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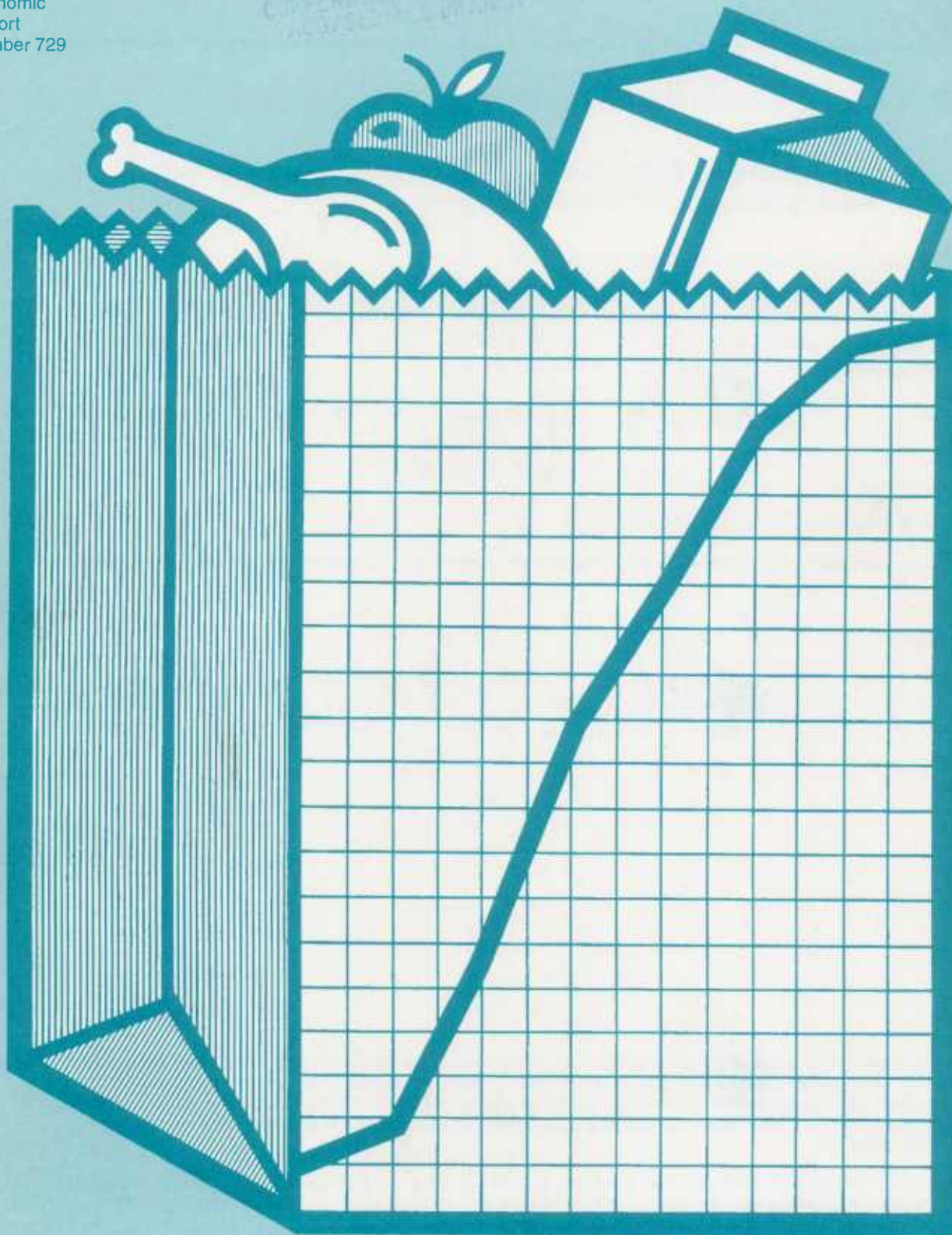
Agricultural  
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Number 729

*An Economic Research Service Report*

# Food Cost Review, 1995

Howard Elitzak

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**Food Cost Review, 1995.** By Howard Elitzak, Food and Consumer Economics Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 729.

## **Abstract**

Food prices, as measured by the Consumer Price Index (CPI), increased 2.4 percent in 1994. This increase was less than the overall increase in the CPI for the fourth consecutive year. Higher charges for processing and distribution mainly accounted for the 1994 increase. The prices farmers received for commodities, as measured by the farm value of USDA's market basket of foods, fell 3.7 percent. The farm value share of the food dollar spent in grocery stores in 1994 was 24 percent, a decline of 2 percent from 1993. The farm-to-retail price spread of USDA's market basket of foods rose 4.5 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.

## **Acknowledgments**

Veronica Jones provided data base management for the market basket and Food Marketing Cost Index series. Lawrence Duewer and Ron Lord contributed cost data for individual commodities, and T.Q. Hutchinson provided transportation information. Fehmida Sleemi of the Bureau of Labor Statistics, U.S. Department of Labor, provided labor contract data. The helpful reviews of Mark Denbaly, Alden Manchester, James MacDonald, and James Blaylock are gratefully acknowledged. The author thanks Wanda Reed-Rose for word processing, and Doug Martinez and Linda Hatcher for editing the report.

# Contents

	<i>Page</i>
<b>Summary</b> .....	<b>.iii</b>
<b>Introduction</b> .....	<b>.1</b>
<b>The 1994 Economy: An Overview</b> .....	<b>.1</b>
Another Year of Modest Food Price Inflation .....	.1
<b>Retail Food Prices</b> .....	<b>.3</b>
Consumer Price Index .....	.3
Retail Prices of Food Groups .....	.3
<b>Market Basket Prices</b> .....	<b>.6</b>
Farm Value .....	.7
Farm Value Share of Food Dollar .....	.10
Farm-to-Retail Price Spread .....	.15
Prices of Marketing Inputs .....	.16
<b>Price Spreads for Selected Foods</b> .....	<b>.16</b>
Choice Beef .....	.19
Pork .....	.20
Broilers .....	.21
Eggs .....	.21
Fluid Milk .....	.21
Fruit and Vegetables .....	.23
Bread .....	.24
Sugar .....	.26
<b>Food Industry Costs, Profits, and Productivity</b> .....	<b>.27</b>
Food Spending: How It Was Distributed .....	.27
Food Expenditures .....	.27
Farm Value .....	.28
Marketing Bill .....	.28
What the Marketing Bill Bought .....	.30
Labor Contract Developments .....	.33
Labor Productivity .....	.36
<b>Food Spending in Relation to Income</b> .....	<b>.40</b>
<b>Food Spending as a Proportion of Income</b> .....	<b>.43</b>

## Summary

Consumers paid 2.4-percent higher prices for food in 1994, as measured by the Consumer Price Index (CPI), compared with 1993's 2.2-percent increase and 1994's 2.6-percent advance in the CPI for all goods and services.

Grocery store food prices rose the most, advancing 2.9 percent, up from 2.4 percent in 1993. Restaurant meal prices went up 1.7 percent, down from 1.8 percent a year earlier.

The farm value of USDA's market basket of foods, based on prices farmers received for commodities, dropped 3.7 percent, largely reflecting lower farm prices for livestock, fresh fruit, and fresh vegetables. The 1994 farm value of food was about 2.9 percent lower than a decade earlier.

The 1994 farm value averaged 24 percent of the retail cost for the market basket, about 2 percent less than in 1993. The share has declined over time as a result of abundant food supplies that held down farm prices, while rising processing and distributing charges boosted retail prices. The farm value was 37 percent in 1980.

The farm-to-retail price spread rose 4.5 percent in 1994, partly reflecting higher prices of marketing inputs, including labor and packaging. The increase in the farm-to-retail price spread in 1994 was moderately greater than in 1993. The farm-to-retail price spread increased for most food groups and had a greater effect on retail food prices than did farm values, primarily because the marketing spread is the largest share of the food dollar.

Consumers spent \$511 billion for food produced on U.S. farms in 1994, about 4.3 percent more than in 1993. This amount includes purchases of farm foods in grocery stores (which account for about 60 percent of total consumer food expenditures) and at away-from-home eating places. About 21 percent of 1994 food spending went to farmers, who received about \$110 billion for food commodities. This share is lower than the 24-percent farm value share for the market basket of foods because it includes the much lower farm share of away-from-home food spending.

In 1993, consumers spent \$489 billion for food, \$110 billion of which went to farmers and \$379 billion to the marketing bill. In 1994, consumers spent \$511 billion for food, with \$110 billion going to farmers and \$401 billion for the marketing bill.

The \$401 billion went to the food industry for handling, processing, and retailing foods after they left the farm. The marketing bill rose \$22 billion in 1994, a larger increase than the previous year, due partly to higher labor and packaging costs. Direct labor costs for food marketing represented 47 percent of the marketing bill. Costs of other inputs, such as energy and transportation, rose modestly.

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 1994, personal expenditures for food, as estimated by ERS, were 11.3 percent of personal disposable income, down from 11.8 percent in 1989 and 12.4 percent in 1984.

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## The Market Basket

USDA uses its market basket concept to track price changes for the commodities farmers sell and the food consumers buy in retail grocery stores.

The market basket contains the annual average quantities of foods purchased per household in a base period. It excludes fish and seafood, nonalcoholic beverages, bananas, and food eaten away from home. The retail price index for the market basket has two parts:

- **Farm value** is the payment farmers receive for commodities equivalent to foods in the market basket.
  - **Farm-to-retail price spread** is the difference between retail price and farm value and includes the costs of processing, wholesaling, and retailing foods.
-

# Food Cost Review, 1995

Howard Elitzak\*

## 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 1994, including answers to the following questions:

- How much did food prices rise in 1994? 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?

## The 1994 Economy: An Overview

The 1994 economy featured strong growth in gross domestic product, employment, and personal income which led to increased consumer spending on durable goods and services. Real gross domestic product rose 4.1 percent, the largest increase in a decade. Aggregate employment grew 2.6 percent in 1994, the largest increase since 1988. Higher wages and salaries produced a 2.5-percent increase in real per capita

income—the strongest growth since 1988. This rise spurred higher consumer expenditures for food. Sales of food purchased in grocery stores rose 0.4 percent in real dollars—a small increase, but a reversal of the 0.2 percent drop recorded in 1993. Personal income growth was more strongly manifested at eating places, where inflation-adjusted spending grew 5.2 percent. Higher employment levels have increased household income and reduced the amount of time available to prepare food at home, boosting the percentage of meals consumed at restaurants. The stronger economy encouraged consumers to increase purchases of meals in restaurants over meals at home—a spending pattern prevalent for most years prior to the 1990-91 recession. These spending patterns translated into higher demand for marketing services, especially those associated with preparing and serving food away from home.

## Another Year of Modest Food Price Inflation

Retail food prices in 1994, as measured by the Consumer Price Index (CPI), averaged 2.4 percent above those in 1993 (table 1). This increase was only slightly greater than 1993's rise of 2.2 percent, and only slightly less than the 2.6 percent gain in the CPI for all goods and services. Food price inflation in 1994 was smaller than the overall increase in the CPI for the fourth consecutive year.

Food prices in 1994 rose more at supermarkets and other grocery stores than at eating places. Food prices in grocery stores rose 2.9 percent, and prices for restaurant meals advanced by only 1.7 percent. Grocery store prices of foods advanced at a faster pace in 1994 than in 1993, mainly due to higher prices for coffee, fresh fruits, seafood, cereal and bakery products, and processed vegetables (table 2). Higher grocery store food prices resulted from higher marketing costs, the residual effects of the 1993 Midwestern floods, depleted seafood resources, and a summer frost that devastated the Brazilian coffee crop. These price increases were mitigated by lower beef prices stemming from record cattle slaughter and modest price increases for most other commodities. Prices

\*The author is an agricultural economist in the Food and Consumer 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
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
1993	140.9	2.2	140.1	2.4	143.2	1.8
1994	144.3	2.4	144.1	2.9	145.7	1.7

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	1989	1990	1991	1992	1993	1994
	Percent					
Cereal and cereal products	9.2	5.5	4.5	3.9	3.0	4.4
Bakery products	8.0	5.9	4.0	3.9	3.5	4.0
Beef and veal	6.4	8.0	2.8	-.1	3.6	-.8
Pork	.6	14.7	3.3	-4.7	3.1	1.7
Other meat	2.8	9.3	3.7	.2	1.6	2.4
Poultry	9.9	-.2	-.8	-.1	4.2	3.4
Eggs	26.6	4.7	-2.3	-10.6	8.1	-2.4
Fish and seafood	4.5	2.2	1.1	2.3	3.2	4.5
Dairy products	6.6	9.4	-1.1	2.7	.7	1.8
Fresh fruit	6.6	12.1	13.5	-5.0	2.5	6.6
Fresh vegetables	10.7	5.6	2.2	2.3	6.6	2.3
Processed fruit	3.2	8.7	-3.7	4.5	-3.9	.6
Processed vegetables	10.7	2.7	.8	.2	1.6	4.4
Fats and oils	7.2	4.2	4.3	-1.4	.2	2.7
Sugar and sweets	4.7	4.4	3.7	2.9	.2	1.3
Nonalcoholic beverages	3.5	2.0	.5	.2	.3	7.5
Other prepared food	6.4	4.5	4.5	2.2	2.6	2.6

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

of restaurant meals increased slightly less in 1994 than they had the year before, and by the smallest amount since 1964. These small price hikes were largely due to increased competition between restaurants which produced small menu price increases. Moreover, fast-food sales increased as chains offered special value meals.

