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Agricultural
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Report
Number 672

Food Cost Review, 1992

Denis Dunham

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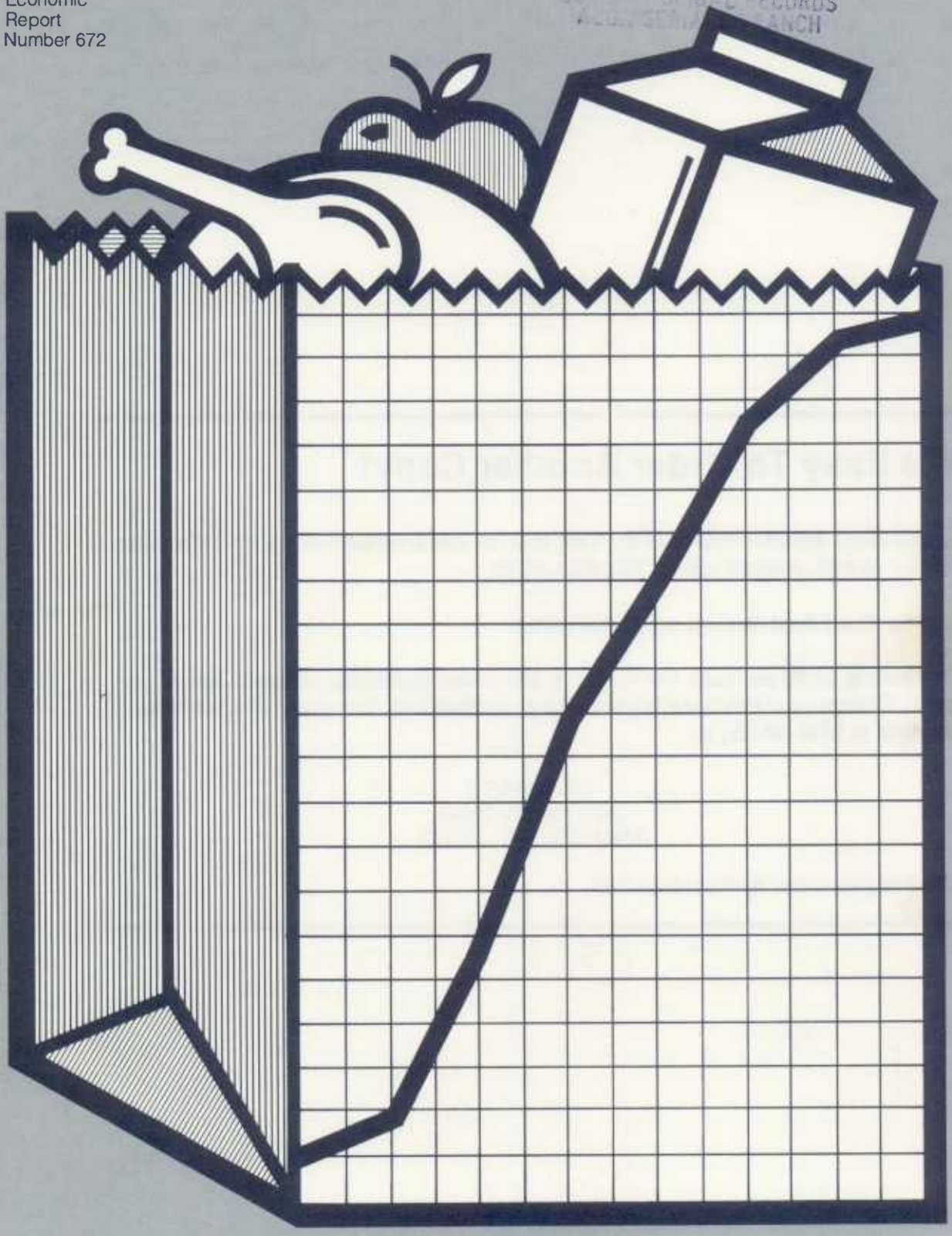

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Food Cost Review, 1992. By Denis Dunham, Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 672.

Abstract

Food prices, as measured by the Consumer Price Index (CPI), increased 1.2 percent in 1992, less than half the 1991 price increase of 2.9 percent. The 1992 increase was the lowest since 1967, when the index rose 0.9 percent. Higher charges for processing and distribution mainly accounted for the 1992 increase. The prices farmers received for commodities, as measured by the farm value of USDA's market basket of foods, declined 2.5 percent. The farm value share of the food dollar spent in grocery stores in 1992 was 26 percent, down from 27 percent in 1991. The farm-to-retail price spread of USDA's market basket of foods rose 2 percent, partly reflecting higher prices of inputs, such as labor.

Keywords: Retail food prices, farm-to-retail price spread, farm value share, food marketing costs, food spending, profits, productivity.

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Washington, DC 20005-4788 September 1993

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Summary

Consumers paid 1.2-percent higher prices for food in 1992, as measured by the Consumer Price Index (CPI). This percentage increase was less than half the 1991 price increase and the smallest since 1967. Grocery store food prices rose the least, advancing 0.7 percent, down from 2.6 percent in 1991. Restaurant meal prices went up 2 percent, down from 3.4 percent a year earlier. The rise in food prices in 1992 mainly reflected increases in food processing and distribution costs.

The farm value of USDA's market basket of foods, based on prices farmers received for commodities, declined 2.5 percent, largely reflecting lower prices for hogs, eggs, and fresh fruit. With the comparatively large decline of this indicator, the 1992 farm value of food was only about 4 percent higher than a decade earlier.

The 1992 farm value averaged 26 percent of the retail cost for a market basket of food purchased in grocery stores, down from 27 percent in 1991. This decline was caused by abundant food supplies that held down farm prices, while rising processing and distributing charges boosted retail prices. These opposing forces had previously lowered the average farm share from 37 to 30 percent during the 1980's.

The farm-to-retail price spread rose 2 percent in 1992, partly reflecting higher prices of marketing inputs, including labor and advertising, and larger industry profit margins. The increase in the farm-to-retail spread in 1992 was the smallest in many years. The small increase was probably due to the general economy's dampening effect on food buying that forced food companies to limit price increases for fear of eroding already weak sales.

Consumers spent $477 billion for food produced on U.S. farms in 1992, about 2.5 percent more than in 1991. This amount includes purchases of farm foods in grocery stores, about 61 percent of total consumer food expenditures, and at away-from-home eating places. About 22 percent of last year's food spending went back to farmers, who received about $105 billion for food commodities. This share is lower than the 26-percent farm value share for the market basket of foods, because it includes the much lower 15-percent farm share for away-from-home food spending.

For food--	1991	1992
	Billion dollars	
Consumers spent...	465	477
Marketing bill was...	364	372
Farmers got...	101	105

The remaining $372 billion--the marketing bill--went to the food industry for handling, processing, and retailing foodstuffs after they left the farm. The marketing bill rose $8 billion in 1992, the smallest increase in many years. Direct labor costs for food marketing represented 45 percent of the marketing bill. Other principal costs were packaging and containers, transportation, advertising, and energy.

Although the dollar amount spent for food continues to rise, food spending as a percentage of disposable personal income has declined over the past decade. In 1992, personal expenditures for food, as estimated by the Economic Research Service, were 11.4 percent of personal disposable income, down from 11.9 percent 5 years earlier and 13 percent in 1982.

Food Cost Review, 1992

Denis Dunham*

Introduction

Consumers, farmers, and legislators want to know what causes food prices to change. These concerned parties are also interested in the farm-to-retail price spread, which measures the difference between what farmers get for the food they sell and how much consumers pay for that food. To answer these concerns, Congress has directed the U.S. Department of Agriculture (USDA) to measure price spreads for food originating on farms.

This report presents USDA's findings for 1992, including answers to the following questions:

- How much did food prices rise in 1992? Why?
- How much of the retail food price does the farm value represent?
- How did farm-to-retail price spreads change last year, both for a market basket of food and for such food groups as meat and dairy products?
- How have recent developments affected food industry costs, profit margins, and productivity?
- Finally, how much did Americans spend for farm-produced food, and how were these dollars divided among costs of producing and marketing food?

Retail Food Prices

The rise in retail food prices slowed dramatically in 1992, under the pressure of large food supplies and the weak economy's dampening effect on food demand. Food prices in 1992, as measured by the Consumer Price Index (CPI), averaged 1.2 percent above those in 1991, less than half the 1991 price increase of 2.9 percent (table 1). Moreover, the 1992 increase was the lowest since that in 1967, when the index rose 0.9 percent.

For the second consecutive year, food prices in 1992 rose more slowly at supermarkets and other grocery stores than at eating places. Food prices in grocery stores rose only 0.7 percent, and prices for restaurant meals advanced by 2 percent. In both cases, prices increased much more slowly than they had the year before. While prices were up slightly overall, grocery store prices of some foods in 1992 were lower than those in the year before. These foods included meats, poultry, and eggs. Price hikes were largest for processed fruit, cereals and bakery products, and for dairy products (table 2).

A variety of factors kept food price increases small in 1992. Changing consumer spending habits, lower inflation, and larger supplies of food played important roles. Slow growth in consumers' real income and low consumer confidence held down food spending, particularly for high-value, high-priced products and restaurant meals. The 1991 recession, followed by the slow pace of economic recovery in 1992, increasingly drove consumers to shop for the best priced deals.

*The author is an agricultural economist in the Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture.

Table 1--Consumer Price Indexes for food and percentage changes from previous years

Year	Food		Food at home		Food away from home	
	Index	Change	Index	Change	Index	Change
	1982-84=100	Percent	1982-84=100	Percent	1982-84=100	Percent
1972	42.1	4.2	42.7	4.4	41.0	4.1
1973	48.2	14.5	49.7	16.4	44.2	7.8
1974	55.1	14.3	57.1	14.9	49.8	12.7
1975	59.8	8.5	61.8	8.2	54.5	9.4
1976	61.6	3.0	63.1	2.1	58.2	6.8
1977	65.5	6.3	66.8	5.9	62.6	7.6
1978	72.0	9.9	73.8	10.5	68.3	9.1
1979	79.9	11.0	81.8	10.8	75.9	11.1
1980	86.8	8.6	88.4	8.1	83.4	9.9
1981	93.6	7.8	94.8	7.2	90.9	9.0
1982	97.4	4.1	98.1	3.5	95.8	5.4
1983	99.4	2.1	99.1	1.0	100.0	4.4
1984	103.2	3.8	102.8	3.7	104.2	4.2
1985	105.6	2.3	104.3	1.5	108.3	3.9
1986	109.0	3.2	107.3	2.9	112.5	3.9
1987	113.5	4.1	111.9	4.3	117.0	4.0
1988	118.2	4.1	116.6	4.2	121.8	4.1
1989	125.1	5.8	124.2	6.5	127.4	4.6
1990	132.4	5.8	132.3	6.5	133.4	4.7
1991	136.3	2.9	135.8	2.6	137.9	3.4
1992	137.9	1.2	136.8	.7	140.7	2.0

Source: U.S. Department of Labor, Bureau of Labor Statistics.

Table 2--Consumer Price Index changes for food eaten at home, by food group

Food group	1987	1988	1989	1990	1991	1992
	Percentage change from year earlier					
Cereal and cereal products	3.2	7.6	9.2	5.5	4.5	3.9
Bakery products	3.5	5.9	8.0	5.9	4.0	3.9
Beef and veal	7.6	-3.0	6.4	8.0	2.8	-.1
Pork	8.2	-3.0	.6	14.7	3.3	-4.7
Other meat	6.3	2.6	2.8	9.3	3.7	.2
Poultry	-1.4	7.2	9.9	-.2	-.8	-.1
Eggs	-5.9	2.3	26.6	4.7	-2.3	-10.6
Fish and seafood	10.6	5.8	4.5	2.2	1.1	2.3
Dairy products	2.5	2.4	6.6	9.4	-1.1	2.7
Fresh fruit	11.2	8.3	6.6	12.1	13.5	-5.0
Fresh vegetables	12.9	6.3	10.7	5.6	2.2	2.3
Processed fruit	4.0	10.3	3.2	8.7	-3.7	4.5
Processed vegetables	2.8	4.8	10.7	2.7	.8	.2
Fats and oils	1.5	4.6	7.2	4.2	4.3	-1.4
Sugar and sweets	1.8	2.7	4.7	4.4	3.7	2.9
Nonalcoholic beverages	-2.6	0	3.5	2.0	.5	.2
Other prepared food	4.2	3.7	6.4	4.5	4.5	2.2

Source: U.S. Department of Labor, Bureau of Labor Statistics.

The marketing spread, the difference between the farm value and the retail price of food, consistently contributes more to food price increases than do volatile farm prices. Higher costs for labor, packaging, energy, and other marketing inputs push the spread wider nearly every year. But the 1992 rise in the farm-to-retail price spread was only 2 percent, substantially smaller than that of recent years. This small rise can be attributed partly to a lower general inflation rate.

Another factor holding down food prices was lower farm prices of some commodities, particularly hogs and fresh fruit. Overall, there was a 2.5-percent decrease in the farm value of food commodities in 1992, the second consecutive yearly decline. The effect of change in commodity prices on retail prices depends on what proportion the farm value is of the retail price. That share varies from less than 10 percent to around 60 percent, depending on the food. On average, the farm value share of retail dollars spent at grocery stores in 1992 was 26 percent.

Food prices in 1992 rose less than prices for all other consumer products and services (fig. 1). Among major items in the CPI, housing prices, the largest component, went up 2.9 percent, and apparel and upkeep prices rose 2.5 percent, but medical care costs climbed 7.4 percent in 1992. In 6 of the past 10 years, the CPI for food rose by a smaller amount than the CPI for all items.

Consumer Price Index

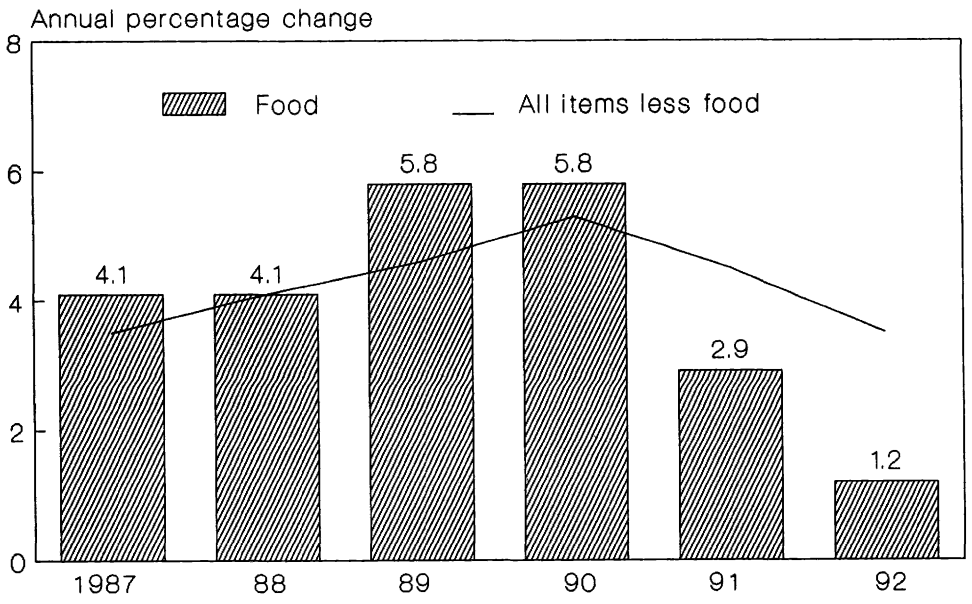
The Consumer Price Index for urban consumers (CPI-U), published by the U.S. Department of Labor's Bureau of Labor Statistics (BLS), is the most widely accepted measure of changes in retail food prices. Prices used to develop the food CPI-U are collected in about 2,300 foodstores located in 85 urban areas.

After collecting the prices, the BLS summarizes them, weights them by their importance, and reports the prices as index numbers for about 70 food groups. The weights, reflecting the purchasing patterns of urban households, are

Figure 1

Consumer price indexes

The food price increase was smaller than the nonfood increase in 1992 and in 6 out of the last 10 years.



periodically revised. The BLS made the latest revision in January 1987 for changes in purchasing patterns between 1972-73 and 1982-84.

The food component of the overall CPI-U has a weight of about 15.8 percent. Housing is the largest expenditure category, with 41 percent of the CPI-U weight, followed by transportation with 18 percent. The food category of the CPI-U has two major components: food purchased in foodstores for consumption at home, which has a weight of about 9.8 percent, and food consumed away from home, weighted at about 6 percent (table 3).

Knowing the importance of CPI-U components helps one understand how price changes for various food groups influence the overall change in the CPI-U for food. For instance, in the food-at-home CPI-U, cereal and bakery products are 14.7 percent of the index. In 1992, the CPI-U for cereal and bakery products went up 3.9 percent, accounting for about a 0.6-percent increase in the food-at-home CPI-U.

Retail Prices of Food Groups

The principal factors affecting retail food prices, marketing costs and commodity prices, seldom have the same effects on all food products in the market basket. Price changes among food groups created only a small overall rise in food prices. But within the range of price changes, pork prices fell 4.7 percent, egg prices fell 10.6 percent, and fresh fruit prices dropped 5 percent, while milk prices increased 3.3 percent and bread prices rose 5 percent. The following identifies the factors that probably most influenced retail price changes of the major food categories in 1992.

Meat

Beef and veal prices averaged 0.1 percent lower in 1992 than a year earlier, the first price decrease in 6 years. Per capita beef and veal consumption remained at about 68 pounds (retail weight) in 1992 because population growth and larger beef exports offset about a 1-percent rise in beef production. Increases in supplies of already relatively low-priced pork and poultry and weak consumer demand held down beef prices. The farm-to-retail price spread for beef declined slightly in 1992.

Retail pork prices declined 4.7 percent in 1992, as pork production increased about 8 percent. Production in 1992 exceeded the record set in 1980. Nearly all the price decline in retail pork prices was in farm value, but the farm-to-retail spread averaged slightly lower. With larger production, pork consumption rose to 53 pounds (retail weight) per capita in 1992, about 3 pounds more than in 1991.

Poultry and Eggs

Retail poultry prices declined slightly in 1992 for the third consecutive year. Prices held relatively firm, despite larger supplies of poultry, because of record exports of broilers and turkeys. Broiler chicken production increased about 6.5 percent in 1992, extending a long-term expansion, and turkey production was up about 3 percent. Poultry consumption thus increased to 87 pounds (retail weight) per capita in 1992, about 3 pounds more than in 1991.

Table egg production was about 2 percent higher in 1992 and the largest since 1988, causing egg prices to decline at the farm, wholesale, and retail levels. Retail egg prices averaged 10.6 percent lower in 1992 than in 1991. Per capita egg consumption, which has declined about 12 percent in the past decade, was fairly stable. Consumption totaled 232 eggs per capita in 1992, 32 eggs per capita less than in 1982, reflecting a steady decline in shell egg use. Use of processed egg products, nearly 25 percent of total consumption, grew about 50 percent per capita since 1982, due partly to greater manufacturing use in food products, such as pasta and baked goods.

Dairy Products

Retail prices of milk and other dairy products averaged 2.7 percent higher in 1992, following a small decline the year before. Price increases were largest for fresh milk and cream (3.8 percent), but prices for cheese and other processed products also rose (1.6 percent). Farm value for dairy products averaged 6.5 percent higher in 1992, reflecting strong prices for dairy products the first half of the year. A nearly stable farm-to-retail spread helped to mitigate the effects of higher farm prices on retail product prices. Milk production in 1992 was about 2 percent above the year before, but stronger dairy demand absorbed the extra milk without significantly affecting prices.

