dinners and entrees, and miscellaneous prepared foods.

² Candy, gum, mints, cookies, crackers, nuts, chips, and other salty snacks.

³ Sugars, syrups, artificial sweeteners, shortening, cooking oils, margarine, baking mixes, crusts, flour and other baking ingredients, seasoning, spices, extracts, gelatins, puddings, condiments, pickles, relishes, sauces, gravies, dips, salad dressings, mayonnaise, and other miscellaneous ingredients.

⁴ Coffee, tea, cocoa, fruit juices and fruit drinks, and vegetable juices.

Source: USDA, Economic Research Service.

of food advertising for some food categories—in particular, confectionery and sweets, prepared and convenience foods, soft drinks, cooking products and seasonings, and food beverages—is substantially higher than the share of consumer spending in those categories. For other categories—such as meat, poultry, and fish, and fruits, vegetables, grains, and beans—the share of advertising is substantially less than the share of consumer spending on them.

Foods with the highest advertising intensity tend to be the ones overconsumed relative to Federal dietary recommendations such as the *Dietary Guidelines for Americans* (see chapters 3, 5, and 6). Per capita consumption of added sugars and sweeteners, for example, continues to increase, much of it due to increased consumption of carbonated soft drinks. This increased consumption seems to be

Table 4—Advertising intensity for product categories, 1995

Product	Advertising by manufacturers	Food-at-home budget share	Advertising intensity
	<i>Share</i>	<i>Share</i>	<i>Ratio</i>
Confectionery and snacks ¹	13.2	5.4	2.4
Prepared, convenience foods ²	23.5	12.5	1.9
Soft drinks	8.6	4.8	1.8
Cooking products and seasoning ³	10.3	7.6	1.4
Food beverages ⁴	8.8	6.7	1.3
Dairy products ⁵	7.5	12.1	0.6
Bakery goods	5.5	9.5	0.6
Meat, poultry, and fish	4.0	26.7	0.1
Fruits, vegetables, grains, beans	1.9	14.7	0.1

¹ Candy, gum, mints, cookies, crackers, nuts, chips, and other salty snacks.

² Soups, cereals, jams, jellies, peanut butter, health and dietary foods, infant foods, pasta products and dinners, all other prepared dinners and entrees, and miscellaneous prepared foods.

³ Sugars, syrups, artificial sweeteners, shortening, cooking oils, margarine, baking mixes, crusts, flour and other baking ingredients, seasoning, spices, extracts, gelatins, puddings, condiments, pickles, relishes, sauces, gravies, dips, salad dressings, mayonnaise, and other miscellaneous ingredients.

⁴ Coffee, tea, cocoa, fruit juices and fruit drinks, and vegetable juices.

⁵ Includes dairy substitutes and eggs.

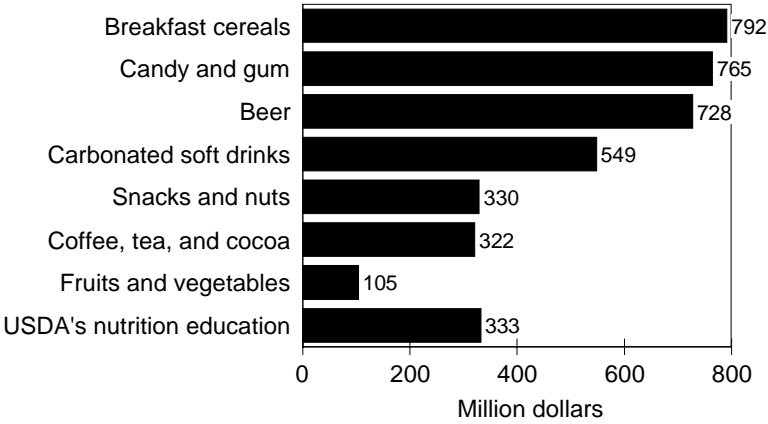
Source: Compiled by USDA/ERS from 1995 LNA data and Bureau of Labor Statistics' Consumer Expenditures Survey data.

occurring at the expense of milk (see chapters 3 and 7), and may result in adverse health effects by increasing the risk of osteoporosis (see chapter 2). Consumption of fruits and vegetables, on the other hand, which Americans consume in lower amounts than recommended, has increased only slightly in the past few decades—as one might expect in view of the little advertising associated with these foods.

Government efforts to provide consumers with information on how to improve their diets—such as messages to consume at least five fruits and vegetables each day—compete with the food industry's massive advertising. Combined, the U.S. Department of Agriculture spent \$333.3 million in fiscal year 1997 on nutrition education, evaluation, and demonstrations. This is approximately what the food industry spent on advertising just for coffee, tea, and cocoa, or for snacks and nuts; slightly more than half (60 percent) the amount spent on advertis-

Figure 3

Advertising expenditures, 1997



Source: USDA/Economic Research Service.

ing for carbonated soft drinks, and less than half the amount spent promoting beer, or candy and gum, or breakfast cereals (fig. 3).

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Are There Too Many New Product Introductions In U.S. Food Marketing?

Anthony E. Gallo

New food product introductions have risen sharply in recent years, but the net number of products on retail shelves has remained about the same. Most new product introductions are extensions of existing products, and innovation has fallen sharply in recent years.

Introduction

New product introductions, advertising, and packaging, are the three major forms of production differentiation in food processing. New product introductions, therefore, serve as a major form of nonprice competition; they also give consumers more choice and allow new firms to enter the market. With food being a stable but slow-growth industry, sales growth for food manufacturers must come through gains in market share. To induce more consumers to buy their foods, firms develop new products that are different from those of their competitors. And new firms must introduce new products to gain market entry. Therefore, the rate of product introductions provides a measure of competition among firms and indicates the result of research and development activities.

But new products (NPI) can be expensive for firms to develop and, unless they are truly new innovations, of limited value to the consumer. Space allocation is already scarce in food retailing, and NPIs have resulted in slotting allowances. As a structure issue, NPIs raise the question of smaller firms' inability to penetrate the market and the use of nonprice competition as a substitute for price competition. This empirical research examines the economic role of new product introduction in U.S. food marketing. Since 1982, over 136,000 new shelf-keeping units have been placed on the nation's grocery shelves. Is this number too high, too low, just right? What economic purpose does this form of product differentiation, increasingly more important in this highly oligopolistic sector, serve? More significant, this report differentiates between new product introduction and additional shelf-keeping units, and the implications of each to consumers, marketers, and economic policy.

Shelf-keeping Units

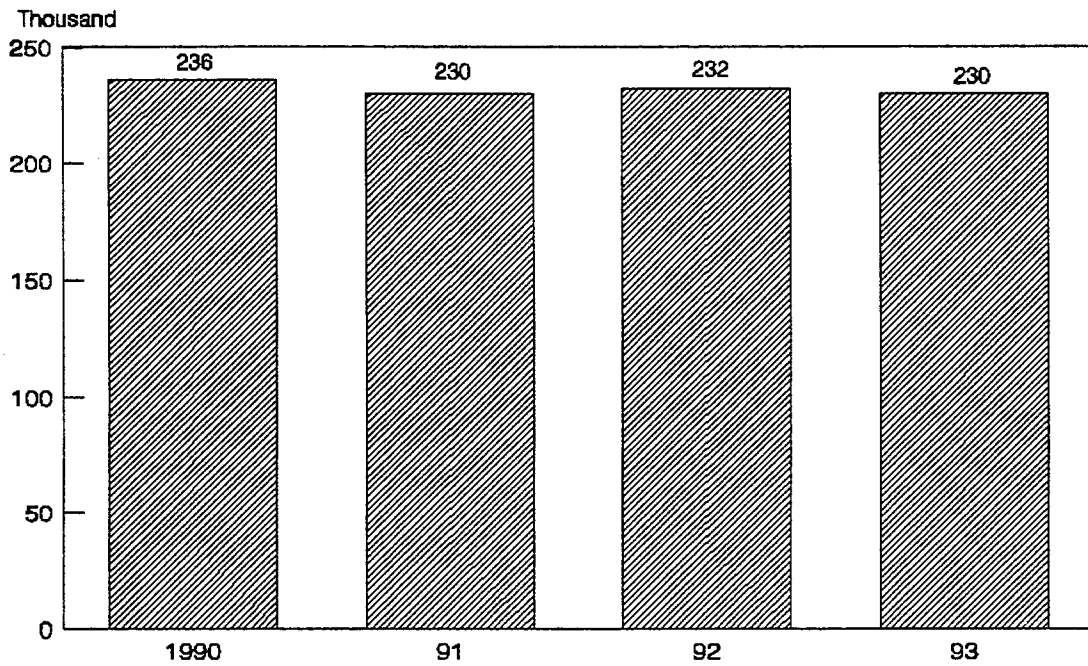
Over 230,000 product SKUs (shelf-keeping units) were available in the U.S. retail grocery system in 1993 (Figure 1). If meats, produce, and nonfood grocery products are included, the number of available products increases to an estimated 320,000. But the typical supermarket stocks only 29,000 items.

The gross number of new shelf-keeping units has grown sharply in the last decade. Shelf-keeping units include changes in size, color, or flavorings. During 1980-93, 136,000 grocery products, including 100,000 food products, were introduced. Fewer than 1,000 new food shelf-keeping units were introduced in 1964 compared with nearly 13,000 in 1993 (Figure 2). Only 320 nonfood grocery products were introduced in 1964 compared with 5,000 in 1993. Most of the growth has accrued since 1980. Only 1,500 food products were introduced in 1980. But even at 13,000 units, gross yearly introductions account for only 5 percent of total shelf-keeping units.

When ERS examined total shelf-keeping unit data, we found that net shelf-keeping units declined in 1991 and 1993 (Figure 3). Despite the introduction of 136,000 new shelf-keeping units, the net change has been negligible over the past several years. Thus, "proliferation" of new food products does not appear to be a problem because most new products fail to push aside established products and gain permanent shelf space. While there are no precise figures, some trade analysts estimate that nearly all new products are not on the shelf after 5 years. Most of this disappearance is due to product failure, but some is by intent. Manufacturers do not intend for every new product to be sold by all retail food stores. Instead, they develop products to reach specific customers in local and regional markets. Also, other new products are meant to have a limited life cycle, such as Easter candies.

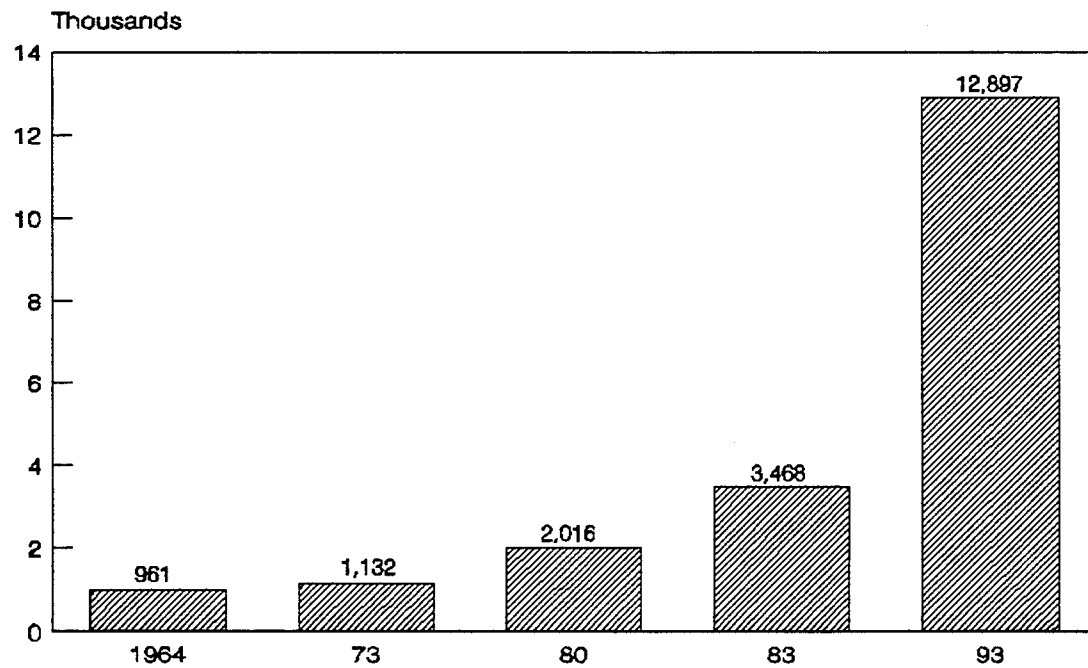
U.S. Department of Agriculture, Economic Research Service.

FIGURE 1
Total Shelf-Keeping Units Available in U.S. Supermarkets¹



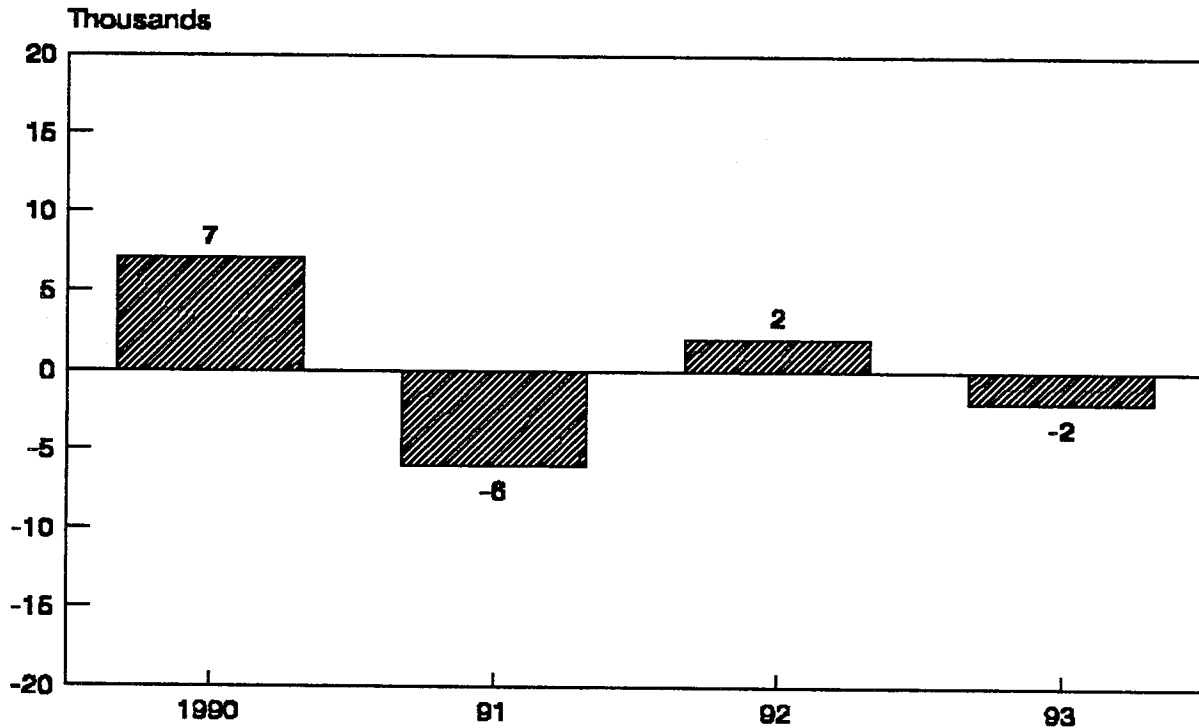
¹Includes dry groceries, frozen food, and dairy; excludes meats, produce, and nonfood grocery.
 Source: ERS.

FIGURE 2
Gross New Shelf-Keeping Units (Food Only)



Source: Trend Publishing Co.

FIGURE 3
Estimated Net New Shelf-Keeping Units (Food Only)



Source: ERS.

New Products Only a Small Portion Of New Shelf-keeping Units

The number of truly "new" products is limited. In 1993, only 24 percent of "new" shelf-keeping units were "new products." Line and brand extensions accounted for 76 percent of new shelf-keeping units (Table 1).

- Of the line extensions, about 88 percent were variety extensions (different flavors, etc.).
- About 4 percent were size extensions, while new packaging accounted for about 5 percent.

"Innovation" Falls Sharply

"Innovation" has fallen sharply since 1989 (Table 2). Firms were asked to rate innovation by the proportion of total introductions that offered consumers significant new or added benefits in at least one of the following areas:

- (1) Positioning--new uses
- (2) Formulation--a change in ingredient
- (3) Packaging--a change in packaging

- (4) Technology--a change in process
- (5) New Market--previously unmet market need.

The innovation rating for food and beverages has declined since 1989. Only about 1 in 30 food products was truly innovative. Fewer than half used new ingredients or new technology.

Concentration and New Product Introduction

Concentration in sales about matches the concentration in "new" product offerings (Table 3). The top four companies in 1993 accounted for 9 percent of packaged food sales and 6 percent of new product introductions. The top 20 companies accounted for 18 percent of sales and 16 percent of new product offerings (about 8,700). The remaining 15,000 firms in the food processing sector accounted for the other 11,300 new shelf-keeping units.

Table 1

New Food Product Introductions by Type

Type	Units	1993	1992	1991	1990	1989	1988
Total Introductions	Number	3,144	3,013	3,148	3,489	2,918	2,830
New Brands/Lines	Number	711	948	1,069	1,273	918	711
Share of Total	Percent	22.6	31.4	34.0	36.5	31.5	25.1
Brand Extensions	Number	50	35	28	49	55	75
Share of Total	Percent	1.6	1.2	0.9	1.4	1.9	2.7
Line Extensions	Number	2,383	2,030	2,051	2,167	1,945	2,044
Share of Total	Percent	75.8	67.4	65.1	62.1	66.6	72.2
Line Extensions Share of Total by Type:							
Varieties	Percent	88	87	84	85	85	84
Formulations		5	5	4	4	5	4
Sizes		4	3	6	5	4	5
Packaging		3	5	6	6	6	7

Source: Marketing Intelligence Service, Ltd.

Table 2

Food Innovation Ratings

Item	1993	1992	1991	1990	1989	1988
	Rating					
Innovation Rating	3.6	5.4	5.7	7.0	11.5	10.1
	-----Percent-----					
Positioning	26.2	30.7	29.0	29.3	25.3	31.4
Formulation	44.6	50.8	56.5	54.6	46.7	38.5
Packaging	26.9	18.0	12.1	14.5	23.6	25.1
Technology	0.8	0.5	1.9	1.0	4.4	4.3
New Market	1.5	0	0.5	0.6	0	0.7

Source: Marketing Intelligence Service, Ltd.

Table 3

Share of Market and
New Product Introductions, 1993

<u>Firms</u>	<u>Share of Market</u>	<u>Share of New Product Introductions</u>
----- Percent -----		
Top 4	9	6
Top 8	12	11
Top 20	18	16

Source: ERS and MIS.

Conclusion

- Total shelf-keeping units in the U.S. food marketing system were an estimated 320,000 in 1993. The number of *gross* shelf-keeping units introduced is rising sharply. But the estimated *net* increase in shelf-keeping units has actually declined in recent years.
- New products account for only about a fourth of new product introductions. The rest are extensions. New sizes account for only a small portion of line extensions.
- "Innovation" has fallen sharply in recent years.
- Concentration of new product introductions among leading firms is slightly lower than concentration of total sales.

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Monitoring the Impact of Consolidation in the Food System on the Consumer in 1996

Anthony E. Gallo

Very little research has been done on the impact of mergers, divestitures, and leveraged buyouts on the American consumer. The U.S. food marketing system had nearly 400 mergers and leveraged buyouts in 1996, bringing the 15-year total to about 6,400. In 1996, all indicators show that consumers were not adversely affected by this level of activity, although profitability and owners' equity continue to skyrocket. This presentation examines the consumer's welfare indirectly by looking at key economic indicators of the food marketing system in 1996 — such as retail food prices, advertising expenditures, new product introductions, research and development, profitability, and equity appreciation.

The U.S. food marketing system — consisting of food processors, wholesalers, retailers, and foodservice firms — underwent over 6,400 mergers, acquisitions, and leveraged buyouts between 1982 and 1996. Consolidation had led to greater concentration in all four sectors of the U.S. food system. But how has the consumer been affected by this consolidation? Does consolidation lead to higher or lower food price, quality, and quantity? Has increased consolidation and concentration led to excess profits and inordinate increases in stockholders' net worth at the expense of consumer passthroughs?

The purpose of this presentation is to assess the impact of consolidation in the system following years of intense merger activity. Changes in the efficiency of the food marketing system — such as changes in productivity, management efficiency, labor costs, entry of new firms, innovation, and research and development — can have a longer-term impact on consumer prices and choices.

The Paradigm of the Food System

Merger and acquisition activity, both in value and number of transactions, is continuing strongly in the 1990's, but is nowhere near the level of the late 1980's. In 1996, there were 399 mergers, divestitures, or leveraged buyout transactions (fig. 1). More than 60 percent of all these activities (210) were in food processing, while the remainder were

in food retailing (37), food wholesaling (32), and food service (120). These food marketing mergers and leveraged buyouts were valued at about \$8 billion in 1996 alone (fig. 2).

Figure 1. Food marketing mergers and acquisitions, 1982-96.

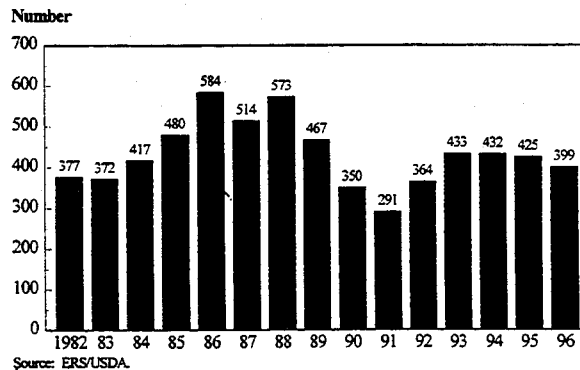
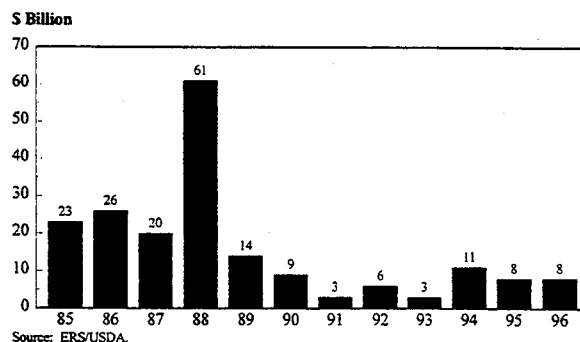


Figure 2. Value of food marketing mergers and leveraged buyouts costing more than \$100 million, 1985-96.



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In food processing, concentration among the top 100 firms appears to have risen sharply between 1982 and 1996. The 100 largest food and tobacco manufacturing companies accounted for about 35 percent of value added in 1982; by 1996, this share had risen to 55 percent.

In the 1997 Food Distribution Research Society report, we looked at the impact of this change on the conduct and performance of the food economy (Gallo). We found at that time that:

- Despite this vast transaction activity, consumer prices for food had not increased appreciably. Between 1982 and 1995, retail food prices as measured by the Consumer Price Index (CPI) rose 54 percent, about the same as the increase in the overall CPI. By contrast, medical costs rose 120 percent and housing costs rose 66 percent. Changes in retail food prices by product did not show any increase that could be associated with consolidations in particular food processing industries.
- Competition appeared strong at the food manufacturing level as witnessed by rapid product introduction and rampant advertising. Advertising is a major form of nonprice competition, and expenditures appear unchecked. Food is still the largest advertiser in the American economy. For most food processing industries, the three largest advertisers account for the great bulk of all advertising. As expected, the most concentrated industries — including breakfast cereals, beer, wine, liquor, and prepared and convenience foods — account for most of the advertising. New product introductions appeared to have been unaffected by consolidations, escalating to nearly 17,000 in 1995. Since the consolidation mania began in the early 1980's, over 150,000 new grocery products have been introduced, many within the last 5 years.
- Plant and equipment and research and development expenditures continued strong. From 1985 to 1995, between 300 and 400 new food processing plants were completed each year. Food processing is one of the nation's most automated industries, and consolidation has been accompanied by much capital expansion. Research and development appears to have been unaffected by consolidation. Food processing firms have traditionally allocated about 0.5 percent of sales to research and develop-

ment, and this figure has remained unchanged in recent years. Meanwhile, output per man-hour in the food processing system overall continues to increase; according to a recent study by the Census Bureau, output per man-hour increased in plants of merged firms even more rapidly.

- The food marketing system has the highest profitability and stockholders' equity of all sectors and profitability continues to rise sharply. Not only are profits from domestic and foreign operations up sharply, but leveraging has given new impetus to higher profit rates. After-tax profits as a percentage of stockholders' equity, for both food processors and retailers, are above those for all manufacturing and retailing. The owners of food marketing firms have prospered during these merger years, in part due to consolidation. Between 1982 and 1995, the Dow-Jones equity market indexes showed a nearly five-fold increase. For the same period, the equity index for food multiplied nearly 11 times, beverages 15.

Conduct and Performance in 1996

Key indicators in 1996 show that the consumer continues to benefit from food marketing consolidations. Despite the consolidation and increased concentration in all four sectors of the food marketing system, competition continued strong. Competition is an extremely difficult measure to assess, but we look at three basic measures: retail pricing, advertising, and new product introductions. These indicate consumer welfare by measuring product pricing, product choice, and availability. Other points of interest include:

- Retail grocery prices rose a moderate 3.7 percent in 1996, while food away from home rose 2.5 percent, roughly in line with the rise for all consumer goods. Marketing margins continued to stay in line.
- Two other forms of nonprice competition showed vigorous competition among food processing companies. Advertising expenditures rose from \$10.2 billion in 1995 to \$12 billion in 1996, as food processors, retailers, and fast-food chains continue as the largest advertisers in the U.S. economy. In addition, over 13,000 new food products were

introduced in 1996, off from the previous year's total of 15,000.

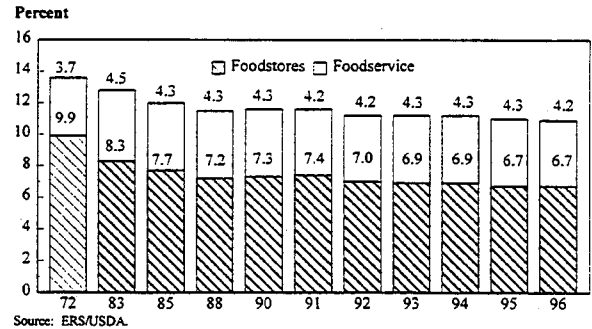
- The number of new food processing plants rose to 485 in 1996, an all-time high. Nearly \$20 billion was spent constructing these plants. Expenditures on research and development also rose, to about \$2 billion.

Table 1. Impact of food system consolidation on the American consumer in 1996.

Indicator	Change
Retail Price Increase	Moderate
Advertising	Up Sharply
New Product Introductions	Down but Only an Aberration
Research and Development	Same
New Plant	Up Sharply
Profitability	Up Sharply
Owners Equity	Up Sharply

- Output per employee rose in most food manufacturing industries in 1996, although final data are not yet available.
- Profitability and owners' equity were up sharply again. The question of excess profits because of increased concentration arises perennially. The food marketing system is extremely profitable. Food manufacturers earned nearly 20 percent on stockholders' equity, considerably above the 17-percent return for all nondurable companies. The 17.5 percent return for all food retailers was the highest in all retailing.
- Despite the higher profitability afforded stockholders, consumers continue to gain in terms of share of income allocated to food. The share fell to 10.9 percent in 1996, the lowest in U.S. history (Figure 3).

Figure 3. Food marketing system's share of disposable personal income.



More Intense Price Examination and Conclusions

The next phase of this monitoring effort involves the use of Nielsen data, which contains sales of all grocery products by stores with sales of \$2 million or more. This method enables each product to be examined for price changes on a firm-by-firm basis following mergers. Preliminary indications are that prices for most items have in fact declined following mergers.

Nearly all measures show that the food marketing system continues to do very well following consolidation. These measures include leveraging, profitability, capital expansion, appreciation, research and development, productivity, and performance in international markets. While an examination of the aggregate indicators shows that consumers have benefited, an examination of price movements following the mergers of the last 15 years using Nielsen data should show definitively whether consumers are paying more or less in retail prices.

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Monitoring the Impact of Consolidation in the Food System on the Consumer in 1996

Anthony E. Gallo

Very little research has been done on the impact of mergers, divestitures, and leveraged buyouts on the American consumer. The U.S. food marketing system had nearly 400 mergers and leveraged buyouts in 1996, bringing the 15-year total to about 6,400. In 1996, all indicators show that consumers were not adversely affected by this level of activity, although profitability and owners' equity continue to skyrocket. This presentation examines the consumer's welfare indirectly by looking at key economic indicators of the food marketing system in 1996 — such as retail food prices, advertising expenditures, new product introductions, research and development, profitability, and equity appreciation.

The U.S. food marketing system — consisting of food processors, wholesalers, retailers, and foodservice firms — underwent over 6,400 mergers, acquisitions, and leveraged buyouts between 1982 and 1996. Consolidation had led to greater concentration in all four sectors of the U.S. food system. But how has the consumer been affected by this consolidation? Does consolidation lead to higher or lower food price, quality, and quantity? Has increased consolidation and concentration led to excess profits and inordinate increases in stockholders' net worth at the expense of consumer passthroughs?

The purpose of this presentation is to assess the impact of consolidation in the system following years of intense merger activity. Changes in the efficiency of the food marketing system — such as changes in productivity, management efficiency, labor costs, entry of new firms, innovation, and research and development — can have a longer-term impact on consumer prices and choices.

The Paradigm of the Food System

Merger and acquisition activity, both in value and number of transactions, is continuing strongly in the 1990's, but is nowhere near the level of the late 1980's. In 1996, there were 399 mergers, divestitures, or leveraged buyout transactions (fig. 1). More than 60 percent of all these activities (210) were in food processing, while the remainder were

in food retailing (37), food wholesaling (32), and food service (120). These food marketing mergers and leveraged buyouts were valued at about \$8 billion in 1996 alone (fig. 2).

Figure 1. Food marketing mergers and acquisitions, 1982-96.

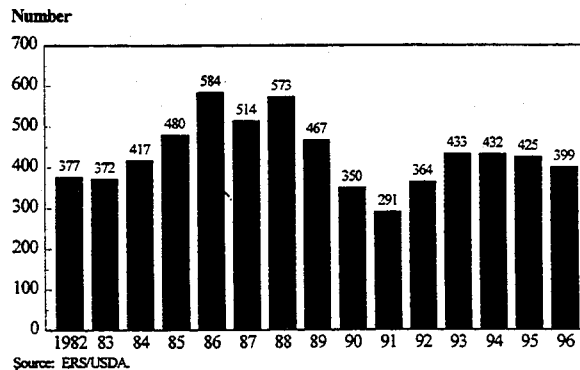
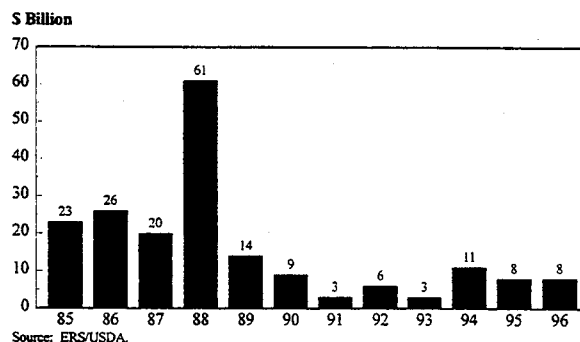


Figure 2. Value of food marketing mergers and leveraged buyouts costing more than \$100 million, 1985-96.