Food prices in 1994 rose less than prices for most other consumer products and services (fig. 1). Among major items in the CPI, housing prices, the largest component, went up 2.5 percent, and transportation went up 3.0 percent, but apparel and upkeep prices dropped 0.2 percent. The largest increase was again in medical costs, which climbed 4.8 percent.

The marketing spread, the difference between the farm value and retail price of food, consistently contributes more to food price increases than do volatile farm prices. Higher costs for labor, packaging, and other marketing inputs push the spread wider nearly every year. The 1994 rise in the farm-to-retail price spread was 4.5 percent, greater than in the previous year. This increase, which is smaller than the annual average increase of the last 5 years, reflects a rise in the cost of marketing farm products and lower aggregate farm commodity prices.

## Retail Food Prices

### Consumer Price Index

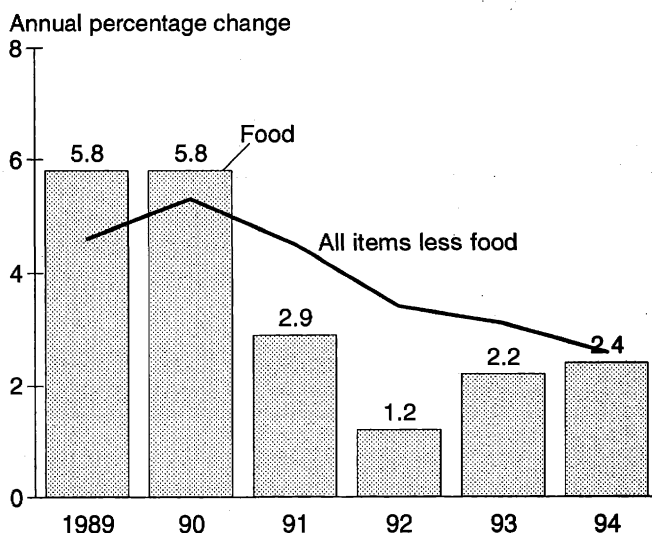
The Consumer Price Index for urban consumers (CPI-U), published by the U.S. Department of Labor's Bureau of Labor Statistics (BLS), is the most widely accepted measure of changes in retail food prices. Prices used to develop the food CPI-U are collected in about 2,300 foodstores located in 85 urban areas.

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 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 17 percent. The food

Figure 1  
**Consumer price indexes**

*The nonfood price increase was larger than the food price increase in 1994 for the fourth consecutive year.*



Source: Calculated by ERS from data compiled by the U.S. Department of Labor, Bureau of Labor Statistics.

category of the CPI-U has two major components: food purchased in foodstores for consumption at home, which has a weight of about 9.9 percent, and food consumed away from home, weighted at about 5.9 percent (table 3).

A knowledge of the relative importance of the 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, bakery products comprise 10.0 percent of the index. In 1994, the CPI-U for bakery products rose 4.0 percent, and thus accounted for about a 0.4-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 a moderate overall rise in food prices. But within the range of price changes, ground beef dropped 1.6 percent and lettuce declined 4.4 percent, while ham rose 1.0 percent and tomato prices climbed 3.3 percent (table 4). The following discussion identifies the factors that exerted the largest influence on retail price changes of the major food categories in 1994.

**Table 3—Relative importance of food groups in Consumer Price Index for urban consumers (CPI-U), December 1994**

Food group	Weight in CPI-U	Weight in food CPI-U	Weight in food-at-home CPI-U
		<i>Percent</i>	
All food	15.838	100.0	NA
Food at home	9.934	62.4	100.0
Cereal and bakery products	1.464	9.2	14.7
Cereal products	.469	3.0	4.7
Bakery products	.994	6.3	10.0
Meat	1.930	12.2	19.4
Beef and veal	.989	6.2	10.0
Pork	.545	3.4	5.5
Other meats	.396	2.5	4.0
Poultry	.428	2.7	4.3
Fish and seafood	.379	2.4	3.8
Eggs	.155	1.0	1.6
Dairy products	1.169	7.4	11.8
Fresh milk and cream	.590	3.7	5.9
Processed dairy products	.579	3.7	5.8
Fresh fruit and vegetables	1.415	8.9	14.2
Fresh fruit	.710	4.5	7.1
Fresh vegetables	.705	4.5	7.1
Processed fruit and vegetables	.598	3.8	6.0
Processed fruit	.338	2.1	3.4
Processed vegetables	.260	1.6	2.6
Sugar and sweets	.326	2.1	3.3
Fats and oils	.249	1.6	2.5
Nonalcoholic beverages	.796	5.0	8.0
Other prepared food	1.026	6.5	10.3
Food away from home	5.904	37.3	NA

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

NA = Not applicable.

### **Meat**

Abundant meat supplies restrained overall rises in 1994 food prices. The price of meat, accounting for approximately 12.7 percent of the CPI for food, was largely responsible for dampening the rise in the all-food CPI. Record slaughter weights raised beef production and were largely responsible for beef price

declines. Pork supplies were also large in the face of record pork production.

### **Poultry and Eggs**

Poultry prices averaged 3.4 percent higher in 1994, a somewhat smaller increase than the previous year. Despite large broiler production and large supplies of

Table 4—Average retail food prices, selected items

Item	Unit	1990	1991	1992	1993	1994	Item	Unit	1990	1991	1992	1993	1994
<i>Dollars</i>						<i>Dollars</i>							
Flour, white	Pound	0.25	0.23	0.24	0.23	0.23	Apples, red delicious	Pound	0.88	0.88	0.89	0.83	0.80
Rice, white, uncooked	do.	.50	.50	.53	.51	.55	Bananas	do.	.46	.48	.46	.44	.46
Spaghetti and macaroni	do.	.85	.87	.86	.83	.87	Oranges, navel	do.	.58	.78	.57	.54	.54
Bread, white	do.	.70	.71	.75	.75	.76	Oranges, Valencia	do.	.56	.92	.56	.65	.59
Bread, French	do.	—	1.25	—	—	1.51	Cherries	do.	1.75	2.26	—	—	—
Cookies, chocolate chip	do.	2.61	2.70	2.78	2.46	2.54	Grapefruit	do.	.66	.62	.61	.53	.51
Ground beef	do.	1.59	1.60	1.53	1.57	1.48	Grapes, Thompson						
Chuck, ground	do.	1.97	1.97	1.91	1.94	1.86	seedless	do.	1.26	1.40	1.29	1.47	1.51
Chuck roast, bone-in	do.	2.09	2.09	2.10	2.10	2.13	Lemons	do.	1.07	1.23	1.01	1.08	1.11
Round roast, boneless	do.	2.93	3.02	3.06	3.06	2.98	Peaches	do.	.88	.96	.89	.95	.95
Rib roast	do.	4.49	4.70	4.64	4.84	4.79	Pears, Anjou	do.	.76	.84	.83	.86	.80
Round steak, boneless	do.	3.32	3.41	3.38	3.40	3.25	Strawberries	12 oz	1.14	1.11	1.14	1.12	1.13
Sirloin steak, bone-in	do.	3.67	3.74	3.81	3.91	3.77	Potatoes, white	Pound	.37	.33	.30	.35	.37
T-bone steak	do.	4.99	5.38	5.37	5.66	5.83	Lettuce, iceberg	do.	.58	.60	.58	.66	.61
Bacon, sliced	do.	2.12	2.22	1.92	1.93	1.99	Tomatoes, field-grown	do.	1.08	1.01	1.09	1.08	1.09
Chops, center-cut	do.	3.26	3.26	3.15	3.24	3.22	Beans, green	do.	—	—	—	—	—
Ham, rump	do.	—	1.67	1.61	1.58	1.64	Cabbage	do.	.40	.41	.36	.41	.37
Ham, shoulder picnic	do.	1.28	1.30	1.22	1.16	1.13	Carrots	do.	.39	.45	.47	.43	.44
Sausage	do.	2.35	2.40	2.20	2.11	1.98	Celery	do.	.49	.52	.51	.60	.50
Ham, canned	do.	2.77	3.19	3.17	—	—	Cucumbers	do.	.60	.65	.67	.62	.60
Frankfurters	do.	2.29	2.35	2.24	2.11	2.11	Onions, yellow	do.	.39	.43	.42	.48	.46
Bologna	do.	2.51	2.59	2.47	2.38	2.29	Peppers, sweet	do.	1.13	1.11	1.06	1.15	1.13
Chicken, fresh, whole	do.	.90	.88	.87	.89	.90	Orange juice,						
Chicken breast	do.	2.07	2.06	2.04	2.08	2.06	frozen concentrated	16 oz	1.86	2.15	1.89	1.63	1.61
Chicken legs	do.	1.19	1.16	1.12	1.10	1.13	Potatoes, frozen,						
Turkey, frozen	do.	.99	1.00	.97	1.00	1.00	french-fried	Pound	.84	.85	.87	.86	.86
Tuna, canned	do.	2.06	2.07	2.02	1.97	2.04	Tomatoes, canned	do.	—	—	—	—	—
Eggs, Grade A, large	Dozen	1.01	.99	.86	.91	.86	Margarine, tub	do.	—	1.29	1.30	1.18	1.15
Milk, fresh, whole	½ gal	1.42	1.37	1.39	1.39	1.44	Margarine, stick	do.	.84	.87	.85	.80	.82
Milk, low-fat	½ gal	—	1.31	1.36	—	—	Shortening	do.	.92	.87	.83	.80	.85
Butter	Pound	1.99	1.94	1.83	1.66	1.60	Peanut butter	do.	1.89	2.15	1.94	1.79	1.85
Ice cream	½ gal	2.60	2.58	2.58	2.53	2.63	Potato chips	do.	2.96	2.96	2.90	2.88	2.97
Yogurt	½ pt	—	.65	.61	.59	.60	Sugar, white	do.	.43	.43	.42	.41	.40
Cheese, cheddar	Pound	—	3.55	3.57	3.34	3.35	Coffee, roasted	do.	2.97	2.81	2.58	2.47	3.40
Cheese, processed	do.	—	3.43	3.32	3.09	3.07	Cola, nondiet, cans	16 oz	—	.44	.46	—	—

Source: Calculated by ERS from data compiled by the U.S. Department of Labor, Bureau of Labor Statistics.

— = Not available.

competing meats, poultry prices were driven by greater sales of rotisserie chicken in the fast-food market and by heavy export demand, especially for leg quarters. Egg prices dropped 2.4 percent in 1994, reflecting increased production and a large flock of laying hens.

### **Dairy**

Retail prices of dairy products were relatively stable in 1994, increasing only 1.8 percent for the entire year. Retail dairy prices did not reflect the greater degree of variation exhibited by the farm value and the price spread. Retail prices of milk and other dairy products averaged 2.4 percent higher during the first half of 1994 in response to tight milk supplies. Increased fluid milk production during the second and third quarters dampened price increases in conjunction with reduced demand for cheese.

### **Fish and Seafood**

Consumers paid 4.5 percent more for seafood in 1994, the largest increase of the last 5 years. Seafood prices rose in response to tight supplies of several major seafood species—particularly salmon, shrimp, cod, and haddock—and stronger demand, as indicated by a 1.3-percent increase in consumption. Consumption rose to 15.1 pounds per capita, the highest level since 1989.

### **Cereal and Bakery Products**

Retail prices of cereal and bakery products again rose at a faster clip than most other food products, increasing 4.1 percent in 1994. White bread prices rose 4.5 percent, while cereal prices climbed 4.0 percent. Rising retail prices mainly reflected higher processing and marketing costs incurred by bakers and cereal manufacturers. These costs accounted for approximately 92 percent of the retail price. The remaining 8 percent—the farm value—rose about 3.5 percent in 1994 due to higher wheat prices.

### **Fresh Fruit and Vegetables**

Fresh fruit averaged 6.6 percent higher at retail during 1994. Supplies of oranges, apples, and grapefruit were smaller during the early part of the year, following record apple supplies in 1993. Despite record or near-record production in 1994 of apples, pears, and grapefruit and large supplies of other fruits, retail fruit prices did not drop during the year.

Retail prices for fresh vegetables rose 2.3 percent in 1994. Higher potato prices were the primary impetus, rising 10 percent while retail prices for other vegetables decreased 2 percent. Strong demand for potatoes was fueled by fast-food restaurants, and strong export growth for frozen potatoes.

### **Processed Fruits and Vegetables**

Retail prices of processed fruits and vegetables rose 2.2 percent in 1994. Weather-reduced production and inventories of major vegetables for processing, such as tomatoes, sweet corn, and green peas, were largely responsible for most of the increase. Meanwhile, ample supplies of canned and frozen fruit, combined with sluggish demand, restrained processed fruit price increases. Processed vegetables rose 4.4 percent, while processed fruits were only 0.6 percent higher.

### **Fats and Oils**

The CPI for fats and oils rose 2.7 percent in 1994, mainly reflecting a 17-percent surge in the farm value. Soybean prices remained high in 1994 following the Midwest floods of the previous summer. Higher soybean prices were reflected in accelerated 1994 price increases for margarine (3.8 percent) and other fats and oils, including salad dressing (4.9 percent).

### **Nonalcoholic Beverages**

The CPI for nonalcoholic beverages posted the largest increase of any CPI category in 1994, rising 7.5 percent in 1994. This increase was attributable to a 28-percent hike in coffee prices following two major frosts that struck Brazilian coffee producers in late June and early July. Brazil accounts for approximately 25 percent of world coffee production.