Table 3--Relative importance of food groups in Consumer Price Index for urban consumers (CPI-U), December 1992

Food group	Weight in CPI-U	Weight in food CPI-U	Weight in food-at-home CPI-U
		Percent	
All food	15.777	100.0	NA
Food at home	9.780	62.0	100.0
Cereal and bakery products	1.441	9.1	14.7
Cereal products	.465	2.9	4.8
Bakery products	.976	6.2	9.9
Meat	1.996	12.7	20.4
Beef and veal	1.029	6.5	10.5
Pork	.563	3.6	5.8
Other meats	.404	2.6	4.1
Poultry	.430	2.7	4.4
Fish and seafood	.364	2.3	3.7
Eggs	.166	1.1	1.7
Dairy products	1.209	7.7	12.4
Fresh milk and cream	.605	3.8	6.2
Processed dairy products	.604	3.9	6.2
Fresh fruit and vegetables	1.219	7.7	12.5
Fresh fruit	.639	4.0	6.5
Fresh vegetables	.581	3.7	6.0
Processed fruit and vegetables	.620	3.9	6.3
Processed fruit	.361	2.3	3.7
Processed vegetables	.259	1.6	2.6
Sugar and sweets	.338	2.1	3.5
Fats and oils	.251	1.6	2.6
Nonalcoholic beverages	.716	4.6	7.3
Other prepared food	1.031	6.5	10.5
Food away from home	5.997	38.0	NA

NA = Not applicable.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

Fish and Seafood

Fish and seafood prices increased 2.3 percent in 1992, the largest increase in 3 years. Higher fresh and frozen seafood prices accounted for the rise; prices of canned fish and seafood declined slightly. Price increases were much larger during the 1980's, as consumption of seafood grew about 30 percent to peak at 16.2 pounds per capita in 1987. However, consumption fell to 14.9 pounds in 1991, resulting in much smaller price increases in recent years.

Cereal and Bakery Products

Retail prices for cereal and bakery products averaged 3.9 percent higher in 1992, the largest rise among major food groups. Some of the increase occurred because low wheat stocks caused manufacturers to raise prices early in the year, forcing wheat prices to rise to a 3-year high in February. The 1992 farm value of commodities used in cereals and bakery products averaged 11 percent higher than that of 1991. Rising retail prices also reflected higher charges by bakers and cereal manufacturers for processing and marketing functions. Flour prices led the category, increasing by 5.5 percent. White bread prices advanced 5 percent. Cereal prices rose 4.3 percent in 1992, but increases have been larger than price increases for most other products in the food-at-home index in the past decade. Per capita consumption of breakfast cereals rose about 24 percent from 1982 to 1990.

Fresh Fruit and Vegetables

Fresh fruit prices averaged 5 percent lower in 1992, but price increases varied widely among fruits. Most of the decline can be attributed to a recovery of orange production in California, resulting in a price decline for oranges of 29 percent in 1992. Orange prices soared 55 percent in 1991, due to a December 1990 freeze in California that created short fresh-market supplies and reduced the 1990/91 crop by 62 percent from the previous year. Prices of bananas, the most popular fresh fruit, declined 3.5 percent. Apple prices averaged 3.9 percent higher, reflecting a smaller Washington crop in 1991.

Prices of fresh vegetables averaged 2.3 percent higher in 1992, due mostly to excess rains in Mexico causing a gap in tomato supplies. Monthly tomato prices were very volatile in 1992, ranging from 75 cents per pound in June to $1.73 per pound in March. Total supplies of major fresh-market vegetables were 4 percent larger, creating only slight price increases. Retail prices for fresh potatoes averaged 2.1 percent lower in 1992, reflecting a record large potato crop in 1991 that kept prices down. The 1992 crop was slightly smaller, causing higher prices in the fourth quarter.

Processed Fruit and Vegetables

Processed fruit and vegetable prices rose 2.7 percent in 1992. Prices for processed vegetables were stable, but processed fruit prices rose by 4.5 percent. Higher fruit prices in 1992 were attributed mainly to higher prices for apple juice and canned fruit, especially peaches and pears. Frozen concentrated orange juice prices rose 2.6 percent in 1992.

Fats and Oils

The fats and oils component of the food CPI averaged 1.4 percent lower in 1992 because of large supplies of vegetable oils and a record peanut crop. Peanut butter prices dropped 10 percent, following record high prices in 1991 due to drought damage to the crop (table 4). Margarine prices declined 2.2 percent, reflecting record large supplies of soybean oil, the major ingredient of margarine.

Nonalcoholic Beverages

Nonalcoholic beverage prices rose a scant 0.2 percent in 1992, which considerably moderated the overall increase in grocery store food prices. Coffee prices were 4 percent lower. Failure of coffee-producing countries to agree on shipment quotas resulted in large coffee supplies, which depressed prices. Carbonated drink prices rose 1.7 percent. Annual carbonated drink price increases averaged slightly above 1 percent over the past decade, due to price competition for market share among soft drink companies and industry productivity gains that annually averaged about 7 percent.

Table 4--Average retail food prices, selected items

Item	Unit	1988	1989	1990	1991	1992	Item	Unit	1988	1989	1990	1991	1992
		Dollars							Dollars				
Flour, white	Pound	0.21	0.24	0.25	0.23	0.24	Apples, red delicious	Pound	0.69	0.72	0.88	0.88	0.89
Rice, white, uncooked	do.	.48	.50	.50	.50	.53	Bananas	do.	.42	.45	.46	.48	.46
Spaghetti and macaroni	do.	.80	.86	.85	.87	.86	Oranges, navel	do.	.53	.52	.58	.78	.57
Bread, white	do.	.61	.67	.70	.71	.75	Oranges, Valencia	do.	.59	.60	.56	.92	.56
Bread, French	do.	1.09	1.17	--	1.25	--	Cherries	do.	1.63	1.15	1.75	2.26	--
Cookies, chocolate chip	do.	2.12	2.38	2.61	2.70	2.78	Grapefruit	do.	.52	.52	.66	.62	.61
Ground beef	do.	1.36	1.44	1.59	1.60	1.53	Grapes, Thompson						
Chuck, ground	do.	1.76	1.83	1.97	1.97	1.91	seedless	do.	1.16	1.20	1.26	1.40	1.29
Chuck roast, bone-in	do.	1.73	1.88	2.09	2.09	2.09	Lemons	do.	.93	1.00	1.07	1.23	1.01
Round roast, boneless	do.	2.63	2.76	2.93	3.02	2.98	Peaches	do.	.68	.84	.88	.96	.89
Rib roast	do.	3.89	4.17	4.49	4.70	4.64	Pears, Anjou	do.	.63	.73	.76	.84	.83
Round steak, boneless	do.	2.98	3.12	3.32	3.41	3.38	Strawberries	12 oz.	1.00	1.04	1.14	1.11	1.14
Sirloin steak, bone-in	do.	3.29	3.58	3.67	3.74	3.81	Potatoes, white	Pound	.26	.34	.37	.33	.30
T-bone steak	do.	4.72	5.07	4.99	5.38	5.37	Lettuce, iceberg	do.	.63	.60	.58	.60	.58
Bacon, sliced	do.	1.88	1.77	2.12	2.22	1.92	Tomatoes, field-grown	do.	.83	.91	1.08	1.01	1.09
Chops, center-cut	do.	2.77	2.85	3.26	3.26	3.15	Beans, green	do.	.96	1.02	--	--	--
Ham, rump	do.	1.60	--	--	1.67	1.61	Cabbage	do.	.33	.36	.40	.41	.36
Ham, shoulder picnic	do.	1.12	1.10	1.28	1.30	1.22	Carrots	do.	.38	.40	.39	.45	.47
Sausage	do.	1.97	2.00	2.35	2.40	2.20	Celery	do.	.51	.53	.49	.52	.51
Ham, canned	do.	2.73	2.67	2.77	3.19	3.17	Cucumbers	do.	.57	.66	.60	.65	.67
Frankfurters	do.	2.02	2.06	2.29	2.35	2.24	Onions, yellow	do.	.38	.36	.39	.43	.42
Bologna	do.	2.24	2.28	2.51	2.59	2.47	Peppers, sweet	do.	.79	.96	1.13	1.11	1.06
Chicken, fresh, whole	do.	.85	.93	.90	.88	.87	Orange juice,						
Chicken breast	do.	1.93	2.09	2.07	2.06	2.04	frozen concentrated	16 oz.	1.53	1.82	1.86	2.15	1.89
Chicken legs	do.	1.14	1.21	1.19	1.16	1.12	Potatoes, frozen,						
Turkey, frozen	do.	.96	.99	.99	1.00	.97	french-fried	Pound	.70	.75	.84	.85	.87
Tuna, canned	do.	2.16	2.08	2.06	2.07	2.02	Tomatoes, canned	do.	.53	--	--	--	--
Eggs, Grade A, large	Dozen	.79	1.00	1.01	.99	.86	Margarine, tub	do.	1.04	1.17	--	1.29	1.30
Milk, fresh, whole	1/2 gal.	1.16	1.27	1.42	1.37	1.39	Margarine, stick	do.	.73	.82	.84	.87	.85
Milk, low-fat	1/2 gal.	1.11	--	--	1.31	1.36	Shortening	do.	.85	.93	.92	.87	.83
Butter	Pound	2.16	2.13	1.99	1.94	1.83	Peanut butter	do.	1.79	1.81	1.89	2.15	1.94
Ice cream	1/2 gal.	2.46	2.60	2.60	2.58	2.58	Potato chips	do.	2.62	2.86	2.96	2.96	2.90
Yogurt	1/2 pt.	.59	--	--	.65	.61	Sugar, white	do.	.37	.40	.43	.43	.42
Cheese, cheddar	Pound	3.17	3.20	--	3.55	3.57	Coffee, roasted	do.	2.77	3.07	2.97	2.81	2.58
Cheese, processed	do.	2.78	2.93	--	3.43	3.32	Cola, nondiet, cans	16 oz.	.43	--	--	.44	.46

-- = Not available.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

Food Consumption

In 1992, consumption of most food groups, including pork, poultry, and potatoes, increased (table 5). Food consumption data are derived from information on supply and use of farm products and, therefore, are not direct measures of consumption. Rather, they measure disappearance of food from commercial channels.

Beef and veal consumption remained at 64 pounds per person on a boneless-weight basis in 1992. But pork consumption rose about 3 pounds to 50 pounds per person. Per capita poultry consumption continued its long upward trend, increasing 2 pounds to 60 pounds, boneless weight. The use of dairy products was nearly stable at 564 pounds on a milk-equivalent basis, as growth in the use of cheese offset lower consumption of fluid milk products. Per capita consumption of fresh fruit rebounded in 1992, due to increased fresh orange consumption that followed the recovery of California production after the freeze-reduced 1990/91 crop. In 1992, consumption of flour and cereals and sugar and sweeteners increased.

Consumers have been altering their consumption of major food groups, such as meat and poultry. Since 1980, red meat consumption dropped 12 pounds per person, boneless weight. Beef and veal consumption fell 9 pounds per person from 1980 to 1992, and per capita pork consumption fell 2 pounds. Egg consumption has declined 5 pounds per capita, but poultry consumption has jumped 19 pounds per capita since 1980. While this change in consumption patterns may result partly from health concerns, low prices and greater use of poultry in fast-food outlets remain major causes for these consumption trends.

Beef consumption began falling in the mid-1970's, and growth in poultry consumption began to accelerate. The change in meat consumption patterns was partly a response to changes in relative prices. From 1976 to 1980, when the sharpest decline in beef consumption occurred, the ratio of retail beef prices to retail broiler prices rose from about 2.4 in 1976 to a peak of 3.3 in 1980. Since then, beef prices have risen about the same amount as broiler prices, leaving the beef-to-broiler ratio at 3.3 in 1992. Beef prices have gone up less than pork prices since 1980. As a result, the price ratio of beef to pork fell from 1.7 in 1980 to 1.4 in 1992.

Although beef became less expensive compared with pork, and remained even compared with broiler chicken, beef consumption fell 12 percent while pork consumption dropped 4 percent from 1980 to 1992, and poultry consumption rose 42 percent. This decline in beef consumption suggests that consumers may have reduced beef purchases simply because retail beef prices remained higher than prices for other meats, particularly poultry. However, other factors, such as consumer tastes, nutritional awareness, product forms, and changing marketing channels also affected meat consumption. For example, the growth of poultry products in the menus of fast-food chains was one reason for greater poultry consumption.

Dairy product consumption rose in the mid-1980's, reflecting declining real prices and expanding promotion. But consumption of dairy products declined in 1988-89, mainly because of reduced milk production and Government donations of dairy products. In 1992, dairy product consumption was still below the mid-1980's level, but was about 4 percent higher than in 1980.

Among other foods, per capita consumption of fresh fruit rose 17 pounds during the late 1980's, mainly due to expanded consumption of such noncitrus fresh fruit as grapes and bananas. Consumption of commercial fresh vegetables rose 17 pounds per person from 1980 to 1990, mainly reflecting rising consumption of fresh tomatoes, lettuce, onions, and broccoli.

Consumption of fats and oils has edged up in recent years, and is higher than a decade ago despite health concerns about the level of fat in the diet. Caloric sugar and sweetener consumption rose from 124 pounds per person in 1980 to 143 pounds in 1992, mainly reflecting greater use of corn sweeteners in soft drinks.

Table 5--Annual food consumption[1]

Food group	1980	1988	1989	1990	1991	1992[2]
			Pounds per capita			
Red meat, boneless and trimmed	126	120	116	112	112	114
Beef and veal	73	70	66	65	64	64
Pork	52	49	48	46	47	50
Poultry, boneless	41	52	54	56	58	60
Eggs	35	32	30	30	30	30
Fish and shellfish, boneless	12	15	16	15	15	15
Dairy products, milk-equivalent	543	583	565	571	565	564
Flour and cereal products	145	174	176	184	185	187
Fats and oils, including butter	57	63	60	62	64	66
Fresh fruit	84	94	93	89	87	95
Fresh vegetables[3]	85	101	104	102	98	99
Potatoes, fresh and processed	73	76	79	76	78	81
Sugars and sweeteners, caloric	124	135	137	141	142	143

[1] Data are on a retail-weight basis, except as noted. [2] Preliminary. [3] Data are for lettuce, tomatoes, onions, carrots, celery, corn, broccoli, asparagus, artichokes, cabbage, cucumbers, eggplant, garlic, green beans, green peppers, and cauliflower.
Source: U.S. Department of Agriculture, Economic Research Service, Food Consumption, Prices, and Expenditures, 1970-90, SB-840, August 1992, and updates.

Market Basket Prices

To better understand why grocery store food prices increased last year, we consider separately what happened to the prices that farmers received for food commodities and what happened to the charges for marketing services. USDA uses its market basket concept to separate these two components of food prices. The market basket contains the average quantities of food that mainly originate on U.S. farms and are purchased for consumption at home in a base period. The market basket does not include fish and seafood or nonalcoholic beverages. Changes in retail prices of the market basket are components of the CPI-U for food consumed at home.

USDA divides the retail cost for a market basket of food into the farm value and the farm-to-retail price spread (table 6). The farm value represents prices farmers receive for raw commodities equivalent to foods in the market basket. The farm-to-retail price spread represents the difference between the retail price and the farm value. The price spread includes the charges for assembling foods from farms, and for processing, distributing, and retailing foods. In each of the past 10 years, a rise in the farm-to-retail price spread contributed more to the rise in food prices than did changes in the farm value.

Farm Value

Farm value is a measure of the return, or payment, farmers received for the farm product equivalent to retail food sold to consumers. The market basket farm value serves as an index of prices farmers receive for products later used for food. Farm values for individual food items are expressed in dollar amounts for comparison with the item's retail price. Farm value is calculated by multiplying farm prices times the quantities of farm product equivalent to food sold at retail. An allowance is made in farm values if byproducts are obtained in processing. The farm value usually represents a larger quantity than the retail unit, because the foodstuffs that farmers produce lose weight through storage, processing, and distribution.

The farm product equivalent varies among foods. Only a slight amount of raw milk is lost, for example, as it is handled and processed for sale in cartons to consumers. Therefore, the farm value per retail half-gallon of milk is little more than the price that milk producers receive per half-gallon. In contrast, nearly 2.4 pounds of live animal yield 1 pound of Choice beef on the meat counter. The payment the cattle producer receives for that larger quantity of live animal is the gross farm value in the price of 1 pound of retail beef.

The average farm value (what farmers receive) of USDA's market basket of foods fell 2.5 percent in 1992, the second consecutive annual decline (table 7). With last year's decline, the farm value of foods was only 4 percent higher than the value a decade earlier. Since 1982, there have been few increases in farm value, except for a significant rise in 1989, induced by the previous year's drought, and the rise in 1990 (fig. 2).

Table 6--Indexes of retail price, farm value, and the farm-to-retail price spread, and farm value as a share of the retail price[1]

Year	Retail price	Farm value	Farm-to-retail price spread	Farm value share of retail price
	1982-84 = 100			Percent
1950	30	40	25	47
1951	33	46	26	49
1952	34	44	28	47
1953	32	41	28	45
1954	32	39	28	43
1955	31	36	29	41
1956	32	36	29	40
1957	33	37	30	40
1958	35	40	32	41
1959	34	37	32	39
1960	34	38	32	39
1961	34	37	33	39
1962	34	38	33	39
1963	34	36	33	38
1964	34	36	34	36
1965	35	40	33	38
1966	37	43	34	39
1967	37	40	35	39
1968	38	42	36	38
1969	40	46	37	39
1970	42	46	40	37
1971	43	46	41	37
1972	45	50	42	38
1973	52	68	45	44
1974	60	73	53	42
1975	64	76	58	40
1976	65	72	61	38
1977	66	72	63	37
1978	74	83	68	38
1979	82	92	77	38
1980	88	97	84	37
1981	95	100	92	36
1982	98	99	98	35
1983	99	97	100	34
1984	103	104	103	35
1985	104	96	108	32
1986	106	95	112	31
1987	112	97	120	30
1988	116	100	125	30
1989	125	107	134	30
1990	134	113	144	30
1991	137	106	154	27
1992[2]	138	103	157	26

[1] For a market basket of food bought in foodstores in a base period, currently 1982-84. The retail price index is derived from data from the U.S. Department of Labor, Bureau of Labor Statistics. Farm value is based on prices farmers received for commodities. The spread between the retail price and farm value represents charges for processing and marketing. [2] Preliminary.

Lower commodity prices decreased the farm value of 5 of the 10 food categories in 1992. Decreases were largest for fresh fruit (29 percent), eggs (23 percent), and meat (5 percent). Farm value was sharply higher for cereal and bakery products.

Red meat accounts for about 36 percent of the farm value of USDA's market basket. Farm value of red meat declined about 5 percent in 1992, mainly reflecting 13-percent lower hog prices. For a pound of pork selling at retail for $1.98 in 1992, hog producers received 68 cents for the equivalent quantity of live animal (1.7 pounds), 11 cents less than in 1991. Steer cattle prices averaged slightly higher in 1992, causing a small increase in farm value. For a pound of Choice grade beef selling for an average retail price of $2.85, cattle producers received $1.62 for the equivalent quantity of live animal (2.4 pounds) in 1992, up 2 cents from in 1991.

Higher producer prices for milk increased the farm value of dairy products by an average of 6.5 percent. A half-gallon of fluid milk retailing for $1.39 returned the producer about 60 cents in 1992, 5.5 cents more than in 1991.

Poultry producers increased broiler and turkey output in 1992 at nearly the same rate as in recent years. Yet, with poultry production up about 5.5 percent for the year, farm value of poultry rose slightly. Poultry prices were strengthened by record exports of broilers and turkeys. Broiler chicken producers received 45 cents of the average retail price of 87 cents per pound of whole frying chicken in 1992, about 1 cent more than in 1991.

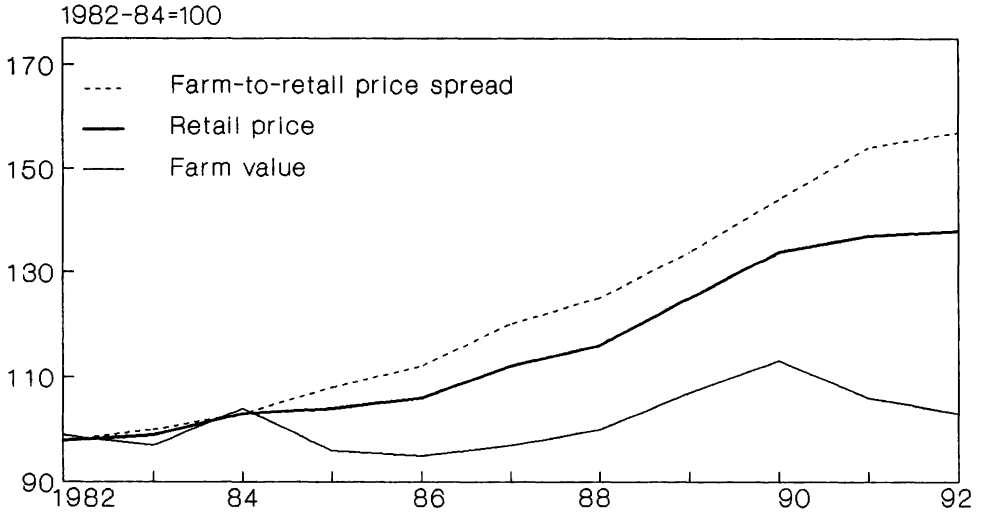
Farm value of eggs declined sharply in 1992, reflecting a 2-percent increase in output. Table egg output was cut sharply the prior 2 years, resulting in a substantial increase in farm value from 1988 to 1990. Farm value in 1992 averaged 46 cents for a dozen eggs with an average price of 86 cents at grocery stores. All of the decline in farm value (13 cents) was passed to the consumer through lower retail egg prices.