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In food processing, concentration among the top 100 firms appears to have risen sharply between 1982 and 1996. The 100 largest food and tobacco manufacturing companies accounted for about 35 percent of value added in 1982; by 1996, this share had risen to 55 percent.

In the 1997 Food Distribution Research Society report, we looked at the impact of this change on the conduct and performance of the food economy (Gallo). We found at that time that:

- Despite this vast transaction activity, consumer prices for food had not increased appreciably. Between 1982 and 1995, retail food prices as measured by the Consumer Price Index (CPI) rose 54 percent, about the same as the increase in the overall CPI. By contrast, medical costs rose 120 percent and housing costs rose 66 percent. Changes in retail food prices by product did not show any increase that could be associated with consolidations in particular food processing industries.
- Competition appeared strong at the food manufacturing level as witnessed by rapid product introduction and rampant advertising. Advertising is a major form of nonprice competition, and expenditures appear unchecked. Food is still the largest advertiser in the American economy. For most food processing industries, the three largest advertisers account for the great bulk of all advertising. As expected, the most concentrated industries — including breakfast cereals, beer, wine, liquor, and prepared and convenience foods — account for most of the advertising. New product introductions appeared to have been unaffected by consolidations, escalating to nearly 17,000 in 1995. Since the consolidation mania began in the early 1980's, over 150,000 new grocery products have been introduced, many within the last 5 years.
- Plant and equipment and research and development expenditures continued strong. From 1985 to 1995, between 300 and 400 new food processing plants were completed each year. Food processing is one of the nation's most automated industries, and consolidation has been accompanied by much capital expansion. Research and development appears to have been unaffected by consolidation. Food processing firms have traditionally allocated about 0.5 percent of sales to research and develop-

ment, and this figure has remained unchanged in recent years. Meanwhile, output per man-hour in the food processing system overall continues to increase; according to a recent study by the Census Bureau, output per man-hour increased in plants of merged firms even more rapidly.

- The food marketing system has the highest profitability and stockholders' equity of all sectors and profitability continues to rise sharply. Not only are profits from domestic and foreign operations up sharply, but leveraging has given new impetus to higher profit rates. After-tax profits as a percentage of stockholders' equity, for both food processors and retailers, are above those for all manufacturing and retailing. The owners of food marketing firms have prospered during these merger years, in part due to consolidation. Between 1982 and 1995, the Dow-Jones equity market indexes showed a nearly five-fold increase. For the same period, the equity index for food multiplied nearly 11 times, beverages 15.

Conduct and Performance in 1996

Key indicators in 1996 show that the consumer continues to benefit from food marketing consolidations. Despite the consolidation and increased concentration in all four sectors of the food marketing system, competition continued strong. Competition is an extremely difficult measure to assess, but we look at three basic measures: retail pricing, advertising, and new product introductions. These indicate consumer welfare by measuring product pricing, product choice, and availability. Other points of interest include:

- Retail grocery prices rose a moderate 3.7 percent in 1996, while food away from home rose 2.5 percent, roughly in line with the rise for all consumer goods. Marketing margins continued to stay in line.
- Two other forms of nonprice competition showed vigorous competition among food processing companies. Advertising expenditures rose from \$10.2 billion in 1995 to \$12 billion in 1996, as food processors, retailers, and fast-food chains continue as the largest advertisers in the U.S. economy. In addition, over 13,000 new food products were

introduced in 1996, off from the previous year's total of 15,000.

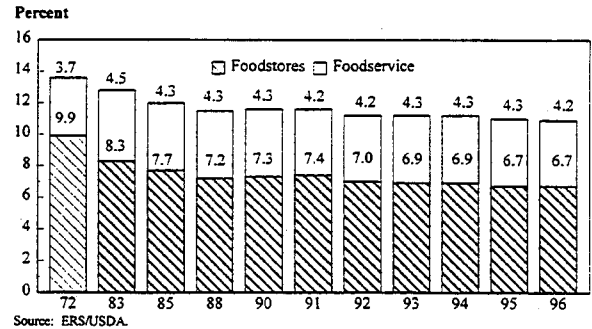
- The number of new food processing plants rose to 485 in 1996, an all-time high. Nearly \$20 billion was spent constructing these plants. Expenditures on research and development also rose, to about \$2 billion.

Table 1. Impact of food system consolidation on the American consumer in 1996.

Indicator	Change
Retail Price Increase	Moderate
Advertising	Up Sharply
New Product Introductions	Down but Only an Aberration
Research and Development	Same
New Plant	Up Sharply
Profitability	Up Sharply
Owners Equity	Up Sharply

- Output per employee rose in most food manufacturing industries in 1996, although final data are not yet available.
- Profitability and owners' equity were up sharply again. The question of excess profits because of increased concentration arises perennially. The food marketing system is extremely profitable. Food manufacturers earned nearly 20 percent on stockholders' equity, considerably above the 17-percent return for all nondurable companies. The 17.5 percent return for all food retailers was the highest in all retailing.
- Despite the higher profitability afforded stockholders, consumers continue to gain in terms of share of income allocated to food. The share fell to 10.9 percent in 1996, the lowest in U.S. history (Figure 3).

Figure 3. Food marketing system's share of disposable personal income.



More Intense Price Examination and Conclusions

The next phase of this monitoring effort involves the use of Nielsen data, which contains sales of all grocery products by stores with sales of \$2 million or more. This method enables each product to be examined for price changes on a firm-by-firm basis following mergers. Preliminary indications are that prices for most items have in fact declined following mergers.

Nearly all measures show that the food marketing system continues to do very well following consolidation. These measures include leveraging, profitability, capital expansion, appreciation, research and development, productivity, and performance in international markets. While an examination of the aggregate indicators shows that consumers have benefited, an examination of price movements following the mergers of the last 15 years using Nielsen data should show definitively whether consumers are paying more or less in retail prices.

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Senior Citizens: Food Expenditure Patterns and Assistance

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SENIOR CITIZENS: FOOD EXPENDITURE PATTERNS AND ASSISTANCE. Anthony E. Gallo, Larry E. Salathe, and William T. Boehm, National Economics Division, Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture. Agricultural Economic Report No. 426.

ABSTRACT

The Older Americans Act of 1965, amended in 1972, states that many senior citizens eat inadequately because they lack financial means, knowledge, and mobility to purchase and prepare nourishing foods. This report examines how food purchasing patterns of senior citizens compare with other age groups. The age of household head exerts a considerable influence on family food expenditure patterns. Households in which the head was 65 years or over spent more per person on food prepared at home and less on food away from home than households headed by persons of other age groups.

Key words: Age, Food expenditures, Government programs.

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SUMMARY

Households headed by senior citizens had an average income of less than half of households headed by people under 65 years old during the 1972-73 study period. Senior citizens spent an average of about 22 percent of their before-tax income on food, compared with about 17 percent for those under 65.

Senior citizen households spent more per person on food at home than any other age group, but per person expenditures on food away from home were much lower. They also spent their at-home food dollar differently, allocating more to fresh fruits and vegetables and less to red meats, dairy products, beverages, and prepared foods.

Food stamps can ease the food-income burden for some low-income senior citizens. In addition, a growing portion of the senior citizen population participates in congregate meal settings under the Older Americans Act of 1965. A number of senior citizens also are served by Meals-on-Wheels, a program which brings prepared meals to the recipient's home.

Senior Citizens: Food Expenditure Patterns and Assistance

Anthony E. Gallo, Larry E. Salathe, and William T. Boehm

INTRODUCTION

The number of persons 65 years and older rose at almost three times the rate of the rest of the U.S. population between 1970 and 1978 (1). 1/ This high growth rate will likely continue. Senior citizens already comprise a significant portion of the U.S. population (11 percent), so they have an important influence on the types of foods marketed.

Consumer Price Index (CPI) weights reflect purchasing patterns of a typical U.S. urban household. If food purchase patterns of senior citizens differ from this U.S. average, movements in the food CPI may not reflect food cost changes for senior citizens. This report analyzes the food purchasing patterns of senior citizens as an aid to policymakers as they judge the adequacy of programs to improve this group's nutritional well-being.

Data for this analysis are primarily from the 1972-73 Bureau of Labor Statistics (BLS) Consumer Expenditure Diary Survey (CEDs). 2/ Those data are the most current and comprehensive available on household purchases. The survey, which has been taken every 10 to 12 years (1950, 1960-61, 1972-73), is the largest Government survey of its type; it covers 45,000 households. This massive data base, which took 2 years to collect, took over 4 years to prepare for public use. BLS released the data tapes for public use in 1978. ESCS, since then, has been preparing the data for analysis. The next survey will probably not be released for several years. As of January 1, 1978, the data have provided a basis for establishing expenditure weights in the Consumer Price Index.

The Older Americans Act of 1965, as amended in 1972, states that many senior citizens do not eat adequately because they lack financial means, knowledge, and mobility to purchase and prepare nourishing foods. Since passage of the amendments to that act, the CEDs data have made it possible to examine the actual food purchasing patterns of a geographically dispersed cross-section of senior citizens.

AGE, FOOD EXPENDITURES, AND MONEY INCOME

Households headed by persons 65 years of age and over accounted for 20 percent of all U.S. households. Yet, these households accounted for less than 11 percent of all household income and about 13 percent of all the money spent for food in 1972-73 (table 1). These same households accounted for about 14 percent of all at-home food purchases and only about 9 percent of the expenditures on away-from-home eating.

The average before-tax income of households whose head was 65 and over was about \$5,000 in 1972-73, less than half as much as for households in which the head was

1/ Numbers in parentheses refer to items in references section.

2/ A detailed description of the CEDs is presented in (2).

Table 1--Proportion of income and food expenditures accounted for by household heads of specified age groups

Age of household head	Households	Income before taxes	Total food expenditures	Food-at-home expenditures	Food-away-from-home expenditures
			<u>Percent</u>		
Under 25	9.0	6.0	5.9	5.1	7.9
25-34	20.2	22.6	20.8	20.0	23.2
35-44	16.2	20.9	22.2	22.4	21.9
45-54	18.4	23.9	23.3	23.1	23.9
55-64	16.1	16.0	14.8	15.1	13.8
65 and over	20.1	10.7	12.9	14.3	9.3
Total <u>1/</u>	100.0	100.0	100.0	100.0	100.0

1/ Numbers may not sum to 100 due to rounding.

Source: 1972-73 CEDS, Bur. Labor Stat.

Table 2--Household characteristics and weekly food expenditures

Item	Units	All households	Age of household head (years)					
			Under 25	25-34	35-44	45-54	55-64	65 and over
Households	No.	71,731	6,478	14,457	11,590	13,227	11,551	14,428
Average household size	do.	2.9	2.1	3.3	4.3	3.4	2.3	1.7
Average age of head	Years	47.7	21.7	29.2	39.5	49.4	59.5	73.3
Persons 65 and over	No.	.3	--	--	--	--	.1	1.3
Children under 18	do.	1.0	.6	1.5	2.3	1.1	.3	.1
Family income before taxes	Dollars	9,462	6,240	10,602	12,264	12,258	9,377	5,019
Weekly food expenditures	do.	32.38	21.00	33.48	44.56	40.96	29.79	20.82
Food at home	do.	23.68	13.42	23.46	32.76	29.69	22.31	16.80
Food away from home	do.	8.70	7.58	10.02	11.80	11.27	7.48	4.02

-- = value less than 0.05

Source: 1972-73 CEDS, Bur. Labor Stat.

younger (table 2). However, because the average household size differed drastically (1.7 for those whose head was over 64 compared to 3.2 persons for other families), per capita income showed far less of a disparity. Per capita income for the households whose head was over 64 averaged \$2,950 compared with \$3,304 for all other households in 1972-73.

Households in which the head was over 64 spent an average of 21.5 percent of their income for food in 1972-73, compared with 16.9 percent for households headed by people under 65 (table 3). The disparity was even greater for at-home food--17.5 percent measured against about 12 percent. Those under 65 spent about 5 percent of their income on away-from-home eating, while those over 64 averaged about 4 percent.

Table 3--Percentage of before-tax income spent on total food, food at home, and food away from home

Age of household head (years)	Percent of before-tax income spent on--		
	Food at home	Food away from home	Total food
		<u>Percent</u>	
Under 25	11.2	6.3	17.5
25-34	11.5	4.9	16.4
35-44	13.9	5.0	18.9
45-54	12.6	4.9	17.5
55-64	12.4	4.1	16.5
65 and over	17.4	4.1	21.5
Average	13.0	4.8	17.7

Source: 1972-73 CEDS, Bur. Labor Stat.

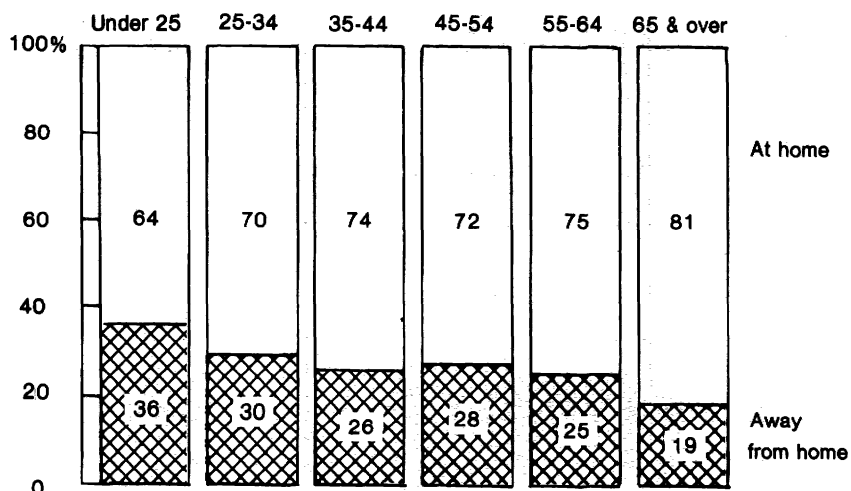
Households headed by senior citizens spent more per capita on food prepared at home than any other age group in 1972-73. The \$9.88 spent per person on food prepared at home compares with \$6.39 spent per person by the youngest age group. Senior citizen-headed households, however, spent considerably less per capita on food purchased away from home--\$2.36, or about 25 percent less than the average of all other age groups, and a third less than the youngest age group.

Households headed by senior citizens spent less than 20 percent of their total food dollar for food away from home compared with almost 30 percent for those headed by persons under 65 (fig. 1). Senior citizen-headed households also allocated the at-home food dollar differently than other age groups (table 4). The 65 and over age group spent less of the food dollar on red meats, prepared foods, beverages, and dairy products than other age groups. A considerably greater portion of their food dollar, however, was spent on fresh fruits and vegetables.

ECONOMETRIC MODEL AND RESULTS

Some of these observed differences in food purchased by people of different age groups may be due to differences in income, family size, and other factors. An econometric model was applied to the CEDS data to identify the impact of age on household food purchase patterns. This model expressed per capita weekly household food expenditures as a function of per capita weekly household income, per capita weekly household income squared, per capita weekly value of bonus food stamps received,

Figure 1--Portion of Food Dollars Spent by Age of Household Head



Source: 1972-73, CEDS, Bur. Labor Stat.

Table 4--Allocation of food-at-home dollar

Food category	Age of household head (years)						
	All house-holds	Under 25	25-34	35-44	45-44	55-64	65 and over
	Percent						
Cereal and bakery products	11.9	10.9	11.7	12.4	11.8	11.8	12.0
Red meats	28.9	26.2	28.0	29.5	30.0	29.6	27.6
Beef	15.0	13.7	15.0	15.7	16.4	15.5	14.4
Pork	8.7	7.9	8.4	8.8	8.8	9.3	9.1
Other	4.6	4.3	4.6	4.9	4.9	4.8	4.0
Poultry	4.6	3.8	4.2	4.4	4.7	4.8	5.0
Fish and seafood	2.8	2.9	2.8	2.6	2.9	3.0	2.8
Eggs	2.5	2.2	2.4	2.4	2.4	2.6	2.8
Dairy products	13.7	14.3	14.4	14.2	13.6	12.6	13.1
Fruits and vegetables	14.5	12.8	13.4	13.2	14.1	15.9	17.4
Fresh fruits	3.7	2.8	3.2	3.3	3.8	4.3	5.1
Fresh vegetables	4.4	3.7	4.0	4.1	4.4	5.0	5.2
Processed fruits	3.0	2.7	2.8	2.6	2.7	3.3	3.9
Processed vegetables	3.3	3.6	3.5	3.2	3.2	3.3	3.2
Sugar and sweets	3.0	2.8	2.6	2.8	2.6	2.9	3.0
Fats and oils	2.8	2.8	2.6	2.8	2.6	2.9	3.0
Nonalcoholic beverages	7.3	8.9	7.7	7.2	7.4	7.1	6.8
Miscellaneous prepared foods	8.1	12.4	9.8	8.1	7.4	6.8	6.4

Source: 1972-73 CEDS, Bur. Labor Stat.

location of the household (region and urbanization), and race, sex, and age of household's head. The multiple regression parameters which provide estimates of the impact of the age of the household head on per capita weekly food purchases are presented in table 5. The remaining parameter estimates are presented in the appendix.

Dollar estimates in table 5 show the difference in per capita weekly household food purchases of households in which the head is of a particular age compared with expenditures of households in which the head is 65 years or older. For example, table 5 shows that the under 25 group spent \$1.45 less per capita on total food than did the 65 and over group.

Age of the household head, after a control for other factors, exerts a significant influence on household food purchasing patterns. A household in which the head was 65 and over spent \$3.59 more per person per week on food at home, but \$1.25 less per person per week on food away from home than households headed by persons between 25 and 34 years. For all food-at-home expenditure categories except miscellaneous prepared foods, the 65 and over age group spent significantly more per person per week than did the 25 to 34 age group. This also held true when the 65 and over group was compared to the 35 to 44 group.

Per capita weekly expenditures on beef, pork, other red meats, fish and seafood, nonalcoholic beverages, miscellaneous prepared foods, and food away from home were not significantly different between households headed by the 45-54 and the over 64 groups. Compared with the 55 to 64 group, households with heads 65 and over spent significantly more per person per week on food at home, cereal and bakery products, poultry, dairy products, fresh fruits, fresh vegetables, processed fruits, and sugar and other sweets. They spent significantly less, however, per person per week on pork.

GOVERNMENT AND PRIVATE FOOD PROGRAMS FOR SENIOR CITIZENS

Many senior citizens live on fixed incomes while retail food prices increase rapidly. This situation has generated the need for public assistance to help ease their food-income burden. Public aid comes in two forms: (1) cash grants which bolster income, and (2) in-kind assistance (resources for purchase of specific products). Income, rather than age, is generally the prime criterion in determining program eligibility.

Food Stamps

Senior citizens with low incomes are often able to increase their food purchasing power by participating in the Food Stamp Program (FSP). Households headed by senior citizens comprise about 20 percent of all U.S. households, but about 16 percent of all food stamp recipients (table 6) (3).

The average annual before-tax income of senior-citizen households participating in the FSP in 1972-73 was about \$1,930, less than 40 percent of the income of senior-citizen households not receiving food stamps. While the incomes of these two groups were substantially different, their food purchases were quite similar. For example, senior-citizen households participating in the FSP spent \$3.11 less per week on food away from home, but only \$1.01 less per week on food at home than nonparticipating senior citizens. Within the food-at-home category, senior-citizen households participating in the FSP spent 31 and 23 cents more per week on pork and poultry, respectively, but 34, 31, and 42 cents less per week on beef, dairy products, and fruits, respectively, than non-FSP senior-citizen households. The differences were even smaller for the remaining at-home food categories. These differences cannot be attributed to household size, since household size averaged 1.7 persons for households in both groups.

A large number of senior citizens eligible for benefits are not participating in public food assistance programs, according to a recent Food and Nutrition Service study (4). About 40 percent of the eligible nonparticipants were over 65, the study noted.

Table 5--Differences in per capita weekly food expenditures: Households headed by members of various age groups compared with households in which the head is 65 and over

Expenditure category	Age of household head (years)				
	Less than 25	25-34	35-44	45-54	55-64
	Dollars				
Food, total	-1.4463 1/(-4.17)	-2.3346 (-8.54)	-2.0160 (-6.89)	-1.2678 (-4.42)	-0.4340 (-1.46)
Food at home	-3.5684 (-14.12)	-3.5885 (-18.00)	-2.8304 (-13.25)	-1.4988 (-7.17)	-.4331 (-2.00)
Cereal and bakery products	-.5075 (-13.52)	-.4910 (-16.59)	-.3430 (-10.82)	-.2176 (-7.01)	-.0723 (-2.25)
Beef	-.5261 (-6.93)	-.5035 (-8.41)	-.3391 (-5.29)	-.0815 (-1.30)	-.0493 (-.76)
Pork	-.3296 (-6.05)	-.3102 (-7.22)	-.2210 (-4.80)	-.0482 (-1.07)	.1097 (2.35)
Other red meats	-.1221 (-4.47)	-.1121 (-5.20)	-.0605 (-2.62)	.0419 (1.85)	.0288 (1.23)
Poultry	-.3703 (-10.77)	-.2838 (-10.47)	-.2371 (-8.17)	-.1207 (-4.25)	-.0651 (-2.21)
Fish and seafood	-.0386 (-1.55)	-.0932 (-4.74)	-.0735 (-3.50)	-.0144 (-.70)	-.0093 (-.43)
Eggs	-.1633 (-10.97)	-.1355 (-11.55)	-.1133 (-9.01)	-.0766 (-6.23)	-.0181 (-1.42)
Dairy products	-.3926 (-9.20)	-.3958 (-11.76)	-.3362 (-9.32)	-.2115 (-5.99)	-.1346 (-3.68)
Fresh fruits	-.3368 (-14.95)	-.2995 (-16.85)	-.2547 (-13.38)	-.2039 (-10.94)	-.0819 (-4.24)
Fresh vegetables	-.3199 (-14.04)	-.2885 (-16.06)	-.2306 (-11.98)	-.1606 (-8.52)	-.0527 (-2.69)
Processed fruits	-.2163 (-11.11)	-.1966 (-12.81)	-.2056 (-12.50)	-.1783 (-11.08)	-.0863 (-5.17)
Processed vegetables	-.0993 (-5.55)	-.0949 (-6.73)	-.0819 (-5.42)	-.0419 (-2.83)	.0004 (.03)
Sugar and other sweets	-.1763 (-9.14)	-.1490 (-9.80)	-.1231 (-7.55)	-.0930 (-5.83)	-.0448 (-2.70)
Nonalcoholic beverages	-.0473 (-1.49)	-.1680 (-6.70)	-.1389 (-5.17)	-.0024 (-.09)	-.0123 (-.45)
Fats and oils	-.1367 (-7.79)	-.1377 (-9.95)	-.1058 (-7.14)	-.0929 (-6.40)	.0080 (.53)
Miscellaneous prepared foods	.2069 (5.45)	.0616 (2.06)	.0232 (.72)	-.0054 (-.17)	.0431 (1.32)
Food away from home	2.1224 (9.19)	1.2540 (6.89)	.8143 (4.17)	.2309 (1.21)	-.0009 (-0)

1/ T-values in parentheses.

Table 6--Food stamp households and all households by age of household head

Age of head	Food stamp recipients	Percent	All households
Under 35	43		29
35-44	17		16
45-54	13		18
55-64	11		16
65 and over	16		20
Total <u>1/</u>	100		100

1/ Numbers may not sum to 100 due to rounding.

Source: Food and Nutrition Serv., U.S. Dept. Agr.

Older Americans Act of 1965

The Older Americans Act of 1965 was passed in recognition that low-income senior citizens, in addition to lacking the financial means to acquire nourishing food, also "have feelings of rejection and loneliness which obliterate the incentive necessary to prepare and eat nourishing meals." Nutrition programs have been established under this act throughout the country that provide at least one hot meal a day, 5 days a week, to people over 60 and their spouses (regardless of age). This meal must provide one-third of the Recommended Dietary Allowances established by the National Academy of Sciences. Under Title 3 of the act, the U.S. Department of Agriculture provides a stipulated value of food (38.5 cents for each meal in fiscal year 1980) toward these meals.

Meal sites must be in a congregate setting where recipients have the opportunity to socialize, and must be in urban and rural settings with heavy concentrations of senior citizens. There were about 9,000 U.S. meal sites in 1977 (table 7). Recipients pay only if they feel they have the means to do so. About 10.5 percent of the eligible recipients participated in the program during fiscal year 1978.

Meals-on-Wheels

A number of private volunteer programs also assist senior and incapacitated U.S. citizens. These programs have little impact on total food consumption. They are important, however, for the many who lack the mobility or financial capability to provide their own meals.

One such program is Meals-on-Wheels, which provides meals to people unable to serve themselves. A substantial portion of its recipients are over 60. An estimated 50,000 to 100,000 people who are incapacitated purchase meals through this program.

Meals-on-Wheels program recipients pay between \$10 and \$14 per week for 10 meals, one hot meal and one cold meal delivered once daily for 5 days. The bulk of all meals

Table 7--Meals and persons served under Older Americans Act of 1965

Item	Unit	Fiscal year			
		1975	1976	1977	1978
Persons served	Thous.	1,277	1,722	2,855	<u>1</u> /3,500
Number of Americans 60 years and older	Thous.	31,661	32,259	32,855	33,370
Eligibles participating	Pct.	4.0	5.4	8.7	10.5
Sites	No.	4,710	6,672	9,166	<u>1</u> /10,060
Meals served	Mil.	48.6	64.3	101.1	<u>1</u> /130.0

1/ Estimate, Econ. Stat. Coop. Serv., U.S. Dept. Agr.

Source: Dept. of Health, Education, and Welfare, the administrator of the program.

served are purchased from caterers and in some instances from hospitals and other institutions. A number of Meals-on-Wheels kitchens, especially in the rural areas, still serve home-prepared foods. Some units provide specialized meals, such as kosher food and restricted diets.

The meals are delivered by volunteers who often look after the overall needs of senior citizens.

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Appendix table 1--Estimated coefficients and relevant statistics obtained by regressing weekly per capita household food expenditures on selected independent variables, 1972-73 CEDS

Independent variable <u>1/</u>	Expenditure category										
	Total food	Food at home	Cereal and bakery products	Beef and veal	Pork	Other red meats	Poultry	Fish and seafood	Eggs	Dairy products	Fresh fruits
INTERCEPT	: 8.1577	: 9.6747	: 1.2058	: 0.8931	: 1.1358	: 0.3465	: 0.8545	: 0.2854	: 0.4193	: 1.1257	: 0.5087
	: 2/(17.7)	: (28.7)	: (24.1)	: (8.8)	: (15.7)	: (9.5)	: (18.7)	: (8.6)	: (21.2)	: (19.8)	: (17.0)
URBN	: 1.5560	: .6267	: -.0053	: .3234	: .0439	: .0534	: .0665	: .0648	: .0031	: .0423	: .0430
	: (6.6)	: (3.6)	: (-.2)	: (6.2)	: (1.2)	: (2.9)	: (2.8)	: (3.8)	: (.3)	: (1.5)	: (2.8)
NE	: 1.5595	: 1.5206	: .1955	: .3104	: .0744	: .2452	: .1431	: .1685	: .0006	: .1256	: .0667
	: (5.9)	: (7.9)	: (6.8)	: (5.3)	: (1.8)	: (11.7)	: (5.4)	: (8.9)	: (.1)	: (3.9)	: (3.9)
NC	: -.7304	: -.1785	: .0051	: -.0147	: .1285	: .0785	: -.0716	: -.0580	: -.0361	: -.0499	: -.0392
	: (-2.9)	: (-1.0)	: (.2)	: (-.3)	: (3.3)	: (4.0)	: (-2.9)	: (-3.2)	: (-3.4)	: (-1.6)	: (-2.4)
S	: -.0581	: .0002	: .0102	: -.0191	: .1379	: .0114	: .0476	: .0204	: .0097	: -.0801	: -.0995
	: (-.2)	: (.0)	: (.4)	: (-.4)	: (3.5)	: (.6)	: (1.9)	: (1.1)	: (.9)	: (-2.6)	: (-6.1)
WHT	: .8414	: .2009	: .1852	: -.0289	: -.4357	: -.0322	: -.2853	: -.1366	: -.0473	: .3794	: .0196
	: (3.0)	: (1.0)	: (6.0)	: (-.5)	: (-9.8)	: (-1.4)	: (-10.1)	: (-6.7)	: (3.9)	: (10.8)	: (1.1)
AGE1	: -1.4463	: -3.5684	: -.5075	: -.5261	: -.3296	: -.1221	: -.3703	: -.0386	: -.1633	: -.3926	: -.3368
	: (-4.2)	: (-14.1)	: (-13.5)	: (-6.9)	: (-6.1)	: (-4.5)	: (-10.8)	: (-1.6)	: (-11.0)	: (-9.2)	: (-15.0)
AGE2	: -2.3346	: -3.5885	: -.4910	: -.5035	: -.3101	: -.1121	: -.2838	: -.0932	: -.1355	: -.3958	: -.2995
	: (-8.5)	: (-18.0)	: (-16.6)	: (-8.4)	: (-7.2)	: (-5.2)	: (-10.5)	: (-4.7)	: (-11.6)	: (-11.8)	: (-16.9)
AGE3	: -2.0160	: -2.8304	: -.3430	: -.3391	: -.2210	: -.0605	: -.2371	: -.0735	: -.1133	: -.3362	: -.2547
	: (-6.9)	: (-13.3)	: (-10.8)	: (-5.3)	: (-4.8)	: (-2.6)	: (-8.2)	: (-3.5)	: (-9.0)	: (-9.3)	: (-13.4)
AGE4	: -1.2678	: -1.4988	: -.2176	: -.0815	: -.0482	: .0419	: -.1207	: -.0144	: .0766	: -.2115	: -.2039
	: (-4.4)	: (-7.2)	: (-7.0)	: (-1.3)	: (-1.1)	: (-1.9)	: (-4.3)	: (-.7)	: (-6.2)	: (-6.0)	: (-10.9)
AGE5	: .4340	: -.4331	: -.0723	: -.0493	: .1097	: .0287	: -.0651	: -.0092	: -.0181	: -.1346	: -.0818
	: (1.5)	: (-2.0)	: (-2.3)	: (-.8)	: (2.4)	: (1.2)	: (-2.2)	: (-.4)	: (-1.4)	: (-3.7)	: (-4.2)
MALE	: -.8152	: -.7712	: -.1034	: .0752	: -.0188	: -.0074	: -.0930	: -.0188	: -.0384	: -.0984	: -.0891
	: (-3.9)	: (-5.0)	: (-4.5)	: (1.6)	: (-.6)	: (-.5)	: (-4.4)	: (-1.2)	: (-4.2)	: (-3.8)	: (-6.5)
PCBONUS	: .2481	: .2924	: .0391	: .0279	: .0503	: .0080	: .0258	: .0031	: .0105	: .0364	: .0021
	: (2.9)	: (4.7)	: (4.3)	: (1.5)	: (3.8)	: (1.2)	: (3.1)	: (.5)	: (2.9)	: (3.5)	: (.4)
PCINCOM*10	: .6932	: .2352	: .0149	: .0486	: .0197	: .0068	: .0067	: .0122	: .0017	: .0224	: .0159
	: (32.6)	: (15.2)	: (6.5)	: (10.4)	: (5.9)	: (4.0)	: (3.2)	: (8.0)	: (1.9)	: (8.6)	: (11.5)
SQPCINC*10000	: -.3756	: -.1932	: -.0170	: -.0299	: -.0215	: -.0023	: -.0067	: -.0082	: -.0001	: -.0191	: -.0142
	: (-9.8)	: (-6.9)	: (-4.1)	: (-3.6)	: (-3.6)	: (-.7)	: (-1.8)	: (-3.0)	: (-.1)	: (-4.0)	: (-5.7)
R ² <u>3/</u>	: .21	: .10	: .06	: .04	: .03	: .03	: .05	: .03	: .03	: .05	: .08

See footnotes at end of table.