## **Market Basket Prices**

USDA uses its market basket concept to analyze changes in grocery store food prices by separating the two major components of food prices—prices received by farmers for food commodities and charges for marketing services. 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, and excludes seafood and 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 5). 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, rises 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 of 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 price times the quantity of farm product equivalent of 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 a 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 was 3.7 percent lower in 1994, the third decrease of the last 4 years (table 6). The 1994 farm value of foods was about 2.9 percent lower than the value a decade earlier. Since that time, the farm value has either declined or increased only slightly, except for a significant rise in 1989 induced by the previous year's drought, and another relatively large rise in 1990 (fig. 2).

Red meat accounts for about 36 percent of the farm value of USDA's market basket. Farm value of red

meat plummeted 11.1 percent in 1994 (table 7), mainly reflecting a 10-percent decline in steer prices. For 1 pound of Choice grade beef selling for an average retail price of \$2.83, cattle producers received \$1.46 for the equivalent quantity of live animal (2.4 pounds) in 1994, down 19 cents from 1993. This decline was partially offset by higher pork prices. For 1 pound of pork selling at retail for \$1.98 in 1994, hog producers received 62.9 cents for the equivalent quantity of live animal (1.7 pounds), about 10 cents more than in 1993.

Poultry producers increased broiler and turkey output in 1994 by a faster growth rate than 1993. Yet, with poultry production up about 6.5 percent for the year, farm value of poultry rose 2.8 percent. Another year of record exports of broilers and turkeys strengthened poultry prices. Moreover, consumption of rotisserie chicken at fast-food outlets further augmented the demand for poultry products. Broiler chicken producers received 49 cents of the average retail price of 90 cents per pound of whole frying chicken in 1994, the same as in 1993.

The farm value of eggs declined in 1994 from the sharp increases of the previous year, reflecting increased egg production. The 1994 farm value averaged 50 cents for a dozen eggs, with an average price of 86 cents at grocery stores.

Higher producer prices for milk increased the farm value of dairy products by an average of 1.5 percent. A half gallon of fluid milk retailing for \$1.44 returned the producer about 61 cents in 1994, 3 cents less than 1993.

The farm value of cereals and baked goods surged 12 percent in 1994, mainly reflecting higher wheat prices. Farmers received 4.5 cents in 1994 for the wheat in a 1-pound loaf of white bread selling for 76 cents in supermarkets, 0.4 cent more than in 1993. The 1994 farm value of other bread ingredients, mainly shortening and sweeteners, was 0.7 cent, the same as in 1993.

Farm value of fruit averaged 12 percent lower in 1994, due mainly to record production of apples and pears which kept prices down in conjunction with large grapefruit and California Valencia orange crops. The farm value of fresh vegetables averaged 7.1 percent lower in 1994, mainly the result of reduced production and prices. Harvested acreage was smaller during 1994, and weaker demand lowered prices received by farmers. The 1994 potato crop was again record large, but heavy demand for processing potatoes prevented the farm value from slipping any further.

**Table 5—Indexes of retail price, farm value, and the farm-to-retail price spread, and farm value as a share of the retail price<sup>1</sup>**

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	138	103	157	26
1993	142	105	162	26
1994 <sup>2</sup>	145	101	169	24

Source: Calculated by ERS based on data from government and private sources.

<sup>1</sup>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.

<sup>2</sup>Preliminary.

**Table 6—Retail price, farm value, and farm value share for selected foods**

Food	Retail price			Farm value			Farm value share of retail price <sup>1</sup>		
	1994	1993	1992	1994	1993	1992	1994	1993	1992
-----Dollars-----						-----Percent-----			
<b>Animal products:</b>									
Eggs, Grade A large, 1 doz	0.86	0.91	0.86	0.50	0.53	0.46	58	58	53
Beef, choice, 1 lb	2.83	2.93	2.85	1.46	1.64	1.62	52	56	57
Chicken, broiler, 1 lb	.90	.89	.87	.49	.48	.45	54	54	52
Milk, ½ gal	1.44	1.39	1.39	.61	.58	.60	42	42	43
Pork, 1 lb	1.98	1.98	1.98	.63	.73	.68	32	37	34
Cheese, natural cheddar, 1 lb	3.35	3.34	3.57	1.17	1.15	1.17	35	34	33
<b>Fruit and vegetables:</b>									
Fresh—									
Lemons, 1 lb	1.11	1.08	1.01	.27	.29	.23	24	27	23
Apples, red delicious, 1 lb	.80	.83	.89	.17	.19	.25	21	23	28
Potatoes, 10 lbs	3.74	3.48	3.05	.80	.78	.62	21	22	20
Oranges, California, 1 lb	.56	.59	.57	.10	.13	.10	18	22	18
Grapefruit, 1 lb	.51	.53	.61	.09	.10	.12	18	19	20
Lettuce, 1 lb	.61	.66	.58	.11	.12	.10	18	18	17
Frozen—									
Orange juice concentrate, 12 fl oz	1.21	1.22	1.42	.46	.40	.57	38	33	40
Broccoli, cut, 1 lb	1.16	1.15	1.17	.26	.26	.26	22	23	22
Corn, 1 lb	1.12	1.06	1.06	.14	.13	.13	13	12	12
Peas, 1 lb	.96	1.01	1.02	.14	.13	.13	15	13	13
Green beans, cut, 1 lb	1.00	.95	.96	.11	.11	.11	11	12	11
Canned and bottled—									
Peas, 303 can (17 oz)	.51	.48	.49	.10	.10	.09	20	21	18
Corn, 303 can (17 oz)	.48	.44	.44	.10	.09	.09	21	20	20
Applesauce, 25-oz jar	1.01	1.02	1.03	.15	.16	.18	15	16	17
Pears, 2-1/2 can	1.21	1.23	1.24	.22	.22	.22	18	18	18
Peaches, cling, 2-1/2 can	1.13	1.15	1.17	.18	.18	.18	16	16	15
Apple juice, 64-oz bottle	1.37	1.47	1.68	.24	.34	.44	18	23	26
Green beans, cut, 303 can	.44	.42	.42	.06	.06	.06	14	14	14
Tomatoes, whole, 303 can	.50	.48	.48	.04	.04	.05	8	8	10
Dried—									
Beans, 1 lb	.70	.63	.59	.25	.20	.20	36	32	34
Raisins, 15-oz box	1.60	1.52	1.47	.47	.49	.47	29	32	32
<b>Crop products:</b>									
Sugar, 1 lb	.38	.39	.38	.14	.14	.15	37	36	39
Flour, wheat, 5 lbs	1.16	1.17	1.22	.36	.33	.36	31	28	30
Shortening, 3 lbs	2.55	2.40	2.50	.83	.70	.57	33	29	23
Margarine, 1 lb	.82	.80	.85	.24	.19	.16	29	24	19
Rice, long grain, 1 lb	.55	.51	.53	.12	.08	.10	22	16	19
<b>Prepared foods:</b>									
Peanut butter, 1 lb	1.85	1.84	1.88	.48	.48	.48	26	26	26
Pork and beans, 303 can (16 oz)	.39	.38	.38	.07	.06	.06	18	16	16
Potato chips, regular, 1-lb bag	1.93	1.96	1.93	.29	.29	.24	15	15	12
Chicken dinner, fried, frozen, 11 oz	1.15	1.14	1.15	.17	.16	.15	15	14	13
Potatoes, french fried, frozen, 1 lb	.86	.86	.87	.10	.10	.09	12	12	10
Bread, 1 lb	.76	.75	.75	.05	.05	.05	7	7	7
Corn flakes, 18-oz box	1.76	1.54	1.56	.09	.09	.09	5	6	6
Oatmeal regular, 42-oz box	2.56	2.58	2.60	.16	.17	.16	6	7	6
Corn syrup, 16-oz bottle	1.59	1.55	1.48	.06	.05	.05	4	3	3

Source: Calculated by ERS based on data from government and private sources.

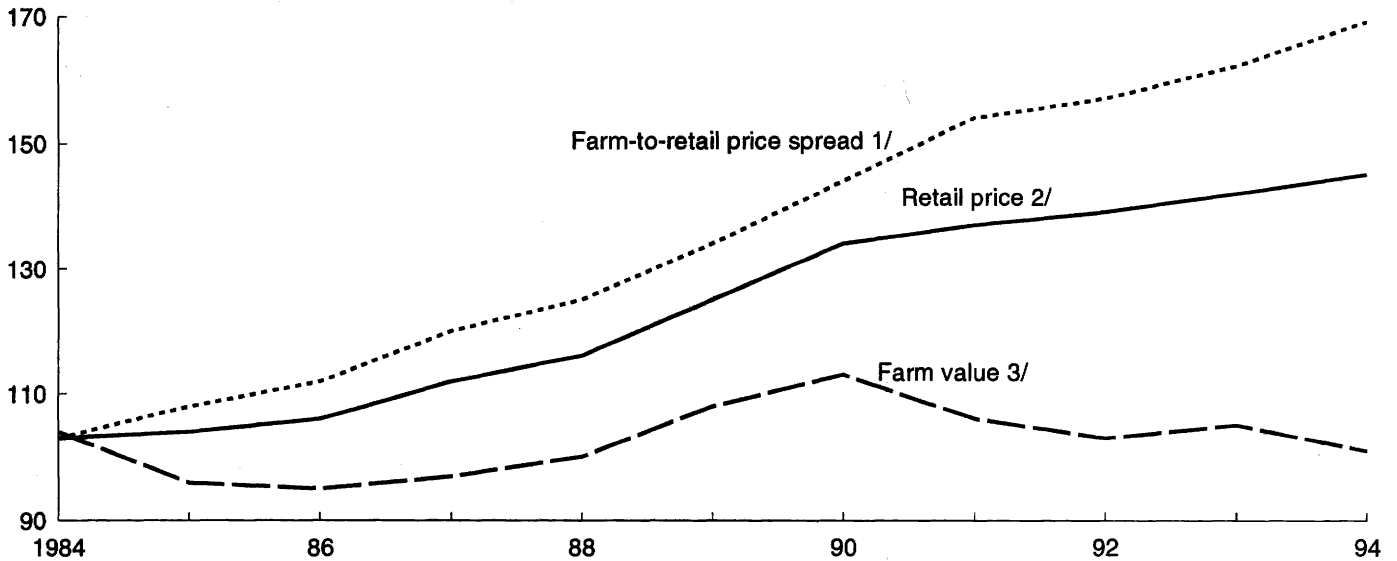
<sup>1</sup>Computed from unrounded farm values.



Figure 2  
**Food price components**

*Farm value of food products dropped for the third time in the last 4 years, making the farm value 2.9 percent lower than a decade earlier.*

1982-84=100



Source: Calculated by ERS from data compiled by the U.S. Department of Labor, Bureau of Labor Statistics.

1/ Represents processing and distributing charges.

2/ Based on the Consumer Price Index for domestically produced farm food.

3/ Based on prices received by farmers.

### Farm Value Share of Food Dollar

The farm value share is the proportion farmers get from the amount consumers spend on the market basket of food purchased in retail grocery stores. The farm value share averaged 24 percent of the retail price of all foods in the market basket in 1994, a 2-percent drop from 1993 (table 5). The farm value share reflects relative changes in farm and retail food prices. The 1994 farm value share declined because there was a moderate rise in retail prices and a moderate drop in farm prices. This decline is consistent with the long run trend, in which abundant food supplies 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 a large decline in farm prices.

Farm value share varies greatly among foods (table 6). In 1994, farm value share for a sample group of 41 foods varied from 58 percent for eggs to 4 percent for corn syrup. Generally, the farm value share decreases as the degree of processing increases. For instance,

wheat is the principal ingredient of both flour and bread, but the additional manufacturing processes required for bread result in a lower farm value share of its 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 1994 farm value share was 52 percent for Choice beef, 54 percent for chicken, but only 7 percent for bread. Meat and poultry production require two basic production enterprises: one for the animal feed and the other for the livestock or poultry. Most other foods entail 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 1994, farmers received about 8 percent of retail bakery and cereal prices and 20 percent of retail prices of processed fruit and vegetables (table 8). Because the farm value of these foods is small, the rise in retail

**Table 7—Price changes for market basket of foods<sup>1</sup>**

Item	1989	1990	1991	1992	1993	1994 <sup>2</sup>
	<i>Annual percentage change</i>					
Market basket:						
Retail price	7.0	7.1	2.9	.7	2.6	2.4
Farm value	6.5	5.7	-6.2	-2.7	1.6	-3.7
Farm-to-retail spread	7.2	7.8	6.7	2.0	2.9	4.5
Meat products:						
Retail price	4.0	10.1	3.1	-1.4	3.0	.5
Farm value	3.8	12.8	-5.8	-5.0	2.5	-11.1
Farm-to-retail spread	4.2	7.9	10.9	1.2	3.4	8.5
Dairy products:						
Retail price	6.7	9.4	-1.1	2.7	0.7	1.8
Farm value	9.3	2.6	-11.5	6.4	-2.9	1.5
Farm-to-retail spread	4.9	14.2	5.3	.8	2.7	2.0
Poultry:						
Retail price	9.9	-.1	-.8	-.1	4.2	3.4
Farm value	6.3	-8.1	-4.8	1.5	7.2	2.8
Farm-to-retail spread	13.3	6.9	2.3	-1.2	2.0	3.8
Eggs:						
Retail price	26.6	4.8	-2.3	-10.6	8.1	-2.4
Farm value	41.3	.4	-6.6	-22.9	14.3	-6.0
Farm-to-retail spread	10.6	10.9	2.9	3.5	2.8	1.0
Cereal and bakery products:						
Retail price	8.4	5.7	4.1	3.9	3.4	4.9
Farm value	9.8	-11.0	-5.7	10.4	-2.6	11.8
Farm-to-retail spread	8.3	7.4	5.0	3.4	3.8	3.6
Fresh fruit:						
Retail price	6.4	12.8	14.6	-5.2	3.3	6.6
Farm value	-6.8	18.2	34.7	-29.2	10.1	-11.4
Farm-to-retail spread	10.9	11.3	8.5	3.8	1.5	11.7
Fresh vegetables:						
Retail price	10.7	5.6	2.2	2.3	6.6	2.3
Farm value	16.9	.9	-11.0	8.8	5.4	-7.1
Farm-to-retail spread	8.3	7.6	7.2	.2	7.1	5.5
Processed fruit and vegetables:						
Retail price	6.3	6.1	-1.9	2.7	-1.7	2.2
Farm value	-3.1	8.8	-15.3	5.4	-16.8	5.1
Farm-to-retail spread	9.8	5.3	2.9	1.9	2.8	1.5
Fats and oils:						
Retail price	7.1	4.3	4.6	-1.4	.1	2.7
Farm value	-7.2	12.0	-8.5	-5.0	15.5	16.8
Farm-to-retail spread	11.8	2.2	8.1	-.6	-3.6	-1.3
Other prepared food:						
Retail price	6.4	4.5	4.5	2.2	2.6	2.6
Farm value	9.6	2.2	-9.8	-4.1	6.2	-1.3
Farm-to-retail spread	5.9	4.8	6.5	3.0	2.2	3.1

Source: Calculated by ERS based on data from government and private sources.