The farm value of cereals and baked goods rose 11 percent in 1992, mainly reflecting higher prices of wheat. Farmers received 4.4 cents in 1992 for the wheat in a 1-pound loaf of white bread selling for 75 cents in supermarkets, 1 cent more than in 1991. The 1992 farm value of other bread ingredients, mainly shortening and sweeteners, was 0.6 cent, unchanged from in 1991.

Figure 2

Food price components

Farm value of food products dropped for the second consecutive year, making the 1992 value only 4 percent higher than the value a decade earlier.



Retail prices based on the Consumer Price Index for food eaten at home. Farm value based on prices received by farmers. Price spread represents processing and distributing charges.

Table 7--Price changes for market basket of foods[1]

Item	1987	1988	1989	1990	1991	1992[2]
			Annual percentage change			
Market basket:						
Retail price	5.0	4.4	7.0	7.1	2.9	.7
Farm value	2.3	3.8	6.5	5.7	-6.2	-2.5
Farm-to-retail spread	6.1	4.7	7.2	7.8	6.7	2.0
Meat products:						
Retail price	7.5	2.4	4.0	10.1	3.1	-1.4
Farm value	7.3	-1.6	3.8	12.8	-5.8	-5.0
Farm-to-retail spread	7.7	5.8	4.2	7.9	10.9	1.2
Dairy products:						
Retail price	2.5	2.4	6.7	9.4	-1.1	2.7
Farm value	.8	-2.9	9.3	2.6	-11.5	6.5
Farm-to-retail spread	3.7	6.1	4.9	14.2	5.3	.7
Poultry:						
Retail price	-1.4	7.2	9.9	-.2	-.8	-.1
Farm value	-18.5	17.5	6.3	-8.1	-4.8	1.5
Farm-to-retail spread	18.4	-1.1	13.3	6.9	2.3	-1.2
Eggs:						
Retail price	-5.9	2.3	26.6	4.7	-2.3	-10.6
Farm value	-16.9	-.2	41.3	.4	-6.6	-22.9
Farm-to-retail spread	11.2	5.0	10.6	10.9	2.9	3.5
Cereal and bakery products:						
Retail price	3.5	6.4	8.4	5.7	4.1	3.9
Farm value	-7.0	30.6	9.8	-11.0	-5.7	11.0
Farm-to-retail spread	4.5	4.4	8.3	7.4	5.0	3.3
Fresh fruit:						
Retail price	12.6	7.2	6.4	12.8	14.6	-5.2
Farm value	9.7	2.3	-6.8	18.2	34.7	-29.1
Farm-to-retail spread	13.8	8.9	10.9	11.3	8.5	3.7
Fresh vegetables:						
Retail price	12.9	6.3	10.7	5.6	2.2	2.3
Farm value	24.4	-3.5	16.9	.9	-11.0	9.8
Farm-to-retail spread	8.3	10.7	8.3	7.6	7.2	-.1
Processed fruit and vegetables:						
Retail price	3.5	7.9	6.3	6.1	-1.9	2.7
Farm value	9.5	23.0	-3.1	8.8	-15.3	5.8
Farm-to-retail spread	1.8	3.2	9.8	5.3	2.9	1.8
Fats and oils:						
Retail price	1.5	4.6	7.1	4.3	4.6	-1.4
Farm value	-2.8	38.5	-7.2	12.0	-8.5	-4.9
Farm-to-retail spread	2.6	-3.0	11.8	2.2	8.1	-.6
Other prepared food:						
Retail price	4.2	3.7	6.4	4.5	4.5	2.2
Farm value	2.3	4.8	9.6	2.2	-9.8	-3.6
Farm-to-retail spread	4.5	3.5	5.9	4.8	6.5	2.9

[1] Changes in retail prices are from the Consumer Price Index published by the U.S. Department of Labor, Bureau of Labor Statistics. The farm value is based on prices farmers received for commodities equivalent to food at retail. The spread between the retail price and farm value represents charges for processing and marketing. [2] Preliminary.

Oranges dominated the sharp decline in the fruit farm value, which is heavily weighted by orange prices. When fresh orange prices rose following the freeze in 1990, the farm value rose to a record high in 1991. In 1992, orange production recovered, sending down prices and the overall fruit farm value.

It is often said that farm prices have little effect on retail prices and that reductions in farm prices are not reflected in lower retail prices. Examples can be found where retail prices have held firm or risen in the face of a decline in farm prices, but this merely shows that marketing charges are largely independent of farm prices. Over the years, there has been a persistent tendency for such charges to rise, regardless of whether farm prices were rising or falling. Thus, increases in marketing charges can, and often do, exceed the effects of a reduction in farm price on retail prices.

Farm Value Share of Food Dollar

Farm value averaged 26 percent of the retail price of all foods in the market basket in 1992, down 1 percentage point from 1991 (table 6). The 1992 farm value share fell due to the decrease in farm value and the moderate rise in retail prices. This contrast reflects the abundant food supplies that depressed farm prices, while rising food processing and distributing charges boosted retail prices. These opposing forces lowered the farm value share from 37 percent in 1980 to 30 percent in 1987. The farm value share remained stable until a sharp decline in 1991, reflecting the rise in farm prices during 1987-90.

Farm value share varies greatly among foods (table 8). In 1992, farm value share for a sample group of 41 foods varied from 57 percent for Choice beef to 4 percent for corn syrup. Generally, the more highly processed the product is, the smaller the farm share. For instance, wheat is the principal ingredient of both flour and bread, but additional manufacturing processes are required for bread, resulting in a lower farm value share of the retail price. Foods derived from animal products tend to have a higher farm value share than do those derived from crops, because farm inputs are greater for animal products than for crops. For example, the 1992 farm value share was 54 percent for eggs, 51 percent for chicken, but only 7 percent for bread. Poultry, egg, and meat production require two production enterprises: one for the animal feed and the other for the livestock or poultry. Most other food entails only one production enterprise. Other factors influencing the farm value share among foods include costs of transporting from farm to consumer, product perishability, and charges for retailing. These factors partly explain why the farm value share for fresh fruit and vegetables is relatively low.

The farm value of most foods that come from grains and oilseeds represents a small share of the retail price. In 1992, farmers received about 8 percent of retail bakery and cereal prices and 19 percent of retail prices of fats and oils (table 9). Because the farm value of these foods is small, the rise in retail prices in 1992, as in most other years, resulted mostly in a widening of the farm-to-retail price spread. For example, the farm value of cereal and bakery products rose 11 percent. But this increase did not cause nearly as much rise in the retail price as the 3.3-percent increase in the farm-to-retail price spread.

Farm-to-Retail Price Spread

The farm-to-retail price spread is the difference between the farm value and the retail price. It represents payments for all assembling, processing, transporting, and retailing charges added to the value of farm products after they leave the farm. The farm-to-retail spread for the market basket of foods averaged 2 percent higher in 1992, the smallest increase in many years. The small increase was probably due to the general economy's dampening effects on food buying and inflation. Food companies were forced to limit price increases, or watch already weak sales erode. The weak economy, however, was favorable to some industry costs, including packaging input prices, which declined slightly in 1992.

The market basket farm-to-retail price spread attempts to measure charges for performing services connected with a fixed quantity of foods of a constant type and quality. However, the types of services incorporated into food sold in grocery stores have changed over time, a result of new product introductions and greater food preparation, such as boneless meat and poultry products, and fruit and vegetables sold at salad bars. Prices for these new and usually higher value foods are incorporated into the market basket retail price calculations over time, thus changing the type and quality of foods in the market basket. These changes in foods marketed with added services may increase price spreads.

Table 8--Retail price, farm value, and farm value share for selected foods

Food	Retail price			Farm value			Farm value share of retail price		
	1992	1991	1990	1992	1991	1990	1992	1991	1990
	Dollars						Percent		
Animal products:									
Eggs, Grade A large, 1 doz.	0.86	0.99	1.01	0.46	0.59	0.65	54	60	64
Beef, choice, 1 lb.	2.85	2.88	2.81	1.62	1.60	1.68	57	56	60
Chicken, broiler, 1 lb.	.87	.88	.90	.45	.44	.46	51	49	51
Milk, 1/2 gal.	1.39	1.37	1.42	.60	.54	.64	43	40	45
Pork, 1 lb.	1.98	2.12	2.13	.68	.78	.87	34	37	41
Cheese, natural cheddar, 1 lb.	3.57	3.55	3.50	1.17	1.09	1.19	33	31	34
Fruit and vegetables:									
Fresh--									
Lemons, 1 lb.	1.01	1.23	1.07	.23	.38	.27	23	31	25
Apples, red delicious, 1 lb.	.89	.88	.72	.25	.24	.16	28	27	22
Potatoes, 10 lbs.	3.05	3.30	3.71	.64	.69	1.10	21	21	30
Oranges, California, 1 lb.	.57	.89	.57	.10	.36	.13	18	40	23
Grapefruit, 1 lb.	.61	.62	.66	.12	.13	.16	20	21	25
Lettuce, 1 lb.	.58	.61	.60	.10	.09	.09	18	14	16
Frozen--									
Orange juice conc., 12 fl. oz.	1.42	1.38	1.62	.57	.53	.56	40	38	34
Broccoli, cut, 1 lb.	1.18	1.18	1.18	.26	.26	.24	22	22	21
Corn, 1 lb.	--	1.00	1.04	--	.13	.13	--	13	12
Peas, 1 lb.	.98	.99	1.01	.14	.14	.13	14	14	13
Green beans, cut, 1 lb.	--	1.02	1.04	--	.11	.11	--	11	10
Canned and bottled--									
Peas, 303 can (17 oz.)	.47	.48	.51	.10	.09	.09	21	19	18
Corn, 303 can (17 oz.)	.45	.46	.47	.09	.09	.09	20	19	19
Applesauce, 25-oz. jar	1.00	.95	.91	.18	.18	.16	18	19	18
Pears, 2-1/2 can	1.31	1.19	1.19	.22	.22	.23	17	18	19
Peaches, cling, 2-1/2 can	1.15	1.11	1.12	.18	.18	.18	16	16	16
Apple juice, 64-oz. bottle	--	1.48	1.34	--	.34	.26	--	23	19
Green beans, cut, 303 can	--	.45	.45	--	.06	.06	--	14	13
Tomatoes, whole, 303 can	.51	.53	.53	.05	.05	.05	10	10	10
Dried--									
Beans, 1 lb.	.57	.65	.73	.19	.18	.25	34	28	35
Raisins, 15-oz. box	--	1.41	1.39	--	.39	.48	--	28	35
Crop products:									
Sugar, 1 lb.	.38	.40	.40	.15	.15	.15	39	37	38
Flour, wheat, 5 lbs.	1.22	1.17	1.25	.36	.28	.30	29	24	24
Shortening, 3 lbs.	2.50	2.61	2.75	.58	.61	.69	23	23	25
Margarine, 1 lb.	.85	.87	.84	.16	.17	.19	19	20	23
Rice, long grain, 1 lb.	.53	.50	.50	.10	.10	.10	19	20	19
Prepared foods:									
Peanut butter, 1 lb.	1.88	2.15	1.89	.48	.51	.49	26	24	26
Pork and beans, 303 can (16 oz.)	.39	.41	.42	.06	.06	.08	15	14	19
Potato chips, regular, 1-lb. bag	1.92	1.96	1.92	.24	.31	.29	13	16	15
Chicken dinner, fried, frozen, 11 oz.	--	1.21	1.20	--	.15	.16	--	12	13
Potatoes, french fried, frozen, 1 lb.	.87	.85	.84	.09	.10	.11	10	12	13
Bread, 1 lb.	.75	.71	.70	.05	.04	.04	7	6	6
Corn flakes, 18-oz. box	1.77	1.67	1.64	.09	.09	.09	5	6	6
Oatmeal regular, 42-oz box	--	2.58	2.51	--	.14	.16	--	5	6
Corn syrup, 16-oz bottle	--	1.38	1.32	--	.05	.06	--	4	4

-- = Not available.

Table 9--Market basket of food products originating on U.S. farms by food group: Index of retail cost, farm value, farm-to-retail price spread, and farm value share of retail cost[1]

Year	Meat products				Poultry				Eggs			
	Retail cost	Farm value	Farm-to-retail spread	Farm value share	Retail cost	Farm value	Farm-to-retail spread	Farm value share	Retail cost	Farm value	Farm-to-retail spread	Farm value share
	1982-84 = 100			Percent	1982-84 = 100			Percent	1982-84 = 100			Percent
1965	36	41	30	59	50	51	49	57	55	53	60	62
1966	38	44	34	58	52	53	53	53	63	65	50	66
1967	37	41	34	56	49	45	54	49	52	48	60	59
1968	38	42	33	54	51	48	54	51	56	54	61	61
1969	42	48	35	56	54	51	57	51	66	69	61	67
1970	43	47	40	53	53	46	61	46	66	64	69	63
1971	43	46	40	52	54	47	60	47	57	50	68	57
1972	48	55	42	56	54	48	60	49	56	50	68	57
1973	60	74	46	60	77	84	68	59	84	90	71	70
1974	61	67	55	54	73	76	69	56	84	89	76	68
1975	66	78	56	57	80	88	71	59	82	84	78	66
1976	66	70	63	51	77	79	75	55	91	97	81	68
1977	65	70	60	53	78	80	74	56	88	87	90	64
1978	77	85	69	54	85	93	76	58	82	83	81	65
1979	90	97	84	52	89	92	86	55	90	93	85	66
1980	93	97	89	51	94	96	92	54	89	88	89	64
1981	96	97	95	49	98	95	101	52	96	99	90	66
1982	101	104	98	52	96	91	101	51	93	91	97	63
1983	99	97	102	49	97	96	98	53	98	99	95	65
1984	100	99	100	50	107	113	101	56	109	110	107	65
1985	99	91	107	47	106	106	107	53	91	86	100	61
1986	102	94	110	47	114	115	113	54	97	92	106	61
1987	110	101	118	47	113	94	134	45	92	77	118	54
1988	112	100	125	45	121	110	133	49	94	77	124	53
1989	117	104	130	45	133	117	151	47	118	108	138	58
1990	128	117	140	46	132	108	161	44	124	108	153	56
1991	132	110	157	42	132	102	165	42	121	101	158	54
1992	131	104	158	41	131	104	163	42	108	78	163	46

See footnotes at end of table.

--Continued

Table 9--Market basket of food products originating on U.S. farms by food group: Index of retail cost, farm value, farm-to-retail price spread, and farm value share of retail cost[1]--Continued

Year	Dairy products[2]				Fats and oils[3]				Fresh fruit			
	Retail cost	Farm value	Farm-to-retail spread	Farm value share	Retail cost	Farm value	Farm-to-retail spread	Farm value share	Retail cost	Farm value	Farm-to-retail spread	Farm value share
	1982-84 = 100			Percent	1982-84 = 100			Percent	1982-84 = 100			Percent
1965	36	33	40	44	35	41	34	31	29	35	27	31
1966	38	37	40	47	37	44	34	32	31	38	28	32
1967	40	38	42	47	37	38	37	28	31	37	28	31
1968	41	40	42	47	36	35	36	26	36	48	32	35
1969	42	42	43	48	36	35	36	26	34	40	32	31
1970	45	44	45	48	38	43	37	30	34	37	33	28
1971	46	44	47	47	42	49	39	32	37	42	35	30
1972	47	46	48	48	43	42	43	27	39	44	37	30
1973	51	52	50	50	47	66	40	38	44	56	40	33
1974	60	61	60	49	71	124	52	47	49	55	46	30
1975	62	63	61	50	77	97	69	34	50	58	47	30
1976	67	71	64	52	65	79	60	26	50	54	48	28
1977	69	72	68	50	71	95	62	26	58	65	55	29
1978	74	78	71	51	78	98	70	34	71	87	66	32
1979	83	88	78	52	84	106	75	34	80	89	77	29
1980	91	96	86	52	89	96	87	29	84	84	84	26
1981	97	102	93	51	99	100	98	27	88	87	89	26
1982	99	100	97	49	96	80	102	22	100	106	97	33
1983	100	100	100	48	97	96	98	27	94	80	100	27
1984	101	99	103	47	107	124	100	31	107	114	103	34
1985	103	95	110	44	109	104	111	26	118	111	122	30
1986	103	93	113	43	106	76	118	19	120	104	128	27
1987	106	93	118	42	108	74	120	18	136	114	146	26
1988	108	91	125	40	113	103	117	24	145	117	159	25
1989	116	99	131	41	121	96	131	21	155	109	176	22
1990	126	102	150	39	126	107	133	23	175	128	196	23
1991	125	90	157	34	132	98	144	20	200	173	213	27
1992	128	96	159	36	130	93	143	19	190	122	221	20

See footnotes at end of table.

--Continued

Table 9--Market basket of food products originating on U.S. farms by food group: Index of retail cost, farm value, farm-to-retail price spread, and farm value share of retail cost[1]--Continued

Year	Fresh vegetables[4]				Processed fruit and vegetables				Bakery and cereal products			
	Retail cost	Farm value	Farm-to-retail spread	Farm value share	Retail cost	Farm value	Farm-to-retail spread	Farm value share	Retail cost	Farm value	Farm-to-retail spread	Farm value share
	---------1982-84 = 100---------			Percent	--------1982-84 = 100---------			Percent	---------1982-84 = 100--------			Percent
1965	34	41	31	35	35	37	35	21	32	5130	17	
1966	33	38	31	34	36	36	36	20	33	56	31	18
1967	33	38	31	32	36	33	37	18	34	54	32	17
1968	35	40	33	33	38	38	38	20	35	52	33	16
1969	36	42	35	33	39	39	38	21	36	52	34	16
1970	39	43	38	32	39	37	40	19	38	56	36	16
1971	40	46	38	33	41	38	42	18	40	57	38	16
1972	43	47	41	32	42	40	42	19	40	60	37	17
1973	53	64	48	35	44	43	44	19	44	90	38	22
1974	58	67	54	34	54	60	53	22	57	130	48	25
1975	55	67	51	35	61	66	60	21	63	106	57	18
1976	58	67	55	33	62	63	62	20	62	86	59	15
1977	65	74	62	33	65	59	66	18	63	72	61	12
1978	70	75	69	30	71	88	67	25	68	83	66	13
1979	73	71	73	28	77	91	74	24	75	95	73	14
1980	79	73	81	27	83	97	79	23	84	111	81	14
1981	94	104	90	32	92	106	89	23	92	110	90	13
1982	94	95	94	34	97	100	97	24	97	96	97	12
1983	98	97	98	34	98	93	100	23	100	101	99	12
1984	108	108	108	34	104	107	103	24	104	103	104	12
1985	104	93	109	31	107	118	104	26	108	94	110	11
1986	108	90	117	28	105	102	106	23	111	76	116	8
1987	122	110	128	31	109	111	108	24	115	71	121	8
1988	129	106	141	28	118	137	112	28	122	93	126	9
1989	143	123	153	29	125	132	123	25	132	102	137	9
1990	151	124	165	28	133	144	129	26	140	91	147	8
1991	154	111	177	24	130	122	133	22	146	85	154	7
1992	158	122	177	26	134	129	135	23	152	95	159	8

[1] See table 6 for aggregated market basket data and explanations. [2] Includes butter. [3] Excludes butter and includes peanut butter. [4] Includes potatoes.

Price spreads increased for almost all 10 food groups in the market basket in 1992, but the increases were much smaller than in 1991. The farm-to-retail price spread for red meats widened only about 1 percent, after 2 years of large increases that probably made it difficult to increase margins in 1992 without cutting into consumer demand for meat. In addition, abundant supplies of meat pushed down farm and retail prices, which enabled retailers to increase meat sales and profits without increasing margins.