Continued--

Appendix table 1--Estimated coefficients and relevant statistics obtained by regressing weekly per capita household food expenditures on selected independent variables, 1972-73 CEDS--Continued

Independent variable <u>1/</u>	Expenditure category							
	Fresh vegetables	Processed fruits	Processed vegetables	Sugar and sweets	Fats and oils	Nonalcoholic beverages	Miscellaneous prepared foods	Food away from home
INTERCEPT	: 0.5096 (16.8)	: 0.3812 (14.7)	: 0.2953 (12.4)	: 0.3668 (14.3)	: 0.3759 (16.1)	: 0.5516 (13.0)	: 0.4391 (8.7)	: -1.5163 (-4.9)
URBN	: .0802 (5.2)	: .0200 (1.5)	: .0319 (2.6)	: -.0874 (-6.6)	: -.0533 (-4.5)	: .0143 (.7)	: -.0115 (-.4)	: .9294 (5.9)
NE	: .0709 (4.1)	: .0195 (1.3)	: .0218 (1.6)	: -.0223 (-1.5)	: -.0104 (-.8)	: .1307 (5.4)	: -.0155 (-.5)	: .0390 (.2)
NC	: -.0541 (-3.3)	: -.0584 (-4.2)	: -.0115 (-.9)	: -.0054 (-.4)	: -.0089 (-.7)	: .0309 (1.4)	: -.0138 (-.5)	: -.5518 (-3.3)
S	: -.0273 (-1.7)	: -.0468 (3.3)	: .0432 (3.3)	: -.0156 (-1.1)	: .0001 (.1)	: .0805 (3.5)	: -.0723 (-2.6)	: -.0584 (-1.4)
WHT	: .0181 (1.0)	: .0496 (3.1)	: .0119 (.8)	: .0889 (5.6)	: .0591 (4.1)	: .1238 (4.8)	: .2333 (7.5)	: .6405 (3.4)
AGE1	: -.3199 (-14.0)	: -.2163 (-11.1)	: -.0993 (-5.6)	: -.1763 (-9.1)	: -.1367 (-7.8)	: -.0472 (-1.5)	: .2069 (5.5)	: 2.1224 (9.2)
AGE2	: -.2885 (-16.1)	: -.1966 (-12.8)	: -.0949 (-6.7)	: -.1490 (-9.8)	: -.1376 (-10.0)	: -.1680 (-6.7)	: .0616 (2.1)	: 1.2546 (6.9)
AGE3	: -.2306 (-12.0)	: -.2055 (-12.5)	: -.0819 (-5.4)	: -.1231 (-7.6)	: -.1058 (-7.1)	: -.1388 (-5.2)	: .0232 (.7)	: -.8143 (4.2)
AGE4	: -.1606 (-8.5)	: -.1783 (-11.1)	: -.0419 (-2.8)	: -.0930 (-5.8)	: -.0929 (-6.4)	: -.0024 (-.1)	: -.0054 (-.2)	: .2309 (1.2)
AGE5	: -.0526 (-2.7)	: -.0863 (-5.2)	: .0004 (.1)	: -.0448 (-2.7)	: .0080 (.5)	: -.0123 (-.5)	: .0431 (1.3)	: -.0009 (-.1)
MALE	: -.0716 (-5.2)	: -.0753 (-6.3)	: -.0306 (-2.8)	: -.0256 (-2.2)	: -.0342 (-3.2)	: -.1089 (-5.6)	: -.0398 (-1.7)	: -.0444 (-1.7)
PCBONUS	: .0161 (2.9)	: .0017 (.4)	: .0159 (3.6)	: .0100 (2.1)	: .0118 (2.8)	: .0248 (3.2)	: .0088 (1.0)	: -.0443 (-.8)
PCINCOM*10	: .0145 (10.4)	: .0126 (10.6)	: .0068 (6.2)	: .0062 (5.2)	: .0033 (3.1)	: .0210 (10.8)	: .0228 (9.8)	: .4572 (32.3)
SQPCINC*10000	: -.0106 (-4.2)	: -.0107 (-5.0)	: -.0049 (-2.5)	: -.0087 (-4.1)	: -.0027 (-1.4)	: -.0205 (-5.8)	: -.0167 (-4.0)	: -.1825 (-7.1)
R ² <u>3/</u>	: .07	: .05	: .02	: .02	: .02	: .03	: .03	: .23

1/ See appendix figure 1 for definition of variables.

2/ T-values in parentheses.

3/ Coefficient of determination.

Appendix figure 1--Definition of Independent Variables

URBN--Equals 1 if household resides in an urban location, 0 otherwise.

NE--Equals 1 if household resides in the northeast region, 0 otherwise.

NC--Equals 1 if household resides in the north central region, 0 otherwise.

S--Equals 1 if household resides in the southern region, 0 otherwise.

WHT--Equals 1 if household head is other than black, 0 otherwise.

AGE1--Equals 1 if household head is less than 25 years of age, 0 otherwise.

AGE2--Equals 1 if household head is between 25 and 34 years of age, 0 otherwise.

AGE3--Equals 1 if household head is between 35 and 44 years of age, 0 otherwise.

AGE4--Equals 1 if household head is between 45 and 54 years of age, 0 otherwise.

AGE5--Equals 1 if household head is between 55 and 64 years of age, 0 otherwise.

MALE--Equals 1 if household head is male, 0 otherwise.

PCINCOM--Weekly (before tax) money income of household divided by household size.

PCBONUS--Exchange value of food stamps purchased last month minus the amount paid for food stamps purchased last month all divided by household size and the number of weeks in an average month.

SQPCINC--Weekly (before tax) money income of household divided by household size quantity squared.

The Food Marketing System in 1996. By Anthony E. Gallo, U.S. Department of Agriculture, Economic Research Service, Food and Rural Economics Division. Agriculture Information Bulletin No. 743.

Abstract

New food product introductions fell sharply in 1996. The number of new plants, consumer advertising expenditures, and common stock prices reached new highs in 1996, as did the number of mergers in the foodservice industry. Profitability from food manufacturing and retailing was higher due to strong sales, wage and producer price stability, and streamlining of operations.

This report analyzes and assesses yearly developments in the growth, conduct, performance, and structure of food marketing institutions—food processors, wholesalers, retailers, and foodservice firms. *Industry growth* includes changes in sales for each of the four sectors, product mix, and external economic factors affecting the food system. *Conduct* measures firms' competitive behavior, which includes such price and nonprice competition as advertising, promotion, new product introduction, new store formats, price discounting, and menu variety. *Performance* includes profitability, capital expansion, foreign trade and investment, research and development, capacity use, equity market changes, and productivity. *Structure* developments include mergers, acquisitions, divestitures and leveraged buyouts, and changes in the number of companies and establishments.

Keywords: food marketing, food processors, wholesalers, retailers, foodservice, advertising, profitability, trade.

Acknowledgments

Annette Clauson, Thomas Carlin, and Alden Manchester reviewed earlier drafts, and Dale Simms edited this report.

Industry Growth

Sales Higher

Food marketing system sales reached \$890 billion in 1996, but the system's share of disposable personal income fell to 10.9 percent

General Economy. The U.S. economy grew at a healthy pace in 1996 as real GDP growth rose an estimated 2.8 percent, compared with 2.0 percent in 1995. Employment was up over 1.8 million jobs, and the unemployment rate fell to 5.4 percent, the lowest since 1989.

Real per capita disposable income rose about 1.5 percent, and consumer spending for 1996 grew about 5 percent. Continued low interest rates, widely available credit, mortgage refinancing, and employment growth kept consumer spending strong and benefited the food marketing system.

Sales. The increase in consumer spending was reflected in the food system's sales growth. In 1996, retail sales, adjusted for price and population increases, showed a 1-percent increase. The share of disposable personal income captured by the food marketing

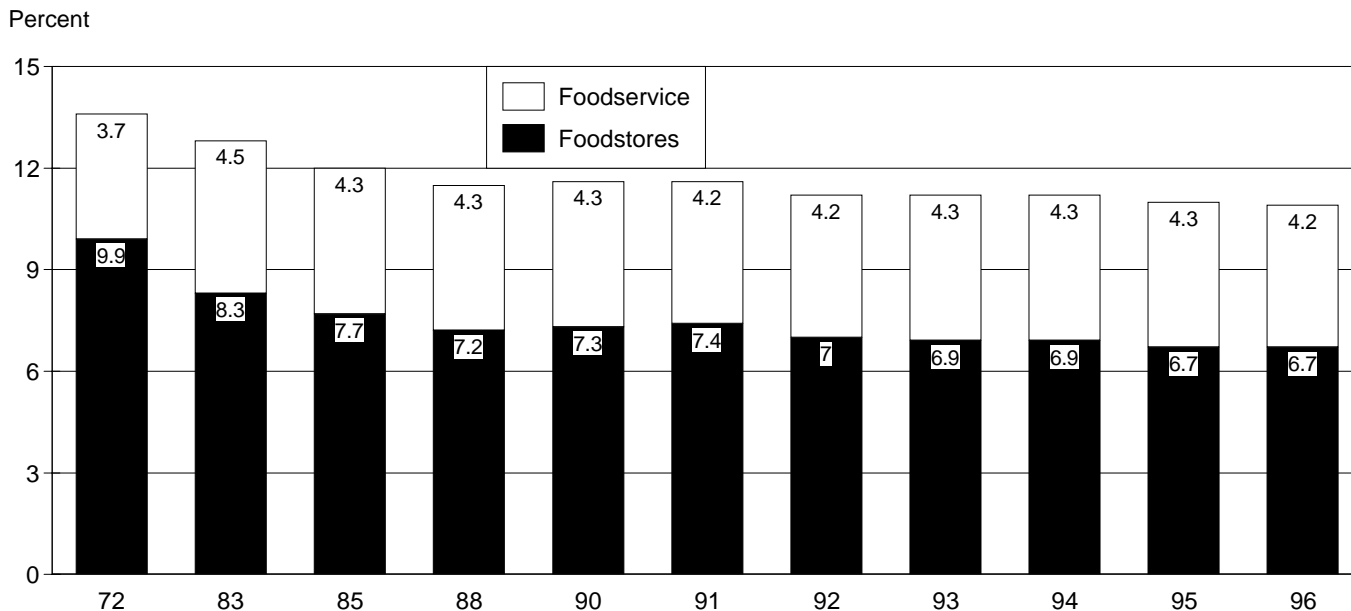
system fell to 10.9 percent (fig. 1). Total sales of items purchased at foodstores and foodservice establishments, packaged alcoholic beverages and drinks purchased at eating and drinking places, and nonfood items purchased in retail foodstores reached an estimated \$890 billion, 3.2 percent above 1995 (fig. 2).

Product Mix. About \$377 billion was spent in retail foodstores and \$317 billion in foodservice establishments. The 3.4-percent increase in retail foodstore sales, was slightly above the increase in retail prices. The 4.7-percent increase in foodservice sales was partially offset by a 2.3-percent increase in restaurant prices, implying a 2.4-percent real gain.

The alcoholic beverage market, which accounts for about 12 percent of sales in the food marketing system, continues to reflect lower consumption.

Alcoholic beverage sales accounted for \$90 billion of

Figure 1
Food marketing system's share of disposable personal income
The food marketing system's share of income fell to 10.9 percent in 1996.

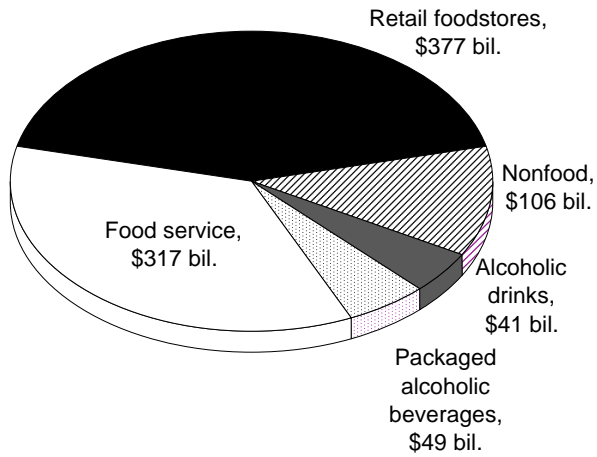


Source: ERS/USDA.

Figure 2

Food marketing sales, 1996

Most sales occurred in retail foodstores in 1996.



Source: ERS/USDA.

food marketing sales in 1996. Over \$49 billion was in the form of packaged alcoholic beverages, while alcoholic drinks served in restaurants and other institutions likely amounted to nearly \$41 billion. Distilled spirits in 1996 likely accounted for about 30 percent of total alcoholic beverage consumption, while beer accounted for nearly 58 percent. Wine sales appear to have fallen to about 12 percent of the total.

The nonfood component of retail sales likely amounted to about \$106 billion in 1996. Nonfood groceries include tobacco, health and beauty aids, detergents, paper products, gasoline sold in convenience stores, and other grocery items sold through retail foodstores. Nonfood items—such as tobacco products, catering supplies, and nonfood supplies—sold through vending services, are grouped into the food-service category.

Industry Growth

External Economic Factors

Wages, producer prices, and interest rates were favorable to the food marketing system in 1996. The food system purchased an estimated \$123 billion in U.S. agricultural commodities, \$27 billion in foreign agricultural commodities, and \$11 billion in seafood products. The system then added an estimated \$658 billion in value to these raw products.

The economic climate was favorable to the food marketing system for the 13th consecutive year in terms of costs. The food system is labor-intensive and sensitive to farm prices. The system is also highly leveraged and global, as well as advertising-intensive. Consequently, movements in wages and prices, interest rates, and the value of the U.S. dollar affect the performance of the food sector, and all were favorable to the food system in 1996.

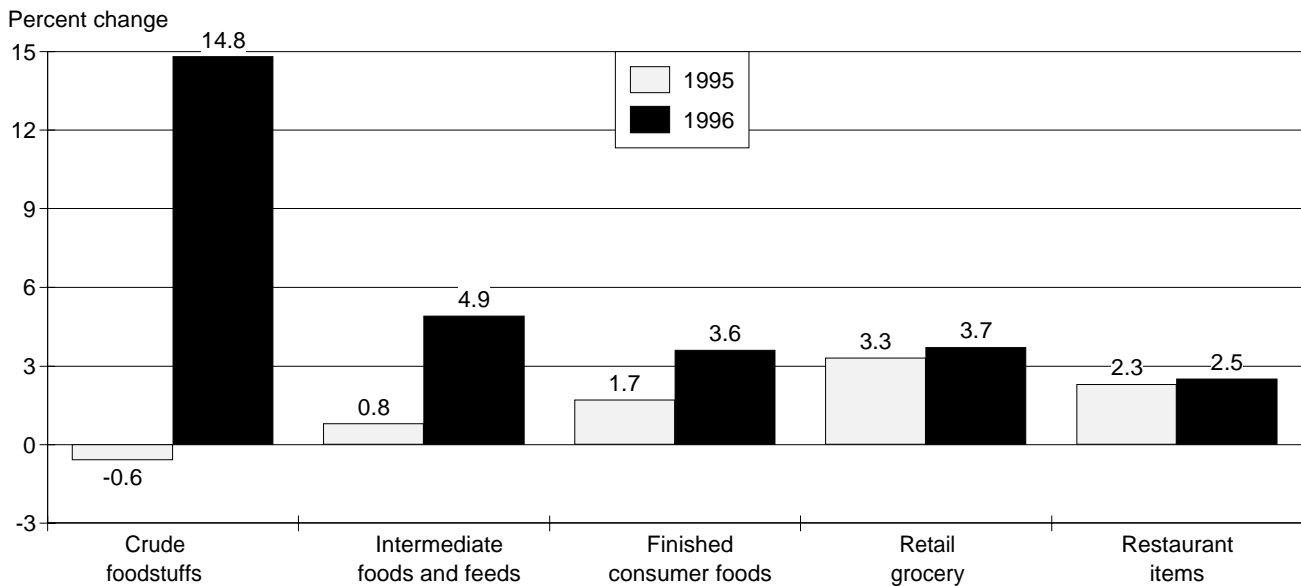
Prices. Price changes for food and feed inputs for each channel in the food marketing system are reflected by the Producer Price Index (PPI). Wholesale prices were higher in 1996 largely due to higher livestock prices. The PPI for finished consumer foods—an indicator of changes in prices paid

by retailers, wholesalers, and restaurateurs to food manufacturers—rose 3.6 percent in 1996, compared with 1.7 percent in 1995 (fig. 3). The PPI for intermediate foods and feeds—an indicator of changes in prices food processors pay one another—increased nearly 4.9 percent, compared with 0.8 percent in 1995. The PPI for crude foodstuffs, or prices paid by food manufacturers, increased almost 15 percent in 1996 due to higher prices for both crop and livestock products.

Labor Costs. For the 14th consecutive year, labor costs, which include hourly earnings and fringe benefits, constituted the major expense item for the food marketing system. In 1996, the food marketing system had about 13.5 million full- and part-time

Figure 3
Producer and retail price index changes for food marketing system, 1995-96

The PPI reflected higher input prices paid by most channels of the food marketing system in 1996.



Source: ERS/USDA.

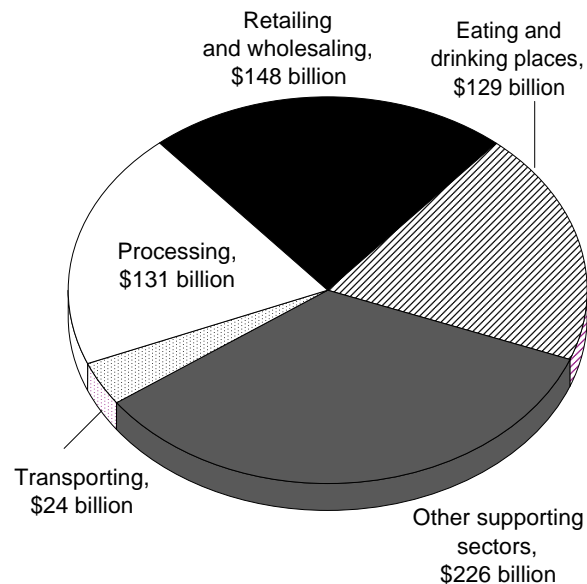
employees. About 7.5 million workers were employed in foodservice and another 3.4 million were employed in food retailing. About 1.7 million were employed in food processing, and nearly 900,000 worked in grocery wholesaling. Average hourly earnings in food processing increased 2.5 percent to \$11.20. In food retailing, where average hourly earnings rose 3.1 percent to \$8.50, wage concessions, benefit reductions, and lump-sum payments in lieu of wage hikes continued a decade-long trend. Wages in eating and drinking places averaged 3.4 percent higher, at \$5.78 per hour.

Interest. Interest rates fell in 1996. The prime interest rate averaged 8.27, percent compared with 8.83 percent in 1995. Short-term rates also declined, as reflected in a drop in 3-month Treasury bills from 5.51 percent in 1995 to 5.02 percent in 1996. Long-term corporate bond rates averaged about 7.37 percent, compared with 7.59 percent in 1995.

Value of the U.S. Dollar. The trade-weighted value of the U.S. dollar rose from 84.2 in 1995 to 87.3 in 1996. This increase was not favorable to remittances of overseas profits of American food companies. The higher valued U.S. dollar also made U.S. exports of processed food less attractive to foreign buyers and imports more attractive to U.S. buyers.

Value Added. The food system purchased about \$123 billion in animal and crop products from the U.S. farm sector, about two-thirds of domestic production, USDA's Economic Research Service estimates. An additional \$27 billion was spent on imported agricultural products, and \$11 billion was spent on seafood. To this base of \$161 billion in raw agricultural and fishery products, the food system added an estimated \$658 billion in value in 1996 compared with \$627 billion in 1995 (fig. 4). Food processors added about \$131 billion in 1996, while wholesalers, retailers, and transportation firms added another \$172 billion. The contribution of separate eating and drinking places to value-added topped \$129 billion in 1996.

Figure 4
Estimated value added in food marketing system, 1996
The U.S. food marketing system added about \$658 billion in value to raw products in 1996.



Source: ERS/USDA.

Structure

Merger Activity Slowed in 1996

Merger activity slowed in the number of transactions, but the value of large recorded mergers remained the same at \$8 billion in 1996.

In 1996, new merger and leveraged buyout transactions in the food marketing system fell. The number of acquisitions (purchase of company or subsidiary) fell from 425 in 1995 to 399 in 1996 (fig. 5). The number of food processing mergers fell from 244 to 210, and wholesaling from 56 to 32. Food retailing mergers fell from 42 to 37. Offsetting was a record number of mergers in the foodservice industry, which rose from 83 in 1995 to 120 in 1996 (table 1).

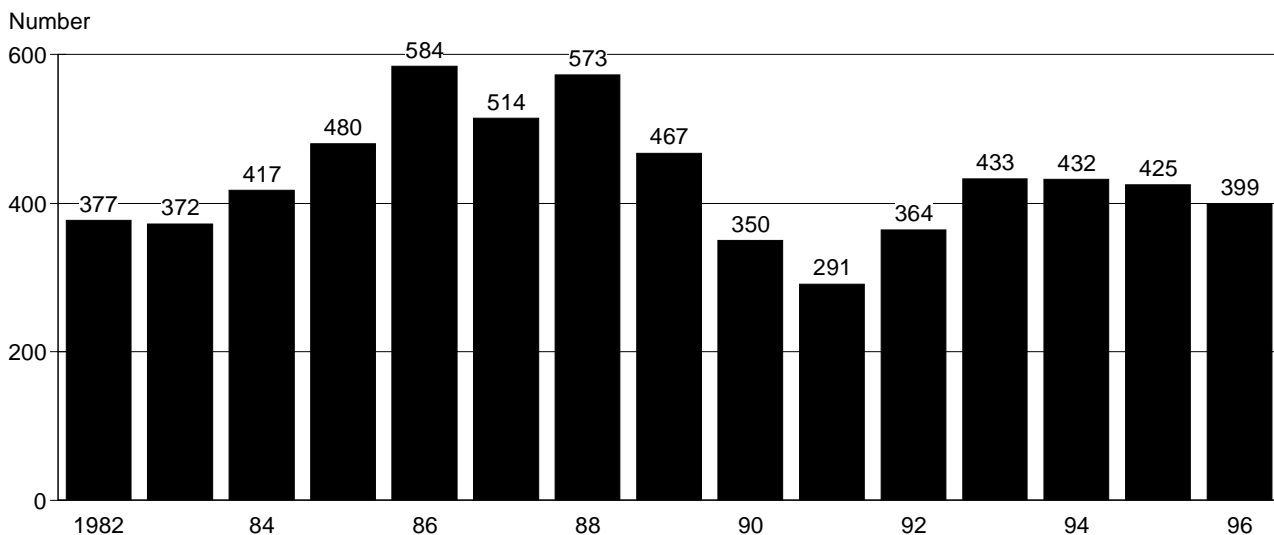
The average value of these transactions remained the same as in 1995. The value of food marketing mergers and leveraged buyouts that cost more than \$100 million fell from \$11 billion in 1994 to \$8 billion in 1995 and 1996 (fig. 6). Food processing ranked 20th among all manufacturing industries in the value of mergers. Food wholesalers ranked fifth among all wholesalers, while food retailers ranked second. Leveraged buyout activity was minimal.

Measures of Structural Development

The following indicators are used to measure structural development in the food marketing system.

- Mergers—The combination of two or more firms into one.
- Acquisitions—The purchase of a business unit or subsidiary.
- Divestitures—Selling of a business unit or subsidiary.
- Leveraged buyouts—The purchase of the common stock of a company through debt financing, pledging assets of the new company as collateral.

Figure 5
Food marketing mergers and acquisitions
The number of mergers fell in 1996.



Source: ERS/USDA.

Table 1—Food marketing mergers

Year	Processing	Wholesaling	Retailing	Food service	Total
	<i>Number</i>				
1982	250	38	38	51	377
1983	225	38	45	64	372
1984	242	37	60	78	417
1985	291	64	52	73	480
1986	347	65	91	81	584
1987	301	71	65	77	514
1988	351	71	76	75	573
1989	277	65	53	72	467
1990	208	58	37	47	350
1991	181	35	39	36	291
1992	217	59	29	59	364
1993	266	57	39	71	433
1994	232	62	60	78	432
1995	244	56	42	83	425
1996	210	32	37	120	399

Total includes some double counting because of interindustry mergers. For example, a food processing firm merging with a foodservice firm is included as an acquisition in each sector.

Source: ERS tabulations of Food Institute data.

Between 1982 and 1996, nearly 6,500 mergers, divestitures, and leveraged buyouts took place in the food marketing system. Included among these were some of the largest transactions in U.S. history.

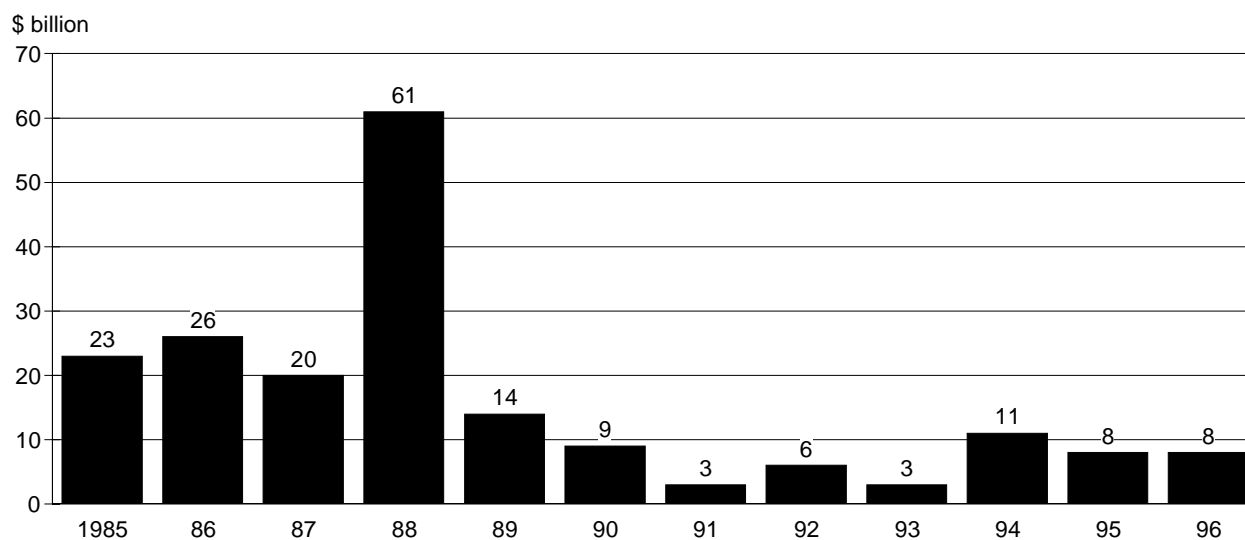
Despite the merger activity and consolidation, the number of food processing plants appears to be increasing. According to the 1992 Census of

Manufacturers, the number of food processing companies rose from 15,692 in 1987 to 16,075 in 1992. The number of plants also increased, rising from 20,583 in 1987 to 20,792 in 1992. Trade intelligence since 1992 indicates that the trend is continuing, but the definitive trend will become clearer when the 1997 census is released.

Figure 6

Value of food marketing mergers and leveraged buyouts costing more than \$100 million

The value of mergers stayed about the same in 1996.



Source: ERS/USDA.

Conduct

Price and Nonprice Competition Vigorous

Food prices rose 2.8 percent in 1996. Advertising increased, and the number of new products introduced fell.

In 1996, about 9.3 percent of the Nation's gross national product (GNP) was generated by the food marketing system, compared with 12 percent in 1972. And, while the value added by the food system has increased in dollar terms, a much greater portion of this output is supplied by fewer and larger firms. Although food marketing has become significantly more concentrated, firms in each market sector sought to acquire or maintain market shares through both price and nonprice competition. In 1996, there was vigorous competition among manufacturers, wholesalers, retailers, and foodservice firms for the consumer dollar and among manufacturers for scarce shelf space in the Nation's grocery stores.

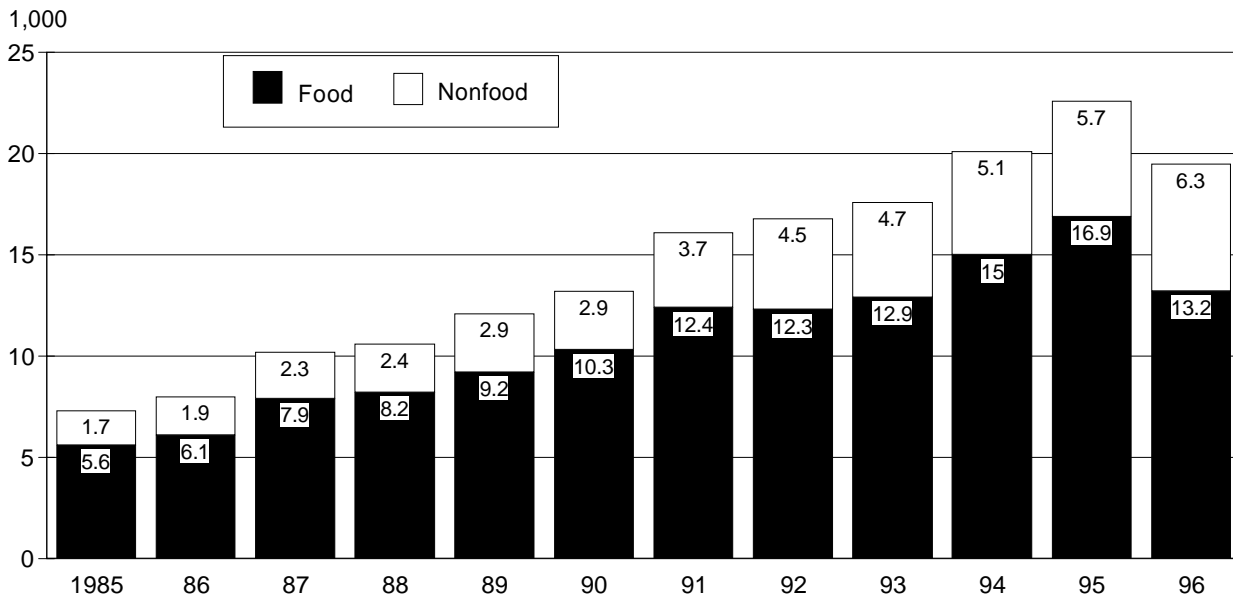
Consumer prices for food increased 2.8 percent in 1996, compared with 3.3 percent in 1995. In 1996, food prices in grocery stores rose 3.7 percent, while foodservice prices were up 2.5 percent. Retail egg

prices rose nearly 18 percent, while pork prices rose 10 percent. The food marketing system also charged higher prices for processed fruits and vegetables, fats and oils, and dairy products.