<sup>1</sup>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.

<sup>2</sup>Preliminary.

**Table 8—Market basket of food products originating on U.S. farms by food group: Indexes of retail cost, farm value, and farm-to-retail price spread, and farm value share of retail cost<sup>1</sup>**

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	129	117	140	46	133	108	161	44	124	108	153	56
1991	133	110	156	42	132	103	165	42	121	101	158	54
1992	131	105	158	41	131	104	163	42	108	78	163	46
1993	135	107	163	40	137	112	166	44	117	89	168	49
1994	135	96	176	36	142	115	173	43	114	84	169	47

See footnotes at end of table.

Continued—

**Table 8—Market basket of food products originating on U.S. farms by food group: Indexes of retail cost, farm value, and farm-to-retail price spread, and farm value share of retail cost<sup>1</sup>—Continued**

Year	Dairy products <sup>2</sup>				Fats and oils <sup>3</sup>				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	127	102	150	39	126	107	133	23	175	128	196	23
1991	125	90	157	35	132	98	144	20	200	173	213	27
1992	129	96	159	36	130	93	143	19	190	122	221	20
1993	129	93	163	35	130	108	138	22	196	135	224	22
1994	132	94	166	34	134	126	137	25	209	119	250	18

See footnotes at end of table.

Continued—

**Table 8—Market basket of food products originating on U.S. farms by food group: Indexes of retail cost, farm value, and farm-to-retail price spread, and farm value share of retail cost<sup>1</sup>—Continued**

Year	Fresh vegetables <sup>4</sup>				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	51	30	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	121	177	26	134	129	135	23	152	94	160	8
1993	168	127	190	26	132	107	139	19	157	92	166	7
1994	172	118	200	23	135	113	141	20	164	103	172	8

Source: Calculated by ERS based on data from government and private sources. <sup>1</sup>See Table 5 for aggregated market basket data and explanations. <sup>2</sup>Includes butter. <sup>3</sup>Excludes butter and includes peanut butter. <sup>4</sup>Includes potatoes.

prices in 1994, 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 increased 11.8 percent in 1994. But this increase had a smaller impact on the retail price than the 3.6-percent rise in the farm-to-retail price spread.

Marketing charges are largely independent of farm prices, as reflected in instances where retail prices have held firm or risen in the face of a decline in 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 effect of a reduction in farm prices on retail prices.

Even if marketing charges remain constant when farm prices fall, retail prices would be generally expected to fall less than farm prices. As a result, the farmer's percentage of the retail dollar will decline. For example, if the farm share is 20 percent and farm prices fall 20 percent, retailer costs would fall 4 percent, assuming a complete pass-through of the farm price decline. Therefore, the retail price is "downward sticky." However, retail prices of farm products such as eggs and meat, which require relatively little processing, are more responsive to farm price changes than are the prices of highly processed foods.

### **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. Price spreads are sometimes confused with marketing margins. Margins represent the difference between the sales of a given firm and the cost of goods sold. There is often a time lag between receipt and final sale of merchandise involved in the calculation of this figure. Spreads, on the other hand, represent the difference between retail and farm prices of a specific product at a given point in time.

The farm-to-retail price spread is a much larger proportion of food prices than the farm value of commodities and has grown at a greater annual rate than the farm value nearly every year of the past decade. The spread, therefore, has consistently contributed much more to rising food prices than did farm value. Higher costs of labor, packaging, and other marketing inputs push the spread wider nearly every year. The farm-to-retail spread for the market basket of foods

averaged 4.5 percent higher in 1994, a faster rate of increase than 1993. This larger rise in the spread reflected a reduced farm value, particularly for beef and fresh produce, combined with higher retail prices.

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.

Price spreads increased for every market basket food group except fats and oils in 1994. The largest increases were for fresh fruits and meat products, while dairy, eggs, and processed fruits and vegetables rose at a slower pace. The fats and oils price spread dropped slightly in 1994. The farm-to-retail price spread for red meats widened 8.5 percent, more than double the 1993 increase. Record supplies of meat lowered the 1994 farm value. However, stronger demand enabled retailers to slightly increase aggregate meat prices. Higher retail pork and miscellaneous meat prices (such as lamb) offset lower retail prices for beef. The combination of a markedly lower farm value and slightly higher meat prices widened the price spread for red meats. Some of the overall increase in the spread for meat occurred for Choice beef. The farm-to-retail spread for Choice beef averaged 6.3 percent higher, due mainly to an 11.3-percent decline in cattle prices that was not fully passed through in retail beef prices. The farm-to-retail price spread for pork increased after declining for two consecutive years, averaging about 8 percent higher in 1994. Retail pork prices were slightly higher despite a 13-percent decrease in farm value.

Cereals and bakery products accounted for 21 percent of the farm-to-retail spread of the market basket. The spread for this food category widened 3.6 percent in 1994, while the farm value of ingredients rose sharply (table 7). White bread prices rose 4.1 percent in 1993. For the cereal industry, profit margins generally continued to expand because of price increases, which averaged 4.0 percent at retail. Revised USDA figures indicate that cereal consumption increased an average

of 4 percent per year during the last decade in response to positive nutritional perceptions, after posting average annual increases of only 1 percent per year from 1974 to 1984. In 1994, cereal consumption increased 3.4 percent after a very large 7.2-percent jump the previous year.

The price spread for poultry widened 3.8 percent in 1994, a somewhat faster pace than the previous year. This rise is most likely the result of increased processing costs. Estimates of broiler processing and wholesaling costs show a rise of 1.5 percent per year from 1987 to 1992, the most recent period for which data are available. The price spread for eggs rose 1.0 percent in 1994, about a third as fast as in 1993. The decrease in 1994 retail egg prices was due mainly to sharply lower farm egg prices.

The average farm-to-retail price spread for dairy products increased 2.0 percent in 1994. The price spread for dairy products rose less than that for most foods in 1994, consistent with the general trend of the past decade. The 1994 price spread increased because retail prices rose at a slightly faster pace than the farm value. The farm-to-retail price spread for a half-gallon of whole milk retailing for \$1.44 was 83 cents in 1994, up 2 cents from 1993.

The farm-to-retail price spread jumped 11.7 percent for fresh fruit in 1994, and widened 5.5 percent for fresh vegetables. Higher retail fruit and vegetable prices were primarily due to the higher spread. A 5-year average of price changes reveals that increases in farm-to-retail price spreads had the most significant effect on retail prices. For example, the spread for fresh fruit rose an average of 7.4 percent, considerably faster than the 4.5-percent increase posted by the farm value during this period. Similarly, the spread for fresh vegetables rose an average of 5.5 percent, while the farm value dropped an average 0.6 percent per year.

### **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 work-

ers 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.

In 1994, the FMCI rose 2.5 percent, about the same as 1993. Short-term interest soared 49 percent as the Federal Reserve Board repeatedly raised the prime rate in an effort to dampen incipient inflation. Higher interest rates were responsible for nearly a quarter of the 1994 FMCI increase, even though they account for only 1.2 percent of the total index. A 2.7-percent rise in the labor component and higher prices for business services accounted for about half of the increase, the single largest share. Prices of food containers and packaging were stable. Energy prices fell 1.6 percent in response to lower petroleum and electricity prices, moderating the rise in the overall index (table 9). Because businesses attempt to recover increases in variable costs, the rise in the FMCI partially explains the observed increase in the farm-to-retail price spread and food prices at retail. The smaller rise in the FMCI than the farm-to-retail price spread indicates that other factors are affecting marketing charges. These factors could include: lower productivity; rising fixed costs, such as asset depreciation and interest on long-term debt; and higher profits. Weak retail sales growth and consumer price sensitivity have sparked food industry efforts to improve efficiency and minimize costs. Efforts have been made to improve labor use, conserve energy, and increase the use of technology for inventory management and other tasks.

### **Price Spreads for Selected Foods**

Larger quantities of meat and poultry resulted in lower red meat prices in 1994. Farm prices decreased more than retail prices resulting in record high beef and pork farm-to-retail spreads on a nominal basis.

Table 9—Price indexes of food marketing costs<sup>1</sup>

Year	Labor—Hourly earnings and benefits				Packaging and containers							
	Total	Processing	Wholesaling	Retailing	Total	Paper boxes and containers	Metal cans	Paper bags and sacks	Plastic packaging	Glass containers	Metal foil	Transportation services
<i>1967 = 100</i>												
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	405.8	421.4	444.1	373.4	371.2	320.3	470.5	410.9	310.7	446.0	251.6	422.6
1992	418.4	436.7	458.6	383.4	370.1	324.8	478.1	387.8	309.9	444.4	241.0	426.1
1993	432.1	448.2	476.5	396.4	371.1	322.9	487.7	387.3	307.9	446.8	238.8	425.9
1994	443.6	460.6	488.7	406.7	385.3	338.0	519.0	397.0	311.9	452.8	238.3	434.9

See footnote at end of table.

—Continued



Table 9—Price indexes of food marketing costs<sup>1</sup>—Continued

Year	Fuel and power				Natural gas	Communications		Maintenance and repair	Business services	Supplies	Property taxes and insurance	Interest, short-term	Total marketing cost index
	Advertising	Total	Electric	Petroleum		water, and sewage	Rent						
<i>1967 = 100</i>													
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	498.4	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	407.6
1992	468.4	654.6	514.0	639.9	1,061.1	266.9	278.3	454.8	441.9	318.1	496.7	74.4	414.6
1993	487.4	671.7	522.3	638.9	1,132.9	270.0	273.1	465.2	459.9	321.3	512.9	64.7	424.1
1994	507.7	660.7	519.6	596.5	1,152.0	276.9	273.6	472.5	475.2	326.0	529.5	96.5	435.0

Source: Calculated by ERS based on data from government and private sources.

<sup>1</sup>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.

## Choice Beef

Retail Choice beef prices decreased in 1994 to the lowest level since 1990 (table 10). The 1994 weighted average price of Choice beef was \$2.83 per pound, 10 cents lower than in 1993, and 2 cents lower than in 1992. Prices at retail were highest in March, but trended down throughout the year. Prices of individual cuts ranged from an average of \$1.48 per pound for ground beef to more than \$6.00 per pound for the most expensive steaks.

Farm value of beef decreased almost 19 cents in 1994, considerably more than the retail price. Thus, the farm value share declined, averaging a record low 51 percent of the retail price of beef in 1994. 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 by 2.4 pounds, the quantity of live animal required to sell 1 pound of Choice beef at retail. We then estimate the value of byproducts, principally the hide, obtained from the

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

Item	Retail price <sup>1</sup>	Wholesale value <sup>2</sup>	Net farm value <sup>3</sup>	Price spreads			Farm value share <sup>6</sup>
				Farm-to-retail	Wholesale-to-retail <sup>4</sup>	Farm-to-wholesale <sup>5</sup>	
-----Cents per retail pound-----							Percent
<b>Choice beef:</b>							
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
1993	293.4	182.5	164.1	129.3	110.9	18.4	56
1994	282.9	166.7	145.5	137.4	116.2	21.2	51
<b>Pork:</b>							
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
1993	197.6	102.8	72.5	125.1	94.8	30.3	37
1994	198.0	98.9	62.9	135.1	99.1	36.0	32

Source: Calculated by ERS based on data from government and private sources.

<sup>1</sup>Composite of all cuts.

<sup>2</sup>For quantity equivalent to 1 retail pound: beef, 1.142 pounds of wholesale cuts; pork, 1.06 pounds of wholesale cuts.

<sup>3</sup>For quantity of live animal equivalent to 1 retail pound, minus byproduct allowance: beef, 2.4 pounds; pork, 1.7 pounds.

<sup>4</sup>Includes retailing, meat fabricating, wholesaling, and intracity transportation.

<sup>5</sup>Charges for livestock processing and transporting of meat to city where consumed.

<sup>6</sup>Percentage of retail price.

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 increased 8 cents to an average of \$1.37 per pound. The spread varied from a low of \$1.26 in April to a high of \$1.49 in June. The price spread for beef has increased over time. With the increase in 1994, the price spread for Choice beef was 45 percent higher than in 1984. This is an average of about 4 percent per year, only slightly less than the rate of inflation.