The farm-to-retail price spread for pork decreased about 2.5 percent in 1992, as the sharp decline in retail pork prices was slightly greater than the drop in farm value. Prices of Choice beef were relatively steady, but the farm-to-retail price spread declined slightly from a record level in 1991.

Cereals and bakery products generally account for 20 percent of the farm-to-retail price spread of the market basket. The spread for this food category widened 3.3 percent in 1992, possibly limited by an increase in the farm value of ingredients. For the cereal industry, profit margins generally continued to expand because of price increases, which averaged 4.3 percent at retail. Cereal consumption remained almost level, probably in response to rising retail prices and subsiding consumer response to the positive nutritional claims that were credited with increasing cereal consumption during the past decade.

The price spread for poultry, which increased only 2 percent in 1991, narrowed by about 1 percent in 1992. The small decline in the spread resulted from the downward pressure large supplies placed on retail poultry prices. The price spread for eggs rose 3.5 percent in 1992, resulting from a smaller decline in retail egg prices than in farm prices.

The average farm-to-retail price spread for dairy products increased about 1 percent in 1992. With the exception of 1990, when it grew more than at any time since 1980, the price spread for dairy products has risen less than that for most foods in most years of the past decade. For 1992, an increase in the farm value of milk caused retail prices to rise moderately but probably limited the increase in the price spread. The farm-to-retail price spread for a half-gallon of whole milk retailing for $1.39 was 80 cents in 1992, down 3 cents from in 1991.

The farm-to-retail price spread increased about 4 percent for fresh fruit in 1992 and was virtually unchanged for vegetables. Retail fruit prices declined, however, because of a sharp drop in farm value. Vegetable prices rose moderately due to higher farm value. In contrast to 1992, a 5-year average of price changes reveals that increases in farm-to-retail price spreads had the most significant effect on retail prices.

Price Spreads for Selected Foods

Higher prices for cereal and bakery products and dairy products heavily contributed to the rise in the CPI for food in 1992. The rise in prices came mainly from higher wheat and milk prices and increases in the farm-to-retail price spread. Farm value declined for most commodities, particularly pork, reflecting weak demand and larger supplies of most commodities.

Choice Beef

Retail Choice beef prices decreased in 1992 for the first time since 1986 (table 10). The 1992 weighted average price of Choice beef was $2.85 per pound, 3 cents lower than in 1991, but 58 cents higher than in 1986. Prices at retail were fairly stable during the year. Prices of individual cuts ranged from an annual average of $1.54 per pound for ground beef to more than $6.00 per pound for the most expensive steaks.

Procedures used to calculate Choice beef prices and spreads were last revised during August of 1990. Major changes included replacing the carcass value at the wholesale level with a boxed beef value, and moving from a partially bone-in to a mostly boneless product at the retail level. When the changes were made in 1990, the historical data were also revised in accordance with the new procedures.

Farm value of beef increased about 2 cents in 1992, even though the retail price decreased. Thus, the farm value averaged 57 percent of the retail price of beef in 1992, slightly higher than in 1991. Farm value is computed using the USDA Agricultural Marketing Service's five-region direct market price series for live slaughter steers, 65- to 80-percent Choice. Prices per pound of slaughter steers are multiplied times 2.4 pounds, the quantity of live animal

Table 10--Choice beef and pork: Retail price, farm value, price spreads, and the farm value share of the retail price

Item	Retail price[1]	Wholesale value[2]	Net farm value[3]	Price spreads: Farm-to-retail	Price spreads: Wholesale-to-retail[4]	Price spreads: Farm-to-wholesale[5]	Farm value share[6]
	Cents per retail pound						Percent
Choice beef:							
1980	233.6	171.1	145.7	87.9	62.5	25.4	62
1981	234.7	164.4	139.1	95.6	70.3	25.3	59
1982	238.4	165.9	141.1	97.3	72.5	24.8	59
1983	234.1	160.1	136.8	97.3	74.0	23.3	58
1984	235.5	162.5	140.7	94.8	73.0	21.8	60
1985	228.6	148.8	127.4	101.2	79.8	21.4	56
1986	226.8	146.5	125.0	101.8	80.3	21.5	55
1987	238.4	160.0	138.7	99.7	78.4	21.3	58
1988	250.3	169.4	148.3	102.0	80.9	21.1	59
1989	265.7	176.8	157.6	108.1	88.9	19.2	59
1990	281.0	189.6	168.4	112.6	91.4	21.2	60
1991	288.3	182.5	160.2	128.1	105.8	22.3	56
1992	284.6	179.6	161.8	122.8	105.0	17.8	57
Pork:							
1980	139.4	98.0	63.2	76.2	41.4	34.8	45
1981	152.4	106.7	70.3	82.1	45.7	36.4	46
1982	175.4	121.8	88.0	87.4	53.6	33.8	50
1983	169.8	108.9	76.5	93.3	60.9	32.4	45
1984	162.0	110.1	77.4	84.6	51.9	32.7	48
1985	162.0	101.1	71.4	90.6	60.9	29.7	44
1986	178.4	110.9	82.4	96.0	67.5	28.5	46
1987	188.4	113.0	82.7	105.7	75.4	30.3	44
1988	183.4	101.0	69.4	114.0	82.4	31.6	38
1989	182.9	99.2	70.4	112.5	83.7	28.8	38
1990	212.6	118.3	87.2	125.4	94.3	31.1	41
1991	211.9	108.9	78.4	133.5	103.0	30.5	37
1992	198.0	98.9	67.8	130.2	99.1	31.1	34

[1] Composite of all cuts. [2] For quantity equivalent to 1 retail pound: beef, 1.142 pounds of wholesale cuts; pork, 1.06 pounds of wholesale cuts. [3] For quantity of live animal equivalent to 1 retail pound, minus byproduct allowance: beef, 2.4 pounds; pork, 1.7 pounds. [4] Includes retailing, meat fabricating, wholesaling, and intracity transportation. [5] Charges for livestock processing and transporting of meat to city where consumed. [6] Percentage of retail price.

required to sell 1 pound of Choice beef at retail. We then estimate the value of byproducts, principally the hide obtained from the slaughtered animal. We subtract this byproduct value to obtain the farm value of the meat alone.

The farm-to-retail price spread for Choice beef last year decreased 5 cents to an average of $1.23 per pound. The spread varied from a high of $1.28 to a low of $1.17. The price spread for beef had increased slowly until a 14-percent increase in 1991. With the decrease in 1992, the price spread for Choice beef was 26 percent higher than in 1982. This is an average of about 2.5 percent per year, about 1.5 percentage points less than the rate of inflation.

The farm-to-retail price spread pays for various marketing functions. The 1990 change in procedures combined the slaughtering and boxing functions with the packer. Carcass movement of beef is now very small, but some difference exists in the extent of fabrication when packers box beef. The estimated cost of slaughtering and boxing beef was 14.1 cents in 1992, down from 18.5 cents in 1991 (table 11).

Transportation of beef from the packer to the retail marketing area cost 3.7 cents per retail pound in 1992, down slightly because of lower fuel prices. Warehousing and store delivery were estimated to cost 19 cents per pound at

Table 11--Choice beef and pork: Farm value, marketing costs by function, and retail price

Item	1986	1987	1988	1989	1990	1991	1992
			Cents per retail pound				
Beef:							
Farm value	125.0	138.7	148.3	157.6	168.4	160.2	161.8
Slaughtering and boxing carcass	17.7	17.5	17.4	15.5	17.4	18.5	14.1
Intercity transportation	3.8	3.8	3.7	3.7	3.8	3.8	3.7
Warehousing and store delivery	14.9	15.7	16.5	17.5	18.5	19.0	18.7
Cutting and merchandising	65.4	62.7	64.4	71.4	72.9	86.8	86.3
Retail price	226.8	238.4	250.3	265.7	281.0	288.3	284.6
Pork:							
Farm value	82.4	82.7	69.4	70.4	87.2	78.4	67.8
Slaughtering and processing	25.0	26.8	28.2	25.4	27.6	27.0	27.7
Intercity transportation	3.5	3.5	3.4	3.4	3.5	3.5	3.4
Warehousing and store delivery	11.7	12.4	12.1	12.0	14.0	13.9	13.0
Cutting and merchandising	55.8	63.0	70.3	71.7	80.3	89.1	86.1
Retail price	178.4	188.4	183.4	182.9	212.6	211.9	198.0

retail. This estimate is based on data in the *1982 Census of Wholesale Trade*, published by the U.S. Department of Commerce, which indicated that these costs represented 8.3 percent of gross sales by meat wholesalers.

Cutting and merchandising of Choice beef cost 86 cents per pound in 1992. The cost was about the same in 1991, but was 13 cents lower in 1990. This cutting and merchandising cost represents the difference between the total of all other spreads and the retail price. Data for 1986-92 indicate an upward trend in both warehousing and store delivery and in cutting and merchandising the beef. The increases reflect the effect of inflation on marketing costs. In contrast, slaughtering and boxing costs decreased in 1992 after being relatively stable since 1986.

Pork

Retail pork prices in 1992 averaged $1.98 per pound, 14 cents below the price in 1991. Prices in 1992 were only 13 percent above prices in 1982, a much smaller increase than overall food prices (table 10). Per capita pork supplies were 53 pounds, the largest quantity since 1980. The farm value in 1992 decreased about 11 cents from that in 1991, averaging 68 cents per retail pound equivalent. The farm value share decreased from 37 percent in 1991 to 34 percent in 1992.

Farm value is computed from the average price of barrows and gilts at six midwestern markets. This average price is then multiplied times 1.7 pounds, the quantity of live animals needed to sell 1 pound of pork at retail. A value for lard and other byproducts is then subtracted to obtain the net farm value.

The record-high net farm value for pork was 88 cents per pound in 1982. That year, however, the retail price was 23 cents lower, and the farm-to-retail price spread was 43 cents lower, than those in 1992. Thus, the increase in the farm-to-retail price spread from 1982 to 1992 caused the rise in retail pork prices. The farm value share for pork in 1982 was 50 percent rather than the 1992 34-percent level. Consumption of pork on a per capita retail-weight basis was about 4 pounds lower in 1982 than in 1992.

The farm-to-retail price spread for pork decreased to $1.30 per pound in 1992. Among components of the farm-to-retail spread for pork, the slaughtering and processing functions cost 28 cents in 1992, slightly above recent years

(table 11). This spread represents charges for cutting the carcass into primals and for processing hams, bacon, and other products. We estimated this spread by deducting the farm value and intercity transportation costs from a composite wholesale price of pork.

The transportation portion of the price spread for pork between the packer and retail marketing area was 3 cents per pound in 1992. The warehousing and store delivery spread was estimated at about 13 cents per retail pound in 1992, about the same as the average of the previous 4 years.

The cutting and merchandising price spread of 86 cents made up the largest component of the farm-to-retail price spread for pork in 1992. This figure was 3 cents lower than pork's cutting and merchandising spread in 1991, but was 30 cents higher than that in 1986. The cutting and merchandising component is derived as a residual between the total of all other functions and the retail price. Cost inflation and the time lag between changes in farm, wholesale, and retail prices may partly explain the increase in this spread.

Broilers

Retail prices fell 1.2 cents per pound for whole, ready-to-cook chicken, but farm value rose 1 cent in 1992. Thus, the marketing spread narrowed 2.2 cents in 1992. The spread was stable from 1981 to 1986, averaging 33.5 cents per pound (table 12). Since 1986, the marketing spread has trended up to average 42.3 cents per pound in 1992. Broiler processing costs have also increased, because little gain has occurred in labor productivity since 1985 to offset rising labor and other input costs.

Much of the demand for broilers is for further processed products. Broiler producers are cutting chicken into parts, and most producers are further processing chicken into fillets, nuggets, and other value-added products according to buyers' specifications. The processor generally realizes a more favorable gross margin and increased volume from this further processing. Most of these products are served through fast-food and institutional outlets, but considerable volumes of chicken parts are sold through retail stores for home consumption. These further processed products are not included in farm-to-retail price spread computations, but they represent a source of market strength that supported prices in 1992 while consumption sharply rose.

Eggs

Following 2 years of stable prices, larger egg supplies in 1992 caused the largest drop in egg prices in years. For 1992, egg prices averaged 86 cents per dozen of grade A large, 13 cents lower than the 1991 price (table 12). All of the 1992 decline was in the farm value of eggs, which averaged 46 cents per dozen. Thus, the price spread between the farm value and the retail price remained at 40 cents per dozen. The price spread for eggs has trended up since 1985, mainly reflecting apparent increases in the retailer margin, which was 19 cents per dozen in 1992.

Fluid Milk

The retail price of fluid whole milk rose 1.7 percent in 1992, slightly more than the increase in all food prices. This rise reversed the 1991 price drop, which was the first since 1986, and the largest in more than four decades. The 1992 average retail price for a half-gallon of whole milk was $1.39, 2 cents above a year earlier, (table 13).

The farm-to-retail price spread for fluid milk decreased about 3.5 cents to 79.5 cents in 1992. This decrease was proceeded by a 15-cent rise during the previous 2 years. The decrease in 1992 resulted from a 6-cent jump in the farm value, while the retail price rose only 2.5 cents.

The average retailing margin for fluid milk in 1992, based on preliminary data, was 35 cents, about 2 cents less than in 1991. The lower retail margin was due to a rise in the price paid to processors for milk that was not fully reflected in the retail price. However, the retailing margin constituted 25 percent of the retail price. In 1982, the retailing margin made up only about 12 percent of the retail price.

The same firm typically performs the processing and wholesaling of milk. The combined processing and wholesaling margin was about 39 cents in 1992, slightly lower than in 1991. Processing costs have remained nearly stable since

Table 12--Broilers and eggs: Farm value, marketing costs by function, and retail price

Item	Farm value[1]	Marketing costs: Assembly and procurement	Processing	Intercity transportation	Wholesaling	Retailing	Retail price
				Cents			
Broilers, ready-to-cook, whole (pound):							
1975	37.0	1.4	7.5	1.4	3.9	12.0	63.2
1976	32.6	1.1	7.8	1.3	3.7	13.2	59.7
1977	33.0	1.1	8.0	1.4	3.7	12.9	60.1
1978	36.8	1.2	8.7	1.4	3.8	14.6	66.5
1979	36.8	1.3	9.6	1.6	4.2	14.5	68.0
1980	39.4	1.4	9.8	1.7	4.3	14.3	70.9
1981	39.4	1.6	10.3	1.7	4.3	15.9	73.2
1982	37.8	1.6	10.4	1.7	4.3	15.6	71.4
1983	41.2	1.6	10.5	1.7	4.3	13.2	72.5
1984	46.7	1.6	10.8	1.7	4.4	15.8	81.0
1985	42.4	1.6	9.3	1.7	4.4	16.9	76.3
1986	49.0	1.6	9.1	1.7	4.4	17.7	83.5
1987	40.2	1.6	9.1	1.7	4.4	21.5	78.5
1988	48.1	1.6	9.1	1.7	4.4	20.5	85.4
1989	50.8	1.7	9.9	1.8	4.6	23.9	92.7
1990	46.3	1.7	10.4	1.9	4.8	24.8	89.9
1991	43.6	1.8	10.6	2.0	4.9	25.2	88.1
1992	44.6	1.8	10.9	2.1	5.0	22.5	86.9
Eggs, Grade A, large (dozen):							
1975	50.8	1.2	9.3	1.5	3.7	10.5	77.0
1976	58.0	.9	9.6	1.4	3.5	11.5	84.9
1977	53.8	.9	10.3	1.5	3.5	12.3	82.3
1978	49.7	.9	10.5	1.6	3.4	12.4	78.5
1979	53.7	1.1	11.7	1.8	3.9	13.7	85.9
1980	51.0	1.2	12.4	1.9	4.1	13.7	84.3
1981	56.9	1.2	12.2	1.9	4.1	13.6	89.9
1982	54.5	1.2	12.2	1.9	4.1	12.8	86.7
1983	59.5	1.0	11.6	1.7	3.5	12.1	89.4
1984	66.0	1.0	12.1	1.5	3.7	16.2	100.5
1985	51.4	1.0	11.0	1.5	3.7	11.8	80.4
1986	55.4	1.0	11.0	1.5	3.7	14.4	87.0
1987	46.0	1.0	11.0	1.5	3.7	15.1	78.3
1988	46.0	1.0	11.2	1.5	3.7	15.6	79.0
1989	64.4	1.0	11.4	1.6	3.7	17.7	99.8
1990	64.7	1.1	11.4	1.7	3.9	18.6	101.4
1991	59.1	1.2	12.4	1.8	4.2	20.2	98.9
1992	46.3	1.2	12.8	2.0	4.4	19.3	86.0

[1] Farm values are derived from U.S. average broiler and market egg prices that USDA's National Agricultural Statistics Service publishes monthly for farmers. Broiler prices are multiplied times 1.41 to convert to retail equivalent. The egg price is multiplied times 1.03 to allow for marketing loss.

Table 13--Fluid whole milk: Farm value, marketing costs by function, and retail price per half-gallon

Year	Farm value [1]	Marketing costs: Assembly and procurement [2]	Marketing costs: Processing [3]	Marketing costs: Wholesaling [3]	Marketing costs: Retailing [4]	Retail price [5]
	Cents					
1974	40.9	2.7	10.7	13.6	8.9	76.8
1975	41.2	2.8	11.4	13.6	7.9	76.9
1976	46.2	2.8	10.6	12.1	9.3	81.0
1977	45.1	2.9	13.2	12.6	8.3	82.1
1978	47.0	3.1	14.6	14.3	7.1	86.1
1979	52.2	3.8	15.1	16.6	8.3	96.0
1980	55.8	4.5	15.6	18.9	10.2	104.9
1981	59.5	4.7	16.0	19.1	12.4	111.7
1982	59.2	4.5	16.5	19.3	13.0	112.4
1983	59.5	4.3	16.6	17.8	14.6	112.8
1984	58.2	4.4	17.3	17.3	15.5	112.7
1985	56.1	4.8	18.6	17.8	16.1	113.4
1986	54.8	4.7	19.1	18.2	14.6	111.4
1987	56.1	4.9	19.1	18.0	15.6	113.7
1988	54.2	5.6	19.3	18.2	19.1	116.4
1989	59.0	5.5	19.2	18.4	24.8	126.9
1990	63.6	5.6	19.1	20.2	33.9	142.4
1991	54.0	6.0	19.4	20.5	36.9	136.8
1992	59.7	5.8[6]	19.1[6]	19.6[6]	35.0	139.2

[1] Prices farmers received are normally quoted for 3.5-percent butterfat at plant of first receipt. This price has been adjusted for transportation from farm to first plant to get the farm price, then adjusted to get the value of milk containing 3.3-percent butterfat, the usual butterfat content at retail. There are approximately 23.3 half-gallons of milk per 100 pounds. [2] Nonfarm costs of supplying milk to processors, including laboratory and onfarm field service to assure quality, pickup at farms, transportation, receiving and reloading as necessary, and management of raw milk reserves. [3] Data for processing and wholesaling represent costs for 30 fluid milk processor-distributor firms that represent moderate-sized, single-plant operations throughout the country. Very small plants and plants that retail food chains operated are not included. [4] May include some wholesaling formerly performed by processors. [5] Average of Bureau of Labor Statistics monthly prices. [6] Preliminary estimate.

1986, after rising 16 percent from 1982 through 1986. The processing and wholesaling margin constituted 28 percent of the retail price in 1992.

Fluid milk processors earned 94 cents before taxes per hundredweight (cwt) of raw milk processed in 1990, the latest data available (table 14). Net returns had not been nearly that high since 1985. Processors reduced their operating costs 18 cents per cwt during 1990, and container costs fell 15 cents to $1.93 in 1990 after peaking at $2.08 in 1989. Operating costs of processor-distributors increased 50 cents per cwt from 1983 to 1990. The increase was mainly due to higher container, rent, depreciation and repair, and insurance costs.

Fruit and Vegetables

The price spread for fresh fruit and vegetables increased about 1.9 percent in 1992, about the same as the average of all foods. However, the price spread for two major products, lettuce and oranges, decreased in 1992 (table 15). In 1991, the farm-to-retail spread for California oranges rose substantially as a result of a weather-induced drop in orange production that caused a dramatic price increase at all market levels. Most of the rise in the farm-to-retail spread for California oranges was in wholesaling charges. Prices and marketing costs for lettuce were nearly stable in 1991.