Nonprice competition to differentiate the product in the eyes of the consumer continued strong by the two routes in which the food system has always been the forerunner: new product introduction and advertising.

The Nation's food processors introduced over 19,500 new grocery products in 1996, the first drop in about 20 years (fig. 7). New foods dropped from 16,900 to 13,200, while nonfood product introductions rose 600 to about 6,300 products. Candy, condiments, breakfast cereals, beverages, bakery products, and dairy products accounted for 75 percent of new product introductions.

Figure 7
New food and grocery product introductions, 1985-96
New food products dropped over 3,500 in 1996.

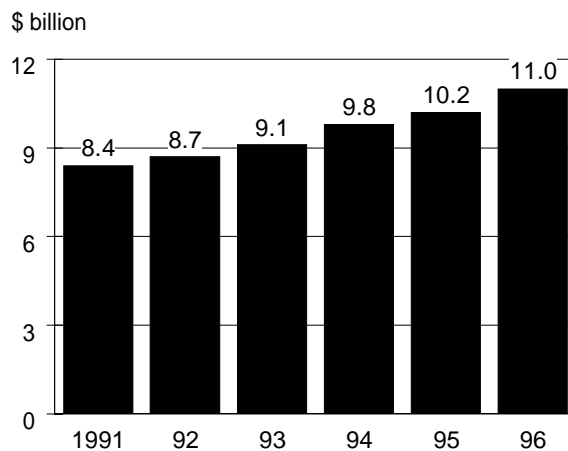


Source: ERS/USDA.

Food marketing firms spent an estimated \$11 billion in direct consumer advertising— such as electronic and printed media and coupons—in 1996, compared with \$10.2 billion in 1995 (fig. 8). Food processors spent over \$7 billion on mass media advertising, while food retailers spent over \$1 billion (excluding local newspapers). Restaurants, mostly fast-food chains, spent almost \$3 billion. In addition, the food marketing system spent billions of dollars on coupons, games, incentive advertising, and other direct consumer promotions.

Competition was also keen in getting products on the shelves of the Nation’s grocery stores. By most industry estimates, food processors spent about \$2 on retail promotion—through trade shows, promotions, discounts and allowances, and other incentives—for every \$1 in direct consumer advertising.

Figure 8
Food-related advertising (excluding coupons)
Food marketing firms spent nearly \$11 billion on direct consumer advertising in 1996.



Performance

Higher Debt Levels; Profits from Operations Higher

Debt of the Nation's food processors and retailers rose \$10 billion in 1996. Profits from operations were higher.

Debt. Total liabilities of food processors and retailers rose \$10 billion in 1996 to \$318 billion (fig. 9). Food marketing remained one of the most leveraged industries in the American economy. The equity-to-debt ratio of food manufacturers rose from 0.92 in 1994 to 0.96 in 1995 and again to 0.97 in 1996, but was still well below the ratio for all manufacturing (1.48). The equity-to-debt ratio for food retailing rose from 0.53 to 0.66 between 1994 and 1995 (fig. 10), but then fell to 0.61 in 1996.

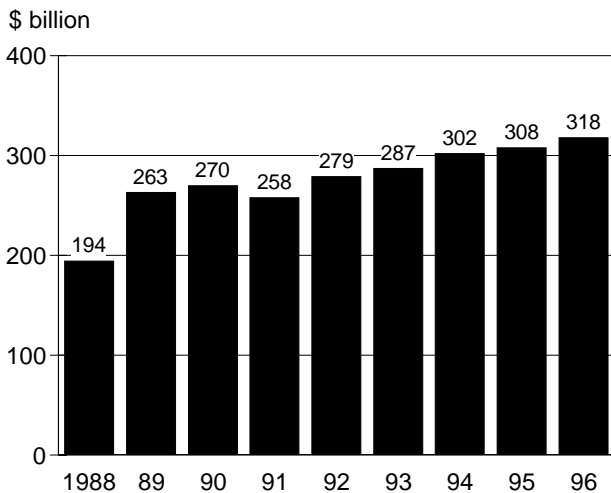
Profits. Food processors and retailers showed an increase in profits from operations. Food and tobacco processors' profits from operations rose from \$38 billion in 1995 to \$41 billion in 1996. Food retailers' operational profits rose 8.3 percent from \$7.2 billion in 1994 to \$7.8 billion in 1995 and 1996 (fig. 11).

After-tax profits as a portion of stockholders' equity rose to 19.4 percent for food processors in 1996 (fig. 12). Retailers' after-tax profits amounted to 0.4 percent of sales and 17.4 percent of stockholders' equity. However, after-tax profits among both processors and retailers varied significantly. Discerning a true picture of profits is difficult because such a large portion of food sales is controlled by large diversified food marketing firms.

Figure 9

Total liabilities of food and tobacco processors and retailers

Debt levels increased again in 1996.

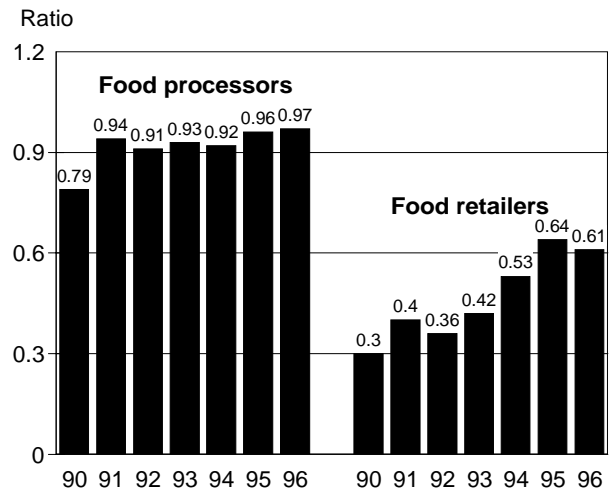


Source: ERS/USDA.

Figure 10

Food system's equity-to-debt ratio

The ratio of equity to debt rose slightly for processors and dropped for retailers in 1996.



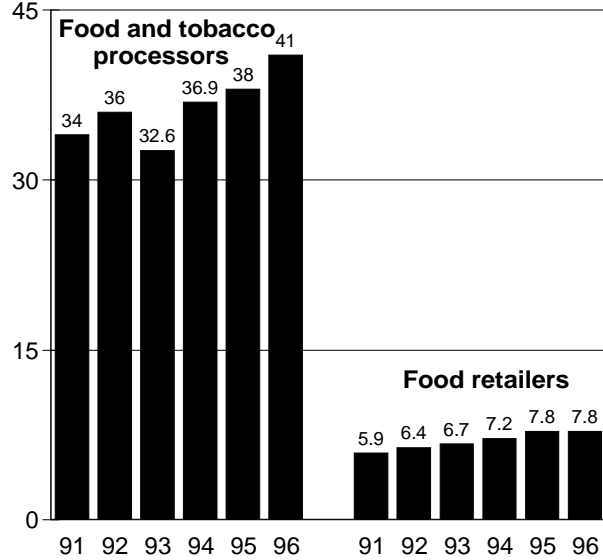
Source: ERS/USDA.

Figure 11

Profits from domestic operations, food processors and retailers

Profits rose for processors and stayed the same for retailers in 1996.

\$ billion



Source: ERS/USDA.

Measures of Performance

The following indicators are used in this and the following four sections to measure performance in the food marketing system.

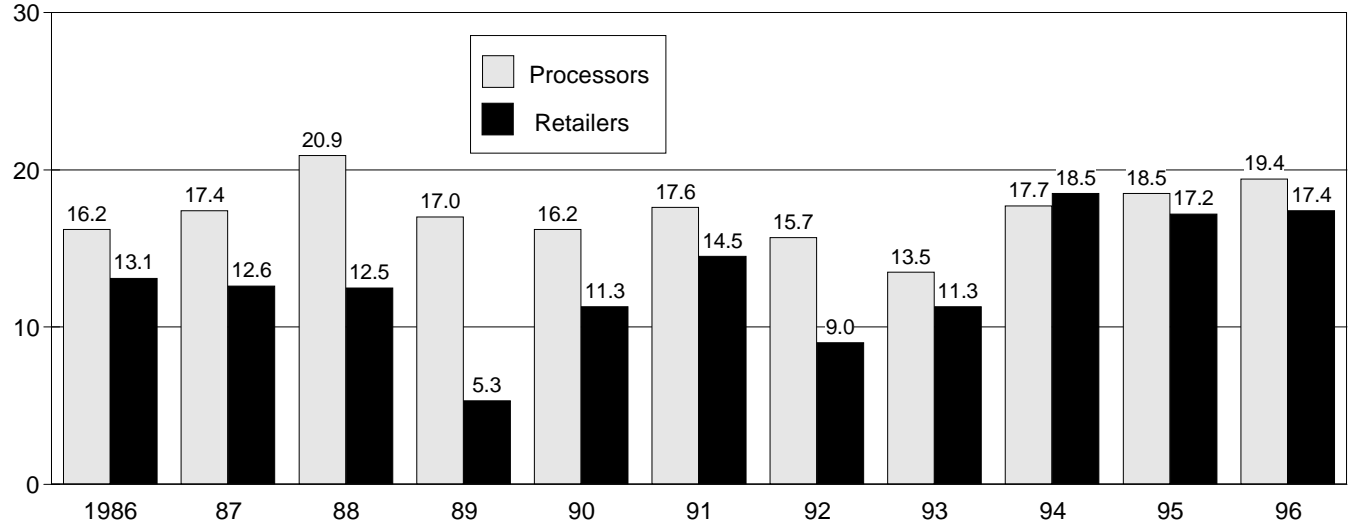
- Debt
 - Stockholders' equity-to-debt ratio
- Profits
 - After-tax profits to sales ratio
 - Return on stockholders equity
- Expansion, modernization, and production capacity use
 - Capital expenditures
 - Research and development
- Productivity
 - Output per hour
- Investment performance
 - Common stock prices
 - Owners' equity appreciation
- Participation in the global market
 - Foreign trade balance
 - Foreign investment

Figure 12

Aftertax profits as a percentage of stockholders' equity

Profit/equity ratio rose for both processors and retailers in 1996.

Percent



Source: ERS/USDA.

Performance

Food Marketing System Performance Indicators Up

New plant projects in U.S. food processing rose sharply in 1996. Productivity likely increased in many food processing industries in 1996. The investment performance of owners' equity, as measured by increases in common stock prices, sharply outpaced other sectors of the economy for the eighth consecutive year. Processors paid out 52 percent of income as dividends. Global participation continued strongly.

Capital Expenditures. Food processors undertook 485 new plant projects in 1996, compared with 406 in 1995 (fig. 13). Total new plant and equipment expenditures for food processing firms, which include nonfood operations, rose from \$13.6 billion in 1994 to \$17.7 billion in 1995, an increase of 30 percent. Initial estimates are \$19.5 billion in 1996 (fig. 14).

The retail food system continued modernizing and upgrading existing stores, while closing smaller outlets. The number of retail grocery stores, which has been falling steadily over the past 50 years, dropped by an estimated 1,000 in 1996. New supermarkets continued to increase in size, averaging about 30,000 square feet per store. An estimated 1,200 new fast-food stores opened in 1996.

Research and Development. R&D within the food marketing sector is largely conducted in the food and tobacco processing industries. Like most other non-

durable manufacturing industries, food is not R&D-intensive. In 1996, food and tobacco processors likely spent about \$2.0 billion, or 0.4 percent of sales, on R&D. Only about 6 percent of this amount went to basic research. More than 60 percent of all R&D funds went to processing and new products.

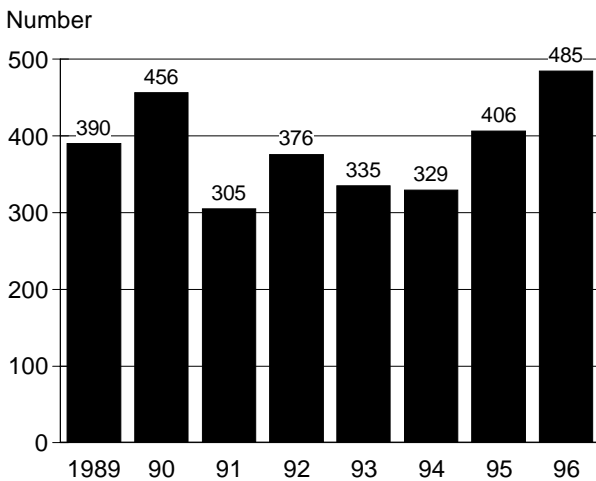
However, most R&D in food and tobacco processing is purchased from other sectors, such as food packaging, computer, and machinery firms (much of the technological innovation for food processing comes from these sources). ERS estimates this amount to be about \$1.3 billion.

Productivity. Output per employee in 1993, the most recent data available on productivity, declined in foodservice and food retailing. This index of labor productivity increased in some food processing industries, such as those for milk, sugar, and beer.

Figure 13

New plant projects in food processing

The number of new plant projects rose to 485 in 1996.

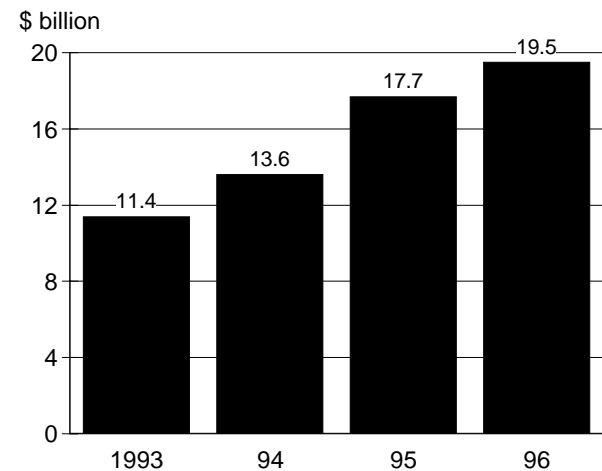


Source: ERS/USDA.

Figure 14

Plant and equipment expenditures in food processing

Expenditures rose from \$17.7 billion in 1995 to \$19.5 billion in 1996.

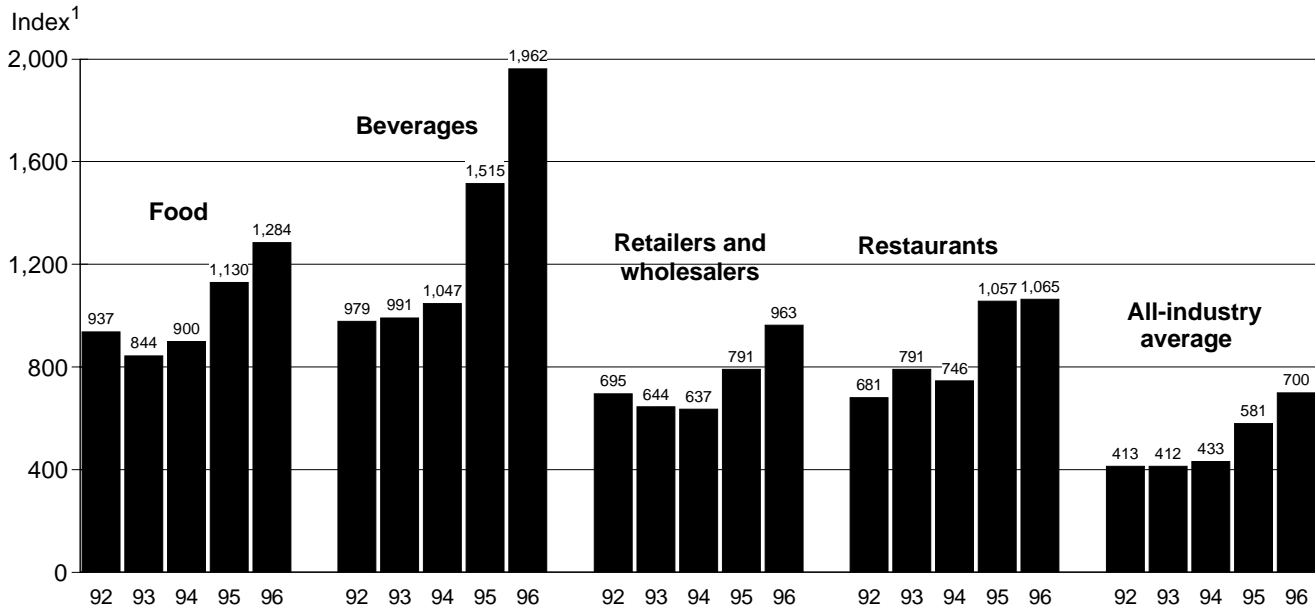


Source: ERS/USDA.

Figure 15

Dow Jones equity market indexes for the food marketing system

Food processing companies have outperformed other industries in the 1990's.



¹ June 30, 1982 = 100

Source: ERS/USDA.

An increase in output in most food processing industries, along with unchanged employment, suggests an increase in productivity for many food processing industries in 1996.

Owners' Equity. Owners (common stockholders) of food marketing companies saw the value of their holdings rise sharply in 1996. The index for food retailers and wholesalers rose 22 percent, while that for beverages rose 30 percent (fig. 15). The index for all industries rose 20 percent. Since 1982, the food marketing sectors have outperformed the index for all industries during most years

Dividends. U.S. food firms have always had a relatively consistent dividend payout ratio. U.S. food processors paid out an estimated \$14 billion in dividends in 1996, compared with \$11.2 billion in 1995. About half of income after taxes went to retained earnings, which are used for such projects as new product development, capital expansion, and acquisitions. Food retailers paid over \$800 million in dividends in 1996.

Global Participation. The U.S. food marketing system continued to expand as the world's most global

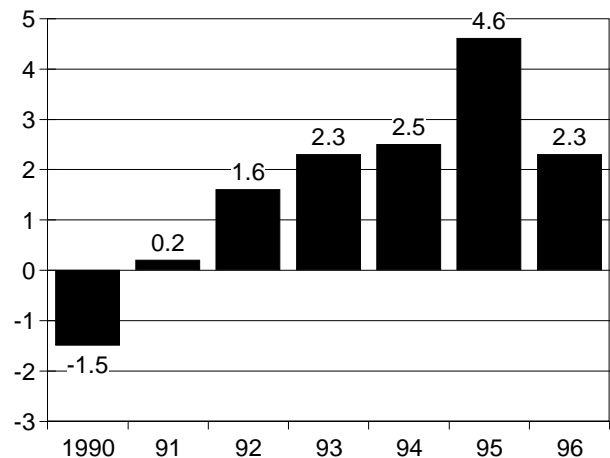
food system. This expansion is measured by the system's foreign trade, foreign investments, and the sales of its foreign subsidiaries. The United States is the world's leading importer and exporter of processed food. The U.S. surplus in processed food trade was about \$2.3 billion, with about \$30.1 billion

Figure 16

Trade balance in food processing

U.S. exports exceeded imports by \$2.3 billion in 1995.

\$ billion

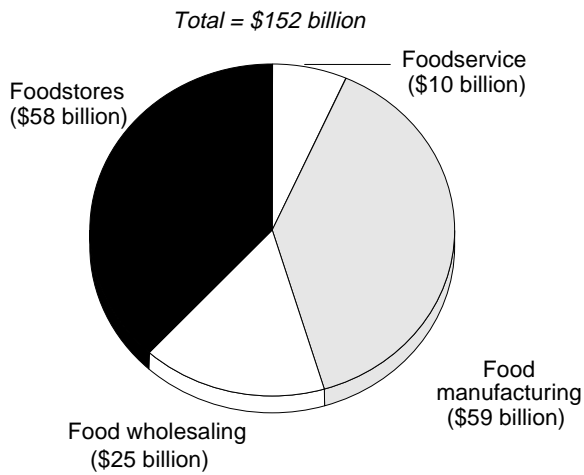


Source: ERS/USDA.

Figure 17

Estimated sales of U.S. affiliates of foreign food marketing firms, 1996

Largest share of sales came from foodstores and processing.

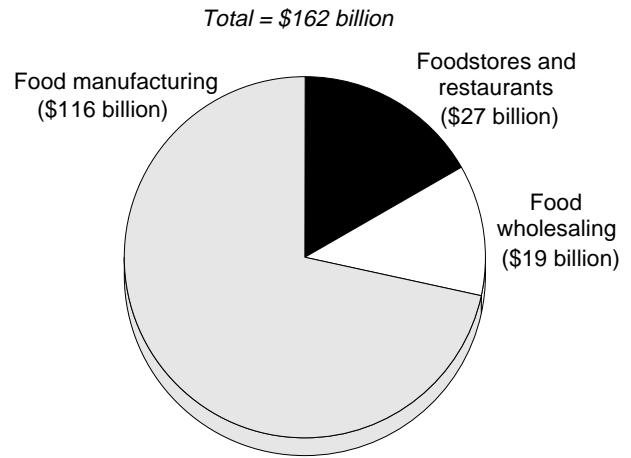


Source: ERS/USDA.

Figure 18

Estimated sales of foreign affiliates of U.S. food marketing firms, 1996

Largest share of sales came from food processing.



Source: ERS/USDA.

in exports more than offsetting \$27.8 billion in imports (fig. 16).

However, trade data do not adequately reflect the global presence of U.S. food marketing firms. Many of the world's largest food processing firms expand aggressively in foreign markets by increasing their investments in foreign plants or expanding licensing arrangements with foreign firms to produce and distribute their branded products. While large U.S. food processors export on average only 6 percent of their sales, they receive 27 percent of their total sales from their plants located in foreign countries.

Sales of U.S. affiliates of foreign food marketing firms reached an estimated \$152 billion in 1996 (fig. 17). Sales of foreign affiliates of U.S. food marketing firms were a little higher, reaching \$162 billion in 1996, with the largest portion coming from food processing (fig. 18).

What Happened in the Food Marketing System in 1996?

Industry Growth and the Economy

- Sales rose over 3 percent.
- The number of new plants, consumer advertising expenditures, and common stock prices reached new highs in 1996.
- The food marketing system's share of income fell slightly in 1996.
- Wages and farm prices were stable, interest rates lower, and the value of the U.S. dollar higher.

Structure

- Nearly 400 mergers took place in 1996, down from the previous 3 years.
- Mergers in the foodservice industry reached an all-time high.

Conduct

- The number of new food products introduced fell for the first time since the mid-1970's
- Media advertising reached an estimated \$11 billion.
- Retail prices rose more than in 1995.

Performance

- Profitability was up sharply in all four sectors.
- The food marketing system, one of Nation's most leveraged, saw debt levels go up again.
- Owners' equity appreciation reached a record high.
- The trade surplus in processed foods was lower than in 1995.
- The number of new plant projects rose to a record 485.

Would You Like More Information?

This report is a partial synopsis of the more detailed report, *Food Marketing Review, 1996-98*, to be released in fall 1998. The full report includes detailed data on mergers, sales, concentration, advertising, product industries, profits, productivity, plant and equipment expenditures, equity performance, prices, and international performance measures. It also includes charts and a sizable appendix.

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The Food Marketing System in 1995. By Anthony E. Gallo. U.S. Department of Agriculture, Economic Research Service, Food and Consumer Economics Division. Agriculture Information Bulletin No. 731.

Abstract

The number of new food processing plants rose sharply in 1995. Profitability from food manufacturing and retailing operations (excluding interest expense) continued to increase, reflecting strong sales, wage and producer price stability, and streamlining of operations. The number of mergers and leveraged buyouts fell. New product introductions, consumer advertising expenditures, common stock prices and the positive U.S. balance of trade in processed food reached new highs.

This report analyzes and assesses yearly developments in growth, conduct, performance, and structure of the institutions—food processors, wholesalers, retailers, and foodservice firms—that comprise the Nation’s food marketing system. Industry growth includes changes in sales for each of the four sectors, product mix, and external economic factors affecting the food system. Conduct measures firms’ competitive behavior, which includes such price and nonprice competition as advertising, promotion, new product introduction, new store formats, price discounting, and menu variety. Performance includes profitability, capital expansion, foreign trade and investment, research and development, capacity use, equity market changes, and productivity. Structure developments include mergers, acquisitions, divestitures and leveraged buyouts, and changes in the number of companies and establishments.

Keywords: food marketing, food processors, wholesalers, retailers, foodservice, advertising, profitability, trade.

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INDUSTRY GROWTH

Sales Higher

Food marketing sales reached \$862 billion in 1995. The food marketing system's share of income fell from 11.2 to 11 percent.

General Economy. The U.S. economy slowed in 1995 as gross domestic product grew by an estimated 2.1 percent, down from 1994's 3.5 percent. Industrial production (mining, manufacturing, and utility) output increased 5.0 percent. Business equipment spending grew 7.5 percent, down from 1994's 10.0 percent. Employment was up over a million jobs in the last half of 1995 compared with the end of 1994, but over 100,000 manufacturing jobs were lost.

Consumer spending for 1995 grew about 2.4 percent, down from 1994's 3 percent. Relatively low interest rates, widely available credit, mortgage refinancing, and good growth in employment kept consumer spending strong.

Sales. The increase in consumer spending was reflected in the food system's sales growth. In 1995, the food system's retail sales, adjusted for price and population increases, showed a 1-percent increase.

The share of disposable income fell to 11.0 percent (fig. 1). Food at home accounted for 6.7 percent, while food away from home accounted for 4.3 percent.

Total sales of items purchased at foodstores and foodservice establishments, packaged alcoholic beverages and drinks purchased at eating and drinking places, and nonfood items purchased in retail foodstores reached an estimated \$862 billion, 3.8 percent above 1994 (fig. 2).

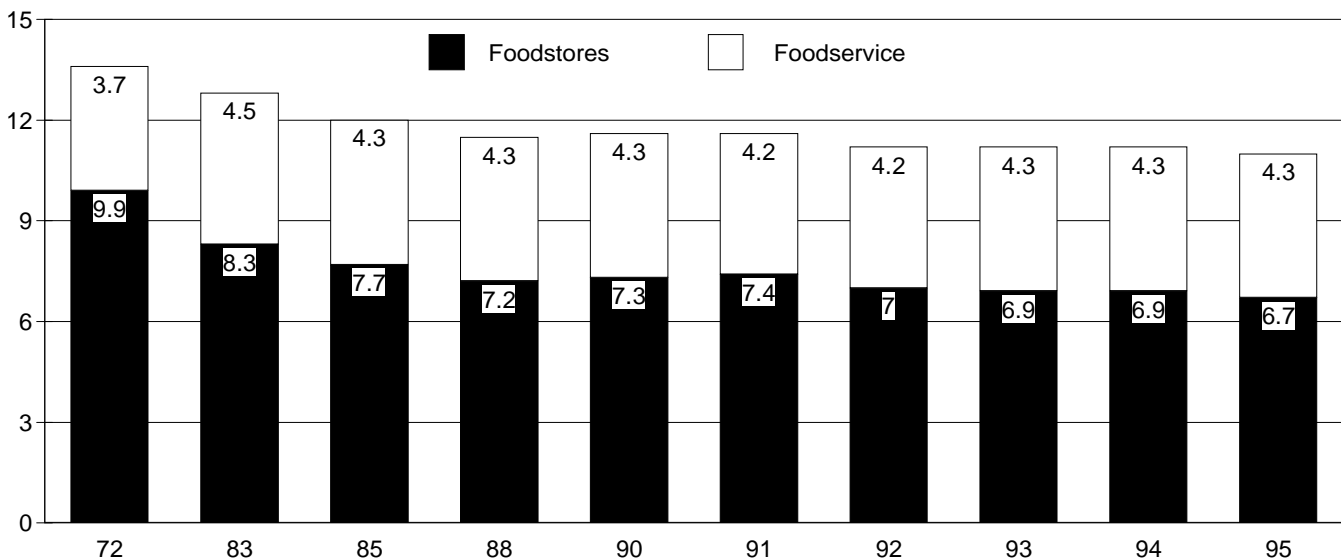
Product Mix. About \$360 billion was spent in retail foodstores and \$309 billion in foodservice establishments in 1995. The 3.4-percent increase in retail foodstore sales was slightly above the increase in retail prices (3.3 percent). The 4.7-percent increase in foodservice sales was offset by a 2.3-percent increase in restaurant prices, implying a 2.4-percent real gain.

Figure 1

Food marketing system's share of disposable personal income

The food marketing system's share of income fell to 11.0 percent in 1995.

Percent



Source: ERS/USDA.

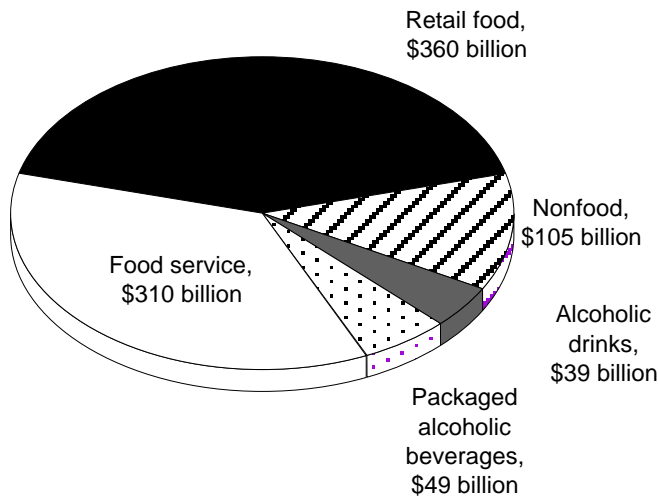
The alcoholic beverage market, which accounted for about 12 percent of sales in the food marketing system, continued to reflect lower consumption. Alcoholic beverage sales accounted for \$88 billion in 1995. Over \$49 billion was in the form of packaged alcoholic beverages, while alcoholic drinks served in restaurants and other institutions likely amounted to nearly \$39 billion. Distilled spirits in 1995 likely accounted for about 31 percent of total alcoholic beverage consumption, while beer accounted for nearly 58 percent. Wine sales appear to have fallen to about 12 percent of the total.

The nonfood component of retail sales amounted to about \$105 billion. Nonfood groceries include tobacco, health and beauty aids, detergents, paper products, and gasoline sold in convenience stores, and other grocery items sold through retail foodstores. Nonfood items, such as tobacco products, catering supplies, and nonfood supplies sold through vending services, are grouped in the foodservice category.

Figure 2

Food marketing sales, 1995

Food marketing sales rose to \$862 billion in 1995.



Source: ERS/USDA.

Measures of Growth

The following indicators are used in this and the following section to measure growth in the food marketing system.

- Sales
- Product mix
- Share of income
- External economic factors
 - » Farm prices
 - » Wages and other labor costs
 - » Advertising costs
 - » Interest rates
 - » Value of U.S. dollar
 - » Adding value to raw farm products

Economic Climate Favorable to Costs

Wages, producer prices, interest rates, and the value of the U.S. dollar were favorable to the food marketing system in 1995. The food system purchased an estimated \$114 billion in U.S. agricultural commodities, \$24 billion in foreign agricultural commodities, and \$10 billion in seafood products. The system then added an estimated \$627 billion in value to these raw products.

