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Research
Service

Agricultural
Economic
Report
Number 657

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Food Marketing Review, 1991



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Abstract

Retail sales of the U.S. food marketing system were flat in 1990 and declined in 1991, after adjustments for price increases, due to the recession. Nevertheless, food manufacturers and retailers showed continued increases in profitability from operations (excluding interest expense), reflecting wage and producer price stability and streamlining of operations. Food manufacturing and retailing continue to be among the most highly leveraged U.S. industries because of large leveraged buyouts in the late 1980's. Mergers and leveraged buyout transactions fell sharply in 1990 and 1991 from the phenomenal levels of recent years in both volume and value. Competition among larger and fewer firms for a share of the food dollar and limited shelf space was reflected in record new product introductions, consumer advertising expenditures, and retail promotions, including payments to retailers to stock new products. But even in some highly concentrated industries, price discounts appeared prevalent. The system's performance continued its spectacular strength of recent years as reflected in increased globalization, higher levels of new plant and equipment expenditures, and outstanding performance for common stock owners.

Note: Use of brand or firm names in this publication does not imply endorsement by the U.S. Department of Agriculture.

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Contents

Summary	iii
Glossary	v
Introduction	1
Sales	1
Economic Climate	3
Structure and Organization	4
Conduct	6
Performance	8
International Performance	12
Food Manufacturing	17
Size	18
Economic Climate	18
Structure and Organization	19
Market Competition	21
Domestic Performance	23
International Performance	29
Food Wholesaling	31
Sales	32
Structure and Organization	32
Sector Trends	34
Performance	37
Food Retailing	39
Sales and Sales Growth	40
Structure and Organization	42
Foreign Investment	44
Employment and Wages	46
Performance	46
Food Service	49
Sales	50
Structure and Organization	50
Performance	55
References	59
List of Appendix Tables	61
Appendix Tables	64

Summary

Retail sales of the food marketing system failed to keep up with inflation in both 1990 and 1991, but likely reached \$750 billion in 1991. The food system's share of disposable income averaged 11.7 percent.

Other highlights include:

- The food system added a projected \$505 billion in value to the \$109 billion of U.S. farm products, \$21 billion in foreign agricultural commodities, and \$9 billion in seafood products purchased in 1991. Although food manufacturers, retailers, wholesalers, and foodservice firms still comprise the Nation's largest sales marketing system, the food system's contribution to GNP was likely less than 9.5 percent in 1991, compared with nearly 12 percent in 1970.
- Despite poor sales growth, profitability from operations of processors and retailers rose in both 1990 and 1991, reflecting wage and price stability. Aftertax profitability rose in both years, but was lower than in 1988 due to higher interest payments. Food retailing and manufacturing paid out an estimated \$7 billion in dividends and \$25 billion in interest in 1990.
- Merger activity fell sharply in 1989, 1990, and again in 1991, following the spectacular activity of 1985 to 1988. Recorded mergers and leveraged buyouts (LBO's) amounted to \$14 billion in 1989 and \$9 billion in 1990. There were 476 mergers and LBO's in 1989 and 350 in 1990.
- Debt levels in both 1990 and the first half of 1991 rose only slightly to about \$270 billion, but in 1991, food retailers and manufacturers were still among the most leveraged industries in the U.S. economy.
- Capital expenditures at the corporate level rose to an estimated \$17.7 billion in 1991. Over 450 new plant projects were initiated in 1990. Productivity, as measured by output per labor hour, increased in most food processing industries in 1989, but probably declined throughout the system in both 1990 and 1991.
- Although the investment performance of owners' equity moderated sharply in 1990 and the first half of 1991, the food marketing system's common stock prices outpaced other sectors of the economy for the eighth consecutive year. Price/earning ratios for all four sectors were above the market average.
- On the cost side, wages rose less than inflation for the ninth consecutive year in 1991. Manufacturers' purchase prices of farm foods rose 6 percent in 1990 and probably 5 percent in 1991.
- Competition among manufacturers for consumer preference and scarce shelf space was expressed in both price and nonprice firm conduct. Although average retail food prices in grocery stores climbed 6.5 percent in 1990, sharp competition in even concentrated industries such as pasta, soft drinks, and canned tuna fish resulted in selective price wars. Consumer advertising

reached nearly \$12 billion in 1990. Manufacturers' efforts to acquire greater shelf space continued at a high level. Despite the economic slowdown, nearly 13,000 new grocery products were introduced in 1990 and another 15,000 in 1991.

- The food system continues its global thrust in 1991. The international performance of the U.S. food marketing system is measured by its balance of trade, sales from foreign operations, and foreign investment. The trade deficit in the U.S. processed food sector continued for the eighth consecutive year. Foreign affiliates of U.S. firms had sales of \$60 billion in 1988, while U.S. food marketing affiliates of foreign firms had sales of \$30 billion.

Glossary

Aggregate concentration. The share of output in a sector (say, food manufacturing) that is produced by the largest firms.

Acquisition. Purchase of a company.

Chain. A food retailer or foodservice operator owning 11 or more stores or outlets.

Disposable personal income (DPI). Income that individuals retain after they have deducted taxes.

Divestiture. The sale of a unit (a factory, a division, or a subsidiary) of a firm, either to another firm, to management of the unit, or to independent investors.

Food manufacturing. Activities that typically use power-driven machines and materials-handling equipment to mechanically or chemically transform raw materials into foods and beverages for human consumption. Certain related industrial products, such as feeds, and vegetable and animal fats and oils, are also produced here.

Food service. The dispensing of prepared meals and snacks intended for onpremise or immediate consumption. The following products qualify as food service when other foods are not available: candies, popcorn, pretzels, nuts, and drinks. Vended foods qualify as food service only when tables or counters are available in the immediate area and a person with records of food receipts is present at the establishment.

Commercial establishments. Public establishments (freestanding or part of a host establishment) that prepare, serve, and sell meals and snacks for profit to the general public.

- **Drinking places.** Establishments with food service that do not operate as subordinate facilities of different and separately identifiable kinds of businesses and the primary function of which is the sale of alcoholic beverages for consumption on the premises. Includes bars, beer gardens, taverns, nightclubs, and saloons.
- **Eating places.** Establishments that do not operate as subordinate facilities of different and separately identifiable kinds of businesses and the primary function of which is the sale of prepared meals and snacks for onpremise or immediate consumption. Includes restaurants, lunchrooms, fast-food outlets, and cafeterias.
- **Lodging places.** Establishments that provide both lodging and food service to the general public. Included are hotels, motels, and tourist courts. Excluded are rooming and boarding houses and private residences.

- **Recreation/entertainment.** Foodservice operations in theaters; bowling, billiard, or pool halls; commercial sports establishments (racetracks and stadiums); membership golf or country clubs; public golf courses; and miscellaneous commercial amusement and recreational establishments (tennis clubs, camps, athletic clubs, and amusement parks).

Retail hosts--Foodservice operations that operate in conjunction with or as part of retail establishments, such as department stores, limited-price variety stores, drugstores, and miscellaneous retailers.

Noncommercial establishments. Establishments where meals and snacks are prepared and served as an adjunct, supportive service to the primary purpose of the establishment. Includes schools, colleges, hospitals and extended care facilities, vending areas, plants and offices, correctional facilities, military feeding, and transportation (trains, cruise ships, and airplanes).

Foodstore. A retail outlet with at least 50 percent of sales in food products intended for offpremise consumption.

Grocery store. A foodstore that sells a variety of food products, including fresh meat, produce, packaged and canned foods, frozen foods, other processed foods, and nonfood products.

- **Supermarket.** A grocery store, primarily self-service in operation, providing a full range of departments, and having at least \$2.5 million in annual sales (1985 dollars).

Combination food and drugstore--A supermarket containing a pharmacy, a nonprescription drug department, and a greater variety of health and beauty aids than that carried by conventional supermarkets.

Hypermarket--The largest supermarket format, with general merchandise items accounting for up to 40 percent of sales.

Superstore--A supermarket distinguished by its greater size and variety of products than conventional supermarkets, including specialty and service departments, and a considerable inventory of general merchandise products.

Warehouse store--A supermarket with limited product variety and fewer services provided, incorporating case lot stocking and shelving practices. Superwarehouse stores are larger and offer expanded product variety and often service meat, delicatessen, or fresh seafood departments.

- **Convenience store.** A small grocery store selling a limited variety of food and nonfood products, typically open extended hours.

- **Superette.** A grocery store, primarily self-service in operation, selling a wide variety of food and nonfood products with annual sales below \$2.5 million (1985 dollars).

Specialized foodstore. A foodstore primarily engaged in the retail sale of a single food category such as meat and seafood stores, dairy stores, candy and nut stores, and retail bakeries.

Foreign affiliate. A company or firm operating in a foreign country that is ultimately owned or controlled by a U.S. company or firm.

Foreign investment. Ownership of domestic assets by foreign persons or firms.

Gross margin. Retailer markup (over cost) as a percentage of total sales.

Gross national product (GNP). Dollar value of all goods and services sold plus the estimated value of imported goods and services during a given period.

Independent. A food retailer or foodservice operator owning 10 or fewer stores or outlets.

Leveraged buyout (LBO). Purchase of the common stock of a company through debt-financing, pledging the assets of the new company as collateral.

Merger. The combination of two or more firms into one.

Horizontal merger. A combining of two firms producing the same or similar products in the same market.

Megamerger. A very large merger.

Parent firm. A company or firm that has ultimate ownership or control over another company or firm.

Productivity growth. Measures of the rate of growth of output, relative to the growth of inputs (labor, capital, and materials) used to produce that output.

Subsidiary. Also referred to as an **affiliate**. A company or firm that is ultimately owned or controlled by another company or firm.

U.S. affiliate. A company or firm operating in the United States that is ultimately owned or controlled by a foreign entity.

Wholesalers. Operators of firms engaged in the purchase, assembly, transportation, storage, and distribution of groceries and food products for resale by retailers; institutions; and business, industrial, and commercial users.

Agents and brokers. Wholesale operators who buy or sell on the account of others for a commission and who usually do not store or physically handle products.

Manufacturers' sales branches and offices. Wholesale operations maintained by grocery manufacturers (apart from their manufacturing plants) for sales and distribution purposes.

Merchant wholesalers. Operators of firms primarily engaged in buying and selling groceries and grocery products on their own account.

- ***General line wholesale merchants.*** Merchants handling a broad line of dry groceries, health and beauty aids, and household products.
- ***Limited line wholesale merchants.*** Merchants who handle a narrow range of dry groceries dominated by canned foods, coffee, spices, bread, and soft drinks.
- ***Specialty wholesale merchants.*** Merchants who handle perishables, such as frozen foods, dairy products, poultry, meat, fish, fruit, and vegetables.
- ***Wholesale club.*** A hybrid wholesale-retail establishment selling food, appliances, hardware, office supplies, and similar products to its individual and small-business members at prices slightly above wholesale.

Food Marketing Review, 1991

Introduction

In both 1990 and 1991, the food system, now one of the Nation's most leveraged sectors, continued its restructuring, global thrust, automation, and competition for the consumer dollar. The U.S. food marketing system will contribute about 9.5 percent of the gross national product in 1991 after purchasing a projected \$109 billion of agricultural commodities from the U.S. farm sector. A smaller portion of the Nation's resources are being used each year to feed a larger population, but to compete in a slow growth market, firms are issuing record numbers of new products and competing for retail shelf space in a system increasingly dominated by fewer but larger firms. Despite its slow growth, the system continued its profitability and outstanding performance for its common stockholders in 1990. For the third consecutive year, merger and leveraged buyout activity probably declined in both volume and value in 1991.

This report examines these and other developments in the U.S. food marketing system, encompassing all firms servicing the U.S. food supply such as manufacturing, wholesaling, and retailing. Much of the yearly and other periodic data used in this report are provided by U.S. Government agencies. Other data are derived from publications of consulting firms, trade associations, academic research, and trade publications.

Because availability of information differed, various sections of this report treat industry scope, analysis of market levels, and emphasis on relevant variables in different ways. Some of the analysis is based on 1982-87 census data, the most recent available (49).¹ These data represent the most complete information for measuring the structural and performance characteristics of food marketing industries. Sections on individual industries contain later data from secondary sources, including trade journals and statistics by Government regulatory agencies.

¹ Numbers in parentheses and underlined identify literature cited in the References at the end of this report.

Where possible, we have made annual estimates from Bureau of the Census data which are available every 5 years.

Sales

Economic conditions were not favorable to increasing consumer food demand in 1990 and 1991. The decline in the general economy was reflected in the food system's real sales growth in both 1990 and 1991. In 1990, the food system's retail sales, adjusted for price and population increases, showed a 0.5-percent decline. The food marketing system's share of disposable personal income averaged 11.8 percent (fig. 1). Total sales of items purchased at foodstores and foodservice establishments, packaged alcoholic beverages, drinks purchased at eating and drinking places, and nonfood items purchased in retail foodstores reached an estimated \$731 billion, 5.5 percent above 1989 but less than the 5.8-percent increase in retail food prices (fig. 2). For 1991, sales will likely rise to \$753 billion.

About \$286 billion was spent in retail foodstores and \$251 billion in foodservice establishments in 1990. The 5.1-percent increase in retail foodstore sales was far short of the 6.4-percent increase in foodstore prices. The 6.9-percent increase in foodservice sales was partially offset by a 4.7-percent increase in restaurant prices.

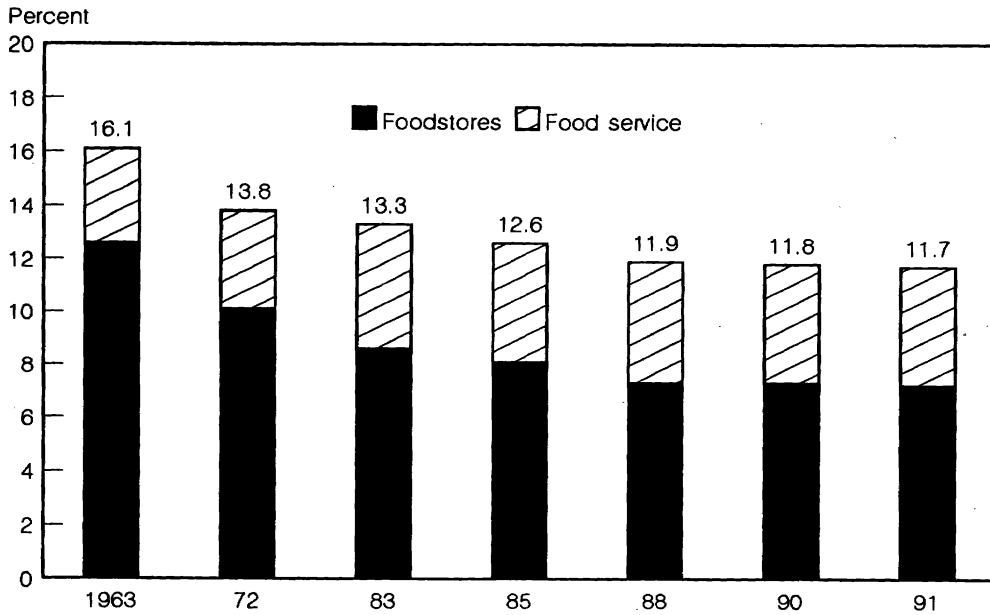
The alcoholic beverage market, which accounts for about 11 percent of sales in the food marketing system, continues to reflect lower consumption. Alcoholic beverage sales accounted for \$80 billion of food marketing sales in 1990. Over \$45 billion was in the form of packaged alcoholic beverages, while alcoholic drinks served in restaurants and other institutions likely was nearly \$35 billion. Distilled spirits in 1990 probably were about 32 percent of total alcoholic beverage consumption, while beer likely was nearly 56 percent. Wine sales appear to have fallen to about 12.4 percent of the total.

The nonfood component of retail sales likely amounted to about \$114 billion. Nonfood groceries include tobacco, health and beauty aids, detergents,

Figure 1

Food marketing system's share of disposable personal income, selected years¹

Share of income fell for the 11th consecutive year in 1990

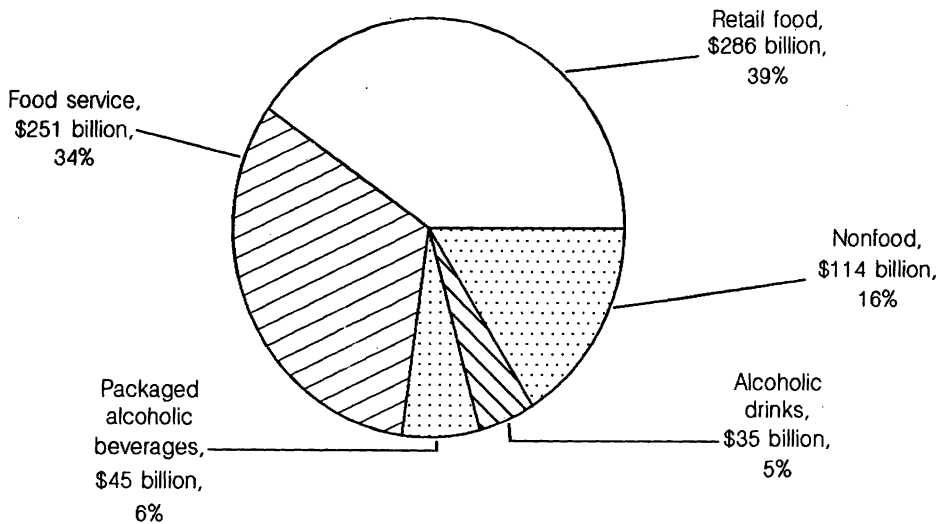


¹Excludes alcohol and nonfood groceries.
Source: (48).

Figure 2

Food marketing sales, 1990

Food marketing sales rose 5.5 percent to \$731 billion



Source: (25).

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 foodservice category.

Economic Climate

Following 7 years of uninterrupted expansion, real growth in the economy slowed significantly in 1990 as the economy slipped into recession in the second half of the year. This trend continued throughout 1991. Slow growth in the early part of 1990 and extreme weakness at the end of the year pulled real growth for 1990 down to 0.9 percent from 2.5 percent in 1989 and 4.5 percent in 1988. Total employment continued to rise from 1988 to the middle of 1990, but the manufacturing sector began to lose jobs in early 1989. By the middle of 1990, total employment also began to fall, and the declines continued through the end of the year. The unemployment rate, which was 5.2 percent in January, rose to 6 percent in December as more than a million Americans became unemployed. Real per capita disposable income declined in 1990 for the first time since 1982. Only the population growth of 2.5 million people was favorable to the demand for the food marketing system's products.

This economic climate, though hurting food sales, was favorable to the food marketing system for the eighth consecutive year in terms of costs. The food system is labor-intensive and sensitive to farm prices. The system is also highly leveraged, advertising-intensive, and global. Thus, 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 1990. In 1991, only the strengthened dollar adversely affected the food system.

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 4.8 percent in 1990 compared with 5.4 percent in 1989 (fig. 3). The PPI for intermediate foods and feeds, an indicator of changes in prices food processors pay one another, increased 4.6 percent compared with 6.3 percent in 1989. The PPI for crude foodstuffs, or prices paid by food manufacturers at 37 major markets, rose 1.8 percent compared with 4.7 percent in 1989. The 1990 index reflected a sharp drop in

grain, oilseed, and poultry prices. Partially offsetting this decline were higher prices for red meats. By July 1991, the PPI for finished consumer foods was about the same as a year earlier.

For the ninth consecutive year, labor costs, which include hourly earnings and fringe benefits, constituted the major expense item for the food marketing system in 1991. In 1990, the food marketing system had about 12.4 million full- and part-time employees. Over 6.5 million workers were employed in food service, and more than 3.3 million were employed in food retailing. About 1.6 million people were employed in food processing, and nearly 850,000 worked in grocery wholesaling. Average hourly earnings in food retailing and food processing increased 3 percent. However, employee benefits account for about 20 percent of labor costs, and these have been rising sharply in recent years. In food retailing, wage concessions, benefit reductions, and lump-sum payments in lieu of wage hikes were sometimes negotiated, continuing a decade-old trend. Wages in eating and drinking places averaged 4.7 percent higher, at \$4.94 per hour.

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 8 percent for nighttime network television to 2 percent for business publications.

The cost per targeted television viewer rose sharply due to lower viewership.

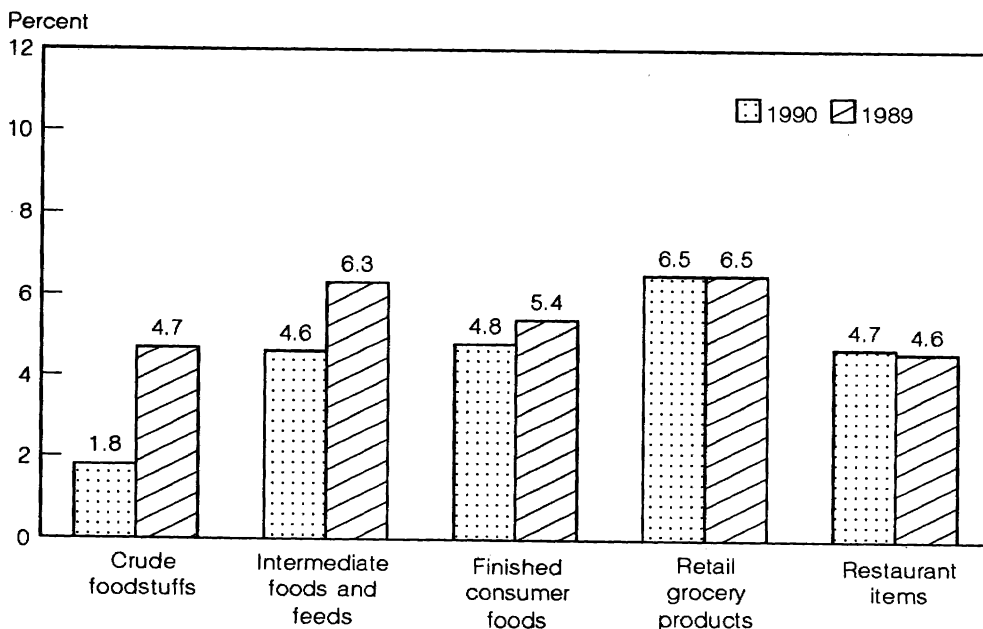
Lower interest rates benefited the food system in both 1990 and 1991. The prime interest rate averaged 10 percent in 1990 compared with 10.7 percent in 1989. Short-term rates also dropped, as reflected in a fall in 3-month Treasury bills from 8.12 percent in 1989 to 7.51 percent in 1990. Long-term corporate bond rates averaged about 9.3 percent, the same as in 1989. By the third quarter of 1991, the prime rate had fallen to 8.5 percent.

The value of the U.S. dollar fell sharply in 1990. The trade-weighted value of the U.S. dollar fell from 100.5 to 83.0 (100 = 1973) between the second quarter of 1989 and the last quarter of 1990. This decline favorably affected 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. However, the trade-weighted index rose sharply in 1991, reaching 95.2 by July.

Figure 3

Price increases in the food marketing system, 1989 and 1990¹

Low farm prices and a minimal rise in wages held down increases in the prices producers paid for food and feed inputs in 1990



¹Preliminary.
Source: (67).

The U.S. Department of Agriculture's Economic Research Service (ERS) estimates that in 1990 the food system purchased about \$109 billion in animal and crop products from the U.S. farm sector, about two-thirds of domestic production. An additional \$21 billion was spent on imported agricultural products, and \$9 billion was spent on seafood. To this base of \$138 billion in raw agricultural and fishery products, the food system added an estimated \$505 billion in value in 1990 compared with \$491 billion in 1989 (fig. 4). Food processors added about \$94 billion in 1989, while wholesalers, retailers, and transportation firms added another \$142 billion. The contribution of 400,000 separate eating and drinking places to value added topped \$72 billion in 1990.

Structure and Organization

In 1990, mergers and leveraged buyout transactions in the food marketing system dropped sharply for the second consecutive year, both in dollar magnitude and in number. The number of acquisitions (purchases of a company or subsidiary) fell from 652 in 1988 to 556 in 1989 and 416 in 1990, according to the Food Institute (table 1). These data include merger activity in such related industries as packaging and supplies. The number of mergers within the food marketing system fell from 573 in 1988 to 467 in 1989 and 350 in 1990 (fig. 5).

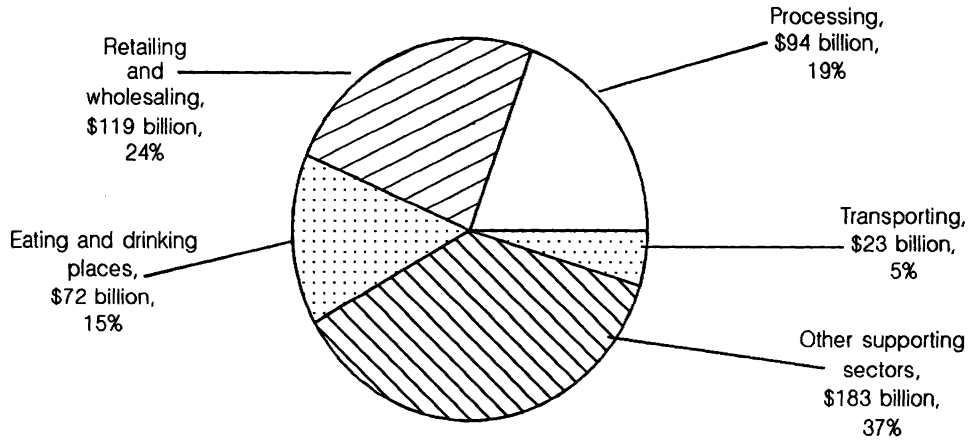
The decline in the value of these transactions is even more striking. The value of food marketing mergers and leveraged buyouts that cost more than \$100 million fell from a high of \$61 billion in 1988 to \$14 billion in 1989 and \$9 billion in 1990 (fig. 6). Only two mergers had a value greater than \$1 billion in 1990, Philip Morris/Suchard and ConAgra/Beatrice (table 2).

Last year's decline in activity is not surprising. The record pace of industry restructuring through the 1980's certainly reduced the number of likely merger and leveraged buyout candidates. The high-yield, high-risk ("junk") bond market sharply weakened in 1990, drying up a major source of financing. Financial institutions were reluctant to provide financing, and 1990 and 1991 were recession years.

The focus of activity in 1990 was in adjustments made by leveraged and merged firms. To reduce debt, two large food marketing firms that had both become private in the late 1980's issued common stock, thus going public again. The effect of the large megamergers on the conduct and performance of the food marketing sector is still unclear. Between 1982 and 1990, nearly 4,500 mergers, divestitures, and leveraged buyouts took place in the food marketing system, including some of the largest transactions in U.S. history. Two results are clear. Aggregate concentration increased in food

Figure 4
Value added in food marketing, 1989¹

The \$491 billion added to raw products in 1989 compares with a preliminary estimate of \$505 billion in 1990

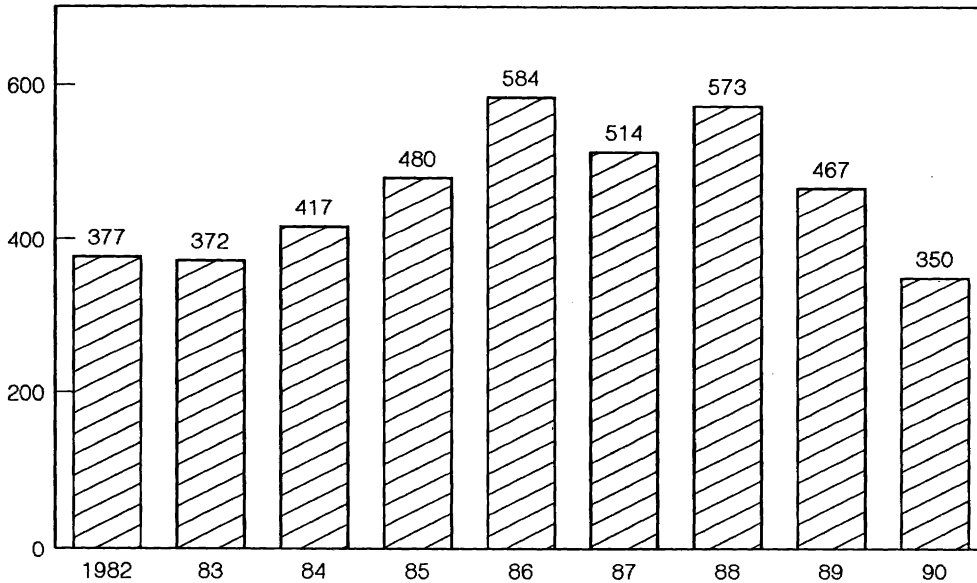


¹Percentages do not add to 100 due to rounding.
 Source: (12).

Figure 5
Food marketing mergers¹

Merger activity slowed for the second consecutive year in 1990

Number



¹Excludes some acquisitions by nonfood marketing firms that are included in table 1.
 Source: (2).

Table 1--Food business mergers and acquisitions, 1985-90
The number of mergers and acquisitions declined in both 1989 and 1990

Category	1985	1986	1987	1988	1989	1990
	<i>Number</i>					
Agricultural cooperatives	11	7	9	5	4	2
Bakers	23	19	15	27	19	12
Brewers	8	9	6	1	3	1
Brokers	24	29	10	11	14	9
Confectioners	7	7	6	12	10	2
Dairy processors	25	17	22	19	14	16
Diversified firms with interests in the food industry	42	57	37	31	4	10
Food processing firms	100	116	110	136	107	66
Foodservice vendors	26	31	26	31	29	22
Hotel and lodging companies	10	10	5	1	6	3
Nonfood marketers selling through supermarkets	7	3	2	5	7	5
Packaging suppliers	29	32	24	27	25	26
Poultry processors	12	8	10	7	5	10
Primary products companies	12	21	12	18	47	24
Restaurant and foodservice concerns	58	72	63	74	57	42
Retailers:						
Convenience stores	22	21	17	18	16	15
Supermarkets	25	46	34	42	26	15
Others	10	25	13	13	9	9
Seafood processors	4	8	2	5	4	4
Snack food processors	7	5	3	12	6	5
Soft drink bottlers	17	26	24	18	12	12
Sugar refiners	4	3	3	0	1	0
Suppliers to the food industry	21	14	12	9	3	5
Unclassified and private investors	69	53	41	30	21	23
Wholesalers	42	38	30	29	21	13
Foreign acquisitions:						
U.S. firms/subsidiaries	23	23	31	29	55	39
U.S. operations of foreign firms	2	2	3	6	4	4
Foreign operations of U.S. firms	1	4	12	8	6	5
By Canadian firms	5	7	8	14	10	6
Total	658	724	599	652	556	416

Source: (2).

manufacturing and wholesaling, and debt levels rose sharply in all four sectors during the late 1980's. The impact on capital expenditures, research and development, new product introductions, and advertising appears to be negligible. However, higher debt levels have forced major cost reduction strategies including major staff reductions, greater plant efficiencies, and other savings measures. As a result, profits from operations have risen sharply in both food manufacturing and retailing. These profits have in turn been partly used to pay higher interest expense. Whether these cost-cutting measures could have been used to maintain lower prices to consumers in the absence of higher interest payments is unclear. No definitive research results are

available to demonstrate whether the effects of higher debt levels were positive, neutral, or negative to farmers.

Conduct

The food system's slow growth affects conduct or how firms compete. The food marketing system probably generated less than 9.5 percent of the Nation's GNP in 1991 compared with 12 percent in 1972. Although the value added by the food system increased in dollar terms, a much greater portion of this output was supplied by fewer and larger firms. Despite this significantly greater concentration, firms in each market sector have recently sought to acquire

Table 2--Food marketing mergers, divestitures, and leveraged buyouts costing \$1 billion or more, 1988-90
Only two transactions cost more than \$1 billion in 1990, compared with four in 1989, and eight in 1988

Buyer	Seller	Price
<i>Million dollars</i>		
1990:		
Philip Morris Companies Inc.	Jacobs Suchard AG	3,825
ConAgra Inc.	Kohlberg Kravis Roberts & Co.	1,336
	Manufacturers items (Beatrice Co.)	
Total		5,161
1989:		
Private group Wasserstein Perella	Gateway Corp.	3,280
BSN S.A.	Kohlberg Kravis Roberts & Co.	2,500
Private group	Kohlberg Kravis Roberts & Co.	1,480
PepsiCo Inc.	BSN S.A.	1,350
Total		8,610
1988:		
Kohlberg Kravis Roberts & Co.	RJR Nabisco Inc.	24,562
Philip Morris Companies Inc.	Kraft	13,100
Grand Metropolitan PLC	Pillsbury Co.	5,636
Kohlberg Kravis Roberts & Co.	Stop & Shop Companies, Inc.	1,233
Seagram Co. Ltd	Beatrice Companies	1,200
PepsiCo Inc.	General Cinema Corp.	1,200
Tyson's	Holly Farms Corp.	1,158
Tate & Lyle PLC	Staley Continental, Inc.	1,108
Total		49,187

Source: (19).

or maintain market shares through both price and nonprice competition. The economic slowdown in 1990 and 1991 saw 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.

In 1990, the food system increased consumer prices 5.8 percent for the second consecutive year, slightly above the 5.3-percent increase for nonfood items. Food prices in grocery stores rose 6.5 percent in 1990. Foodservice prices were up 4.7 percent, showing a smaller increase than grocery store prices

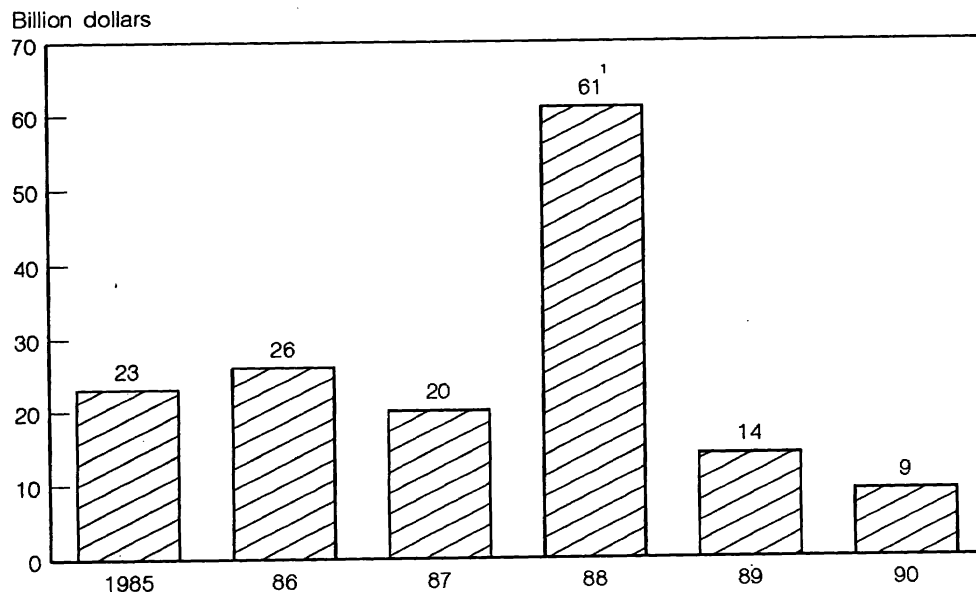
for the fourth consecutive year. Price gains for meats, dairy, and fresh fruit accounted for half the increase in grocery store prices and reflected higher farm prices. In 1991, food prices in grocery stores will likely rise about 2.7 percent, while restaurant prices will likely be 3.7 percent higher.

Price competition to gain market shares was apparent in the fast-food sector of the foodservice industry in 1990, where major discounts were given to consumers for the second consecutive year. These discounts apparently reflect both seller saturation and the slowing economy. Consumer discounts were not lacking in the Nation's grocery stores, where

Figure 6

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

The decline in value was even more drastic than the decline in numbers



¹Announced or completed. Only includes recorded transactions.
Source: (19).

discounts were given on such products as tuna, pasta, and soft drinks, 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 13,200 new grocery products in 1990, an increase of nearly 10 percent over 1989 (fig. 7). New foods rose 12 percent above those of 1989 to 10,301, while nonfood groceries rose 2 percent to 2,943 products. Eleven food categories showed increases. Candy, condiments, breakfast cereals, beverages, bakery products, and dairy products accounted for 70 percent of new product introductions. New grocery products introduced between 1982 and 1990 totaled over 75,000, but many were withdrawn from the market after a relatively brief time.

Food marketing firms spent an estimated \$11.7 billion in direct consumer advertising, such as electronic and printed media and coupons (fig. 8). Processors spent about \$6.3 billion on direct consumer advertising in the 10 principal advertising media, while eating and drinking places spent \$1.7 billion (app. table 47). ERS estimates that the reduced value of food coupons was over \$2 billion.

Retail food stores spent more than \$1.6 billion on advertising in 1990, of which about \$1.2 billion was on newspaper advertising. The food system continued its role as the Nation's largest advertiser, accounting for 30 percent of network and spot (local) television expenditures, and 41 percent of syndicated television expenditures, both vastly in excess of food's 13.8-percent share of income (fig. 9).

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 for every \$1 in direct consumer advertising through trade shows, promotions, discounts and allowances, and other incentives. Slotting allowances (one-time fees charged by retailers and wholesalers to help offset the cost of stocking new items) also continued to be a sharply debated issue in 1990.

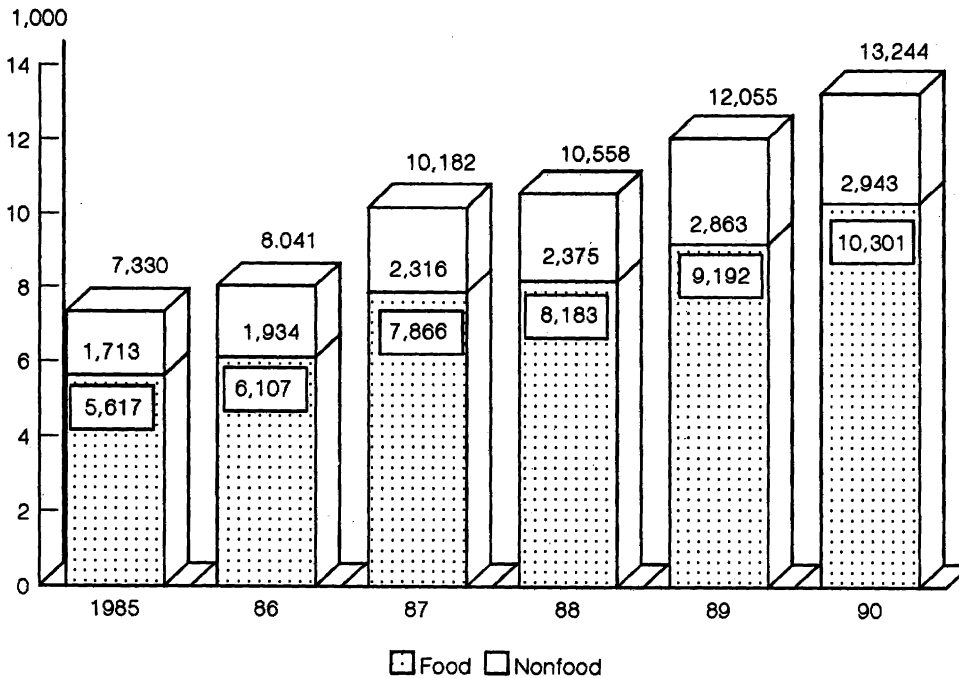
Performance

Total liabilities of food processors and retailers rose only \$7 billion in 1990 to \$270 billion compared with a \$70-billion increase in 1989 (fig. 10). Inflation, several successive years of major capital expansion, and normal asset growth accounted for a small portion of the 1989 growth, but most of the 1989 increase was due to leveraged buyouts and mergers, with several firms accounting for much of the

Figure 7

New food and grocery product introductions, 1985-90

New food product introductions rose about 12 percent between 1989 and 1990

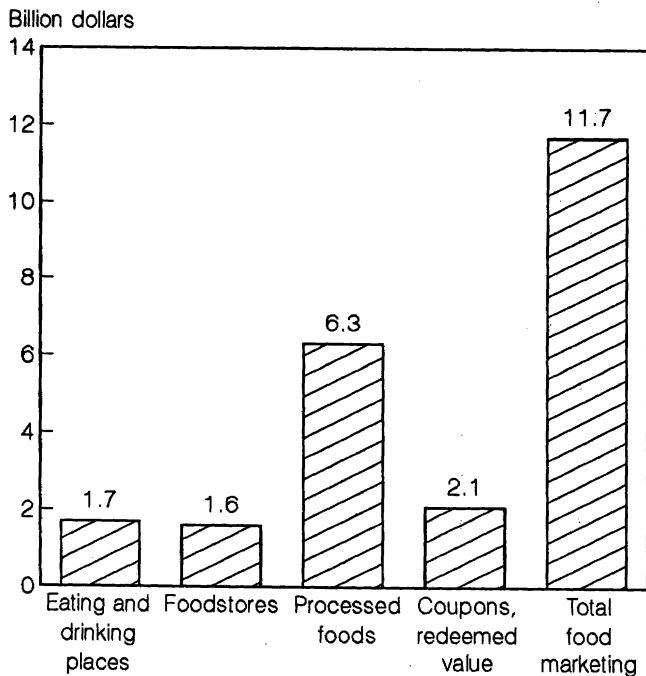


Source: (18).