Retailing accounts for the largest share of the marketing expense for fresh produce items. Retailing expenses for oranges averaged 55 percent of the farm-to-retail spread during 1989-91. The retailing share averaged 67 percent for lettuce. Produce margins generally exceed the average margin of the typical supermarket, and produce is the most

Table 14--Net sales, costs, and margins for 30 fluid milk processor-distributors

Item	1983	1984	1985	1986	1987	1988	1989	1990
			Dollars per cwt of volume processed					
Net sales receipts[1]	25.53	25.19	25.29	24.91	24.76	24.56	25.85	26.87
Raw materials and other product costs:								
Milk and cream	13.66	13.38	12.90	12.38	12.25	11.81	12.78	13.56
Finished	2.03	1.96	1.95	2.03	2.17	2.20	2.29	2.38
Other[2]	1.40	1.43	1.52	1.37	1.39	1.44	1.58	1.47
Total	17.09	16.76	16.38	15.78	15.81	15.45	16.64	17.41
Gross margin	8.44	8.43	8.92	9.13	8.95	9.11	9.21	9.46
Operating costs:								
Salaries, wages, and commissions[3]	3.65	3.52	3.50	3.67	3.60	3.63	3.61	3.57
Containers	1.71	1.74	1.80	1.81	1.82	1.95	2.08	1.93
Operating supplies	.60	.59	.56	.50	.48	.50	.52	.56
Rent, depreciation, and repairs	.99	.96	1.03	1.12	1.11	1.13	1.11	1.12
Taxes	.12	.12	.13	.13	.12	.14	.15	.13
Insurance	.08	.08	.10	.16	.17	.17	.17	.16
Services	.58	.62	.56	.62	.61	.61	.66	.62
Advertising	.14	.13	.14	.15	.15	.14	.14	.15
General	.15	.18	.23	.22	.23	.21	.26	.28
Total	8.02	7.93	8.06	8.38	8.29	8.48	8.70	8.52
Net margin[4]	.41	.50	.85	.74	.66	.62	.51	.94

[1] Gross sales receipts less discounts, allowances, and damaged product returns. [2] Ingredients other than milk, cream, and skim milk used to make cottage cheese, ice cream, orangeade, and other products. [3] Includes costs of fringe benefits, such as State and Federal unemployment, Federal old-age benefits, workers' compensation, and pensions. [4] Net returns to owners before income tax.

profitable and fastest growing department of the typical store. While gross margins alone do not reflect actual profitability, the percentage of storewide gross profit dollars that fresh produce contributed has been much greater than their contribution to store sales would suggest. Produce accounts for 8.7 percent of total sales of the typical supermarket, but yields about 20 percent of net profit dollars, according to a survey by the Produce Marketing Association.

Over the 1989-91 period, packing costs made up the second-largest share of the farm-to-retail price spread for lettuce, averaging 14 percent. Intercity transportation costs were the third-largest share, accounting for 11 percent of the price spread. For oranges, wholesaling was the second-largest share, averaging 18 percent, followed closely by packing costs.

The price spread for processed fruit and vegetables rose 1.8 percent in 1992. The principal item in this food group is frozen concentrated orange juice. The retail price of a 12-ounce can of frozen concentrated orange juice rose in 1992, increasing 3.6 cents to $1.42. The price rise resulted from an increase in farm value, but the farm-to-retail price spread declined slightly. Over 1989-91, charges for retailing made up 38 percent of the farm-to-retail price spread for frozen concentrated orange juice, and processing equaled 37 percent of the price spread. Packaging represents a major cost of processing, but automated operations minimize the labor cost of concentrated orange juice processing. Wholesaling charges were about 21 percent, and transportation costs were about 4 percent of the price spread.

Table 15--Selected fruit and vegetables: Farm value, marketing costs by function, and retail price

Item	Farm value[1]	Marketing costs: Packing or processing	Marketing costs: Intercity transportation[2]	Marketing costs: Wholesaling	Marketing costs: Retailing	Retail price[3]
			Cents			
Oranges, California (pound):						
1982	17.1	4.04/	5.2	5.5	15.8	47.6
1983	5.3	8.64/	5.2	5.9	13.7	38.7
1984	17.2	5.84/	5.4	4.9	16.6	49.9
1985	12.4	9.44/	5.4	6.8	19.4	53.4
1986	8.2	9.94/	5.7	6.0	17.8	47.6
1987	10.0	9.94/	6.2	9.0	19.9	55.0
1988	11.8	8.04/	5.4	8.2	23.0	56.4
1989	11.3	8.34/	5.4	9.0	22.1	56.1
1990	11.3	8.44/	5.8	4.3	26.8	56.6
1991[7]	33.6	7.24/	6.0	13.2	29.2	89.2
1992[8]	10.0	--	--	--	--	56.9
Iceberg lettuce, California (pound):						
1982	8.55/	6.46/	5.7	5.2	30.4	56.2
1983	6.85/	6.46/	5.7	5.3	31.2	55.5
1984	5.15/	6.46/	5.7	4.4	28.8	50.4
1985	8.25/	6.46/	5.6	5.1	27.3	52.6
1986	6.85/	6.86/	6.0	6.1	28.2	53.9
1987	11.15/	6.86/	6.4	4.6	30.6	59.5
1988	10.15/	7.46/	5.6	4.3	32.9	60.3
1989	10.05/	7.36/	6.1	2.1	35.1	60.6
1990	9.35/	7.36/	5.6	4.5	32.9	59.6
1991	8.75/	7.36/	5.8	4.7	34.6	61.1
1992[8]	10.15/	--	--	--	--	57.7
Orange juice, frozen concentrated (12-oz. can):						
1982	46.3	18.7	3.4	13.6	24.1	106.1
1983	44.0	20.1	3.5	13.3	23.5	104.4
1984	49.0	32.7	3.5	13.2	23.2	121.6
1985	61.9	18.5	3.5	17.2	30.5	131.6
1986	39.6	23.2	3.8	17.6	31.4	115.6
1987	42.5	32.2	3.9	13.0	23.2	114.8
1988	51.9	38.1	3.9	15.4	27.4	136.7
1989	56.0	29.0	4.0	18.1	32.3	139.4
1990	55.4	45.7	4.1	20.5	36.4	162.1
1991	53.1	25.7	4.2	19.8	35.1	137.9
1992[8]	57.2	--	--	--	--	141.5

-- = Not available.

[1] Payment for the quantity of farm product equivalent to the retail unit minus imputed value of byproducts, computed from average grower prices. [2] Costs are for truck shipment. [3] U.S. average retail prices. Prices of fresh produce weighted by quantities marketed except for 1992. [4] Includes picking costs. [5] Value in the field. [6] Contract price for cutting, packing, hauling, cooling, and selling. [7] Revised. [8] Preliminary.

Bread

The average retail price of white bread in 1992 was 75 cents per pound, 3.9 cents higher than in 1991 (table 16). This price is the average of monthly prices reported by the U.S. Bureau of Labor Statistics. The farm value of wheat, at 4.4 cents, was 1 cent higher in 1992 than in 1991. The farm value represents the payment to farmers for the quantity

of wheat (approximately 0.86 pound) required to produce the flour for a 1-pound loaf of bread. The payment is computed from the average farm price for all wheat. A deduction is made for the value of millfeed, a byproduct of milling the wheat. The value of the millfeed ranges from 15 percent to 20 percent of the value of the wheat, depending on the flour-milling extraction rate, the price of flour, and the price of millfeed.

Other farm-derived ingredients, including lard, soybean oil, high-fructose corn syrup, and soy-whey blend, contributed 0.6 cent to a total farm value of 5 cents. The farm value share of all ingredients was 7 percent of the retail price in 1992, up 1 percent from that in 1991. Thus, the farm-to-retail spread--consisting of wheatmilling, breadbaking, and distribution costs--was nearly all of bread's retail price.

Sugar

Because of the stability that the price-support program for sugar provided, retail sugar prices, together with the farm value and price spreads, change relatively little from year to year. In crop year 1991/92, the domestic raw sugar price fell about 0.5 cent per pound (2 percent), and the wholesale refined sugar price fell about 1 cent per pound (4 percent). The decrease resulted in slightly lower farm values.

The 1991/92 farm value of a pound of sugar was 14.2 cents, about 5 percent lower than that of a year earlier (table 17). The farm value is based on the season average prices growers received in the United States for sugarcane and sugar beets, which are based on raw and refined sugar prices. The farm value accounted for 37 percent of the retail price of sugar in 1992, the same as in the previous year.

The farm-to-retail price spread was about 24.4 cents in 1991/92, down about 1 cent from the previous year. The processing and refining component of the spread was nearly unchanged, at about 18 cents. This component is the difference between the farm value and an average effective wholesale price for sugar packed in 5-pound bags. The processing and refining component covers all the functions of transporting sugarcane and sugar beets to processing plants, processing sugarcane and refining raw cane sugar, processing sugar beets, and selling sugar to wholesalers.

The wholesaling and retailing spread, the difference between the average retail price and the average wholesale price for sugar, was estimated at 6.7 cents per pound in 1991/92, down about 1 cent from the previous year. Retail sugar prices fell more than wholesale sugar prices, causing a decrease in the spread. The wholesaling and retailing spread includes intercity transportation and wholesaling and retailing charges.

Food Industry Costs, Profits, and Productivity

Many factors influence how much the food industry charges for its services. Food industry input costs, profits, and productivity largely determine how much the price of food increases after it leaves the farm.

Prices of Marketing Inputs

Increases in farm-to-retail price spreads mainly reflect rising costs that food industry firms face. These costs include wages and salaries of workers and prices of many supplies and services that marketing firms bought from other parts of the economy. ERS maintains a food marketing cost index (FMCI) for monitoring and analyzing changes in variable operating costs incurred in processing, wholesaling, and retailing foods. The FMCI consists of hourly earnings of workers and price indexes of various marketing inputs, weighted by the share of each input in total operating costs. The FMCI is not a substitute for more conventional measures of marketing costs. However, the behavior of the index at least partially indicates changes in operating costs of the food marketing sector. The index does not account for changes in productivity and profits.

The largest component of the index (45 percent) is labor costs. Food containers and packaging materials (15 percent), transportation rates (11 percent), and energy costs (8 percent) complete the list of leading cost components of the index. Other cost components include advertising, maintenance and repair services, insurance, short-term interest, rent, and miscellaneous supplies and services.

Table 16--White bread: Retail price, farm value of ingredients, farm-to-retail price spread, and farm value share of retail price per 1-pound loaf

Year	Retail price	Farm value of ingredients: Wheat[1]	Farm value of ingredients: Other farm ingredients[2]	Farm value of ingredients: All ingredients	Farm-to-retail spread	Farm value share: Wheat	Farm value share: All ingredients
	Cents					Percent	
1970	27.7	2.6	0.8	3.4	24.3	9	12
1971	28.5	2.6	.9	3.5	25.0	9	12
1972	28.2	2.9	.9	3.8	24.4	10	13
1973	31.5	4.1	1.4	5.5	26.0	13	17
1974	39.3	5.4	2.5	7.9	31.4	14	20
1975	41.0	4.5	2.3	6.8	34.2	11	17
1976	40.2	3.8	1.7	5.5	34.7	9	14
1977	40.5	2.7	.7	3.4	37.1	7	8
1978	41.7	3.3	.7	4.0	37.7	8	10
1979	46.7	4.1	.8	4.9	41.8	9	10
1980	50.9	4.5	.8	5.3	45.6	9	10
1981	52.5	4.7	.8	5.5	47.0	9	10
1982	53.2	4.4	.6	5.0	48.2	8	9
1983	54.2	4.5	.7	5.2	49.0	8	9
1984	54.1	4.3	.8	5.1	49.0	8	9
1985	55.3	4.1	.7	4.8	50.5	7	9
1986	56.5	3.5	.5	4.1	52.5	6	7
1987	54.7	3.3	.5	3.8	50.9	6	7
1988	61.3	4.1	.7	4.8	56.5	7	8
1989	66.6	4.8	.7	5.5	61.1	7	8
1990	69.5	3.7	.7	4.4	65.1	5	6
1991	71.1	3.4	.6	4.0	67.1	5	6
1992	75.0	4.4	.6	5.0	70.0	6	7

[1] Payment to farmers for the quantity of wheat (approximately 0.86 pound) required to produce the flour for a 1-pound loaf of white bread, minus the value of millfeed byproducts. Based on average farm prices for hard winter and spring wheat in 11 States producing these wheats through 1982; all wheat prices used beginning in 1983. [2] Value for lard, shortening, granulated sugar, and nonfat dry milk through 1976. Value for 1977 forward is for lard, soybean oil, high-fructose corn syrup, corn syrup, and soy-whey blend.

Table 17--Sugar: Farm value, price spreads, and retail price

Item	Crop year beginning October: 1986/87	1987/88	1988/89	1989/90	1990/91	1991/92
	Cents per pound					
Farm value[1]	13.6	14.0	14.6	14.9	15.0	14.2
Processing and refining spread[2]	14.4	14.1	16.9	18.0	17.5	17.7
Wholesaling and retailing spread[3]	5.6	6.0	5.9	6.8	7.6	6.7
Retail price[4]	33.6	34.1	37.4	39.6	40.1	38.6

[1] Based on season average prices U.S. sugar producers received for sugarcane and sugar beets. [2] Difference between the farm value and an average of effective wholesale prices. [3] Difference between the retail price and the wholesale price. [4] Average of Bureau of Labor Statistics' monthly retail prices for sugar sold in 33- to 80-ounce packages.

In 1992, the FMCI rose 2 percent, a slightly smaller increase than in 1991. A 3.1-percent rise in the labor component and higher prices for business services contributed most to the increase. Prices of food containers and packaging materials declined by 0.3 percent. Interest rates on short-term credit fell 35 percent, moderating the rise in the overall index (table 18). Because businesses attempt to recover increases in variable costs, the smaller rise in the FMCI likely moderated the observed increases in the farm-to-retail price spread and food prices at retail. Although the rise in the FMCI and the farm-to-retail spread in 1992 were identical, other factors likely were affecting marketing charges. These factors could include: greater use of some inputs, such as labor, per unit of output; rising fixed costs, such as asset depreciation and interest on long-term debt; higher profits; and lower productivity.

Profits

Two financial ratios are useful in evaluating the profitability of the food industry: profit margin and return on stockholder equity. The profit margin is net income as a percentage of sales. It measures the portion of the sales dollar left after paying all expenses, including the cost of food products. The profit margin helps explain the importance of profits compared with costs that, together, make up the consumer food dollar. Return on stockholder equity, which reflects the earning power of the owner's investment, shows food industry profitability compared with that of other industries.

The after-tax profit margin of food and tobacco manufacturers averaged 4.5 percent of sales in 1992, down from 4.8 percent in 1991, based on data that the U.S. Bureau of the Census compiled. Returns on stockholders' equity decreased to 15.7 percent in 1992 (table 19). The decline in profitability was caused by an adjustment to first-quarter earnings to accommodate a new financial accounting standard for employer accounting of post-retirement benefits, such as health insurance. Returns on equity for the food and tobacco industry were higher than the 8.4-percent average for all manufacturers of nondurable products.

Profit margins of retail food chains averaged 1 percent of sales in 1992, down slightly from a year earlier. Profit margins in 1992 were squeezed in the second and third quarters by consumer reluctance to spend in the uncertain economy, and by increased price competition among supermarkets as sales lagged. To maintain margins, the industry attempted to control costs by becoming more efficient through the use of technology for inventory management and merchandising, labor savings at checkouts, energy conservation, and the routing of delivery trucks to stores. Profit margins improved greatly in the fourth quarter, due to a return of consumer confidence following the November elections and strong holiday business at Thanksgiving and Christmas. Despite this improvement, after-tax profit margins for many leading food chains declined in 1992. Kroger, the largest food chain, maintained its profit margin in 1992, but the rate remained much lower than that during the late 1980's (table 20).

Labor Productivity

Productivity in business rose briskly in 1992. Labor productivity rose 2.8 percent during 1992 in the Nation's total business sector, excluding farming, the largest gain since a 3.1-percent increase in 1972. Food industry productivity estimates for 1992 were not available at press time, but productivity of foodstores and eating places posted small gains in 1991, reversing a downward trend of the past decade. In 1992, higher output, as measured by food sales adjusted for inflation, and nearly stable labor input may have further increased productivity.

Labor productivity in food manufacturing industries has improved moderately over the years. The average annual increase in output per unit of labor in seven food manufacturing industries for which data are available was 1-4 percent over the 1980-90 period (table 21). These increases, in most instances, resulted from increased output and a small decline in hours worked. Labor productivity among food manufacturers has increased most in grain milling and fluid-milk processing. Productivity has grown erratically for most industries, partly because of fluctuating output and business conditions.

Output per unit of labor among supermarkets declined each year between 1985 and 1990. In 1991, output per employee hour rose 0.2 percent. Over the past decade, some store operations have become more efficient because of computer-assisted checkout and data processing systems and new store formats, such as warehouse stores with a limited assortment of products. Warehouse stores provide reduced services and, thus, cut labor requirements, or they foster higher sales per unit of labor. On the other hand, supermarkets have expanded service-oriented operations, such as delicatessens, salad bars, and instore bakeries, in response to consumer demand for saving time in food buying

Table 18--Price indexes of food marketing costs[1]

Year	Labor, hourly earnings and benefits				Packaging and containers							Transportation services
	Total	Processing	Wholesaling	Retailing	Total	Paper boxes and containers	Metal cans	Paper bags and sacks	Plastic packaging	Glass containers	Metal foil	
	1967 = 100											
1968	106.5	105.9	106.7	107.0	96.3	95.9	104.4	101.0	78.4	107.5	100.2	102.0
1969	113.7	112.7	113.5	114.8	99.5	99.4	107.1	103.6	79.9	114.7	105.5	105.0
1970	122.5	121.2	125.1	122.6	103.6	101.1	113.1	108.0	86.0	120.3	106.3	114.3
1971	131.9	130.9	131.9	133.0	106.6	102.4	123.8	109.7	81.8	131.6	106.4	128.5
1972	143.3	134.0	143.7	146.4	110.4	105.5	131.8	113.6	82.9	135.1	106.1	132.5
1973	154.2	151.3	153.7	157.3	117.3	115.1	138.5	121.6	86.4	138.9	106.0	135.2
1974	168.7	164.3	167.4	173.7	149.7	152.2	170.3	144.9	129.6	155.5	113.0	156.3
1975	187.4	184.1	182.3	192.9	174.4	170.3	200.2	161.6	170.8	181.8	116.6	176.9
1976	203.8	200.1	197.6	210.3	184.8	176.2	212.1	170.0	188.1	195.4	127.1	194.4
1977	222.4	217.6	217.8	229.4	192.8	176.5	231.4	176.7	193.6	214.4	140.0	205.1
1978	244.4	237.7	239.3	254.0	204.7	179.6	263.8	186.5	192.1	244.4	159.3	220.5
1979	265.8	257.9	260.4	276.1	228.4	202.1	293.0	209.7	216.9	261.1	175.6	251.3
1980	292.6	283.3	283.5	306.4	261.5	234.6	325.7	236.5	238.5	292.7	184.1	296.8
1981	321.3	309.2	309.5	338.6	280.9	258.2	345.8	258.9	262.5	328.6	203.3	345.9
1982	342.7	330.0	335.1	359.3	275.1	254.9	363.6	264.4	200.0	355.7	213.2	371.1
1983	356.8	341.9	358.1	371.1	280.7	251.0	374.3	265.4	226.2	352.4	214.0	374.5
1984	365.5	350.2	371.1	378.3	303.5	264.0	397.3	290.9	273.1	360.8	226.9	391.7
1985	363.0	357.9	373.5	363.5	312.1	271.6	416.9	294.7	274.4	380.0	213.8	393.9
1986	359.4	363.4	376.3	347.9	317.4	269.1	430.1	307.9	274.8	398.0	209.3	391.7
1987	361.2	370.2	384.2	341.7	329.8	288.0	433.0	331.3	280.2	402.0	222.1	385.0
1988	370.5	381.4	398.6	347.2	350.7	308.1	442.3	372.2	305.7	398.9	266.9	403.5
1989	382.2	392.1	415.2	357.8	364.6	323.7	443.2	409.2	313.2	409.9	274.4	404.9
1990	395.7	405.8	428.7	371.2	367.6	323.9	455.0	413.0	307.1	427.3	258.4	411.3
1991	406.1	421.2	444.1	374.2	371.2	320.3	470.5	410.9	310.7	446.0	251.6	422.6
1992	418.7	435.3	458.7	384.4	370.1	324.8	478.1	387.8	309.9	444.4	241.0	426.1

See footnote at end of table.