The economic climate was favorable to the food marketing system for the 13th consecutive year in terms of costs. The food system is labor-intensive and sensitive to farm prices. The system is also highly leveraged and global, as well as advertising-intensive. Consequently, movements in wages and prices, interest rates, and the value of the U.S. dollar affect the performance of the food sector and all were favorable to the food system in 1995.

Prices. Price stability for purchased food and feed inputs for each channel in the food marketing system is reflected by the Producer Price Index (PPI). The PPI for finished consumer foods, an indicator of changes in prices paid by retailers, wholesalers, and restaurateurs to food manufacturers, rose 1.7 percent in 1995 compared with 0.9 percent in 1994 (fig. 3). However, the PPI for intermediate foods and feeds, an indicator of changes in prices food processors pay one another, increased 0.8 percent in 1995 compared with 2.5 percent in 1994. The PPI for crude foodstuffs, or prices paid by food manufacturers, declined 0.6 percent after a 1.8-percent decrease in 1994.

Labor Costs. For the 13th consecutive year, labor costs, which include hourly earnings and fringe benefits, constituted the major expense item for the food marketing system. In 1995, the food marketing system had about 13.8 million full- and part-time employees. Over 7.7 million workers were employed in food service and more than 3.5 million were employed in food retailing. About 1.7 million were employed in food processing, and over 894,000 worked in grocery wholesaling. Average hourly earnings in food retailing and food processing increased 2.6 percent. In food retailing, wage concessions, benefit reductions, and lump-sum payments were sometimes negotiated in lieu of wage hikes, continuing a decade-old trend. Wages in eating and drinking places averaged 2.2 percent higher, at \$5.59 per hour.

Advertising. The food system, the economy's largest advertiser, faced increased advertising costs for

evening network television, network radio, magazines, and newspapers. Increases ranged from about 9.6 percent for night-time network television to 7 percent for magazines. The cost of spot television ads rose 5 percent.

Interest. Interest rates were mixed in 1995. The prime interest rate averaged 8.83 percent compared with 7.15 percent in 1994. Short-term rates also rose, as reflected in an increase in 3-month Treasury bills from 4.29 percent in 1994 to 5.51 percent in 1995. Long-term corporate bond rates, however, averaged about 7.59 percent, compared with 7.97 percent in 1994.

Value of the U.S. Dollar. The value of the U.S. dollar fell sharply in 1995. The trade-weighted value index of the U.S. dollar fell from 91.3 to 84.2 between 1994 and 1995. This decline boosted remittances of overseas profits of American food companies. The lower valued U.S. dollar also made U.S. exports of processed foods more attractive to foreign buyers and imports less attractive to U.S. buyers.

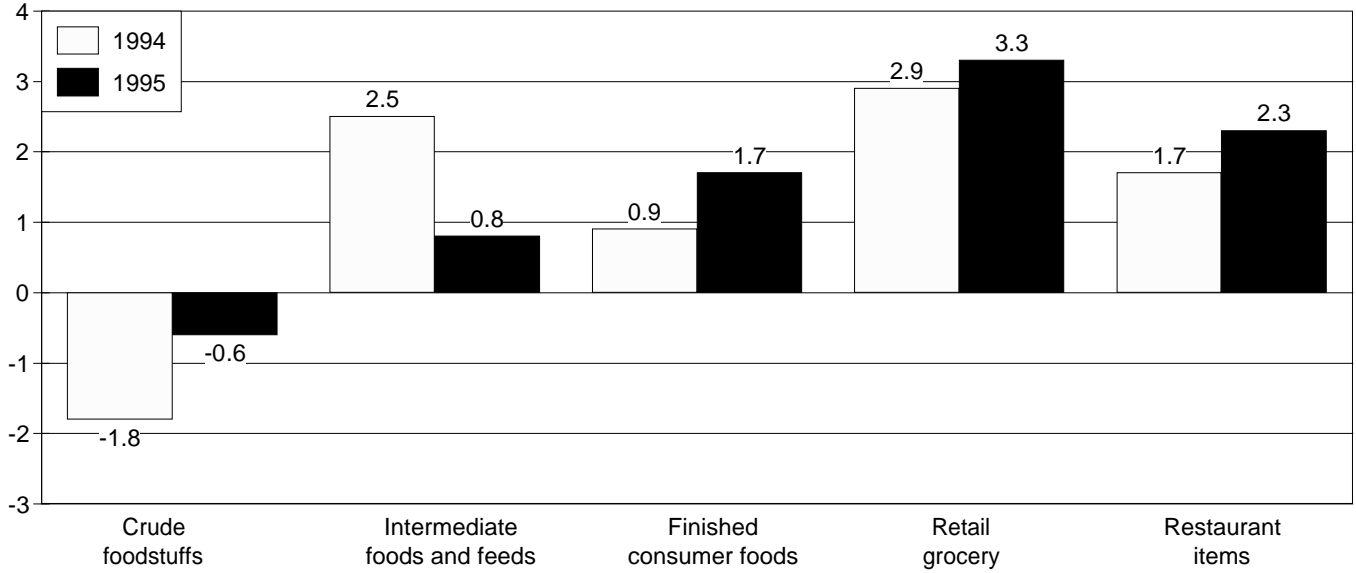
Value Added. The food system purchased about \$114 billion in animal and crop products from the U.S. farm sector, about two-thirds of domestic production. An additional \$24 billion was spent on imported agricultural products, and \$10 billion was spent on seafood. To this base of \$147 billion in raw agricultural and fishery products, the food system added an estimated \$627 billion in value in 1995 compared with \$605 billion in 1994 (fig. 4). Food processors added about \$125 billion in 1995, while wholesalers, retailers, and transportation firms added another \$141 billion. The contribution of separate eating and drinking places to value-added topped \$123 billion in 1995.

Figure 3

Producer and retail price index changes for food marketing system, 1994-95

The PPI reflected higher input prices paid by most channels of the food marketing system in 1995.

Percent change

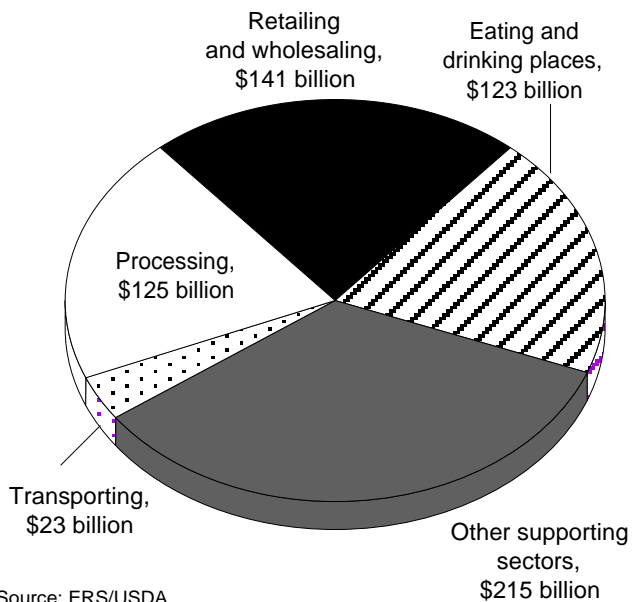


Source: ERS/USDA.

Figure 4

Estimated value added in food marketing system, 1995

The U.S. food marketing system added about \$627 billion in value to raw products in 1995.



Source: ERS/USDA.

S T R U C T U R E

Merger Activity Slowed in 1995

The number of mergers and value of those transactions both fell in 1995. The number of new food companies and plants appears to be on the rise.

In 1995, merger and leveraged buyout transactions in the food marketing system fell. The number of acquisitions (purchase of company or subsidiary) fell from 432 in 1994 to 425 in 1995 (fig. 5). The number of food processing mergers rose by 8 and foodservice by 5. There were 18 fewer food retailing mergers in 1995, the largest change from 1994 among food marketing sectors (table 1).

The value of food marketing mergers and leveraged buyouts (of more than \$100 million) fell from a \$11 billion in 1994 to \$8 billion in 1995 (fig 6).

Leveraged buyout activity was minimal.

Food processing ranked 14th among all manufacturing industries in the value of mergers. Food wholesalers ranked sixth among all wholesalers, while food retailers ranked second.

Between 1982 and 1995, nearly 7,000 mergers, divestitures, and leveraged buyouts took place in the

Measures of Structural Development

The following indicators are used to measure structural development in the food marketing system.

- Mergers—The combination of two or more firms into one.
- Acquisitions—The purchase of a business unit or subsidiary.
- Divestitures—Selling of a business unit or subsidiary.
- Leveraged buyouts—The purchase of the common stock of a company through debt financing, pledging assets of the new company as collateral.

Table 1—Food marketing mergers

Year	Processing	Wholesaling	Retailing	Food service	Total ¹
			<i>Number</i>		
1982	250	38	38	51	377
1983	225	38	45	64	372
1984	242	37	60	78	417
1985	291	64	52	73	480
1986	347	65	91	81	584
1987	301	71	65	77	514
1988	351	71	76	75	573
1989	277	65	53	72	467
1990	208	58	37	47	350
1991	181	35	39	36	291
1992	217	59	29	59	364
1993	266	57	39	71	433
1994	232	62	60	78	432
1995	244	56	42	83	425

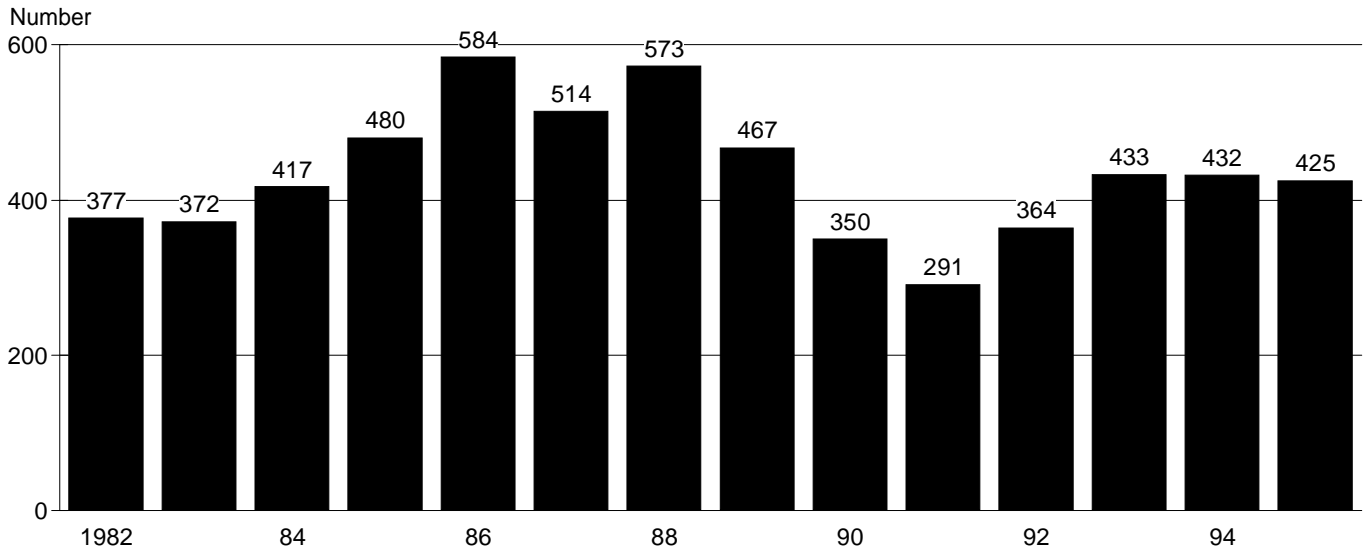
¹ Total includes some double-counting because of interindustry mergers. For example, a food processing firm merging with a foodservice firm is included as an acquisition in each sector.

Source: ERS tabulations of Food Institute data.

food marketing system. Included among these were some of the largest transactions in U.S. history. Despite the merger activity and consolidation, the number of food processing plants appears to be increasing. According to the 1992 Census of

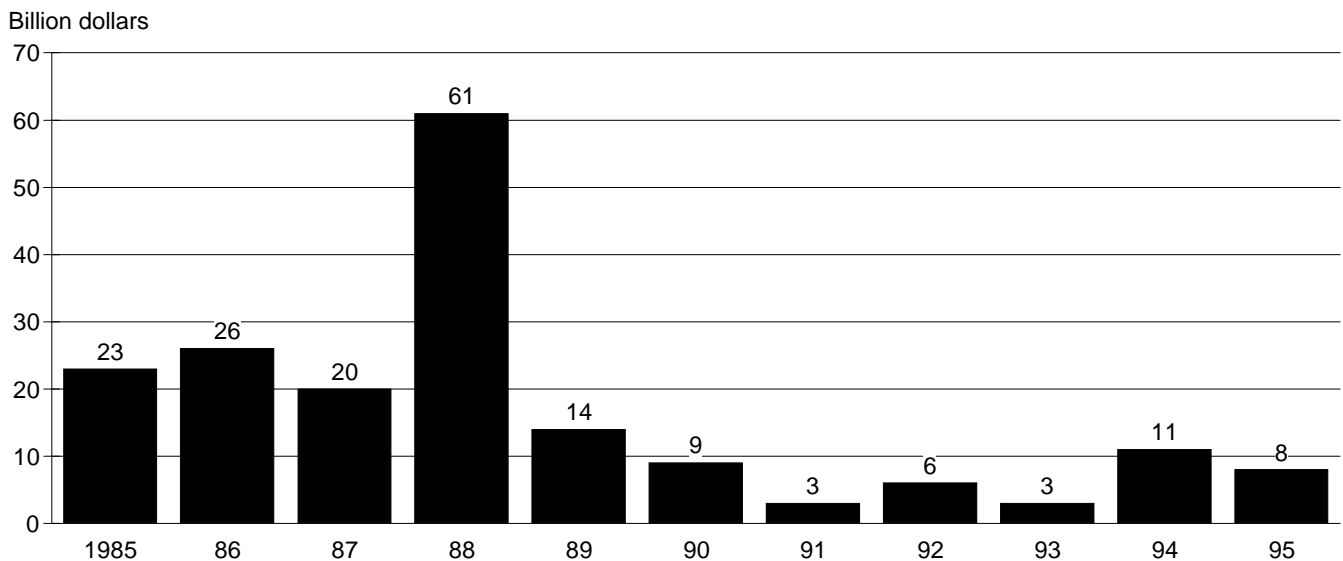
Manufacturers, the number of food processing companies rose from 15,692 in 1987 to 16,075 in 1992. The number of plants also increased from 20,583 to 20,792. Interim trade intelligence since 1992 indicates that the trend is continuing.

Figure 5
Food marketing mergers and acquisitions
The number of mergers fell in 1995.



Source: ERS/USDA.

Figure 6
Value of food marketing mergers and leveraged buyouts costing more than \$100 million
The value of mergers also fell in 1995.



Source: ERS/USDA.

C O N D U C T

Price and Nonprice Competition Vigorous

Food prices rose 2.8 percent in 1995. Advertising increased, and nearly 23,000 new products were introduced.

The food industries' slow growth in 1995 affected conduct, or how firms compete. In 1995, less than 9.3 percent of the Nation's GDP was generated by the food marketing system, compared with 12 percent in 1972. And, while the value added by the food system has increased in dollar terms, a much greater portion of this output was supplied by fewer and larger firms. Although food marketing has become significantly more concentrated, firms in each market sector sought to acquire or maintain market shares through both price and nonprice competition. In 1995, there was vigorous competition among manufacturers, wholesalers, retailers, and foodservice firms for both the consumer dollar and among manufacturers for scarce shelf space in the Nation's grocery stores.

Consumer prices for food increased 2.8 percent in 1995 compared with 2.4 percent in 1994. In 1995, food prices in grocery stores rose 3.3 percent, while foodservice prices were up 1.7 percent (fig. 3). The food marketing system charged moderately higher prices for red meats, sugar products, and dairy, but higher coffee and fresh fruit and vegetable prices contributed significantly to the all-food increase in 1995's Consumer Price Index.

Price competition to gain market shares was apparent in the fast-food sector, where major discounts were given to consumers. These discounts apparently reflect both seller saturation and the slowing economy. Consumer discounts were also evident in the Nation's grocery stores, where discounts were given on such products as tuna, pasta, soft drinks, and breakfast cereals, all in highly concentrated industries.

Nonprice competition to differentiate the product in the eyes of the consumer continued strong by the two

routes in which the food system has always been the forerunner: new product introduction and advertising.

The Nation's food processors introduced over 22,500 new grocery products in 1995, an increase of nearly 12.5 percent over 1994 (fig. 7). New food products (16,900) rose 12.5 percent above introductions in 1994, while nonfood groceries rose to about 5,700 new products. Candy, condiments, breakfast cereals, beverages, bakery products, and dairy products accounted for 75 percent of new product introductions. Nearly 2,000 new food product introductions bore reduced- or low-fat claims. New grocery products introduced between 1982 and 1995 totaled over 156,000. However, many of these new products were withdrawn from the market after a relatively brief time.

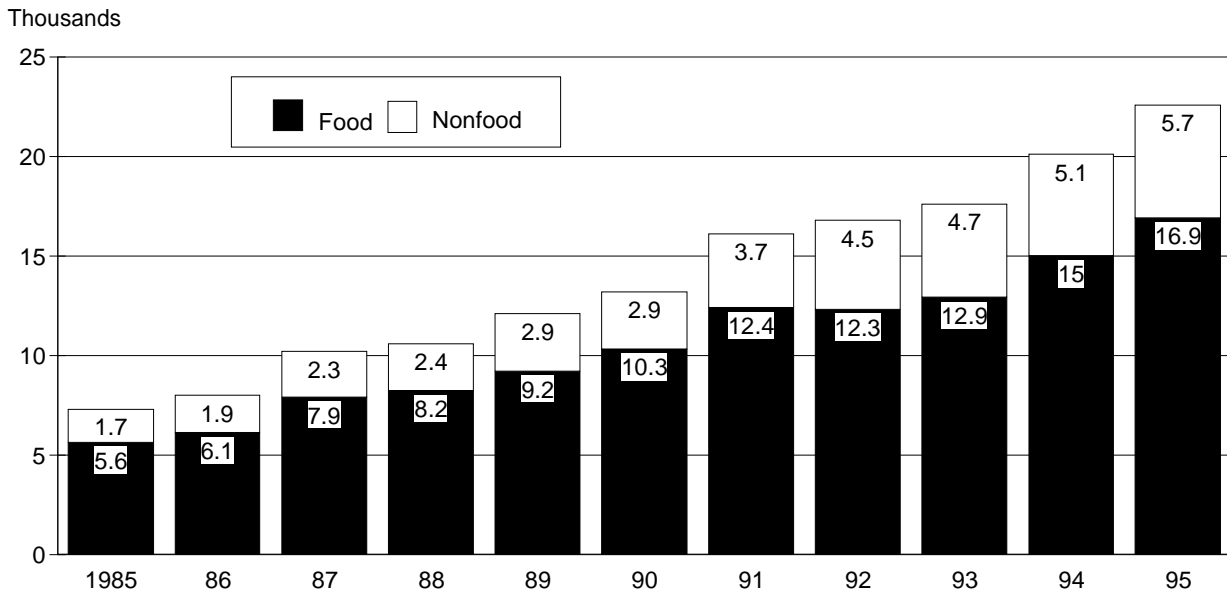
Food marketing firms spent an estimated \$10.2 billion in direct consumer advertising—such as electronic and printed media and coupons—in 1995, compared with \$9.8 billion in 1994 (fig. 8). Food processors spent over \$6.7 billion on mass media advertising, while food retailers spent over \$800 million (excluding local newspapers). Restaurants, mostly fast-food chains, spent almost \$2.4 billion. In addition, the food marketing system spent billions of dollars on coupons, games, incentive advertising, and other direct consumer promotions.

Competition was also keen in getting products on the shelves of the Nation's grocery stores. By most industry estimates, food processors spent about \$2 on retail promotion—trade shows, promotions, discounts and allowances, and other incentives—for every \$1 in direct consumer advertising.

Figure 7

New food and grocery product introductions, 1985-95

Nearly 17,000 new food products were introduced in 1995; most were extensions of already existing products.

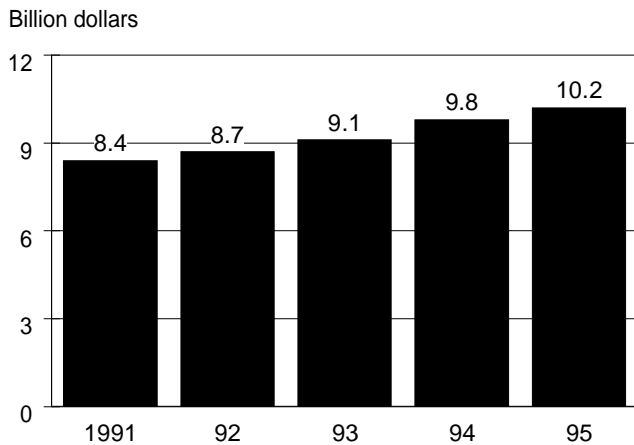


Source: ERS/USDA.

Figure 8

Food-related advertising (excluding coupons)

Food marketing firms spent over \$10 billion on direct consumer advertising in 1995.



Source: ERS/USDA.

P E R F O R M A N C E

Debt Levels and Profits from Operations Both Higher

Debt of the Nation's food processors and retailers rose \$16 billion in 1995. Profits from operations were higher.

Debt. Total liabilities of food processors and retailers rose \$16 billion in 1995 to \$318 billion (fig. 9). The food industry remained one of the most leveraged in the American economy. The equity-to-debt ratio of food manufacturers rose from 0.92 in 1994 to 0.96 in 1995, but was still well below the ratio for all manufacturing (1.46). The equity-to-debt ratio for food retailers rose from 0.53 to 0.66 between 1994 and 1995 (fig. 10). By comparison, the ratio for all retailers was 1.00.

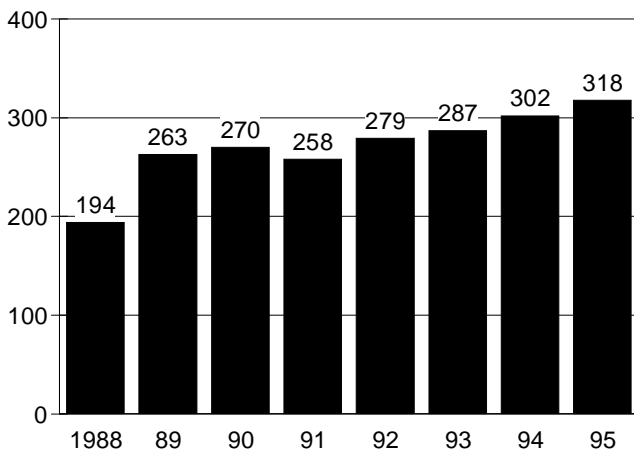
Profits. Food processors and retailers showed an increase in profits from operations. Food and tobacco processors' profits from operations rose from \$37 billion in 1994 to \$38 billion in 1995 (fig. 11). Food retailers' operational profits rose from \$7.2 billion to \$7.8 billion, an 8.3-percent increase. These increases reflect modest increases in labor and ingredient costs. Many food marketing corporations also reduced staffs and other operational costs. The lower value of the U.S. dollar further boosted income from foreign operations.

Figure 9

Total liabilities of food and tobacco processors and retailers

Debt levels increased again in 1995.

Billion dollars



Source: ERS/USDA.

After-tax profits as a portion of stockholders' equity for food processors rose to 18.5 percent (fig. 12). Retailers' after-tax profits amounted to 0.5 percent of sales and 17.2 percent of stockholders' equity. However, after-tax profits among both processors and retailers varied significantly. A true picture of profits is difficult because much of food sales are controlled by large, diversified food marketing firms.

Measures of Performance

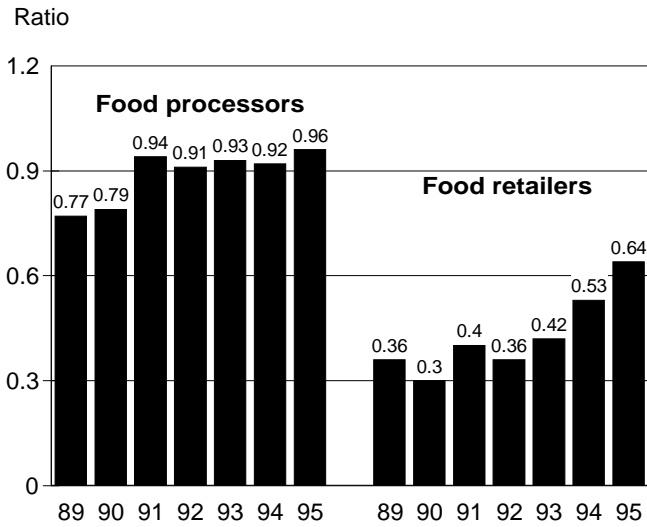
The following indicators are used in this and the following four sections to measure performance in the food marketing system.

- Debt
 - » Stockholders' equity-to-debt ratio
- Profits
 - » After-tax profits to sales
 - » Return on stockholders' equity
- Expansion, modernization, and production capacity use
 - » Capital expenditures
 - » Research and development
- Productivity
 - » Output per hour
- Investment performance
 - » Common stock prices
 - » Stockholders' equity appreciation
- Participation in the global market
 - » Foreign trade balance
 - » Foreign investment

Figure 10

Food system's equity-to-debt ratio

The ratio of equity to debt rose for both processors and retailers in 1995.

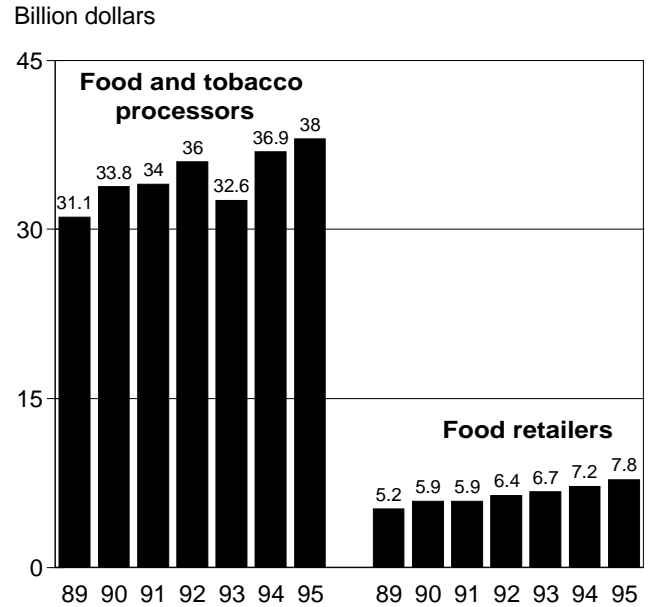


Source: ERS/USDA.

Figure 11

Profits from domestic operations, food processors and retailers

Profits rose for both processors and retailers.

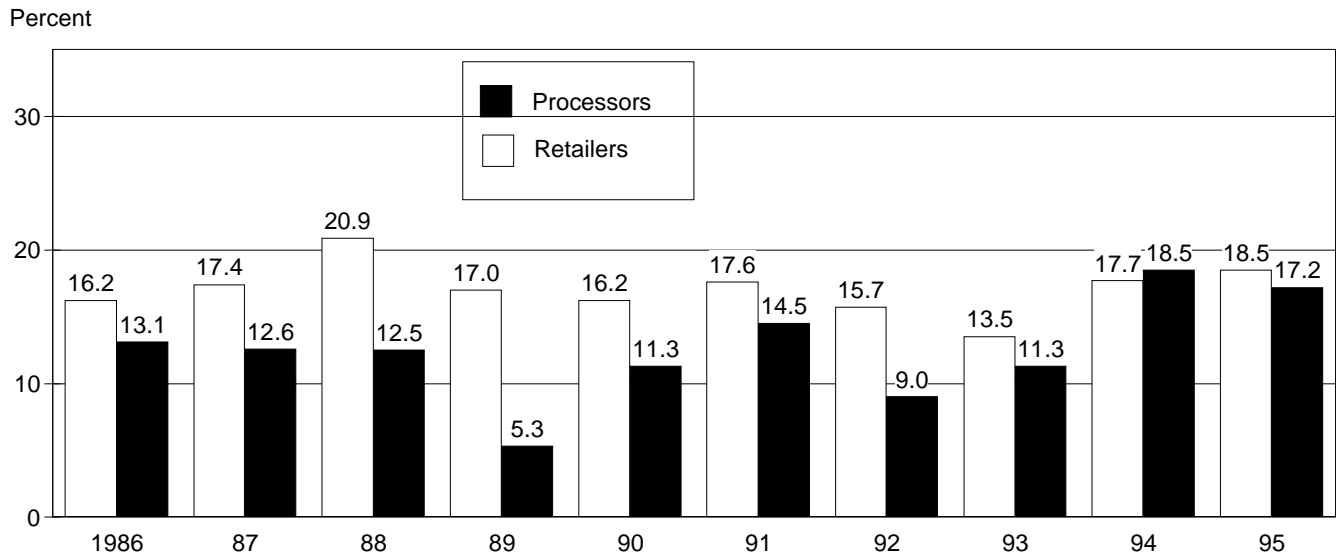


Source: ERS/USDA.

Figure 12

Aftertax profits as a percentage of stockholders' equity

Profit/equity ratio rose for processors and fell for retailers in 1995.



Source: ERS/USDA.

PERFORMANCE

Food Marketing System Performed Well

Capital expenditures in U.S. food processing rose sharply in 1995. Productivity likely increased in many food processing industries in 1995. The investment performance of owners' equity, as measured by increases in common stock prices, sharply outpaced other sectors of the economy for the eighth consecutive year. Processors paid out 55 percent of income as dividends. Global participation continued strong.

Capital Expenditures. Food processors undertook 406 new plant projects in 1995 compared with 329 in 1994 (fig. 13). Total new plant and equipment expenditures for food processing firms, which include nonfood operations, rose from \$13.6 billion in 1994 to \$17.7 billion in 1995 (fig. 14), an increase of 30 percent.

The retail food system continued modernizing and upgrading existing stores, while closing smaller retail outlets. The number of retail grocery stores, which has been falling steadily over the past 50 years, dropped by an estimated 1,000 in 1995. New supermarkets continued to increase in size, averaging about 30,000 square feet per store. An estimated 1,200 new fast-food stores opened in 1995.