Figure 8

Food-related advertising, 1990

One half of food advertising is bought by processing firms



Sources: (5, 30).

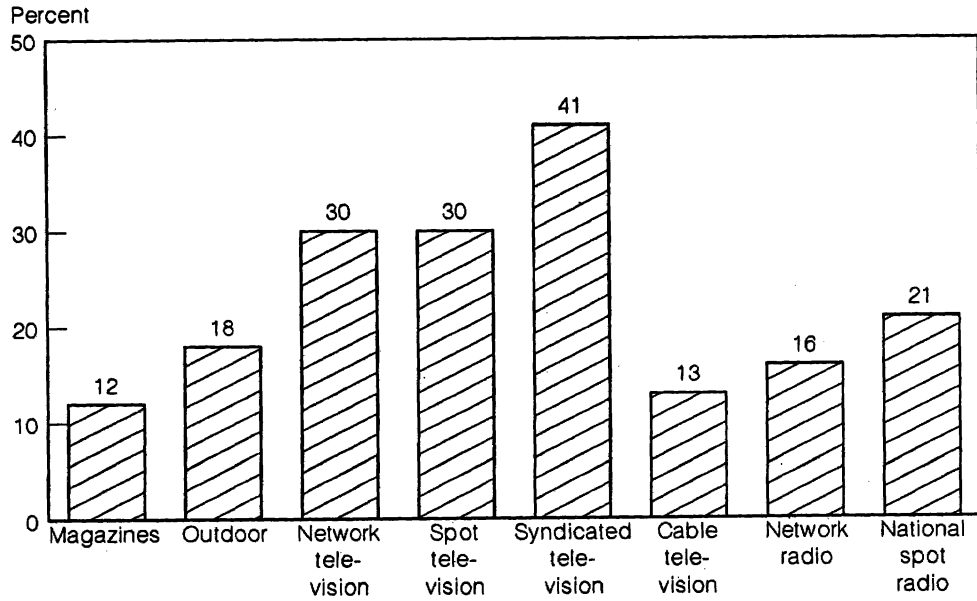
increased debt. In 1990, merger and leveraged buyout activity subsided sharply, and a few large food marketing companies further reduced debt by issuing common stock.

The equity/debt ratio of food manufacturers fell from 1.13 in the third quarter of 1988 to 0.77 in the fourth quarter of 1989 but rose to 0.79 in the fourth quarter of 1990. This level was considerably below the 1.34 ratio for all manufacturing corporations in 1990. The equity/debt ratio for food retailers fell from 0.56 to 0.30 between 1988 and 1990 (fig. 11). By comparison, the equity/debt ratio for all retailers was 0.61 during the fourth quarter of 1990. Both food manufacturers and retailers began 1991 in highly leveraged industries.

Despite a significant slowing in sales volume, both food processors and retailers showed a significant increase in profits from operations (profits excluding interest expense, outside income, and taxes). Food and tobacco processors' profits from operations rose 9.3 percent, from \$31 billion in 1989 to \$34 billion in 1990. Food retailers' operating profits rose 13.5 percent, from \$5.2 billion in 1989 to \$5.9 billion in 1990 (fig. 12). These sharp increases reflect modest labor and ingredient cost increases. The lower value of the U.S. dollar further boosted income from

Figure 9
Food marketing system's share of selected media advertising expenditures, 1990

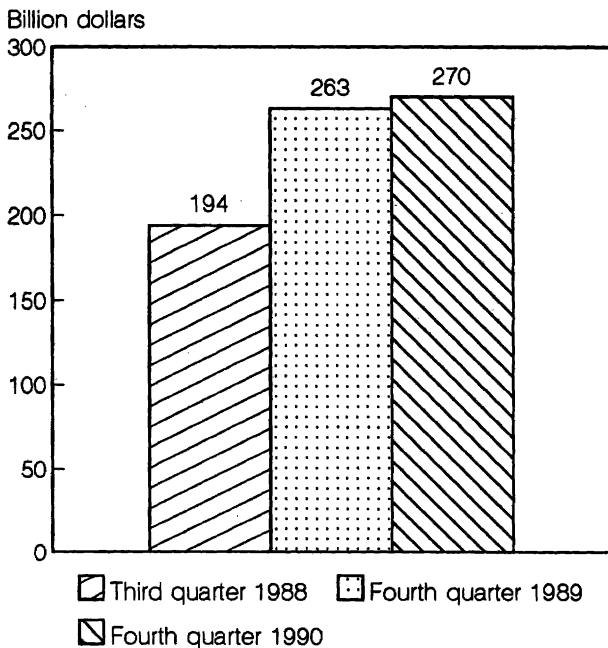
Food systems buy a higher portion of advertising on television than any other media



Source: (3).

Figure 10
Total liabilities of food and tobacco processors and retailers

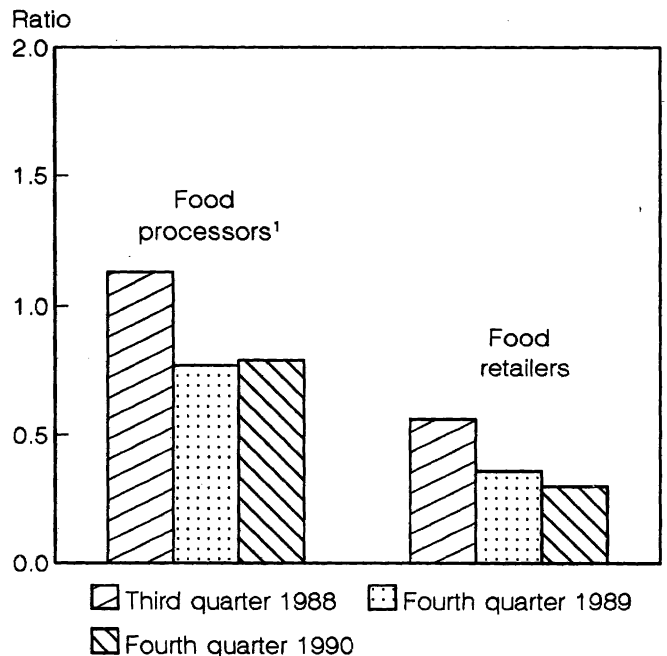
Debt rose sharply to accommodate buyouts and mergers in 1989, but rose only slightly in 1990



Source: (58).

Figure 11
Total stockholders' equity to debt

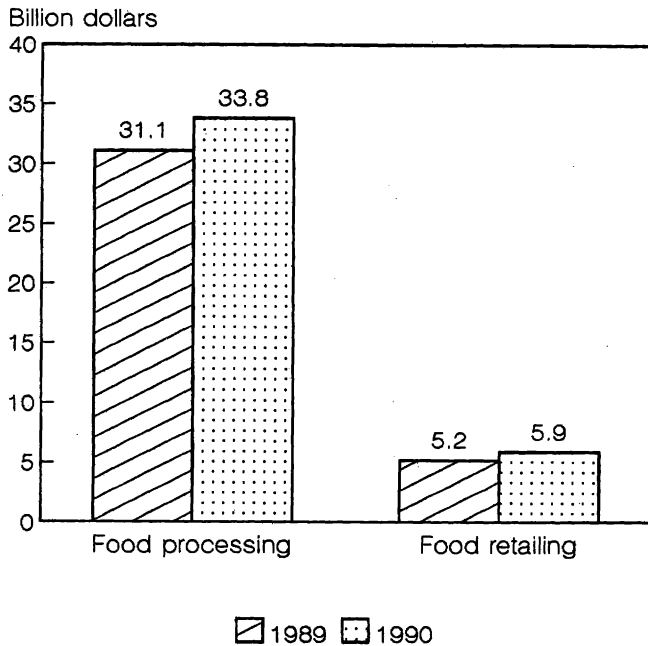
Ratios stayed about the same in late 1990 as in late 1989



¹Includes tobacco.
 Source: (58).

Figure 12
Profits from operations, food manufacturing and retailing

Profits from operations rose for both processors and retailers



Source: (58).

foreign operations. But many food marketing corporations also reduced staffs and other operational costs to pay for increased interest expenses resulting from nearly \$80 billion in new debt over the past couple of years.

Largely due to higher interest expense and costs associated with restructuring, aftertax profits for processors plunged. Aftertax profits as a portion of stockholders' equity for food processors fell from 17 percent to 16.2 percent between 1989 and 1990, due to nearly \$9 billion in nonoperating expenses, most of which reflected higher debt-servicing charges (fig. 13). The \$3.5-billion nonoperating expense for retail foodstores in 1990 amounted to 60 percent of income from operations of \$5.9 billion. Retailers' aftertax profits amounted to 0.5 percent of sales and 11.3 percent of stockholders' equity. However, aftertax 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.

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

Food processors undertook 456 new plant projects in 1990 compared with 390 in 1989 (fig. 14). New construction reached an all-time high of 219 projects. Total new plant and equipment expenditures for food processing firms, which include nonfood operations, rose from \$15.9 billion in 1989 to \$16.4 billion in 1990, a 3-percent increase. Since 1984, the U.S. food manufacturing industries have spent \$82 billion on new plant and equipment expenditures.

The retail food system continued modernizing and upgrading existing stores and closing smaller ones. The number of retail grocery stores, which has been falling steadily over the past 50 years, dropped by an estimated 1,000 in 1990. After several years of increase, average new store size was stable at about 40,000 square feet. An estimated 5,000 new fast-food franchises opened worldwide in 1990.

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 1989, food and tobacco processors probably spent about \$1.2 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, about \$1 billion, 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). USDA spent more than \$304 million in 1989 on developing new products and processes, conducting health and nutrition research, expanding export markets, and improving market efficiency.

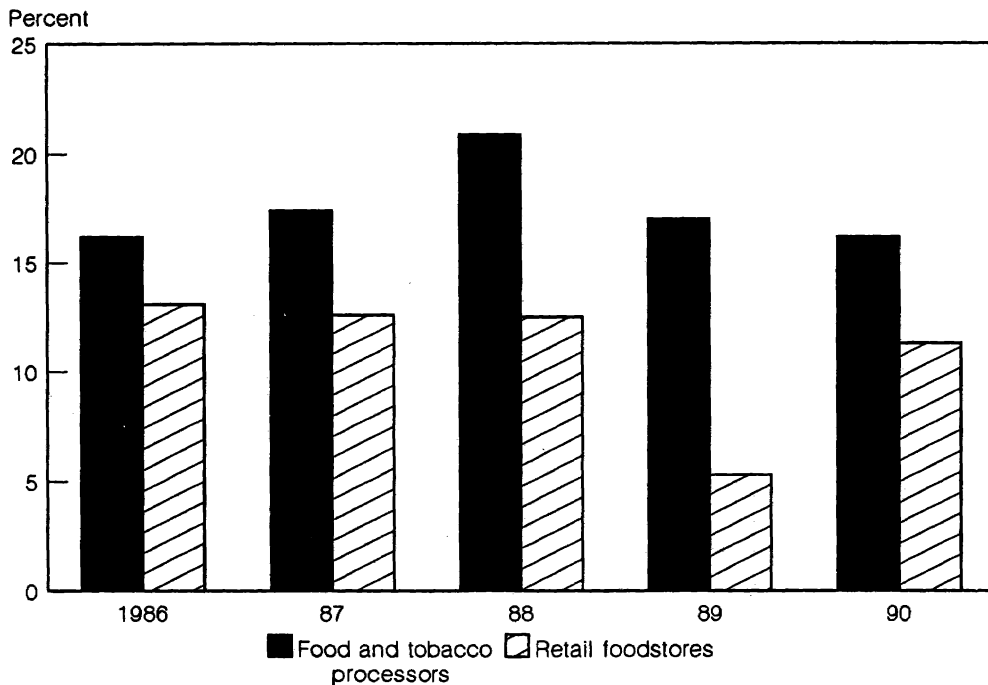
Output per employee in 1989, the most recent data available on productivity, declined in food service and food retailing. This index of labor productivity increased in some food processing industries, such as those for milk, processed fruits and vegetables, and soft drinks. Output per employee declined for beer and bakery products after years of rapid growth. In 1990 and 1991, output per employee probably declined for all four food sectors because of slow growth.

For the eighth consecutive year, common stockholders in the food marketing system saw their shares outperforming other sectors of the economy. The Dow-Jones Equity Market Index declined 8 percent between year end 1989 and 1990, but the indexes for food, beverages, and retailers and

Figure 13

Aftertax profits as a percentage of stockholders' equity

Retailers' profit rates rebounded in 1990 as processors' dipped slightly

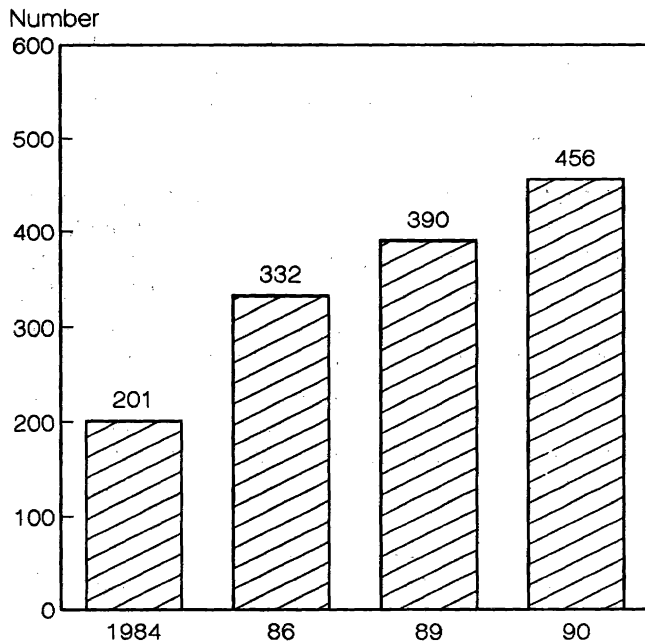


Source: (58).

Figure 14

New plant projects

Food processors continued to add new plant projects in 1990



Source: (15).

wholesalers increased from 4.5 percent to 16.5 percent (fig. 15). Only the restaurants index dropped, largely due to a decline in fast-food chains' earnings. Also, the price/earnings ratio, a measure of how investors value the quality of an industry's earnings, was above average for the third consecutive year. An all-industry composite index averaged 15, but the food marketing system averaged 22. The above-average equity performance is not surprising since food marketing, while a slow-growth industry, has nevertheless demonstrated steady growth in earnings. While 1990 was a recession year, earnings from operations rose significantly for the Nations' food processors and retailers.

U.S. food firms have always had a relatively consistent dividend payout ratio. U.S. food processors paid out an estimated \$6.5 billion in dividends in 1990 and an estimated \$20 billion in interest. Nearly 60 percent of aftertax income went to retained earnings, which are used for such projects as new product development, capital expansion, and acquisitions. Food retailers paid over \$500 million in dividends in 1990.

International Performance

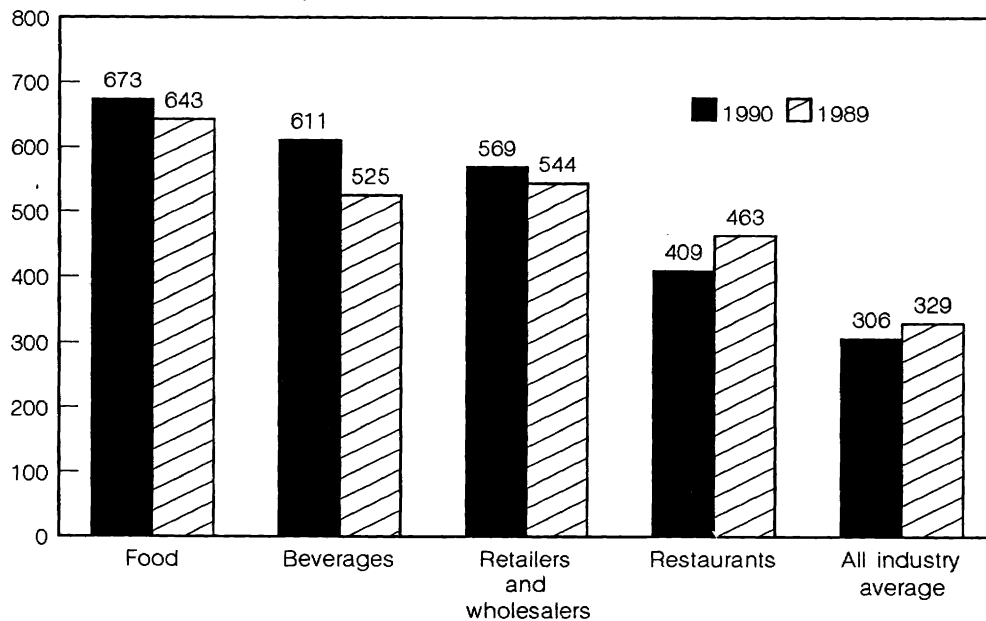
The U.S. food marketing system continued to expand as the world's most global food system. This

Figure 15

Dow Jones Equity Market Indexes for the food marketing system

Food, beverage, retailers, and wholesaling companies increased, as restaurants and industry average declined

Index (June 30, 1980 = 100)



Source: (11).

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, but continued its trade deficit in 1990 for the eighth consecutive year, with more than \$21 billion in imports and nearly \$18.6 billion in exports. The processed food trade deficit was \$2.3 billion, the same as in 1989 (fig. 16).

The decline in the value of the U.S. dollar in 1990 was favorable to exports, foreign investment into the United States, and the value of foreign earnings of U.S. firms.

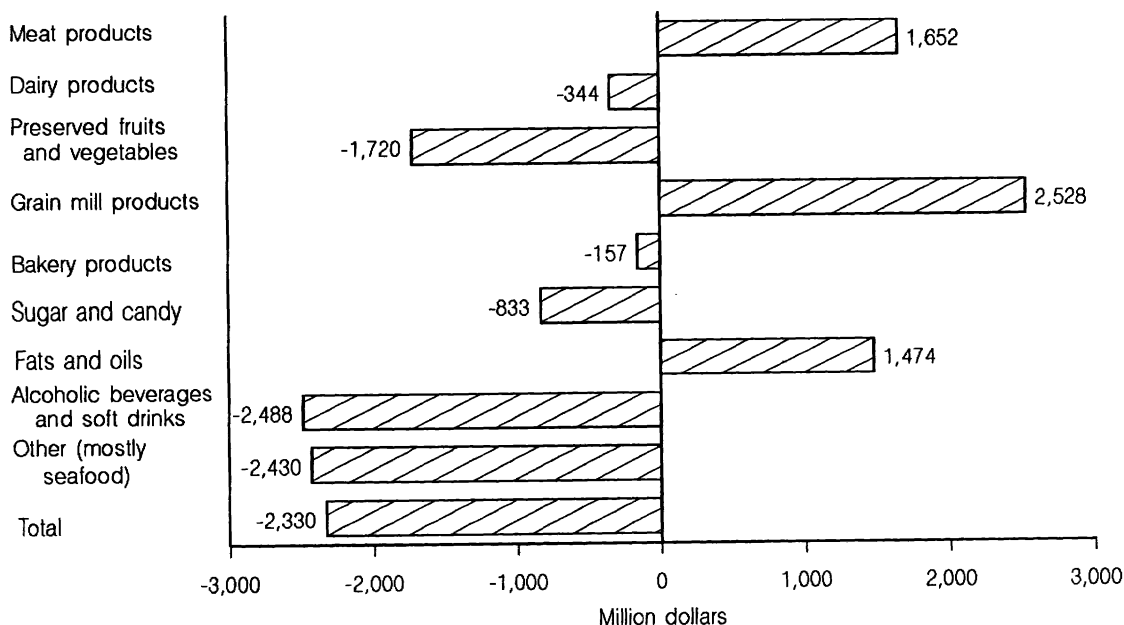
However, trade data per se do not adequately reflect the global presence of U.S. food marketing firms. Many of the world's largest food processing firms expand aggressively in foreign markets by increasing their investments in foreign plants or expanding licensing arrangements with foreign firms to produce and distribute their branded products. Large U.S. food processors export on average only 3 percent of their sales, but they receive 26 percent of their total sales from their plants located in foreign countries. Sales from U.S. food processors' foreign subsidiaries were over \$60 billion in 1988, twice the \$30 billion foreign firms received from their U.S. food processing subsidiaries (tables 3 and 4). In 1990, the latest year for which data are available, nearly \$3.5 billion in foreign income flowed into the U.S. food marketing system, while about \$1 billion flowed from the United States into foreign countries.

Figure 16

Trade balance in food processing, 1990

The deficit in processed food trade was \$2.3 billion, but processed food, excluding alcohol and seafood, showed a \$2.6 billion surplus

Products



Source: ERS.

Table 3--U.S. investment abroad in food manufacturing: Value of shipments by U.S.-owned affiliates
Sales of foreign subsidiaries rose more than 50 percent between 1982 and 1988

Country or region	1982		1987		1988		Percentage change, 1982-88
	Value	Share	Value	Share	Value	Share	
	Million dollars	Percent of total	Million dollars	Percent of total	Million dollars	Percent of total	Percent
Total, all countries	39,023	100.0	50,049	100.0	60,264	100.0	54.4
Europe	18,974	48.6	29,070	58.1	34,534	57.3	82.0
EC-12	18,327	47.0	27,868	55.6	33,164	55.0	81.0
Canada	5,258	13.5	5,407	10.8	7,518	12.5	43.0
Japan	2,363	6.0	4,442	8.9	4,933	8.2	108.0
Australia	1,447	3.7	1,880	3.8	2,092	3.5	44.6
All other countries	10,981	28.1	9,250	18.5	11,127	18.5	1.3

Source: (48).

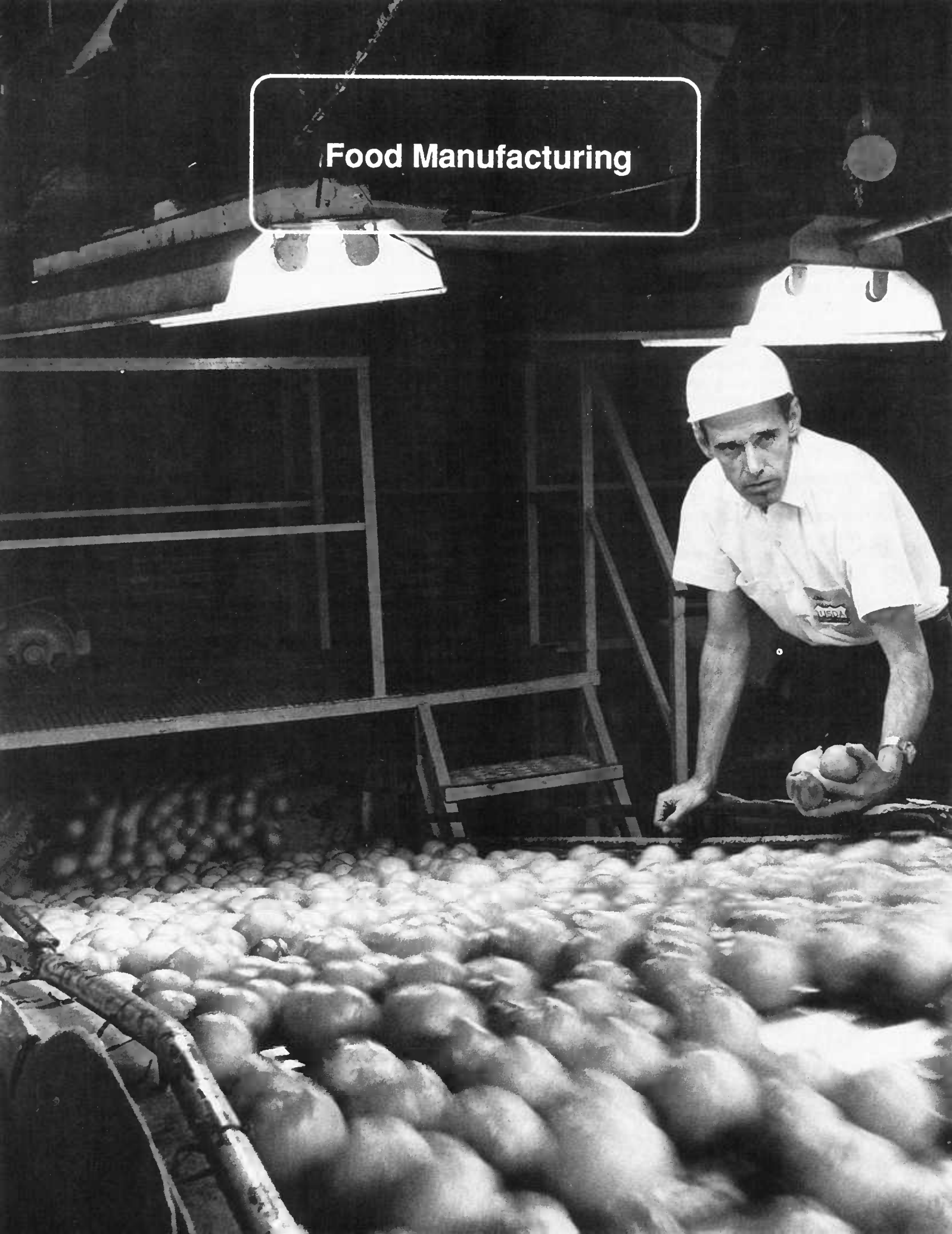
Table 4--Foreign investment in American food manufacturing: Value of shipments by U.S. affiliates of foreign firms
Sales of U.S. subsidiaries of foreign firms more than doubled between 1982 and 1988

Country or region	1982		1987		1988		Percentage change, 1982-88
	Value	Share	Value	Share	Value	Share	
	<i>Million dollars</i>	<i>Percent of total</i>	<i>Million dollars</i>	<i>Percent of total</i>	<i>Million dollars</i>	<i>Percent of total</i>	<i>Percent</i>
Total, all countries	14,847	100.0	22,862	100.0	30,053	100.0	102.4
Europe	10,527	70.9	17,967	78.5	22,318	74.2	112.0
EC-12	NA	NA	10,418	45.6	14,841	49.4	NA
Canada	2,218	14.9	3,174	13.8	4,017	13.4	81.1
Japan	564	3.7	612	2.6	1,003	3.3	77.8
Australia	NA	NA	220	1.0	1,478	4.9	NA
All other countries	1,538	10.4	889	3.9	1,237	4.1	-19.5

NA = Not available.

Source: (48).

Food Manufacturing



In 1990 and 1991, merger activity slowed and leveraged buyout transactions came to a halt in the 49 food processing industries. Debt rose only slightly. The recession slowed sales during both years. Profitability from domestic and foreign operations rose in 1990 due to stable wages and farm prices, lower interest rates, and a weaker U.S. dollar. Aftertax income was down because of higher interest expense. Competition was evident by record new product introductions and advertising, slotting allowances to retailers, and sporadic price wars in some industries. Automation in new plants and equipment rose both years, but productivity was probably down because of slowing output. Common stock prices for food processors significantly outperformed other manufacturing industries. U.S. food processing continued its role as the world's most global in both 1990 and 1991.

Size

Processed food industry shipments will likely reach the \$380-billion mark in 1991, accounting for about 14 percent of all U.S. manufacturing activity and representing the largest sector in the economy. The projected 1-percent growth in shipments above 1990 will fall well short of the 3-percent increase in producer prices for finished food products (app. table 9). Real growth will probably drop about 2 percent.

In 1990, industry shipments rose an estimated 3 percent to \$375 billion, almost the same as the price increase, resulting in no real growth. Estimated meat product shipments accounted for about \$92 billion, dairy about \$51 billion, and beverages about \$53 billion.

Economic Climate

If the food processing industries did not enjoy strong growth on the demand side, the recession and price stability were very favorable to the cost side. For the sixth consecutive year, the industry enjoyed stable wages and prices in 1991.

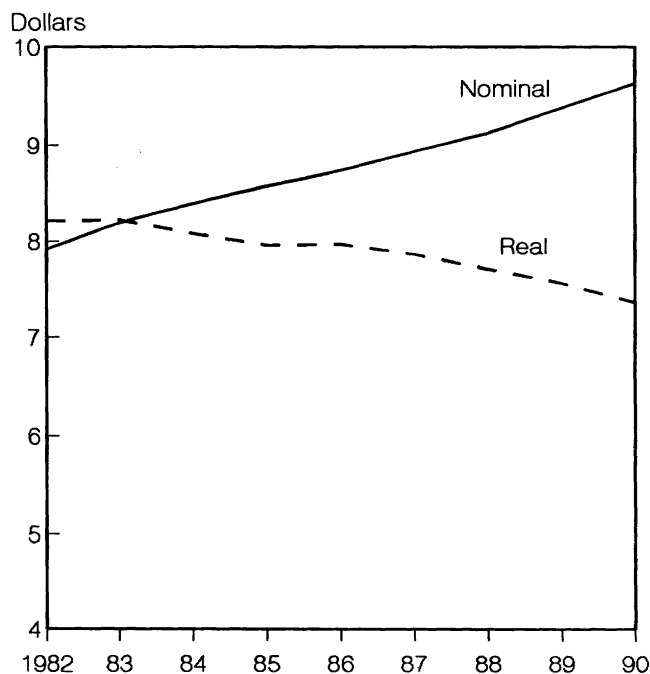
The 49 food processing industries purchased about \$106 billion of animal and crop products from the U.S. farm sector, an additional \$21 billion in imported agricultural products, and \$9 billion in seafood in 1990. Food manufacturers paid only 1.8 percent more for these products in 1990 than in 1989, compared with a 4.7-percent increase in 1989. Livestock prices advanced over 8 percent, but grains, poultry, and oilseeds all dropped sharply. Fluid milk and fruit and vegetable prices rose over 3 percent.

Labor is the second most important cost for food manufacturers, totaling about \$40 billion in 1990. The 49 food processing industries employed nearly 1,650,000 workers in 1990, virtually unchanged from 1989. Average hourly earnings rose 2.7 percent to \$9.63 per hour in 1990. This increase, however, marked the eleventh consecutive decline in real earnings, as the cost of living measured by the Consumer Price Index (CPI) rose 4.2 percent (fig. 17). However, employee benefits, especially health benefit costs, have been rising sharply in recent years.

The food processing industries are now among the Nation's most highly leveraged, with \$213 billion in liabilities, and are thus very sensitive to interest rates. Interest costs amounted to nearly \$20 billion in 1990. The prime interest rate in 1990 averaged 10 percent, down from nearly 11 percent in 1989, and fell to 8.5 percent in 1991 (fig. 18). Rates on short-term liabilities also dropped. Three-month Treasury bills fell from 8.53 percent during first quarter 1989 to 7.02 percent in fourth quarter 1990 to 5.58 percent in September 1991. Short-term debt of less than 1 year averaged about \$65 billion for 1990.

Figure 17
Average hourly earnings in food processing

Inflation masked the actual decline in earnings in the 1980's

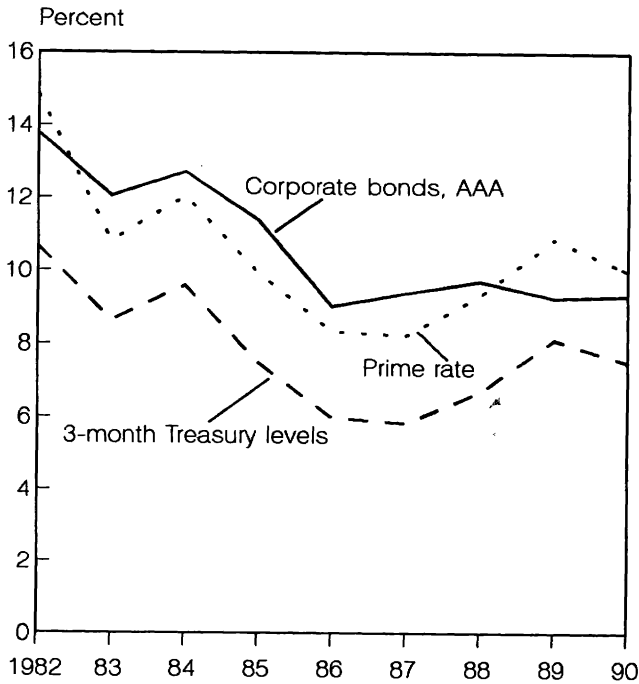


Source: (64).

Figure 18

Selected interest rates

The prime rate fell in 1990



Source: (18).

Long-term debt averaged about \$130 billion for the year. Throughout most of 1990, interest rates on long-term bonds were higher than in 1989, but fell sharply in 1991. The rate on Moody's AAA corporate bonds averaged 9.32 percent for all of 1990 and 8 percent in October 1991.

Since the food processing industries are the Nation's largest advertisers, advertising prices are important. In 1990, nighttime network television prices increased 8.2 percent, while cable television prices were up 7.6 percent. Network radio prices rose by about 4.6 percent, and consumer magazines increased their rates an average of 6.2 percent (app. table 50). Food processing is also the Nation's largest consumer of packaging materials, which averaged 1 percent more than in 1989. Energy costs rose nearly 8.5 percent.

The food manufacturing industries were also favored by a decline in the value of the U.S. dollar, which fell more than 10 percent in world markets in 1990 but rebounded in 1991. The multilateral trade-weighted index averaged 89.1 in 1990 compared with 98.6 in 1989, falling from a high of 100.5 in the second quarter of 1989 to 83.0 during the fourth quarter of

1990 (fig. 19). Income from foreign operations amounted to nearly \$5 billion while U.S. exports were \$21 billion. Both were enhanced by the lower value of the U.S. dollar and thus higher value of foreign currency, making import prices higher.

Structure and Organization

In both 1989 and 1990, merger, divestiture, and leveraged buyout activity in the 49 food processing industries dropped in both number and dollar value of transactions. A record 351 transactions were recorded in 1988, but fell to 277 in 1989 and 208 in 1990, the lowest since 1982. Preliminary data for 1991 indicate a further decline. The 208 transactions of 1990 included 148 acquisitions by U.S. food companies and 60 by nonfood companies. There were 108 divestitures (table 5).

The recorded value of mergers over \$100 million fell from \$53 billion in 1988 to \$8.3 billion in 1989 to \$7.7 billion in 1990. Philip Morris Companies' purchase of Jacobs Suchard for \$3.8 billion and ConAgra's acquisition of Beatrice Company for \$1.4 billion were the largest transactions. Food processing, which ranked first in the value transactions in 1988, fell to seventh in 1989 and twelfth in 1990. Foreign purchases of U.S. food processors, at \$1 billion, fell to a 5-year low in value of transactions. However, U.S. purchases of foreign firms, at \$4.8 billion, reached an all-time high due primarily to the Philip Morris acquisition. Borden and ConAgra were the most active buyers in 1990. Leveraged buyout activity came to a virtual halt in both 1989 and 1990, following the massive transactions of 1987 and 1988.

Why the decline? The drop in both value and activity reflected the general economic situation and the inability to secure financing, especially from a troubled financial system. Moreover, the recession and the Persian Gulf war aroused further uncertainty on the part of buyers and sellers. The \$80-billion increase in liabilities for food processing has considerably raised the leverage level, further exhausting borrowing potential. Some leveraged firms, in fact, have been reducing debt by reissuing common stock. Some food companies are also divesting some of their acquisitions of the 1980's and paring internal operations to pay higher interest expenses and improve efficiency.

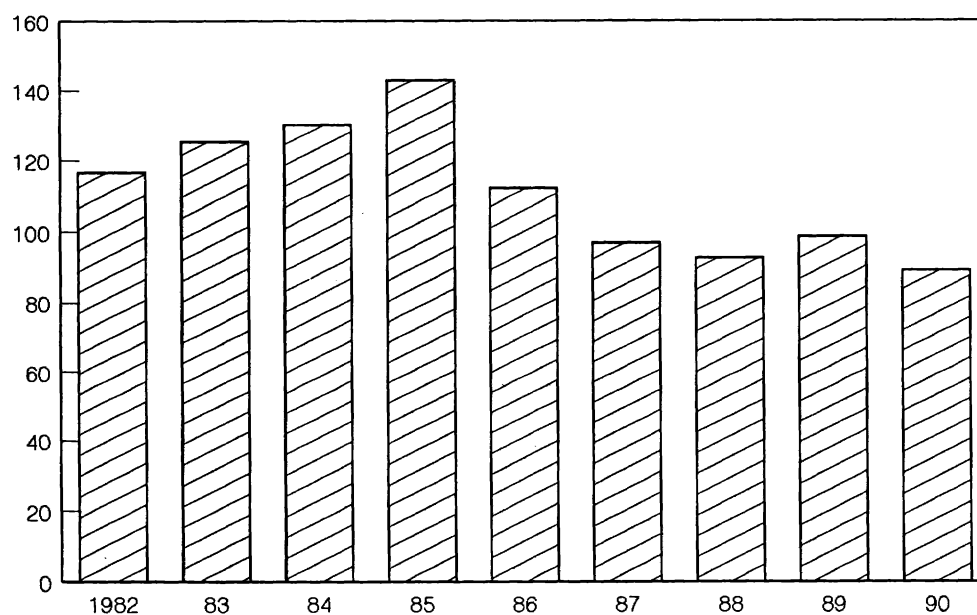
Between 1982 and 1990, nearly 2,500 mergers, divestitures, and LBO's took place in food processing. Recently released census data show that the number of food processing firms declined from

Figure 19

Index value of U.S. dollar

The value of the U.S. dollar averaged lower in 1990 than in 1989

Index (1973 = 100)



Source: (14).

Table 5--Mergers and divestitures in food processing
Nearly 2,500 mergers took place between 1982 and 1990

Year	Acquisitions			Divestitures
	By U.S. food manufacturing companies	By other companies	Total	
	<i>Number</i>			
1982	165	85	250	120
1983	174	51	225	85
1984	178	64	242	100
1985	212	79	291	103
1986	NA	NA	347	150
1987	220	81	301	116
1988	229	122	351	161
1989	188	89	277	119
1990	148	60	208	108
Total	NA	NA	2,492	1,062

NA = Not available.

Source: (2).

16,813 in 1982 to 15,692 in 1987, a drop of about 7 percent (table 6). Part of that decline reflected merger activity. But that decline was the lowest during any 5-year period since 1963. During quinquennial censuses since 1963, the number of firms declined between 2,500 and 6,000 firms during each 5-year period. Recent USDA studies have shown a steady inflow of new firms in many food processing industries to offset declines by mergers or attrition. Food processing industries experienced a net loss ranging from 330 fewer meatpacking and nearly 400 fewer soft drink companies to 1 less chewing gum company. However, some industries, such as wineries and breweries, had a net gain.

Net changes in concentration by industry are not yet available. Aggregate concentration for food processing rose from 43 percent of sales in 1982 for the top 50 companies to about 49 percent in 1989.

Market Competition

The 1990/91 recession prompted intense competition among firms in the 49 food processing industries to increase or hold on to market share. Food processors used price and nonprice competition to gain both consumer acceptance and retail shelfspace in the \$160-billion branded retail food market, and in the \$240-billion markets of food processing sales that are undifferentiated products, or sold to food service or other food manufacturers. For many of the 49 food processing industries, competition is typically focused among a few larger firms which control more than half the market.

The 49 food processing industries in 1990 charged 4.8 percent more for finished consumer goods to retailers and wholesalers, compared with a 5.4-percent increase in 1989. Price increases varied sharply among food products, however, largely reflecting changes in farm prices. Meat prices averaged 11.6 percent more due to higher livestock prices, especially hogs. A 6-percent drop in processed poultry prices and 6-percent increase in dairy prices also reflected changes in agricultural prices. Food manufacturers charged 4.6 percent more for intermediate products sold to other food manufacturers, compared with 6.3 percent in 1989.

These price changes, however, did not reflect discounts to retailers, wholesalers, manufacturers, and foodservice firms that were prevalent in 1990 in such products as tuna, pasta, soft drinks, and breakfast cereals.

Nonprice competition, aimed directly at the consumer, in 1990 was apparent through product differentiation in the form of advertising and new product introductions in the branded market. The other 60 percent of food processing sales are either unbranded, undifferentiated products or products sold to food service or other food manufacturers. Sales to these two sectors would be only minimally affected by mass media advertising and other forms of product differentiation. Therefore, increasing or maintaining market share for food processors in these undifferentiated sectors is determined by price or contractual arrangements. However, the trend has been for more differentiation through new product introductions and advertising, even for traditionally undifferentiated products such as red meats, poultry, fish, and some dairy products.