--Continued

Table 18--Price indexes of food marketing costs[1]--Continued

Year	Advertising	Fuel and power: Total	Fuel and power: Electric	Fuel and power: Petroleum	Fuel and power: Natural gas	Communications, water, and sewage	Rent	Maintenance and repair	Business services	Supplies	Property taxes and insurance	Interest, short-term	Total marketing cost index
							1967 = 100						
1968	102.5	99.7	100.9	101.9	92.7	100.8	104.4	105.8	105.0	102.1	109.2	115.5	103.5
1969	107.5	100.5	101.8	102.4	93.2	102.8	109.4	113.7	109.9	102.8	118.3	153.2	109.2
1970	109.6	106.1	105.8	106.5	103.6	105.1	115.4	122.3	115.6	106.5	130.4	150.9	116.1
1971	108.7	112.3	113.6	110.3	108.0	111.3	121.7	131.5	123.5	108.7	141.9	100.0	123.0
1972	113.2	118.4	121.5	113.3	114.1	117.8	126.3	137.9	128.2	119.9	153.3	92.6	130.5
1973	118.2	133.1	129.3	139.7	126.7	120.8	131.1	146.7	133.3	113.4	158.4	159.5	139.4
1974	124.2	198.9	163.1	272.2	162.2	126.3	145.9	164.3	146.8	145.1	162.9	192.6	159.8
1975	136.9	236.1	193.4	309.4	216.7	131.8	167.0	182.2	159.6	169.9	180.1	123.7	178.8
1976	152.8	264.5	207.7	336.9	286.8	138.4	174.9	196.1	171.3	181.3	194.5	104.7	193.6
1977	166.3	310.6	232.9	384.1	388.0	142.6	185.0	209.2	182.5	188.9	219.0	109.8	209.2
1978	181.3	331.7	250.6	398.1	428.7	147.5	199.2	226.9	195.2	197.8	237.3	156.4	227.0
1979	197.4	418.2	270.3	574.6	544.8	148.7	216.4	249.7	211.0	224.3	246.9	213.5	252.2
1980	214.5	563.2	321.6	850.6	724.8	153.9	235.0	277.1	230.6	259.3	270.2	240.3	286.0
1981	234.9	669.2	367.9	1,056.2	826.3	168.7	255.0	304.0	254.2	283.8	294.0	288.8	317.5
1982	260.1	705.1	406.1	1,012.1	990.3	186.7	264.3	325.1	277.1	289.1	309.9	232.6	334.0
1983	280.2	705.1	417.9	895.9	1,155.6	199.6	260.6	338.2	291.9	286.5	327.5	174.0	343.0
1984	300.5	712.5	440.0	880.4	1,162.6	215.5	261.3	350.3	306.1	288.3	343.7	198.4	356.2
1985	320.2	700.0	453.5	821.5	1,158.2	224.9	262.9	360.3	321.9	287.9	362.0	157.2	358.6
1986	339.7	590.2	457.9	499.8	1,096.9	236.1	267.0	368.5	334.1	282.7	382.3	125.1	354.9
1987	361.1	596.7	450.5	561.4	1,049.0	238.4	262.3	382.6	346.1	286.8	399.6	132.9	360.4
1988	384.0	578.2	453.3	502.0	1,042.1	241.3	265.3	395.9	371.4	305.6	419.9	150.3	372.4
1989	409.1	619.4	468.9	592.1	1,070.9	247.3	269.9	410.7	388.4	321.4	439.7	172.1	386.0
1990	433.0	671.4	477.7	744.8	1,071.0	253.1	280.0	426.7	399.5	321.1	462.2	155.4	398.7
1991	460.1	655.7	508.3	649.8	1,065.0	261.7	282.7	442.7	425.4	319.3	480.5	114.5	407.7
1992	484.0	654.6	514.0	639.9	1,061.1	266.8	278.3	454.8	440.9	318.1	496.7	74.5	415.7

[1] Indexes measure changes in employee wages and benefits and in prices of supplies and services used in processing, wholesaling, and retailing U.S. farm food purchased for consumption at home.

Table 19--Profit margins of food manufacturers and retail food chains, industry averages

Year and quarter	Food manufacturers[1]			Retail food chains[2]		
	After-tax profits as a percentage of--					
	Sales	Stockholder equity	Assets	Sales	Stockholder equity	Assets
	Percent					
1980	3.4	14.7	7.1	0.9	13.7	4.5
1981	3.1	13.6	6.5	1.0	13.9	4.7
1982	3.1	13.0	6.3	.9	12.7	4.4
1983	3.3	13.3	6.0	1.1	13.6	4.9
1984	3.3	13.3	6.0	1.4	17.3	6.0
1985	4.1	15.3	6.6	1.3	14.5	5.3
1986	4.2	16.2	6.3	1.1	11.9	4.4
1987	4.6	17.5	6.8	.9	12.8	3.6
1988	5.5	20.9	8.1	.9	13.6	3.2
1989	4.2	17.1	5.5	.8	20.7	2.9
1990	4.0	16.1	5.2	1.1	22.8	3.8
1991	4.8	17.5	6.0	1.1	18.8	3.8
1992	4.5	15.7	5.5	1.0	14.6	3.2
1987:						
I	3.7	13.6	5.1	.7	9.0	2.6
II	4.5	17.4	6.7	1.0	13.2	3.9
III	4.4	17.0	6.7	.7	9.7	2.6
IV	5.7	21.6	8.5	1.4	19.0	5.1
1988:						
I	5.2	19.1	7.5	.7	8.6	2.5
II	6.5	25.0	9.9	1.5	20.7	5.2
III	5.6	21.9	8.6	.8	11.5	2.9
IV	4.7	17.9	6.7	.6	14.3	2.0
1989:						
I	4.1	15.6	5.2	.8	19.1	2.6
II	4.0	16.5	5.4	.9	23.4	3.3
III	3.4	13.9	4.4	.8	18.9	2.7
IV	5.3	22.2	7.0	.9	21.5	3.1
1990:						
I	3.7	14.7	4.7	1.0	20.7	3.2
II	5.2	21.2	6.9	1.2	25.4	4.2
III	5.1	19.6	6.6	.9	17.9	3.0
IV	2.2	9.0	2.9	1.3	27.1	4.7
1991:						
I	5.0	18.5	6.1	1.1	20.0	3.6
II	5.0	18.7	6.4	1.4	24.0	4.7
III	5.2	19.1	6.7	1.0	16.3	3.5
IV	3.9	13.8	5.0	1.0	15.5	3.4
1992:						
I	3.2	10.9	3.8	1.1	16.0	3.5
II	5.8	20.3	7.3	.8	11.6	2.6
III	4.8	16.8	5.9	.7	10.4	2.3
IV	4.0	14.5	5.1	1.4	20.0	4.4

[1] Data represent aggregate estimates for corporations, based on a sample of company reports. Beginning in 1985, data are not comparable with earlier years because the tobacco industry was combined with food manufacturers. [2] Data are based on reports from all food retailing corporations having at least $1 billion in annual sales, at least 70 percent of which are derived from supermarket operations. Beginning in 1990, data reflect a larger sample of firms.

Source: U.S. Department of Commerce.

Table 20--After-tax profits of selected supermarket food chains per dollar of sales, fiscal year or four calendar quarters

Firm	1987	1988	1989	1990	1991	1992
			Percent of sales			
Ahold NV	1.12	0.95	1.10	1.38	1.33	0.14
Albertson's	2.14	2.40	2.65	3.12	2.97	2.65
American Stores	1.08	.53	.54	.77	.65	1.13
Great Atlantic & Pacific Tea Co.	1.09	1.27	1.32	1.33	.61	.32
Bruno's	--	2.15	2.35	2.58	2.48	1.63
Foodarama Supermarkets	.77	.71	-.20	.16	-.08	.10
Food Lion	2.90	2.95	2.96	3.09	3.19	2.47
Giant Food	2.78	3.28	3.34	3.55	2.50	2.35
Hannaford Bros. Co.	2.33	2.29	2.46	2.50	2.16	2.45
Ingles Markets	1.37	1.81	1.76	.89	.57	--
Kroger	1.04	1.20	-.18	.36	.47	.46
Marsh Supermarkets	.92	.91	1.09	1.27	.79	.93
Penn Traffic Co.	.10	-.77	-1.08	-.87	-.16	.15
Safeway	-.43	-.12	.02	.59	.88	.74
Vons Companies	--	-.61	-.48	.93	1.24	1.47
Winn-Dixie	1.30	1.41	1.67	1.60	1.54	2.22

-- = Not available.
Source: The American Institute of Food Distribution Inc., Food Institute Reports, Fair Lawn, New Jersey.

and preparation. Providing the products and shopping convenience that consumers want has added to industry employment and has made productivity gains more difficult. However, in 1991, hours worked in foodstores fell about 1 percent, exceeding a decline in output, which resulted in the small increase in productivity.

Productivity among eating places has changed little in most years since 1985. But in 1991, labor productivity in eating places posted a gain of 3.5 percent. Productivity rose because hours worked fell more than 3 percent, while output was unchanged.

Food Spending: How It Was Distributed

Food spending for domestically produced food in 1992 represents the retail market value of food purchased by or for civilian consumers. Both the quantities of food bought and the prices paid affected spending levels. The expenditures reported in this section include spending at grocery stores, eating places, and institutions. These estimates are smaller than the amount consumers spent for all food because expenditures for imported food and fishery products are excluded. In this section, food expenditures are broken into two components:

- The *farm value* is a measure of the payments farmers received for the raw commodities equivalent to food purchased by consumers at foodstores and eating places.

- The *marketing bill* is the difference in dollars between the farm value and consumer expenditures for food produced on U.S. farms.

Changes in last year's bill can be evaluated by: (1) dividing the total marketing bill into the costs of several principal marketing functions, such as processing and retailing, and (2) breaking down the bill into costs of principal inputs, such as labor and packaging.

Most of these estimates are based on secondary data, and are not direct measures of consumer expenditures or actual marketing costs. The limited accuracy of the data reported in this section makes them general indicators, and not precise measures, of levels and yearly changes.

Table 21--Indexes of output per employee hour in selected food manufacturing industries, retail food stores, and eating and drinking places

Year	Food manufacturing: Red meat products	Poultry dressing and processing	Fluid milk	Preserved fruit and vegetables	Grain mill products	Bakery products	Sugar	Retail food stores	Eating and drinking places
					1982 = 100				
1970	68.8	62.3	54.4	73.9	65.9	84.8	95.0	112.1	103.9
1971	70.6	68.1	58.7	77.1	68.9	86.7	93.8	112.7	101.0
1972	75.7	70.2	62.9	78.4	70.6	91.2	100.0	111.9	105.0
1973	73.7	61.6	65.3	86.3	67.5	90.6	106.5	107.3	106.7
1974	75.1	69.6	67.1	85.0	71.4	90.5	103.1	102.7	101.9
1975	75.2	69.9	70.4	86.8	72.1	90.4	104.0	103.5	103.8
1976	83.2	78.5	73.6	92.8	75.3	90.8	105.8	105.7	104.4
1977	89.1	79.4	73.8	92.8	82.7	96.8	110.6	104.7	103.1
1978	87.9	80.9	79.6	96.6	82.8	94.8	108.7	100.6	102.6
1979	90.4	84.5	85.4	91.8	83.4	92.1	114.0	103.2	102.6
1980	95.3	84.2	91.4	93.5	87.0	90.7	110.7	105.2	102.7
1981	96.1	92.6	94.5	91.9	91.7	93.2	109.2	101.7	100.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.7	104.8	105.3	102.7	103.3	104.0	107.5	99.8	99.0
1984	105.3	104.1	109.4	104.3	109.3	104.4	107.8	99.8	95.3
1985	108.4	106.2	112.8	105.5	115.8	106.4	112.2	100.0	92.6
1986	106.8	101.6	117.8	110.1	116.7	112.6	115.7	99.4	95.6
1987	108.6	108.2	122.4	111.6	123.5	111.4	130.7	97.4	96.1
1988	111.2	103.1	127.3	110.0	123.6	103.3	127.2	96.2	98.3
1989	102.6	108.3	130.6	108.9	123.2	103.0	121.0	94.0	97.0
1990	99.8	114.8	131.9	108.8	128.6	104.6	122.6	93.7	97.6
1991[1]	--	--	135.3	--	--	104.8	127.7	93.9	101.0
Average annual change:					Percent				
1970-80	3.3	3.0	5.3	2.4	2.8	0.7	1.5	-0.7	-0.1
1980-90	.5	3.2	3.7	1.5	4.0	1.4	1.0	-1.1	-.5

-- = Not available.
[1] Preliminary. Some historical data were revised.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

Food Expenditures

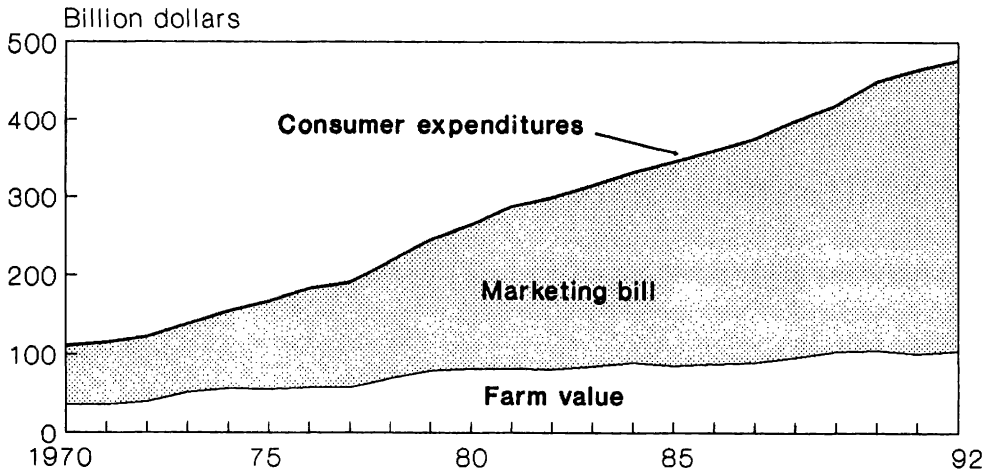
Consumers spent $477 billion for food originating on U.S. farms in 1992 (fig. 3 and table 22). About 61 percent of consumers' food expenditures was spent at retail grocery stores on food for use at home. The remaining 39 percent represented the retail value of food served in public eating places, hospitals, schools, and other institutions. Market shares in 1992 were the same as in 1991.

Consumer expenditures for domestic farm foods in 1992 rose about 2.5 percent, the smallest increase of the last decade, and about 1 percent less than the previous year. Sluggish retail sales reflected reduced disposable personal income stemming from the recession, as consumers substituted purchases of relatively unprocessed foods for upscale, value-added items. The quantity of food purchases likely increased, based on sales data reported by the U.S. Census Bureau. Sales at eating places rose 3.2 percent in 1992, but when adjusted for the rise in prices, 1992 sales were only 1.2 percent higher than those in 1991. Foodstore sales consist of both food and nonfood items. After adjusting for nonfood sales, spending for domestic farm foods at grocery stores increased an estimated 1.9 percent in current dollars, but rose about 1.1 percent in real dollars. These figures indicate larger food purchases.

Figure 3

Distribution of food expenditures

The marketing bill was 78 percent of 1992 food expenditures.



Data for foods of U.S. farm origin purchased by or for consumers for consumption both at home and away from home.

Meat products represent the largest share of total consumer food expenditures. Expenditures for meat in 1992 were 29 percent of total food expenditures, compared with 23 percent for fruit and vegetables, the next largest expenditure group (table 23). Because food consumption changes slowly, the proportion of expenditures that meat products and other food groups accounted for has changed little from year to year.

Farm Value

The farm value of food commodities originating on U.S. farms rose nearly $4 billion in 1992 to $105 billion. This increase offset most of the farm value decrease recorded in 1991. Much of the farm value increase in 1992 was due to higher prices for dairy products and larger cash receipts for fruit and vegetables. The largest share of the money farmers received for domestic food sales was for meat products. In 1992, the farm value of meat was about 33 percent of the total value of farm food. The next largest share, 19 percent, was for dairy products. Livestock and dairy farmers garnered more than half of the total farm value, but they bought substantial amounts of grain from crop farmers.

The farm value of food commodities represented 22 percent of consumer expenditures in 1992, the same as in 1991, but down from 24 percent in 1990. The farm value is a much smaller part of expenditures for food eaten away from home than for food bought at stores, because the cost of preparing and serving food is a major part of the cost of food eaten away from home. The 1992 farm value accounted for about 15 percent of expenditures for food consumed away from home, compared with about 26 percent of expenditures for farm food in food stores.

Marketing Bill

The marketing bill, the difference between what consumers spent for food and the farm value of the food, amounted to $372 billion in 1992, $8 billion more than in 1991. Of last year's increase in the marketing bill, consumers paid about $12 billion in higher expenditures, and producers received $4 billion more for food commodities.

The marketing bill rose only 2.2 percent in 1992, the smallest increase of the last 20 years. This small increase was the result of only slight price increases for most principal categories of inputs purchased by the food industry. Higher labor costs accounted for most of last year's increase in the marketing bill. Other inputs, such as packaging, energy, and transportation, rose little, while profits dropped.

Table 22--Marketing bill and farm value components of consumer expenditures for domestically produced farm foods

Year	Consumer expenditures: Total	Consumer expenditures: At home[1]	Consumer expenditures: Away from home[2]	Marketing bill	Farm value	Farm value share of expenditures
	Billion dollars					Percent
1950	44.0	--	--	26.0	18.0	41
1951	49.2	--	--	28.7	20.5	42
1952	50.9	--	--	30.5	20.4	40
1953	51.0	--	--	31.5	19.5	38
1954	51.1	--	--	32.3	18.8	37
1955	53.1	--	--	34.4	18.7	35
1956	55.5	--	--	36.3	19.2	35
1957	58.3	--	--	37.9	20.4	35
1958	61.0	--	--	39.6	21.4	35
1959	63.6	--	--	42.4	21.2	33
1960	66.9	--	--	44.6	22.3	33
1961	68.7	--	--	45.7	23.0	33
1962	71.3	--	--	47.6	23.7	33
1963	74.0	56.0	18.0	49.9	24.1	33
1964	77.5	58.5	19.0	52.6	24.9	32
1965	81.1	60.2	20.9	54.0	27.1	33
1966	86.9	64.0	22.9	57.1	29.8	34
1967	91.6	66.8	24.8	62.4	29.2	32
1968	96.8	69.5	27.3	65.9	30.9	32
1969	102.6	73.1	29.5	68.3	34.3	33
1970	110.6	78.2	32.4	75.1	35.5	32
1971	114.6	80.6	34.0	78.5	36.1	32
1972	122.2	85.4	36.8	82.4	39.8	33
1973	138.8	98.5	40.3	87.1	51.7	37
1974	154.6	109.5	45.1	98.2	56.4	36
1975	167.0	116.2	50.8	111.4	55.6	33
1976	183.3	127.2	56.1	125.0	58.3	32
1977	190.9	130.8	60.1	132.7	58.2	30
1978	216.9	149.2	67.7	147.4	69.5	32
1979	245.2	169.4	75.8	166.0	79.2	32
1980	264.4	180.1	84.3	182.7	81.7	31
1981	287.7	194.0	93.7	206.0	81.7	28
1982	298.9	196.7	102.2	217.5	81.4	27
1983	315.0	204.6	110.4	229.7	85.3	27
1984	332.0	213.1	118.9	242.2	89.8	27
1985	345.4	220.8	124.6	259.0	86.4	25
1986	359.6	226.0	133.6	270.8	88.8	25
1987	375.5	230.2	145.3	285.1	90.4	24
1988	398.8	242.1	156.7	301.9	96.8	24
1989	419.4	255.5	163.9	315.6	103.8	25
1990	449.8	276.2	173.6	343.6	106.2	24
1991	465.1	286.1	179.0	363.5	101.6	22
1992[3]	476.8	291.5	185.3	371.5	105.3	22

-- = Not available.

[1] Includes food purchased primarily at retail food stores. [2] Includes food purchased at restaurants, fast-food outlets, and other public eating places, and food served in institutions, such as hospitals, schools, and rest homes. [3] Preliminary. Some historical data have been revised.