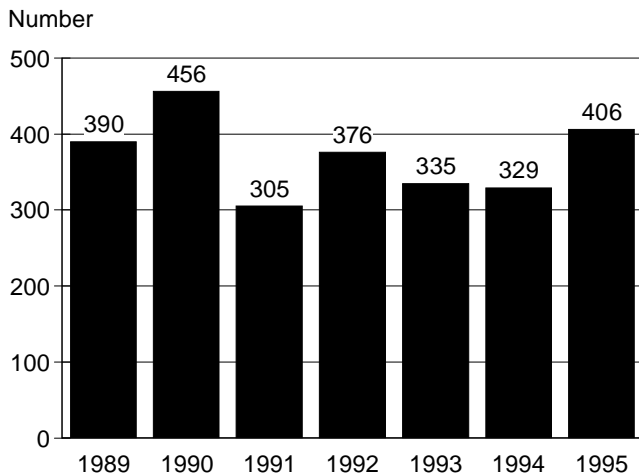
Research and Development. R&D within the food marketing sector is largely conducted in the food and tobacco processing industries. Like most other nondurable manufacturing industries, food is not

R&D-intensive. In 1995, food and tobacco processors likely spent about \$1.8 billion, or about 0.4 percent of sales, on R&D. Only about 6 percent of this amount went to basic research. More than 60 percent of all R&D funds went to processing and new products. However, most R&D in food and tobacco processing is purchased from other sectors, such as food packaging, computer, and machinery firms (much of the technological innovation for food processing comes from these sources). ERS estimates this amount to be about \$1.3 billion.

Productivity. Output per employee in 1993, the most recent data available on productivity, declined in foodservice and food retailing. This index of labor productivity increased in some food processing industries, such as milk, sugar, and beer. An increase in output in most food processing industries, with no increase in employment, suggests an increase in productivity for many food processing industries in 1995.

Figure 13
New plant projects in food processing

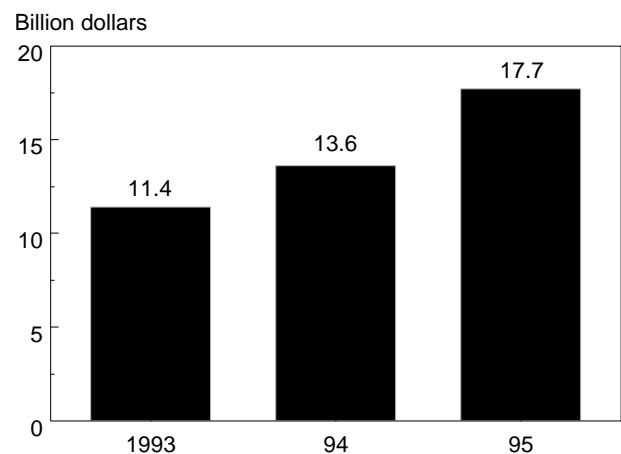
The number of new plant projects rose to 406 in 1995.



Source: ERS/USDA.

Figure 14
Plant and equipment expenditures in food processing

Expenditures rose from \$13.6 billion in 1994 to \$17.7 billion in 1995.

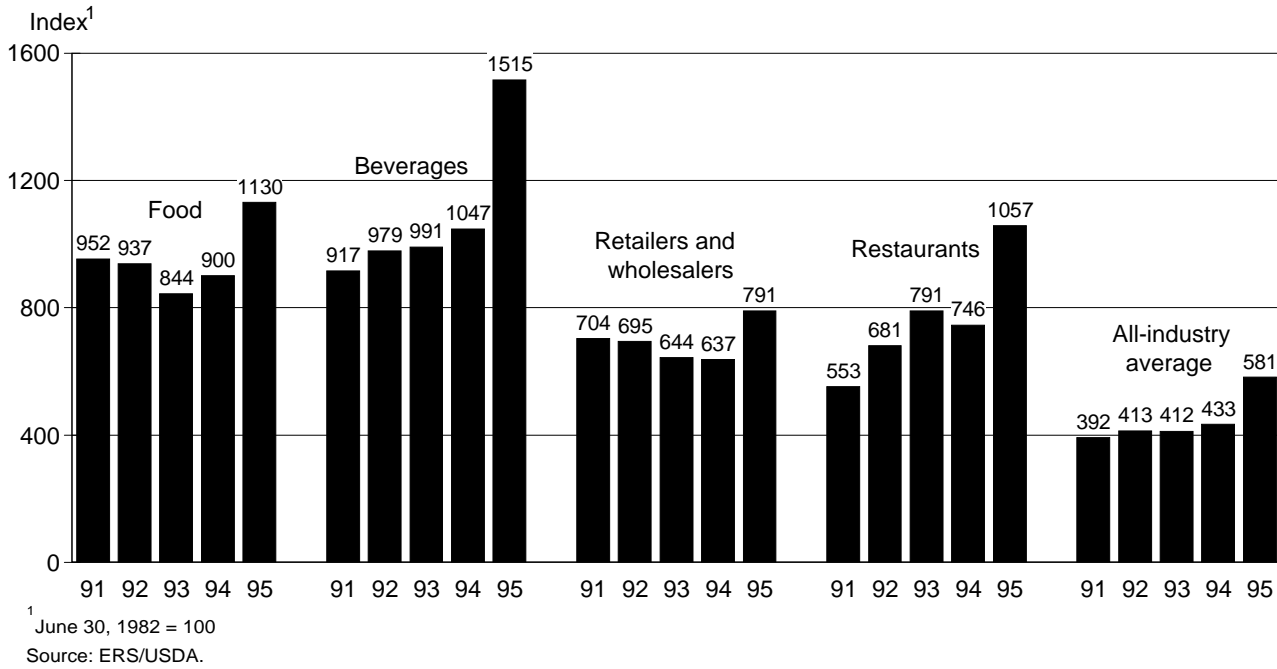


Source: ERS/USDA.

Figure 15

Dow Jones equity market indexes for the food marketing system

Food processing companies have outperformed other industries in the 1990's.



Owners' Equity. Owners (common stockholders) of food marketing companies saw the value of their holdings rise sharply in 1995. The index for food retailers and processors rose 26 percent, while that for beverages rose 45 percent (fig. 15), slightly above the 42-percent increase for fast-food restaurants. The index for all industries rose 35 percent. Since 1982, the food marketing sectors have outperformed the index for all industries.

Dividends. U.S. food firms have always had a relatively consistent dividend payout ratio. U.S. food processors paid out an estimated \$11.2 billion in dividends in 1995 compared with \$9.5 billion in 1994. Nearly 45 percent of income after taxes went to retained earnings, which are used for such projects as new product development, capital expansion, and acquisitions. Food retailers paid over \$800 million in dividends in 1995.

Global Participation. The U.S. food marketing system continued to expand as the world's most global food system. This expansion is measured by the system's foreign trade, foreign investments, and the sales of its foreign subsidiaries. The United States is the world's leading importer and exporter of processed food. The U.S. surplus in processed food trade rose to \$4.6 billion, with about \$29.4 billion in

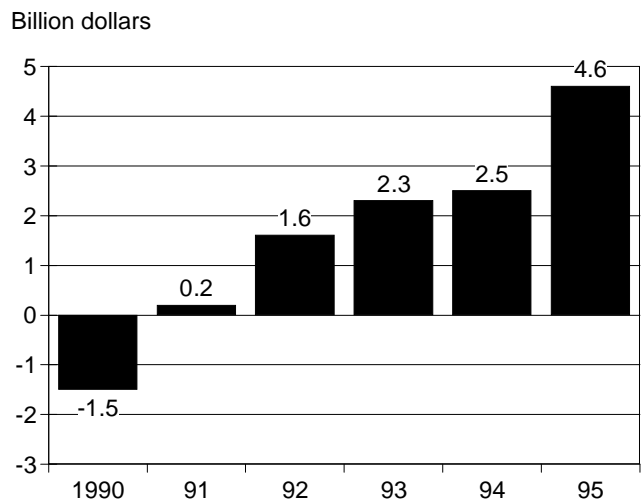
exports more than offsetting \$24.8 billion in imports (fig. 16).

However, trade data per se do not adequately reflect the global presence of U.S. food marketing firms. Many of the world's largest food processing firms expand aggressively in foreign markets by increasing

Figure 16

Trade balance in food processing

U.S. exports exceeded imports by \$4.6 billion in 1995.



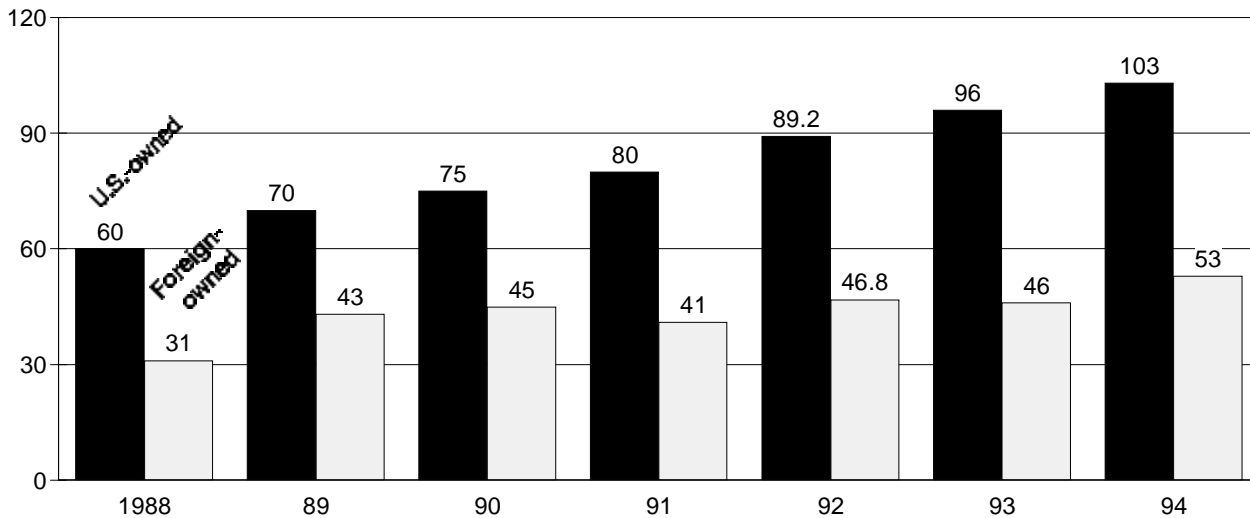
Source: USDA/ERS.

Figure 17

International market in food processing

Sales of U.S. subsidiaries of foreign firms are about half of the sales of foreign subsidiaries of U.S. firms.

Billion dollars



Source: ERS/USDA.

their investments in foreign plants or expanding licensing arrangements with foreign firms to produce and distribute their branded products. While large U.S. food processors export on average only 6 percent of their sales, they receive 27 percent of their total sales from their plants located in foreign countries. Sales from U.S. food processors' foreign subsidiaries were over \$100 billion (estimated) in 1995 (fig. 17),

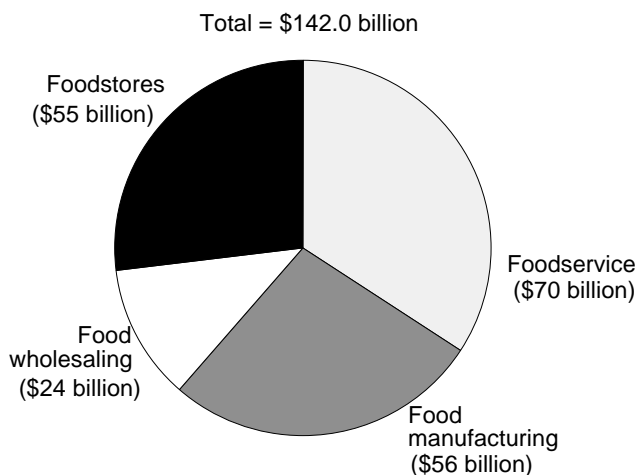
nearly twice the sales of U.S. food processing subsidiaries of foreign firms.

Sales of U.S. affiliates of foreign food marketing firms reached an estimated \$142 billion in 1995 (fig. 18). Sales of foreign affiliates of U.S. food marketing firms were a little higher, reaching \$155 billion in 1995, with the largest portion coming from food processing (fig. 19).

Figure 18

Estimated sales of U.S. affiliates of foreign food marketing firms, 1995

Largest share of sales came from foodstores and restaurants.

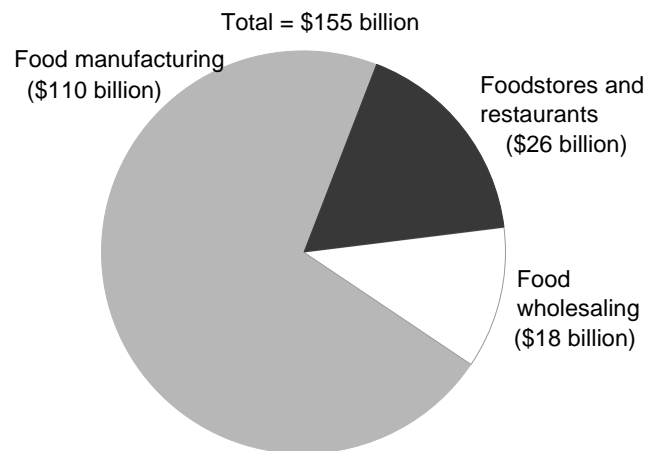


Source: ERS/USDA.

Figure 19

Estimated sales of foreign affiliates of U.S. food marketing firms, 1995

Largest share of sales came from food processing.



Source: ERS/USDA.

Would You Like More Information?

This report is an update of the more detailed report, *Food Marketing Review, 1994-95* (AER-743). The full report includes detailed data on mergers, sales, concentration, advertising, product industries, profits, productivity, plant and equipment expenditures, equity performance, prices, and international performance measures. It also includes charts and a sizable appendix.

What Happened in the Food Marketing System in 1995?

Industry Growth and the Economy

- Sales rose nearly 4 percent.
- The food marketing system's share of national income fell from 11.2 to 11 percent.
- Wages and farm prices were stable: interest rates were mixed; the value of the U.S. dollar was lower.

Structure

- Merger activity was slower than in 1994.
- The number of food processing firms and plants grew for the first time since the 1920's.

Conduct

- Nearly 23,000 new grocery products were introduced.
- Media advertising reached \$10.2 billion.
- Retail prices rose more than in 1994.

Performance

- Profitability from operations up sharply.
- The food marketing system was one of the Nation's most leveraged, but debt levels went up only slightly.
- Owners' equity appreciation reached record high.
- U.S. trade surplus in processed foods skyrocketed.
- The number of new plant projects rose sharply.

Profile of the U.S. Food Distribution System

Going into the 1990s

by

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The U.S. food distribution system going into the 1990s is considerably changed in size, structure, competitive conduct and performance from the previous decade. Essentially, the food system, composed of 400,000 firms which manufacture, wholesale and retail the nation's food supply, is considerably more concentrated, leveraged product differentiated, globalized, and declining relative to the rest of the economy. The system's performance going into the 1990s has been little short of spectacular, with increases in profitability, productivity, automation, and common stock prices, all performing well compared to the rest of the economy.

Size and Structure

Although the U.S. food distribution system is still the nation's largest marketing system, its relative importance continues to decline. Whereas the food system accounted for 11 percent of the valued added to GNP in 1980, only about 9.5 percent will be added in 1990. The system will account for 10 percent of U.S. employment, down from 11.5 percent in 1980 (Figure 1). The share of disposable income allocated to food dropped from 13.5 percent to an estimated 11.7 percent.

The nearly \$730 billion sales by the food marketing system in 1990 will be provided by a

more highly concentrated system. Concentration is increasing for nearly all of the 49 food processing industries, as well as retailing, wholesaling, and food service (Table 1).

Aggregate concentration continues to increase in all four sectors, while the number of food marketing companies continued to decline, partially due to increased mergers.

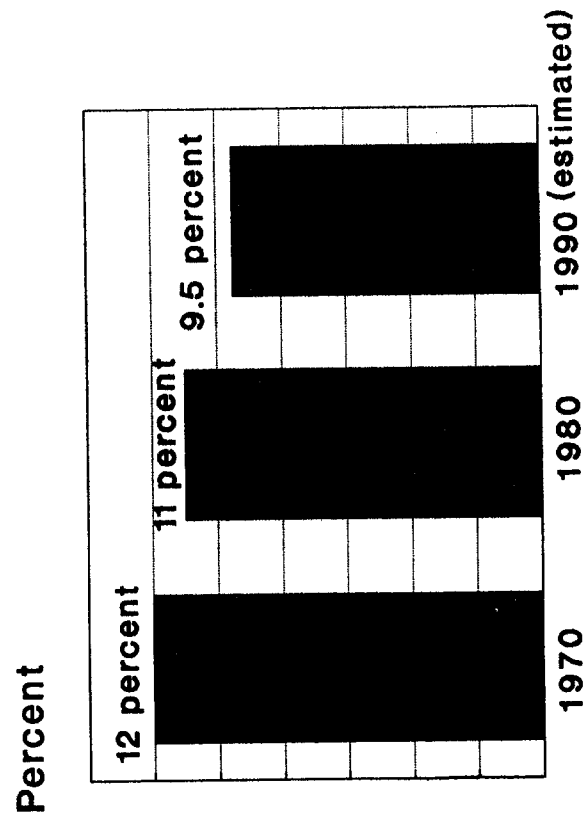
Much of this increased concentration has been due to increased merger activity. Between 1982 and 1988, nearly 34 mergers and leveraged buyouts took place in the food marketing system. Food processing, which had 16,800 firms in 1982, had more than 2,000 of these transactions during that period, while food wholesaling, retailing, and foodservice each had nearly 1400 transactions (Table 2).

Leverage

Total liabilities of food processors and retailers rose from about \$90 billion to nearly \$260 billion between 1980 and 1990 (Figure 2). Inflation, several successive years of major capital expansion, and normal asset growth accounted for a small portion of that growth. The overwhelming portion of growth in liabilities was due to leveraged buyouts and mergers in the late 1980s,

Figure 1. The U.S. food marketing system continues to generate fewer of the Nations Resources

Share of Gross National Product generated by the U.S. food marketing system



Share of employment generated by the U.S. food marketing system

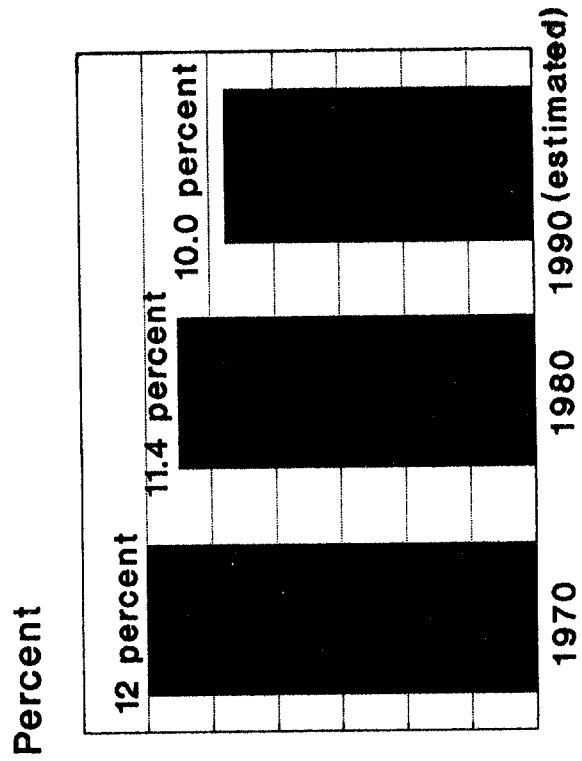


Table 1

Aggregate concentration in food marketing

Share of market controlled by top firms					
Year	Top 50 processing firms	Top 50 wholesaling firms	Top 2 retailing firms	Top 50 foodservice firms	
					<u>Percent</u>
1963	NA		NA	34.0	NA
1967	35.0		NA	34.4	NA
1972	38.0		48.0	34.8	13.3
1977	40.0		57.0	34.5	17.8
1982	43.0		64.0	34.9	20.2
1987 ^{1/}	48.0		71.4	36.5	22.3

NA = Not available.

^{1/} Estimated.

Table 2

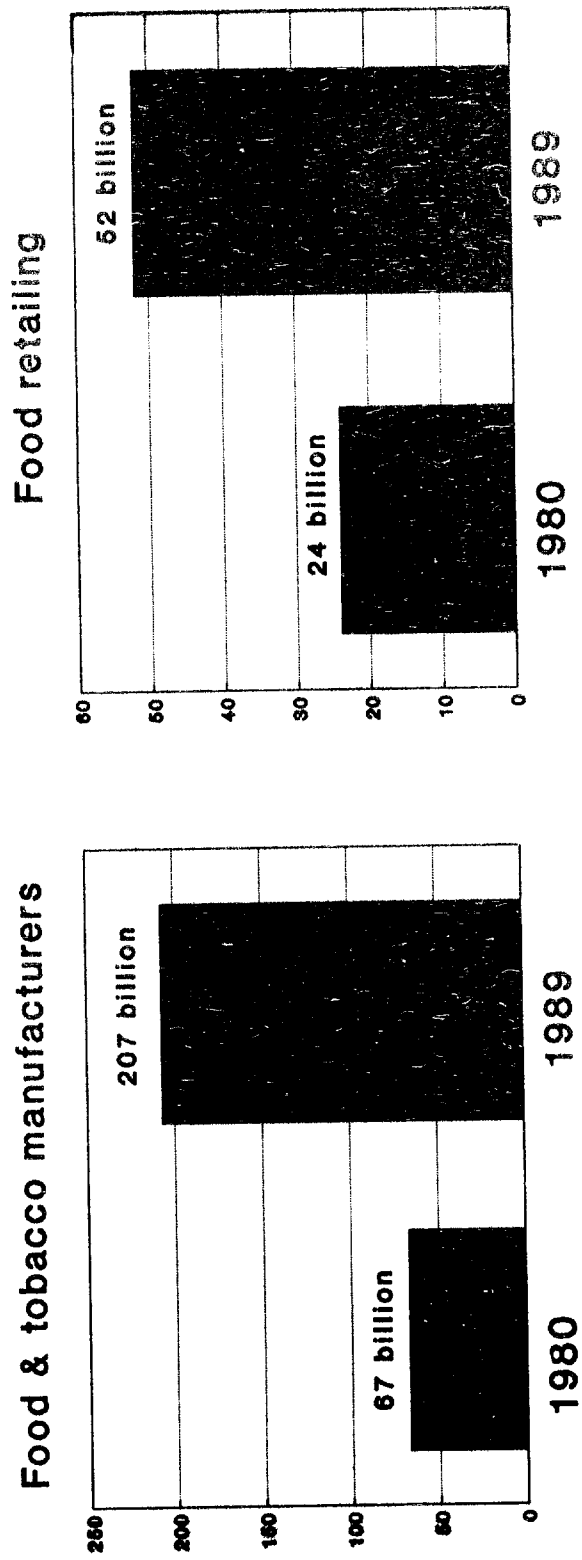
Food marketing mergers

Year	Processing	Wholesaling	Retailing	Food service	Total ^{1/}
					<u>Number</u>
1982	250	38	38	51	377
1983	225	38	45	64	372
1984	242	37	60	78	417
1985	291	64	52	73	480
1986	347	65	91	81	584
1987	301	71	65	77	514
1988	351	71	76	75	573

^{1/} Total includes some double counting because of interindustry mergers. For example, a food processing firm merging with a foodservice firm is included as an acquisition in each sector.

Figure 2. Debt has grown sharply over the past decade, largely due to finance leveraged buyouts

Total yearend debt



and at that, several firms accounted for much of the increased debt. A selloff of some of these assets could further reduce debt. In the case of leveraged buyouts, after-tax proceeds that would normally be paid out as dividends are now paid as interest. Debt as a percent of assets for food manufacturing rose from about 50 percent in 1980 to nearly 70 percent in 1989, considerably above the 60 percent for all manufacturing corporations in 1989 (Figure 3). The ratio for food retailing rose from 63 percent to 83 percent during that same period. By comparison, the debt of assets ratio for all retailers was 71 percent in 1989.

Increased Product Differentiation

Although food marketing is more concentrated in the 1990s, competition continues at a more vigorous pace in each industry sector as firms seek to acquire a greater market share in this slow growth sector. New product introduction, the clearest case of product differentiation, has risen sharply over the past decade. Less than 2,000 new food products were introduced in 1980, compared to over 10,000 in 1990 (Figure 4). Between 1982 and 1990, nearly 75,000 new products were placed on the market.

Food is also the largest advertiser in the U.S. economy in 1990, but its share has been declining in recent years, fading from 23.6 percent to 21.5 percent (Figure 5). In 1990, food marketing firms will spend about \$12 billion directly advertising their products, compared to \$4 billion in 1980. However, competition for scarce shelf space has also seen an increase in trade promotion aimed directly at retailers.

Globalization

The U.S. food system is considerably more global going into the 1990s compared to the previous decade. Although foreign trade, both imports and exports, remains at between four and five percent of total shipments, foreign investment, both inward and outward, has risen sharply. In 1982, the value of shipments by U.S. owned affiliates was \$39 billion; by 1988 the value of these shipments had risen to over \$60 billion (Table 4).

Increased investment in the U.S. food marketing system was reflected in a change in the value of shipments by U.S. affiliated foreign firms from about \$15 billion to \$20 billion. The book value of total foreign investment in U.S. food marketing rose from \$19.5 billion to \$24 billion. Direct foreign investment by the United States in food manufacturing, wholesaling, and retailing rose from \$9.5 billion to \$17 billion.

Performance Profile

The last half of the 1980s saw sharp increases in profitability, productivity and output of the food system, while input costs rose at a moderate pace.

In food manufacturing, employment remained the same as in 1980, but output increased sharply, rising by about two percent per year.

Consequently, output rose for such industries as dairy, sugar, beer, and soft drinks. However, the number of employees in food retailing and foodservice outpaced the level of output, resulting in productivity declines, largely reflecting increased services. The declines have stabilized in recent years.

Much of the increase in output is due to automation. New plants and expenditures at the corporate level (on an enterprise basis) rose sharply during the 1980s, rising at an average yearly rate of about nine percent between 1984 and 1990.

Thus the stock of capital adjusted for price increases and replacement continued to show a gain.

Going into the 1990s the food system continues its high profitability from operations. Between 1985 and 1990, after tax, profits as a share of stockholders equity outperformed that of all manufacturers (Table 6).

After tax profitability of food retailers and food manufacturers have fallen in recent years due to higher interest payments, but still exceed that of their nonfood counterparts. Input costs continued to rise at a slow pace, with real wages declining

Figure 3. Yearend debt as a percent of assets

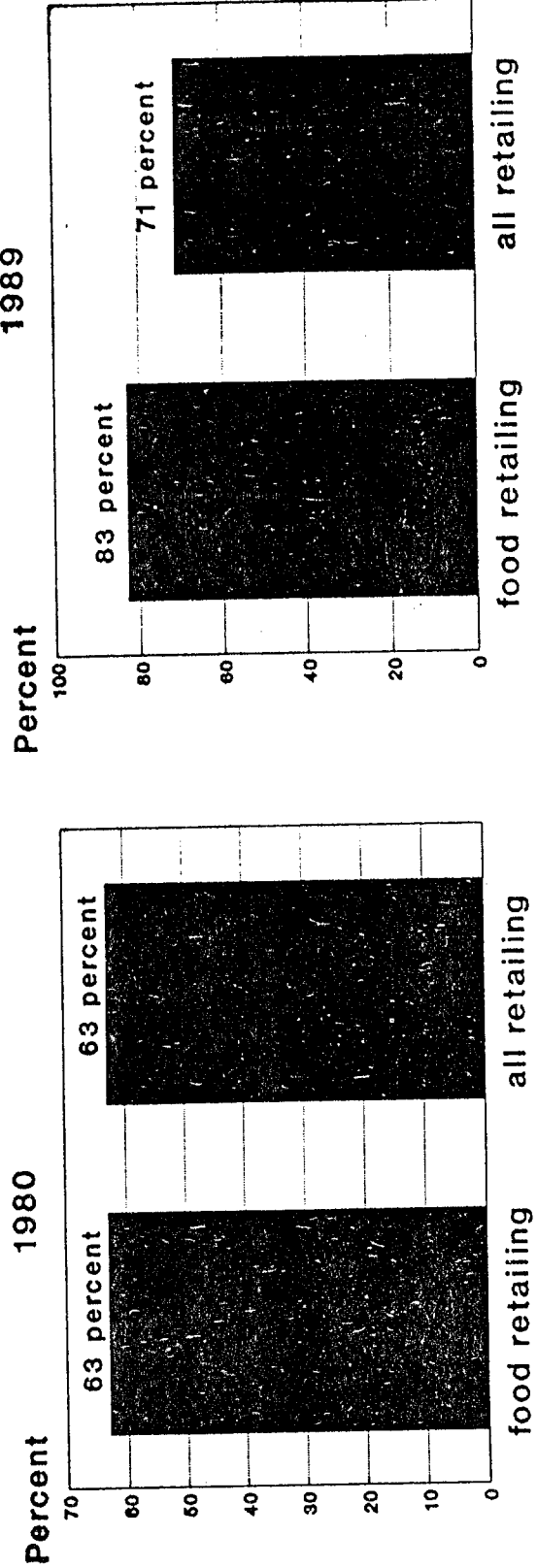
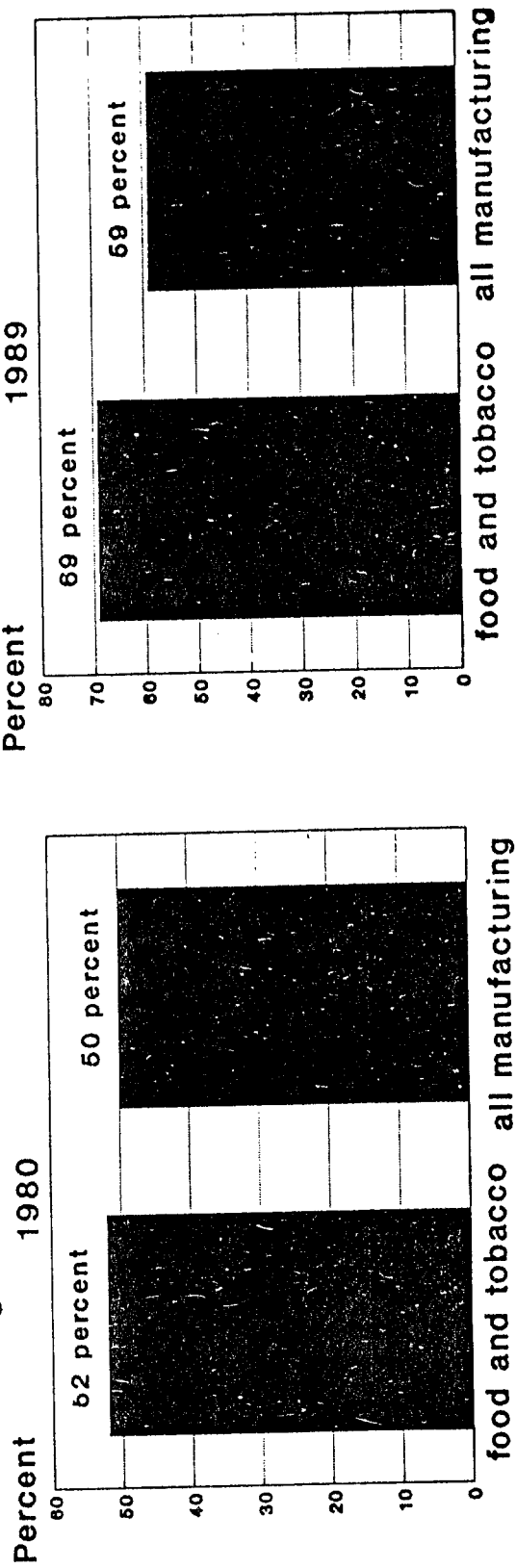