The recession clearly did not slow new product introductions in either 1990 or 1991, and, in fact, may have spurred even more introductions as firms tried to gain a foothold in a flat market. An estimated 15,000 new grocery products were introduced in 1991, and over 13,200 were introduced in 1990 compared with 12,000 in 1989. Over 2,000 new condiments and nearly 1,500 candy, gum, and snack products came on the market in 1990, while bakery, beverages, and dairy products processors each put well over a thousand new products on the Nation's grocery shelves. Over 10,300 new food products and nearly 3,000 nonfood groceries were introduced, about 60 percent of which appeared in national markets and 40 percent in regional markets. These estimates exclude new size introductions. We have no data measuring the success of these new products or the number of recent products removed from the market. Nearly 90,000 new grocery products have been introduced since 1982. However, even a superstore can stock only about 40,000 items. Industry estimates put the failure rate of new food products at 90 to 99 percent. Introducing a new product is extremely expensive, but a success can be extremely profitable. New food product leaders included Philip Morris, Campbell Soup, and Nestlé (table 7). However, the top 20 firms accounted for only about 15 percent of new product introductions. Smaller or midsized firms accounted for the remainder as they tried to make inroads in these highly concentrated industries.

In 1990, branded food processors spent \$11.7 billion in direct consumer advertising, continuing food's role as the leading advertiser in the U.S. economy. Food processors spent \$6.2 billion on 10-media advertising.

Table 6--Number of companies in food manufacturing, 1987
About 1 out of every 20 U.S. manufacturing companies is a food processor

Industry	Companies
	<i>Number</i>
All industries	310,341
Food and kindred products	15,692
Meat products	2,767
Meat packing	1,328
Sausage and other prepared meats	1,207
Poultry slaughtering and processing	284
Dairy products	1,700
Creamery butter	44
Cheese, natural and processed	508
Dry, condensed, and evaporated dairy products	124
Ice cream and frozen deserts	469
Fluid milk	652
Preserved fruits and vegetables	1,438
Canned specialties	183
Canned fruits and vegetables	462
Dehydrated fruits, vegetables, and soups	107
Pickles, sauces, and salad dressings	344
Frozen fruits and vegetables	194
Frozen specialties	244
Grain mill products	1,722
Flour and other grain mill products	237
Cereal breakfast foods	33
Rice milling	48
Prepared flour mixes and doughs	120
Wet corn milling	31
Dog and cat food	130
Prepared feeds	1,182
Bakery products	2,349
Bread, cake, and related products	1,948
Cookies and crackers	316
Frozen bakery products, except bread	103
Sugar and confectionery products	918
Raw and cane sugar	31
Cane sugar refining	14
Beet sugar	14
Candy and other confectionery products	623
Chewing gum	8
Salted and roasted nuts and seeds	79
Fats and oils	340
Cottonseed oil	31
Soybean oil	47
Vegetable oil	20
Animal and marine fats and oils	194
Edible fats and oils	67

Continued--

Table 6--Number of companies in food manufacturing, 1987--Continued
About 1 out of every 20 U.S. manufacturing companies is a food processor

Industry	Companies
	<i>Number</i>
Beverages	1,697
Malt beverages	101
Malt	15
Wines, brandy, and brandy spirits	469
Distilled and blended liquors	48
Bottled and canned soft drinks	846
Flavoring extracts and syrups	245
Miscellaneous food and kindred products	3,271
Canned and cured fish and seafoods	153
Fresh or frozen prepared fish	579
Roasted coffee	110
Potato chips and similar snacks	277
Manufactured ice	503
Macaroni and spaghetti	196
Food preparations	1,510

Source: (50).

Prepared and convenience foods accounted for \$1.3 billion, while beer and candy accounted for over \$650 million.

Food manufacturers must also compete vigorously for scarce space on the Nation's grocery shelves. Regardless of the extent of direct consumer advertising, consumers cannot buy the product unless it is on the shelves. Manufacturers' trade promotion spending has mostly exceeded direct consumer advertising spending. Trade shows, discounts and allowances, coupon processing fees, special promotion incentives and prizes, advertising allowances, and instore displays are all parts of processors' promotions aimed at the trade.

The massive introduction of new products resulted in disagreement over who should bear the risk of stocking grocery shelves with these products. Shelf space in the Nation's grocery stores has not increased in recent years, yet product proliferation has been increasing sharply.

Most of the costs associated with the introduction of a new product are borne by the manufacturer. But retailers, wholesalers, and brokers also bear the cost of a failed new product introduction. Among costs borne by the retailer are markdowns on a discounted product and foregone profit contribution due to deletion of an existing product. Thus, slotting fees, a

charge for shelving the new product, have become more widespread in recent years. Some of these fees have run as high as \$30,000 per product per store. To manufacturers, these fees are considered a penalty and a discouragement to innovation.

Domestic Performance

Despite 1990's recession and disappointing sales growth, the aggregate performance of the 49 U.S. food processing industries was spectacular. However, the performance of the 49 food processing industries is difficult to assess when it is based on commonly accepted indicators such as profitability, productivity, capacity utilization, capital expansion, foreign trade, investment, producer, consumer, and farm prices, and equity performance. These measures range widely in different food processing industries, such as breakfast cereals and frozen specialties. Much of this information on individual food processing industries is not available. These performance measures, however, indicate a composite performance among all the 49 food processing industries.

Profitability from operations increased in 1990. Sales of the Nation's food processors rose 4.7 percent, but profits from operations, which exclude interest expense, profits from foreign operations, and gains from the sale of assets, rose 9 percent (table 8). This increase largely reflected cost savings. Wages in 1990

Table 7--Food companies leading in new food product introductions, 1989-90
The leading 47 firms introduced nearly 6,100 products

Rank	Product introductions		Rank	Product introductions	
		Number			Number
1.	Philip Morris	863	26.	H.P. Hood	70
2.	Campbell Soup	364	27.	Ferrara's Fine Foods	67
3.	Nestlé	314	28.	McCormick	67
4.	ConAgra	311	29.	Casino North America	66
5.	H.J. Heinz	283	30.	Health Valley Foods	60
6.	Borden	253	31.	Pelican Bay	58
7.	Pillsbury	191	32.	London's Farm Dairies	58
8.	Sara Lee	189	33.	Golden Harvest	57
9.	Lever-Lipton	187	34.	Keebler	56
10.	RJR Nabisco	177	35.	Breyer's/Edy's	56
11.	General Mills	198	36.	Sandoz Nutrition	56
12.	Ralston Purina	166	37.	Goelitz Confectioner	53
13.	Quaker Oats	157	38.	Cadbury-Schweppes	53
14.	Wessenan USA	142	39.	Tyson Foods	48
15.	Whitman (Pet)	131	40.	Farm and Foods	47
16.	M&M/Mars	130	41.	Barbara's Bakery	46
17.	J.M. Smucker	127	42.	Reese Finer Foods	46
18.	Dean Foods	123	43.	Coca-Cola	43
19.	Beatrice	115	44.	Gerber	42
20.	Geo. A. Hormel	110	45.	Hershey	42
21.	Land O'Lakes	95	46.	Wrigley	40
22.	CPC International	92	47.	Lindsay Farms	40
23.	Anheuser-Busch	91			
24.	Curtis-Burns	83			
25.	PepsiCo	72			
				Total	6,098

Source: (18).

rose 2.3 percent, and the labor force was virtually unchanged at 1.6 million workers. Farm prices charged at 37 geographic markets rose 1.7 percent. Net income from foreign operations was about \$4 billion, aided by a lower value of the U.S. dollar. Thus, profits from foreign and domestic operations averaged nearly \$38 billion. Nonoperating income from interest, dividends, and rents amounted to nearly \$7 billion.

The industry paid \$20 billion in 1990 interest expense, however. Total liabilities of food processors amounted to about \$213 billion by fourth quarter 1990, largely due to a \$70-billion increase between third quarter 1988 and fourth quarter 1989. Thus, owner's equity/debt ratio fell sharply from 1.13 to 0.77, well below the 1.36 for all manufacturing firms. Debt rose by nearly \$7 billion in 1990, but stockholders' equity also rose so that the ratio rose to 0.79 for the year's average.

After paying nearly \$9 billion in Federal and State taxes, food manufacturers earned \$16 billion, a little less than in 1989. The 49 food processing industries paid out about \$6.6 billion in dividends.

Aftertax profits as a share of stockholders' equity fell from 17.0 percent in 1989 to 16.1 percent in 1990. Return on equity was above that of all manufacturers. Higher leverage also resulted in tremendous tax savings for food and tobacco processors. Interest payments became a substitute for dividends. Leverage varies sharply among firms (table 9). Smaller food processors, for instance, with assets of less than \$25 million, had an equity/debt ratio of 1.65 compared with 0.79 for larger firms. Aftertax profits as a percentage of sales stayed the same as in 1989 at 4.0 percent.

Labor productivity in most food manufacturing industries probably leveled off in 1990 and 1991

Table 8--Profits of food and tobacco processing firms
Aftertax income was lowered by interest expense in 1990

Year and quarter	Before-tax income from operations	Aftertax income	Aftertax profits as a share of stockholders' equity	
			Food and tobacco processors	All manufacturers
	----- Million dollars -----		----- Percent -----	
1985	20,015	12,798	15.3	10.3
1	4,288	2,571	12.8	10.5
2	5,277	3,059	15.0	10.9
3	5,163	3,542	16.5	9.9
4	5,287	3,626	16.9	9.9
1986	21,595	13,292	16.2	9.5
1	4,009	2,686	13.3	9.0
2	5,719	3,275	15.9	12.2
3	5,695	3,178	15.5	8.4
4	6,172	4,153	20.0	8.5
1987	24,658	15,579	17.4	12.9
1	5,159	2,879	13.6	11.2
2	6,292	3,849	17.4	14.1
3	6,522	3,869	17.0	14.6
4	6,685	4,982	21.6	11.5
1988	28,686	20,625	21.9	16.4
1	5,890	4,469	19.1	15.8
2	7,106	6,005	25.0	17.5
3	7,563	5,400	21.9	16.0
4	8,127	4,751	17.9	15.4
1989	30,757	16,545	17.0	13.6
1	6,501	3,865	15.6	15.7
2	8,089	3,939	16.5	14.8
3	7,569	3,335	13.9	13.5
4	8,598	5,406	22.2	11.3
1990	33,797	16,074	16.1	10.7
1	7,105	3,493	14.7	10.9
2	8,601	5,169	21.1	13.5
3	8,501	5,117	19.6	11.2
4	9,590	2,295	9.0	7.1
1991				
1 ¹	7,736	5,000	18.8	7.0

¹ Preliminary.
Source: (58).

Table 9--Comparative financial statistics for selected food companies, fiscal year 1990¹*Performance varies sharply among firms*

Statistic year	Borden Inc.	CPC Int'l.	Campbell Soup	ConAgra Inc. ²	Flowers Industries	General Mills	Gerber Products	H.J. Heinz	Hershey Foods	Kellogg Company	McCor-mick ³	Nestlé S.A.	Quaker Oats	Ralston Purina	Sara Lee
Pretax margin:								<i>Percent</i>							
1988	7.5	10.5	8.8	2.5	8.4	8.6	8.8	11.9	10.9	17.7	5.2	8.7	8.1	10.3	4.9
1989	7.5	10.9	7.9	2.8	6.1	9.2	13.2	12.5	12.0	14.8	6.3	8.8	8.4	9.1	5.2
1990	7.5	11.0	8.4	2.3	6.7	9.5	13.6	13.3	12.0	16.0	6.9	8.0	7.3	9.5	6.1
Net margin:															
1986	4.5	4.8	5.1	1.8	4.2	4.0	4.7	6.9	6.1	9.5	2.5	5.0	4.7	5.2	2.8
1987	4.1	4.7	5.5	1.7	3.4	4.3	4.2	7.3	6.1	10.4	2.3	5.5	4.2	4.7	2.9
1988	4.3	6.2	5.6	1.6	5.6	5.1	5.4	7.4	6.7	11.0	2.9	5.2	5.1	6.6	3.0
1989	4.5	6.4	4.8	1.7	3.8	5.6	8.3	7.6	7.1	9.4	4.2	5.0	5.2	5.4	3.3
1990	4.8	6.5	4.9	1.5	4.1	5.8	8.3	8.3	7.2	9.9	4.5	4.9	4.2	5.5	3.8
Return on average equity:															
1986	15.7	18.8	15.3	21.7	19.2	21.5	12.6	23.3	18.2	40.3	9.2	11.8	21.3	30.0	20.4
1987	17.2	22.4	15.1	22.6	16.3	31.4	10.5	24.6	19.0	37.6	8.9	11.8	20.5	28.0	20.4
1988	17.8	25.3	15.1	20.1	22.1	38.5	17.0	25.8	17.5	35.8	12.4	15.1	21.9	35.4	21.1
1989	19.7	27.2	14.9	22.5	14.5	45.6	25.1	26.1	16.1	28.3	16.4	19.1	25.0	37.2	22.1
1990	20.9	27.2	17.6	22.5	16.2	48.5	27.6	27.5	16.4	29.0	16.7	16.6	19.5	54.9	20.9
Return on average assets:															
1986	6.9	6.6	8.6	5.8	8.3	7.7	7.9	11.4	10.4	16.7	4.0	7.1	8.9	8.4	6.6
1987	6.9	6.6	8.5	6.7	7.1	10.2	5.6	10.9	9.9	16.6	3.6	7.2	7.5	6.8	6.9
1988	7.3	8.8	8.2	5.6	10.1	10.6	7.7	11.1	9.7	16.1	4.8	7.8	8.2	9.2	7.1
1989	7.4	9.3	7.3	5.9	6.7	11.3	11.7	11.6	9.6	14.4	6.1	7.0	9.6	8.5	6.7
1990	7.2	8.9	7.6	5.9	7.7	12.1	13.0	11.9	10.0	14.3	6.6	6.4	6.5	8.9	6.2

See footnote at end of table.

Continued--

Table 9--Comparative financial statistics for selected food companies, fiscal year 1990¹--Continued

Performance varies sharply among firms

Statistical year	Borden Inc.	CPC Int'l.	Campbell Soup	ConAgra Inc. ²	Flowers Industries	General Mills	Gerber Products	H.J. Heinz	Hershey Foods	Kellogg Company	McCormick ³	Nestlé S.A.	Quaker Oats	Ralston Purina	Sara Lee
Dividend payout ratio:	<i>Percent</i>														
1986	36.3	49.1	37.8	32.2	37.1	55.1	59.2	39.0	36.3	39.5	45.5	27.6	31.2	29.1	38.6
1987	34.3	46.1	40.1	29.3	46.6	50.0	71.0	40.7	35.4	40.3	48.1	27.9	32.0	31.9	40.4
1988	35.3	41.3	38.2	33.5	36.4	49.2	46.8	41.6	37.1	39.0	35.5	30.1	29.6	27.3	40.6
1989	38.8	41.5	42.5	30.7	60.0	48.8	33.5	41.3	38.9	47.8	28.3	30.5	31.9	27.5	40.6
1990	42.1	41.4	41.5	31.0	60.8	48.4	32.4	42.6	38.7	45.3	30.5	32.4	50.9	25.8	42.4
Total debt/capital: ⁴															
1986	41.8	61.7	22.7	38.6	42.3	41.0	22.8	28.4	23.1	30.9	36.2	24.5	35.8	67.9	37.7
1987	43.9	46.4	21.4	37.9	38.5	34.3	39.9	38.6	28.9	26.7	43.5	22.1	50.2	63.8	38.4
1988	43.5	44.7	25.9	38.6	34.9	53.0	39.2	32.6	22.3	32.4	44.6	46.8	33.9	60.9	40.9
1989	51.5	49.6	33.6	39.3	34.1	47.8	31.7	35.1	17.4	36.4	43.0	39.7	44.2	72.2	50.0
1990	51.2	54.5	33.6	43.9	30.9	51.9	30.5	40.0	17.9	23.3	39.3	22.9	52.3	80.1	48.6
5-year compound growth:															
Net income	13.4	15.7	7.5	20.2	6.0	26.6	10.9	13.7	11.7	11.9	17.8	5.3	8.3	8.7	16.4
Earnings per share	15.6	21.1	7.5	16.0	5.8	29.1	15.4	14.6	16.4	16.4	28.0	3.6	7.1	14.1	16.1
Dividends/share	16.0	12.7	9.6	15.7	15.3	14.5	9.7	15.7	12.1	15.1	16.9	6.6	17.7	13.1	18.3

¹ Based on continuing operations and excluding nonrecurring items.

² ConAgra's return on assets excludes earnings and assets of finance companies. Debt/capital excludes debt to finance companies.

³ Based on results of McCormick's food and packaging operations.

⁴ Capitalization defined as short-term debt + long-term debt + equity.

Source: Company reports.

because production rose only slightly and the number of employees remained about the same. However, labor productivity has increased in some food manufacturing industries in recent years (table 10). Output per employee hour for milk and soft drink manufacturers increased sharply in 1989 and for red meat industries in 1988, the latest years for which data are available. Overall productivity may seem high because there have been a few dramatic technological breakthroughs. However, employment levels in food manufacturing industries have remained unchanged, while output had increased. Therefore, output per employee hour has been rising.

Much of this productivity increase is the result of plant and equipment modernization. In 1990, the food processing industries increased plant and

equipment expenditures on an enterprise basis by 3 percent to \$16.4 billion (app. table 65). Overall, neither the recession nor higher debt appears to be affecting capital expenditures for 219 new plants and 201 major renovations.

In 1991, an estimated \$17.7 billion was spent on capital expenditures. While the increase in 1990 was less than for nonfood industries, the 1991 increase is much greater. Since 1965, net additions to plant and equipment for food processors, adjusted for higher prices, have shown a net increase.

Food processing plants operated at 81-percent capacity in 1988 (data for plant capacity utilization are not available for 1989 and 1990), but varied widely among the 49 industries (app. table 69).

Table 10--Changes in labor productivity in selected food processing industries
Changes in labor productivity vary among different food processing industries

Industry	Change, 1987-88			Change, 1988-89		
	Output per hour	Output	Employee hours	Output per hour	Output	Employee hours
	<i>Percent</i>					
Red meat products	2.2	4.8	2.6	NA	NA	NA
Meat packing	.3	2.9	2.6	-2	-1.0	-.8
Sausages and other prepared meats	5.3	8.1	2.7	NA	NA	NA
Poultry dressing and processing	-2.4	4.3	6.8	NA	NA	NA
Fluid milk	3.8	-6	-4.2	.7	-1.1	-1.8
Preserved fruits and vegetables	1.0	-.8	-1.7	NA	NA	NA
Canned fruits and vegetables	2.3	2.1	-.2	NA	NA	NA
Frozen fruits and vegetables	-.2	-2.0	-1.8	NA	NA	NA
Grain mill products	.4	1.3	1.0	NA	NA	NA
Flour (including flour mixes) and other grains	1.9	2.1	.2	NA	NA	NA
Flour and other grain mill products	2.2	0	-2.2	-2.4	-4.6	-2.2
Cereal breakfast foods	-2.7	1.9	4.7	NA	NA	NA
Rice milling	1.4	-9.0	-10.2	21.7	21.8	0
Wet corn milling	-4.3	2.7	7.3	NA	NA	NA
Prepared animal feeds	3.0	1.3	-1.7	NA	NA	NA
Bakery products	-6.4	-5.1	1.5	NA	NA	NA
Sugar	-.8	-3.5	-2.7	-4.8	.2	5.2
Raw and refined cane sugar	2.2	-1.7	-3.8	-.9	3.6	4.5
Beet sugar	-5.5	-6.0	-.6	-9.9	-4.6	5.9
Malt beverages	4.8	1.7	-3.0	-.2	-.5	-.3
Bottled and canned soft drinks	7.1	1.9	-4.8	8.3	2.1	-5.7

NA = Not available.

Source: (66).

R&D in the food marketing sector is largely conducted in the food processing industry. But expenditures on R&D in food processing, both in the United States and abroad, have traditionally been among the lowest of all manufacturing industries. Both food processing and textiles spend about 0.4 percent of sales on inhouse R&D. In 1990, food and tobacco processors probably spent \$1.2 billion on research, down from \$1.3 billion in 1989. About 70 percent of food and tobacco processing R&D expenditures went to new product and process development, and another 25 percent went to applied research.

Only about 6 percent went to basic research. However, ERS estimates that more than \$1 billion in R&D is purchased from other sectors, such as food packaging, computer, and machinery firms. Food processors also benefit from the basic R&D conducted by Government agencies, universities, and venture capitalists.

In 1990, the U.S. food industry was one of the higher performers in the equity markets, allowing an appreciated return to stockholders--legally the corporate owners. Between 1989 and 1990, the Dow Jones Market Equity Index for food stocks rose 4.7 percent, compared with a 7.3-percent decline for all common stocks (app. table 70 and fig. 15). The equity index for soft drinks rose 19 percent, and the equity index for distillers rose 5.6 percent. The higher than average performance for food processing stocks reflected higher than average earnings and public perceptions about the industry's continued earnings stability. Fourth-quarter 1990 price/earning ratios for food processing averaged 20, compared with 15 for the all-industry composite (app. table 67).

International Performance

In 1990, the U.S. food processing industry continued as the most global in the world. The United States is the world's largest importer and exporter of processed food. U.S. food processors also have extensive foreign investments, and foreign firms have sizable investments in U.S. processing firms.

U.S. food processing industries continued their trade deficit in 1990 for the eighth consecutive year (app. tables 74 and 75). The size of the deficit remained unchanged at \$2.3 billion in 1990. The surplus in food processing was \$2.6 billion when the value of seafood and beverages was excluded. Exports rose from \$17.8 billion to nearly \$18.6 billion, while imports rose from \$20.2 billion to almost \$20.9 billion (app. table 74).

Meat products showed a trade surplus of \$1.6 billion and fats and oils, \$1.5 billion. Grain mill products had a surplus of \$2.5 billion. Preserved fruits and vegetables, bakery products, and sugar products each showed a perennial deficit.

The 655 foreign food processing affiliates of U.S. firms had sales of \$60 billion in 1988, with a net income of \$3.5 billion. These affiliates, owned partly or totally by 64 U.S. firms, employed 417,000 people and had assets of almost \$40 billion (app. table 77). The 161 U.S. affiliates of foreign firms had sales of \$30 billion and 16,900 employees (app. table 78).

Foreign direct investment into the U.S. food processing sector rose from \$16.5 billion in 1988 to \$23.9 billion in 1989 but dropped to \$22.9 billion in 1990, the latest year for which this essentially "book value" is available. Nearly \$7.4 billion of capital flowed into the U.S. food processing economy in 1989, but dropped by nearly \$1 billion in 1990. Direct foreign investment by the United States in foreign food processing rose from \$13.5 billion in 1989 to \$15.9 billion in 1990.

Food Wholesaling



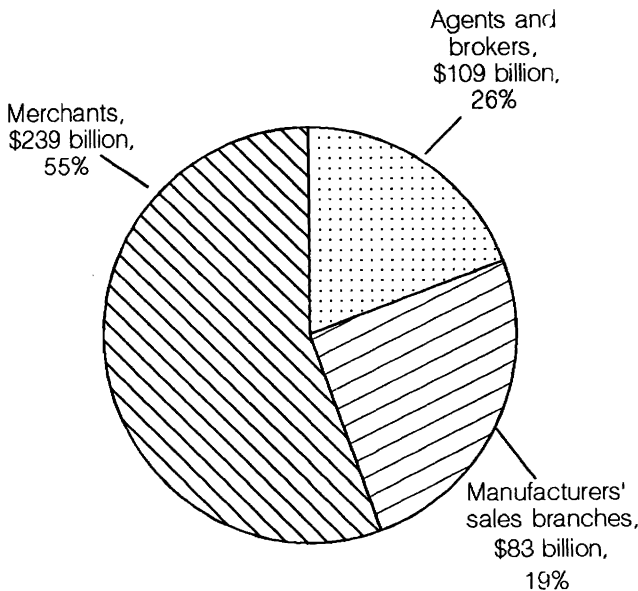
The wholesale food industry contracted in 1990, with its real sales volume falling to its lowest point in 4 years. Firms emphasized administrative efficiency, warehouse improvement, fuel conservation, and allied cost-reducing measures as they sought to maintain earnings and offset volume losses from their chain customers' shifts to self-distribution and a static independent store base. New warehouses and ever-expanding services pushed wholesale club sales to record levels. Foodservice distributors' sales recovered following successive no-growth years. Mergers continued their decline.

Sales

Current wholesale sales reached \$431 billion in 1990, about 2 percent above 1989 (figs. 20 and 21). Adjusted for inflation, however, sales actually fell almost 3 percent (fig. 22). Merchants bore the brunt of the slide with a 6-percent drop in their real sales. Brokerages and manufacturers' sales branches expanded real sales by about 2 percent, but the sharp fall in merchants' sales offset those gains. Thus, total industry sales declined. In mid-1991, sales were running 2 percent above 1990 levels, implying a dollar volume of \$442 billion if the trend continues to year's end. Real sales are unlikely to recover, however, because producer prices are again expected

Figure 20
Wholesale food sales, 1990

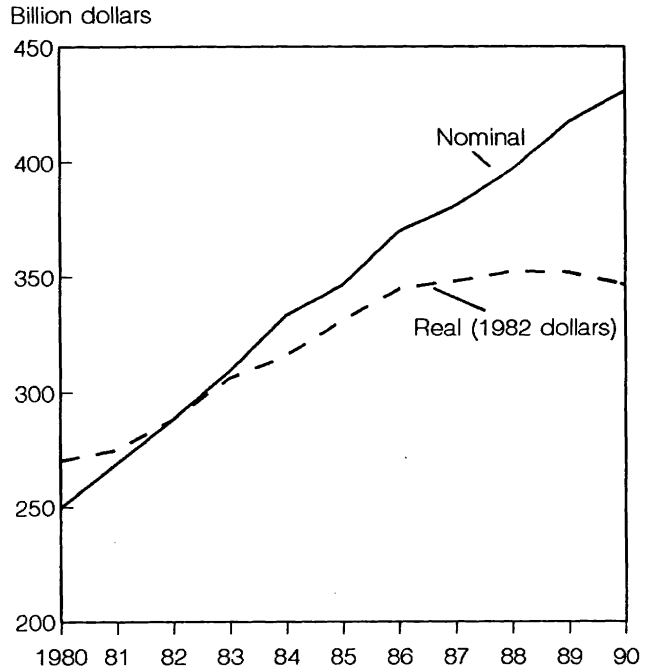
Merchant wholesalers dominated the sectors' \$431 billion in sales



Source: (57).

Figure 21
Wholesale food sales

Real sales slowed in late 1980's and began to drop in 1989



Sources: (53, 57).

to rise at a faster rate than actual dollar sales. If 1991 producer prices increased 5 percent as some observers expected, real wholesale sales probably declined about 2 percent.

Structure and Organization

There were fewer mergers and divestitures in 1990 than at any time since 1984 (table 11). The drop in frequency and size of these transactions underscored the declining importance of mergers as a primary growth device for large distributors. Nevertheless, sheer size favors the internal growth of these large firms and their internal expansion implies a continuing rise in aggregate concentration, even as small distributors' numbers increase modestly.

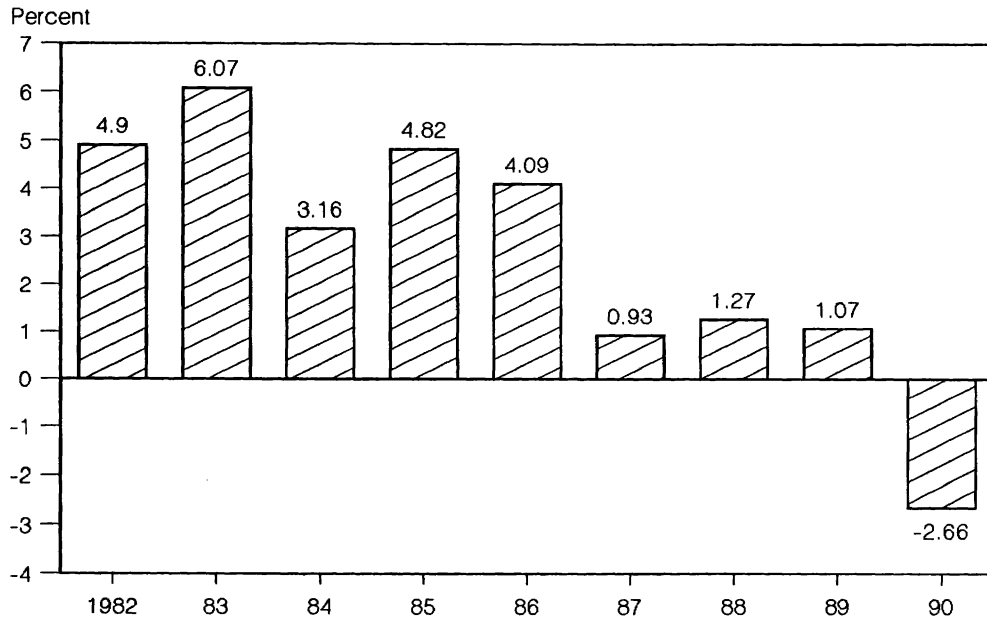
Mergers

Mergers declined for the second year in a row (fig. 23 and table 11). Wal-Mart, the Nation's largest retailer, bought the McLane Company. With sales of \$3 billion in 1990, McLane is the Nation's largest distributor to convenience stores. Wal-Mart also acquired the \$600-million-volume Wholesale Club, Inc. Second-ranked retailer K-mart bought Price Saver's Wholesale Club, adding a third formerly

Figure 22

Average yearly change in real wholesale sales¹

The 1990 drop in sales reflects onset of recession



¹Sales adjusted for price changes (1982 = 100).
Sources: (53, 57).

Table 11--Mergers and divestitures in the wholesale food industry
Mergers continued their decline in 1990

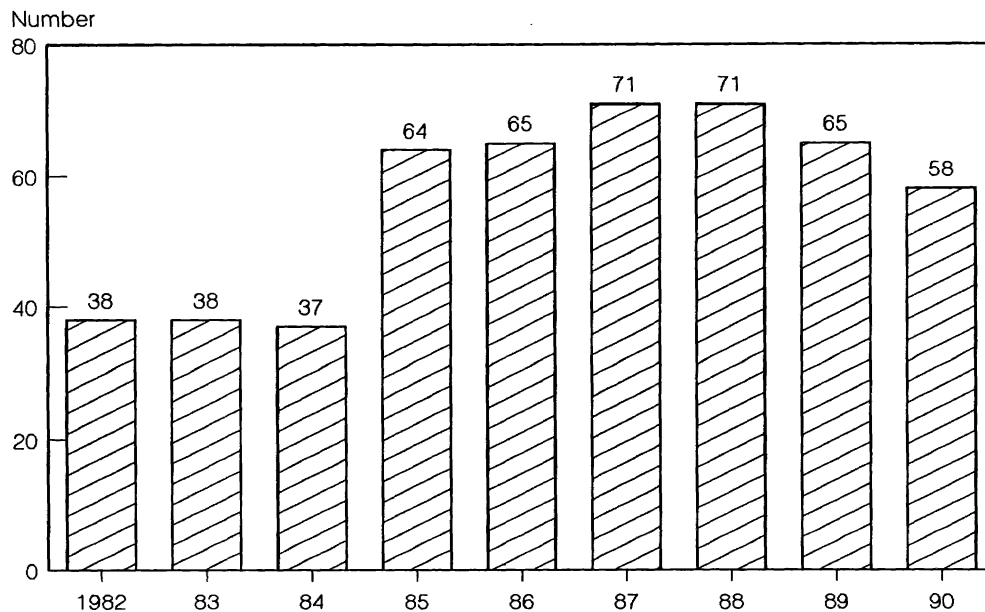
Year	Acquisitions			Divestitures
	By U.S. wholesale food firms	By all other firms	Total	
	<i>Number</i>			
1982	36	2	38	15
1983	34	4	38	13
1984	33	4	37	8
1985	61	3	64	18
1986	52	13	65	16
1987	44	27	71	12
1988	49	22	71	32
1989	39	26	65	18
1990	41	17	58	11

Source: (2).

Figure 23

Mergers in the wholesale food industry

Mergers fell in 1989 and continued downward in 1990



Sources: (1, 2).

independent operation to its Pace and Makro holdings. Of the industry's 26,000 firms that filed taxes in 1989, about 16 percent owned 90 percent of all assets (table 12). No current annual industry estimates of sales concentration among wholesale food firms exist; however, the 50 largest firms' share certainly exceeds 72 percent, its 1987 level, reflecting mergers of large industry firms in the interim.

Sector Trends

Wholesale club operators and foodservice distributors grew during 1990, but other merchant wholesalers fared poorly, especially bellwether general line firms. Some of these firms were hurt by the loss of chain accounts and by overall declines in retail sales. Wholesale firms also built fewer large corporate and franchised retail stores. The resurgence of foodservice sales and the growth of wholesale clubs were insufficient to maintain total industry sales levels.

General Line Distributors

Most of the leading wholesale merchants' current sales rose modestly in 1990 (app. table 31). Real sales of each of the top three merchant firms

uncharacteristically fell: front-ranked Fleming's real sales fell almost 6 percent; second-ranked Super Valu's dropped 2 percent; and Scrivner recorded a 9-percent drop (excluding its recently acquired Gateway subsidiary's premerger volume).

With varying degrees of success, companies countered the slow sales growth by aggressive cost control. Firms also resorted to equity offerings to finance capital expenditures and retail loans while reducing loan debt.

In a climate of sagging sales and rising costs, merchants also took strategic steps to bolster their competitive positions. For example, Fleming invested in equities of some of its retail customers, a move that established long-term supply contracts and, by extension, stable sales. This action also provided Fleming economical direct entry into areas where the retail customer was already established. In other actions, one cooperative wholesale firm switched to voluntary status, and another established a voluntary subsidiary. In both instances, these firms sought to overcome major drawbacks to cooperative operations, namely, difficulty in raising capital and inadequate market development.

Table 12--Distribution of wholesale food firms, by owned assets, 1989
Large distributors control most of the industry's assets

Asset value	Firms	Share of all firms	Share of all assets	Cumulative share of firms	Cumulative share of assets
<i>1,000 dollars</i>	<i>Number</i>	<i>Percent</i>			
250,000 or more	21	0.1	36.5	0.1	36.5
100,000-249,999	28	.1	10.0	.2	46.5
50,000-99,999	34	.1	5.4	.3	51.9
25,000-49,999	66	.3	5.3	.6	57.2
10,000-24,999	260	1.0	9.4	1.6	66.6
5,000-9,999	472	1.8	7.3	3.4	73.9
1,000-4,999	3,256	12.6	16.1	16.0	90.0
500-999	2,554	9.9	4.2	25.9	94.2
250-499	4,365	17.0	3.6	42.9	97.8
100-249	3,420	13.3	1.3	56.2	99.1
Less than 100	11,277	43.8	.9	100.0	100.0

Source: (68).

Table 13--Sales of the top 10 foodservice distributors
The 5 largest firms accounted for 82 percent of the sector's \$18 billion in sales

Firms	Sales	
	1990	1989
	<i>Million dollars</i>	
Sysco Corporation	7,720	7,000
Kraft Foodservice	3,300	3,200
Rykoff-Sexton, Inc.	1,509	1,380
PYA Monarch, Inc.	1,424	1,300
J.P. Foodservice, Inc.	1,019	1,000
White Swan, Inc.	754	692
Food Services of America	740	685
Gordon Food Service, Inc.	725	640
Unifax, Inc.	712	624
Shamrock Foods Company	416	385
Total	18,319	16,906

Source: (22).

Food Service

Leading foodservice distributors' sales grew 8.4 percent to \$18.3 billion in 1990 (table 13). Real sales recovered after successive no-growth years, rising 3.4 percent from 1989. Greater penetration of existing accounts and, to a lesser degree, expanded business from nontraditional accounts figured largely in the sales rebound.

Unaffiliated distributors offer vast opportunities for innovative distributor groups as only one in three

independent firms now affiliates with a distributor group. Group membership confers numerous advantages such as economical purchasing, access to marketing and sales training programs, product-quality evaluations, and use of the group's private label. The most aggressive groups have successfully conveyed the benefits of group association to prospective members.

Group affiliation also offers advantages to distributors wishing to operate in foreign markets. Distributor groups are uniquely positioned to

capitalize on the provisions of free trade agreements that affect foreign produce and processed foods. Large distributor groups have procured supplies from foreign sources in the past, and, with the expanding emphasis on freer trade, these groups will play an even larger future role as direct importers and as large-scale, low-cost procurement sources. Product costs are reduced significantly by large-scale group purchases, which permit delivery of some foreign products to domestic member-buyers at prices that are competitive with domestic processors'. The delays of quarantine, inferior quality, correspondent unreliability, and similar risks inherent in importing are spread among a large number of independent distributors through their group alliance.

Wholesale Clubs

Wholesale clubs continued their rapid growth in 1990 with sales of \$22 billion, a 22-percent real sales increase from the previous year (table 14). Sam's replaced perennial leader Price.

New openings and, in existing stores, new departments, smaller package sizes, and expanded business memberships all combined to sustain club growth. That growth is all the more remarkable in view of the sluggish growth in sales of near-competitors such as supermarkets and general merchandise stores. Wholesale clubs have not yet become industrywide competitors, but they doubtless affect the volume of near-competitors in specific locations as evidenced by supermarket chains'

practice of adopting zone pricing in stores that share markets with newly entered clubs.

Fewer independent clubs operated at year's end than at the beginning, although the number of units rose. K-mart bought Price Saver's Wholesale, Inc., an \$860-million volume operation. Through purchase of the \$569-million volume Wholesale Club, Inc., by its parent Wal-Mart, Sam's added 25 warehouse units to the chain.

Foreign Investment

Foreign investment in the domestic wholesale food industry fell to \$1.6 billion in 1990, a 19-percent drop from 1989 (fig. 24). The share of assets held by foreign investors dropped to 8 percent. Direct investment in foreign firms was \$1.3 billion in 1990 (app. table 76).

Direct investment is only one of several ways that domestic distributors penetrate foreign markets. Wholesalers exported \$6 billion worth of food products in 1987, the last year of record. Joint ventures with foreign partners also facilitate foreign market expansion. The McLane Company recently entered a joint venture with a Spanish distributor to build a distribution center to service a rapidly expanding Spanish convenience store market. Joint ventures by domestic wholesale club operators are also imminent: Price plans jointly to open a unit in Mexico City by the end of 1991, and Wal-Mart intends to develop several membership wholesale clubs with foreign principals, also in Mexico City.

Table 14--Sales of membership wholesale clubs
Leading wholesale clubs set new sales records in 1990

Firms	Sales	
	1990	1989
	<i>Million dollars</i>	
Sam's Wholesale Club	6,500	5,030
Price Company	5,600	4,901
Costco Wholesale Club	4,059	2,943
Pace Membership Warehouse	2,600	1,500
BJ's Wholesale Club	1,100	1,000
Price Saver's Wholesale Club	860	800
Warehouse Club	265	285
Wholesale Club	569	267
Others	600	560
Total	22,153	17,286

Source: (1).

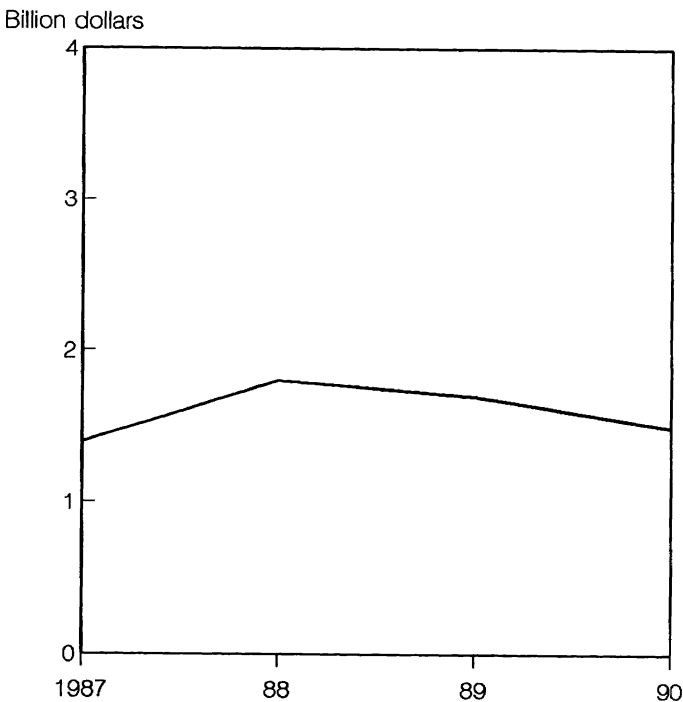
Such joint arrangements are mutually beneficial. Foreign principals receive needed capital infusions and distribution know-how; domestic participants are relieved of tasks such as securing permits and arranging inspections, all essential tasks that nationals can handle with greater dispatch because they understand local regulations and local officials. Nationals also know local markets and can more readily identify growth opportunities.

Performance

Faced with static sales, firms refocused on cost containment and productivity improvement in attempts to maintain profits. Leading publicly held general line firms operated profitably, having moderated potentially damaging lower net earnings impacts by stringent cost control. Sustained industrywide productivity, however, remained an unrealized goal; warehouse productivity improved in some firms, but real sales per production worker continued downward, falling 10 percent between 1987 and 1990. Merchants' inventory turnover rates also dropped in this period, boosting inventory carrying costs.

Figure 24
Foreign investment in U.S. wholesale food firms

Foreign investment dropped again in 1990



Source: (48).