The farm-to-retail price spread pays for various marketing functions, most of which cost more in 1994. The estimated cost of slaughtering and boxing beef was 17.4 cents in 1994, up from 14.6 cents in 1993 (table 11). Transportation of beef from the packer to the retail marketing area cost 3.8 cents per retail pound in 1994, the same as in 1993. Warehousing and store delivery were estimated to cost 13 cents per pound at retail. This estimate is based on data in the *1992 Census of Wholesale Trade*, published by the U.S. Department of Commerce, which indicated that these costs represented 5.8 percent of gross sales by meat wholesalers.

Cutting and merchandising of Choice beef cost 103 cents per pound in 1994. The cost was up about 6 cents from in 1993, and accounted for most of the increase in the spread. This cutting and merchandising cost represents the difference between the total of all other spreads and the retail price. Data for 1988-94 indicate an upward trend in the cost of cutting and

merchandising the beef. The increases reflect the effects of inflation on marketing costs. In contrast, warehousing and store delivery costs have been lower in recent years, while slaughtering and boxing carcass costs have remained relatively steady.

## Pork

Retail pork prices in 1994 averaged \$1.98 per pound, unchanged from 1992 and 1993. Prices in 1994 were only 22 percent above prices in 1984 (table 10), a much smaller increase than the 1984-94 increase in overall food prices. Per capita pork supplies on a retail weight basis in 1994 were 53 pounds, about 1 pound more than in 1993. The farm value in 1994 decreased about 10 cents from that in 1993, averaging 63 cents per retail pound equivalent. The farm value share decreased to a record low of 32 percent in 1994, 5 percentage points below that in 1993.

Farm value is computed from the average price of barrow and gilts at five Midwestern markets. This average price is then multiplied by 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 farm-to-retail price spread for pork increased to \$1.35 per pound in 1994. Among components of the farm-to-retail spread for pork, the slaughtering and processing functions cost increased in 1994 from recent years (table 11). This spread represents charges

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

Item	1988	1989	1990	1991	1992	1993	1994
<i>Cents per retail pound</i>							
<b>Beef:</b>							
Farm value	148.3	157.6	168.4	160.2	161.8	164.1	145.5
Slaughtering and boxing carcass	17.4	15.5	17.4	18.5	14.1	14.6	17.4
Intercity transportation	3.7	3.7	3.8	3.8	3.7	3.8	3.8
Warehousing and store delivery	14.5	15.4	16.3	16.7	13.1	13.5	13.0
Cutting and merchandising	66.4	73.5	75.1	89.1	91.9	97.4	103.2
Retail price	250.3	265.7	281.0	288.3	284.6	293.4	282.9
<b>Pork:</b>							
Farm value	69.4	70.4	87.2	78.4	67.8	72.5	62.9
Slaughtering and processing	28.2	25.4	27.6	27.0	27.7	26.9	32.5
Intercity transportation	3.4	3.4	3.5	3.5	3.4	3.4	3.5
Warehousing and store delivery	10.6	10.6	12.3	12.3	9.1	9.1	9.1
Cutting and merchandising	71.8	73.1	82.0	90.7	90.0	85.7	90.0
Retail price	183.4	182.9	212.6	211.9	198.0	197.6	198.0

Source: Calculated by ERS based on data from government and private sources.

for cutting the carcass into primals 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 increased slightly in 1994. The warehousing and store delivery spread was unchanged.

The cutting and merchandising costs of 90 cents made up the largest component of the farm-to-retail price spread for pork in 1994. This figure was 4 cents higher than pork's cutting and merchandising cost in 1993 and 18 cents higher than in 1988. The cutting and merchandising component is a residual between the total of all other functions and the retail price. Inflation and the time lag between changes in farm, wholesale, and retail prices may partly explain the 1988-94 increase.

### **Broilers**

Retail prices rose 1.1 cents per pound for whole, ready-to-cook chicken in 1994, but farm value rose 1.2 cents. Thus, the marketing spread narrowed 0.1 cents in 1994, the third consecutive yearly decline. The spread was stable from 1981 to 1986, averaging 33.5 cents per pound (table 12). From 1986 to 1991, the marketing spread trended up to average 44.5 cents per pound in 1991. Broiler processing costs have increased little in recent years, reflecting gains in labor productivity that have 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 1994 as consumption continues to rise at the relatively sharp pace of 1.0 percent per year.

### **Eggs**

Egg prices dropped 4.8 cents in 1994 due to large production, after rebounding in 1993. For 1994, retail

shell egg prices averaged 86 cents per dozen of grade A large (table 12). The farm value decreased 3.2 cents to 49.9 cents, while the price spread between the farm value and the retail price accounted for the remaining 1.6 cents of the retail price decline. This decline contrasts with the general upward trend in the price spread for eggs since 1985, and primarily reflects increases in the retailer margin.

### **Fluid Milk**

The retail price of fluid whole milk rose 4.6 cents per half gallon in 1994. Since the early 1980's, retail milk prices have tended to rise less than broader measures of consumer prices. The 1994 average retail price for a half-gallon of whole milk was \$1.44, which was 28 percent higher than in 1984 (table 13). This compares with a 40-percent average increase in grocery store food prices.

Slightly higher farm milk prices and a moderate expansion in the farm-to-retail price spread shaped milk prices in 1993. The farm-to-retail price spread for fluid milk increased 2.1 cents to 83.3 cents in 1994. Farmers received an average of 60.7 cents for milk equivalent to a half-gallon at retail in 1994, 2.5 cents more than in 1993.

The average retailing margin for fluid milk in 1992, the latest available data, comprised 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. Processing costs have remained nearly stable since 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.

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

Item	Farm value <sup>1</sup>	Marketing costs					Retail price
		Assembly and procurement	Processing	Intercity transportation	Wholesaling	Retailing	
<i>Cents</i>							
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	4.8	25.0	88.1
1992	44.6	1.8	11.0	2.0	4.8	22.7	86.9
1993	48.2	1.8	11.0	2.0	4.8	21.2	89.0
1994	49.4	—	—	—	—	—	90.1
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	1.1	12.0	1.7	4.0	21.0	98.9
1992	46.3	1.1	12.0	1.7	4.0	20.9	86.0
1993	53.1	1.1	12.0	1.7	4.0	19.2	91.1
1994	49.9	—	—	—	—	—	86.3

Source: Calculated by ERS based on data from government and private sources.

— = Not available.

<sup>1</sup>Farm values are derived from U.S. average broiler and market egg prices that USDA's National Agricultural Statistics Service publishes monthly.

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

Year	Farm value <sup>1</sup>	Marketing costs				Retail price <sup>5</sup>
		Assembly and procurement <sup>2</sup>	Processing <sup>3</sup>	Wholesaling <sup>3</sup>	Retailing <sup>4</sup>	
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 <sup>6</sup>	19.1 <sup>6</sup>	19.6 <sup>6</sup>	35.0	139.2
1993	58.2					139.4
1994	60.7					144.0

Source: Calculated by ERS based on data from government and private sources.

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>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.

<sup>4</sup>May include some wholesaling formerly performed by processors.

<sup>5</sup>Average of Bureau of Labor Statistics monthly prices.

<sup>6</sup>Preliminary estimate.

## Fruit and Vegetables

The price spread for fresh fruit and vegetables increased about 8.5 percent in 1994, nearly double the average of all foods. Much of the increase occurred for potatoes (table 6). In 1994, the farm-to-retail price spread for potatoes rose about 9 percent, due to tight supplies in the first part of 1994 in conjunction with sustained demand at the retail level. Farm value of lettuce went up about 2.5 percent, while retail prices jumped 7.5 percent. In contrast, the farm-retail price spread for California oranges was nearly stable in 1994, because the drop in retail prices of oranges was about the same amount as the decline in farm value (table 15).

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 (latest data available). The retailing share averaged 67 percent for lettuce.

Produce margins generally exceed the average margin of the typical supermarket, and produce is the most profitable and fastest growing department of the typical store. For example, *Supermarket Business* magazine indicates that the fresh produce margin is 41.3 percent, considerably larger than the 30.6 percent average for all foods. The larger margin reflects larger retailing costs associated with increased perishability and the labor required to handle fresh produce. The cost of transportation and refrigeration required to move a product such as peaches is also absorbed in the margin. Therefore, prices may not necessarily drop proportionately to lower prices stemming from a larger crop.

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

Item	1983	1984	1985	1986	1987	1988	1989	1990
<i>Dollars per cwt of volume processed</i>								
Net sales receipts <sup>1</sup>	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 <sup>2</sup>	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 <sup>3</sup>	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 <sup>4</sup>	.41	.50	.85	.74	.66	.62	.51	.94

Source: Calculated by ERS based on data from government and private sources.

<sup>1</sup>Gross sales receipts less discounts, allowances, and damaged product returns.

<sup>2</sup>Ingredients other than milk, cream, and skim milk used to make cottage cheese, ice cream, orangeade, and other products.

<sup>3</sup>Includes costs of fringe benefits, such as State and Federal unemployment, Federal old-age benefits, workers' compensation, and pensions.

<sup>4</sup>Net returns to owners before income tax.

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 1.5 percent in 1994. The principal item in this food group is frozen concentrated orange juice. The retail price of a 12-ounce can of frozen juice fell slightly in

1994, decreasing 1 cent to \$1.21. The price decline mainly resulted from a decrease in farm value, reflecting about a 33-percent increase in the 1992/93 Florida orange crop. The farm-to-retail price spread rose 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 minimized 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.

### Bread

The average retail price of white bread in 1994 was 76 cents per pound, slightly higher than in 1993 (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 4.5 cents, was 0.4 cent higher in 1994 than in 1993. The farm value represents the pay-

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

Item	Farm value <sup>1</sup>	Marketing costs				Retail price <sup>3</sup>
		Packing or processing	Intercity transportation <sup>2</sup>	Wholesaling	Retailing	
<i>Cents</i>						
Oranges, California (pound):						
1982	17.1	4.0 <sup>4</sup>	5.2	5.5	15.8	47.6
1983	5.3	8.6 <sup>4</sup>	5.2	5.9	13.7	38.7
1984	17.2	5.8 <sup>4</sup>	5.4	4.9	16.6	49.9
1985	12.4	9.4 <sup>4</sup>	5.4	6.8	19.4	53.4
1986	8.2	9.9 <sup>4</sup>	5.7	6.0	17.8	47.6
1987	10.0	9.9 <sup>4</sup>	6.2	9.0	19.9	55.0
1988	11.8	8.0 <sup>4</sup>	5.4	8.2	23.0	56.4
1989	11.3	8.3 <sup>4</sup>	5.4	9.0	22.1	56.1
1990	11.3	8.4 <sup>4</sup>	5.8	4.3	26.8	56.6
1991	33.6	7.2 <sup>4</sup>	6.0	13.2	29.2	89.2
1992	10.0	—	—	—	—	56.9
1993	12.6	—	—	—	—	58.6
1994	10.2	—	—	—	—	56.0
Iceberg lettuce, California (pound):						
1982	8.5 <sup>5</sup>	6.4 <sup>6</sup>	5.7	5.2	30.4	56.2
1983	6.8 <sup>5</sup>	6.4 <sup>6</sup>	5.7	5.3	31.2	55.5
1984	5.1 <sup>5</sup>	6.4 <sup>6</sup>	5.7	4.4	28.8	50.4
1985	8.2 <sup>5</sup>	6.4 <sup>6</sup>	5.6	5.1	27.3	52.6
1986	6.8 <sup>5</sup>	6.8 <sup>6</sup>	6.0	6.1	28.2	53.9
1987	11.1 <sup>5</sup>	6.8 <sup>6</sup>	6.4	4.6	30.6	59.5
1988	10.1 <sup>5</sup>	7.4 <sup>6</sup>	5.6	4.3	32.9	60.3
1989	10.0 <sup>5</sup>	7.3 <sup>6</sup>	6.1	2.1	35.1	60.6
1990	9.3 <sup>5</sup>	7.3 <sup>6</sup>	5.6	4.5	32.9	59.6
1991	8.7 <sup>5</sup>	7.3 <sup>6</sup>	5.8	4.7	34.6	61.1
1992	9.6 <sup>5</sup>	—	—	—	—	57.7
1993	12.0 <sup>5</sup>	—	—	—	—	65.6
1994	11.1 <sup>5</sup>	—	—	—	—	60.8
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	57.2	—	—	—	—	141.5
1993	40.2	—	—	—	—	122.2
1994	46.0	—	—	—	—	120.8

Source: Calculated by ERS based on data from government and private sources.

— = Not available.

<sup>1</sup>Payment for the quantity of farm product equivalent to the retail unit minus imputed value of byproducts, computed from average grower prices.

<sup>2</sup>Costs are for truck shipment.

<sup>3</sup>U.S. average retail prices. Prices of fresh produce weighted by quantities marketed except for 1992.

<sup>4</sup>Includes picking costs.

<sup>5</sup>Value in the field.

<sup>6</sup>Contract price for cutting, packing, hauling, cooling, and selling.



**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			Farm-to-retail spread	Farm value share	
		Wheat <sup>1</sup>	Other farm ingredients <sup>2</sup>	All ingredients		Wheat	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
1993	75.2	4.1	.7	4.8	70.4	5	6
1994	76.1	4.5	.7	5.2	70.9	6	7

Source: Calculated by ERS based on data from government and private sources.

<sup>1</sup>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.