Table 23--Consumer expenditures and farm value for major food groups

Item and year	Meat	Fruit and vegetables[1]	Dairy products	Bakery products	Poultry	Grain mill products[2]	Eggs	Other foods[3]	Total
				Billion dollars					
Consumer expenditures:									
1975	48.0	35.6	23.3	18.2	8.6	5.9	4.1	23.3	167.0
1976	55.2	38.8	26.4	18.8	9.1	6.1	4.8	24.1	183.3
1977	59.0	40.8	27.8	18.1	9.6	6.3	4.4	24.9	190.9
1978	69.5	46.3	30.1	21.1	10.9	6.4	4.3	28.3	216.9
1979	80.2	52.5	33.5	23.8	12.6	7.8	4.8	30.1	245.3
1980	83.3	55.5	37.8	26.8	13.3	8.4	5.0	34.3	264.4
1981	86.6	62.8	41.4	29.0	14.7	8.9	5.2	39.1	287.7
1982	91.9	66.7	42.0	30.6	15.1	9.0	5.2	38.4	298.9
1983	97.9	70.0	45.0	31.0	16.3	9.6	5.4	39.8	315.0
1984	101.7	74.7	47.4	33.0	18.4	10.3	5.8	40.7	332.0
1985	103.2	78.5	49.4	34.6	19.9	10.9	6.1	42.8	345.4
1986	106.3	81.6	51.4	36.6	21.2	11.7	6.4	44.4	359.6
1987	110.0	84.7	54.0	37.8	22.8	12.1	6.6	47.5	375.5
1988	117.6	89.3	55.8	41.5	24.7	13.2	6.6	50.1	398.8
1989	121.5	96.0	58.1	43.1	27.4	14.6	6.5	52.2	419.4
1990	128.4	103.7	62.5	47.2	29.9	16.1	6.7	55.3	449.8
1991	133.4	107.9	63.0	49.2	31.1	16.8	6.6	57.1	465.1
1992	137.1	111.1	63.8	50.1	32.0	17.3	6.4	59.0	476.8
Farm value:									
1975	20.6	8.4	10.0	3.0	4.1	1.1	2.2	6.2	55.6
1976	21.6	8.8	11.3	2.6	4.0	1.0	2.6	6.4	58.3
1977	22.0	8.6	11.5	2.3	4.2	.9	2.3	6.4	58.2
1978	28.0	10.0	12.7	2.8	5.1	1.0	2.2	7.7	69.5
1979	31.5	10.9	14.6	3.4	5.5	1.4	2.6	9.3	79.2
1980	30.8	11.7	16.0	3.5	5.9	1.6	2.5	9.8	81.7
1981	31.1	11.8	17.0	3.4	6.1	1.5	2.7	8.1	81.7
1982	31.5	11.5	16.7	3.4	6.0	1.4	2.5	8.4	81.4
1983	31.4	12.9	18.0	3.5	6.6	1.4	2.7	8.8	85.3
1984	32.4	13.5	18.1	3.7	8.0	1.4	3.0	9.7	89.8
1985	30.5	13.3	17.7	3.4	7.9	1.3	2.3	10.0	86.4
1986	30.9	14.6	17.8	2.9	9.0	1.1	2.5	10.0	88.8
1987	32.7	14.3	18.2	2.8	8.1	1.0	2.2	11.1	90.4
1988	33.5	16.2	17.9	3.6	9.9	1.3	2.2	12.2	96.8
1989	34.0	17.8	19.6	4.3	11.4	1.6	2.8	12.3	103.8
1990	36.9	16.5	20.5	3.7	11.1	1.4	2.8	13.3	106.2
1991	34.7	17.0	18.4	3.3	11.2	1.3	2.7	13.0	101.6
1992	34.4	17.7	20.1	3.7	12.0	1.4	2.3	13.7	105.3

[1] Also includes soup, baby foods, condiments, dressings, spreads, and relishes. [2] Includes flour, flour mixes, cereal, rice, and pasta. [3] Includes fats and oils, sugar, tree nuts, peanuts, and miscellaneous foods.

Marketing costs continued to be the most persistent source of rising food expenditures in 1992, even though the farm value rose at a faster percentage rate than the marketing bill. In 1992, the marketing bill added about $8 billion to consumer food spending, while the farm value accounted for about $4 billion. Consumer expenditures for farm foods have increased $178 billion since 1982. About $154 billion of this increase consists of marketing charges. Farm value has increased only $24 billion since 1982.

What the Marketing Bill Bought

Last year's marketing bill increase can be analyzed by looking first at four broad functions that the food industry performs--processing, wholesaling, transporting, and retailing--and then at the specific cost items that add up to the marketing bill.

Costs of the functions performed are different for food bought in foodstores than for meals and snacks purchased for consumption away from home (table 24). About 26 cents of each dollar spent in foodstores paid for the farm value in 1992. Thus, 74 cents paid the marketing bill for food eaten at home.

Of each dollar spent for food in foodstores, 33 cents paid for processing. Between the processor and the retailer, another 10 cents was spent for wholesaling and 6 cents for intercity transportation. Finally, retailing charges added the last 25 cents (fig. 4). These shares have remained fairly constant over the years.

For each dollar spent for food away from home, 15 cents covered the farm value. Processing costs accounted for 15 cents, transportation charges for 3 cents, and wholesaling for 6 cents. The remaining 61 cents covered the cost of food service or the preparation and serving of food eaten away from home.

The food processing and marketing industry is an important part of the American economy. The $372 billion the industry received from consumers in 1992 paid the wages and salaries of millions of employees and paid for all the other costs of doing business. This figure represents 6 percent of total gross domestic product.

Labor Costs

Labor costs overshadow all other cost components of the marketing bill. Rising labor costs have accounted for about 46 percent of the total increase in the marketing bill over the last decade. Higher labor costs are primarily responsible for the 2.2-percent increase in the marketing bill from 1991 to 1992. Direct labor costs amounted to about $168 billion in 1992, or 35 percent of food expenditures (fig. 5 and table 25). Labor costs consist of wages and salaries, employee benefit costs, such as group health insurance, estimated earnings of proprietors and family workers, and tips for food service. Direct labor costs do not include the costs of labor engaged in for-hire transporting of food or in manufacturing and distributing supplies that food industry firms used.

Table 24--Marketing function components of consumer expenditures

Expenditures and components	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992[1]
						Billion dollars					
Expenditures at food stores	196.7	204.6	213.1	220.8	226.0	230.2	242.1	255.5	276.2	286.1	291.5
Farm value	64.1	66.5	69.5	66.6	67.6	67.5	72.5	77.9	80.2	76.7	77.4
Marketing bill	132.6	138.1	143.6	154.2	158.4	162.7	169.6	177.6	196.0	209.4	214.1
Processing	60.9	62.2	64.1	69.5	70.2	72.1	75.6	79.2	87.4	93.2	95.4
Intercity transportation	11.9	12.3	12.8	13.3	13.4	14.0	13.8	14.3	15.0	15.8	15.9
Wholesaling	20.0	20.5	21.5	22.3	22.5	23.2	24.3	25.3	28.5	29.0	29.6
Retailing	39.8	43.1	45.2	49.1	52.3	53.4	55.9	58.8	65.1	71.4	73.2
Expenditures for eating away from home	102.2	110.4	118.9	124.6	133.6	145.3	156.7	163.9	173.6	179.0	185.3
Farm value	17.3	18.8	20.3	19.8	21.2	22.9	24.3	25.9	26.0	24.9	27.9
Marketing bill	84.9	91.6	98.6	104.8	112.4	122.4	132.4	138.0	147.6	154.1	157.4
Processing	14.7	15.6	16.7	18.9	20.8	21.8	24.1	24.6	26.0	26.9	27.9
Intercity transportation	3.0	3.1	3.2	3.3	3.4	3.6	3.9	4.3	4.6	4.6	4.7
Wholesaling	5.9	6.6	7.1	7.5	8.0	8.6	9.5	9.9	10.5	11.5	11.1
Food service	61.3	66.3	71.6	75.1	80.2	88.4	94.9	99.2	106.5	111.1	113.7

[1] Preliminary. Data for 1990 have been revised.

Figure 4

Marketing functions of the food dollar in 1992

Processing remained the most expensive marketing function for food eaten at home.

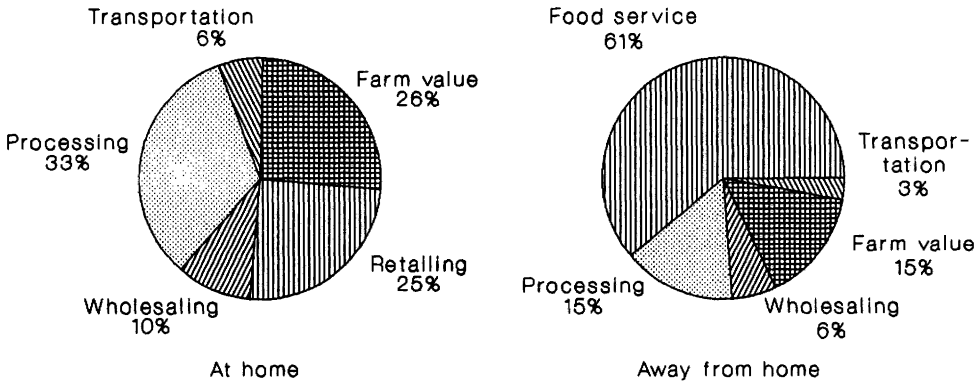
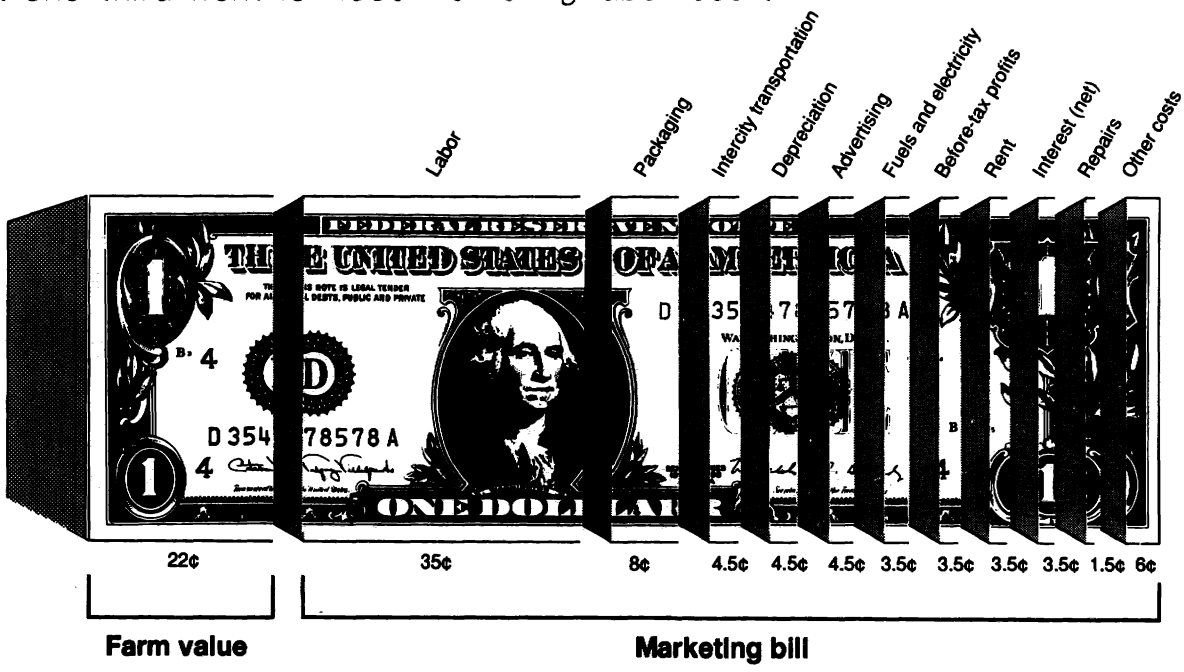


Figure 5

What a dollar spent for food paid for in 1992

About one-third went for food marketing labor costs.



Includes food eaten at home and away from home. Other costs include property taxes and insurance, accounting and professional services, promotion, bad debts, and many miscellaneous items.

Table 25--Components of the marketing bill for domestically produced farm food

Year	Labor[1]	Packaging materials	Intercity rail and truck transportation	Fuels and electricity	Corporate profits before taxes	Other[2]	Total marketing bill[3]
				Billion dollars			
1967	25.9	7.3	4.3	--	3.4	21.5	62.4
1968	28.0	7.6	4.5	--	3.6	22.2	65.9
1969	30.4	7.9	4.6	--	3.6	21.8	68.3
1970	32.2	8.2	5.2	2.2	3.6	23.7	75.1
1971	34.5	8.5	6.0	2.4	3.9	23.2	78.5
1972	36.6	8.9	6.1	2.5	4.0	24.3	82.4
1973	39.7	9.4	6.4	2.8	5.4	23.4	87.1
1974	44.3	11.8	7.5	3.7	6.1	24.8	98.2
1975	48.3	13.3	8.4	4.6	7.1	29.7	111.4
1976	53.8	14.5	9.1	5.0	7.7	34.9	125.0
1977	58.3	15.1	9.7	6.0	8.0	35.6	132.7
1978	66.2	16.6	10.5	7.1	9.9	37.1	147.4
1979	75.2	18.6	11.8	8.2	10.0	42.3	166.1
1980	81.5	21.0	13.0	9.0	9.9	48.3	182.7
1981	91.0	22.6	14.3	10.0	9.7	58.4	206.0
1982	96.6	23.7	14.7	11.0	9.4	62.1	217.5
1983	102.4	24.7	15.4	11.7	9.6	65.9	229.7
1984	109.3	26.2	15.9	12.5	9.6	68.7	242.2
1985	115.6	26.9	16.5	13.1	10.4	76.5	259.0
1986	122.9	27.7	16.8	13.2	10.3	79.9	270.8
1987	130.0	29.9	17.2	13.6	11.1	83.3	285.1
1988	137.9	32.6	17.8	14.1	12.0	87.5	301.9
1989	145.1	35.2	18.6	14.8	12.9	89.0	315.6
1990	154.0	36.5	19.8	15.2	15.0	103.1	343.6
1991	160.9	38.1	20.4	16.3	16.1	111.7	363.5
1992	167.8	39.2	20.6	16.8	15.9	111.2	371.5

-- = Not available.

[1] Includes employee wages or salaries and their health and welfare benefits. Also includes estimated earnings of proprietors, partners, and family workers not receiving stated remuneration. [2] Includes depreciation, rent, advertising and promotion, interest, taxes, licenses, insurance, professional services, local for-hire transportation, food service in schools, colleges, hospitals, and other institutions, and miscellaneous items. Data for 1967-69 also include fuels and electricity. [3] The marketing bill is the difference between the farm value and consumer expenditures for these foods at both foodstores and away-from-home eating places. Thus, it covers processing, wholesaling, transportation, and retailing costs and profits. Some historical data were revised.

Labor costs in the food industry rose about 4.3 percent in 1992, slightly less than in 1991. The increase reflected higher wages and benefit costs. Hourly earnings of workers increased 2.9 percent in food manufacturing and 3.1 percent in food wholesaling (table 26). Hourly earnings of foodstore workers rose 2.2 percent, a larger increase than the 1.4-percent wage hike recorded in 1991. The 1992 rise for manufacturing employees was about the same as the year before.

Wage supplements increased because of rising health insurance premiums and pensions. Health insurance benefit costs, which have skyrocketed in recent years, increased because of the rising cost of medical care. In 1990, health benefits became the number one issue in collective bargaining between workers and food companies and, in 1992, were rated as the most serious issue affecting foodstore management. These benefits can take up anywhere from 10 to 30 percent of the cash available in union contracts. Money that could be directed toward wage increases is instead

Table 26--Average hourly earnings of production and nonsupervisory employees of food industries

Year	Manufacturing, food and kindred products	Wholesale trade, groceries, and related products	Foodstores	Eating and drinking places
		Dollars per hour		
1977	5.37	5.43	4.77	2.93
1978	5.80	5.92	5.23	3.22
1979	6.27	6.39	5.67	3.45
1980	6.85	6.96	6.24	3.69
1981	7.44	7.57	6.85	3.95
1982	7.92	8.25	7.22	4.09
1983	8.19	8.70	7.51	4.27
1984	8.39	9.03	7.64	4.26
1985	8.57	9.22	7.35	4.33
1986	8.75	9.30	7.06	4.35
1987	8.93	9.53	6.95	4.42
1988	9.10	9.79	7.00	4.57
1989	9.38	10.16	7.15	4.75
1990	9.61	10.45	7.36	4.97
1991	9.90	10.77	7.41	5.18
1992	10.19	11.10	7.57	5.29

Source: U.S. Department of Labor, Employment and Earnings, March 1993.

being directed toward health care packages. The CPI for medical services increased 7.6 percent in 1992, roughly equal to the average annual increase of the last 10 years.

The Employment Cost Index (ECI), a quarterly series published by the Bureau of Labor Statistics, can also be used to track labor cost changes. The ECI has several advantages over average hourly earnings. Changes in wages and salaries are based on wage rates, rather than on average earnings. This procedure eliminates the effects of shifts in the occupational employment mix. Changes in the proportion of full-time and part-time workers in food retailing probably have caused average earnings both to increase at a slower rate than the ECI series and to understate the change in the price of labor. The ECI includes employers' cost of employee benefits and lump-sum payments to workers.

The ECI for foodstores rose 3.8 percent in 1992 (table 27). This rise in worker compensation costs was smaller than the 1991 gain of 4.5 percent. The 1992 compensation cost increase included a wage and salary gain of 3.3 percent, a smaller rate of increase than the 4.2-percent rise for 1991. Compensation costs rose more than wages and salaries in 1992 because benefit cost increases were much greater than gains in wage rates. Although not reported separately, the increase in benefit costs was probably about 5.8 percent in 1992, or 1.8 times the rise in the wage rate of foodstore workers.

Food retailers employed 0.8 percent fewer people in 1992 than in 1991, reflecting continued sluggish sales activity stemming from the economic downturn. Many food retailing employees are part-time workers. Part-time employees lower labor costs in several ways. They are often paid less and receive fewer benefits than full-time employees. Part-timers also cut labor costs by reducing overtime work by full-time employees. Greater use of part-time workers has likely held down the rise in hourly earnings in food retailing. Employment rose only 0.3 percent in eating places and declined 0.1 percent in the food manufacturing industry. The total number of persons employed in the food industry fell slightly in 1992, when 12.2 million workers were employed in processing and distributing food. More than half, or 6.5 million people, were employed in away-from-home eating places in 1992. Food stores employed 3.2 million people, food processors employed 1.7 million people, and food wholesalers employed about 800,000 people.

Most major food industry collective bargaining agreements--those that cover at least 1,000 employees--provided wage increases in 1992. Because the agreements are usually in effect for 3 to 4 years, the terms of the settlements serve as important barometers of future changes in labor costs. A discussion of several major contracts negotiated during

Table 27--Changes in the Employment Cost Index for workers in food retailing

Period	Employment Cost Index for--			
	Total compensation costs	Wages and salaries	Total compensation costs	Wages and salaries
	Percentage change for 3-months ended		Percentage change for 12-months ended	
1989:				
March	1.6	1.0	3.6	2.8
June	.2	0	3.3	2.2
September	.8	.4	3.8	2.2
December	.9	1.3	3.6	2.7
1990:				
March	1.5	1.1	3.4	2.8
June	1.4	1.5	4.6	4.3
September	1.1	.8	4.9	4.7
December	.7	.7	4.6	4.0
1991:				
March	1.0	1.0	3.4	4.0
June	1.7	1.7	4.5	4.2
September	.9	.6	4.4	4.1
December	1.3	.9	5.0	4.3
1992:				
March	.8	.5	4.7	3.7
June	.9	1.3	3.9	3.3
September	.5	.5	3.5	3.2
December	.8	.7	3.0	3.0

Source: U.S. Department of Labor, Bureau of Labor Statistics.

1992 can be used to illustrate the broad range of wage increases and other terms among groups of workers in food retailing and manufacturing.