Wages

The wholesale food industry employed almost 715,000 workers in 1990, a slight increase from the previous year (app. table 43). Average hourly earnings of wholesale food workers rose to \$10.44 in 1990, more than twice that of workers in eating and drinking places and a third higher than grocery store employees' rates (app. table 44).

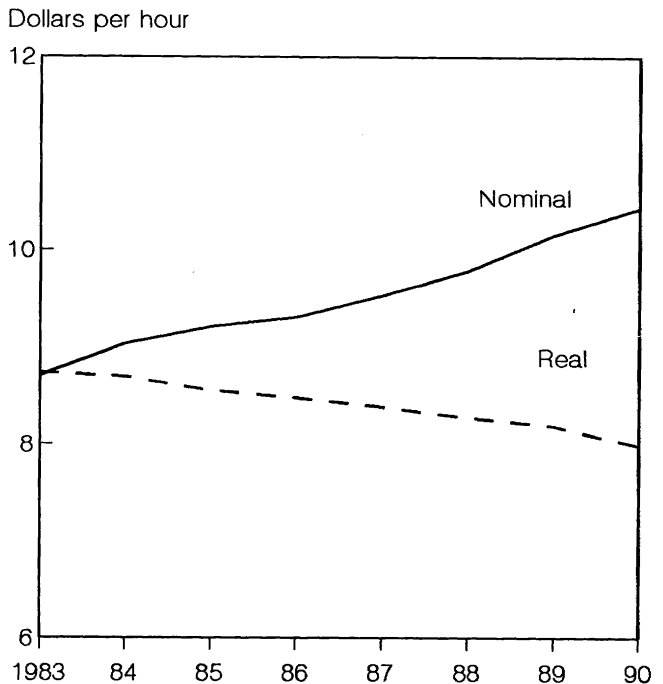
However, the buying power of wholesale workers' earnings declined for the seventh consecutive year; real average hourly earnings in 1990 were about 2 percent lower than during 1989 (fig. 25).

Profits

Industry profits have remained fairly stable from 1987 forward which, as noted, has been a period of marked real sales declines. For example, the largest operations, firms with assets of \$250 million or more, produced returns on equity of 8 percent or more during 1987-89 (app. table 57 and fig. 26). These returns were higher than rates during 1982-86, the period of greatest industry growth. Smaller firms

Figure 25
Average hourly earnings of wholesale food employees

Real wages declined throughout most of the 1980's



Source: (61).

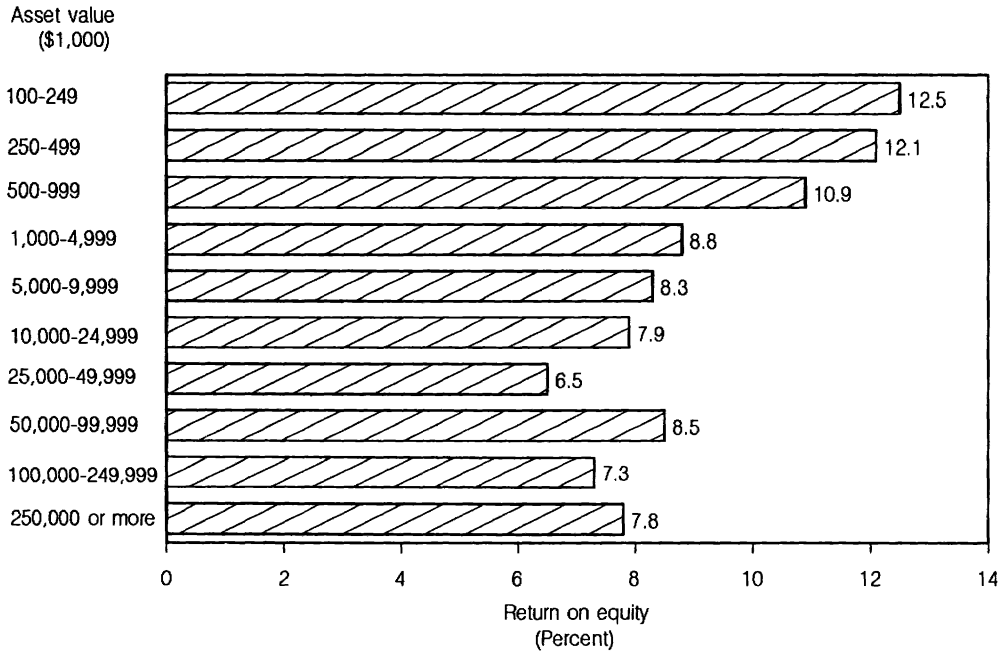
fared less well during the downturn. Debt-financed liabilities of wholesale food corporations filing tax returns averaged 32 percent of assets in 1989, the last year of record for all of the industry's firms. Leading individual publicly held firms reported debt/equity

ratios of 50 to 60 percent in 1990-91. These ratios rose substantially above industry levels following increased borrowing by these firms to finance acquisitions during the past decade.

Figure 26

After-tax profits of wholesale food firms, by asset value, 1982-89 average

Greater assets do not ensure greater returns



Source: (88).

Food Retailing



Food retailing industry performance in 1990 and 1991 reflected the broader economic climate's recession. Sales growth faltered, although retailers remained optimistic that these conditions would be short-lived. Some trends favored food retailing as consumers were expected to curtail dining out, buy more profitable store brands, and maintain more stable spending patterns relative to other retail goods such as automobiles or computers. Other longer term trends are acting to slow sales growth, including a gradual increase in the share of spending for food-away-from-home (food service) versus food-at-home (food retailing). Sales of food items by other retailers, such as wholesale club stores, drugstores, and gasoline stations, have also contributed to slower growth. Despite the worsening economy, food retailers generated above-average profit rates by divesting unproductive assets and lowering unit costs. Whether profit levels will be sustained if sales growth remains low or negative is uncertain. During 1990-91, concerns about the environment joined food safety as highly visible consumer issues. Numerous retailers made efforts to develop standards for verifying environmental claims made by manufacturers such as dolphin-free tuna and the use of packaging made from recycled materials.

Sales and Sales Growth

Sales at foodstores--which include both grocery stores and specialized foodstores such as meat and seafood markets, produce stands, delicatessens, and bakeries--reached \$363 billion in 1990, a 3.7-percent increase over 1989 (fig. 27). Real sales (sales minus effects of inflation) actually fell 1.1 percent, however. Below-average growth rates continued into 1991. Economic conditions combined with other long-term trends resulted in a period of retrenchment during 1990-91 in which real sales levels fell below 1989 levels.

Sales by supermarkets, convenience stores, and "mom and pop" grocery stores reached almost \$339 billion in 1990, a nominal increase of 2.8 percent (app. table 11). Prices rose by 5.4 percent however, producing a net decline in real terms of 2.6 percent over 1989 sales. Grocery store inflation in 1990 was largely due to rising gasoline prices. Since the fall of 1990, inflation has declined significantly while nominal sales have improved. In the first 6 months of 1991, grocery store receipts in nominal terms were 3.1 percent above the comparable period of 1990. These developments probably contributed to gains in real growth during 1991.

Supermarkets posted sales of \$260.1 billion in 1990, up almost \$13 billion from 1989 (table 15).

Supermarket retailers registered real net sales, however, of 0.3 percent below 1989's sales. This trend likely continued into 1991, as indicated by preliminary grocery store sales reports.

The share of grocery store sales accounted for by supermarkets has remained relatively stable since the mid-1970's. Although they accounted for almost 77 percent of all grocery store sales in 1990, supermarket retailers faced competition from an increasing number of trade sources. In pursuing growth opportunities, supermarkets developed new product offerings and services during the past decade. However, these efforts may have increased the vulnerability of supermarkets to competition from new trade sources. Higher margin categories such as health and personal care products are under increasing price competition from discount drugstores, for example. Many fast-food outlets have lowered their prices and expanded low-cost menus, challenging other providers of convenience and prepared foods, including supermarkets.

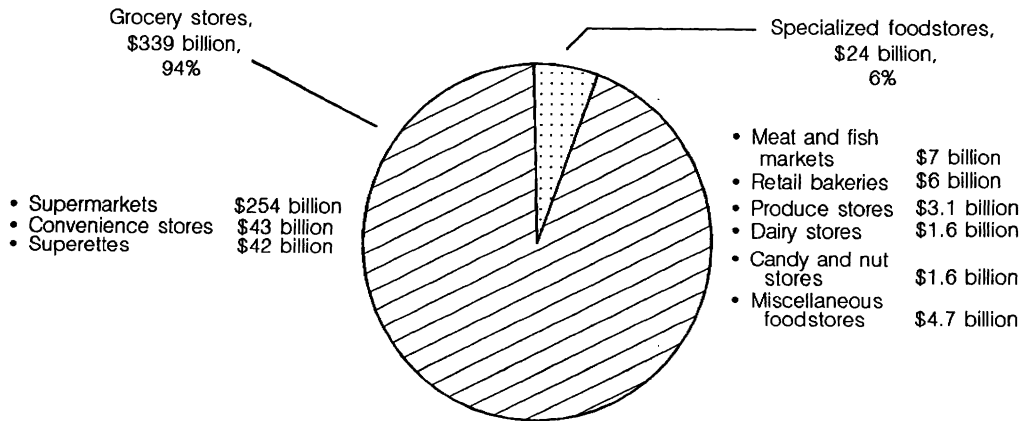
With consumers watching their pocketbooks more carefully, many supermarket retailers have responded by increasing the variety of lower priced brands and expanded offerings of more economical package sizes, such as larger or multiple-item products. Some retailers have adjusted their product mix in view of downgraded purchasing patterns such as the shift to less expensive formulations of the same product type. Many consumers have switched from refrigerated to frozen versions of comparable foods, or from frozen to canned products (40). Some consumers may have also given up more expensive prepared and fresh foods in favor of products requiring more preparation time at home. If these trends persist, supermarket retailers may need to retreat somewhat from the emphasis on upscale foods, service departments, and other high-margin products that spurred growth in the 1980's.

Another grocery store segment, convenience stores, also saw increasing competition and below-average growth during 1989-90. Sales in 1990 amounted to \$46.5 billion, a nominal increase of 5.9 percent over 1989 (app. table 11). Gasoline sales growth was almost completely accounted for by price increases of 14.5 percent. Merchandise sales actually declined in nominal terms, in part due to competition from oil retailers. Thus, real convenience store sales were 3.4 percent below 1989 levels. Formal agreements completed by two leading convenience store retailers reflect, in part, industry conditions. The Southland Corp. (7-Eleven Stores) completed its sale to Ito-Yokada, a Japanese retailer, and Circle K Corp. filed

Figure 27

Foodstore sales reach \$363 billion in 1990

Supermarkets account for almost 70 percent of total sales



Source: Tabulated from Bureau of the Census data.

Table 15--Number and sales of supermarkets¹
Supermarkets account for 77 percent of grocery store sales

Year	Minimum annual sales needed to classify as a supermarket ¹	Stores <i>Number</i>	Sales <i>Million dollars</i>	Share of grocery store sales
	<i>1,000 dollars</i>			<i>Percent</i>
1958	747.0	15,282	23,562	53.9
1963	762.9	21,167	31,484	59.9
1967	825.7	23,808	43,433	67.6
1972	1,000.0	27,231	63,791	69.1
1977	1,515.0	30,831	110,849	75.0
1982	2,265.6	26,640	171,966	74.5
1983	2,321.8	26,480	184,568	76.8
1984	2,403.1	26,265	193,059	75.3
1985	2,453.3	26,229	201,843	74.9
1986	2,554.5	25,629	211,042	75.1
1987	2,659.3	24,980	219,890	75.6
1988	2,772.6	24,614	230,640	75.1
1989	2,966.0	24,083	247,312	75.1
1990	3,109.9	23,813	260,127	76.8

¹ To be classified as a supermarket, a grocery store had to generate annual sales of at least \$1 million in 1972; other years calculated using a price index of prices of all products sold in grocery stores. Sales exclude sales taxes.

Sources: (33) and ERS.

for bankruptcy after last-minute talks with lenders failed to produce needed financing. Traditional convenience store operators lost sales and sales growth during 1989-90 to major oil-based companies such as Arco, Mobil, Chevron, Shell, Amoco, and Texaco that have added grocery products and prepared foods to supplement their gasoline sales.

Although these newer forms of convenience store retailing offer similar food and nonfood products, they are not technically considered grocery stores because of the greater importance of gasoline to total sales. Nevertheless, traditional convenience store operators are being challenged to identify and develop growth opportunities to compete with oil retailers. Many have added or improved the gasoline sales by adding pumps or replacing store brand with advertised brand gasoline. In the longer term, traditional store retailers must develop new strategies for growth. Southland Corp. plans to introduce computers and scanning technology to tailor merchandising and product mix to individual store needs. Traditional store operators may also want to explore the potential for larger format stores having the ability to meet both short-list and fill-in grocery needs. This new format would satisfy the demands of hurried shoppers seeking an alternative to supermarkets that have become increasingly time-consuming to shop as they increase in size.

According to the Bureau of the Census, specialized foodstore sales jumped an average of 12.0 percent in 1990, representing real inflation-adjusted growth of 6.9 percent. Sales of all specialized foodstores reached \$23.7 billion in 1990 (app. table 11). Considerable variation in sales growth exists among specialized foodstore types, however. Seafood and meat markets experienced only a 4.5-percent nominal increase in sales compared with a 10.0-percent nominal gain by retail bakeries. This trend continued in 1991, with seafood and meat store sales up only 2.9 percent during the first 6 months, compared with the first 6 months of 1990. Comparable sales of retail bakeries were up 10 percent, one of the few bright spots in 1990 and 1991 sales.

Structure and Organization

The structure and organization of the food retailing industry has changed dramatically over the past several decades. Year-to-year changes are much more subtle, however. Aspects of structure and organization include chains' share of grocery store sales, the number and sales share of grocery stores by format type, the share of sales held by the leading

firms (aggregate concentration), and mergers and divestitures.

Chain stores, firms operating 11 or more grocery stores, accounted for 62 percent of total grocery store sales in 1990 (app. table 26). Grocery store chains include both supermarket retailers and convenience store operators. Independent grocery retailers accounted for the remaining sales. These retailers typically do not perform distribution and warehousing functions. Most grocery store chains have traditionally operated their own wholesaling activities, to benefit from economic efficiencies. In recent years, however, many chains have relied on full-service food wholesalers for these needs. In this way, some chains have lower capital investment requirements and enjoy greater flexibility in their choice of geographic areas served.

Store Formats

The conventional supermarket, once the industry standard, has continued to lose sales share to alternative supermarket formats introduced in the 1970's and 1980's. Between 1980 and 1990, the share of grocery store sales accounted for by conventional supermarkets declined from 73 percent to 35 percent (table 16). The decline would have been greater without the rapid growth of Food Lion, an operator of conventional-sized supermarkets in the Southeast. At the same time, warehouse stores and food and drug combination stores were the fastest growing supermarket formats, both more than tripling their sales share. Superstores were also growth leaders, with share sales more than doubling over the same period. Superstores now account for almost 34 percent of total grocery store sales, the second largest after the conventional supermarket.

Many of the new supermarket formats have produced variants as retailers have gained experience in new merchandising and marketing methods. The superwarehouse format evolved from the warehouse store concept as the need for greater variety and store departments was recognized. The supercombination food and drug format offers expanded floor space like the hypermarket with the product variety of a combination store.

Hypermarkets, stores more than double in size from previous formats, have not greatly expanded as had been expected since their introduction in the 1980's. Largely the product of European food retailers, they have been adapted by K-mart and Wal-Mart, mass merchandisers not previously experienced in food retailing. Forecasts for growth among supermarket

Table 16--Supermarket format: Number and sales shares¹
Conventional supermarket's share of sales has declined

Supermarket format ²	Share of supermarkets		Sales share of supermarkets	
	1990	1980	1990	1980
	<i>Percent</i>			
Conventional	52.8	85.0	34.9	73.1
Superstore	24.4	8.9	33.7	17.7
Combination	6.8	.9	13.4	4.0
Warehouse/limited assortment	14.2	4.7	12.7	4.2
Superwarehouse	1.8	.5	4.8	1.0
Hypermarket	.1	NA	.5	NA

NA = Not applicable.

¹ Percentage may not sum to 100 due to rounding.

² See glossary for format description.

Sources: (33, 70) and ERS.

formats call for declining shares of conventional stores and stable shares for superstores through 1995. The food and drug combination format will post some of the largest gains, increasing 33 percent in share over the next 5 years. The traditional warehouse supermarket will lose share as the expanded offerings of superwarehouse stores take precedence. Convenience stores will maintain stable shares, and gasoline retailers will increase their retail grocery sales.

Aggregate Concentration

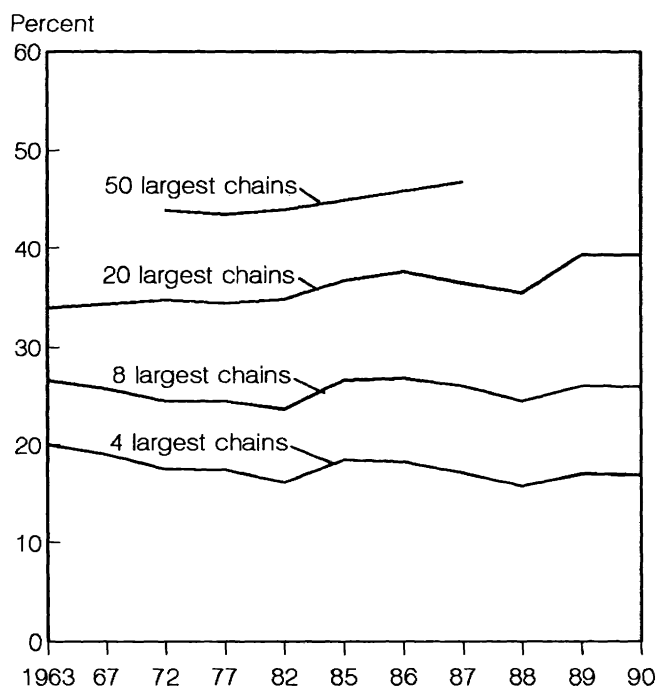
The largest 4, 8, and 20 grocery retailers accounted for 16.9 percent, 25.9 percent, and 39.3 percent of total U.S. sales in 1990. Sales shares of the largest firms have remained relatively stable during the past decade despite considerable merger, divestiture, and reorganization activity in the industry (fig. 28, app. table 27). Although aggregate shares are calculated based on total U.S. grocery store sales, none of the retailers operated grocery stores nationwide.

The 4 largest firms' sales amounted to \$58.6 billion in 1990, a 4.1-percent increase over 1989 sales (app. table 30). The largest gains were made by American Stores through its acquisition of Lucky Stores in southern California. However, potential increases were not realized as American sold its Buttrey Food and Drug division.

The fifth through eighth largest retailers had combined sales of \$31.2 billion in 1990, up 4.2 percent from 1989. These leading retailers have also undergone restructuring and turnover. Sales by Southland Corp. faltered as the company underwent financial restructuring, culminating in its acquisition

Figure 28
Sales share of leading grocery chains

The twenty largest chains accounted for almost 40 percent of grocery store sales nationwide



Source: (48).

in 1990 by Ito-Yokada of Japan. Supermarkets General Corp., operating Pathmark and Purity-Supreme supermarkets in the Northeastern States, lost sales momentum as the region's economy fell into recession during 1989. Supermarkets General subsequently announced the sale of its Purity-Supreme division in 1991.

Sales of the 9th- through 20th-ranked retailers reached \$46.4 billion in 1990 compared with \$44 billion in 1989, up 5.4 percent. Most sales gains among these leading retailers were accomplished through internal expansion as opposed to acquisition growth. One exception, Penn Traffic, jumped to twelfth place from below the top 25 largest in 1988 following its acquisition of Grand Union in 1989. Continuing on a rapid growth trend, tenth-ranked Food Lion (Salisbury, NC) posted gains of 18.3 percent over 1989 sales. Smith's Food and Drug (20th-ranked) managed an impressive 17.4-percent sales increase in 1990, largely through new store openings. Ahold International, operator of several supermarket chains in the Eastern States, expanded its sales by 9 percent in 1990.

Although shares of the largest 4, 8, and 20 retailers were little changed in 1990, more significant previously unreported share increases took place between 1988 and 1989. The leading four firms increased their share of total U.S. grocery store sales to 17 percent in 1989, up from 15.7 percent in 1988. A similar increase occurred among the top eight firms' share of sales. The most significant increase in 1989 was the top 20 firms' share, which rose from 35.5 to 39.3 percent of sales. The 9th- through 20th-ranked retailers registered sales gains of 19 percent during the period. Both acquisitions and internal growth were responsible for the increases.

Mergers and Divestitures

Food retailing acquisitions declined in both 1990 and 1989 after increasing in 1988. The number of food retailing acquisitions fell to 37 in 1990 from 53 in 1989 and 76 in 1988 (table 17). Food retailers continue to spin off as well as acquire assets. Twenty-two of the 37 acquisitions in 1990 were divestitures, while in 1989, 37 of the 53 acquisitions involved divestitures. Buyers not classified as food retailers made 23 of the 37 acquisitions in 1990. Many of these were oil companies expanding their convenience store holdings. For example, 11 of the 15 convenience store acquisitions in 1990 were made by petroleum companies.

Three foreign firms acquired large U.S. food retailing firms during 1990 and 1991. The largest acquisition saw Ito-Yokado Group (Japan) purchase 75 percent of the stock in Southland Corp. for \$400 million. Docks de France acquired Huntley's Jilly Stores, Inc., operator of over 300 convenience stores, for \$100 million.

Ahold, the Netherlands' largest food retailer, increased its U.S. holdings by acquiring the 59 supermarkets and 76 convenience stores of Tops Markets, Inc., in central New York. In contrast, a German firm, owner of Furr's Inc. in Texas, reduced its U.S. holdings by divesting 70 Furr's supermarkets in a management-led leveraged buyout.

Yucaipa Companies, headquartered in California, has been an aggressive purchaser of grocery store companies on both the east and west coasts. In Rhode Island, Yucaipa acquired Almac's Inc. and Star Markets in 1989 and 1990. In California, Yucaipa acquired Boys' Markets, ABC Markets, and 142 Alpha Beta stores. Alpha Beta was divested by American Stores following its acquisitions of Lucky Stores in response to a Supreme Court ruling. American Stores also divested its Buttrey Food and Drug chain to an investment group lead by Buttrey Food and Drug management for a purchase price of \$180 million in 1990. In another major transaction, Kroger Co. acquired Meadowdale Great Scott supermarkets in Detroit, which had 1989 sales of \$460 million.

Foreign Investment

Foodstore sales by U.S. affiliates of foreign firms reached \$30.1 billion in 1989, the most recent reporting year, an 11-percent increase over 1988 sales. Total invested assets reached \$9.4 billion compared with \$8.6 billion in 1988. Capital expenditures by foreign investors for new plants and equipment amounted to \$898 million in 1989. Foreign-owned foodstore affiliates are one of the most important segments of all U.S. affiliates engaged in retail trade, comprising more than 42 percent of retail affiliate sales and 30 percent of retail affiliate employment in 1989. Sales of the five largest foreign-owned foodstore affiliates totaled \$22.3 billion in 1990, up from \$21.0 billion in 1989 (table 18).

Among recent investment activity, Ahold N.V. (the Netherlands) acquired Tops Markets, Inc., operating supermarkets and convenience stores in New York. The transaction was estimated to have been worth \$400-\$500 million. Tops Markets had sales of \$1.2 billion in 1990. Ahold already owns and operates over 340 supermarkets in the Eastern United States. In 1991, the Edouard LeClerc Group (France) opened a \$26-million hypermarket under the Leedmark banner in the Baltimore-Washington metro area. Amounting to over 300,000 square feet

Table 17--Mergers and divestitures in food retailing

Total acquisitions fell in 1990

Year	Acquisitions			Divestitures
	By U.S. food retailing firms	By all other firms	Total	
	<i>Number</i>			
1982	25	13	38	22
1983	35	10	45	33
1984	37	23	60	28
1985	36	16	52	33
1986	56	35	91	57
1987	39	26	65	34
1988	41	35	76	51
1989	28	25	53	37
1990	14	23	37	22

Source: (2).

Table 18--Five largest investors in U.S. grocery retailing

Tengelmann A.G. is the largest foreign investor in U.S. grocery stores

Foreign investor/ country of headquarters	U.S. affiliate	U.S. grocery store sales	
		1990	1989
<i>Million dollars</i>			
Tengelmann A.G. (Germany)	A&P Shopwell Waldbaum Borman's Total sales	9,169	9,197
Delhaize, Le Lion (Belgium)	Food Lion	5,584	4,717
Ahold International (The Netherlands)	BI-LO Giant Food Stores ¹ First National Total sales	4,413	4,057
George Weston, Ltd. (Canada)	National Tea Co.	1,310	1,290
Sainsbury, Ltd. (United Kingdom)	Shaw's Supermarkets Iandoli's Supermarket Total sales	1,750	1,690
	Total	22,253	20,951

¹ Giant Food Stores, Carlisle, PA.

Sources: (33, 40, 69).

in size, it is one of the largest stores of its kind in the United States. Food Lion, the foreign subsidiary of Delhaize Le Lion (Belgium), continued its rapid expansion in the United States, adding 121 conventional supermarkets to reach a total of 778 stores in 1990. Sales grew by 18.8 percent in 1990 to reach \$5.6 billion.

Foodstore sales abroad by U.S. affiliates amounted to \$6.8 billion in 1989. Safeway Stores, Inc., fully owned and operated 238 supermarkets in Canada. Sales totaled \$3.7 billion in 1990, up from \$3.5 billion in 1989. Other foreign investment strategies by U.S. firms include joint ventures and licensing arrangements with host country investors. These methods have been used in the past by convenience store operators Circle K and Southland Corp.

Employment and Wages

Employment in foodstores reached 3.3 million in 1990, an increase of 3.3 percent over 1989 (app. table 42). Grocery stores accounted for almost 90 percent of foodstore employment. Opportunities in food retailing have expanded at a relatively rapid pace, amounting to an average annual workforce increase of 3.6 percent between 1982 and 1990. Both the growth of part-time schedules and more labor-intensive store services have contributed to employment growth trends over the past decade.

Wage increases in 1990 were mostly below the rate of inflation as measured by the Consumer Price Index for Urban Wage Earners (CPI-W). Average hourly earnings (AHE) rose to \$7.48 for grocery store employees, an increase of 3.0 percent from 1989 levels (fig. 29 and app. table 44). Earnings figures exclude lump-sum or profit-sharing incentives often used in lieu of wage hikes.

Among the more than 200,000 foodstore workers under collective bargaining agreements negotiated in 1990, wage adjustments amounted to significant increases over the prior contracts. In the first year of the contract, wage rates will rise an average of 4.6 percent. Over the term of the agreement, usually 3 years, wage gains will annually average 3.8 percent. The Bureau of Labor Statistics reported that most renewed contracts containing lump-sum provisions were eliminated, replaced by base wage gains.

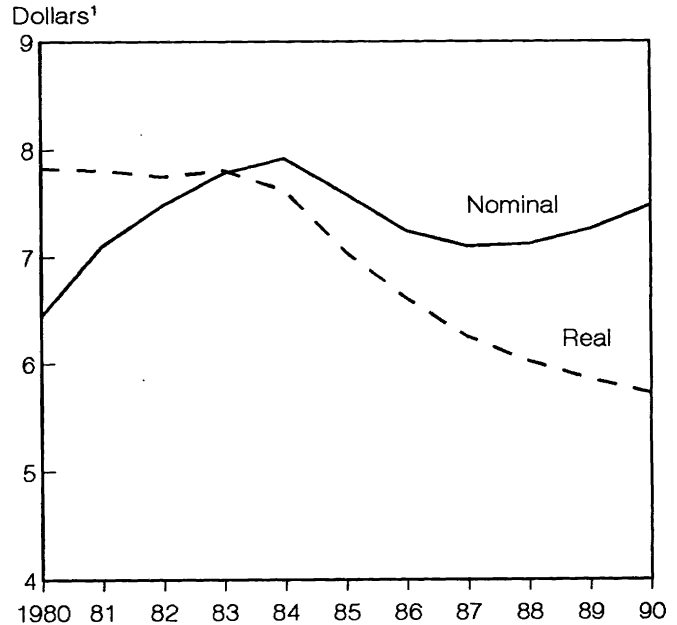
Performance

Economic performance characteristics of the food retailing industry include profit rates and other

Figure 29

Average hourly earnings of grocery store employees

Inflation has more than offset recent gains



¹Real wages are adjusted for inflation by the Consumer Price Index and expressed in constant 1982-84 dollars. Nominal wages are expressed in current dollars.
Source: (64).

financial measures, labor productivity, and the introduction of new technology and innovations.

Financial Measures

Profit rates of food retailers in 1990 were reduced in part by worsening economic conditions. Profit rates were lower in 1990 among the larger food chains compared with 1989 (table 19). But, a number of retailers posted significant gains in 1990, including American Stores (Lucky, Acme), Albertson's, Giant Food, Inc. (Landover, MD), and Food Lion (app. table 63).

For those food retailers with assets of \$50 million or more (about \$250 million or more in annual sales), return on stockholders' equity after taxes fell to 11.2 percent from 14.6 percent in 1989. Although many highly leveraged retailers returned to profitability in 1990, other retailers were unable to match their 1989 performance as sales growth lost momentum.

Nonoperating expenses, mostly debt servicing costs, rose to 1.7 percent of sales, up from 1.2 percent in 1989. During this time, additional acquisitions

Table 19--Financial performance of food retailing companies with assets worth \$50 million or more
Average profit rates fell in 1990

Year	Share of sales			Share of assets		Profit rate		Total stockholders equity to total debt
	Operating income	Nonoperating expenses	Income before taxes	Long-term debt	Stockholders' equity	Return on stockholders' equity	Return on assets	
----- Percent -----								
1981	11.9	0.2	1.7	21.0	36.3	12.5	0.9	1.5
1989	2.6	1.2	1.4	43.9	16.2	14.6	2.4	.3
1990	2.7	1.7	1.0	45.1	14.5	11.2	1.6	.3

Source: (56).

increased long-term debt. Income before taxes as a share of sales also declined, falling to 1.0 percent in 1990. Efforts to reduce costs have contributed to positive net income growth, especially among highly leveraged firms.

Heightened leveraging activity has also contributed to large increases in related financial measures during the past decade. Long-term debt as a share of assets more than doubled between 1981 and 1990, rising from 21 percent to 45 percent. The stockholders' equity/total debt ratio fell from 1.5 to 0.3 over the same time period. Long-term debt levels may have peaked recently in view of the smaller returns to leveraging and because of the limited availability of high-yield bond financing.

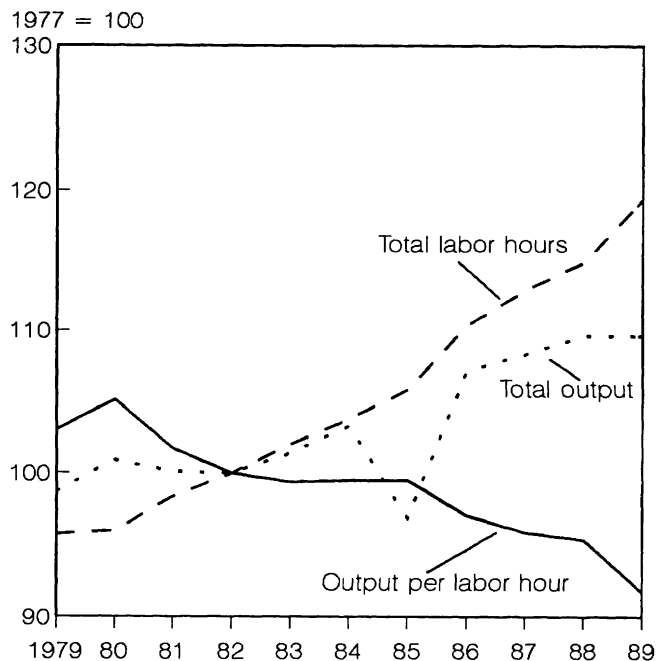
Productivity and Technology

The food retailing industry and supermarket retailers in particular have expanded labor-intensive store services and products at a rapid rate over the past decade. Although some may argue that many of these services were not economically justifiable, consumer response, moderated wage rates, and immeasurable benefits (such as company image and increased store volume) combined to convince most retailers of their advantages.

Despite the introduction of optical scanners at checkout, warehouse-style shelving methods, and other labor-saving technologies, their effect apparently has not been great enough to offset the increase in labor hours. Labor hours grew at an average annual rate of 3.4 percent between 1984 and 1989 (fig. 30 and app. table 54). At the same time, labor output, expressed as the sales value of all food retailing products sold, rose only 1.1 percent between 1984 and 1989. Labor productivity measured as output per hour of all persons has significantly

Figure 30
Foodstore productivity

New labor-intensive services have caused output per labor hour to drop



Source: (66).

declined as a result, amounting to an average annual rate of -2.2 percent during the 5-year period. Retailers in the 1990's will likely aim to streamline their instore activities to control labor costs. Warehouse store and other price-oriented retailers have already introduced self-service deli and other specialty departments, as well as labor-saving stocking methods. Other retailers desiring the benefits of personalized customer service may choose new technology to produce labor savings. These technologies might include robotics for shelf stocking

and self-service checkout registers. Wage rates will also probably rise as recruitment and retention problems become acute. These factors will provide the impetus for labor productivity improvements.

To combat the effect of labor-intensive services on productivity, new technologies are being introduced to reduce labor use in other aspects of food retailing. During the 1980's, optical scanning systems proliferated in supermarkets and are gaining use by convenience stores. Although scanning systems have reduced checkout labor use, their potential for labor savings in a number of other activities such as store operations and inventory management were not fully exploited. In the 1990's, retailers will make considerable progress in integrating scanning technology with other store activities to produce management information systems (MIS). Computerized information technology is rapidly becoming necessary due to the growing complexity of retail operations, given their store size, variety of products and services, and staffing requirements.

Eagle Food Centers (Des Plaines, IL) has integrated its scanning operations to support sales monitoring, labor scheduling and reporting, perpetual inventory management, and computer ordering. The company plans to use the new MIS technology to design department layout and shelf allocation for individual stores. Southland Corp. plans to install computer

systems for reporting sales and inventory data at each convenience store location. Data would be transmitted to headquarters on a daily or weekly basis to support functions such as inventory management, promotion evaluation, and sales reports.

Electronic shelf labeling is a recent technology gaining acceptance in food retailing. Vons' Companies (Arcadia, CA) installed electronic labeling in its stores during 1991. The labels promise to reduce labor required for shelf marking and pricing since the new system allows changes to be made remotely from a central location in the store. Vons' also cited other benefits such as greater pricing accuracy and improved signs, factors that have received increasing attention by both consumers and lawmakers in a number of States.

Automated or "self-service" checkout technology was introduced recently for pilot testing by a number of supermarkets, including a Kroger store and an A&P supermarket in New Jersey and a Safeway market in Maryland. Customer acceptance has been a major concern for retailers since use of checkout labor is reduced. More than 50 of the new systems are installed in 9 stores. Additional installations in 1991 will bring the total to 90 checkouts in 14 supermarkets.

Food Service



The foodservice industry had a slow year in 1990. Many restaurant operators during 1990 and early 1991 had trouble obtaining loans, slowing construction and expansion plans.

Although slow, international expansion continued to be the driving force for new sales and unit growth. The opening of Eastern Europe added to the potential. In the franchise restaurant industry, international sales increased by 20 percent in 1990 while domestic sales increased only 9 percent.

Food service in supermarkets and convenience stores continues to be strong. The newest innovations are microwaveable fast foods, including breakfast sandwiches, hamburgers, cheeseburgers, potato products such as french fries, nuggets, patties, and sticks, soups, and entrees especially for children.

Value pricing played a big role in foodservice sales in 1990 and 1991. Bargain prices have appeared on virtually every restaurant menu from hamburgers to tacos, causing price wars to escalate in some parts of the country. Fast-food restaurants and upscale table service restaurants used value pricing to lure more customers.

Many new product entrees reflect manufacturers' efforts to satisfy the rising number of health conscious consumers. The word "light" has been popping up everywhere. Pizza Hut has "light pizza," and Kentucky Fried Chicken has "light skinless chicken." Chains nationwide have been selling products with fewer calories, low fat content, and no cholesterol.

Sales

Sales of meals and snacks in the foodservice industry amounted to \$227.3 billion in 1990, an increase of 6.0 percent over 1989 (app. table 4). Commercial foodservice sales of meals and snacks accounted for \$170.2 billion or 75 percent of foodservice sales, while the noncommercial sector accounted for \$57.1 billion, or 25 percent. These proportions have remained about the same over the past several years.

Sales among eating and drinking places were slow during 1990. Nominal sales among the Nation's eating and drinking places were up 5.1 percent in 1990, but only 0.4 percent in real terms.

Fast-food outlets continued to have greater sales than full-service outlets. Fast-food outlets accounted for 51 percent of separate eating place sales. Fast food again led the commercial sector with a sales

increase in 1990 of 6.4 percent (1.7 percent in real terms). Restaurant and lunchroom sales accounted for 46 percent of separate eating place sales in 1990. Full-service restaurant sales growth remained about the same since 1989 at 3.7 percent (-1.0 percent after adjusting for inflation).

One growth area in the commercial sector was social catering. Sales increased by 12.3 percent in 1990 (7.6 percent, after adjusting for inflation).

Elderly feeding programs nearly tripled their sales in 1990. Other growth areas in the noncommercial sector showing real growth for 1990 include hospitals, 6.6 percent; extended care facilities, 6.9 percent; and vending, 0.7 percent.

Sales grew more slowly in the education sector in 1990. Schools are losing government commodity reimbursement, and cuts have been proposed in the national school lunch program. The college and university segment is marked by increases in nontraditional enrollment and nontraditional food service such as convenience stores, takeout, delivery, and ala carte, which competes with cafeteria-style food service. The education sector probably showed little real growth in 1991.

Structure and Organization

The 732,000-establishment foodservice industry consists of numerous individual market segments commonly divided into two major sectors: commercial and noncommercial. Commercial foodservice establishments exist for profit. The primary purpose of noncommercial foodservice operations is to provide food in such establishments as nursing homes, child daycare centers, factories, and military installations as part of its overall service function rather than to make a profit by serving food.

Separate eating places are commercial foodservice outlets that derive revenue mainly from sales of meals and snacks. They include full-service restaurants, fast-food outlets, commercial cafeterias, and social caterers. Separate eating places accounted for 75 percent of sales in 1989 and 1990. The remaining sales in the commercial sector were in outlets, such as hotel restaurants or drugstore lunch counters, that were part of a larger facility, the foodservice sales of which were a small component of total revenues.

Continued demand for convenience from hurried consumers has helped keep off-premise restaurant traffic growing. According to CREST (Consumer

Reports on Eating Share Trends), an increasing share of restaurant traffic is off-premises--46 percent in 1990 compared with 44 percent a year earlier. Of the three categories of off-premises traffic--carryout, delivery, and drive-thru--carryout remains the leading generator of off-premises customers. Although its share of total off-premises traffic has slipped, carryout accounted for 60.8 percent of total off-premises traffic in 1990, down from 63.7 percent in 1987. By comparison, both drive-thru and delivery have begun to contribute larger shares of off-premises traffic. While drive-thru accounted for 29.1 percent in 1987, it contributed an even larger share, 31 percent, in 1990. Delivery remains the smallest generator of off-premises traffic, with an 8.2-percent share of total off-premises traffic in 1990, up from 7.2 percent in 1987.

According to CREST, quick-service restaurants account for the largest share of off-premises restaurant traffic. Quick-service restaurants accounted for 91.9 percent of total off-premises traffic, 88.4 percent of carryout traffic, 98.2 percent of drive-thru traffic, and 94.6 percent of delivery traffic in 1990. Quick-service restaurants were the only group to show off-premises traffic growth between 1987 and 1990.

Concentration

Foodservice sales by the top 4, 8, and 20 firms changed little from 1988 to 1989, the most recent available data (table 20).

Among the four largest chains, McDonald's maintained its leading position with systemwide sales of \$12 billion (app. table 32). Pizza Hut moved from fourth to third position with an increased growth of 17.9 percent in sales. Kentucky Fried Chicken, the fourth largest chain, had annual sales of \$3.0 billion.

Table 20--Share of sales by leading restaurant chains
Top four firms increasing shares of sales

Grouping	1988	1989
	Percent	
Top 4 firms	29.3	31.2
Top 8 firms	45.4	44.7
Top 20 firms	63.0	61.9

Source: (35).

Sales of the top four food chains reached \$23.4 billion in 1989. Grand Metropolitan's Burger King Corp. continued in second place.

Sales of the fifth- through eighth-ranked chains rose 9.1 percent in 1989 to \$10.2 billion. Hardee's remained in the number five position followed by Wendy's and Domino's. Taco Bell moved from ninth rank in 1988 to eighth in 1989 with sales amounting to \$2 billion.