<sup>2</sup>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.

ment 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 0.7 cent to a total farm value of 5.2 cents. The farm value share of all ingredients was 7

percent of the retail price in 1994, up 1 percent from that in 1993. 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 1992/93, the domestic raw sugar price rose about 0.1 cent per pound, and the wholesale refined sugar price fell about 0.7 cent per pound. On balance, farm values fell.

The 1993/94 farm value of a pound of sugar was 14.0 cents, about 2 percent higher 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, based on raw and refined sugar prices. The farm value accounted for 37 percent of the retail price of sugar in 1994, up 1 percentage point from the previous year.

The farm-to-retail price spread for sugar was 24.0 cents in 1993/94, practically unchanged from the previous year. The processing and refining component of the spread was down slightly, at 17.4 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 6.6 cents per pound in 1993/94, down slightly from the previous year. Retail prices increased by about 0.1 cent per pound. 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 the price of food products when they reach the consumer.

### Food Spending: How It Was Distributed

Food spending for domestically produced food in 1994 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 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.

### Food Expenditures

Consumers spent \$511 billion for food originating on U.S. farms in 1994 (fig. 3 and table 18). About 60 percent of consumers' food expenditures was spent at retail grocery stores on food for use at home. The

**Table 17—Sugar: Farm value, price spreads, and retail price by crop year beginning October**

Item	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94
	<i>Cents per pound</i>					
Farm value <sup>1</sup>	14.6	14.9	15.0	14.2	13.7	14.0
Processing and refining spread <sup>2</sup>	16.9	18.0	17.5	17.7	17.5	17.4
Wholesaling and retailing spread <sup>3</sup>	5.9	6.8	7.6	6.7	6.7	6.6
Retail price <sup>4</sup>	37.4	39.6	40.1	38.6	37.9	38.0

Source: Calculated by ERS based on data from government and private sources.

<sup>1</sup>Based on season average prices U.S. sugar producers received for sugarcane and sugar beets.

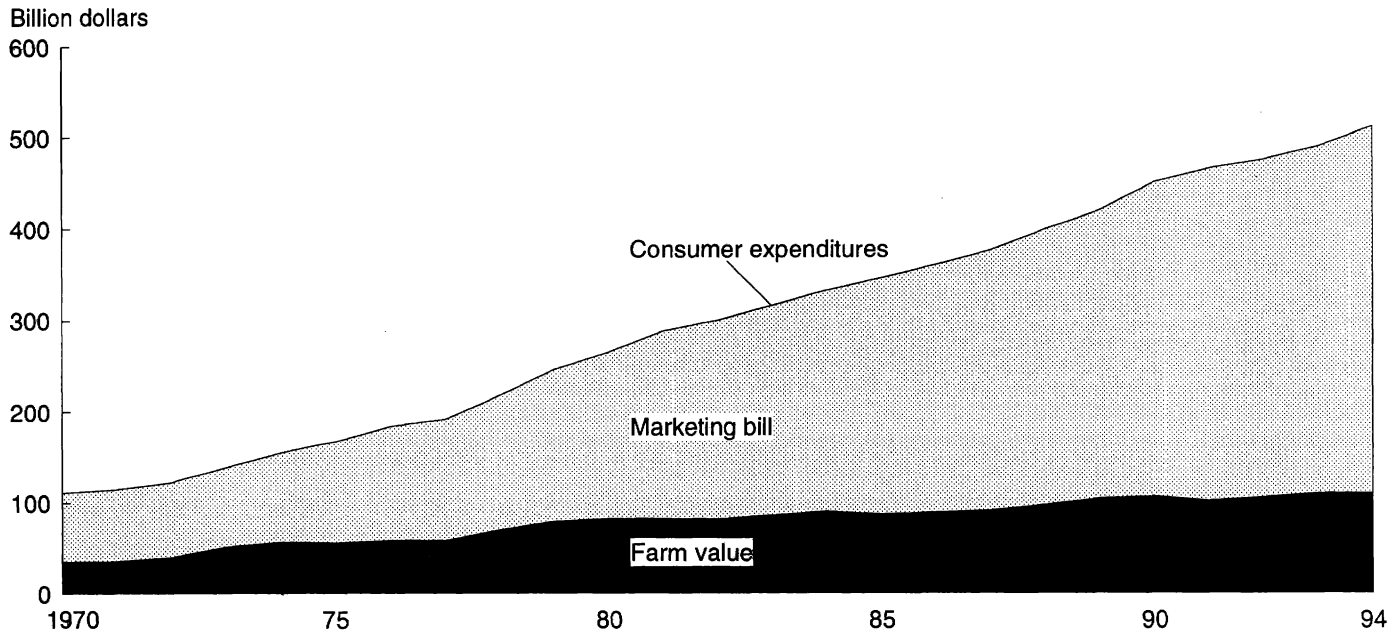
<sup>2</sup>Difference between the farm value and an average of effective wholesale prices.

<sup>3</sup>Difference between the retail price and the wholesale price.

<sup>4</sup>Average of Bureau of Labor Statistics' monthly retail prices for sugar sold in 33- to 80-ounce packages.

Figure 3  
**Distribution of food expenditures 1/**

*The marketing bill was 79 percent of 1994 food expenditures.*



Source: Calculated by ERS based on data from government and private sources.

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

remaining 40 percent represented the retail value of food served in public eating places, hospitals, schools, and other institutions. Market shares in 1994 were about the same as in 1993.

Consumer expenditures for domestic farm foods in 1994 rose about 4.3 percent, about 1 percent more than 1993 and roughly double that of 1992. Spending for food away from home grew much more than food purchases at grocery stores. Sales data reported by the U.S. Census Bureau suggest that consumers are purchasing greater quantities of food in restaurants. Sales at eating places rose 7.0 percent in 1994, and when adjusted for the rise in prices, 1994 sales were still 5.2 percent higher than those in 1993. Meanwhile, spending for domestic farm foods at grocery stores increased 3.3 percent in current dollars, but only 0.4 percent in real dollars. Therefore, consumers purchased roughly the same quantities of food at grocery stores in 1994 as in 1993.

### Farm Value

The farm value of food commodities originating on U.S. farms was about \$110 billion in 1994, the same as in 1993. Farm spending was flat, following a 4.3-

percent increase in 1993. Higher dairy production and increased prices for corn syrup and fats and oils offset lower beef prices and cash receipts for fruits and vegetables. The largest share of the money farmers received for domestic food sales was for meat products. In 1994, the farm value of meat was about 30 percent of the total value of farm food. The next largest share, 19 percent, was for dairy products. Livestock and dairy farmers garnered about half of the total farm value, but they bought substantial amounts of grain from crop farmers. Fruits and vegetables were the third largest category, accounting for 16 percent of the 1994 farm value.

The farm value of food commodities dropped 1 percent in 1994, and represented 21 percent of consumer expenditures. 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.

### Marketing Bill

The marketing bill, the difference between what consumers spent for food and the farm value of the

**Table 18—Marketing bill and farm value components of consumer expenditures for domestically produced farm foods**

Year	Consumer expenditures			Marketing bill	Farm value	Farm value share of expenditures
	Total	At home <sup>1</sup>	Away from home <sup>2</sup>			
-----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	474.5	289.6	184.9	369.4	105.1	22
1993	489.2	294.9	194.3	379.6	109.6	22
1994 <sup>3</sup>	510.6	304.6	206.0	401.0	109.6	21

Source: Calculated by ERS based on data from government and private sources.

-- = Not available.

<sup>1</sup>Includes food purchased primarily at retail foodstores.

<sup>2</sup>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.

<sup>3</sup>Preliminary. Some historical data have been revised.

food, amounted to \$401 billion in 1994, \$21 billion more than in 1993. This increase in the marketing bill accounted for all of last year's rise in consumer expenditures.

The marketing bill rose 5.6 percent in 1994, more than in 1993, and greater than the 5.1 percent annual average of the last 10 years. This increase was the result of moderate 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 and transportation, rose at a faster pace than the marketing bill. Energy rose at a slower rate, as did such smaller inputs as depreciation and repairs.

Marketing costs continued to be the most persistent source of rising food expenditures in 1994. In 1994, the marketing bill added about \$21 billion to consumer food spending, while farm value played no role in the increase. Consumer expenditures for farm foods have increased \$179 billion since 1984. About \$159 billion of this increase consists of marketing charges. Farm value has increased only \$20 billion since 1984.

## What the Marketing Bill Bought

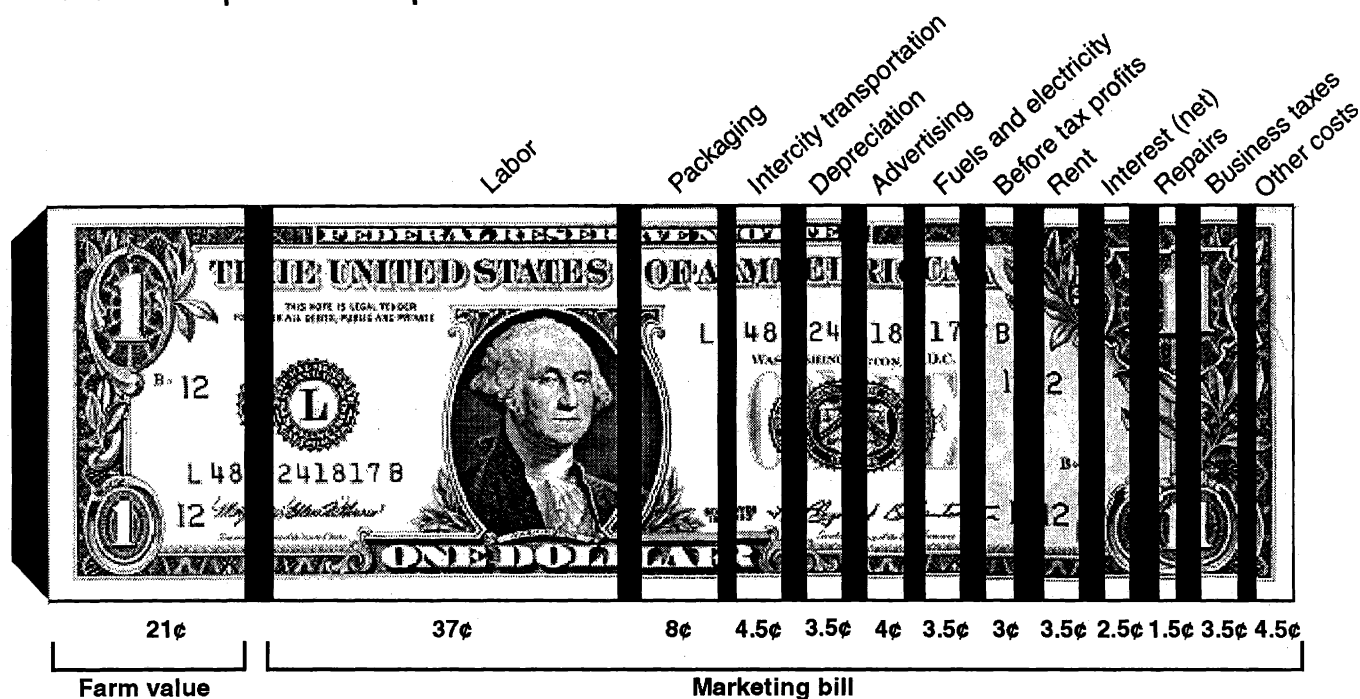
The food processing and marketing industry is an important part of the American economy. The \$401 billion the industry received from consumers in 1994 paid the wages and salaries of millions of employees and paid for all the other costs of doing business.

The marketing bill pays for all of the major functions performed by the food industry—processing, wholesaling, transporting, and retailing. Last year's marketing bill increase can be analyzed by looking at the specific cost items which the food industry incurred to perform these functions.

### Labor Costs

Labor costs overshadow all other cost components of the marketing bill. Rising labor costs have accounted for nearly half of the total increase in the marketing bill over the last decade. Higher labor costs are primarily responsible for the 5.6-percent increase in the marketing bill from 1993 to 1994. Direct labor costs amounted to about \$188.7 billion in 1994, or 37 percent of food expenditures (fig. 4 and table 19). Labor

Figure 4  
What a dollar spent for food paid for in 1994



Source: Calculated by ERS from government and private sources.

Notes: 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 19—Components of the marketing bill for domestically produced farm food**

Year	Labor <sup>1</sup>	Packaging materials	Intercity rail and truck transportation	Fuels and electricity	Corporate profits before taxes	Other <sup>2</sup>	Total marketing bill <sup>3</sup>
<i>Billion dollars</i>							
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	13.2	104.9	343.6
1991	160.9	38.1	20.4	16.3	15.2	112.6	363.5
1992	168.4	39.2	20.6	16.7	14.9	109.6	369.4
1993	178.0	39.4	21.2	17.2	14.2	109.6	379.6
1994	188.7	42.1	21.8	17.9	16.0	114.3	401.0

See footnotes at end of table.

Continued—

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.

Labor costs in the food industry rose about 6.0 percent in 1994, somewhat greater than the increase recorded in 1993. The increase reflected higher wages, benefit costs, and employment. The following discussion identifies developments in each of these components.

Hourly earnings of workers increased 2.1 percent in food manufacturing and 2.7 percent in food wholesal-

ing (table 20). Hourly earnings of foodstore workers rose 1.8 percent, considerably smaller than the 2.9-percent wage hike recorded in 1993. The earnings rise for manufacturing employees was 0.5 percent less in 1993 than in the previous year. Wages at eating and drinking places rose 2.2 percent in 1994, about double the increase recorded in 1993.