Figure 4. New food product introductions

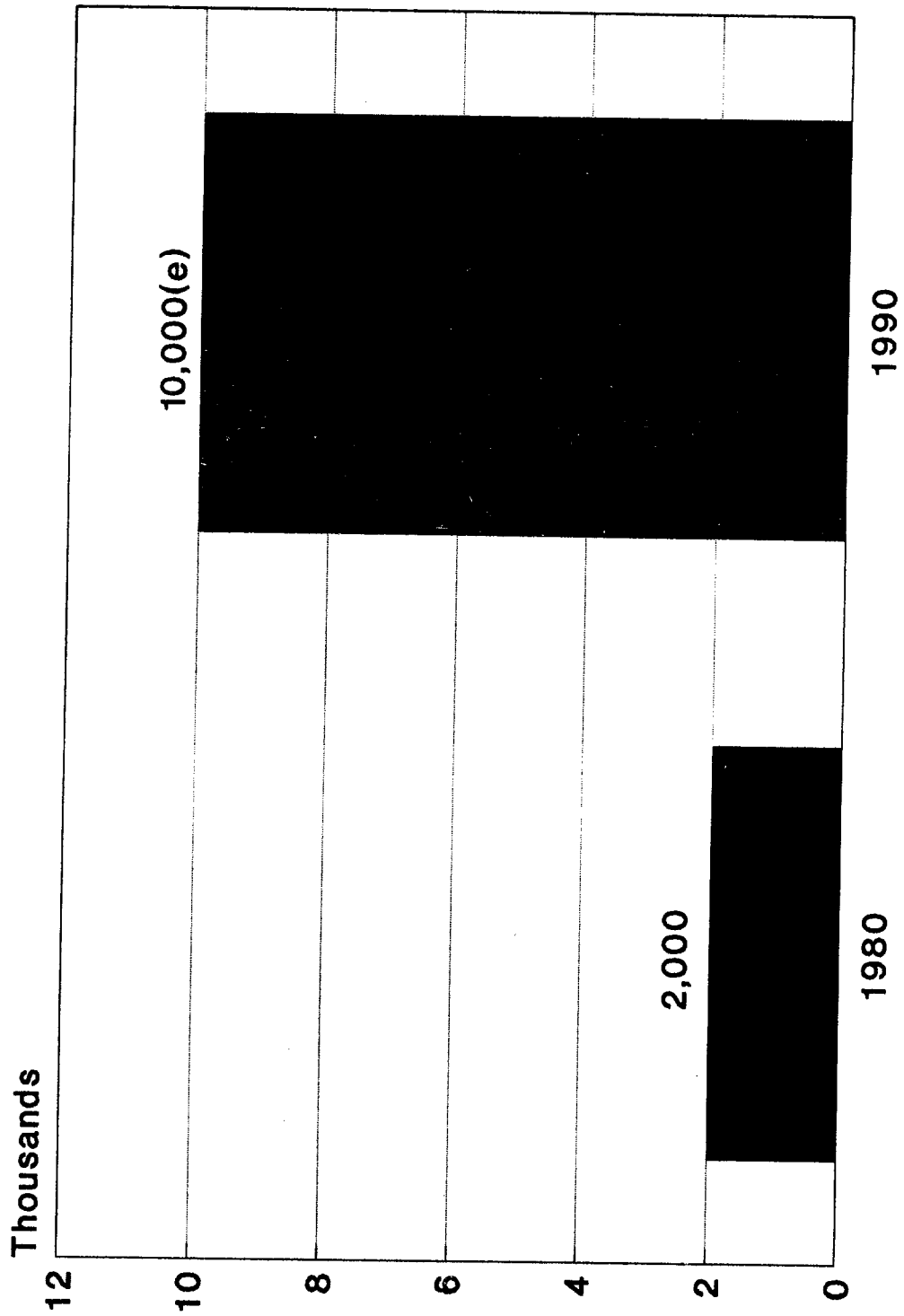


Figure 5. Food marketing's share of electronic and printed media advertising

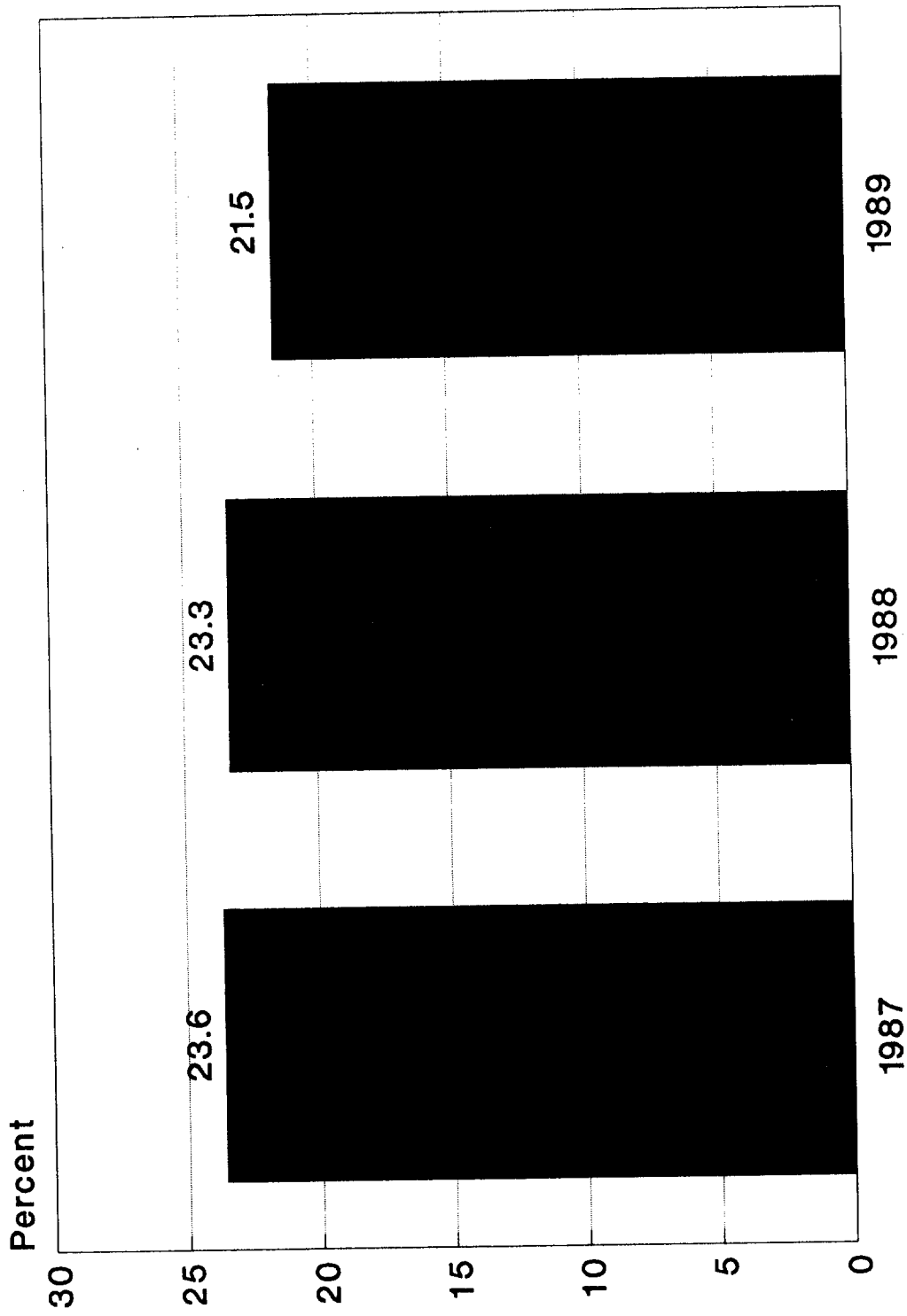


Table 3

Largest going-private leveraged buyouts in history:
Top four were food related

Acquisition	Target	Price	Year	Industry
		<u>Billion dollars</u>		
1. Kohlberg Kravis Roberts and Co.	RJR Nabisco, Inc.	24.72	1989	Tobacco, food
2. Kohlberg Kravis Roberts and Co.	Beatrice Cos., Inc.	6.25	1986	Food
3. Kohlberg Kravis Roberts and Co.	Safeway Stores, Inc.	5.34	1986	Supermarkets
4. Thompson Co.	Southland Corp.	4.00	1987	Convenience stores

Table 4

U.S. Investments abroad: Value of shipments by U.S. Affiliates of Foreign Firms

County or Region	1982	1987	1988	% change 1982-88
-----Million dollars-----				
Total, all countries	\$39,023	\$50,049	\$60,264	54.4
Europe	18,974	29,070	34,534	82.0
EC-12	18,327	27,868	33,164	81.0
Canada	5,258	5,407	7,518	43.0
Japan	2,363	4,442	14,933	108.0
Australia	n.a.	1,880	2,092	44.6

Table 5

Foreign Investments in the United States: Value of shipments by U.S. Affiliates of Foreign Firms

County or Region 1982-88	1982	1987	1988	% change
---Million dollars---				
Total, all countries 102.4	\$14,847	\$22,862		\$30,053
Europe 112.0	10,527	17,967		22,318
EC-12 n.a.	n.a.	10,418		14,841
Canada 81.1	2,218	3,174		4,017
Japan 77.8	564	612		1,003
Australia n.a.	n.a.	220		1,478

Table 6

Profits of food and tobacco processing firms

Year	Before-tax income from operations	After-tax profits		
		as a share of stockholders' equity		
		Food and tobacco processors	All	
	---- Million dollars ----	---- Percent ----		
1985		20,015	12,798	16.3
1986		21,595	13,292	16.5
1987		24,658	15,579	17.9
1988		25,686	20,625	26.9
1989		30,893	16,506	18.6

during most of the decade and farm prices rising at an average compounded yearly growth rate of less than 0.5 percent.

Another measure of performance is how well the food system performs for its owners. One important measure of that performance is how well the common stock has performed. Over the past eight years, the food system, although a low-growth industry, has done extremely well. The Dow Jones Equity Market Index for all companies showed a threefold increase between 1982 and 1990.

Food processors showed a sixfold increase. Food retailers and wholesalers averages were more than five times greater. Beverages and soft drinks also outperformed the market. This trend continued in 1990, especially for food processing. Also, price earning ratios, a measurement of how investors value the quality of an industry's earnings, were above average for the food system. There are several reasons for this increase. First, part of the system's appreciation reflects speculation due to leveraged buyouts and mergers, many of which were very favorable for investors. Second, food processing and retailing profits have grown rapidly in recent years. Third, although food marketing is a slow growth industry, cyclical movements tend to be small with stable growth in earnings and income in 1990.

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The Food Marketing System in 1989

Anthony E. Gallo

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In this report...Conditions in the U.S. food marketing system generally improved in 1989. Sales rose about 7.5 percent to an estimated \$686 billion. Competition among manufacturers for scarce shelf space in retail foodstores continued strongly. The food marketing system introduced 12,000 new grocery products in 1989, but food processors cut down on direct consumer advertising. Food processors' and retailers' debt rose by nearly \$70 billion in 1989, largely due to the financing of massive leveraged buyouts and mergers announced in 1988. Merger activity slowed in 1989. After-tax profits for food processors fell sharply due to higher interest payments. The balance of trade deficit in the U.S. processed food sector declined from \$2.7 billion to \$2.3 billion, reflecting strong export demand in 1989.

This report analyzes and assesses yearly developments in the industry growth, conduct, performance, and structure of the institutions—food processors, wholesalers, retailers, and foodservice firms—that comprise the Nation's food marketing system.

"Industry growth" includes changes in sales for each of the four sectors, product mix, and external economic factors affecting the food system. "Conduct" measures firms' competitive behavior, which includes such price and nonprice competition as advertising, promotion, new product introduction, new store formats, price discounting, and menu variety. "Performance" includes profitability, capital expansion, foreign trade and investment, research and development, capacity use, equity market changes, and productivity. "Structure" developments include mergers, acquisitions, divestitures and leveraged buyouts, and changes in number of companies and establishments.

What Happened in the Food Marketing System in 1989?

Industry Growth

- Sales rose 7.5 percent to new high.
- Wage and price stability kept costs steady.

Conduct

- Competition for shelf space intense, but food processors cut back on advertising expenditures.
- Over 12,000 new products introduced.
- Food safety regulations initiated.
- Price wars prevalent throughout fast-food industry.

Performance

- Higher interest payments from leveraged buyouts and mergers lowered after-tax profits.
- Expenditures for new plant and equipment and research and development continued to increase.
- Equity appreciation reached record highs, but food system continued along below-average growth trend.
- The eighth consecutive balance of trade deficit in processed food fell from \$2.7 billion in 1988 to \$2.3 billion.

Structure

- Concentration rose in food processing and wholesaling; top three firms' share of food processing market rose from 9.5 percent to 13 percent.
- Merger activity slowed.

Sales Rise to \$686 Billion

Sales in the U.S. food marketing system reached \$686 billion, including \$276 billion in retail food sales, \$223 billion in sales by restaurants and institutions, \$77 billion in alcoholic beverage sales, and \$110 billion in sales of nonfood items.

Conditions were favorable to food markets in 1989. The U.S. population rose by 2.5 million, and employment rose by 2.1 million. The unemployment rate fell from 5.4 percent in 1988 to 5.2 percent. Per capita disposable income rose about 3 percent, after adjusting for inflation.

Sales. The food marketing system's trend as a slow-growth industry continued in 1989 as the portion of disposable income allocated to food fell from 11.9 percent to 11.6 percent. Items purchased at food stores and foodservice establishments, packaged alcoholic beverages and drinks purchased at eating and drinking places, and nonfood items purchased in retail foodstores probably reached \$686 billion. About \$276 billion of this amount was spent on food in retail foodstores and \$223 billion in foodservice establishments (fig. 1). Food sales through retail stores (after adjusting for inflation) generally rise at about the same rate as the population; restaurant and institution sales typically rise at about half the pace of income.

Product Mix. Until 1989, restaurants had been taking a higher portion of the food dollar because income has been rising at a much faster rate than the population and because consumers have a tendency to eat out more often as their incomes rise. By 1988, the foodservice share of the food dollar rose to about 46 percent of food sales (excludes alcohol and nonfood grocery items, as distinguished from percentages cited in figure 1), while the retail share accounted for 54 percent (fig. 2). In 1989, however, this trend came to an abrupt halt as foodservice sales rose at a little more than half the pace of retail food sales.

The alcoholic beverage market, which accounts for about 11 percent of sales in the food marketing system, continues to reflect lower consumption. Alcoholic

beverage sales likely accounted for \$77.3 billion of food marketing sales in 1989. Nearly \$44 billion was in the form of packaged alcoholic beverages, while alcoholic drinks served in restaurants and other institutions likely amounted to nearly \$33 billion. Distilled spirits in 1989 likely accounted for about 32 percent of total alcoholic beverage consumption, while beer will likely account for nearly 56 percent. Wine sales appear to have fallen to about 12.5 percent of the total.

The nonfood component of retail sales likely amounted to about \$110 billion. Nonfood groceries include tobacco, health and beauty aids, detergents, paper products, and other grocery items sold through retail foodstores. Nonfood items, such as tobacco products, catering supplies, and nonfood supplies sold through vending services, are grouped into the foodservice category.

Measures of Growth

The following indicators are used in this and the following section to measure growth in the food marketing system.

- Sales
- Product mix
- External economic factors
 - Wages and other labor costs
 - Farm prices
 - Advertising costs
 - Interest rates
 - Adding value to raw farm products

Figure 1
Food marketing sales, 1989

Food marketing sales rose 7.5 percent to \$686 billion.

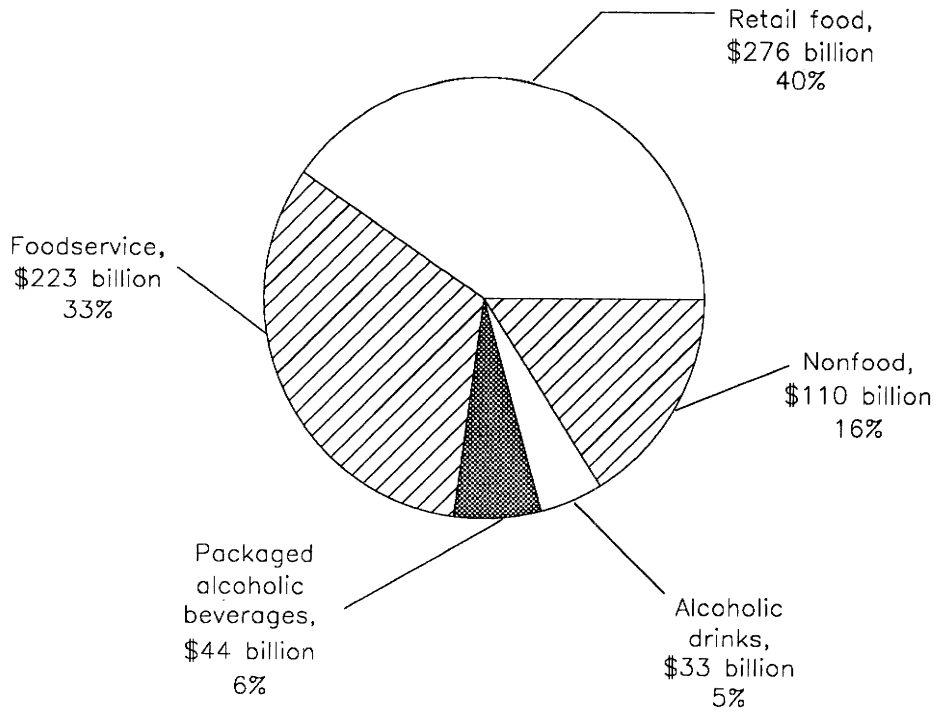
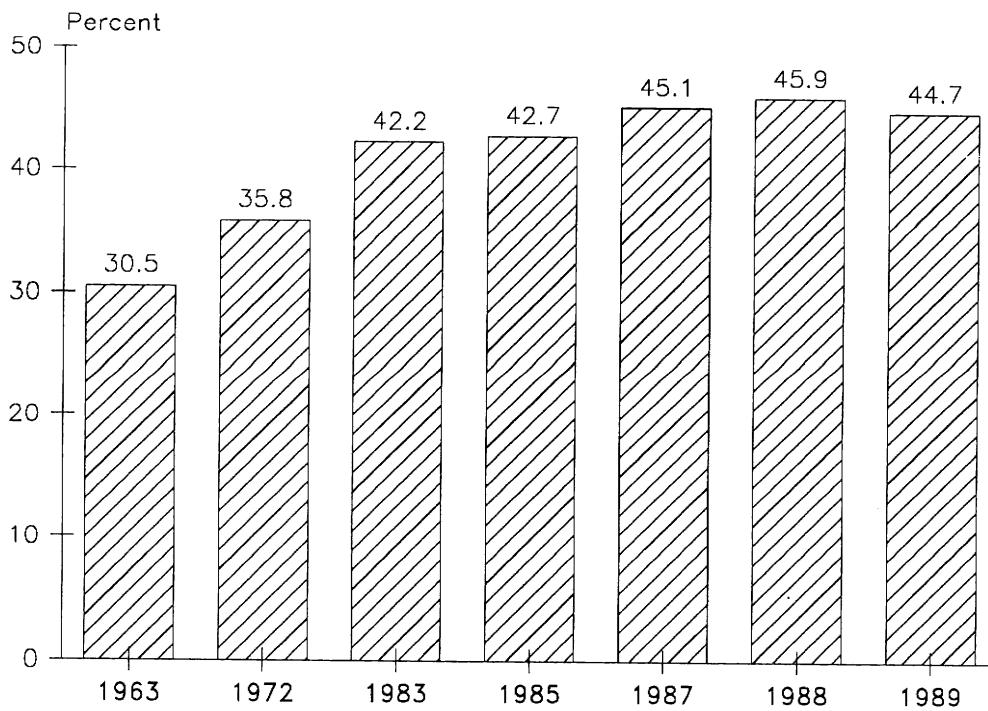


Figure 2
Share of food sales accounted for by foodservice sector

Share of food sales fell in 1989.



Stable Wages and Prices Hold Down Costs

Wage and price stability held down costs for the seventh consecutive year. The food marketing system purchased an estimated \$105 billion in U.S. agricultural commodities, \$20 billion in foreign agricultural commodities, and \$9 billion in seafood products. The food system then added an estimated \$495 billion in value to these raw products.

The economic climate governing the food marketing system in 1989 was excellent for the seventh consecutive year in terms of both costs and demand. Moderate inflation and 7 years of uninterrupted economic expansion benefited the American economy in 1989. For the food sector, economic developments have their greatest effects on costs because of the system's labor intensity and dependence on farm prices. Low farm prices, along with minimal increases in food processing, wholesaling, and foodservice wages, benefited the food system. However, short-term interest rates considerably raised interest costs.

Prices. Price stability for purchased food and feed inputs for each channel in the food marketing system is reflected by the Producer Price Index (PPI). The PPI for finished consumer foods, an indicator of changes in prices paid by retailers, wholesalers, and restaurateurs to food manufacturers, rose 5.4 percent in 1989 compared with 2.8 percent in 1988 (fig. 3). The PPI for intermediate foods and feeds, an indicator of changes in prices food processors pay one another, increased 6.3 percent. The PPI for crude foodstuffs, or prices paid by food manufacturers at 37 major markets, rose 4.7 percent. The 1989 index reflected a 10-percent increase for milk products and a 7-percent drop for alcoholic beverages.

Labor Costs. For the seventh consecutive year, labor costs, which included hourly earnings and fringe benefits, constituted the major expense item for the food marketing system. In 1989, the food marketing system had more than 12 million full- and part-time employees. Nearly 6 million workers were employed in food service, and more than 3.2 million were employed in food retailing. About 1.6 million were employed in food processing, and nearly 840,000 worked in grocery wholesaling. Average hourly earnings in food retailing and food processing increased 2.5 percent. In food retailing, wage concessions, benefit reductions, and lump-sum payments in lieu of wage hikes were some-

times negotiated, but much less frequently than in the previous 4 years. Wages in eating and drinking places averaged 6 percent higher, at \$4.74 per hour.

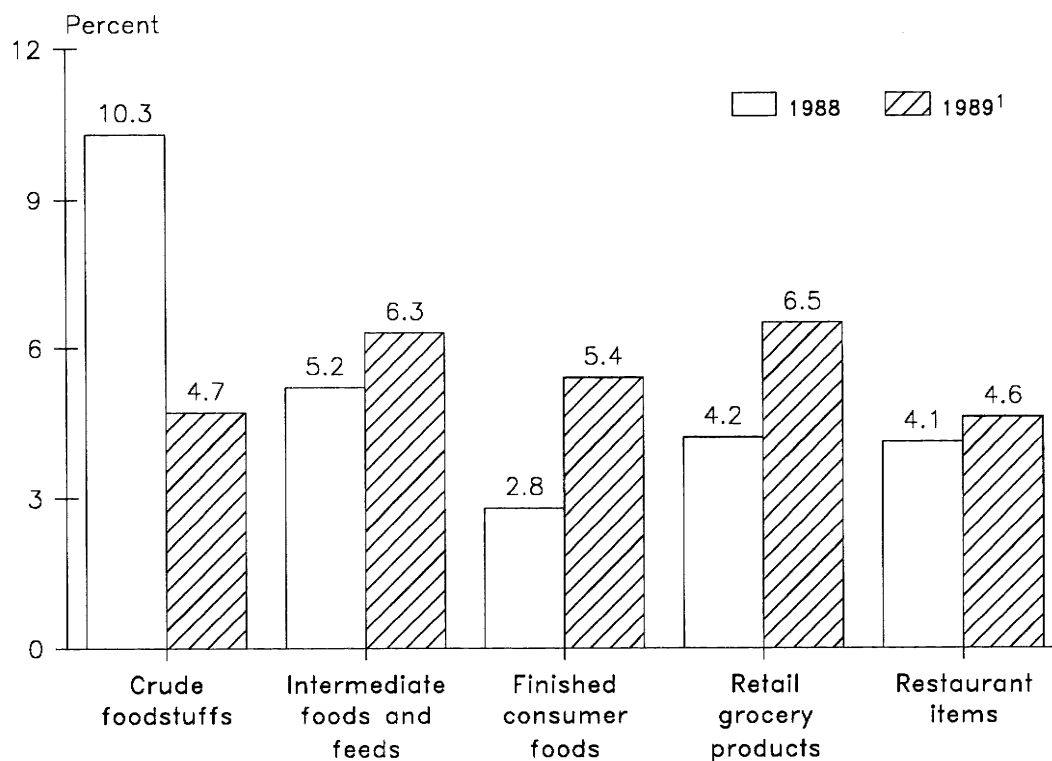
Advertising. The food system, the economy's largest advertiser, faced increased advertising costs for evening network television, network radio, magazines, and newspapers. Increases ranged from 5 percent for nighttime network television to nearly 19 percent for cable. Daytime network television prices continued to decline.

Interest. By year end, the prime interest rate was 10.5 percent compared with 9.5 percent during the third quarter of 1988. Interest rates were more important in food marketing in 1989 because of leveraged buyouts and mergers, which required large issues of debt as well as increased equity capital. The rates on Moody's AAA 20-year bonds fell from 9.51 percent in the fourth quarter of 1988 to 8.89 percent in the fourth quarter of 1989. However, the rate on junk bonds (high-yield, high-risk bonds), now prevalent in the food system, rose sharply by year end. The value of the U.S. dollar relative to major foreign currencies rose significantly from that of 1988, further raising the price of food exports and lowering prices of imports.

The food system purchased about \$105 billion in animal and crop products from the U.S. farm sector, about 65 percent of domestic production, USDA's Economic Research Service estimates. An additional \$20 billion was spent on imported agricultural products, and \$9 billion was spent on seafood. To this base of \$134 billion in raw agricultural and fishery products, the food system added an estimated \$495 billion in value in 1989, compared with \$470 billion in 1988 (fig. 4). Food processors added about \$91 billion in 1988, while wholesalers, retailers, and transportation firms added another \$136 billion. The contribution of 400,000 separate eating and drinking places to value added topped \$68 billion.

Figure 3
Price Increases In the food marketing system

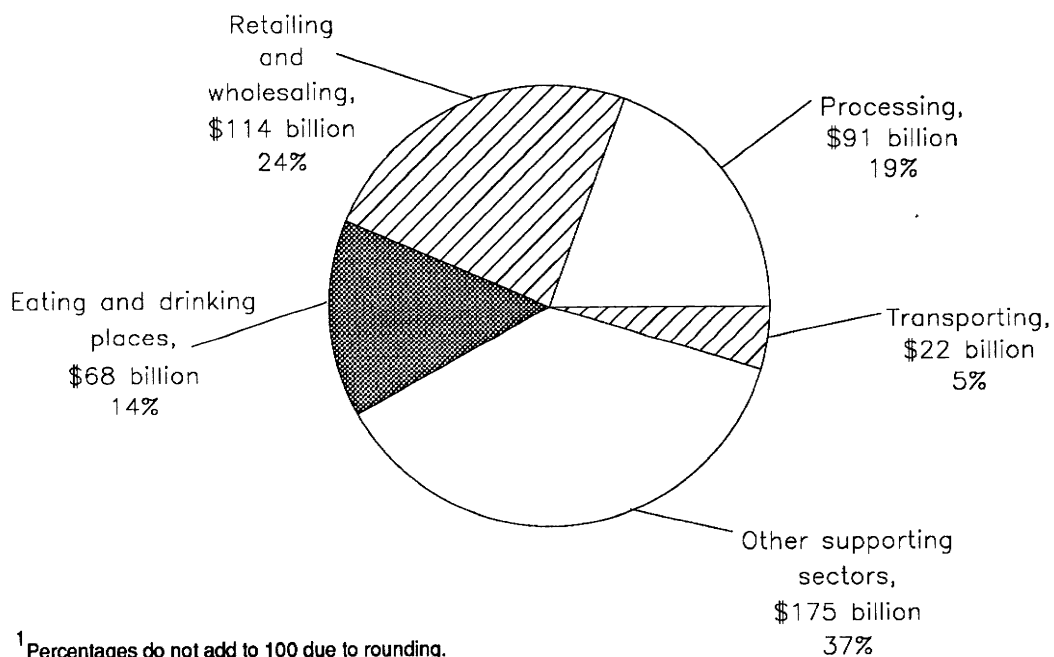
Low farm prices and a minimal rise in wages held down increases in the prices producers paid for food and feed inputs in 1989.



¹ Preliminary.

Figure 4
Value added in food marketing, 1988¹

The \$470 billion added to raw products in 1988 compares with a preliminary estimate of \$495 billion in 1989.



¹ Percentages do not add to 100 due to rounding.

New Product Introductions Rise; Advertising Declines

Competition was keen for shares of the food marketing dollar as 12,000 new products were introduced. But, advertising expenditures slowed as many food processors cut back on direct consumer advertising.

The food industries' slow growth affects conduct, or how firms compete. In 1989, less than 9.5 percent of the Nation's gross national product (GNP) was generated by the food marketing system compared with 12 percent in 1972. And while the value added by the food system has increased in dollar terms, a much greater portion of this output is supplied by far fewer and larger firms.

Although food marketing is becoming significantly more concentrated and leveraged, competition continued at a vigorous pace in each industry sector as firms sought to acquire a greater market share. Price competition in 1989 was apparent in the fast-food sector of the food-service industry, where major discounts were given to consumers in what now appears to be a seller-saturated market. Price competition was also widespread among such selected food products as colas and frozen pizzas. In comparison, retail prices for food purchased in grocery stores rose 6.5 percent, up from 4.3 percent in 1988. Restaurant meal prices rose 4.6 percent, only 0.5 percent more than in 1988.

However, nonprice competition has traditionally been the mainstay of the branded packaged products segment of the food system. New product introductions rose sharply, totaling more than 12,000 new products in 1989 with the total between 1982 and 1989 now at more than 62,000 (fig. 5).

Food marketing firms spent \$11.5 billion in 1988 in direct consumer advertising, such as electronic and prime media (fig. 6). And by most industry estimates, food processors spent about twice that amount on acquiring shelf space in the Nation's retail food shelves through trade shows, promotions, discounts and allowances, and other incentives.

In 1989, consumer advertising by the food system appeared to have declined, after adjusting for inflation. For the first 9 months of 1989, total advertising was up

less than 1 percent, well below the 6-percent increase in advertising price increases (fig. 7). The decline would have been much sharper had eating and drinking places not increased advertising expenditures by nearly 13 percent. Foodstores showed a nearly 30-percent increase, largely due to more spot television commercials, which offset a first-time decline in newspaper advertising. Food processors, however, showed a 3.4-percent drop, inferring a 10-percent decline, after adjusting for inflation. The drop was rather widespread among all food categories. The decline reflected a drop in advertising throughout the economy and some scaling down in expenditures due to mergers and leveraged buyouts.

Food safety concerns continued to escalate during 1989 and 1990. Food marketing firms are struggling to find appropriate responses. The industry generally is seeking stronger Federal, as opposed to State, food safety regulations. Some retailers and wholesalers are developing private pesticide residue testing and certification programs to supplement government-operated testing operations.