Sales of the 9th- through 20th-ranked chains reached \$46.4 billion in 1989, up 6.7 percent over similarly ranked chains in 1988. Sales at Denny's, the ninth-ranked chain, were up 2.5 percent in 1989 to \$1.3 billion. Subway Sandwiches ranked 23rd in 1988, but jumped to 16th position in 1989. Subway had sales of \$76.4 million, up 27.3 percent over 1988 sales.

Mergers

The foodservice industry counted a total of 47 mergers and acquisitions in 1990, compared with 72 mergers and acquisitions in 1989 (table 21). Of the 47 acquisitions in 1990, 32 were by U.S. restaurant and foodservice concerns, and 15 were by firms outside the foodservice industry. The drop in merger activity reflects the general economic downturn in 1990 and increasing difficulty in securing financing. The largest transactions during 1990 were Hardee's Food Systems, Inc., Rocky Mountain, N.C., and Collins Food International, Inc., Los Angeles, CA. Hardee's Food Systems, Inc., a division of Montreal-based Imasco, Ltd., completed its \$365-million acquisition of 648 Roy Rogers restaurants from Marriott Corp., Bethesda, MD. The acquisition strengthened Hardee's penetration in northeast markets where it had been underrepresented. The Roy Rogers fast-food restaurants were primarily located in metro Washington, Baltimore, Philadelphia, and New York. The merger bolstered Hardee's position as the third largest fast-food hamburger chain in the Nation with 4,010 restaurants in 40 States and 9 foreign countries. This transaction enabled Hardee's to add Roy Rogers chicken-on-the-bone to the menu, making it the first major burger chain to challenge chicken chains with fried bone-in chicken.

Collins Food International, Inc., the second largest Kentucky Fried Chicken franchisee in the United States, moved out of the domestic quick-service chicken business. PepsiCo agreed to swap \$122 million of PepsiCo stock for 209 Kentucky Fried

Table 21--Mergers and divestitures in food service
Merger activity fell in 1990

Year	Acquisitions		Total	Divestitures
	By U.S. foodservice firms	By all other firms		
	<i>Number</i>			
1982	33	18	51	33
1983	43	21	64	35
1984	39	39	78	30
1985	49	24	73	39
1986	58	23	81	35
1987	56	21	77	35
1988	46	29	75	29
1989	38	34	72	30
1990	32	15	47	25

Source: (2).

Chicken restaurants. In the agreement, PepsiCo acquired Kentucky Fried Chicken restaurants in California, Washington, Oregon, and Idaho. The acquisition boosted its ownership of U.S. Kentucky Fried Chicken units to 32 percent from 28 percent.

Franchised Restaurants

Total sales for franchised restaurants grew by 9 percent in 1990 and will probably grow another 8 percent in 1991 (table 22). The U.S. franchise industry generated nearly \$75.1 billion in retail sales in 1990, up from 1989 sales of \$69.1 billion. The 1990 sales estimate represents 33 percent of total eating place sales. The industry added nearly 5,651 units in 1991, an increase of 5.7 percent, and now operates 105,559 restaurants. The hamburger segment (which includes roast beef and hot dogs) continues to dominate the industry as it does eating places as a whole. Sales for 1990 were nearly \$34 billion, representing more than 46 percent of total franchised restaurant sales and nearly 38 percent of franchised units.

Pizza, Mexican, and sandwich restaurants led the industry with sales growth of 15.8 percent, 15.0 percent, and 31.8 percent. Pizza Hut, Taco Bell, and Subway Sandwiches were responsible for much of the growth.

McDonald's led the top 25 restaurants in both sales and units. Eleven of the top 25 chains had double-digit growth in systemwide sales in 1990.

The top 25 franchised systems ranged from McDonald's with over 11,800 units worldwide to Shoney's with 720 units (table 23). Only six chains had double-digit growth in units. Subway Sandwiches led with 1,084 new units, a 26.5-percent increase over 1989. Pizza Hut also showed strong growth with a gain of 500 units. Others include Hardee's (due in large part to its acquisition of Roy Rogers) with a 22-percent increase, and Little Caesar's, 22 percent.

As the U.S. restaurant industry becomes saturated, many chains are focusing on international markets for growth. McDonald's, the largest fast-food chain, had international sales of \$6.5 billion. Kentucky Fried Chicken's international sales of \$2.6 billion are nearly 45 percent of systemwide sales. McDonald's also had the most international units (3,227).

Food Service in Supermarkets

Although food service in supermarkets and convenience stores is not considered part of the foodservice industry, some interesting things have been happening with foodservice in both areas. Food service in supermarkets began more than 50

Table 22--Franchise restaurants in the United States¹
Franchise restaurant sales increased 8 percent in 1991

Item	1989	1990	1991
		<i>Number</i>	
Total number of establishments:			
Company owned	27,761	28,594	29,538
Franchise owned	66,524	71,314	76,021
Total	94,285	99,908	105,559
		<i>1,000 dollars</i>	
Total sales:			
Company owned	23,438,938	25,290,614	27,010,375
Franchise owned	45,655,170	49,764,135	53,994,086
Total	69,094,108	75,054,749	81,004,461
Average sales per unit:			
Company owned	844	873	903
Franchise owned	686	711	724
Total	1,530	1,584	1,627

¹ Estimated from survey participants for years shown.
Source: (35).

years ago with instore delicatessens and bakeries. The number of supermarkets with delicatessens has increased steadily over the years. Service delicatessens in supermarkets jumped from 42 percent to 73 percent during the last decade (fig. 31). Self-service delis also increased during that period, but at a much slower rate.

Sales volume in the service deli reached \$12.6 billion in 1990, up 14.7 percent over 1989 sales of \$11.13 billion. Deli sales growth, however, is slowing. The service deli's 14.7-percent sales increase in 1990 is below the 16.4-percent increase in 1989 and far below its 20.7-percent increase in 1988. Nevertheless, the service deli was the fastest growing supermarket segment in 1990.

The number of service deli units increased to 20,975 in 1990, up 3.8 percent over 1989. However, the percentage growth in units is down from 1986 and 1987 levels exceeding 4 percent.

The sluggish economy accounts for some of the slowdown in units and sales; however, the maturing of the deli department and its penetration into 73 percent of all operating supermarkets are other reasons. Slower growth may also be due to reliance

on self-service deli operations by an increasing number of supermarkets.

Sales increases were widespread in the supermarket deli industry in 1990, as the average weekly sales per deli rose to \$11,700, \$1,100 more than 1989. Gross margins of the deli remained at 1989 levels (43.1 percent). During 1990, the deli contributed 14.6 percent to total store sales.

Though down slightly from 1989, sliced meats and cheese still dominate deli sales, accounting for about 34 percent and 15 percent of deli sales in 1990 (fig. 32). Prepared foods, however, have made great inroads in deli foodservice. Entrees were up in 1990. Refrigerated entrees will probably continue to gain faster than hot entrees. Other prepared foods also increased their share of deli sales in 1990: pizza's share was 7.9 percent, up from 7.3 percent in 1989; and fried and barbecued chicken was 9.3 percent, up from 8.9 percent. Barbecued ribs' share of deli sales remained the same during 1990 at 2.8 percent.

Moving beyond the traditional delicatessen fare, many supermarkets now offer a variety of products that could be included in the foodservice category. For example, 50 percent of the Nation's

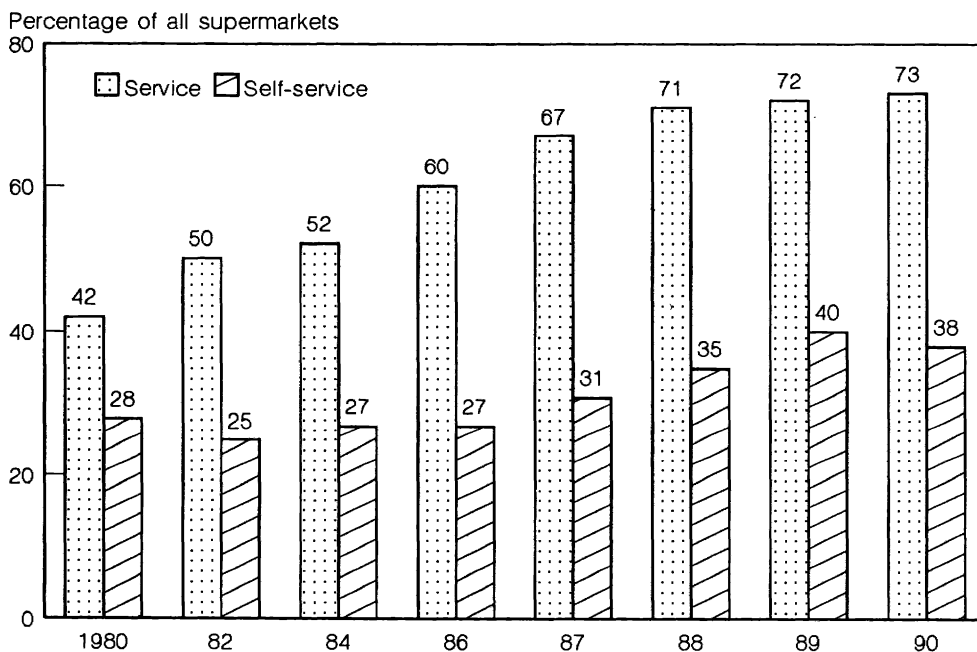
Table 23--Franchise restaurant units 1990, domestic and foreign
McDonald's leads in top 25 restaurant units

Franchise	Rank	Number		
		Foreign	Domestic	Total
McDonald's	1	3,227	8,576	11,803
Kentucky Fried Chicken	2	3,206	4,981	8,187
Pizza Hut	3	1,400	6,600	8,000
Burger King	4	829	5,469	6,298
Domino's	5	373	5,003	5,376
Dairy Queen	6	585	4,622	5,207
Subway Sandwiches	7	237	4,933	5,170
Hardee's	8	45	3,965	4,010
Wendy's	9	290	3,431	3,721
Baskin-Robbins	10	1,040	2,278	3,318
Little Caesar's	11	103	3,197	3,300
Taco Bell	12	67	3,210	3,277
Arby's	13	220	2,270	2,490
Dunkin' Donuts	14	362	1,804	2,166
TCBY	15	73	1,774	1,847
Long John Silver's	16	12	1,434	1,446
Denny's	17	64	1,294	1,358
Church's Fried Chicken	18	105	1,112	1,217
Sonic	19	0	1,043	1,043
Jack in the Box	20	0	1,040	1,040
Big Boy	21	55	915	970
Popeye's Famous Fried Chicken	22	7	748	755
Ponderosa	23	32	718	750
A&W Restaurants	24	84	652	736
Shoney's	25	0	720	720

Source: (35).

Figure 31
Delicatessen growth in supermarkets

Service delis grow faster than self-service

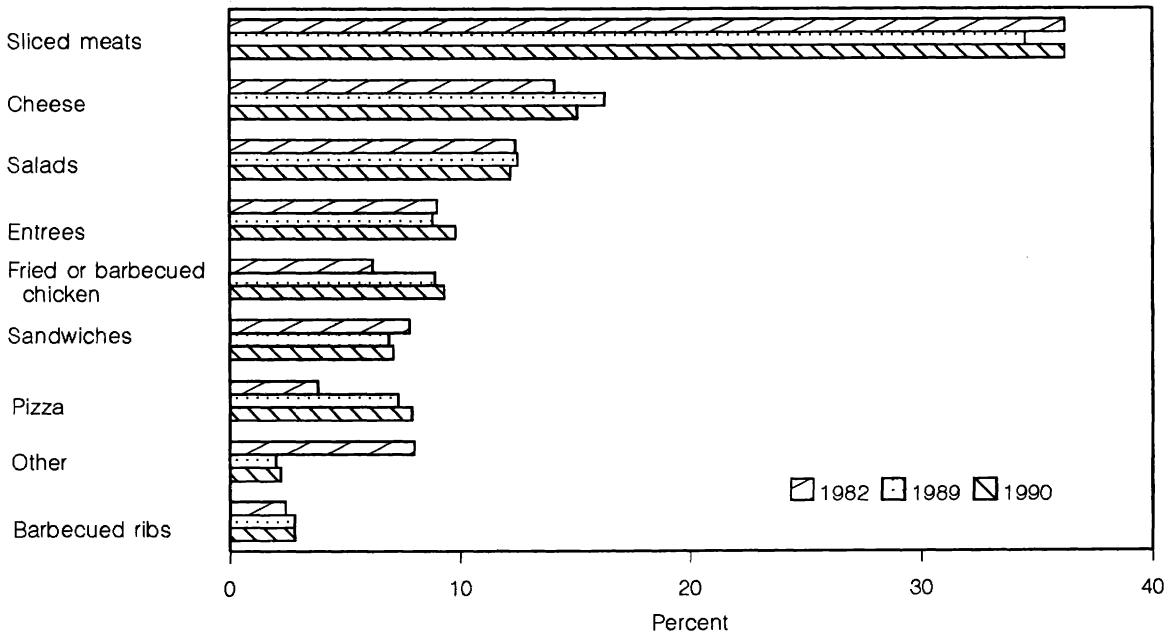


Source: (39).

Figure 32

Share of deli sales in supermarkets

Sliced meats account for over a third of deli sales



Source: (39).

supermarkets now offer salad and soup bars; 46 percent, hot pizza sections; 41 percent, fresh pasta sections; 23 percent, ice cream stands; 19 percent, tortillerias; 18 percent, yogurt machines; and 5 percent, sushi bars.

Performance

Several measures of performance include changes in productivity and technology, profits, menu prices and costs, foreign activity, and advertising.

Productivity and Technology

Labor productivity at eating and drinking places continues to decline. Though up only slightly in 1988 to 99.1 (1982=100), according to BLS data, output per labor hour in 1989 declined to 97.4 (app. table 54). The decline in the productivity index can be traced to increased growth in the number of hours worked by eating and drinking place employees. With employee hours growing at a faster rate than output, productivity has declined.

New computer technology offers endless possibilities that speed service and reduce labor. Restaurants are using software programs to track sales and inventory, schedule labor, and plan seating. New applications

include touch screens, robots, and voice-activated technology.

Touch screens where customers place their own orders by terminal are currently in limited use or are being tested by major fast food companies. Touch screens promote self-service, reduce labor, and speed up service. Technology exists that allows fast-food customers to order from touch screens in English, Spanish, German, French, and any other language using the Roman alphabet. Customers may someday be able to order in the language of their choice.

Robots are also on the horizon. They will be used to handle mundane and hazardous tasks that are unattractive to workers, such as emptying fry baskets, trays, and silverware. Tasks like chopping vegetables, starting broth, and other rote activities will be delegated to a robot so the chef can concentrate on his or her primary responsibilities of designing menus and creating menu items. Because robots can work almost constantly and can be programmed for multiple tasks, they may even be assigned to jobs such as cleaning the establishment after business hours. Some robots may be used as promotional tools to meet and greet guests. In Japan, guided mobile robots are already being used to take customer orders and make deliveries.

Voice-recognition technology may also prove to be a powerful force in fast-food and full-service restaurants. One recent success with a voice-activated robot is "Pizzabot," a voice-activated pizza robot developed by Carnegie-Mellon Research Institute in Pittsburgh, PA, for use by the disabled. "Pizzabot" makes pizza from start to finish, complete with sauce, cheese, and condiments. "Pizzabot" is employed at a vocational training center where disabled workers can try out a career in food service.

A voice-activated microwave and other high-tech appliances are being tested. Upon command, the microwave oven opens its door and a tray slides out. Another command causes the tray to slide back in and the door to shut. In addition to obvious laborsaving benefits, voice-recognition technology could provide jobs to disabled individuals and help alleviate the employment shortage.

Employment and Wages

Eating and drinking place employment grew by 2.3 percent to 6.6 million workers in 1990 (app. table 42). Food service accounts for 53 percent of all food marketing employees.

Employment at eating and drinking places will probably continue to grow at an average 1.8-percent annual rate. Eating-out establishments may employ about 7.8 million workers by the year 2000.

Because of a continuing decline in the number of younger workers, some operators are employing workers over 55 years of age. The number of senior adults in the labor force will continue to grow, as will employment of minorities.

Average hourly earnings of eating and drinking place employees continued to increase, reaching \$4.97 in 1990 (app. table 44).

For the second time in 2 years, the Federal minimum wage increased on April 1, 1991, pushing the minimum wage to \$4.25 per hour. As a result, many eating and drinking place operators raised menu prices and shortened hours worked by employees. Other operators have added or are planning to add labor-saving equipment or cut employee benefits.

Menu Prices and Costs

Menu prices were up 4.6 percent in 1989 and 4.7 percent in 1990. ERS forecasts about a 4.0-percent increase during 1991 of the Consumer Price Index (1982-84=100) to 138.5 compared with 133.4 in 1989.

Wholesale food prices increased at a slower rate, 5.0 percent in 1990 compared with 5.1 percent in 1989. Wholesale prices probably increased at an even slower pace, 3.7 percent, in 1991.

Industry labor costs rose 6.5 percent in 1990 compared with 4.2 percent in 1989. Industry labor costs are expected to increase 5.0 percent in 1991. Foodservice operators will probably spend more on labor recruitment, training, and benefits in the future.

Other costs are projected to rise 5.1 percent in 1991, keeping pace with the anticipated overall inflation rate. One influential factor, however, will continue to be the costs associated with solid-waste removal.

Another concern to the foodservice industry is pending legislation that would require employers to either provide all employees with health insurance or to pay a special tax.

Foreign Activities

In September 1990, PepsiCo's Pizza Hut, Inc., opened its first two restaurants in the Soviet Union. The restaurants cater to tastes for salty food with toppings such as salmon and sardines. Pizza Hut also opened its first unit in Beijing in 1990 and is planning to open 55 new restaurants in Germany by 1994, more than doubling the 45 restaurants it already has there. Nontraditional locations are also being explored.

In 1991, McDonald's opened its first restaurant in Indonesia and is setting up franchises throughout Italy. New locations for McDonald's in Europe include restaurants along Germany's autobahn highway system and on a train dining car in Switzerland.

Wendy's has exclusive rights to open units in Poland. The Polish units will be Wendy's first outlets in Eastern Europe.

Subway Sandwiches plans to expand into Japan. It already has units in Australia, Canada, Mexico, and Bahrain in the Middle East.

Profits

Price cutting (also known as "value pricing") became more intense in 1990 in the restaurant industry. Higher operating costs and price cutting hurt profits in the foodservice industry during 1990 and early 1991. Price cutting was led by Domino's and Little

Caesar's International, both privately owned pizza makers, and PepsiCo's Taco Bell and Pizza Hut units. McDonald's, the largest hamburger chain, had only a 3-percent growth rate in domestic sales during 1990. Domestic systemwide sales fell 1 percent during the first quarter of 1991. Sales from U.S. company units fell by 9 percent.

Both McDonald's and Kentucky Fried Chicken experienced weak U.S. sales during the first quarter of 1991. McDonald's and Kentucky Fried Chicken's profits came primarily from international operations.

Advertising

Television continued to be the favored advertising medium in 1989. The top five foodservice advertisers

spent \$868 million in 9-media advertising in 1989. Ninety-eight percent of that amount was spent on television promotions (table 24). McDonald's continued to lead foodservice advertisers in 1989, spending \$425 million, 6 percent more than in 1988, primarily on network and spot television.

PepsiCo invested \$272 million in 1989 with advertisements for its three food chains: Kentucky Fried Chicken, \$118 million; Pizza Hut, \$94 million; and Taco Bell, \$59 million. Many foodservice firms have made plans to increase their advertising budget in the future to combat recession. Grand Metropolitan, PLC, one of the leading food advertisers, spent \$170 million of its promotional budget on Burger King promotions in 1989.

Table 24--Advertising by foodservice companies, 1989¹*McDonald's spends more than 50 percent of its 9-media advertising budget on network television*

Total	9-Media ²	Magazine	Newspapers	Outdoor	Network TV	Spot TV	Syndicated TV	Cable TV	Network radio
<i>1,000 dollars</i>									
McDonald's	425,081.0	669.1	526.8	5,918.9	252,066.2	141,268.1	17,409.3	7,222.6	ND
Grand Metropolitan PLC:									
Burger King	170,392.9	382.1	216.6	910.0	112,255.9	35,922.3	13,434.8	3,476.0	3,795.2
PepsiCo:									
Pizza Hut	94,466.9	222.4	837.6	414.1	35,117.5	55,520.4	ND	2,209.4	145.5
Kentucky Fried Chicken	118,400.7	44.5	527.2	670.9	63,578.1	48,588.5	3,495.8	1,495.7	ND
Taco Bell	59,211.9	93.1	848.7	ND	ND	58,298.7	ND	ND	ND
Total	867,585.9	1,381.1	2,201.3	8,762.6	463,017.7	339,598.0	34,339.9	14,403.7	3,940.7

ND = No data.

¹ BAR/LNA copyrighted by Arbitron Ratings Company, Leading National Advertisers, Inc., Publishers Information Bureau, Inc., and Media Records, Inc.² The 9th media, Sunday magazines, had nothing to report.

Source: (3).

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List of Appendix Tables

<u>Table</u>	<u>Page</u>
Market Size and Sales	
1. Food expenditures in the food marketing system	64
2. Alcoholic beverage sales in the food marketing system	64
3. Supermarket sales by product category	65
4. Foodservice sales by industry segment	66
5. Alcoholic beverage sales by product category	67
6. Market share of distilled spirits entering U.S. trade channels	67
7. Food marketing system's share of disposable personal income	68
8. Food and nonfood sales or shipments in food marketing	68
9. Food processing product shipments	69
10. Wholesale food sales, by type of wholesaler	71
11. Foodstore sales	71
Industry Size and Structure	
12. Number of food marketing establishments	72
13. Number of food marketing establishments covered by unemployment insurance	72
14. Number of food marketing establishments (county business patterns)	73
15. Number of retail and wholesale alcoholic beverage establishments	73
16. Preliminary census status for food manufacturing industries	74
17. Number of grocery stores	76
18. Foodservice establishments by industry segment	77
19. Number of food marketing companies	78
20. Aggregate concentration in food marketing	78
21. Share of shipment value for the four and eight largest food processing firms	79
22. Aggregate concentration in food and tobacco manufacturing, measured by proportion of value added	81
23. Sales concentration in food wholesaling	82
24. Incorporated wholesale food firms by size of assets	83
25. Average concentration of top four grocery store firms by SMSA size	83
26. Chain stores' share of grocery store sales	84
27. Sales share of leading grocery chains	84
28. Concentration among separate eating places	85
29. Sales of top 25 food processing companies	85
30. Sales of top 25 food retailing companies	86
31. Sales of top 20 wholesale food companies	87
32. Sales of top 25 restaurant chains	88
33. Food marketing mergers	88
34. Food marketing mergers and divestitures costing over \$100 million, 1989	89
35. Food marketing mergers and divestitures costing over \$100 million, 1990	90
36. Food processing mergers	91
37. Aggressive buyers in food marketing	92
38. Aggressive divestitures in food marketing	92

Industry Economic Characteristics

39. Major economic indicators	93
40. Producer price indexes for the food marketing system	94
41. Value of U.S. dollar and interest rates	95
42. Number of employees in food marketing	96
43. Number of production workers in food marketing	96
44. Average hourly earnings in food marketing	97
45. Average weekly earnings in food marketing	97
46. Average weekly hours in food marketing	98
47. Food-related advertising	99
48. Leading food advertisers	100
49. Share of food advertising expenditures by the largest food marketing firms, 1988	101
50. Advertising media price changes	103
51. Advertising price changes in cost per 1,000 targeted viewers or readers	103

Performance Measures

52. Value added and employment generated by the food marketing system	104
53. Research and development expenditures in food and tobacco marketing	105
54. Labor productivity in food processing and retailing	106
55. Multifactor productivity changes in U.S. food manufacturing	107
56. Profit margins in food marketing	109
57. Profits (return on equity) after taxes of wholesale corporate food firms, by asset group	110
58. Income statement for food processing and retailing, 1990	111
59. Balance sheet for food processing and retailing, 1990	113
60. Aftertax profits of selected processors in the first 9 months of 1990	115
61. Aftertax profits of selected beverage companies in the first 9 months of 1990	115
62. Aftertax profits of selected food wholesalers in the first 9 months of 1990	116
63. Aftertax profits of selected food retailers in the first 9 months of 1990	116
64. New products introduced in 20 selected categories	117
65. Capital expenditures in food marketing	118
66. U.S. food plant construction	119
67. New capital expenditures in the food processing sectors	120
68. Fixed capital in food manufacturing	121
69. Capacity measures in food marketing	122
70. Dow Jones Market Indexes of Stock Prices for the food marketing system	123
71. Price/earnings ratio for the food marketing system	123

Food Marketing Purchases

72. Food marketing system purchases from U.S. agriculture	124
73. Food marketing system purchases from fisheries	124

Food Marketing and the International Economy

74. U.S. trade in processed foods, 1990	125
75. U.S. trade balance in processed foods	126
76. Foreign investment in food marketing	127
77. Profile of foreign affiliates of U.S. firms	128
78. Profile of U.S. affiliates of foreign firms	129
79. World's largest food processing firms, 1989-90	130
80. Composition of food processing industries in selected countries, 1985	132
81. Food processing share of total manufacturing production and employment within each country of the Organization for Economic Cooperation and Development (OECD)	133
82. Share of food marketing production and employment by OECD countries, 1985	134
83. OECD trade in processed foods	135
84. Productivity in food processing industries in selected OECD countries, 1985	136
85. Private research and development (R&D) expenditures by OECD food-related industries, 1981	137

Market Size and Sales

Appendix table 1--Food expenditures in the food marketing system¹

Year	Off-premise use				Total sales	Food service	Total
	Food-stores	Other stores	Home-delivered, mail order	Farmers, manufacturers, wholesalers			
<i>Billion dollars</i>							
1963	44.1	3.0	2.7	1.6	51.5	22.6	74.1
1967	52.1	3.3	2.5	1.6	59.5	30.4	89.9
1972	75.5	3.9	2.4	1.8	83.6	46.6	130.2
1977	118.3	7.1	2.3	2.9	130.5	84.9	215.4
1982	179.1	10.8	2.6	4.2	196.7	140.7	337.5
1983	186.7	13.1	2.7	4.3	206.8	152.4	359.2
1984	195.8	15.2	2.8	4.5	218.2	163.5	381.7
1985	203.0	17.1	2.8	4.6	227.6	172.9	400.5
1986	207.6	20.4	2.9	4.7	235.6	186.2	418.8
1987	213.9	21.7	3.4	5.0	244.0	205.8	449.8
1988	224.4	22.4	3.7	5.2	255.9	222.8	478.5
1989	238.6	24.5	3.9	5.0	272.1	234.1	506.2
1990 ²	250.8	25.4	4.3	5.8	286.3	251.0	537.3
1991 ³	261.2	26.3	4.6	5.9	296.6	261.0	557.6

¹ Includes taxes and tips. Excludes home food production.

² Preliminary.

³ Projected.

Source: (25) and updates.

Appendix table 2--Alcoholic beverage sales in the food marketing system

Year	Packaged alcoholic beverages				Alcoholic drinks			Total	Total
	Liquor stores	Food-stores	All other	Total	Eating and drinking places ¹	Hotels and motels	All other		
<i>Million dollars</i>									
1963	4,465	2,594	725	7,784	5,306	458	385	6,149	13,933
1967	6,005	3,211	904	10,120	6,222	623	551	7,396	17,516
1972	8,810	5,137	1,113	15,060	7,911	961	704	9,576	24,636
1977	11,686	8,041	1,946	21,673	11,981	1,713	1,266	14,960	36,633
1982	15,984	13,379	3,378	32,740	18,371	2,849	1,488	22,708	55,449
1983	16,818	14,789	3,917	35,524	19,038	3,171	1,629	23,838	59,362
1984	15,997	16,622	4,258	36,877	19,863	3,484	1,714	25,061	61,938
1985	17,058	16,989	4,607	38,654	20,659	3,803	1,858	26,320	64,974
1986	17,350	17,631	5,246	40,227	22,291	4,011	1,990	28,292	68,519
1987	17,283	18,198	5,349	40,830	23,225	4,549	2,206	29,980	70,810
1988	17,100	18,733	5,567	41,400	24,712	4,942	2,391	32,045	73,445
1989	17,485	19,609	6,156	43,250	25,524	5,128	2,547	33,199	76,449
1990 ²	18,176	20,378	6,631	45,185	26,170	5,663	2,700	34,533	79,718
1991 ²	NA	NA	NA	46,500	NA	NA	NA	36,000	82,500

NA = Not available.

¹ Includes tips.

² Projected.

Source: (25) and updates.

Appendix table 3--Supermarket sales by product category

Product	1990 sales volume	Share of supermarket sales	Change, 1989-90
	<i>Million dollars</i>	<i>----- Percent -----</i>	
Baby foods	1,819.68	0.67	9.78
Baking needs	4,515.17	1.66	2.03
Beer and wine	7,550.03	2.78	3.30
Breakfast foods	6,663.97	2.45	7.49
Candy and gum	2,633.76	.97	1.45
Canned fish	1,875.56	.69	1.76
Canned fruit	1,303.26	.48	3.78
Canned meat and specialty foods	1,495.85	.55	4.48
Canned vegetables	2,767.54	1.02	2.28
Coffee and tea	3,713.71	1.37	-1.89
Cookies and crackers	5,879.26	2.16	5.55
Desserts and toppings	718.87	.26	5.23
Dried fruit	579.62	.21	15.91
Juice (grocery)	3,739.60	1.38	5.77
Nuts	874.46	.32	1.69
Pasta products	1,664.13	.61	9.03
Pickles and olives	1,002.44	.37	3.94
Rice and dried vegetables	1,010.24	.37	8.35
Sauces and dressings	4,330.83	1.59	4.91
Snacks	4,456.68	1.64	8.09
Soft drinks and mixes	10,930.61	4.02	6.25
Soups	2,001.22	.74	4.26
Spices and extracts	939.53	.35	4.81
Spreads and syrups	1,810.35	.67	4.14
Total grocery edibles	74,276.37	27.33	4.65
Household supplies	8,814.22	3.24	3.23
Paper, plastic, film, and foil products	9,929.01	3.65	4.09
Pet foods	5,320.95	1.96	4.03
Tobacco products	8,978.61	3.30	2.73
Total grocery nonedibles	33,042.79	12.15	3.47
Bakery foods, packaged	9,253.27	3.41	4.79
Dairy products	21,776.42	8.01	2.21
Delicatessen products	7,876.53	2.90	10.46
Florals	802.80	.30	NA
Frozen foods	16,297.62	6.00	3.27
Ice cream	2,438.02	.90	2.91
Instore bakery	4,476.27	1.65	NA
Meat	47,666.86	17.54	5.74
Produce	26,793.86	9.86	8.33
Total perishables	137,381.65	50.57	6.21
General merchandise	11,135.25	4.10	3.58
Health and beauty aids	10,674.92	3.93	5.91
Unclassified ¹	5,189.02	1.92	NA
Total supermarket	271,700.00	100.00	5.31

NA = Not available.

¹ Includes prescription and nonprescription drug products, fresh fish, catering services, sit-down food service, seasonal merchandise, distilled spirits, money orders, and other such goods and services.

Sources: (1, 34).

Appendix table 4--Foodservice sales by industry segment¹

Industry segment	1983	1984	1985	1986	1987	1988	1989	1990
<i>Million dollars</i>								
Commercial:								
Separate eating places--								
Restaurants and lunchrooms	43,542	46,934	47,740	53,027	57,698	60,839	63,092	65,419
Fast-food outlets	40,110	42,805	46,446	49,852	57,578	64,981	68,319	72,680
Cafeterias	2,878	3,102	3,195	3,505	3,294	3,473	3,601	3,734
Social caterers	718	740	764	963	946	1,155	1,215	1,364
Total	87,248	93,581	98,145	107,347	119,516	130,448	136,227	143,197
Lodging places	6,724	7,762	8,416	8,843	9,903	10,723	11,110	12,223
Retail hosts	4,700	5,123	5,485	6,027	6,069	7,051	7,447	7,717
Recreation and entertainment	3,075	3,288	3,524	3,830	4,272	4,716	5,086	5,437
Separate drinking places	1,111	1,197	1,329	1,475	1,546	1,629	1,669	1,670
Commercial feeding total	102,858	110,951	116,899	127,522	141,306	154,567	161,539	170,244
Noncommercial:								
Education--								
Elementary and secondary	8,224	8,615	8,992	9,610	10,434	10,458	11,215	11,502
Colleges and universities	4,918	5,272	5,659	6,184	6,856	7,414	8,025	8,624
Total	13,142	13,887	14,651	15,794	17,290	17,872	19,240	20,126
Military services--								
Troop feeding	1,212	1,152	1,096	1,066	1,060	1,070	1,108	1,122
Clubs and exchanges	546	601	617	630	640	665	680	710
Total	1,758	1,753	1,713	1,696	1,700	1,735	1,788	1,832
Plants and office buildings	3,109	3,472	3,674	3,966	4,254	4,587	4,818	5,006
Hospitals	3,832	3,780	3,515	3,494	3,528	3,576	3,726	4,148
Extended care facilities	5,514	5,926	5,692	5,908	6,176	6,490	6,994	7,830
Vending	4,885	4,930	4,727	4,770	5,276	5,610	5,713	6,022
Transportation	2,181	2,500	2,703	3,100	3,586	3,976	4,225	4,425
Associations	1,257	1,342	1,427	1,488	1,610	1,709	1,846	1,977
Correctional facilities	1,442	1,590	1,700	1,880	2,046	2,254	2,626	3,002
Child daycare centers	602	706	827	912	999	1,135	1,324	1,506
Elderly feeding programs	102	105	107	117	116	147	309	913
Other	329	393	373	469	451	242	271	317
Noncommercial feeding total	38,153	40,384	41,109	43,594	47,032	49,333	52,880	57,104
Total	141,011	151,335	158,008	171,116	188,338	203,900	214,419	227,348

¹ Excludes sales taxes and tips.

Source: (25).

Appendix table 5--Alcoholic beverage sales by product category

Year	Total retail sales	Market shares		
		Distilled spirits	Wine	Beer
	<i>Million dollars</i>	<i>Percent</i>		
1967	17,516	50.8	6.0	43.2
1972	24,636	48.0	9.1	42.9
1977	36,633	41.8	10.0	48.2
1983	59,555	33.8	12.3	53.9
1984	62,296	32.1	12.4	54.5
1985	64,974	32.7	12.9	54.4
1986	68,519	32.6	13.4	54.0
1987	70,810	32.4	13.2	54.5
1988	73,445	31.9	12.7	55.3
1989	76,449	31.7	12.2	56.0
1990	79,718	NA	NA	NA

NA = Not available.

Sources: (10, 25).

Appendix table 6--Market share of distilled spirits entering U.S. trade channels

Type	1975	1977	1982	1983	1984	1985	1986	1987	1988	1989
	<i>Percent</i>									
Domestic	71.5	72.1	69.4	68.3	67.4	68.3	68.3	68.2	68.1	67.0
Imported	28.5	28.0	30.7	31.7	32.6	31.7	31.7	31.8	31.9	33.0
Whiskey	53.2	49.5	43.9	42.5	41.3	39.9	38.7	38.2	37.6	37.2
Gin	9.8	10.0	9.3	9.3	9.1	8.7	8.7	8.6	8.3	8.3
Vodka	19.4	20.6	22.4	22.7	22.5	22.9	23.5	22.9	24.1	24.4
Rum	4.0	5.2	7.3	7.8	7.9	7.9	7.9	7.9	8.3	9.1
Brandy	3.5	3.8	4.6	4.9	5.1	5.1	5.1	5.1	5.1	5.1
Cordials	7.0	7.1	9.0	8.8	10.1	11.2	11.9	12.5	11.5	11.0
Others	3.1	3.5	3.5	4.0	4.0	4.0	3.8	4.5	4.5	4.9
	<i>Million gallons¹</i>									
Total	448	441	447	448	444	431	403	40	384	355

¹ Equivalent to wine.

Source: (10).

Appendix table 7--Food marketing system's share of disposable personal income¹

Year	Retailing	Food service	Total food
		<i>Percent</i>	
1963	12.5	3.5	16.0
1967	10.6	3.5	14.1
1972	10.0	3.7	13.7
1977	9.5	4.2	13.7
1982	8.5	4.5	13.0
1983	8.3	4.6	12.9
1984	7.9	4.4	12.3
1985	7.8	4.4	12.2
1986	7.5	4.4	11.9
1987	7.4	4.5	11.9
1988	7.2	4.5	11.7
1989	7.2	4.4	11.6
1990	7.3	4.4	11.7
1991	7.2	4.3	11.5

¹ Excludes alcohol.

Source: (48).

Appendix table 8--Food and nonfood sales or shipments in food marketing¹

Year	Processing ²	Wholesaling	Food service	Retailing
				<i>Million dollars</i>
1972	115,051	106,457	NA	99,035
1977	192,912	182,905	NA	157,941
1982	280,530	288,658	NA	246,122
1983	287,084	309,200	135,982	256,018
1984	300,012	333,000	146,054	271,909
1985	301,562	346,300	152,773	285,062
1986	308,528	369,900	165,708	297,019
1987	329,725	380,900	182,633	309,461
1988	351,513	396,700	205,310	326,504
1989	364,403	422,600	215,514	349,269
1990 ³	375,335	431,000	228,627	362,410
1991 ³	379,000	441,800	NA	NA

NA = Not available.

¹ Both food processing and wholesaling include double counting because of sales to other processors or wholesalers. Sales of the four sectors include nonfood grocery items. Shipments or sales of the four sectors are noncumulative.

² Industry shipments.

³ Projected.

Sources: (47, 50, 51, 52, 53, 57).

Appendix table 9--Food processing product shipments

Industry	1987	1988	1989	1990 ¹	1991 ²
	<i>Million dollars</i>				
Meat products	79,002	81,189	84,340	92,099	93,476
Meatpacking plants	45,536	47,333	46,542	NA	NA
Sausage and other prepared meats	16,553	17,258	17,515	NA	NA
Poultry slaughtering and processing	14,912	16,598	20,282	NA	NA
Dairy products	44,755	46,944	48,044	50,926	48,548
Creamery butter	1,420	1,764	1,570	NA	NA
Cheese, natural and processed	12,971	13,134	14,317	NA	NA
Condensed and evaporated milk	5,856	6,245	6,052	NA	NA
Ice cream and frozen desserts	3,916	4,298	4,474	NA	NA
Fluid milk	20,590	21,502	21,630	NA	NA
Preserved fruit and vegetables	36,342	38,301	41,627	NA	NA
Canned specialties	5,350	5,551	6,047	NA	NA
Canned fruit and vegetables	11,889	12,872	13,605	NA	NA
Dried fruit, vegetables, and soups	1,821	1,971	2,235	NA	NA
Pickles, sauces, and salad dressings	5,050	5,292	5,412	NA	NA
Frozen fruit and vegetables	6,606	6,814	7,422	NA	NA
Frozen specialties	5,624	5,798	6,904	NA	NA
Grain mill products	36,737	40,945	44,873	NA	NA
Flour and grain mill products	4,984	5,205	5,776	NA	NA
Cereal breakfast foods	6,565	7,274	7,912	NA	NA
Rice milling	1,234	1,603	1,743	NA	NA
Prepared flour mixes and dough	2,625	2,802	2,912	NA	NA
Wet corn milling	4,788	5,312	6,287	NA	NA
Dog, cat, and other pet food	5,069	5,956	6,703	NA	NA
Prepared animal feed	11,468	12,790	13,538	NA	NA
Bakery products	23,677	24,156	25,065	NA	NA
Bread and other bakery goods	16,221	16,362	16,580	NA	NA
Cookies and crackers	6,290	6,498	7,099	NA	NA
Frozen bakery products, except bread	1,165	1,296	1,386	NA	NA
Sugar and confections	18,887	19,640	20,184	NA	NA
Raw cane sugar	1,239	1,287	1,436	NA	NA
Cane sugar, refined	2,460	2,458	2,641	NA	NA
Beet sugar	1,831	2,093	2,096	NA	NA
Candy and other confectionery products	6,979	7,419	7,863	NA	NA
Chocolate and cocoa products	3,107	3,212	2,843	NA	NA
Chewing gum	1,090	1,040	NA	NA	NA
Salted and roasted nuts and seeds	2,178	2,129	NA	NA	NA
Fats and oils	15,880	20,516	20,194	NA	NA
Cottonseed oil mills	470	851	938	NA	NA
Soybean oil mills	9,074	12,140	10,723	NA	NA
Vegetable oil mills	431	448	591	NA	NA
Animal and marine fats and oils	1,753	2,024	2,297	NA	NA
Shortening and cooking oils	4,151	5,052	5,642	NA	NA

See footnotes at end of table.