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. For the past several years, health benefits have been the number one issue in collective bargaining discussions between workers and food companies. These benefits can take up anywhere from 10 to 30 percent

**Table 19—Components of the marketing bill for domestically produced farm food—Continued**

Year	Advertising	Depreciation	Net interest	Net rent	Repairs	Taxes	Other
<i>Billion dollars</i>							
1967	2.5	2.5	0.5	2.3	1.0	2.6	10.1
1968	2.6	2.7	0.7	2.4	1.1	2.8	10.0
1969	2.7	2.8	0.8	2.5	1.2	3.0	8.7
1970	2.7	3.1	1.0	2.7	1.4	3.3	9.4
1971	2.8	3.3	1.0	2.9	1.5	3.6	8.0
1972	3.0	3.5	1.1	3.1	1.6	3.9	8.2
1973	3.0	3.8	1.4	3.3	1.7	4.4	5.9
1974	3.4	4.1	1.7	3.7	1.8	4.8	5.2
1975	4.0	4.6	1.7	4.1	2.1	5.3	8.1
1976	4.8	5.0	1.7	4.7	2.4	6.0	10.3
1977	5.0	5.6	1.9	5.1	2.5	6.3	9.2
1978	5.6	6.2	2.3	5.5	2.9	7.0	7.5
1979	6.7	7.2	2.9	6.1	3.3	7.8	8.3
1980	7.3	7.8	3.4	6.8	3.6	8.3	11.0
1981	8.7	9.4	3.9	7.6	4.0	9.1	15.7
1982	9.0	11.1	4.4	7.7	4.1	9.5	16.3
1983	10.6	12.6	4.6	8.2	4.3	10.3	15.4
1984	11.4	13.9	5.4	8.7	4.5	11.1	13.7
1985	12.5	15.4	6.1	9.3	4.8	11.7	16.7
1986	13.5	15.8	6.7	9.7	5.0	12.2	17.0
1987	13.8	15.8	8.1	10.9	5.1	12.6	17.1
1988	14.1	16.2	9.7	11.7	5.2	13.7	16.8
1989	15.7	16.4	12.3	12.7	5.7	14.6	11.5
1990	17.1	16.3	13.5	13.9	6.2	15.7	22.2
1991	17.5	15.8	12.2	15.9	6.4	16.5	28.3
1992	17.9	16.2	12.4	16.4	6.5	16.9	23.2
1993	18.3	16.8	13.1	17.0	6.8	17.6	20.1
1994	18.9	17.4	13.5	17.8	7.1	18.3	21.3

Source: Calculated by ERS based on data from government and private sources.

— = Not available.

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>The marketing bill is the difference between the farm value and consumer expenditures for these foods at both food stores and away-from-home eating places. Thus, it covers processing, wholesaling, transportation, retailing costs, and profits. Some historical data were revised.

of the cash available in union contracts. Money that could be directed toward wage increases is instead being directed toward health care packages. However, the CPI for medical services increased 5.2 percent in 1994, smaller than both the 6.5-percent increase recorded in 1993 and the 7.2-percent average annual increase of the last 10 years.

Food retailing employment rose about 2.3 percent in 1994, reflecting flat retail sales and managerial efforts to restrain cost increases. Many food retailing employ-

ees 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 jumped 3.6 percent in eating places and declined 0.5 percent in the food manufacturing industry. The total number of persons employed in the food industry rose 2.3 percent in 1994, when 12.8 million workers were employed in

**Table 20—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
<i>Dollars per hour</i>				
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	7.52	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	11.09	7.57	5.29
1993	10.45	11.47	7.79	5.35
1994	10.67	11.78	7.93	5.47

Source: *Employment and Earnings, March 1995*, U.S. Department of Labor.

processing and distributing food. More than half, or 6.8 million people, were employed in away-from-home eating places in 1993. Foodstores employed 3.2 million people, food processors employed 1.7 million people, and food wholesalers employed about 870,000 people.

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 2.6 percent in 1994 (table 21). This rise in worker compensation costs was smaller than the 1993 gain of 2.9 percent. The 1994 compensation cost increase included a wage and salary gain of 1.9 percent, a smaller rate of increase than the 2.4-percent rise for 1993. Compensation costs rose more than wages and salaries in 1994 because benefit cost increases were greater than gains in wage rates.

Although not reported separately, the increase in benefit costs was probably about 5.4 percent in 1994, or 2.8 times the rise in the wage rate of food-store workers.

### Labor Contract Developments

Most major food industry collective bargaining agreements—those that cover at least 1,000 employees—provided wage increases in 1994. 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.

The Bureau of Labor Statistics reports that 39 major contracts (BLS defines major contracts as those that cover at least 1,000 workers) covering 149,800 workers were negotiated in the foodstore industry (Standard Industrial Code (SIC) 54) in 1994. Average wage adjustments were 3.2 percent in the first year and 2.3 percent over the life of the contract. The first year adjustment was greater than for contracts negotiated in 1993, while the percentage increase was the same over the contract duration. Of these contracts, 19 provided for lump sum payments for nearly 60 percent of the employees affected by 1994 bargaining agreements. Twenty-two contracts covering 104,600 employees were frontloaded. Frontloaded contracts provide the largest wage adjustment in the first year of a contract.



**Table 21—Employment Cost Index for workers in foodstores and all private industry**

Period	Foodstores		Private industry		
	Total compensation costs	Wages and salaries	Total compensation costs	Wages and salaries	Benefits
<i>Annual percent change</i>					
1989	3.6	2.5	4.7	4.2	5.8
1990	4.4	4.0	5.0	4.2	6.9
1991	4.5	4.2	4.4	3.8	6.1
1992	3.8	3.3	3.7	2.9	5.5
1993	2.9	2.4	3.6	2.9	5.4
1994	2.6	1.9	3.3	2.9	4.0
<i>Indexes, June 1989=100</i>					
1989:					
March	99.8	100.0	98.8	99.0	98.4
June	100.0	100.0	100.0	100.0	100.0
September	100.8	100.4	101.2	101.2	101.4
December	101.7	101.7	102.3	102.0	102.6
Average	100.6	100.5	100.6	100.6	100.6
1990:					
March	103.2	102.8	103.9	103.2	105.5
June	104.6	104.3	105.2	104.5	106.9
September	105.7	105.1	106.2	105.4	108.3
December	106.4	105.8	107.0	106.1	109.4
Average	105.0	104.5	105.6	104.8	107.5
1991:					
March	107.5	106.9	108.5	107.3	111.6
June	109.3	108.7	109.8	108.4	113.5
September	110.3	109.4	111.0	109.3	115.2
December	111.7	110.4	111.7	110.0	116.2
Average	109.7	108.9	110.3	108.8	114.1
1992:					
March	112.6	110.9	113.1	110.9	118.6
June	113.6	112.3	113.9	111.6	119.7
September	114.2	112.9	114.8	112.2	121.2
December	115.1	113.7	115.6	112.9	122.2
Average	113.9	112.5	114.4	111.9	120.4
1993:					
March	115.9	114.6	117.1	113.9	125.2
June	117.2	115.4	118.0	114.6	126.7
September	117.1	114.9	119.1	115.7	127.7
December	118.3	115.9	119.8	116.4	128.3
Average	117.1	115.2	118.5	115.2	127.0
1994:					
March	119.6	117.0	121.0	117.2	130.7
June	120.6	117.8	122.0	118.1	131.7
September	120.3	117.4	123.0	119.1	132.8
December	120.0	117.3	123.5	119.7	133.0
Average	120.1	117.4	122.4	118.5	132.1

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

These settlements compound the amount of the percentage increases in the first year of a contract, compared with subsequent years. By contrast, backloaded contracts provide lower wage increases in the first year of a contract, compared with subsequent years. Backloaded contracts dampen wages by basing increases in the latter years of a contract on a lower initial wage. In 1994, 11 foodstore contracts covering 23,200 workers were backloaded. The remaining contracts provided the same wage adjustment in both the first year of the contract and the contract duration.

Food processing firms (SIC 20) entered into 22 contracts covering 73,362 employees. Average wage adjustments were 1.5 percent in the first year, and 1.6 percent over the life of the contracts—a slower rate of increase than for those manufacturing contracts settled in 1993. Nine contracts covering 17,262 employees were frontloaded. Eight contracts covering 34,950 workers were backloaded. The remaining five contracts affected 21,150 employees, and provided the same wage adjustment in both the first year and the contract term.

Lump sums were a popular method of restraining labor cost increases during the latter part of the 1980's, but have been less prevalent in recent years. These payments restrain labor cost increases by holding down the wage base used to calculate benefits and pensions. Moreover, contracts with lump-sum provisions generally provide for smaller wage-rate changes than do contracts without lump-sum coverage. Only five food manufacturing contracts included lump-sum provisions in 1994. These contracts provided lower average wage adjustments than agreements which did not include lump sums. However, nearly half of the negotiated foodstore contracts incorporated lump-sum provisions. These contracts were frontloaded, and provided higher wage increases during the first contract year, but slightly lower increases over the contract term. The proportion of food industry contracts with lump-sum provisions was roughly comparable with 1993.

A discussion of the specific provisions in several major contracts negotiated during 1994 can be used to further illustrate the broad range of wage increases and other terms among groups of workers in food retailing and manufacturing.

In the largest retailing contract, 20,000 employees in Washington State received hourly wage increases of 30 cents in the first contract year, and 35 cents in each of the next 2 years. The company contribution to the health and welfare fund was to be increased in two

stages. A 5.6 percent increase was to be provided at the beginning of the contract period, with an additional increase of 10.7 percent by the third year. Finally, early retirement was made available at age 60 to employees with 30 years of service in the industry.

Another major contract provided wage increases for 18,000 foodstore employees in New York. The 4-year agreement provided for wage increases of \$75 per week in five increments for full-time employees, and \$1.25 per hour in six increments for part-time workers. The employer contribution to the pension fund was raised 44 percent, the biggest one-time increase in the parties' bargaining history. Meanwhile, employer contributions to the health and welfare fund were increased 23 percent over the contract term for full-time workers and 14 percent for their part-time counterparts. Other terms provided for maintenance of current health care benefit levels without employee contributions; a preferred provider health care option with increased benefits for most medical services; and doubling of the deductible for comprehensive major medical coverage.

The largest manufacturing contract was negotiated in California, and covered 30,000 employees. Health care was the most important bargaining issue, followed by pensions and wages. A "maintenance of benefits" provision guaranteed existing and new health care benefits for all workers with at least 3 years of service, without additional employee payments. This provision obligates the employer to contribute to the health and welfare fund whatever amounts are necessary to maintain benefit levels. Employer contributions are expected to increase 46 percent over the 3-year duration of the agreement. Moreover, maximum lifetime medical benefits will be doubled from \$500,000 to \$1 million. The agreement also provides for wage increases of 1.7 percent per year. Finally, employer payments to the pension fund will increase by an average of 5.2 percent in both 1995 and 1996.

Another major food manufacturing contract was negotiated in Oregon, and covered 3,100 employees. The contract provided for two wage increases of 2 percent, and three wage raises of 3 percent over the 4-year contract term. The employer contribution to the health and welfare fund is to be increased 28 percent for seasonal workers and 13 percent for regular employees. Employer contributions to pensions will be increased 8 percent. Finally, a committee was to be established for the purpose of addressing mutual concerns between labor and management.

Overall, labor settlements in food retailing and manufacturing provided pay raises and benefits to most workers that will probably boost labor costs. However, labor agreements with workers that provide small wage increases, measures to contain costs of medical benefits, and rising labor productivity have all tempered labor costs for the food industry in recent years.

### **Labor Productivity**

Productivity measures are calculated for the purpose of relating real physical output to real input. The Bureau of Labor Statistics measures overall business productivity in terms of output per hour of all employees. Labor productivity rose a moderate 1.8 percent during 1994 in the Nation's total business sector (excluding farming), reflecting a larger increase in output than in hours worked. By contrast, labor productivity in foodstores (SIC 54) declined in 1993 (the most recent year for which data are available), resuming the downward trend of the past decade following 1992's increase. Increased use of labor inputs, as reflected in a 1.1-percent foodstore hiring rise, and a small increase in output, as measured by real sales, have likely combined to produce another productivity decline in 1994. Output per unit of labor among supermarkets declined each year between 1985 and 1991.

However, some store operations have become more efficient during the past decade because of computer-assisted checkouts 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 in-store bakeries, in response to consumer demand for saving time in food buying and preparation. Providing the products and shopping convenience that consumers want has added to industry employment and has made productivity gains more difficult.

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 ranged from 1-4 percent over the 1980-92 period (table 22). 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 poultry processing. Productivity has grown erratically for most

industries, partly because of fluctuating output and business conditions.

Productivity among eating and drinking places has risen slightly since 1985. But in 1992, labor productivity in eating places posted a decline of 1.4 percent. Productivity declined because hours worked rose about 1.8 percent, while output was up only 0.4 percent.

### **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 about 6.9 percent last year, a faster pace than the marketing bill. Packaging costs increased mainly because of higher prices and greater demand for most packaging inputs, including shipping boxes, food containers, and plastic materials. The aggregate price of packaging materials rose 3.8 percent in 1994 following 1993's meager 0.3 percent gain.

Paperboard boxes and containers are the largest packaging cost. The food industry spent approximately \$16.8 billion, or about 40 percent of total packaging expenses, on paper and paperboard products in 1994. 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, also totaled almost 33 percent of 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 increased 4.7 percent in 1994, while the price of paper bags and sacks rose 2.5 percent. These decreases reflected a stronger demand for paperboard materials used to package consumer nondurables which resulted in near-record low inventory levels for several types of paperboard inputs.