In the largest retailing contract, 40,000 grocery clerks employed at more than 550 northern California supermarkets agreed to a 3-year contract providing for wage increases of 35 cents per hour on five specified dates during the contract period, for an overall increase of 12 percent. Journey-level clerks in rural areas were to receive a smaller increase of $1.40 per hour (a 10-percent increase). Wage increases of $1.75 were also specified for head clerks, department heads, and managing clerks. Other terms provided for a guaranteed minimum 20-hour work week for most employees. Monthly pension rates were raised by 13.6 percent, while maximum lifetime major medical coverage was increased to $2 million. Finally, employees are now able to retire with full benefits at age 55 after 30 years of service.

The second largest retail contract of 1992 was a 4-year contract negotiated between several supermarket chains in the Washington, D.C.-Baltimore area and more than 28,000 workers. The contract stipulated that a $200 lump sum payment be made to employees hired before October 23, 1983 (first-tier employees), while those employees hired after that date (second-tier employees) were to receive a wage increase of 25 cents per hour on September 13, 1992. A lump sum payment of $200 for part-time employees and $500 for full-time employees will be paid to first-tier workers on September 13, 1993. Second-tier employees will receive a wage increase of 35 cents per hour on that date. All workers will receive wage increases of 35 cents per hour in each of the final 2 years of the contract. The maximum work week for part-time employees was increased from 29 to 35 hours. A successorship clause gave the supermarkets the option of incorporating in the current agreement any provision the local union negotiates with a competing grocery that is more favorable to the companies than the comparable contract provision. Other terms focused on health care benefits, including increased employer payments to maintain benefits at the level existing at the beginning of the new contract, increased dental benefits, and greater employee copayments for prescription drugs, but with a discount for drugs purchased at one of the supermarkets covered by the contract. Incentives to induce early retirement were also incorporated into the contract.

The largest food manufacturing contract was a 4-year agreement signed between a major diversified food manufacturer and 7,100 workers in 13 nationwide plants. Wages were to be increased 50 cents an hour on September 1 during the first 3 years of the contract, with an increase of 60 cents per hour on September 1, 1995. Wages will have increased an average of 15 percent over the life of the contract. The pact also linked the establishment of a managed health care program to the creation of a deferred 401(k) savings plan. Company contribution levels to 401(k) accounts would depend on savings generated by switching to the new managed health care program. Participating workers would be able to invest up to 6 percent of their earnings, with the company providing a matching contribution of 25 cents per dollar invested. Other terms of the contract called for increased company contributions to the pension fund, and a 25-percent increase in the monthly pension benefit. Finally, a successorship provision requires any new owner to recognize the union and accept the collective bargaining agreement in effect at the time of the purchase.

A pork processor agreed to a 3-year contract with 2,000 workers that ended a 3-week work stoppage. The agreement called for wage increases of 15 cents per hour on four specified dates during the contract period. These raises will increase the base rate to $9.70 per hour by the end of the contract period. Current medical and drug health care benefit levels were to be maintained over the contract term, but cost containment features were to be implemented. In particular, a managed health care system and utilization review program were to be established. In addition, second opinions were to be obtained for surgery, and precertification was required prior to hospitalization. The contract provided for increased employee payments for drugs. Finally, retirees were required to make monthly payments for health care benefits.

Overall, labor settlements in food retailing and manufacturing last year provided pay raises and benefits to most workers that will probably boost labor costs. A major effort was made to contain the skyrocketing cost of health benefits. However, there was a prevalence of front-loaded contracts in 1992 bargaining agreements that increases labor costs the most in the early years of the contracts.

Packaging Costs

Packaging is the second-largest component of the marketing bill, accounting for 8 percent of the food dollar. Costs of these materials rose only 2.9 percent last year, the smallest of the last decade. Two major factors explain this small increase. First, consumers responded to the weak economy by reducing their purchases of value-added products, such as frozen prepared dinners, which require specialized packaging. Second, the aggregate price of packaging materials fell 1.8 percent in 1992. Higher packaging costs are largely due to the expanded size of the food industry. An analysis of economic developments affecting the major packaging materials shows why packaging costs rose little in 1992 and other recent years.

Paperboard boxes and containers are the largest packaging cost. The food industry spent approximately $15.7 billion, or about 40 percent of total packaging expenses, on paper and paperboard products in 1992. Fiber (cardboard) boxes, the primary container used to ship nearly all processed foods, represented about 33 percent of total packaging expenses. Sanitary food containers, including those for such products as fluid milk, margarine and butter, ice cream, and frozen food, were also almost 33 percent of total paperboard packaging expenses. The third-largest paperboard item was folding boxes used for such dry foods as cereal and perishable bakery products. Prices of paperboard shipping boxes and other paper products rose 1.4 percent in 1992. However, the price of paper bags and sacks plummeted 14.5 percent in 1992, and was primarily responsible for holding back the increase in paperboard packaging costs.

Metal containers are next in importance, making up about 20 percent of total food packaging costs. Prices of metal cans rose 1.6 percent in 1992. Cans have become less important for food packaging because of the increased popularity of glass and plastic bottles, the year-round availability of fresh fruit and vegetables, and the increased use of microwavable dishes for frozen foods. The price of glass containers, which are largely used to enhance product image, dropped 0.4 percent in 1992.

Costs of plastic containers and wrapping materials account for nearly 20 percent of food packaging costs. Plastic is an important source of trays for meat and produce, bottles for milk and fruit juices, jars and tubs for cottage cheese and other dairy products, and flexible wrapping materials, such as polyethylene film for protective covering of baked

goods, meat, and produce. Plastic is an oil derivative, and became cheaper to produce due to lower crude oil prices, resulting in a 0.3-percent fall in the price of plastic containers in 1992.

Transportation Rates and Costs

The transportation cost index, representing railroad freight rates, advanced only 0.6 percent in 1992, a slower rate of increase than the 1.7-percent gain recorded in 1991. Most foods shipped by railroad are canned and bottled products. Some meat and fresh fruit and vegetables are shipped in truck trailers on flat cars (TOFC), but information on charges for these products is not available. TOFC shipments of fresh fruit and vegetables increased 4.8 percent in 1992, and accounted for roughly 3 percent of all produce shipped. A larger quantity of produce--5.3 percent--was shipped in rail cars. The market share held by rail increased slightly in 1992, while the market share of TOFC held steady.

Approximately 91 percent of fresh produce was transported by truck in 1992. Operating costs of trucks hauling produce, as reported by USDA's Agricultural Marketing Service, decreased 2 percent in 1992 (table 28). Truckers experienced a decrease in fuel costs (6 percent), while wages remained steady. Fuel and labor accounted for half of total operating costs. Other expense items fell an average of 1.7 percent. Although costs declined for the second consecutive year, truck rates for shipping fresh produce increased in most corridors. The trucking industry experienced a shortage of trucks and drivers during much of 1992. Moreover, an exceptionally large California harvest temporarily boosted rates during the summer due to greater demand for relatively scarce trucking services. Intercity truck and rail transportation for farm foods amounted to $20.6 billion in 1992, or about 4.5 percent of retail food expenditures.

Table 28--Annual average trucking costs and rates for fresh fruit and vegetables, by selected items and routes

Year	Truck cost for fleet operators[1]	Truck rates by commodity, origin, and destination[2]: Lettuce[3], California to New York City	Citrus and vegetables, southern California to New York City	Apples, Washington State to New York City
	Dollars per mile	Dollars per box		
1980	0.96	3.36	2.77	3.09
1981	1.08	3.45	2.77	3.25
1982	1.11	3.62	2.91	3.20
1983	1.13	3.62	2.98	3.41
1984	1.15	3.65	3.18	3.19
1985	1.17	3.62	3.06	3.20
1986	1.14	3.75	3.16	3.21
1987	1.16	3.83	3.23	3.28
1988	1.18	3.69	3.14	3.30
1989	1.23	3.76	3.20	3.31
1990	1.31	3.74	3.23	3.36
1991	1.26	3.77	3.22	3.36
1992	1.24	3.95	3.38	3.36
		Percent		
Change, 1980-92	29.2	17.6	22.0	8.7

[1] Truck costs developed by the Agricultural Marketing Service, USDA. [2] Truck rates are the average rates reported by Agricultural Marketing Service, Market News Service, USDA, for the first week of the month. Rates per truck were converted for 1980 to 1983 at: Lettuce, 800 boxes/load; citrus fruit and vegetables, 1,000 boxes/load; and apples 900 boxes/load. Beginning in 1984, rates were converted at 850 boxes/load of lettuce from Salinas, CA; 860 boxes/load for lettuce from Imperial Valley, CA; and 1,000 boxes/load for apples. [3] January to April: Imperial Valley, CA to New York City; May to December: Salinas, CA to New York City.

Energy Costs

Last year's energy bill for food marketing costs came to about $16.8 billion, making up about 3.5 percent of retail food expenditures. Energy costs rose 3.1 percent last year, about the same as some of the other major cost components. The energy bill included only the costs of electricity, natural gas, and other fuels used in food processing, wholesaling, retailing, and foodservice establishments. Transportation fuel costs, except for those incurred for food wholesaling, were excluded.

Higher 1992 energy costs resulted largely from the expanded size of the food industry. During 1973-82, fuel and electricity costs in the food industry rose more than 1.5 times the annual rate of other costs, reflecting the dramatic rise in energy prices. However, the overall rise in energy costs was somewhat smaller than the rise in all other marketing bill cost components during the last 5 years, with the exception of transportation and depreciation.

The energy cost of processing and retailing food is primarily affected by natural gas and electricity prices. Oil prices have little effect on the cost of direct energy required to market food. A 1.1-percent rise in the price of electricity used by food marketing firms was a major cause of the 1992 energy cost increase. However, natural gas prices dropped slightly due to abundant supplies, which were 2.7 percent higher than in 1991.

Public eating places and other foodservice facilities incur nearly 40 percent of the fuel and electricity costs of food marketing. Their energy expenses have risen because of large growth in the away-from-home food market. Also, away-from-home food service has the highest energy costs per dollar of sales, about 3.1 percent. About 85 percent of this cost comes from the use of electric power. Energy costs of food retailers are the second largest, at about 26 percent of the energy bill, and consist mainly of electricity. The food processing sector is responsible for another 20 percent of the total energy bill. Electric power accounts for 56 percent of food manufacturing energy costs, with natural gas making up the remaining 44 percent.

Other Costs Added Up

The major costs just discussed total about 65.8 percent of the 1992 food marketing bill. The rest of the bill included a variety of other costs (about 29.9 percent of the total) and profits (about 4.3 percent). Miscellaneous costs added to $114 billion, and included depreciation, rent, advertising and promotion, repairs, bad debts, contributions, property taxes and insurance, interest, and the nonfood costs involved in providing food service in schools, hospitals, and other institutions. Some of these miscellaneous costs are estimated using data from trade publications, the Internal Revenue Service, and the Bureau of the Census. The largest of these costs are rent and depreciation on plants and equipment (about 8 percent of total consumer expenditures), media--television, radio, and newspaper--advertising expenditures (about 4.5 percent), net interest (about 3.5 percent), and repairs (1.5 percent).

Sufficient data are not available for estimating many individual smaller costs, such as taxes and insurance, for-hire local truck transportation, professional services, and food service in schools and institutions. Together, these costs account for about 6 percent of the food dollar.

Corporate Profits

Food industry firms earned approximately $15.9 billion in pretax profits from marketing U.S. farm foods, a 1.2-percent drop from 1991 pretax profits. The profits decrease was largely caused by a change in corporate accounting methods. Corporations are no longer deferring the cost of retirement benefits (excluding pensions), but rather must take them into account prior to accrual. This adjustment was made in the first quarter of 1992, and resulted in a drop in reported profit margins.

The profit estimate was developed by a two-step procedure. First, profit ratios per dollar of sales were derived from IRS corporate income tax returns. This estimate was then multiplied by the annual sales of food retailers, wholesalers, manufacturers, and public eating places. Last year's food industry profits made up about 3.5 percent of food spending.

Food Spending in Relation to Income

Food spending has increased considerably over the years, but the increase has not matched the gain in disposable income. As a result, the percentage of income spent for food has declined (table 29). In 1929, the first year data of this type were recorded, 23.7 percent of disposable income was spent for food. This percentage has since tapered off fractionally almost every year. By 1970, the percentage had dropped to 13.9. During the 1970's, the percentage held fairly constant because of high food-price inflation. By 1980, food spending was still 13.5 percent of disposable income, but has since declined steadily to a low of 11.4 percent in 1992.

The decline in the percentage of income spent for food is the result of the inelastic nature of the aggregate demand for food: as income rises, the proportion of income spent for food declines and the proportion spent for nonfood items increases. A decline in the percentage of income spent for food generally reflects a highly developed economy in which there is money to spend for personal services and other discretionary items. Some of these additional services ordinarily are purchased along with food, which largely explains why the percentage of income spent for food away from home has not fallen as much as has the percentage of income spent for food at home.

The percentage of income spent for food varies widely among households of different sizes and income. For instance, data from the 1991 Consumer Expenditure Survey that the U.S. Department of Labor conducted showed that the share of after-tax income spent for food was 15.2 percent for households with incomes of $30,000-$39,999, but was 32.6 percent for households with incomes of $5,000-$9,999. The average for all households was 14.2 percent. This figure, based on the consumer survey data, is higher than the estimates using total food expenditures and disposable personal income. Some reasons for this are that households may not have fully accounted for income from all sources, household income does not include pension and welfare funds, such as insurance premiums paid by employers, and the reported income is capped to protect the privacy of some survey households. All these factors would cause the estimated percentage of income spent for food to be higher.

ERS developed the estimates of food expenditures in table 29, which differ from the U.S. Department of Commerce estimates of personal consumption expenditures (PCE). The trend in food expenditures is similar, but the ERS series shows a lower level of spending for food than does the PCE series, particularly for food purchased at grocery stores and other retail outlets for consumption at home. The ERS estimates of at-home expenditures are lower partly because they exclude pet food, ice, and prepared feeds, which are included in PCE estimates. ERS estimates also deduct more from grocery store sales for nonfoods, such as drugs and household supplies, in estimating food purchases for at-home consumption.

Table 29--Food expenditures by families and individuals as a share of disposable personal income

Year	Disposable personal income	Expenditures for food			Proportion of income spent for food		
		At home[1]	Away from home[2]	Total[3]	At home	Away from home	Total[3]
	Billion dollars				Percent		
1929	82.3	16.9	2.6	19.5	20.6	3.2	23.7
1939	70.1	13.0	2.3	15.2	18.5	3.3	21.7
1949	188.7	33.8	7.8	41.5	17.9	4.1	22.0
1959	346.5	49.3	12.1	61.4	14.2	3.5	17.7
1961	376.2	51.1	13.1	64.2	13.6	3.5	17.1
1962	398.7	52.0	13.9	65.9	13.0	3.5	16.5
1963	418.4	52.4	14.5	66.9	12.5	3.5	16.0
1964	454.7	54.5	15.7	70.2	12.0	3.4	15.4
1965	491.0	57.4	16.9	74.3	11.7	3.5	15.1
1966	530.7	59.9	18.6	78.5	11.3	3.5	14.8
1967	568.6	60.3	19.8	80.0	10.6	3.5	14.1
1968	617.8	63.5	21.7	85.2	10.3	3.5	13.8
1969	663.8	68.0	23.4	91.3	10.2	3.5	13.8
1970	722.0	74.2	26.4	100.6	10.3	3.7	13.9
1971	784.9	78.1	28.1	106.2	9.9	3.6	13.5
1972	848.5	84.4	31.3	115.8	10.0	3.7	13.6
1973	958.1	93.1	34.9	128.0	9.7	3.6	13.4
1974	1,046.5	105.4	38.5	143.9	10.1	3.7	13.8
1975	1,150.9	115.1	45.9	161.0	10.0	4.0	14.0
1976	1,264.0	122.9	52.6	175.5	9.7	4.2	13.9
1977	1,391.3	131.6	58.6	190.2	9.5	4.2	13.7
1978	1,567.8	145.0	66.8	211.7	9.2	4.3	13.5
1979	1,753.0	161.8	76.9	238.7	9.2	4.4	13.6
1980	1,952.9	178.5	85.4	263.9	9.1	4.4	13.5
1981	2,174.5	190.4	95.8	286.2	8.8	4.4	13.2
1982	2,319.6	197.7	104.5	302.2	8.5	4.5	13.0
1983	2,493.7	207.5	114.2	321.7	8.3	4.6	12.9
1984	2,759.5	218.6	123.3	341.9	7.9	4.5	12.4
1985	2,943.0	227.6	129.4	357.0	7.7	4.4	12.1
1986	3,131.5	235.3	138.3	373.6	7.5	4.4	11.9
1987	3,289.5	243.3	147.0	390.3	7.4	4.5	11.9
1988	3,548.2	256.0	158.0	414.0	7.2	4.5	11.7
1989	3,787.0	274.2	165.8	440.0	7.2	4.4	11.6
1990	4,042.9	298.7	174.2	472.9	7.4	4.3	11.7
1991	4,209.6	311.4	177.0	488.4	7.4	4.2	11.6
1992	4,430.8	319.5	184.6	504.1	7.2	4.2	11.4

[1] Food purchased from grocery stores and other retail outlets, including purchases with food stamps and food produced and consumed on farms, because the value of these foods is included in personal income. Excludes Government-donated foods. [2] Purchases of meals and snacks by families and individuals and food furnished to employees, because it is included in personal income. Excludes food paid for by government and business, such as food donated to schools, meals in prisons and other institutions, and expense-account meals. [3] May not add due to rounding.

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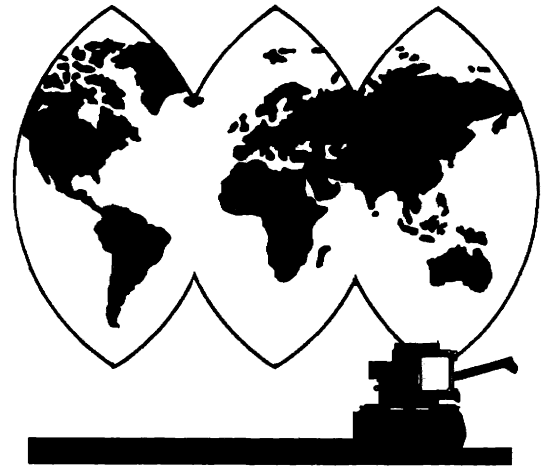

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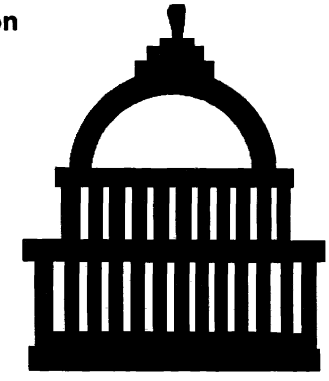

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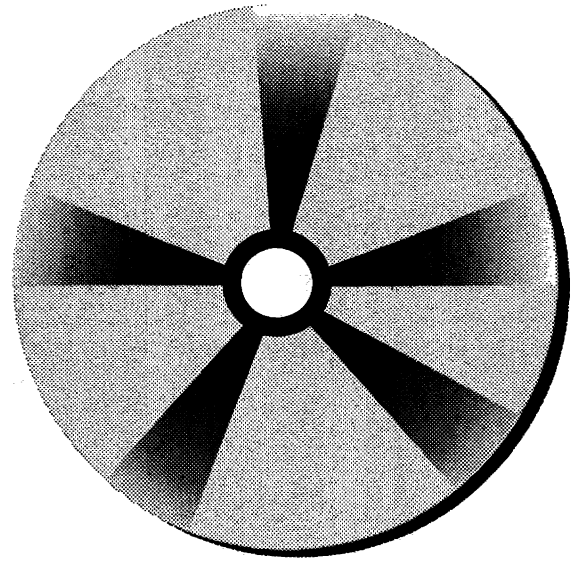

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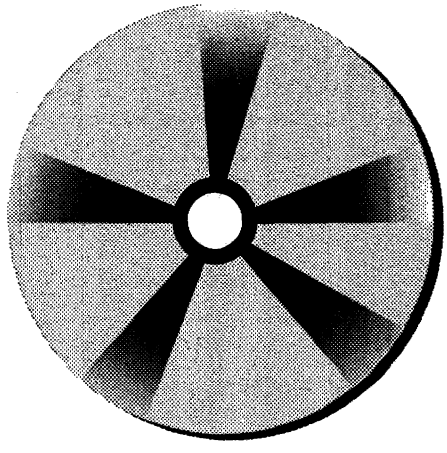

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