Continued--

Appendix table 9--Food processing product shipments--Continued

Industry	1987	1988	1989	1990 ¹	1991 ²
	<i>Million dollars</i>				
Beverages	47,327	49,722	50,133	53,028	54,364
Malt beverages	13,618	13,870	14,321	NA	NA
Malt	530	613	798	NA	NA
Wines, brandy, and brandy spirits	3,208	NA	3,539	NA	NA
Distilled and blended liquors	3,474	3,468	3,601	NA	NA
Soft drinks and carbonated water	21,830	23,310	23,002	NA	NA
Flavoring extracts and syrups	4,664	4,930	4,870	NA	NA
Miscellaneous foods	29,116	30,098	29,938	NA	NA
Processed fishery products	767	844	837	NA	NA
Roasted coffee	6,400	6,332	6,167	NA	NA
Potato chips and similar products	5,040	5,384	5,788	NA	NA
Manufactured ice	289	280	355	NA	NA
Macaroni and spaghetti	1,048	1,119	1,154	NA	NA
Other food preparations	9,787	10,167	10,083	NA	NA
Total food products	329,725	351,513	364,403	375,335	379,000

NA = Not available.

¹ Estimated.² Projected.

Source: (47).

Appendix table 10--Wholesale food sales, by type of wholesaler

Year	Merchants	Manufacturers' sales branches and offices	Agents and brokers
<i>Billion dollars</i>			
1982	174.7	63.9	50.0
1983	187.6	68.3	53.3
1984	203.1	73.1	56.8
1985	207.7	78.1	60.5
1986	221.9	83.5	64.5
1987	223.0	89.2	68.7
1988	228.1	95.4	73.2
1989	242.7	101.9	78.0
1990	238.9	109.0	83.1

Sources: (53, 57).

Appendix table 11--Foodstore sales¹

Year	Total foodstore sales	Grocery store sales			Specialized foodstore sales	
		Total	Supermarkets	Convenience stores		Superettes
<i>Million dollars</i>						
1958	50,263	43,696	23,562	NA	NA	6,567
1963	57,254	52,566	31,484	NA	NA	4,688
1967	69,371	64,215	43,433	NA	NA	5,156
1972	99,035	92,273	63,791	4,200	24,282	6,762
1977	157,941	147,759	110,849	8,722	28,188	10,182
1982	246,122	230,696	171,966	24,867	33,863	15,426
1983	256,018	240,402	184,568	27,677	28,157	15,616
1984	271,909	256,465	193,059	33,320	30,086	15,444
1985	285,062	269,546	201,843	33,707	33,996	15,516
1986	297,019	280,833	211,042	34,426	35,365	16,186
1987	309,461	290,979	219,890	36,051	35,038	18,482
1988	326,504	307,176	230,640	38,338	38,198	19,328
1989	349,269	329,383	247,312	43,945	38,126	19,886
1990	362,410	338,661	260,127	46,537	31,997	23,749

NA = Not available.

¹ Sales exclude sales taxes.

Sources: (34, 52).

Industry Size and Structure

Appendix table 12--Number of food marketing establishments

Year	Processing	Wholesaling	Eating and drinking places ¹	Retailing	Total
<i>Number</i>					
1963	37,521	41,890	334,481	319,433	733,325
1967	32,517	40,005	271,182	294,243	637,947
1972	28,193	38,531	359,524	267,352	693,600
1977	26,656	37,960	368,066	252,853	685,535
1982	22,130	38,516	379,444	254,346	694,436
1987	20,624	42,075	490,383	257,337	810,239

¹ Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

Sources: (50, 51, 53).

Appendix table 13--Number of food marketing establishments covered by unemployment insurance¹

Year	Processing	Wholesaling	Eating and drinking places ²	Retailing	Total
<i>Number</i>					
1978	24,999	39,339	284,531	127,974	476,843
1979	24,172	40,009	288,016	128,114	480,311
1980	24,218	40,613	290,959	129,402	485,192
1981	24,061	41,629	292,570	129,921	488,181
1982	24,180	42,626	297,630	132,067	496,503
1983	24,127	43,498	305,684	135,125	508,434
1984	23,845	44,856	308,966	136,651	514,318
1985	23,669	45,584	314,257	138,641	522,151
1986	23,367	46,678	319,484	139,106	528,635
1987	23,174	48,677	331,368	141,426	544,645
1988	22,920	50,103	337,566	141,791	552,380
1989	22,239	51,096	343,168	142,356	558,859

¹ Includes production establishments, central business offices, and other auxiliary units.

² Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

Source: (64).

Appendix table 14--Number of food marketing establishments (county business patterns)¹

Year	Processing	Wholesaling	Eating and drinking places ²	Retailing	Total
			<i>Number</i>		
1974	25,383	34,736	241,253	160,233	461,605
1975	24,550	34,577	245,774	159,710	464,611
1976	24,113	34,893	252,267	162,010	473,283
1977	24,294	35,951	275,761	167,088	503,094
1978	23,748	35,019	278,609	161,230	498,606
1979	21,362	36,127	275,447	159,162	492,098
1980	20,983	35,636	271,236	157,649	485,504
1981	20,720	35,535	273,726	162,952	492,933
1982	20,808	36,521	299,684	173,311	530,324
1983 ³	21,757	39,517	351,935	187,451	600,660
1984	21,667	37,492	350,619	185,133	594,911
1985	21,569	39,694	333,994	182,725	577,982
1986	21,145	39,758	362,895	187,430	611,228
1987	20,837	42,031	388,842	197,130	648,840
1988	20,323	40,651	370,291	183,226	614,531

¹ Includes administrative and auxiliary establishments, both of which are excluded from appendix table 13.

² Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

³ Beginning in 1983, establishments were included if they existed at any time during the year. For prior years, only firms existing at the end of the year were included.

Source: (54).

Appendix table 15--Number of retail and wholesale alcoholic beverage establishments

Year	Liquor stores	Wholesale distributors
		<i>Number</i>
1963	40,188	7,598
1967	39,719	7,109
1972	41,991	6,383
1977	44,354	6,714
1982	41,507	6,666
1987	45,086	5,835

Sources: (52, 53).

Appendix table 16--Preliminary census status for food manufacturing industries

Industry group and industry	1987				1982			
	All establishments		Value added by manufac- ture	Cost of materials	All establishments		Value added by manufac- ture	Cost of materials
	Total	With 20 or more employ- ees			Total	With 20 or more employ- ees		
	----- Number -----		---- Million dollars ----		----- Number -----		---- Million dollars ----	
All industries	368,817	126,162	1,166,554.9	1,321,327.8	358,061	123,163	824,117.7	1,130,142.7
Food and kindred products	20,624	9,694	122,072.6	208,628.7	22,130	10,681	88,419.1	192,216.6
Meat products	3,267	1,535	13,740.4	62,850.3	3,623	1,682	11,002.3	56,598.2
Meatpacking plants	1,465	504	5,160.0	39,840.3	1,780	668	5,824.6	39,048.6
Sausages and other prepared meats	1,340	651	4,470.3	12,184.1	1,311	613	2,009.9	9,379.1
Poultry slaughtering and processing	462	380	4,110.2	10,825.9	532	401	2,276.8	8,170.5
Dairy products	2,366	1,289	11,908.9	32,945.7	2,724	1,449	8,359.8	30,473.6
Creamery butter	49	26	155.6	1,269.3	74	35	135.6	1,556.1
Cheese, natural and processed	643	310	2,614.4	10,315.1	704	319	1,777.3	9,012.7
Condensed and evaporated milk	185	114	2,388.2	3,445.4	204	125	1,447.6	3,296.7
Ice cream and frozen desserts	540	212	1,263.4	2,669.5	552	219	910.4	1,949.0
Fluid milk	949	627	5,487.3	15,246.5	1,190	751	4,088.9	14,659.1
Preserved fruit and vegetables	1,912	1,106	17,272.1	19,042.8	NA	NA	NA	NA
Canned specialties	211	86	2,661.9	2,703.4	198	88	1,769.3	2,372.0
Canned fruit and vegetables	648	418	5,441.8	6,467.8	715	451	3,552.7	5,768.1
Dehydrated fruit, vegetables, and soups	131	68	938.6	928.4	151	85	792.3	985.0
Pickles, sauces, and salad dressings	381	161	2,457.8	2,455.5	376	155	1,736.9	2,532.7
Frozen fruit and vegetables	258	193	2,986.0	3,669.5	264	199	2,408.6	2,970.1
Frozen specialties	283	180	2,786.0	2,818.2	NA	NA	NA	NA
Grain mill products	2,610	1,015	15,271.3	21,530.4	2,745	1,063	10,333.1	20,965.7
Flour and other grain mill products	361	168	1,384.0	3,709.9	360	174	1,094.3	3,825.5
Breakfast cereals	53	34	4,904.5	1,669.8	52	37	2,622.8	1,475.0
Rice milling	63	35	440.1	852.4	NA	NA	NA	NA
Blended and prepared flour	147	95	1,237.0	1,294.0	NA	NA	NA	NA
Wet corn milling	61	36	2,030.9	2,746.7	42	27	1,157.4	2,101.0
Dog, cat, and other pet food	186	101	2,739.5	2,289.1	NA	NA	NA	NA
Other prepared feeds	1,739	546	2,535.4	8,968.6	NA	NA	NA	NA
Bakery products	2,850	1,287	15,251.7	8,477.0	NA	NA	NA	NA
Bread, cake, and related products	2,356	1,030	10,550.9	5,670.6	2,305	1,074	7,861.1	5,282.7
Cookies and crackers	380	191	4,100.7	2,241.0	358	187	2,789.3	1,880.2
Frozen bakery products, except bread	114	66	600.1	565.4	NA	NA	NA	NA

See footnotes at end of table.

Continued--

Appendix table 16--Preliminary census status for food manufacturing industries--Continued

Industry group and industry	1987				1982				
	All establishments			Value added by manufac- ture	All establishments			Value added by manufac- ture	Cost of materials
	Total	With 20 or more employ- ees	Cost of materials		Total	With 20 or more employ- ees	Cost of materials		
	----- Number -----		--- Million dollars ---		----- Number -----		--- Million dollars ---		
Sugar and confectionery products	1,094	520	8,927.1	10,560.6	1,033	506	6,234.0	9,348.7	
Raw cane sugar	50	42	509.6	796.0	51	44	297.7	755.8	
Cane sugar, refined	24	16	445.9	2,003.4	30	25	622.4	2,424.9	
Beet sugar	43	38	613.2	1,277.1	48	44	432.2	1,102.5	
Confectionery products	672	292	4,163.0	3,118.1	NA	NA	NA	NA	
Chocolate and cocoa products	188	55	1,578.3	1,727.0	NA	NA	NA	NA	
Chewing gum	29	12	750.3	347.8	14	14	598.9	312.3	
Salted and roasted nuts and seeds	88	65	866.8	1,291.2	NA	NA	NA	NA	
Fats and oils	595	358	3,245.5	12,916.5	724	432	2,785.4	13,910.6	
Cottonseed oil mills	52	40	106.9	378.8	77	59	202.9	715.0	
Soybean oil mills	115	74	1,019.0	8,199.0	114	84	678.2	7,896.8	
Vegetable oil mills	23	15	82.7	353.3	29	15	80.0	467.0	
Animal and marine fats and oils	305	154	750.4	1,024.1	386	189	562.6	1,188.5	
Edible fats and oils	100	75	1,286.5	2,961.3	118	85	1,261.7	3,643.3	
Beverages	2,214	1,132	22,693.7	24,859.8	2,584	1,501	16,683.6	22,163.7	
Malt beverages	134	64	7,270.8	6,311.4	109	73	4,543.8	6,669.7	
Malt	27	19	153.6	368.0	36	25	166.2	480.0	
Wines, brandy, and brandy spirits	508	108	1,317.1	1,815.7	366	103	996.7	1,762.9	
Distilled spirits, except brandy products	71	56	2,043.7	1,508.8	104	75	1,460.1	1,700.5	
Bottled and canned soft drinks	1,192	785	8,612.9	13,488.8	1,626	1,094	6,856.1	9,981.3	
Flavoring extracts and syrups	282	100	3,295.6	1,367.2	343	131	2,669.8	1,569.3	
Miscellaneous foods and food products	3,716	1,452	13,762.0	15,445.6	3,941	1,558	10,017.2	13,962.7	
Canned and cured fish and seafood	178	84	290.1	509.1	204	107	613.4	1,235.3	
Fresh or frozen prepared fish	640	354	1,540.0	4,188.2	783	433	966.7	3,040.0	
Roasted coffee	142	83	2,602.8	3,803.0	152	85	2,070.3	3,749.0	
Potato chips and similar snacks	340	182	3,292.5	1,745.0	NA	NA	NA	NA	
Manufactured ice	548	65	202.2	86.2	596	64	152.6	79.0	
Macaroni and spaghetti	227	49	620.3	442.5	NA	NA	NA	NA	
Food preparations	1,641	635	5,214.1	4,671.5	NA	NA	NA	NA	

NA = Not available.

Source: (50).

Appendix table 17--Number of grocery stores

Year	Total	Supermarkets	Convenience	Superettes
		<i>Number</i>		
1939	386,900	NA	NA	NA
1958	259,796	15,282	NA	NA
1963	244,838	21,167	NA	NA
1967	218,130	23,808	NA	NA
1972	194,346	27,231	NA	NA
1977	179,042	30,831	30,000	118,211
1982	177,889	26,640	38,700	112,549
1983 ¹	177,659	26,480	40,400	110,779
1984 ¹	177,430	26,265	42,950	108,215
1985 ¹	177,200	26,229	45,400	105,571
1986 ¹	176,971	25,629	47,000	104,342
1987	176,759	24,980	50,000	101,779
1988 ¹	174,531	24,614	52,500	97,417
1989 ¹	172,332	24,083	52,000	96,249
1990 ¹	170,160	23,813	51,700	94,647

NA = Not available.

¹ ERS projection.

Sources: (34, 53).

Appendix table 18--Foodservice establishments by industry segment

Industry segment	1981	1982	1983	1984	1985	1986	1987	1988 ¹
	<i>Number</i>							
Commercial:								
Separate eating places--								
Restaurants, lunchrooms	122,060	122,851	123,642	124,433	125,502	125,237	124,983	125,042
Fast-food outlets	113,794	117,119	120,444	123,769	124,809	125,032	126,619	127,930
Cafeterias	6,223	61,029	5,853	5,640	5,388	4,277	4,420	4,312
Total	242,077	300,999	249,939	253,842	255,699	254,546	256,022	257,284
Lodging places	23,559	24,448	23,855	23,262	22,613	24,533	25,413	26,252
Retail hosts	58,193	57,578	56,963	56,348	56,005	55,616	54,942	54,008
Recreation, entertainment	33,996	34,093	34,188	34,282	34,910	35,716	36,125	36,660
Separate drinking places	45,864	44,478	43,092	41,706	40,642	39,462	38,520	37,113
Commercial feeding total	403,701	410,155	408,030	409,453	409,869	409,873	411,022	411,317
Noncommercial:								
Education--								
Elementary, secondary								
Elementary, secondary	92,900	91,300	90,600	89,600	89,424	88,824	88,414	89,692
Colleges, universities	3,253	3,280	3,284	3,288	3,299	3,312	3,443	3,511
Other education	2,925	2,966	2,975	3,000	3,076	3,120	3,185	3,240
Total	99,078	97,546	96,859	95,888	95,799	95,256	95,042	96,443
Military services--								
Troop feeding								
Troop feeding	1,389	1,387	1,341	1,310	1,290	1,250	1,222	1,217
Clubs, exchanges	2,435	2,431	2,420	2,042	1,980	1,940	1,913	1,904
Total	3,824	3,818	3,761	3,352	3,270	3,190	3,135	3,121
Plants, office buildings	15,747	15,414	15,409	15,846	15,963	16,006	16,814	17,250
Hospitals	6,933	6,915	6,888	6,861	6,835	6,810	6,796	6,772
Care facilities	24,941	26,817	27,875	28,933	29,711	30,599	31,218	31,945
Vending	3,634	3,608	3,582	3,556	3,535	3,507	3,480	3,453
Transportation	714	664	644	642	640	626	607	594
Associations	19,211	19,272	19,333	19,394	19,450	19,333	19,200	19,070
Correctional facilities	6,977	7,031	7,085	7,164	7,204	7,232	7,255	7,282
Child daycare centers	64,657	70,679	78,880	84,175	88,410	91,645	94,819	96,918
Elderly feeding programs	12,915	13,246	13,993	14,035	14,068	19,167	19,605	20,000
Other	15,841	16,159	16,479	16,799	17,101	17,389	17,681	17,767
Noncommercial feeding total	274,472	281,169	290,788	296,645	301,986	310,760	315,652	320,461
Total	678,172	691,324	698,738	706,098	711,855	720,633	726,674	731,724

¹ Preliminary.
Source: (52).

Appendix table 19--Number of food marketing companies

Year	Processing	Wholesaling		Food service ¹	Retailing		Total
		Grocery	Liquor		Food-stores ¹	Liquor stores	
<i>Number</i>							
1963	32,617	35,666	7,598	175,117	162,273	28,624	441,895
1967	26,549	33,848	6,246	170,851	131,926	20,200	389,620
1972	22,171	32,053	5,792	179,578	122,592	28,378	390,564
1977	20,616	31,670	5,518	186,625	120,107	29,741	394,277
1982	16,800	31,290	5,158	198,088	109,567	28,977	389,880
1987	15,692	34,155	5,835	191,798	108,439	25,163	381,082

¹ Firms with paid employees.

Sources: (50, 52, 53).

Appendix table 20--Aggregate concentration in food marketing

Year	Share of market controlled by top firms			
	Top 50 processing firms	Top 50 wholesaling firms	Top 20 retailing firms	Top 50 foodservice firms
<i>Percent</i>				
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	48.0 ¹	71.4	36.5	22.3

NA = Not available.

¹ Estimated.

Sources: (50, 52, 53).

Appendix table 21--Share of shipment value for the four and eight largest food processing firms

Industry	1982			1977			1967		
	Total firms	Share of shipment value		Total firms	Share of shipment value		Total firms	Share of shipment value	
		4 largest firms	8 largest firms		4 largest firms	8 largest firms		4 largest firms	8 largest firms
	<i>Number</i>	<i>-----Percent-----</i>		<i>Number</i>	<i>-----Percent-----</i>		<i>Number</i>	<i>-----Percent-----</i>	
Meatpacking	1,658	29	43	2,404	19	37	2,529	26	38
Sausages	1,193	19	28	1,213	23	30	1,294	15	22
Poultry dressing	231	22	36	313	16	27	NA	NA	NA
Poultry and egg processing	136	22	35	124	21	35	NA	NA	NA
Butter	61	41	61	123	49	66	510	15	22
Cheese	575	34	47	660	35	48	891	44	51
Condensed and evaporated milk	132	35	50	167	30	46	179	41	56
Ice cream	482	22	34	567	28	40	713	33	43
Fluid milk	853	16	27	1,516	18	28	2,988	22	30
Canned specialties	171	61	77	172	61	77	150	69	83
Canned fruit and vegetables	541	21	35	648	22	35	930	34	52
Dehydrated fruit and vegetables	119	42	59	143	37	53	134	32	50
Pickles, sauces, and salad dressings	325	56	65	380	55	62	479	33	44
Frozen fruit and vegetables	195	27	42	187	22	40	495	36	55
Frozen specialties	318	38	54	330	40	55	NA	NA	NA
Flour and grain milling	251	40	60	301	33	54	438	30	46
Breakfast cereals	32	86	NA	32	89	98	30	88	97
Rice milling	49	47	75	47	51	76	54	46	68
Blended and prepared flour	91	58	74	111	51	69	126	68	82
Wet corn milling	25	74	94	24	63	89	32	68	89
Pet food	222	52	71	218	58	74	NA	NA	NA
Prepared feeds	1,245	20	30	1,435	22	30	NA	NA	NA
Breads and cakes	1,869	34	47	2,549	33	40	3,445	26	38
Cookies and crackers	269	59	71	26	359	68	286	59	70
Raw cane sugar	43	41	61	49	42	62	61	43	65
Cane sugar refining	19	65	91	27	63	90	22	59	82
Beet sugar	14	67	95	14	67	95	15	66	96
Confectionery	718	40	53	867	38	49	1,091	25	35

See footnotes at end of table.

Continued--

Appendix table 21--Share of shipment value for the four and eight largest food processing firms--Continued

Industry	1982			1977			1967		
	Total firms	Share of shipment value		Total firms	Share of shipment value		Total firms	Share of shipment value	
		4 largest firms	8 largest firms		4 largest firms	8 largest firms		4 largest firms	8 largest firms
	<i>Number</i>	<i>----Percent----</i>		<i>Number</i>	<i>----Percent----</i>		<i>Number</i>	<i>----Percent----</i>	
Chocolate and cocoa	77	75	89	47	73	88	27	77	89
Chewing gum	9	95	NA	14	93	NA	19	86	96
Cottonseed oil mills	47	51	70	62	45	62	91	42	60
Soybean oil mills	52	61	83	65	54	73	60	55	76
Vegetable oil mills	26	52	83	37	54	80	34	56	78
Animal and marine fats and oils	270	34	48	384	28	40	477	28	36
Shortening and cooking oils	79	43	60	66	43	63	63	43	67
Malt beverages	67	77	94	81	64	83	125	40	59
Malt	24	60	80	27	59	81	32	39	62
Wines and brandy	324	51	64	223	49	62	175	48	63
Distilled spirits	371	46	89	64	52	71 ^{na}	70	54	71
Bottled and canned soft drinks	1,236	14	23	1,758	15	22	3,057	13	20
Flavoring extracts and syrups	297	65	71	319	64	71	401	67	75
Canned or cured seafood	170	62	70	215	52	65	268	44	59
Fresh or frozen seafood	697	14	24	906	14	23	463	26	38
Roasted coffee	118	65	76	113	65	79	206	53	71
Manufactured ice	530	18	26	543	24	38	688	33	42
Macaroni and spaghetti	208	42	66	289	36	54	190	31	48
Other food preparations	1,746	32	40	1,872	28	36	1,824	24	35

NA = Not available.

Source: (50).

Appendix table 22--Aggregate concentration in food and tobacco manufacturing, measured by proportion of value added

Company ¹	Proportion of value added in food and tobacco manufacturing ²			
	1967	1972	1977	1982
	<i>Percent</i>			
20 largest firms	23.4	24.3	27.4	34.0
21-50 largest firms	15.5	16.8	15.9	16.0
51-100 largest firms	11.9	12.2	11.7	11.1
101-200 largest firms	8.9	9.8	10.3	8.9
201-300 largest firms	4.4	4.7	4.8	4.4
301-400 largest firms	3.0	3.1	3.2	3.0
401-500 largest firms	2.4	2.4	2.4	2.2
All others ³	30.5	27.0	24.4	20.3
50 largest firms	38.9	41.1	43.3	50.0
100 largest firms	50.9	53.3	55.0	61.2
500 largest firms	69.5	73.2	75.6	79.7

¹ Companies are ranked by value added in Standard Industrial Classifications (SIC's) 20 and 21 each year.

² Ratio of value added in SIC's 20 and 21 of the largest companies to total value added in SIC's 20 and 21. Value added figures in SIC 21 were estimated for some company size classes in 1967, 1972, and 1977 using published market-share estimates and specially tabulated census data.

³ Approximately 27,000 firms in 1967 and 14,000 firms in 1982.

Source: (38).

Appendix table 23--Sales concentration in food wholesaling

Wholesaler category	1977				1982	
	4 largest firms	8 largest firms	20 largest firms	50 largest firms	4 largest firms	8 largest firms
	<i>Percent</i>					
General line	15.0	22.4	36.8	56.6	17.4	26.5
Limited line	13.3	19.5	31.4	46.6	9.0	13.8
Specialty products	10.3	15.1	21.1	33.5	14.9	20.9
Frozen foods	11.3	17.5	28.7	43.3	16.5	23.5
Dairy	14.0	21.6	34.2	46.8	15.8	22.6
Poultry	8.6	12.9	21.0	34.2	11.8	16.9
Confectionery	11.9	17.3	25.5	37.1	12.5	18.2
Fish and seafood	15.5	20.4	28.9	39.6	12.5	16.3
Meat	6.9	10.8	17.9	29.1	5.5	8.1
Fresh fruit and vegetables	7.0	10.4	15.0	22.1	7.4	10.2
	<hr/>					
	1982		1987			
	20 largest firms	50 largest firms	4 largest firms	8 largest firms	20 largest firms	50 largest firms
	<i>Percent</i>					
General line	42.8	63.6	26.0	36.9	53.8	71.4
Limited line	23.8	37.2	9.6	15.3	27.2	41.8
Specialty products	25.4	34.0	12.2	18.7	29.4	44.8
Frozen foods	34.3	49.1	15.0	23.6	37.6	53.0
Dairy	35.0	49.4	15.7	25.1	39.0	52.6
Poultry	25.3	38.3	7.4	12.0	22.6	39.0
Confectionery	27.7	40.1	17.5	22.9	31.6	43.6
Fish and seafood	24.5	37.1	NA	9.2	NA	NA
Meat	14.7	25.5	6.6	10.4	18.1	30.5
Fresh fruit and vegetables	14.5	21.6	8.9	11.0	15.4	NA

NA = Not available.

Source: (53).

Appendix table 24--Incorporated wholesale food firms by size of assets

Year	All firms ¹	Large firms ²	Small firms ³
	<i>Number</i>	<i>Percent</i>	
1982	22,698	67.1	32.9
1983	24,066	63.1	36.9
1984	23,089	64.2	35.8
1985	24,808	56.1	43.9
1986	24,933	61.5	38.5
1987	25,483	57.8	42.2
1988	25,555	57.1	42.9
1989	25,754	56.2	43.8

¹ Firms that filed tax returns.

² Firms with \$100,000 or more in assets.

³ Firms with less than \$100,000 in assets.

Source: (68).

Appendix table 25--Average concentration of top four grocery store firms by SMSA size ¹

SMSA population in 1980	1954	1958	1963	1967	1972	1977	1982
	<i>Percent</i>						
All SMSA's	45.4	49.3	50.0	50.9	52.4	56.3	58.3
1 million and over	45.7	48.0	48.4	48.0	51.2	54.3	54.9
300,000-999,999	45.3	48.7	48.5	48.6	48.7	52.3	54.1
150,000-299,999	43.9	50.3	50.8	53.2	53.5	56.5	57.5
Under 150,000	47.0	50.3	52.9	54.1	57.3	62.6	63.6
173 SMSA's	NA	48.7	49.1	50.2	52.2	56.4	58.7

NA = Not available.

¹ An SMSA (Standard Metropolitan Statistical Area) defines an integrated economic and social unit such as a city and its outlying suburbs.

Source: (51).

Appendix table 26--Chain stores' share of grocery store sales

Year	Supermarket chains	Other chains	Total
		<i>Percent</i>	
1958	41.2	2.8	44.0
1963	43.7	3.3	47.0
1967	46.3	5.1	51.4
1972	48.9	7.0	55.9
1977	52.4	6.3	58.7
1982	55.0	6.5	61.5
1986	NA	NA	62.5
1987	NA	NA	63.0
1988	NA	NA	62.7
1989	NA	NA	61.9
1990	NA	NA	62.3

NA = Not available.

Source: (51).

Appendix table 27--Sales share of leading grocery chains

Year	4 largest chains	8 largest chains	20 largest chains
		<i>Percent</i>	
1963	20.0	26.6	34.0
1967	19.0	25.7	34.4
1972	17.5	24.4	34.8
1977	17.4	24.4	34.5
1982	16.1	23.6	34.9
1985	18.4	26.6	36.7
1986	18.2	26.8	37.6
1987	17.1	26.0	36.5
1988	15.7	24.4	35.5
1989	17.0	26.0	39.3
1990	16.9	25.9	39.3

Sources: (52) and ERS estimates.

Appendix table 28--Concentration among separate eating places

Year	Top 4 firms	Top 8 firms	Top 20 firms	Top 50 firms
<i>Percent</i>				
1972 ¹	3.6	5.5	8.9	13.3
1977	4.5	7.3	12.4	17.8
1982	5.4	8.9	15.1	20.2
1987	8.1	12.0	17.0	22.3

¹ No concentration data are available for census years prior to 1972.

Source: (52).

Appendix table 29--Sales of top 25 food processing companies

Sales rank	Company	Sales ¹		Change
		1990	1989	
		<i>-----Million dollars-----</i>		<i>Percent</i>
1	Philip Morris Companies, Inc., New York, NY	26,368.0	25,802.0	2.2
2	ConAgra, Inc., Omaha, NE	17,253.0	8,590.6	100.8
3	Anheuser-Busch Companies, Inc., St. Louis, MO	10,011.0	9,363.9	6.9
4	PepsiCo, Inc., Purchase, NY	9,992.0	8,152.5	22.6
5	The Coca-Cola Company, Atlanta, GA	8,900.0	8,000.0	11.3
6	IBP, Inc., Dakota City, NE	8,586.2	8,502.0	1.0
7	Archer Daniels Midland Company, Decatur, IL	7,130.0	7,200.0	-1.0
8	Nestlé Holdings, Inc., Purchase, NY	6,781.0	5,961.0	13.8
9	Campbell Soup Company, Camden, NJ	6,200.0	5,700.0	8.8
10	RJR Nabisco, Inc., New York, NY	5,783.0	9,888.0	-41.5
11	H.J. Heinz Company, Pittsburgh, PA	5,761.3	5,492.0	4.9
12	Borden, Inc., New York, NY	5,660.7	5,385.8	5.1
13	Sara Lee Corporation, Chicago, IL	5,460.0	5,255.0	3.9
14	CPC International, Inc., Englewood Cliffs, NJ	5,103.1	4,700.8	8.6
15	Ralston Purina Company, St. Louis, MO	5,085.6	4,554.8	11.7
16	Kellogg Company, Battle Creek, MI	4,651.7	4,348.8	7.0
17	General Mills, Inc., Minneapolis, MN	4,520.3	3,999.0	13.0
18	Tyson's Foods, Inc., Springdale, AR	3,850.0	2,538.2	51.7
19	Chiquita Brands Intl., Inc., Cincinnati, OH	3,823.0	3,503.0	9.1
20	Joseph E. Seagram & Sons, Inc., New York, NY	3,403.5	2,274.7	49.6
21	The Procter and Gamble Company, Cincinnati, OH	3,318.0	3,029.0	9.5
22	The Quaker Oats Company, Chicago, IL	3,270.0	3,756.1	-12.9
23	The Kroger Company, Cincinnati, OH	3,183.3	3,200.0	-5
24	Whitman Corporation, Chicago, IL	3,000.0	2,500.0	20.0
25	Associated Milk Producers, Inc., San Antonio, TX	2,986.5	2,744.0	8.8

¹ Sales figures for the companies represent only food and beverage segments.

Source: (16).

Appendix table 30--Sales of top 25 food retailing companies¹

Company	1990		1989	
	Rank	Sales	Rank	Sales
		<i>Million dollars</i>		<i>Million dollars</i>
The Kroger Company (Kroger, Dillon)	1	19,348	2	17,944
American Stores Company (Acme, Jewel, Star, Alpha Beta, Lucky Stores, Inc.)	2	18,449	1	18,504
Safeway Stores, Inc.	3	11,173	3	10,779
Winn-Dixie Stores, Inc.	4	9,744	5	9,151
The Great Atlantic and Pacific Tea Company, Inc. (Shopwell, Waldbaum's, A&P, Borman's) ²	5	9,196	4	9,179
Albertson's, Inc.	6	8,219	7	7,423
Southland Corporation (7-Eleven Stores) ³	7	7,700	6	7,552
Supermarkets General Corp. (Pathmark, Purity-Supreme)	8	6,100	8	5,820
Publix Supermarkets, Inc.	9	5,800	10	5,300
Food Lion, Inc. ²	10	5,584	12	4,717
The Vons' Companies, Inc. (Safeway-So. Calif.)	11	5,334	11	5,221
Penn Traffic Co. (Grand Union, P&C, Big Bear)	12	4,970	9	5,642
Ahold International (BI-LO Inc., Giant Food Stores-Carlisle, Pa., First National, Top's Market) ²	13	4,413	13	4,057
Circle K Corp. ³	14	3,686	14	3,441
Giant Food, Inc.	15	3,350	15	3,249
Stop & Shop Companies, Inc.	16	3,218	16	2,885
Ralph's Supermarkets	17	2,799	17	2,556
H.E. Butt Grocery Company	18	2,778	19	2,300
Bruno's Inc. (Bruno's, Piggly Wiggly)	19	2,395	20	2,134
Smith's Food & Drug Stores	20	2,031	22	1,731
Dominick's Finer Foods	21	2,000	18	2,500
Hy-Vee Food Stores, Inc.	22	1,866	21	1,732
Fred Meyer, Inc.	23	1,857	23	1,713
Super Valu Stores, Inc. (Twin Valu, Cub)	24	1,781	25	1,630
Sainsbury, Ltd. (Shaw's, Iandoli's) ²	25	1,750	24	1,690

¹ U.S. grocery store sales only.

² Foreign-owned companies as of 1990.

³ Convenience store retailer.

Sources: (1, 4).

Appendix table 31--Sales of top 20 wholesale food companies¹

Firms	Sales	
	1990	1989
	<i>Million dollars</i>	
Fleming Companies, Inc.	11,933	12,050
Super Valu Stores, Inc.	11,612	11,136
Wetterau, Inc.	5,700	3,360
Scrivener, Inc.	5,666	4,918
Wakefern Food Corporation	3,400	3,069
McLane Company, Inc.	3,000	2,500
Roundy's, Inc.	2,500	2,331
Nash Finch Company	2,374	2,224
Certified Grocers	2,300	2,329
Associated Wholesale Grocers (K.C.)	2,150	1,948
Spartan Stores, Inc.	1,870	1,700
Super Food Services	1,770	1,691
Peter J. Schmitt Company	1,036	1,260
Richfood, Inc.	1,020	1,245
Associated Grocers, Inc.	1,100	965
Grocers Supply Co., Inc.	1,000	1,000
Twin County Grocers, Inc.	1,000	920
Springfield Sugar and Products Company	895	892
C and S Wholesale Grocers	871	720
Super Rite Foods, Inc.	810	757

¹ Firms primarily serving supermarkets and retail foodstores. Foodservice distributors and wholesale clubs are listed in text tables 13 and 14.

Sources: (1, 2).

Appendix table 32--Sales of top 25 restaurant chains

1989 sales rank	Chain	U.S. system sales	
		1989	1988
<i>1,000 dollars</i>			
1	McDonald's Corporation	12,011,739	11,380,212
2	Grand Metropolitan PLC (Burger King Corporation)	5,036,000	4,943,576
3	PepsiCo, Inc. (Pizza Hut)	3,300,000	2,800,000
4	PepsiCo, Inc. (Kentucky Fried Chicken Corporation)	3,000,000	2,900,000
5	T.W. Services (Hardee's Food Systems)	2,900,000	2,725,000
6	Wendy's (Wendy's International, Inc.)	2,760,000	2,690,000
7	Domino's Pizza (Domino's Pizza, Inc.)	2,500,000	2,300,000
8	PepsiCo, Inc. (Taco Bell)	2,000,000	1,600,000
9	Coniston Partners (Denny's, Inc.)	1,300,000	1,268,000
10	International Dairy Queen, Inc. (Dairy Queen)	1,965,000	1,900,000
11	Elias Brothers Restaurants, Inc. (Big Boy)	1,030,000	1,000,000
12	Collins Foods International (Sizzler)	850,000	790,000
13	Shoney's, Inc. (Shoney's)	835,000	750,000 ¹
14	Foodmaker, Inc. (Jack in the Box Restaurants, Inc.)	833,945	775,000
15	Metromedia (Ponderosa, Inc.)	780,000	710,000 ¹
16	Long John Silver's Holding Inc. (Long John Silver)	779,371	761,513
17	Doctors Assoc., Inc. (Subway Sandwiches)	764,000	600,000
18	Allied-Lyons, PLC (Dunkin' Donuts of America Inc.)	715,000	658,000
19	Marriott (Roy Rogers Family Restaurants)	640,000	630,000 ¹
20	Metromedia (Bonanza Steak Houses, Inc.)	615,000	570,533
21	Tennessee Restaurant Co. (Friendly Restaurants)	572,000	600,000 ¹
22	A. Copeland Enterprises, Inc. (Church's Fried Chicken)	530,000	559,300
23	Benale Holding Corp. (Bennigan's)	505,000	499,950
24	Allied Lyon, PLC (Baskin-Robbins)	485,000	383,150
25	Tennessee Restaurant Co. (Perkins Family Restaurant)	423,293	369,112

¹ Estimated.

Source: (35).

Appendix table 33--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

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.

Appendix table 34--Food marketing mergers and divestitures costing over \$100 million, 1989 ¹

Buyer	Seller	Price	Type ²
		<i>Million dollars</i>	
Private group	Gateway Corp.		
Wasserstein Perella		3,280	4
BSN SA	Kohlberg Kravis Roberts & Co.	2,500	1
Private group	Kohlberg Kravis Roberts & Co.	1,480	1
PepsiCo Inc.	BSN SA	1,350	1
Food and beverage concern	Producer of potato chips and snacks		
Anheuser-Busch Companies	Harcourt Brace Jovanovich Inc.	975	1
Nation's largest brewer	Sea World/Brdwlk. and baseball		
Polly Peck International PLC	Kohlberg Kravis Roberts & Co.	875	1
Food and electronics	Sells bananas and pineapples		
Private group	Marriott Corp.	570	1
Group of private investors	Food and catering services		
Private group	for airlines Jerrico Inc.	470	2
DIS-Inverness & Co./Castle Harlan	Restaurant business		
Private group	Grand Metropolitan PLC	431	1
J. Slater/DSJ/Inverness & Co.	Steak & Ale/Bennigan's-383 restaurants		
Nestlé S.A.	Kohlberg Kravis Roberts & Co.	370	1
Candy producer	Candy bar producers		
Private group	TGI Friday's Inc.	358	2
Curtis L. Carlson-TGI Friday's	Operates casual theme restaurants		
K-mart Corp.	Pace Membership Warehouse Inc.	305	2
General merchant retailer/2nd largest	Operates 41 warehouse-club stores		
Allied Lyons PLC	Dunkin-Donuts Inc.	303	2
Ops. ice cream shops and markets tea	Operates donut and coffee shops		
Cadbury Schweppes PLC	Procter & Gamble Company	220	1
UK's biggest candy/soft drink co.	Soft drink concern		
Private group	DWG Corporation	200	1
R.B. Partners	Restaurant chain		
Rose Partners	Di Giorgio Corporation	151	2
Led by Arthur M. Goldberg	Food wholesaler and building supplies maker		
Coca-Cola Company	Pernod-Picard SA	140	1
World's largest soft drink company	Bottling/distribution of Coca-Cola-France		
Whitman Corp.	Grand Metropolitan PLC	140	1
Consumer goods and services	Frozen seafood		
Sara Lee Corp.	Hanson PLC	140	1
Consumer products, processed foods	Beef, poultry, hot dogs/ham/bacon		
Private group	Lion Nathan Ltd.	130	1
Coca-Cola and C-C Bottlers Ltd.	Retailing and brewing interest		
Bass PLC	Holiday Corporation	125	1
Beer, ales, stouts, lagers	World's largest hotel chain		
Total		14,514	NA

NA = Not available.

¹ Completed or pending.

² 1 = divestitures, 2 = public seller, 3 = private seller, and 4 = foreign seller.

Source: (19).

Appendix table 35--Food marketing mergers and divestitures costing over \$100 million, 1990 ¹

Buyer	Seller	Price	Type ²
		<i>Million dollars</i>	
Philip Morris Companies Inc.	Jacobs Suchard AG	3,825.2	4
ConAgra Inc.	Kohlberg Kravis Roberts & Co.	1,336.0	1
Bakery flour, feeds, poultry	Manufactures household food items (Beatrice Co.)		
Private group	Southland Corp.	400.0	3
Led by Japanese investors	Convenience grocery stores		
Coca-Cola Co.	C-C Bottlers Ltd.	370.0	3
Soft drink producer	Bottling Co.		
Imasco Ltd.	Marriott Corp.	365.0	1
Tobacco products and retail	Restaurant chain (Roy Rogers)		
Private group	Del Monte Corp.	355.0	1
Led by management	Processed foods (European processed foods)		
President Enterprises Corp.	Wyndham Foods Inc.	335.0	3
Integrated food company	Cookie manufacturer		
PepsiCo, Inc.	Empresea Gamesa	300.0	4
Soft drinks beverages	Holding company for cookie manufacturer		
American Brands Inc.	Brent Walker Group PLC	273.9	3
Tobacco and life insurance	Distiller and blender of whiskey (Whyte & Mackay Distillers)		
Coca-Cola Enterprise Inc.	Coca-Cola Co.	252.1	1
Largest Coca-Cola bottler	Bottling company (Coca-Cola Bottling Co. of Arkansas)		
Great Atlantic & Pacific Tea Co. Inc.,	Steinberg Inc.	200.0	1
Food supermarket	Operates supermarkets (69 food and drugstores in Ontario)		
Private group	American Stores Co.	184.0	1
Led by management	Retail grocery chain (Buttrey Food & Drug Division)		
Private group	Kohlberg Kravis Roberts & Co.	180.0	1
Joint venture Britannia and BSN	Food businesses (International food business-Far East)		
Wal-Mart Stores Inc.	Wholesale Club Inc.	164.0	2
Operates discount stores	Merchandise warehouses		
Procter & Gamble Co.	Kohlberg Kravis Roberts & Co.	150.0	1
Household goods/personal care	Hawaiian Punch beverage hldgs. (Del Monte Fruit Beverage Unit)		
ConAgra Inc.	Elders IXL Ltd.	125.0	1
Prepared foods; agricultural products	Meats, grains, and wool industry (Meatpacking, malt, brewing, and wool business)		

See footnotes at end of table.