Measures of Conduct

The following indicators are used in this section to measure conduct, or competitive behavior, in the food marketing system.

- Advertising
- Promotions
- New product introductions
- New store formats
- Price discounting
- Menu variety
- Federal safety regulations

Figure 5
New food and grocery product introductions

New product introductions rose about 14 percent between 1988 and 1989.

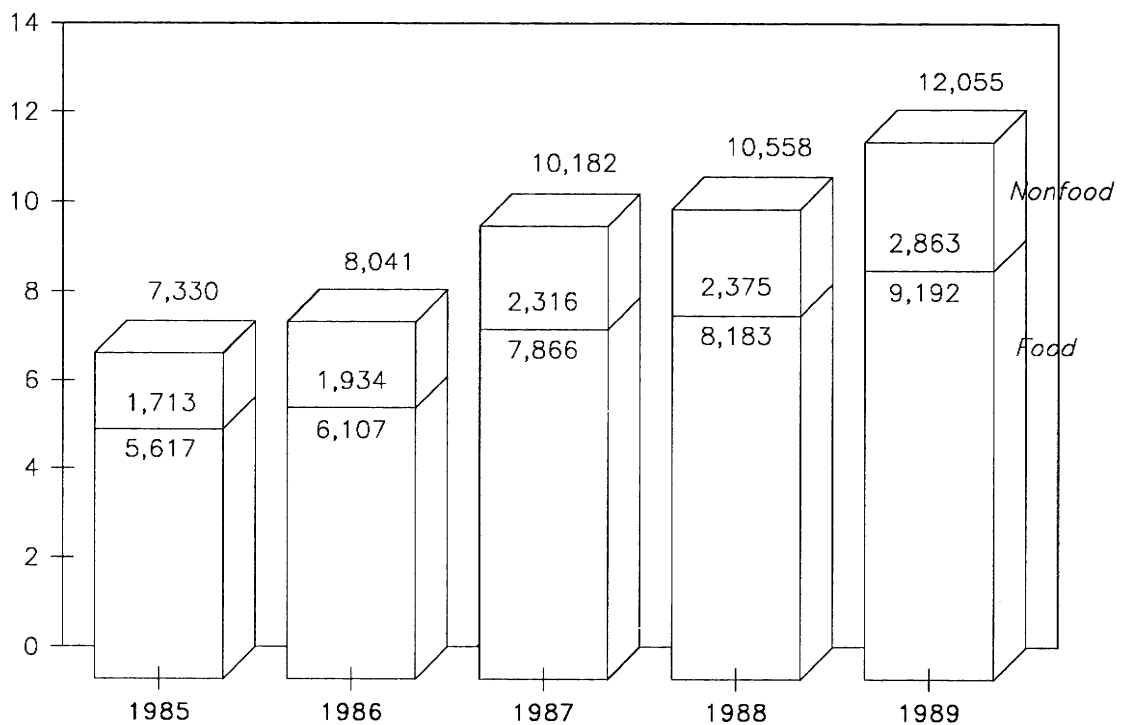
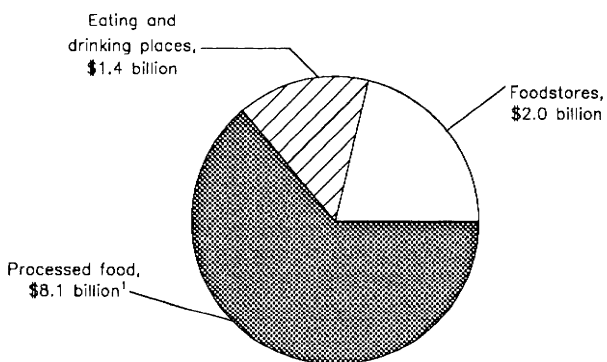


Figure 6
Food-related advertising, 1988

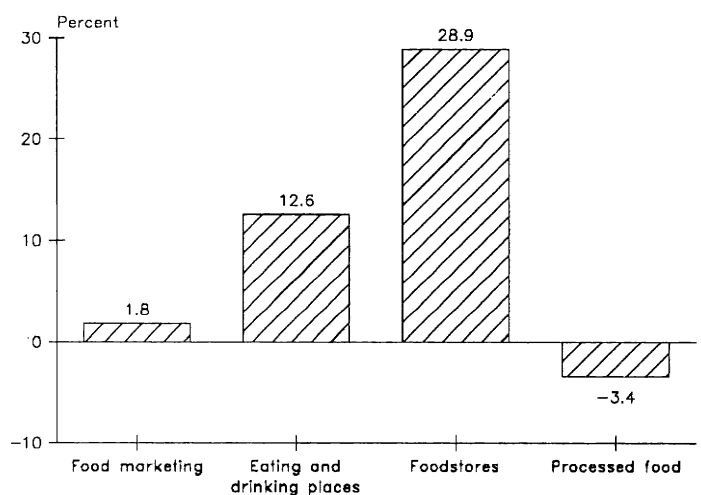
Food marketing firms spent \$11.5 billion in direct consumer advertising.



¹ Includes coupon redemptions.

Figure 7
Changes in nine media advertising expenditures between 1988 and 1989^{1, 2}

Advertising in food processing declined.



¹ Changes are for the first 9 months of 1988 to first 9 months of 1989.

² Nine media include network, spot, cable, and syndicated television; network and spot radio; billboards; magazines; and Sunday supplements.

Debt Rises Sharply; After-Tax Profits Fall

Debt of the Nation's food processors and retailers rose by nearly \$70 billion in 1989, largely to finance massive leveraged buyouts and mergers. After-tax profits fell sharply due to higher interest payments.

Total liabilities of food processors and retailers rose from about \$194 billion to nearly \$263 billion between the third quarter of 1988 and the fourth quarter of 1989 (fig. 8). Inflation, several successive years of major capital expansion, and normal asset growth accounted for a small portion of that growth. But the overwhelming portion of growth in liabilities was due to leveraged buyouts and mergers, and at that, several firms accounted for much of the increased debt. A selloff of some of these assets should further reduce debt. In the case of leveraged buyouts, after-tax proceeds that would normally be paid out as dividends are now paid as interest.

Debt. The equity-to-debt ratio of food manufacturers fell from 1.13 in the third quarter of 1988 to 0.77 in the fourth quarter of 1989, considerably below the 1.36 for all manufacturing corporations in 1989. The equity-to-debt ratio for food retailing fell from 0.56 to 0.36 during that same period (fig. 9). By comparison, the equity-to-debt ratio for all retailers was 0.69 during the fourth quarter of 1989.

Profits. After-tax profits of food retailers and food processors as a portion of sales dropped significantly from those of 1988, due to higher interest payments. Food processors' after-tax profits were about 4.2 percent of sales in 1989, compared with 5.5 percent in 1988. Food retailers' after-tax profits in 1989 were 0.7 percent of sales versus 0.9 percent of sales in 1988. Food processors' return on equity for this period fell from 20.9 percent to 16.9 percent (fig. 10). Income from operations, which exclude interest payments, rose sharply in both industries. However, after-tax profits between the food processing, retailing, foodservice, and wholesale grocery industries vary significantly, and even more so among individual firms. Discerning a true picture of industry profits is difficult because such a large portion of food sales are controlled by large diversified food marketing firms.

Measures of Performance

The following indicators are used in this and the following section to measure performance in the food marketing system.

- Debt
 - Stockholders' equity-to-debt ratio
- Profits
 - After-tax profits to sales
 - Return on stockholders' equity
- Expansion, modernization, and production capacity use
 - Capital expenditures
- Research and development
- Productivity
 - Output per hour
- Investment performance
 - Common stock prices
 - Owners' equity appreciation
- Participation in the global market
 - Foreign trade balance
 - Foreign investment

Figure 8
Total liabilities of food and tobacco processors and retailers

Liabilities rose sharply between 1988 and 1989 to accommodate buyouts and mergers.

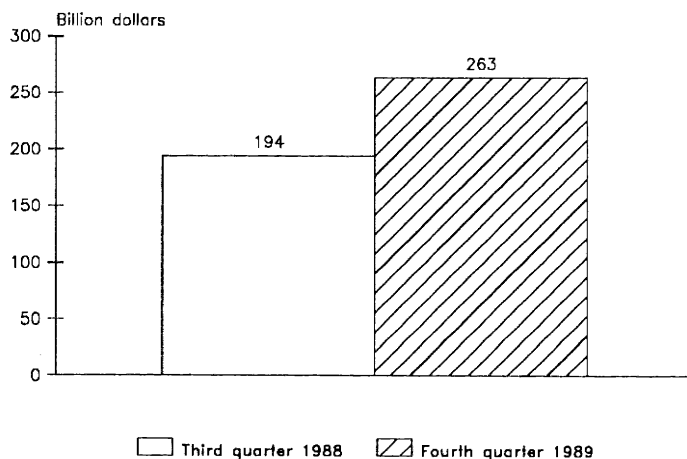


Figure 9
Total stockholders' equity to debt

Debt rose sharply in 1989.

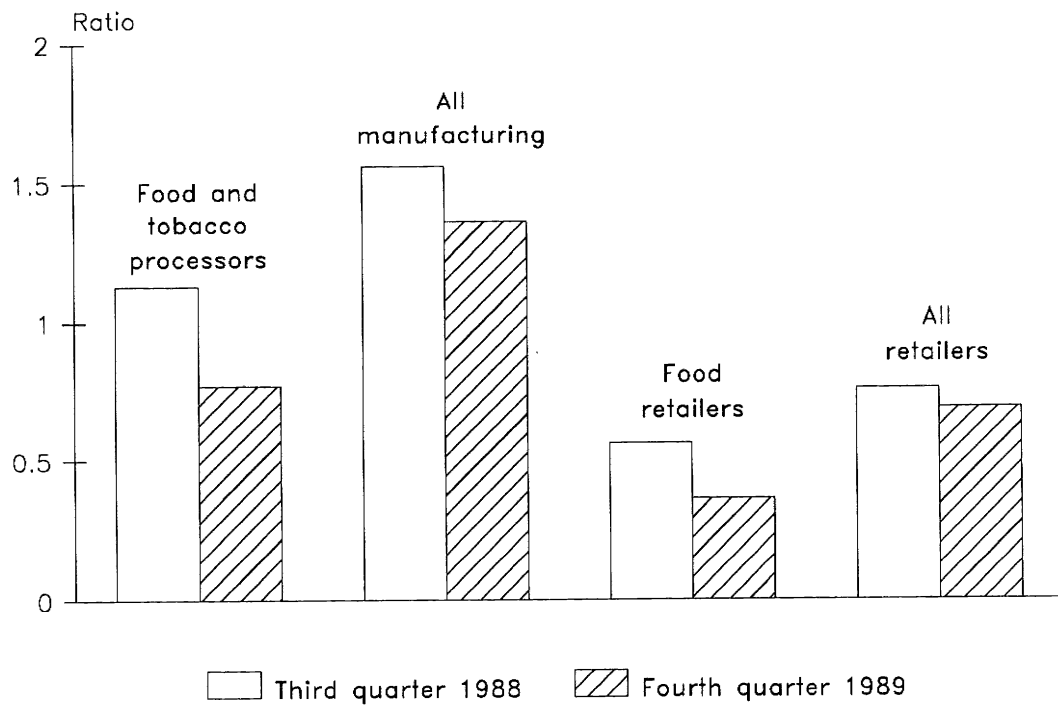
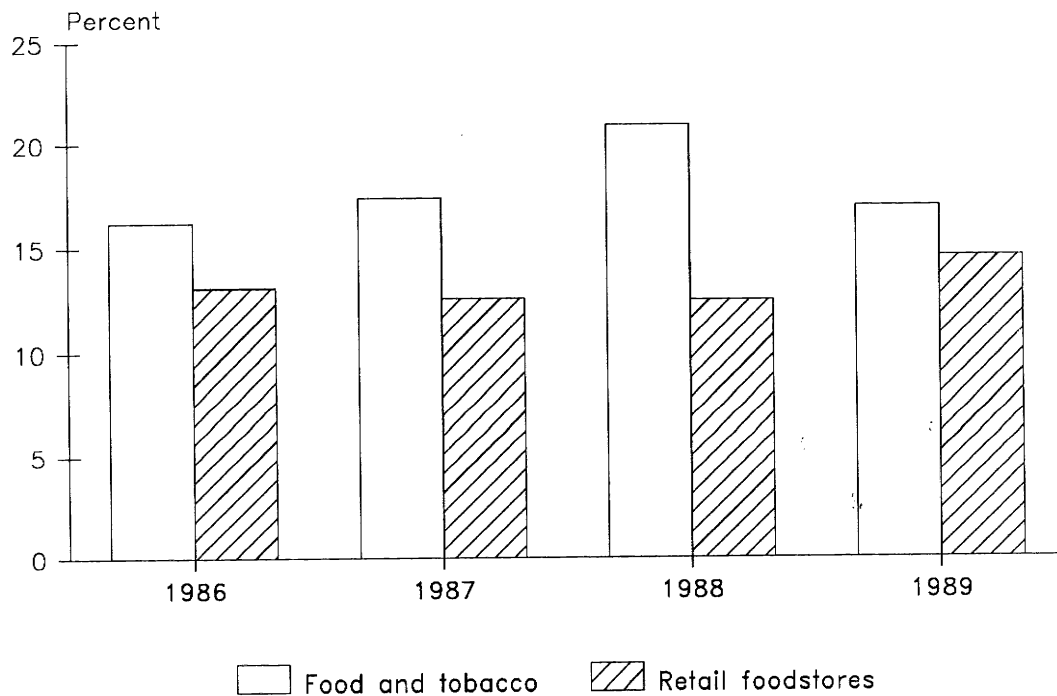


Figure 10
After-tax profits as a percentage of stockholders' equity

Profits declined for food manufacturers in 1989.



A Continuing Rise in Performance Measures Shows the Food Marketing System's Ability To Change

Capital expenditures in U.S. food processing rose sharply in 1989 for the second consecutive year. Productivity increased in most food processing industries in 1988 but declined for foodstores for the third consecutive year due to added services. The investment performance of owners' equity, as measured by increases in common stock prices, outpaced other sectors of the economy.

Capital expenditures, research and development, productivity, owners' equity, and global participation are important performance measures.

Capital Expenditures. Food processors spent an estimated \$9.4 billion on new plant and equipment in 1989, up about 16 percent over that of 1988 (fig. 11). Food processors undertook 379 new plant projects in 1989. In 1982, new capital expenditures for food wholesaling, retailing, and eating and drinking places accounted for about 30 percent of total food marketing capital expenditures. If this same pattern were maintained in 1989, the entire food marketing sector may have invested an estimated \$13 billion in plant and equipment expenditures. We do not yet have information on the extent to which firms used their existing capacity in 1989. But in the fourth quarter of 1988, food processing firms used 81 percent of existing capacity. The number of retail grocery stores fell by an estimated 1,000 stores in 1988, but new supermarkets continue to increase in size, averaging about 30,000 square feet per store. About 1,300 new fast-food restaurants opened in 1988.

Research and Development. R&D within the food marketing sector is largely conducted in the food and tobacco processing industries. Like most other non-durable manufacturing industries, food is not R&D intensive. In 1989, food and tobacco processors likely spent about \$1.3 billion, or about 0.4 percent of sales, on R&D. Only about 6 percent of this amount went to basic research. More than 60 percent of all R&D funds went to processing and new products. However, much of R&D in food and tobacco processing is purchased from other sectors, such as food packaging, computer, and machinery firms (much of the technological innovation for food processing comes from these sources). ERS estimates this amount to be about \$1 billion. USDA spent more than \$311 million on developing new products and processes, conducting health and nutrition research, expanding export markets, and improving market efficiency.

Productivity. Output per employee in 1988, the most recent data available on productivity, increased in food-

service industries but decreased in food retailing. This index of labor productivity also increased in some food processing industries, such as those for milk, sugar, and soft drinks. Output per employee declined for beer and bakery products and preserved fruits and vegetables after years of rapid growth.

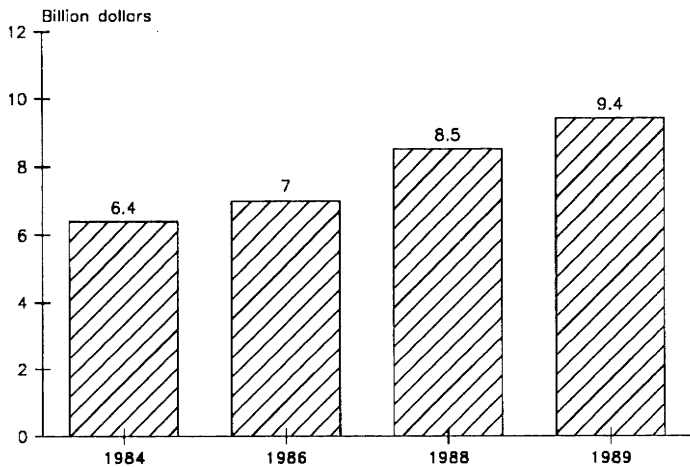
Owners' Equity. Another measure of performance is how well the food system has performed for its owners. One important measure of that performance is how well the common stock has performed. Over the past 7 years, the food system, even though a low-growth industry, has done extremely well. The Dow Jones Equity Market Index for all companies showed a threefold increase between 1982 and 1989 (fig. 12). Food processors showed a sixfold increase. Food retailers and wholesalers averaged more than five times greater. Beverages and soft drinks also outperformed the market. This trend continued in 1989, especially for food processing, which rose nearly 25 percent. Also, the price earnings ratio, a measure of how investors value the quality of an industry's earnings, was above average in both 1988 and 1989 for the food system. There are several reasons for this increase. First, part of the system's appreciation reflects speculation due to leveraged buyouts and mergers, many of which were very favorable to investors. Second, food processing and retailing profits have grown rapidly in recent years. Third, although food marketing is a slow-growth industry, it is nevertheless noncyclical, with stable growth in earnings and income.

Global Participation. The U.S. food marketing system continued to expand as the world's most global food system. This expansion is measured by the system's foreign trade balance, foreign investments, and the sales of its foreign subsidiaries. The United States is the world's leading importer and exporter of processed food, but continued its trade deficit in 1989 for the eighth consecutive year, with more than \$20 billion in imports and nearly \$18 billion in exports. The deficit in processed food trade dropped from \$2.7 billion in 1988 to \$2.3 billion in 1989 (fig. 13). An increase in foreign demand stimulated U.S. exports.

The U.S. global presence, however, is shadowed by foreign investment in the U.S. food marketing system. Direct foreign investment in the American food system amounted to \$24 billion in 1988, compared with \$17 billion invested by U.S. food firms abroad (fig. 14). The Netherlands, United Kingdom, and other Western European countries accounted for 90 percent of investment in the United States, while about 75 percent of U.S. in-

Figure 11
Plant and equipment expenditures in food processing industries, selected years¹

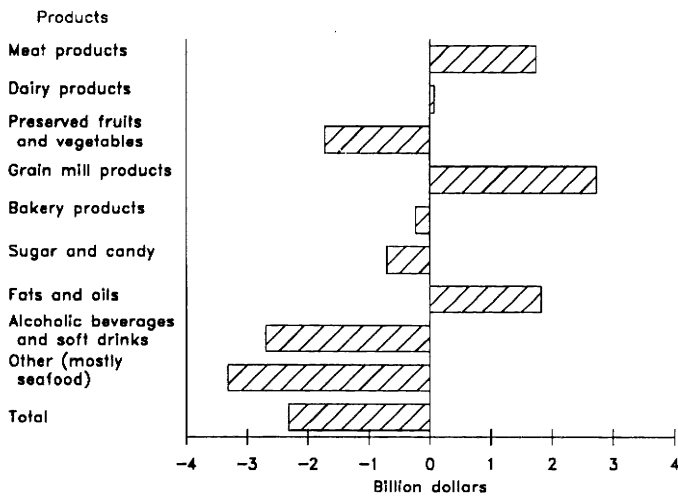
Food processors undertook 379 new plant projects in 1989.



¹ ERS estimate.

Figure 13
Trade balance in food processing, 1989

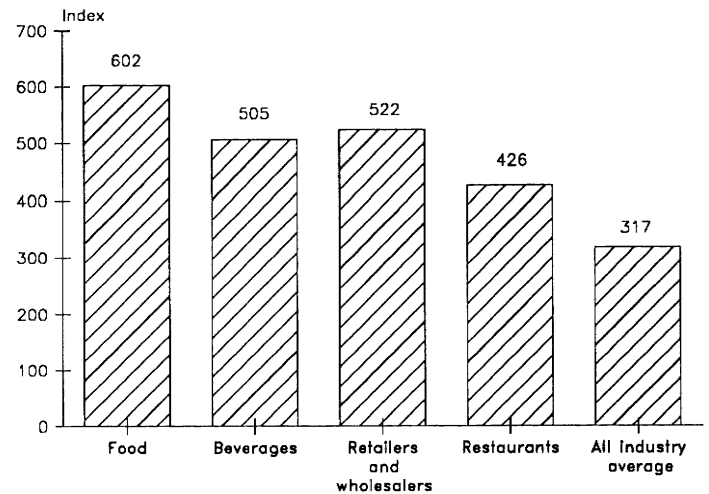
The deficit in processed food trade dropped \$400 million.



vestment abroad was in Europe and Canada. Foreign income from U.S. investment was about \$2 billion, while U.S. investors in the foreign food system had income remittances of more than \$3 billion. Sales from U.S. firms' foreign food marketing affiliates exceeded \$74 billion. Conversely, foreign firms' food marketing affiliates in the United States had sales of nearly \$59 billion.

Figure 12
Dow Jones Equity Market Indexes for the food marketing system as of November 1989¹

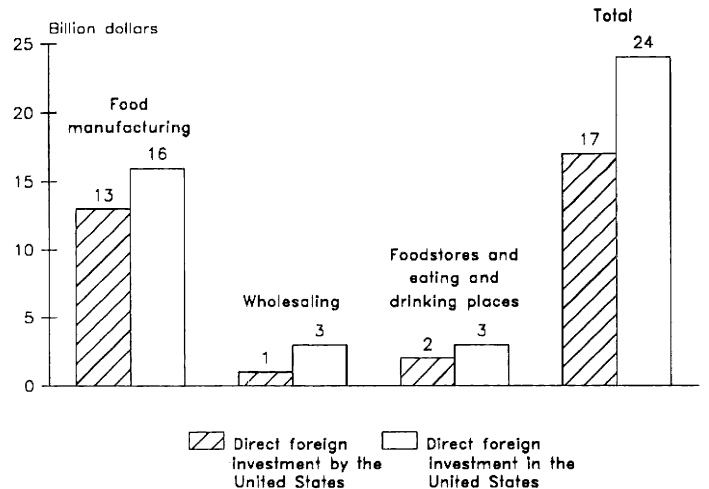
The index for all companies rose threefold between 1982 and 1989.



¹ June 30, 1982 = 100.

Figure 14
Foreign Investment in the food marketing system, 1988¹

Western Europe accounted for 90 percent of investment in the United States; about 75 percent of U.S. investment abroad went to Europe and Canada.



¹ Totals may not add to 100 due to rounding.

Merger Activity Slowed in 1989

Reduced merger activity followed 1988's 573 announced or completed mergers and leveraged buyouts, which were worth \$61 billion, the most spectacular level in U.S. history. However, changing structure dominated the food system during the entire decade of the 1980's.

In 1989, a number of the mergers and leveraged buyouts announced in 1988 went to actual closing, such as that for RJR Nabisco. Preliminary data for 1989 indicate that new transactions dropped sharply from those of 1988, not only in dollar magnitude but in number as well. The number of acquisitions (purchase of a company or subsidiary) fell from 652 in 1988 to 556 for 1989 according to the Food Institute. These data include merger activity in such related industries as packaging and supplies (table 1).

Last year's decline in activity is not surprising. The record pace of industry restructuring through the 1980's has certainly reduced the number of likely merger and leveraged buyout candidates. More significantly, the high yield, high risk ("junk") bond market sharply weakened toward the end of 1989, drying up a major source of financing. Financial institutions also appeared more reluctant to provide financing.

The focus of restructuring activity in 1989 appeared to be in the adjustments made by newly leveraged or merged firms. Divestiture activity in food marketing is strong; nearly 50 percent of all acquisitions are divestitures. Given that a number of leveraged buyouts are speculative in nature, a number of spinoffs were sold in the same year of closing. RJR Nabisco's gross proceeds from these divestitures, both foreign and domestic, amounted to \$5.5 billion in 1989. The impact of these adjustments on conduct and performance, vis-a-vis higher interest payments because of higher debt loads, scaling down of staffs, capital expenditures, and profitability, is analyzed in the domestic performance and conduct sections.

Aggregate concentration rose sharply in food processing, wholesaling, and foodservice because of merger and acquisition transactions between 1988 and 1989. The top three firms' share of market rose from 9.5 percent to 13 percent in food processing. Aggregate concentration in food retailing has remained nearly constant.

Changing structure has dominated the food system during the entire decade of the 1980's, and 1989 was no exception. Between 1982 and 1988, the years during which ERS monitored complete data, nearly

3,400 mergers, divestitures, or leveraged buyouts took place in the food marketing system. Food processing, which had 16,800 companies in 1982, had more than 2,000 of these transactions during that period, while food wholesaling merger transactions numbered nearly 400. Food retailing and foodservice each had nearly 500. In 1988, the food marketing system announced or completed the largest magnitude and number of mergers and leveraged buyouts in U.S. history, costing more than \$60 billion. The nearly \$25-billion leveraged buyout of RJR Nabisco, Inc., the largest in U.S. economic history, exceeded the combined value of history's five largest food marketing mergers. In the food processing sector, Phillip Morris Companies, Inc., acquired Kraft, Inc., at a cost of nearly \$13 billion. Food wholesaling underwent its largest merger when Fleming Companies, Inc., acquired Malone and Hyde, Inc. The four largest leveraged buyouts in history were all in the food marketing system (table 2).

Measures of Structural Development

The following indicators are used to measure structural development in the food marketing system.

- Mergers—The combination of two or more firms into one.
- Acquisitions—The purchase of a business unit or subsidiary.
- Divestitures—Selling of a business unit or subsidiary.
- Leveraged buyouts—The purchase of the common stock of a company through debt-financing, pledging assets of the new company as collateral.
- Changes in number of companies and establishments.

There were 573 mergers and acquisitions in food industries (excluding the related industries shown in table 1) in 1988 (table 3), of which 46 each cost more than \$100 million. Many of the acquisitions were also divestitures, as only part of the firm was acquired. Among recorded transactions in food processing, 22 foreign buyers brought U.S. food companies with a value of \$8.6 billion, while U.S. food marketers pur-

chased 14 foreign firms at \$1.6 billion. Acquisition leaders in the United States were Borden, Kraft, Inc., ConAgra, Inc., IC Industries, Inc., and H.J. Heinz Company. Quaker Oats, RJR Nabisco, Inc., and Beatrice Companies were among the leading divestitures. Food processing mergers numbered 355, while retailing mergers rose to 76. There were 71 mergers in wholesaling and 75 in foodservice.

Table 1—Food business mergers and acquisitions, 1988 and 1989

New transactions dropped sharply in 1989, both in dollar amounts and in number.

Category	Total acquisitions		Individual purchasers	Acquisitions of firms outside food industry
	1988	1989		
	<i>Number</i>			
Agricultural cooperatives	4	(5)	4	1
Bakers	27	(19)	18	0
Brewers	3	(1)	2	1
Brokers	14	(11)	14	0
Confectioners	10	(12)	9	0
Dairy processors	14	(19)	10	14
Diversified firms with interests in the food industry	4	(31)	1	0
Food processing firms	107	(136)	5	66
Foodservice vendors	29	(31)	23	1
Hotel and lodging companies	6	(1)	5	NA
Nonfood marketers selling through supermarkets	7	(7)	6	NA
Packaging suppliers	25	(27)	17	NA
Poultry processors	5	(7)	5	0
Primary products companies	47	(18)	40	5
Restaurant and foodservice concerns	57	(74)	54	1
Retailers:				
Convenience stores	16	(18)	15	0
Supermarkets	26	(42)	25	0
Others	9	(13)	8	6
Seafood processors	4	(5)	3	0
Snack food processors	6	(12)	6	0
Soft drink bottlers	12	(18)	7	0
Sugar refiners	1	(0)	1	0
Suppliers to the food industry	3	(9)	3	NA
Unclassified and private investors	21	(30)	21	3
Wholesalers	21	(29)	20	0
Foreign acquisitions:				
U.S. firms/subsidiaries	55	(29)	54	11
U.S. operations of foreign firms	4	(6)	4	1
Foreign operations of U.S. firms	6	(8)	6	2
By Canadian firms	10	(14)	10	0
Total	556	(652)	459 (521)	52 (59)

Note: Numbers in parentheses represent totals for 1988.
NA = Not available.

→ This number includes the 573 mergers and acquisitions shown in table 3.

Table 2—Ten largest going-private leveraged buyouts in history*The four largest leveraged buyouts were in the food marketing system.*

Acquisition	Target	Price	Year	Industry
		<i>Billion dollars</i>		
Kohlberg Kravis Roberts and Co.	RJR Nabisco, Inc.	24.72	1989	Tobacco, food
Kohlberg Kravis Roberts and Co.	Beatrice Cos., Inc.	6.25	1986	Food
Kohlberg Kravis Roberts and Co.	Safeway Stores, Inc.	5.34	1986	Supermarkets
Thompson Co.	Southland Corp.	4.00	1987	Convenience stores
AV Holdings Corp.	Borg-Warner Corp.	3.76	1987	Automotive, industrial products
Kohlberg Kravis Roberts and Co.	Owens-Illinois, Inc.	3.69	1987	Glass
TF Investments, Inc.	Hospital Corp. of America	3.69	1989	Health care
FH Acquisition Corp.	Fort Howard Corp.	3.59	1988	Paper
Macy Acquisition Corp.	R.H. Macy and Co., Inc.	3.50	1986	Department stores
Pandandle Eastern Corp.	Texas Eastern Corp.	3.22	1989	Pipeline

Table 3—Mergers and divestitures in food marketing, 1987 and 1988*Of the 573 mergers and acquisitions in 1988, 46 cost more than \$100 million.*

Sector	Acquisitions						Divestitures	
	By U.S. firms in sector		By other firms		Total		1988	1987
	1988	1987	1988	1987	1988	1987		
	<i>Number</i>							
Processing	229	220	122	81	351	301	161	116
Wholesaling	49	44	22	27	71	71	32	12
Retailing	41	39	35	26	76	65	51	34
Foodservice	46	56	29	21	75	77	29	35
Total	365	359	208	155	573	514	273	197

Acknowledgments

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Would You Like More Information?

This report summarizes a more detailed report, *Food Marketing Review, 1989*, to be published in fall 1990. The full report includes detailed data on mergers, sales, concentration, advertising, product industries, profits, productivity, plant and equipment expenditures, equity performance, prices, and international performance measures. It also includes charts and a sizable appendix.

To receive ordering information when the report is issued, send your name and address to the Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture, Room 1112, 1301 New York Avenue, NW., Washington, DC 20005-4788. Call Anthony Gallo at (202) 786-1866 for information.

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