Continued--

**Appendix table 35--Food marketing mergers and divestitures costing over \$100 million, 1990¹--
Continued**

Buyer	Seller	Price	Type ²
		<i>Million dollars</i>	
PepsiCo Inc. Soft drink and restaurant operator	Collins Foods International Inc. Chicken restaurants (209 Kentucky Fried Chicken franchises)	122.0	1
Collins Foods International Inc. Fast food restaurant	Sizzler Restaurants Int. Inc. Steak house restaurant	119.3	2
Total		9,056.2	NA

NA = Not available.

¹ Completed or pending.

² 1 = divestitures, 2 = public seller, 3 = private seller, and 4 = foreign seller.

Source: (19).

Appendix table 36--Food processing mergers¹

Year announced or completed	Rank among all industries in value	Foreign purchases of U.S. firms		U.S. purchases of foreign firms	
		Value	Number	Value	Number
		<i>Million dollars</i>	<i>Number</i>	<i>Million dollars</i>	<i>Number</i>
1982	4	4,952	4	131	5
1983	8	2,712	9	253	6
1984	2	7,948	8	2,994	5
1985	5	12,854	8	257	10
1986	4	8,432	13	1,246	9
1987	6	7,951	13	2,888	14
1988	1	53,209	22	8,541	14
1989	7	8,261	17	4,222	14
1990	12	7,666	15	1,074	10

¹ Includes only large mergers in which the value of the transaction was recorded.

Source: (19).

Appendix table 37--Aggressive buyers in food marketing

Company	1980	1981	1982	1983	1984	1985
ConAgra Inc.	3	4	3	3	8	8
Borden Inc.	1	2	2	1	1	3
Kraft Inc.	0	2	2	2	6	8
Whitman Corp.	0	1	3	2	3	3
Coca-Cola Company	1	0	3	0	3	8

	1986	1987	1988	1989	1990	10-year total
ConAgra Inc.	8	7	4	2	3	53
Borden Inc.	5	11	20	5	5	56
Kraft Inc.	17	7	1	0	0	45
Whitman Corp.	8	6	4	5	2	37
Coca-Cola Company	7	3	0	2	1	28

Source: (19).

Appendix table 38--Aggressive divestitures in food marketing

Selling parent company	1980	1981	1982	1983	1984	1985
Beatrice Companies	1	7	3	9	12	10
RJR Nabisco Inc.	2	1	0	2	1	2
Whitman Corp.	1	2	3	2	0	7
Sara Lee Corporation	3	2	0	3	1	8

	1986	1987	1988	1989	1990	10-year total
Beatrice Companies	10	2	1	0	0	55
RJR Nabisco Inc.	9	5	3	0	0	25
Whitman Corp.	4	3	1	1	0	24
Sara Lee Corporation	2	2	1	2	1	25

Source: (19).

Industry Economic Characteristics

Appendix table 39--Major economic indicators

Year	Population <i>Million</i>	Gross national product		Disposable personal income (DPI)	
		<i>Current million dollars</i>	<i>1982 million dollars</i>	<i>Current million dollars</i>	<i>1982 million dollars</i>
1963	189.2	607	1,873	451	1,291
1967	198.7	816	2,271	562	1,493
1972	209.9	1,212	2,608	840	1,797
1977	220.2	1,991	2,959	1,379	2,067
1982	232.5	3,166	3,166	2,261	2,262
1983	234.8	3,406	3,279	2,428	2,332
1984	237.0	3,772	3,501	2,668	2,470
1985	239.3	4,014	3,619	2,839	2,543
1986	241.6	4,232	3,718	3,013	2,636
1987	243.9	4,515	3,845	3,194	2,676
1988	246.3	4,874	4,017	3,479	2,801
1989	248.8	5,201	4,118	3,726	2,869
1990 ¹	251.4	5,464	4,156	3,946	2,893

	Per capita DPI		Employment	Unemployment rate
	<i>Current dollars</i>	<i>1982 dollars</i>	<i>Million</i>	<i>Percent</i>
1963	2,197	6,378	69.7	5.5
1967	2,828	7,513	76.6	3.7
1972	4,000	8,562	87.0	5.5
1977	6,262	9,381	99.0	6.9
1982	9,724	9,725	102.0	9.5
1983	10,339	9,930	102.5	9.5
1984	11,257	10,419	106.7	7.4
1985	11,861	10,625	108.8	7.1
1986	12,496	10,905	111.3	6.9
1987	13,094	10,946	114.2	6.1
1988	14,123	11,368	116.7	5.4
1989	14,973	11,531	119.0	5.2
1990 ¹	15,693	11,507	119.6	5.4

¹ Preliminary.

Sources: (48, 56, 64).

Appendix table 40--Producer price indexes for the food marketing system

Commodity	1985	1986	1987	1988	1989	1990 ¹
	<i>1982=100</i>					
Crude foodstuffs and feedstuffs ²	94.8	93.2	96.2	106.1	111.1	113.2
Fruit and vegetables	102.6	103.9	106.8	108.5	114.1	117.2
Grains	96.1	79.2	71.1	97.9	106.4	97.5
Livestock	89.1	91.8	102.0	103.3	106.9	115.6
Live poultry	117.8	129.6	101.2	121.5	128.8	118.8
Fluid milk	93.6	90.9	91.9	89.4	98.1	101.3
Oilseeds	94.4	91.4	99.3	134.0	123.8	111.8
Sugar and raw cane	104.6	104.9	110.3	111.9	115.5	119.2
Intermediate materials for food manufacturing ³	101.4	98.4	100.8	106.0	112.7	117.9
Flour	99.8	94.5	92.9	105.7	114.6	103.6
Refined sugar	102.8	103.2	106.4	108.9	118.3	122.7
Crude vegetable oils	137.5	84.8	84.2	116.6	103.4	115.7
Finished consumer foods ⁴	104.6	107.3	109.5	112.6	118.7	124.4
Fresh fruit	108.1	112.9	112.0	113.5	111.9	117.3
Fresh and dried vegetables	99.4	97.8	103.8	105.5	116.9	118.1
Canned fruit and juice	113.8	111.0	115.4	120.2	122.6	126.9
Frozen fruit and juice	118.5	103.0	113.3	129.8	124.6	138.9
Fresh vegetables, excluding potatoes	100.3	99.3	99.0	100.4	104.2	107.8
Canned vegetables and juices	101.9	101.2	103.6	108.3	118.6	116.7
Frozen vegetables	106.5	106.6	107.3	108.6	115.5	118.5
Potatoes	101.2	104.0	120.1	113.9	153.6	157.3
Eggs	95.6	99.5	87.6	88.6	119.6	117.6
Bakery products	113.9	116.6	118.5	126.4	135.4	140.9
Meats	90.9	93.9	100.4	99.9	104.8	116.9
Beef and veal	90.3	88.1	95.5	101.4	109.0	116.0
Pork	89.1	99.9	104.9	95.0	97.5	119.7
Processed poultry	110.4	116.7	103.5	111.6	120.8	113.6
Fish	114.6	124.9	140.0	148.7	144.6	148.6
Dairy products	100.2	99.9	101.6	102.2	110.6	117.2
Processed fruit and vegetables	107.9	104.9	108.6	113.8	120.0	124.8
Shortening and cooking oil	123.9	103.3	103.9	118.8	116.6	123.2

¹ Preliminary.

² What food manufacturers paid at major markets.

³ What food manufacturers charged other food manufacturers.

⁴ What retailers, wholesalers, restaurateurs, or other institutions paid.

Source: (67).

Appendix table 41--Value of U.S. dollar and interest rates

Year/ quarter	Value of U.S. dollar ¹		Interest rates		
	Nominal	Real ²	Short-term 3-month Treasury bill	Long-term AAA corporate bonds (Moody's) ³	Prime rate charged by banks
	----- Index ⁴ -----		----- Percent -----		
1963	NA	NA	3.16	4.26	4.50
1967	120.0	NA	4.32	5.51	5.61
1972	109.1	NA	4.07	7.21	5.25
1977	103.3	93.1	5.26	8.02	6.83
1982	116.6	111.7	10.67	13.79	14.86
1983	125.3	177.3	8.63	12.04	10.79
1984	138.2	128.7	9.58	12.71	12.04
1985	143.0	132.0	7.48	11.37	9.93
1986	112.2	103.4	5.98	9.02	8.33
1987	96.9	90.6	5.82	9.38	8.22
1	99.9	92.6	5.53	8.37	7.50
2	97.0	90.3	5.73	9.16	8.25
3	98.7	92.5	6.03	9.76	8.25
4	92.3	86.8	6.03	10.21	8.75
1988	92.7	88.0	6.69	9.71	9.32
1	90.0	84.9	5.76	9.56	8.58
2	90.4	85.5	6.23	9.81	8.83
3	97.6	92.9	6.99	9.96	9.83
4	93.0	88.6	7.71	9.51	10.33
1989	98.6	94.2	8.12	9.26	10.87
1	96.0	91.6	8.53	9.68	11.00
2	100.5	96.0	8.44	9.49	11.41
3	100.5	96.2	7.85	8.97	10.41
4	97.3	93.1	7.64	8.87	10.50
1990	89.1	86.4	7.51	9.32	10.00
1	93.2	89.8	7.76	9.20	10.00
2	92.6	89.0	7.77	9.40	10.00
3	87.5	84.6	7.49	9.40	10.00
4 ⁵	83.0	80.5	7.02	9.29	10.00

NA = Not available.

¹ Multilateral trade-weighted index.

² Adjusted by CPI.

³ Creditworthiness of issuing organization rated very high by Moody's Investors Service, Inc.

⁴ 1973=100.

⁵ Preliminary.

Source: (14).

Appendix table 42--Number of employees in food marketing¹

Year	Processing	Wholesaling	Eating and drinking places ²	Retailing		Total
				Food-stores ³	Grocery stores ³	
<i>Thousands</i>						
1963	1,752.0	472.9	1,747.9	1,383.8	NA	5,356.6
1967	1,786.3	513.0	2,191.4	1,571.6	NA	6,062.3
1972	1,745.2	536.3	2,860.2	1,805.1	1,577.8	6,946.8
1977	1,711.0	611.7	3,948.6	2,106.3	1,837.2	8,377.3
1982	1,635.9	666.9	4,831.2	2,477.6	2,152.8	9,611.6
1983	1,614.8	682.4	5,041.8	2,556.2	2,234.6	9,895.2
1984	1,612.2	707.3	5,388.0	2,637.1	2,298.1	10,344.6
1985	1,607.9	734.3	5,715.1	2,778.6	2,427.0	10,835.9
1986	1,616.9	757.7	5,878.8	2,872.9	2,522.9	11,126.3
1987	1,620.4	792.2	6,105.8	2,961.8	2,610.1	11,480.2
1988	1,630.8	823.3	6,285.8	3,078.7	2,726.4	11,818.6
1989	1,645.2	840.2	6,449.4	3,190.2	2,828.4	12,125.0
1990	1,649.7	851.5	6,595.7	3,294.4	2,918.0	12,391.6

NA = Not available.

¹ Includes full- and part-time workers.

² Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

³ Grocery stores are also included in foodstore column.

Source: (64).

Appendix table 43--Number of production workers in food marketing¹

Year	Processing	Wholesaling	Eating and drinking places ²	Retailing		Total
				Food-stores ³	Grocery stores ³	
<i>Thousands</i>						
1963	1,157.3	411.3	NA	1,289.9	NA	2,858.5
1967	1,187.3	442.3	2,047.8	1,456.6	NA	5,134.0
1972	1,191.8	462.2	2,673.7	1,676.1	1,467.3	6,003.8
1977	1,161.0	526.3	3,665.4	1,942.1	1,697.4	7,294.8
1982	1,125.6	575.3	4,444.1	2,294.0	2,016.5	8,439.0
1983	1,113.7	588.4	4,632.9	2,374.0	2,085.0	8,709.0
1984	1,119.5	598.3	4,925.9	2,441.7	2,139.7	9,085.4
1985	1,121.9	621.9	5,199.2	2,569.6	2,261.1	9,512.6
1986	1,135.7	641.4	5,345.2	2,654.7	2,365.7	9,777.0
1987	1,147.7	669.7	5,558.0	2,728.5	2,414.8	10,103.9
1988	1,158.4	694.6	5,721.9	2,832.9	2,521.9	10,401.8
1989	1,176.9	707.2	5,860.8	2,938.5	2,618.9	10,683.4
1990	1,185.9	714.6	5,984.2	3,028.6	2,697.6	10,913.3

NA = Not available.

¹ Includes full- and part-time workers.

² Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

³ Grocery stores are also included in foodstore column.

Source: (64).

Appendix table 44--Average hourly earnings in food marketing¹

Year	Processing	Wholesaling	Eating and drinking places ²	Retailing	
				Food-stores ³	Grocery stores ³
<i>Dollars</i>					
1963	2.30	2.23	NA	1.90	NA
1967	2.64	2.65	1.50	2.23	NA
1972	3.60	3.69	2.07	3.18	NA
1977	5.37	5.43	2.93	4.77	4.92
1982	7.92	8.25	4.09	7.22	7.48
1983	8.19	8.70	4.27	7.51	7.78
1984	8.39	9.03	4.26	7.64	7.92
1985	8.57	9.20	4.33	7.35	7.59
1986	8.74	9.30	4.35	7.03	7.24
1987	8.93	9.53	4.42	6.95	7.10
1988	9.12	9.79	4.57	7.01	7.12
1989	9.38	10.16	4.75	7.16	7.26
1990	9.63	10.44	4.97	7.38	7.48

NA = Not available.

¹ Includes full- and part-time workers.

² Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

³ Grocery stores are also included in foodstore column.

Source: (64).

Appendix table 45--Average weekly earnings in food marketing¹

Year	Processing	Wholesaling	Eating and drinking places ²	Retailing	
				Food-stores ³	Grocery stores ³
<i>Dollars</i>					
1963	94.30	92.32	NA	66.69	NA
1967	107.98	107.86	50.10	74.48	NA
1972	145.80	143.91	62.97	104.30	106.92
1977	214.80	209.60	81.75	155.07	161.38
1982	312.05	315.15	107.16	221.65	230.38
1983	323.51	324.96	112.30	229.81	238.85
1984	333.92	347.66	112.04	233.78	244.24
1985	342.60	351.44	111.71	221.97	230.43
1986	349.60	355.26	111.36	211.80	218.65
1987	358.99	361.19	114.48	209.20	215.13
1988	367.54	371.04	117.45	211.40	215.74
1989	381.77	385.06	121.13	214.08	217.80
1990	329.90	395.68	125.24	219.19	222.90

NA = Not available.

¹ Includes full- and part-time workers.

² Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

³ Grocery stores are also included in foodstore column.

Source: (64).

Appendix table 46--Average weekly hours in food marketing¹

Year	Processing	Wholesaling	Eating and drinking places ²	Retailing	
				Food- stores ³	Grocery stores ³
<i>Hours</i>					
1963	41.0	41.4	NA	35.1	NA
1967	40.8	40.7	33.4	32.8	NA
1972	40.4	39.0	30.4	32.8	33.0
1977	39.7	38.6	26.1	32.8	32.8
1982	39.5	38.2	26.2	32.5	30.8
1983	39.8	38.5	26.3	31.0	30.7
1984	39.5	38.5	26.3	31.7	30.8
1985	40.0	38.2	25.8	30.6	30.4
1986	40.0	38.2	25.6	30.6	30.2
1987	40.2	37.9	25.9	30.6	30.3
1988	40.3	37.9	25.7	30.2	30.3
1989	40.7	37.9	25.5	29.9	30.0
1990	40.8	37.9	25.2	29.7	29.8

NA = Not available.

¹ Includes full- and part-time workers.

² Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

³ Grocery stores are also included in foodstore column.

Source: (64).

Appendix table 47--Food-related advertising

Item	1990	1989 ¹
	<i>Million dollars</i>	
Ten media ²	8,381	7,818
Eating and drinking places ³	1,730	1,588
Foodstores ⁴	419	357
Processed foods	6,232	5,873
Cooking products and seasoning	685	653
Prepared and convenience foods	1,308	1,273
Dairy products	374	357
Fruit and vegetables	189	170
Meat, poultry, and fish	258	226
Bakery	328	259
Food beverages	608	575
Combination copy	36	35
Confectionery	678	591
Soft drinks	552	453
Beer	653	677
Wine	97	91
Liquor	291	277
Pet food	175	236
Newspaper:		
Retail foodstores	1,229	1,242
Coupons	2,100	1,900
Total advertising	11,710	10,960

NA = Not available.

¹ 1989 and 1990 are not comparable because spot radio advertising was not included in 1989. In 1990, national spot radio advertising amounted to \$327 billion for the food system.

² Magazines, Sunday magazines, newspapers, outdoor, network and spot television, network and spot radio, syndicated television, and cable television networks.

³ Includes hotel restaurants not otherwise counted among eating and drinking places.

⁴ Excludes newspaper advertising.

Sources: (3, 30).

Appendix table 48--Leading food advertisers

Company	1989	Change, 1988-89
	<i>Million dollars</i>	<i>Percent</i>
Philip Morris Companies, Inc.	2,072.0	2.2
Procter & Gamble Company	1,779.3	7.5
Grand Metropolitan PLC	823.3	9.1
PepsiCo, Inc.	786.1	10.6
McDonald's Corporation	774.1	6.4
RJR Nabisco, Inc.	703.5	-5.0
Kellogg Company	611.6	11.2
Nestlé SA	608.4	10.1
Unilever NV	604.1	-6.9
Anheuser-Busch Companies, Inc.	591.5	-8.4
Warner-Lambert Co.	585.9	-3.3
General Mills, Inc.	471.0	5.2
American Home Products Corporation	456.1	-1.1
Bristol Myers-Squibb Co.	451.6	6.5
Ralston Purina Company	429.5	4.1
Coca-Cola Company	385.3	2.3
Sara Lee Corporation	357.9	10.3
Quaker Oats Company	357.8	-12.6
H.J. Heinz Company	342.3	1.6
Mars, Inc.	293.3	-12.3

Source: (3).

Appendix table 49--Share of food advertising expenditures by the largest food marketing firms, 1988

Industry	Total advertising	Share of expenditures spent by--	
		3 largest advertisers	10 largest advertisers
	<i>Million dollars</i>	<i>----- Percent -----</i>	
Restaurants	1,364.3	46.3	74.8
Foodstores	355.2	20.4	44.5
Food processing:			
Sugar, syrups, and artificial sweeteners	57.1	54.7	95.8
Shortening, oil, margarine, and nonstick products	98.5	37.3	88.9
Baking mixes, pie crusts, and baking ingredients	75.2	53.1	93.1
Seasonings, spices, and extracts	17.0	57.7	89.5
Gelatins and puddings (mixes and prepared)	34.0	97.2	100.0
Condiments, pickles, and relishes	93.2	44.6	83.6
Sauces, gravies, and dips	76.3	55.9	92.0
Salad dressing and mayonnaise	66.3	66.5	97.3
Soups	76.7	87.9	99.4
Breakfast cereals	747.8	63.6	83.7
Health and dietary foods	4.7	76.7	99.6
Infant foods	17.0	98.6	100.0
Pasta products and pasta-product dinners	43.2	51.3	88.2
All other prepared dinners and entrees	165.3	34.1	66.8
Jellies, jams, preserves, and peanut butter	31.3	68.7	99.2
Milk, butter, and eggs	70.8	79.9	92.6
Cheese	105.4	80.2	95.0
Ice cream, frozen novelties, and sherbet	77.9	27.9	58.6
Dairy product substitutes	11.3	84.5	100.0
Citrus fruit	6.1	96.1	100.0
Other fruit	61.8	46.2	88.3
Vegetables	54.6	61.7	90.1
Beans and grains	54.0	61.3	92.8
Meat, poultry, and fish	207.7	33.0	58.9
Bread and rolls	76.6	28.2	63.1
Cakes, pies, and pastries	20.4	57.5	97.4
Cookies and crackers	107.2	74.1	95.1

Continued--

Appendix table 49--Share of food advertising expenditures by the largest food marketing firms, 1988--Continued

Industry	Total advertising	Share of expenditures spent by--	
		3 largest advertisers	10 largest advertisers
	<i>Million dollars</i>	<i>----- Percent -----</i>	
Coffee, tea, cocoa, and derivatives	246.3	50.3	85.3
Fruit juices and drinks	197.7	37.9	77.4
Vegetable juices	10.4	100.0	100.0
Candy and gum	379.6	41.1	65.3
Appetizers, snacks, and nuts	183.2	24.6	65.9
Regular carbonated drinks	277.2	59.6	88.2
Dietary carbonated drinks	139.8	78.0	98.3
Noncarbonated beverages	4.4	69.4	100.0
Bottled waters	16.8	62.5	92.2
Beer	72.0	61.0	87.9
Wine	14.2	43.0	76.5
Distilled spirits	222.9	20.0	42.9
Nonalcoholic preparations, mixes, and mixing ingredients	3.2	97.1	100.0
Pet foods	187.3	43.6	77.1

Source: (3).

Appendix table 50--Advertising media price changes

Medium	1986	1987	1988	1989	1990	1991 ¹
	<i>Percent</i>					
Nighttime network television	5.9	3.2	5.9	5.0	8.2	5.7
Daytime network television	3.9	-7.7	-3.4	-8.0	4.2	4.0
Spot television	5.8	5.6	5.9	4.6	4.8	4.9
Network radio	9.1	5.7	3.2	4.3	4.6	4.9
Spot radio	5.6	4.4	4.0	4.5	3.6	4.2
Sunday national magazines	NA	NA	NA	NA	6.3	5.3
Consumer magazines	7.0	4.3	4.7	5.7	6.2	6.1
Cable television	NA	NA	NA	18.7	7.6	-9.0
Daily newspapers	7.4	6.5	6.0	6.1	6.1	-4.7
Outdoor posters	5.7	4.9	4.8	6.2	4.9	-5.7
Business publications	7.6	5.3	4.9	5.5	4.7	4.4
Yellow pages	NA	NA	5.2	5.7	5.3	5.2

NA = Not available.

¹ Estimated.

Source: (8).

Appendix table 51--Advertising price changes in cost per 1,000 targeted viewers or readers

Medium	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991 ¹
	<i>Percent</i>									
Broadcast:										
Primetime network television ²	18	2	20	5	4	11	3	8	12	9
Daytime network television ²	10	1	18	12	-6	1	-12	3	8	4
Spot television ²	9	8	9	9	6	6	8	5	6	6
Network radio ³	8	11	9	8	9	6	4	6	4	3
Spot radio ³	6	8	7	8	6	6	6	7	6	6
Print:										
Magazines ⁴	12	6	7	8	6	6	6	5	6	6
Newspapers ⁴	16	14	13	10	7	7	6	6	6	6
Outdoor	11	8	9	8	6	5	5	5	5	5

¹ Projected.² Per 1,000 targeted households.³ Per 1,000 listeners over the age of 18.⁴ Per 1,000 paid buyers.

Source: (8).

Performance Measures

Appendix table 52--Value added and employment generated by the food marketing system

Item	1972	1977	1982	1985	1987	1988	1989
<i>Billion dollars</i>							
Value added:							
Food sector	143.4	217.6	337.3	407.4	446.4	471.2	490.2
Processing	30.6	45.0	65.0	79.7	86.1	90.6	94.2
Retailing and wholesaling	37.9	57.8	87.0	102.5	108.7	114.2	118.9
Transportation	6.5	9.8	16.9	20.0	20.9	22.0	22.9
Eating and drinking places	18.5	27.3	46.8	55.9	64.3	68.8	171.6
Other supporting sectors ¹	49.9	77.7	121.6	149.3	166.4	175.6	182.7
Farm sector (food products)	22.0	30.1	48.1	51.7	56.6	54.6	52.5
Nonfood sector	1,047.4	1,742.5	2,780.6	3,555.8	4,642.6	4,347.9	7,710.8
Gross national product	1,212.8	1,990.5	3,166.0	4,014.9	4,515.6	4,873.7	5,200.8
<i>Million</i>							
Full-time-equivalent employment:							
Food sector	11.4	11.5	12.1	11.9	12.3	12.3	12.2
Processing	1.6	1.5	1.5	1.4	1.3	1.3	1.3
Retailing and wholesaling	3.0	3.0	3.2	3.2	3.2	3.2	3.2
Transportation	.4	.4	.4	.4	.4	.4	.4
Eating and drinking places	2.9	3.1	3.4	3.4	3.7	3.7	3.7
Other supporting sectors ¹	3.5	3.5	3.6	3.5	3.7	3.7	3.6
Farm sector (food products)	2.4	2.2	1.7	1.8	1.8	1.9	2.0
Nonfood sector	72.7	85.3	96.4	101.8	105.8	107.5	109.7
Civilian labor force	86.5	99.0	110.2	115.5	119.9	121.7	123.9
<i>Percent</i>							
Value added:							
Food sector	11.8	10.9	10.7	10.1	9.9	9.7	9.4
Processing	2.5	2.2	2.0	2.0	1.9	1.9	1.8
Retailing and wholesaling	3.1	2.9	2.6	2.6	2.4	2.3	2.2
Transportation	.5	.5	.5	.5	.5	0.5	.4
Eating and drinking places	1.5	1.4	1.4	1.4	1.4	1.4	1.4
Other supporting sectors ¹	4.1	3.9	3.7	3.8	3.7	3.6	3.5
Farm sector (food products)	1.8	1.5	1.5	1.3	1.3	1.2	1.0
Nonfood sector	86.6	87.5	87.8	88.6	88.8	89.2	90.6
Gross national product	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Full-time-equivalent employment:							
Food sector	13.2	11.6	11.0	10.3	10.2	10.1	9.8
Processing	1.8	1.5	1.4	1.2	1.1	1.1	1.0
Retailing and wholesaling	3.5	3.0	2.9	2.8	2.7	2.6	2.6
Transportation	.4	.4	.4	.3	.3	.3	.3
Eating and drinking places	3.3	3.1	3.0	2.9	3.1	3.0	3.0
Other supporting sectors ¹	4.0	3.5	3.3	3.0	3.1	3.0	2.9
Farm sector (food products)	2.7	2.2	1.5	1.6	1.5	1.6	1.6
Nonfood sector	84.0	86.2	87.5	88.1	88.1	88.3	88.6
Civilian labor force	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ Includes auxiliary activities needed to provide food to the final user. These include, for example, the value added and employment needed by the packaging industry to produce containers used in the food sector. These exclude the cost of materials used to produce related products.

Source: (12).

Appendix table 53--Research and development expenditures in food and tobacco marketing

Type	1984	1985	1986	1987	1988	1989	1990 ¹
<i>Million dollars</i>							
Industry	1,081	1,136	1,280	1,204	1,192	1,283	1,200
Basic research	63	66 ¹	74 ¹	71 ¹	63	68	65
Applied research and product and process development	1,018	1,070	1,206	1,133	1,129	1,215	1,135
U.S. Department of Agriculture ²	280	307	310	289	309	305	NA
Product and process development	114	128	131	169	178	161	NA
Marketing efficiency	42	44	44	41	47	54	NA
Export market expansion	15	18	19	29	32	38	NA
Health and nutrition	109	117	116	50	52	52	NA

NA = Not available.

¹ ERS estimate.

² Many other types of Federal, State, and private R&D are not included.

Sources: (4, 28).

Appendix table 54--Labor productivity in food processing and retailing

Year	Index of output per person per hour								
	Food processing							Food-stores	Eating and drinking places
	Red meats	Milk	Preserved fruit and vegetables	Bakery products	Sugar	Beer	Soft drinks		
<i>1982=100</i>									
1967	74.8	62.9	73.8	82.8	77.1	47.4	66.6	98.0	97.5
1972	85.0	85.1	83.1	94.1	90.4	66.1	75.4	110.3	102.3
1977									
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.2	105.7	101.1	103.5	109.1	107.2	106.6	99.4	99.0
1984	104.2	110.5	104.8	103.4	110.4	112.5	114.9	99.5	95.5
1985	106.4	118.9	104.7	105.1	116.7	106.3	119.9	99.5	92.9
1986	104.5	119.5	107.9	110.7	121.8	124.3	128.4	97.1	95.5
1987	105.9	125.0	113.0	109.7	139.3	135.1	138.6	95.9	97.4
1988	108.2	130.1	112.1	102.7	138.2	141.6	148.4	95.4	99.1
1989	NA	130.9	NA	NA	131.6	141.3	160.7	91.8	97.4

NA = Not available.

Source: (66).

Appendix table 55--Multifactor productivity changes in U.S. food manufacturing

Year	Gross output	Capital services	Labor hours	Energy	Materials	Purchased services	Combined inputs	Multifactor productivity
	<i>Percent change</i>							
1950	2.2	1.6	0.4	-2.0	-0.8	10.3	0	2.2
1951	2.0	1.5	1.9	2.3	1.1	12.4	1.6	.4
1952	3.6	-1.5	-2	0	3.3	2.7	2.1	1.4
1953	2.6	-.3	-.2	-3.8	1.3	-1.7	.7	1.9
1954	-.7	-1.0	-1.5	19.7	-.7	3.2	-.6	-.1
1955	5.7	.6	.6	6.4	8.4	5.8	5.8	-.2
1956	5.1	1.3	.6	6.6	4.1	11.5	3.3	1.7
1957	.7	-1.6	-2.9	-3.9	-1.9	2.7	-1.9	2.6
1958	1.4	3.5	-1.9	13.7	2.5	6.9	2.1	-.7
1959	4.7	.3	1.2	-.2	7.2	-1.2	4.7	0
1960	1.8	.2	-.3	.4	1.4	5.4	1.1	.7
1961	1.5	1.3	-.7	-.2	1.5	2.1	1.1	.4
1962	1.9	1.3	-.6	1.1	1.0	1.9	.8	1.1
1963	2.8	2.0	-.8	3.9	2.2	4.4	1.7	1.0
1964	5.4	2.6	-.1	16.9	7.4	8.2	5.4	0
1965	2.2	1.6	.9	.1	-.1	1.0	.4	1.9
1966	1.9	3.0	.9	7.4	-.2	4.3	.8	1.1
1967	5.3	4.0	.1	-2.5	7.6	9.4	5.7	-.3
1968	2.7	3.1	-.4	26.4	5.6	-1.9	3.8	-1.0
1969	1.5	2.2	.5	-2.8	.9	2.1	1.0	.5
1970	2.3	2.0	-1.2	6.8	2.7	-.4	1.7	.5
1971	2.2	2.1	-1.7	-4.8	1.5	-6.8	.5	1.7
1972	3.1	3.1	-.4	4.9	1.7	1.3	1.5	1.6
1973	-3.5	2.1	-1.6	-.2	-6.7	-.6	-4.5	1.0
1974	3.5	3.1	-1.1	-7.2	8.9	9.7	6.4	-2.8
1975	.4	2.7	-3.0	2.6	-.1	3.7	-.1	.5
1976	9.8	4.9	2.8	3.0	10.6	6.7	8.3	1.3
1977	1.1	3.8	.6	-.2	3.8	2.1	3.1	-2.0
1978	2.7	1.7	.1	3.0	1.4	4.1	1.4	1.3
1979	-.6	2.8	.8	-4.3	-2.7	2.5	-1.4	.8
1980	1.4	2.5	-1.8	-.1	.3	4.6	.3	1.0
1981	2.4	1.8	-2.4	-3.8	-.1	17.8	.6	1.7
1982	1.8	1.7	-2.7	6.9	-0.2	-1.7	-0.4	2.2

Appendix table 55--Multifactor productivity changes in U.S. food manufacturing--Continued

Year	Gross output	Capital services	Labor hours	Energy	Materials	Purchased services	Combined inputs	Multifactor productivity
	<i>Percent change</i>							
1983	-2	.6	-1.0	-5.5	-.5	2.6	-.4	.1
1984	1.2	.6	.3	2.7	1.5	3.1	1.3	-.1
1985	3.0	1.1	-.1	-3.9	-.7	7.5	.1	2.8
1986	2.6	1.2	1.2	1.6	2.4	18.0	3.4	-.8
Period:								
1949-86	2.3	1.7	-.4	2.2	2.0	4.3	1.6	.7
1949-73	2.4	1.4	-.3	3.7	2.1	3.3	1.6	.8
1973-86	2.2	2.2	-.5	-.5	1.8	6.1	1.7	.5
1949-79	2.5	1.8	-.2	2.9	2.4	3.6	1.9	.6
1979-86	1.7	1.4	-.9	-.4	.4	7.2	.7	1.0

Source: (66).

Appendix table 56--Profit margins in food marketing

Year/ quarter	Aftertax profits for food processing, as a share of--		Aftertax profits for retail foodstores, as a share of--	
	Sales	Stock- holders' equity	Sales	Stock- holders' equity
<i>Percent</i>				
1977	3.1	13.2	0.8	10.7
1982	3.1	13.0	1.0	12.6
1983	3.3	12.0	1.2	13.3
1984	3.3	13.3	1.4	16.2
1985 ¹	4.1	15.3	1.2	14.2
1986	4.2	16.2	1.2	13.1
1	3.6	13.3	.9	9.2
2	4.0	15.9	1.2	15.2
3	3.9	15.5	1.5	12.7
4	5.2	20.0	1.5	15.7
1987	4.6	17.4	1.0	12.6
1	3.7	13.6	.9	10.5
2	4.4	17.4	1.2	14.2
3	4.4	17.0	.9	11.6
4	5.7	21.6	1.0	13.9
1988	5.5	20.9	.9	12.5
1	5.2	19.1	.6	8.4
2	6.5	25.0	1.3	17.8
3	5.6	21.9	.8	10.4
4	4.7	17.9	.7	13.5
1989	4.2	17.0	.3	5.3
1	4.1	15.6	.5	9.2
2	4.0	16.5	.9	17.3
3	3.4	13.9	.7	13.8
4	5.3	22.2	.9	19.1
1990	4.1	16.1	.5	11.2
1	3.7	14.7	-.8	-17.1
2	5.2	21.1	1.0	23.3
3	5.1	19.6	.5	11.6
4	2.2	9.0	1.1	26.8
1991				
1	5.1	18.8	NA	NA

NA = Not available.

¹ Includes tobacco.

Source: (58).

Appendix table 58--Income statement for food processing and retailing, 1990

Item	Food and kindred products				Retail foodstores ¹			
	Quarter				Quarter			
	1	2	3	4	1	2	3	4
<i>Million dollars</i>								
Net sales, receipts, and operating revenues	95,179	99,111	99,518	104,217	51,074	53,739	54,924	56,030
Less depreciation, depletion, and amortization of property, plant, and equipment	2,455	2,471	2,505	2,578	823	830	892	898
Less all other operating costs and expenses, including costs of goods sold and selling, general, and administrative expenses	85,602	88,019	88,503	92,038	49,072	51,359	52,623	53,406
Income (or loss) from operations	7,122	8,620	8,511	9,600	1,179	1,550	1,409	1,726
Net nonoperating income (expense)	(1,879)	(1,026)	(852)	(4,976)	(1,316)	(634)	(819)	(750)
Income (or loss) before income taxes	5,244	7,594	7,659	4,624	(137)	916	590	976
Less provision for current and deferred domestic income taxes	1,750	2,427	2,546	2,336	234	365	327	358
Income (or loss) after income taxes	3,493	5,167	5,113	2,288	(371)	551	263	618
Cash dividends charged to retained earnings in current quarter	1,871	1,434	1,654	3,239	107	156	118	93
Net income retained in business	1,622	3,733	3,460	(951)	(478)	395	145	524
Retained earnings at beginning of quarter	79,734	75,282	78,659	80,093	5,433	4,667	3,689	3,812
Other direct credits (or charges) to retained earnings (net), including stock and other noncash dividends	(5,959)	(758)	(998)	(970)	(294)	(204)	(97)	(125)
Retained earnings at end of quarter	75,397	78,257	81,121	78,171	4,662	4,858	3,736	4,211
<i>Percentage of net sales</i>								
Income statement in ratio format:								
Net sales, receipts, and operating revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less depreciation, depletion, and amortization of property, plant, and equipment	2.6	2.5	2.5	2.5	1.6	1.5	1.6	1.6
Less all other operating costs and expenses	89.9	88.8	88.9	88.3	96.1	95.6	95.8	95.3
Income (or loss) from operations	7.5	8.7	8.6	9.2	2.3	2.9	2.6	3.1

See footnotes at end of table.

Continued--

Appendix table 58--Income statement for food processing and retailing, 1990--Continued

Item	Food and kindred products				Retail foodstores ¹			
	Quarter				Quarter			
	1	2	3	4	1	2	3	4
	<i>Percentage of net sales</i>							
Nonoperating income (expense)	(2.0)	(1.0)	(.9)	(4.8)	(2.6)	(1.2)	(1.5)	(1.3)
Income (or loss) before income taxes	5.5	7.7	7.7	4.4	(.3)	1.7	1.1	1.7
Less provision for current and deferred domestic income taxes	1.8	2.4	2.6	2.	2.5	.7	.6	.6
Income (or loss) after income taxes	3.7	5.2	5.1	2.2	(.7)	1.0	.5	1.1
	<i>Percent</i>							
Operating ratios:								
Annual rate of profit on stockholders' equity at end of period--								
Before income taxes	22.16	31.03	29.40	18.13	(5.87)	37.56	26.78	41.32
After income taxes	14.76	21.11	19.63	8.97	(15.94)	22.59	11.93	26.16
Annual rate of profit on total assets--								
Before income taxes	7.01	10.12	9.81	5.86	(.85)	5.69	3.67	5.98
After income taxes	4.67	6.89	6.55	2.90	(2.32)	3.42	1.63	3.78
Balance sheet ratios: ²								
Total current assets to total current liabilities	1.27	1.27	1.26	1.17	1.16	1.22	1.21	1.21
Total cash and U.S. Government and other securities to total current liabilities	.15	.16	.15	.14	.16	.17	.16	.16
Total stockholders' equity to total debt	.75	.79	.83	.79	.30	.32	.29	.30

¹ Excludes firms with assets below \$25 million.

² Based on data presented in appendix table 44.

Source: (58).

Appendix table 59--Balance sheet for food processing and retailing, 1990

Item	Food and tobacco products				Retail foodstores ¹			
	Quarter				Quarter			
	1	2	3	4	1	2	3	4
<i>Million dollars</i>								
Assets:								
Cash and demand deposits in the United States	3,061	3,210	3,148	3,625	1,572	1,735	1,649	1,513
Time deposits in the United States, including negotiable certificates of deposit	1,436	1,406	1,378	1,340	245	216	264	347
Total cash on hand and in U.S. banks	4,496	4,616	4,526	4,965	1,817	1,951	1,914	1,860
Other short-term financial investments, including marketable and Government securities, and commercial paper	5,776	5,817	5,980	5,357	1,183	1,219	1,231	1,263
Total cash, U.S. Government, and other securities	10,273	10,433	10,506	10,322	3,001	3,170	3,145	3,123
Trade accounts and trade notes receivable (less allowances for doubtful receivables)	28,479	28,247	29,380	28,601	2,255	2,325	2,416	2,473
Inventories	39,700	37,966	40,604	41,367	15,147	15,200	16,095	16,158
All other current assets	6,605	6,246	6,306	7,133	1,885	1,905	1,948	1,964
Total current assets	85,057	82,892	86,797	87,422	22,288	22,600	23,604	23,718
Depreciable and amortizable fixed assets, including construction in progress	139,525	143,189	144,855	147,013	39,029	39,961	40,963	42,081
Land and mineral rights	5,574	5,648	5,715	5,695	3,597	3,624	3,634	3,719
Less accumulated depreciation, depletion, and amortization	53,849	55,741	56,396	58,014	14,139	14,697	15,217	15,855
Net property, plant, and equipment	91,250	93,096	94,174	94,695	28,488	28,888	29,380	29,945
All other noncurrent assets, including investment in nonconsolidated entities, long-term investments, and intangibles	122,980	124,087	131,415	133,235	13,235	12,828	11,322	11,653
Total assets	299,287	300,075	312,385	315,351	64,011	64,316	64,307	65,316
Liabilities and stockholders' equity:								
Short-term debt, original maturity of 1 year or less--								
Loans from banks	5,293	5,078	6,784	7,488	394	150	143	143
Other short-term debt, including commercial paper	9,816	5,558	7,676	8,135	170	135	100	176
Trade accounts and trade notes payable	20,214	20,698	21,044	21,887	10,154	10,323	11,030	10,930
Income taxes accrued, prior and current years, net of payments	3,840	4,180	4,499	4,521	626	500	522	405

See footnote at end of table.

Continued--

Appendix table 59--Balance sheet for food processing and retailing, 1990--Continued

Item	Food and tobacco products				Retail foodstores ¹			
	Quarter				Quarter			
	1	2	3	4	1	2	3	4
<i>Million dollars</i>								
Installments, due in 1 year or less, on long-term debt--								
Loans from banks	1,828	1,932	1,790	2,176	1,435	958	853	817
Other long-term debt	4,151	4,046	3,816	4,729	462	348	343	384
All other noncurrent liabilities, including excise and sales taxes and accrued expenses	22,025	21,868	23,314	25,691	5,998	6,130	6,549	6,790
Total current liabilities	67,166	65,360	68,924	74,627	19,239	18,545	19,540	19,646
Long-term debt (due in more than 1 year)--								
Loans from banks	31,324	30,921	31,753	31,161	12,387	12,267	12,344	12,053
Other long-term debt	73,300	73,867	74,040	75,406	16,054	16,533	17,084	17,417
All other noncurrent liabilities, including deferred income taxes, capitalized leases, and minority stockholders' interest, in consolidated domestic corporations	32,859	32,047	33,452	32,132	7,028	7,221	6,530	6,755
Total liabilities	204,649	202,195	208,169	213,327	54,707	54,566	55,498	55,871
Capital stock and other capital (less Treasury stock)	19,241	19,622	23,096	23,853	4,642	4,892	5,073	5,233
Retained earnings	75,397	78,257	81,121	78,171	4,662	4,858	3,736	4,211
Stockholders' equity	94,638	97,879	104,216	102,025	9,304	9,750	8,809	9,444
Total liabilities and stockholders' equity	299,287	300,075	312,385	315,351	64,011	64,316	64,307	65,316
Net working capital:								
Excess of total current assets over total current liabilities	17,891	17,531	17,873	12,795	3,049	4,055	4,064	4,072
<i>Percent of total assets</i>								
Selected balance-sheet ratios:								
Total cash and U.S. Government and other securities	3.4	3.5	3.4	3.3	4.7	4.9	4.9	4.8
Trade accounts and trade notes receivable	9.5	9.4	9.4	9.1	3.5	3.6	3.8	3.8
Inventories	13.3	12.7	13.0	13.1	23.7	23.6	25.0	24.7
Total current assets	28.4	27.6	27.8	27.7	34.8	35.1	36.7	36.3
Net property, plant, and equipment	30.5	31.0	30.1	30.0	44.5	44.9	45.7	45.8
Short-term debt, including installments on long-term debt	7.1	6.1	6.5	7.2	3.8	2.4	2.2	2.4
Total current liabilities	22.4	21.8	22.1	23.7	30.1	28.8	30.4	-30.1
Long-term debt	35.0	34.9	33.9	33.8	44.5	44.8	45.8	45.2
Total liabilities	68.4	67.4	66.6	67.6	85.5	84.8	86.3	85.5
Stockholders' equity	31.6	32.6	33.4	32.4	14.5	15.2	13.7	14.5

¹ Excludes firms with assets below \$25 million.

Source: (58).

Appendix table 60--Aftertax profits of selected processors in the first 9 months of 1990

Firm	Profits	Change from 1989	Return on common equity over 12 months ending September 1989
	<i>Million dollars</i>		<i>----- Percent -----</i>
Campbell Soup Company	26.5	-1	1.6
ConAgra, Inc.	264.0	22	16.4
CPC International, Inc.	373.9	14	31.0
Dean Foods	66.9	9	17.1
Flowers Industries	31.5	25	15.6
General Mills, Inc.	417.1	22	42.4
Gerber Products	113.5	19	28.9
H.J. Heinz Company	535.5	13	28.4
Hershey Foods	215.9	26	17.7
Geo. A. Hormel	77.1	10	15.0
IBP, Inc.	48.3	37	9.5
Kellogg	502.8	19	27.4
Lance	45.7	2	20.2
McCormick	69.4	32	20.3
Quaker Oats Company	227.4	39	21.5
Sara Lee Corporation	500.3	14	19.1
Smithfield Foods	14.7	168	29.8
Wm. Wrigley, Jr.	117.4	11	29.2
Group composite	4,832.6	29	21.6

Source: (4).

Appendix table 61--Aftertax profits of selected beverage companies in the first 9 months of 1990

Firm	Profits	Change from 1989	Return on common equity over 12 months ending September 1989
	<i>Million dollars</i>		<i>----- Percent -----</i>
Anheuser-Busch	842.4	10	23.5
Brown-Forman	135.9	30	22.0
Coca-Cola	1,381.9	16	37.5
Coca-Cola Enterprises	93.4	30	5.5
Coors	38.9	196	3.5
PepsiCo	1,090.6	21	23.6
Group composite	3,583.2	17	23.7

Source: (4).

Appendix table 62--Aftertax profits of selected food wholesalers in the first 9 months of 1990

Firm	Profits	Change from 1989	Return on common equity over 12 months ending September 1989
	<i>Million dollars</i>		----- <i>Percent</i> -----
Fleming	97.3	21	12.4
Nash Finch	17.8	36	10.8
Richfood Holdings	7.1	NA	14.9
Rykoff-Sexton	10.8	-42	5.8
Super Food Services	16.9	5	13.6
Super Rite Foods	4.4	5	45.9
Super Valu Stores	151.4	6	16.0
Sysco	145.2	21	17.1
Wetterau	50.1	9	23.0
Group composite	500.9	15	15.0

NA = Not available.
Source: (4).

Appendix table 63--Aftertax profits of selected food retailers in the first 9 months of 1990

Firm	Profits	Change from 1989	Return on common equity over 12 months ending September 1989
	<i>Million dollars</i>		----- <i>Percent</i> -----
Albertson's	220.2	17	21.4
American Stores Company	149.5	75	11.7
Bruno's	65.0	21	18.6
Casey's General Stores	8.1	27	9.8
The Circle K Corporation	-813.6	NA	NA
Dairy Mart Convenience	4.0	NA	11.4
Delchamps	14.2	-7	14.9
Food Lion, Inc.	172.6	23	25.8
Foodarama Supermarkets	1.0	-9	3.2
Giant Food (Landover, MD)	117.9	12	22.5
The Atlantic & Pacific Tea Company	153.9	8	12.9
Hannaford Brothers	42.2	14	17.0
The Kroger Company	83.3	NA	NA
National Convenience Stores	-6.9	NA	-11.1
Penn Traffic	-34.8	NA	NA
Smith's Food & Drug Centers	34.3	31	13.2
Village Super Market	3.6	-22	7.1
Weis Markets	86.8	0	14.5
Winn-Dixie Stores Company	159.2	9	18.8
Group composite	559.8	-42	13.2

NA = Not available.
Source: (4).

Appendix table 64--New products introduced in 20 selected categories

Category	1985	1986	1987	1988	1989	1990
	<i>Number</i>					
Food categories:						
Baby food	14	38	10	55	53	31
Bakery foods	553	681	931	968	1,115	1,239
Baking ingredients	142	137	157	212	233	307
Beverages	625	697	832	936	913	1,143
Breakfast cereals	56	62	92	97	118	123
Condiments	904	811	1,145	1,310	1,355	1,486
Candy, gum, and snacks	1,146	1,179	1,367	1,608	1,701	2,028
Dairy	671	852	1,132	854	1,348	1,327
Desserts	62	101	56	39	69	49
Entrees	409	441	691	613	694	753
Fruit and vegetables	195	194	185	262	214	325
Pet food	103	80	82	100	126	130
Processed meat	383	401	581	548	509	663
Side dishes	187	292	435	402	489	538
Soups	167	141	170	179	215	159
Total, food	5,617	6,107	7,886	8,183	9,192	10,301
Nonfood categories:						
Health and beauty aids	1,446	1,678	2,039	2,000	2,308	2,379
Household supplies	184	178	161	233	372	317
Paper products	42	42	47	100	121	174
Tobacco products	27	27	51	12	29	31
Pet products	14	9	18	30	33	42
Total, nonfood	1,713	1,934	2,316	2,375	2,863	2,943
Total	7,330	8,041	10,182	10,558	12,055	13,244

Source: (17).

Appendix table 65--Capital expenditures in food marketing

Item	1972	1982	1984	1985	1986	1987	1988	1989	1990 ¹	1991 ²
	<i>Billion dollars</i>									
Food processing (by enterprise) ³	3.3	9.4	9.7	11.3	11.6	12.1	14.2	15.9	16.4	17.7
	<i>1,000 dollars</i>									
Food processing (by establishment): ³										
Food and kindred products	NA	6,727	6,432	7,049	6,966	7,198	7,493	8,329	NA	NA
Meat products	NA	697	614	717	856	886	881	1,170	NA	NA
Dairy	NA	711	566	671	672	744	792	903	NA	NA
Fruit and vegetables	NA	NA	890	1,006	1,015	1,025	1,096	1,220	NA	NA
Grain mill	NA	88	790	1,078	1,028	1,072	1,297	1,360	NA	NA
Bakery products	NA	NA	584	587	572	736	685	750	NA	NA
Sugar and confectionery	NA	430	498	629	540	481	491	634	NA	NA
Fats and oils	NA	-393	317	337	236	251	531	285	NA	NA
Beverages	NA	1,628	1,527	1,338	1,366	1,253	1,355	1,337	NA	NA
Prepared foods	NA	520	644	685	681	950	564	202	NA	NA

NA = Not available.

¹ Preliminary.² Projected.³ Capital expenditures at the enterprise (corporate) level include all capital expenditures by establishments owned by the corporation and additional corporate-level capital expenditures including nonfood, retailing, wholesaling, and foodservice operations.

Sources: (48, 49, 50).

Appendix table 66--U.S. food plant construction¹

Year ²	New construction	Major renovations or expansions	Freestanding distribution centers	Total
	<i>Number</i>			
1984	19	82	27	201
1985	146	149	23	295
1986	159	173	20	332
1987	198	141	35	339
1988	187	182	72	369
1989	193	157	40	390
1990	219	201	36	456
1990 (July-Dec. 31)	102	82	19	203

¹ Projects planned, under construction, or completed during that year. Some redundancies exist from year to year, because a project under construction in one year may have been completed in the following year.

² Covers period from July 1 to June 30 through 1990. Beginning in 1991, data will be for period from January 1 to December 31.
Source: (15).

Appendix table 67--New capital expenditures in the food processing sectors

Food processing industries	1985	1986	1987	1988	1989
	<i>Million dollars</i>				
All food processing	7,048.7	6,966.2	7,224.9	7,492.7	8,392.3
Meat products	716.5	855.5	885.9	881.0	1,170.1
Meatpacking	249.9	258.9	246.1	272.0	365.8
Sausages and other prepared meats	210.6	232.4	252.5	261.2	304.5
Poultry dressing	208.4	278.3	387.4	347.8	
Poultry and egg processing	47.6	85.9	NA		499.8
Dairy products	671.3	672.0	744.4	791.2	903.2
Creamery butter	10.5	8.0	9.7	9.7	13.6
Cheese, natural and processed	133.3	140.1	146.3	135.0	169.1
Condensed and evaporated milk	NA	120.7	109.6	107.7	153.8
Ice cream and frozen desserts	NA	105.4	137.1	157.5	148.0
Fluid milk	322.3	297.8	341.7	380.3	418.8
Preserved fruit and vegetables	1,006.5	1,015.1	1,025.4	1,095.8	1,220.8
Canned specialties	113.6	178.8	144.8	125.0	175.5
Canned fruit and vegetables	264.1	240.0	257.9	320.7	351.5
Dehydrated fruit, vegetables, and soups	61.4	47.1	48.3	60.7	125.0
Pickles, sauces, and salad dressings	129.5	147.0	221.0	165.6	139.2
Frozen fruit and vegetables	213.5	196.4	175.2	235.7	283.9
Frozen specialties	224.4	205.8	178.2	188.1	145.6
Grain mill products	1,078.9	1,027.9	1,071.6	1,297.3	1,360.2
Flour and other grain mill products	82.7	62.8	79.5	130.3	92.4
Breakfast cereals	228.3	270.1	333.4	394.5	483.1
Rice milling	NA	52.9	48.8	38.4	27.0
Blended and prepared flour	NA	61.6	66.1	67.3	101.0
Wet corn milling	450.9	340.5	281.9	383.2	283.9
Dog, cat, and other pet food	97.8	112.9	108.2	143.9	144.2
Other prepared feeds	141.8	127.1	153.7	139.7	228.5
Bakery products	586.4	572.0	735.9	685.4	750.8
Bread, cake, and related products	378.0	408.7	519.3	446.3	483.8
Cookies and crackers	208.4	163.3	184.8	202.2	240.6
Frozen bakery products	NA	NA	NA	36.9	26.4
Sugar and confectionery products	629.1	540.4	480.6	491.3	634.5
Raw cane sugar	49.3	34.0	46.2	36.0	62.6
Cane sugar, refined	41.0	34.9	32.6	33.1	42.3
Beet sugar	85.3	88.3	42.5	46.4	60.5
Confectionery products	313.3	273.0	233.2	225.6	262.4
Chocolate and cocoa products	NA	85.1	74.8	94.4	130.1
Chewing gum	NA	25.1	23.1	19.8	NA
Fats and oils	265.2	235.8	251.1	331.3	285.0
Cottonseed oil mills	22.0	17.9	12.2	19.2	28.8
Soybean oil mills	109.5	93.3	90.7	126.4	99.1
Other vegetable oil mills	NA	1.3	4.9	4.9	34.8
Animal and marine fats and oils	NA	41.3	57.0	102.2	57.1
Shortening and cooking oils	100.3	82.0	86.2	78.6	65.4

See footnotes at end of table.

Continued--

Appendix table 67--New capital expenditures in the food processing sectors--Continued

Food processing industries	1985	1986	1987	1988	1989
	<i>Million dollars</i>				
Beverages	1,337.8	1,366.2	1,253.1	1,355.3	1,337.1
Malt beverages	372.2	578.3	473.6	570.3	601.8
Malt	29.1	13.5	13.8	28.7	15.4
Wines, brandy, and brandy spirits	112.1	112.1	99.9	104.3	123.4
Distilled spirits, except brandy products	37.3	41.4	44.6	33.4	37.6
Bottled and canned soft drinks	720.8	560.7	568.2	567.7	607.8
Other flavoring extracts and syrups	66.3	60.2	53.0	50.9	51.3
Miscellaneous foods and food products	685.0	681.3	749.5	564.1	667.6
Canned and cured seafood	11.6	14.8	14.4	13.1	16.8
Fresh or frozen packaged fish	58.9	58.4	105.0	75.3	138.5
Roasted coffee	138.9	147.3	155.2	123.2	120.9
Manufactured ice	32.1	19.8	14.0	9.9	18.0
Pasta products	31.8	32.8	32.2	35.5	44.5
Other food preparations	411.7	408.2	247.5	204.5	883.3

NA = Not available.

Source: (49).

Appendix table 68--Fixed capital in food manufacturing

Fixed capital	1984	1985	1986	1987	1988	1989
	<i>Billion dollars</i>					
Current cost gross stock	129.5	134.2	142.3	149.6	156.7	165.8
Current cost net stock	69.5	71.5	75.1	78.3	81.8	86.9
Constant cost gross stock ¹	120.1	122.1	123.5	124.7	126.5	129.1
Constant cost net stock ¹	64.4	65.1	65.3	65.3	66.0	67.6

¹ Constant = 1982 dollars.

Source: (48).

Appendix table 69--Capacity measures in food marketing

Item	1972	1977	1982	1983	1984	1985	1986	1987	1988	1989
<i>Percent</i>										
Capacity utilization rates: ¹										
All industries	NA	79	65	72	75	75	76	78	80	NA
Food processing	NA	77	76	76	76	79	78	79	81	NA
Meat	NA	86	80	80	80	82	87	81	84	NA
Dairy	NA	76	77	80	76	81	80	81	82	NA
Fruit and vegetables	NA	72	81	77	77	76	70	73	80	NA
Grain mill	NA	NA	80	80	80	80	80	83	84	NA
Bakery	NA	81	72	70	83	80	83	83	80	NA
Sugar	NA	76	82	81	80	82	80	84	87	NA
Fats and oils	NA	84	76	82	87	84	81	84	89	NA
Beverages	NA	83	68	71	69	75	74	74	78	NA
Miscellaneous	NA	55	75	77	69	76	80	80	81	NA
<i>Square feet</i>										
Food retailing:										
Total area	765,233	823,510	963,788	NA	NA	NA	NA	NA	NA	NA
Selling area	545,690	606,117	713,065	NA	NA	NA	NA	NA	NA	NA
Typical size of new store	NA	NA	36,400	NA	40,000	42,800	48,900	46,900	40,800	NA
Food wholesaling:										
Warehouse area	370,079	350,532	NA	NA	NA	NA	NA	NA	NA	NA
<i>Thousands</i>										
Food service:										
Seating capacity	9,342	10,099	12,035	NA	NA	NA	NA	NA	NA	NA

NA = Not available.

¹ Data are for the fourth quarters of indicated years.

Sources: (1, 52, 53, 55).

Appendix table 70--Dow Jones Market Indexes of Stock Prices for the food marketing system

Date	Food	Beverages	Distillers	Soft drinks	Food retailers and wholesalers
<i>Percent</i>					
June 30, 1982	100.00	100.00	100.00	100.00	100.00
December 31, 1982	122.93	125.40	121.26	127.74	141.39
December 30, 1983	148.63	133.58	130.79	135.12	162.26
December 31, 1984	171.87	147.03	129.41	156.91	179.77
December 31, 1985	273.11	220.97	204.79	230.41	243.51
December 31, 1986	355.81	270.83	250.40	282.52	288.23
December 31, 1987	362.82	304.95	309.28	304.40	322.08
December 30, 1988	477.72	341.43	311.65	360.56	438.83
December 29, 1989	642.77	525.61	390.71	586.48	544.21
December 31, 1990	673.52	611.53	412.36	701.89	569.17

	Restaurants	Consumer noncyclical	Consumer cyclical	Dow Jones equity market
<i>Percent</i>				
June 30, 1982	100.00	100.00	100.00	100.00
December 31, 1982	134.85	126.35	143.24	129.74
December 30, 1983	155.44	136.86	169.71	152.29
December 31, 1984	170.42	147.20	167.45	155.36
December 31, 1985	249.65	205.58	218.45	199.23
December 31, 1986	273.86	264.83	260.79	228.86
December 31, 1987	272.55	282.69	261.35	230.50
December 30, 1988	324.37	333.84	322.74	260.74
December 29, 1989	463.15	479.37	386.31	329.85
December 31, 1990	408.80	543.87	325.98	305.59

Source: (11).

Appendix table 71--Price/earnings ratio for the food marketing system

Industry	1985 fourth quarter	1986 fourth quarter	1987 third quarter	1988 third quarter	1989 third quarter	1990 fourth quarter
<i>Percent</i>						
All industry composite	NA	NA	15	12	15	15
Food marketing system	NA	NA	NA	19	21	22
Food wholesaling	NA	NA	NA	17	16	16
Food processing	15	19	15	19	20	20
Food retailing	13	20	20	20	27	47

NA = Not available.

Source: (4).

Food Marketing Purchases

Appendix table 72--Food marketing system purchases from U.S. agriculture

Year	Meat	Fruit and vegetables ¹	Dairy products	Bakery products	
<i>Billion dollars</i>					
1982	31.5	11.5	16.7	3.4	
1983	31.4	12.9	18.0	3.5	
1984	32.4	13.5	18.1	3.7	
1985	30.5	13.3	17.7	3.4	
1986	30.9	14.6	17.8	2.9	
1987	32.7	14.3	18.2	2.8	
1988	33.5	16.2	17.9	3.6	
1989	34.0	17.8	19.6	4.3	
1990	37.0	16.6	20.6	3.7	

	Poultry	Grain mill products ²	Eggs	Other foods ³	Total ⁴
<i>Billion dollars</i>					
1982	6.0	1.4	2.5	8.4	81.4
1983	6.6	1.4	2.7	8.8	85.3
1984	8.0	1.4	3.0	9.7	89.8
1985	7.9	1.3	2.3	10.0	86.4
1986	9.0	1.1	2.5	10.0	88.8
1987	8.1	1.0	2.2	11.0	90.4
1988	9.9	1.3	2.2	12.2	96.8
1989	11.4	1.6	2.8	12.3	103.8
1990	11.1	1.5	2.8	13.1	106.4

¹ Includes soups, baby foods, condiments, dressings, spreads, and relishes.

² Includes flour, flour mixes, cereals, rice, and pasta.

³ Includes fats and oils, sugar, and miscellaneous foods.

⁴ Excludes alcoholic beverages and aquaculture, which are estimated at \$2.5 billion in 1990.

Source: (43).

Appendix table 73--Food marketing system purchases from fisheries

Edible fishery products	Domestic commercial landings			Imports			Total		
	1988	1989	1990	1988	1989	1990	1988	1989	1990
<i>Million dollars</i>									
Finfish	1,872	1,610	1,805	2,676	2,859	2,692	4,548	4,469	4,477
Shellfish	1,490	1,510	1,611	2,730	2,598	2,529	4,220	4,099	4,140
Total	3,362	3,111	3,416	5,406	5,547	5,201	8,769	8,568	8,617

Source: (61).

Food Marketing and the International Economy

Appendix table 74--U.S. trade in processed foods, 1990

Item	Exports	Imports
<i>Million dollars</i>		
Total processed food	18,547	20,876
Meat products	4,807	3,155
Meat packing	4,052	3,025
Sausage and prepared meats	49	102
Poultry dressing plants	70	28
Dairy products	439	783
Creamery butter	111	4
Cheese, natural and processed	40	440
Condensed and evaporated milk	227	327
Ice cream and frozen desserts	30	0
Fluid milk	30	12
Preserved fruit and vegetables	1,767	3,497
Canned specialties	37	19
Canned fruit and vegetables	400	863
Dried fruit and vegetables	529	1,157
Sauces and salad dressings	131	188
Frozen fruit and vegetables	670	1,268
Frozen specialties	278	34
Grain mill products	3,070	543
Flour and grain mill products	278	314
Breakfast cereals	114	43
Rice milling	771	73
Blended and prepared flours	45	10
Wet corn milling	1,141	199
Dog, cat, and other pet food	168	68
Prepared animal feed	553	113
Bakery products	190	347
Sugar and confections	1,331	2,164
Sugar	293	868
Candy and confectionery products	97	208
Chocolate and cocoa products	237	705
Chewing gum	21	42
Fats and oils	2,282	807
Soybean oil mills	1,457	27
Vegetable oil mills	168	657
Animal/marine fats and oils	562	77
Shortening and cooking oils	59	26
Beverages	1,128	3,616
Malt beverages	178	939
Malt	30	1,120
Wines, brandy, and brandy spirits	144	1,305
Distilled and blended spirits	262	191
Soft drinks and carbonated water	105	44
Flavorings, extracts, and syrups	407	17

Continued--

Appendix table 74--U.S. trade in processed foods, 1990--Continued

Item	Exports	Imports
<i>Million dollars</i>		
Miscellaneous foods	3,533	6,597
Processed fishery products	2,807	5,212
Roasted coffee	77	150
Potato chips	63	14
Manufactured ice	3	11
Pasta products	5	120
Other food preparations	579	466

Source: ERS is source of data.

Appendix table 75--U.S. trade balance in processed foods

Item	Trade balance		
	1988	1989	1990
<i>Million dollars</i>			
All processed food	-2,664	-2,323	-2,330
Meat products	1,039	1,738	1,652
Dairy products	-167	72	-344
Preserved fruit and vegetables	-777	1,719	-1,730
Grain mill products	2,550	2,721	2,528
Bakery products	-242	-233	-157
Sugar and confectioneries	-824	-709	-833
Fats and oils	2,255	1,818	1,474
Beverages	-2,737	-2,699	-2,488
Miscellaneous foods (including seafood)	-3,761	-3,311	-2,430
Seafood	-3,175	-3,098	-2,406
All processed food less seafood	511	775	76
All processed food less beverages and seafood	3,298	3,474	2,564

Source: ERS is source of data.

Appendix table 76--Foreign investment in food marketing¹

Item	1987	1988	1989	1990
<i>Million dollars</i>				
Direct foreign investment in the United States:				
Investment position--				
Food manufacturing	15,506	16,458	24,054	22,875
Wholesaling	1,425	1,835	1,737	1,574
Foodstores	2,537	2,408	2,524	3,170
Eating and drinking places	116	168	219	396
Total	19,584	20,689	28,534	28,015
Capital inflows--				
Food manufacturing	2,944	1,618	7,604	-991
Wholesaling	467	307	-93	-147
Foodstores	461	-420	38	793
Eating and drinking places	25	66	80	202
Total	4,358	1,571	7,629	-143
Income--				
Food manufacturing	719	1,648	1,232	1,069
Wholesaling	88	93	-94	-289
Foodstores	207	224	123	231
Eating and drinking places	6	9	-4	11
Total	1,020	2,014	1,259	1,022
Direct foreign investment by the United States:				
Investment position--				
Food manufacturing	12,682	13,281	13,464	15,961
Wholesaling	1,374	1,633	1,331	1,349
Foodstores and eating and drinking places	2,135	3,055	3,425	3,704
Total	16,191	17,128	21,211	21,014
Capital outflows--				
Food manufacturing	701	327	-782	1,638
Wholesaling	240	342	163	10
Foodstores and eating and drinking places	-592	859	341	48
Total	349	805	1,884	1,696
Income--				
Food manufacturing	2,046	2,294	2,369	2,817
Wholesaling	313	369	250	235
Foodstores and eating and drinking places	291	358	368	421
Total	2,650	3,063	3,811	3,473

¹ Investment on an enterprise basis.

Source: (48).

Appendix table 77--Profile of foreign affiliates of U.S. firms

Sector	Sales		Net income		Assets		Parents		Affiliates		Employees	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
	----- Million dollars -----						----- Number -----		-----Thousands-----			
All food manufacturing	50,049	60,264	3,616	3,520	35,274	39,648	65	64	655	661	407	417
Grain mill	13,443	15,117	569	619	7,452	8,167	13	12	136	133	69	62
Bakery	4,311	4,761	421	328	3,491	3,554	1	1	42	41	49	53
Beverages	8,759	11,275	1,131	1,260	8,081	8,995	11	13	140	146	64	73
Meat	2,691	2,924	71	59	1,442	1,437	7	7	22	20	21	19
Dairy	3,075	3,941	192	216	2,270	2,150	4	3	38	35	25	23
Fruits and vegetables	2,824	3,675	177	120	2,089	2,815	7	8	52	59	48	56
Other food	14,947	18,572	855	918	10,419	12,390	22	20	225	229	131	131
Food wholesaling	9,522	10,634	569	576	4,386	4,698	17	17	156	159	402	452
Foodstores, eating and drinking places	9,674	11,151	261	353	5,397	6,233	14	15	59	56	208	230
Food marketing	74,310	82,049	4,446	4,449	45,057	50,579	96	96	810	876	1,017	1,099

Source: (48).

Appendix table 78--Profile of U.S. affiliates of foreign firms

Sector	Sales		Net income		Assets		Employees	
	1987	1988	1987	1988	1987	1988	1987	1988
	-----Million dollars-----						--Thousands--	
All food manufacturing	22,424	30,053	394	755	23,031	30,317	146	169
Beverages	5,955	7,445	284	661	12,363	13,982	39	40
Meat	1,040	1,699	-10	-11	176	310	4	7
Dairy	2,864	3,983	8	2	1,520	2,005	17	20
Fruits and vegetables	365	NA	25	NA	325	NA	4	NA
Grain mill	171	NA	NA	11	200	NA	1	NA
Bakery	2,039	2,515	50	63	1,040	1,751	21	30
Other foods	9,989	11,844	26	NA	7,407	9,308	61	62
Wholesaling	12,927	14,244	54	24	3,582	3,502	23	23
Foodstore	22,066	21,421	80	323	7,854	8,436	218	234
Eating and drinking places	1,284	874	2	8	633	193	20	24
Food marketing	58,701	72,592	530	1,110	35,100	42,448	407	450

NA = Not available.

Source: (48).

Appendix table 79--World's largest food processing firms, 1989-90

Company	Head-quarters	Processed food sales	Total sales	Major products
-----Billion dollars-----				
1. Nestlé S.A.	Switzerland	31.0	32.0	Diversified foods, restaurants
2. Philip Morris/Kraft ¹	USA	29.8	47.0	Foodstuffs, tobacco, beer
3. Unilever	UK/Netherlands	17.2	34.4	Diversified foods, soap
4. ConAgra (includes Beatrice) ²	USA	15.3	19.8	Foodstuffs, meats, poultry
5. Kirin Brewery	Japan	11.2	11.4	Beer, soft drinks
6. PepsiCo	USA	10.0	15.2	Soft drinks, snacks, restaurants
7. RJR Nabisco	USA	9.9	16.9	Foodstuffs, tobacco
8. IBP	USA	9.5	9.5	Meats
9. Anheuser-Busch	USA	9.3	9.7	Beer, snacks
10. Grand Metropolitan	UK	8.8	14.5	Diversified foods, restaurants
11. Coca-Cola	USA	8.5	8.9	Soft drinks, fruit juices
12. Taiyo Fishery	Japan	8.1	9.0	Seafood products
13. Cargill (estimated)	USA	7.9	43.0	Meats, grains
14. Allied-Lyons	UK	7.6	7.6	Beverages, restaurants
15. BSN	France	7.5	8.0	Snacks, bakery, beverages
16. Archer Daniels Midland	USA	7.3	7.9	Food products, grains
17. Sara Lee	USA	7.1	11.7	Frozen foods, meats
18. Mars	USA	7.0	8.0	Confectionery, pet foods
19. Snow Brand Milk Products	Japan	6.6	6.6	Dairy products
20. Borden	USA	6.5	7.6	Dairy, pasta, adhesive
21. Hillsdown Holdings	UK	6.5	7.0	Poultry, flours, seafood
22. Gruppo Ferruzzi	Italy	6.4	29.3	Sugar, vegetable oils
23. Ralston Purina	USA	6.1	6.7	Pet foods, cereals, food products
24. Bass	UK	6.1	6.1	Beverages
25. H.J. Heinz	USA	5.9	6.0	Diversified foods

See footnotes at end of table.

Continued---

Appendix table 79--World's largest food processing firms, 1989-90--Continued

Company	Head-quarters	Processed food sales	Total sales	Major products
<i>-----Billion dollars-----</i>				
26. Campbell Soup	USA	5.8	6.0	Soups, prepared foods
27. Elders	Australia	5.8	8.4	Beer, food, meats
28. Asahi Breweries	Japan	5.7	5.7	Beer
29. Quaker Oats	USA	5.6	5.7	Cereals, food products
30. CPC International	USA	5.1	5.1	Fats and oils, corn milling
31. Guinness	UK	5.1	5.2	Beer
32. Cadbury Schweppes	UK	4.8	4.8	Confectionery, beverages
33. Kellogg	USA	4.7	4.7	Cereals, prepared foods
34. Dalgety	UK	4.6	8.0	Meat, produce
35. Seagram	Canada	4.6	4.6	Beverages
36. General Mills	USA	4.5	6.1	Foodstuffs, flour, restaurants
37. United Biscuits	UK	4.4	4.6	Cookies, snacks
38. Nippon Meat Packers	Japan	4.3	4.3	Meats
39. John Labatt	Canada	4.2	4.2	Beer, dairy products, fruit juices
40. Tate & Lyle	UK	4.1	5.7	Sugar
41. Associated British Foods	UK	4.0	4.2	Bread, flour, foodstuffs
42. Coca-Cola Enterprises	USA	3.9	3.9	Soft drinks, fruit juices
43. Sapporo Breweries	Japan	3.8	4.0	Beer
44. Chiquita Brands	USA	3.8	3.8	Fresh fruits
45. Unigate	UK	3.7	3.9	Dairy products, fresh food
46. St. Louis	France	3.7	3.7	Sugar
47. Heineken	Netherlands	3.6	3.7	Beer
48. Nippon Suisan	Japan	3.5	3.5	Seafood
49. Ajinomoto	Japan	3.2	3.5	Soups, sauces, coffee
50. Itoham Foods	Japan	3.2	3.2	Meat products

¹ Includes Jacob Suchard, acquired in 1990.

² ConAgra announced its acquisition of Beatrice in 1990.

Source: (20).

Appendix table 80--Composition of food processing industries in selected countries, 1985

Industry	France	Federal Republic of Germany	Japan	United Kingdom	United States
			<i>Percent</i>		
Milk products	34	27	10	18	16
Grain mill products	18	12	20	17	13
Meat products	9	14	8	15	25
Sugar and confectioneries	19	17	10	13	7
Frozen and miscellaneous foods	8	6	13	14	7
Bakery products	5	8	14	12	8
Processed fruit and vegetables	4	5	3	4	14
Fats and oils	1	9	5	4	8
Fish products	2	2	17	3	2

Source: (21).

Appendix table 81--Food processing share of total manufacturing production and employment within each country of the Organization for Economic Cooperation and Development (OECD)

Country	Production			Employment		
	1965	1975	1985	1965	1975	1985
	<i>Percent</i>					
Australia	16.1	18.3	18.3	10.2	13.3	13.9
Austria	14.0	14.1	14.7	14.2	10.0	10.6
Belgium	17.7	15.5	16.1	7.1	7.6	9.2
Canada	16.7	16.0	15.3	12.2	10.7	10.5
Denmark	19.8	26.9	33.0	12.6	13.7	17.0
Finland	26.1	17.4	17.0	11.8	10.4	10.2
France	18.1	16.6	16.8	8.3	7.8	10.2
Federal Republic of Germany	9.6	9.1	9.5	4.3	4.3	4.9
Greece	23.5	20.0	18.5	16.2	16.2	15.4
Iceland	NA	21.9	22.0	NA	15.4	12.5
Ireland	35.0	40.5	37.0	22.5	23.4	21.6
Italy	NA	11.0	10.5	5.7	5.2	5.3
Japan	10.3	9.6	8.9	8.9	8.9	9.6
Luxembourg	NA	5.7	6.0	2.9	3.0	4.1
The Netherlands	25.5	24.8	24.8	12.2	13.2	14.7
New Zealand	32.3	27.0	27.1	18.9	23.6	24.1
Norway	25.2	17.3	20.2	13.5	12.5	14.8
Portugal	17.1	23.1	16.8	10.1	11.9	11.2
Spain	15.3	13.0	16.6	11.6	10.1	11.3
Sweden	16.9	12.2	12.9	7.0	7.0	8.4
Switzerland	NA	NA	NA	5.0	5.5	7.6
Turkey	26.3	18.1	14.5	16.1	13.9	13.5
United Kingdom	NA	11.9	13.3	NA	8.2	9.4
United States	13.6	14.9	12.3	68.4	7.8	7.1
OECD total	10.8	10.4	10.3	8.4	8.2	9.1

NA = Not available.

Source: (21).

Appendix table 82--Share of food marketing production and employment by OECD countries, 1985

Country	Production	Employment
	<i>Percent</i>	
Australia	1.9	2.6
Austria	1.0	1.5
Belgium	1.0	1.3
Canada	4.7	3.7
Denmark	1.3	1.2
Finland	1.0	1.0
France	7.7	8.7
Federal Republic of Germany	5.9	6.7
Greece	.5	1.5
Iceland	¹	¹
Ireland	.6	.8
Italy	4.0	3.1
Japan	14.4	19.6
Luxembourg	¹	¹
The Netherlands	3.0	2.3
New Zealand	.6	1.3
Norway	.8	.9
Portugal	.4	1.5
Spain	2.7	4.4
Sweden	1.2	1.2
Switzerland	1.2	1.1
Turkey	.6	2.2
United Kingdom	6.4	8.1
United States	38.6	25.1
OECD total	100.0	100.0

¹ Less than 0.1.

Source: (21).

Appendix table 83--OECD trade in processed foods

Country	Import cover rate ¹			Import penetration ²			Export shares ³		
	1970	1975	1985	1970	1975	1985	1970	1975	1985
	<i>Percent</i>								
Australia	11.2	10.0	54.3	5.3	5.4	6.9	38.0	37.3	24.0
Austria	.7	.5	.6	21.0	19.0	12.2	7.0	11.5	2.5
Belgium/Luxembourg	.8	1.0	1.2	34.2	40.2	65.3	30.4	39.3	63.7
Canada	.8	.5	1.0	8.7	11.0	8.2	7.3	5.5	7.9
Denmark	3.6	7.0	3.1	25.0	23.0	28.9	48.0	53.0	47.8
Finland	.4	.4	.6	10.6	10.5	8.2	4.7	4.4	6.2
France	.8	1.0	.9	10.2	11.5	15.0	7.9	11.1	13.4
Federal Republic of Germany	.3	.6	.7	21.2	21.9	27.3	7.2	13.4	21.5
Greece	.4	.8	.6	28.0	16.0	25.5	18.0	15.0	16.4
Iceland	3.3	3.2	4.1	NA	NA	NA	NA	NA	NA
Ireland	3.7	4.6	2.9	NA	NA	21.4	NA	NA	44.1
Italy	.3	.3	.4	19.7	25.9	27.4	6.2	9.0	12.4
Japan	.5	.2	.2	6.8	8.6	5.8	3.4	1.4	4.0
The Netherlands	2.1	2.2	1.9	14.0	26.5	39.7	40.6	44.5	55.1
New Zealand	22.5	10.5	14.0	11.0	13.0	12.2	62.0	57.0	66.1
Norway	1.5	1.5	1.4	12.0	11.5	10.6	17.2	15.6	14.0
Portugal	.9	.4	.6	NA	NA	17.3	NA	NA	14.3
Spain	1.2	.5	1.1	16.0	16.0	7.4	16.0	12.0	7.9
Sweden	.3	.3	.5	14.1	15.1	14.8	4.2	5.0	4.8
Switzerland	.6	.9	.7	NA	NA	NA	NA	NA	NA
Turkey	3.2	2.0	1.5	NA	NA	8.4	NA	NA	14.9
United Kingdom	.2	.3	.4	20.5	23.8	21.8	3.9	7.3	7.9
United States	.6	.7	.6	4.8	4.6	4.8	2.9	3.5	3.1

NA = Not available.

¹ Import cover rate: exports as a percentage of imports.

² Import penetration: imports as a share of apparent consumption (production less exports plus imports).

³ Export shares: exports as a share of production.

Source: (21).

Appendix table 84--Productivity in food processing industries in selected OECD countries, 1985

Country	Production	Employment	Labor productivity
		<i>1980=100</i>	
Australia	100	90	111
Austria	106	90	118
Belgium	121	92	132
Canada	105	89	117
Denmark	120	110	110
Finland	111	101	110
France	107	105	102
Federal Republic of Germany	109	92	118
Ireland	119	81	146
Italy	103	95	108
Japan	104	102	102
The Netherlands	110	88	125
Norway	64	100	65
Sweden	104	97	106
United Kingdom	104	80	130
United States	117	96	122

Source: (21).

Appendix table 85--Private research and development (R&D) expenditures by OECD food-related industries, 1981¹

Country	Total	Share of OECD total	Share of R&D total in manufacturing	Share of government- financed R&D in total manufacturing R&D
	<i>Million dollars</i>	<i>Percent</i>		
Australia	13.9	0.8	6.3	NA
Austria	10.9	.6	2.6	5.3
Belgium	25.0	1.4	2.8	2.4
Canada	52.0	2.9	3.5	2.9
Denmark	18.8	1.0	7.9	15.5
Finland	13.7	.8	4.8	1.7
France	80.8	4.5	1.3	.1
Federal Republic of Germany	132.7	7.4	1.2	.4
Greece	.5	²	3.1	NA
Iceland	.1	²	5.1	6.7
Ireland	13.0	.7	20.0	8.8
Italy	19.2	1.1	.8	.3
Japan	438.8	24.3	3.0	.7
The Netherlands	89.3	4.9	6.8	NA
Norway	3.7	.2	2.0	.7
Spain	17.9	1.0	4.3	6.5
Sweden	34.7	1.9	2.6	2.2
Switzerland	16.1	.9	1.3	NA
United Kingdom	183.2	10.2	2.6	.3
United States	640.0	35.5	1.3	.1
OECD total	1,804.3	100.1	1.9	.9

NA = Not available.

¹ Food-related: food, beverages, and tobacco.

² Less than 0.1.

Source: (21).

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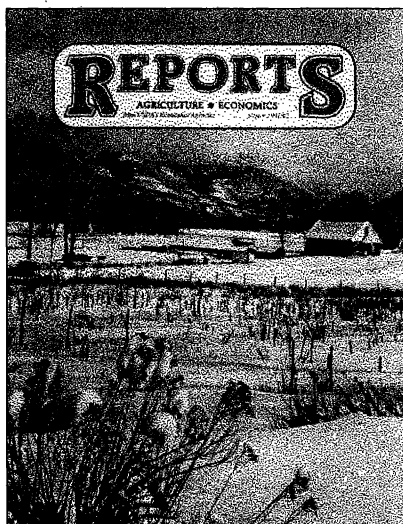
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