Metal containers are the second-largest packaging expense, making up about 20 percent of total food packaging costs. Prices of metal cans for processed fruits and vegetables fell 3.5 percent. 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, rose 1.3 percent in 1994.

**Table 22—Indexes of output per employee hour in selected food manufacturing industries, retail foodstores, and eating and drinking places**

Year	Food manufacturing							Retail foodstores	Eating and drinking places
	Meat-packing plants	Poultry dressing and processing	Fluid milk	Preserved fruit and vegetables	Grain mill products	Bakery products	Sugar		
<i>1987 = 100</i>									
1980	82.2	77.8	74.7	83.7	70.4	81.5	84.7	107.5	106.5
1981	86.0	85.5	77.2	82.4	74.2	83.7	83.6	104.2	103.9
1982	90.2	92.4	81.6	89.6	80.9	89.8	76.6	102.2	103.5
1983	94.1	96.9	86.1	92.1	83.7	93.4	82.3	102.1	102.5
1984	96.7	96.1	89.4	93.4	88.6	93.9	82.5	102.4	98.9
1985	101.1	98.2	92.2	94.6	93.8	95.5	85.9	102.4	96.2
1986	99.2	93.9	96.3	98.6	94.5	101.1	88.5	102.0	99.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.6	95.3	103.9	98.4	100.0	92.7	97.4	98.1	102.6
1989	91.5	100.1	106.7	97.4	99.8	92.4	92.7	95.4	102.0
1990	91.1	106.1	107.9	97.0	104.1	93.8	93.9	94.8	103.2
1991	94.6	112.5	110.8	99.9	104.6	90.5	97.0	93.9	104.6
1992	103.3	121.5	112.3	99.3	—	89.8	98.2	93.4	104.1
1993 <sup>1</sup>	—	—	113.4	—	—	—	98.2	92.9	103.9
<i>Percent</i>									
Average annual change:									
1980-92	1.9	3.8	3.5	1.4	3.7	0.8	1.2	-1.2	-0.2

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

— = Not available.

<sup>1</sup>Preliminary. Some historical data were revised.

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. The price of plastic rose 1.3 percent after declining for 3 of the last 4 years. Higher prices for paper packaging products bolstered the price of competing plastic packaging, even though the price of oil used to produce plastic dropped in 1994.

### **Transportation Rates and Costs**

The transportation cost index, representing railroad freight rates, advanced 0.9 percent in 1994, slightly more than the gain recorded in 1993. Most foods shipped by railroad are canned and bottled products. The new BLS index of agricultural trucking rates showed a larger increase of 2.2 percent. Some meat and fresh fruit and vegetables are shipped by rail in

truck trailers on flat cars (TOFC), but information on charges for these products is not available. TOFC shipments of fresh fruit and vegetables decreased 2.4 percent in 1994, but still accounted for nearly 3 percent of all produce shipped. A smaller quantity of produce was shipped in rail cars in 1994, but the market share accounted for by this transportation mode—5.0 percent—increased slightly.

Approximately 92 percent of fresh produce was transported by truck in 1993. Operating costs of trucks hauling produce, as reported by USDA's Agricultural Marketing Service, increased 0.6 percent in 1994 (table 23). Truckers experienced a decrease in fuel costs of 2.0 percent, while wages rose 1.7 percent—half the rate recorded in 1993. Fuel and labor accounted for 44 percent of total operating costs. Other expense items (depreciation and maintenance, overhead, licenses, and insurance) rose an average of 0.6 percent—considerably smaller than 1993's 3.6-percent jump. These trucking expenses were restrained by small increases in overhead expenses, and largely

**Table 23—Annual average trucking costs and rates for fresh fruit and vegetables, by selected items and routes**

Year	Truck cost for fleet operators <sup>1</sup>	Truck rates by commodity, origin, and destination <sup>2</sup>		
		Lettuce, <sup>3</sup> California to New York City	Citrus and vegetables, southern California to New York City	Apples, Washington State to New York City
	<i>Dollars per mile</i>	<i>-----Dollars per box-----</i>		
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
1993	1.27	4.25	3.60	3.37
1994	1.28	4.07	3.44	3.45
		<i>Percent</i>		
Change, 1980-94	33.3	21.1	24.2	11.7

Source: Agricultural Marketing Service, USDA.

<sup>1</sup>Truck costs developed by the Agricultural Marketing Service, USDA.

<sup>2</sup>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.

<sup>3</sup>January to April: Imperial Valley, CA to New York City; May to December: Salinas, CA to New York City.

unchanged maintenance costs. Trucking rates declined in some corridors despite these slightly higher operating expenses. Intercity truck and rail transportation for farm foods amounted to \$21.8 billion in 1994, or about 4.5 percent of retail food expenditures.

### Energy Costs

Last year's energy bill for food marketing costs came to about \$17.9 billion, making up about 3.5 percent of retail food expenditures. Energy costs rose 4.1 percent last year, slightly greater than the rate of increase for the marketing bill. 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.

Slightly lower electricity rates and slightly higher natural gas prices restrained the overall increase in energy costs. Natural gas and electricity prices exert the greatest impact on the energy costs of processing and retailing food, with oil prices having little effect.

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 67 percent of the 1994 food marketing bill. The rest of the bill included a variety of miscellaneous costs (table 19) (about 29 percent of the total) and profits (about 4 percent). Miscellaneous costs totaled \$114 billion. The largest of these costs (advertising, business taxes, net interest, depreciation, rent, and repairs) are estimated using data from trade publications, the Internal Revenue Service, and the U.S. Bureau of the Census. With this edition of the *Food Cost Review*, ERS is providing estimates of these miscellaneous costs from 1967 to the present.

### **Advertising**

Advertising expenses have increased 80 percent over the last decade, and account for about 4 percent of food expenditures. The largest increases occurred in food manufacturing and food service, with each sector experiencing expenditure increases of slightly over 80 percent. Food manufacturing accounts for 54 percent of total food industry advertising expenditures, with food service contributing another 25 percent, and food retailing adding 15 percent to the total. A mixture of print and broadcast media are employed to promote food industry products.

### **Business Taxes and Interest**

Business taxes are the second largest of the miscellaneous costs, comprising 3.5 percent of consumer food expenditures. Business taxes include property, state, unemployment insurance, and Social Security taxes, but exclude Federal income taxes.

Net interest, while accounting for only 2.5 percent of total consumer expenditures, had the fastest rate of increase, jumping 150 percent over the last decade. Most of the increase occurred in the foodstore sector, and reflected higher debt acquired due to merger and acquisition activity, particularly leveraged buyouts. The 1994 increase in interest expense was smaller than the rise in interest rates because long-term and short-term loans which were booked during the last couple of years, when interest rates were lower, are included in the estimates.

### **Depreciation, Rent, and Repairs**

Depreciation, rent, and repairs together totaled \$42.2 billion in 1994, accounting for 7.5 percent of the consumer food dollar. The food service sector incurred the highest percentage of these costs at 42 percent of the total. Food stores comprised 26 percent, while processing firms accounted for 20 percent.

Sufficient data are not available for estimating many individual smaller costs, such as insurance, for-hire local truck transportation, professional services, and food service in schools and institutions. Together, these costs account for about 4.5 percent of the food dollar.

### **Corporate Profits**

Food industry firms earned approximately \$16.1 billion in pre-tax profits from marketing U.S. farm foods, a 12.7-percent jump from 1993. Almost 3 cents of every food dollar went to pre-tax corporate profits in 1994.

Retail profits were 67 percent higher in 1994 than in 1993, as profits rebounded from 1993's unusually low levels. Profits were reduced in 1993 as the result of a first-quarter write-off against income of post-retirement benefits which lowered reported profits for the entire year. Many retail chains reported higher after-tax profit margins in 1994 (table 24). The stronger economy, technological improvements, and increased sales of store label products also stimulated higher 1994 retail profits. Retailers continued to make greater use of technology (particularly checkout scanning, satellite communications, and more sophisticated merchandising and labor scheduling systems) to increase efficiency and control labor costs, their largest operating expense.

Food manufacturers have also been able to hold down costs with gains in labor productivity. Profits rose for many companies in 1994. However, manufacturers' profits continue to be tempered by increased consumer purchases of less costly store-label foods, which cut into sales and profits of manufacturers' brand-name foods. Moreover, an extensive restructuring by a major food processor resulted in a major net income loss, which produced a 0.7-percent decline in aggregate 1994 food manufacturing industry profits. Food wholesaling profits also declined, slipping 8 percent. This drop reflected competition between wholesalers' biggest clients, independent grocery stores, and super-

**Table 24—After-tax profits of selected supermarket food chains per dollar of sales, fiscal year or four calendar quarters**

Firm	1989	1990	1991	1992	1993	1994
	<i>Percent of sales</i>					
Ahold NV	1.10	1.38	1.33	1.41	1.27	1.41
Albertson's	2.65	3.12	2.97	2.65	3.01	3.51
American Stores	-.29	.86	.96	1.09	1.32	1.88
Great Atlantic & Pacific Tea Co.	1.32	1.33	.61	.15	.04	-1.66
Bruno's	2.35	2.58	2.48	1.24	1.25	1.66
Foodarama Supermarkets	-.20	.16	-.08	.10	-.28	-.65
Food Lion	2.96	3.09	3.19	2.47	1.42	1.93
Giant Food	3.34	3.55	2.50	2.35	2.67	2.55
Hannaford Bros. Co.	2.46	2.50	2.16	2.45	2.66	2.72
Ingles Markets	1.76	.89	.57	.60	1.02	1.34
Kroger	-.18	.36	.47	-.03	.87	1.17
Marsh Supermarkets	1.09	1.27	.79	.93	.65	.62
Penn Traffic Co.	-1.08	-.87	-.16	-.24	-.56	.40
Safeway	.02	.59	.88	.74	.81	1.53
Vons Companies	-.48	.93	1.24	1.47	1.74	1.19
Winn-Dixie	1.67	1.60	1.54	2.22	1.71	1.75

Source: Calculated by ERS from data compiled by the American Institute of Food Distribution Inc., *Food Institute Reports*, Fair Lawn, New Jersey.

centers that offer both food and an extensive line of other retail merchandise.

Restaurant profits rose 7 percent in 1994, reflecting stronger sales growth. Foodservice continues to capture an expanding share of total food expenditures. However, the demand for convenience is also being seen at grocery stores, where prepared foods are also generating profits and are accounting for higher percentages of supermarket sales. The distinction between the at-home and away-from-home markets has become increasingly blurred as these two segments compete for the consumer's food dollar.

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.

Two financial ratios provide further insight into the 1994 food industry profit picture: 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 5.0 percent of sales in 1994, up from 3.7 percent in 1993, based on data that the U.S. Bureau of the Census compiled. Returns on stockholders' equity increased to 17.8 percent in 1994 (table 25). Returns on equity for the food and tobacco industry were thus higher than the 15.6-percent average for all manufacturers of nondurable products. Profit margins of retail food chains were much narrower than those of food manufacturers, and averaged 1.4 percent of sales in 1994, up from 0.8 percent a year earlier. However, returns on equity were higher for retail food chains in 1994, increasing 6.7 percent to 18.4 percent.

## 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 26). In 1929, the first year data of this type were recorded, 23.9 percent

**Table 25—Profit margins of food manufacturers and retail food chains, industry averages**

Year and quarter	Food manufacturers <sup>1</sup>			Retail food chains <sup>2</sup>		
	After-tax profits as a percentage of—					
	Sales	Stockholder equity	Assets	Sales	Stockholder equity	Assets
	<i>Percent</i>					
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	5.3	1.1	22.8	3.8
1991	4.8	17.5	6.0	1.1	18.8	3.8
1992	4.3	15.0	5.3	1.0	14.6	3.2
1993	3.7	13.5	4.7	.8	11.7	2.5
1994	5.0	17.8	6.1	1.4	18.4	4.4
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	19.7	6.6	.9	17.9	3.0
IV	2.2	9.0	2.9	1.3	27.1	4.7
1991:						
I	5.1	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	3.9	1.1	16.0	3.5
II	5.8	20.4	7.3	.8	11.6	2.6
III	4.4	15.6	5.4	.7	10.4	2.3
IV	3.7	13.2	4.6	1.4	20.0	4.4
1993:						
I	2.8	10.0	3.5	-.5	-6.9	-1.5
II	4.6	16.5	5.7	1.3	19.4	4.2
III	4.2	15.2	5.3	1.0	14.1	3.1
IV	3.4	12.3	4.2	1.3	19.1	4.3
1994:						
I	5.2	18.4	6.3	1.3	17.2	4.0
II	4.3	15.2	5.3	1.6	21.3	5.1
III	5.3	18.8	6.6	1.4	18.5	4.5
IV	5.1	18.5	6.3	1.3	16.7	4.1

Source: U.S. Department of Commerce, Bureau of the Census.

<sup>1</sup>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.

<sup>2</sup>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.



**Table 26—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 <sup>1</sup>	Away from home <sup>2</sup>	Total <sup>3</sup>	At home	Away from home	Total <sup>3</sup>
-----Billion dollars-----				-----Percent-----			
1929	81.8	16.9	2.6	19.5	20.7	3.2	23.9
1939	69.7	13.0	2.3	15.2	18.6	3.3	21.9
1949	188.1	33.8	7.8	41.5	18.0	4.1	22.1
1959	346.7	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	115.2	45.9	161.1	10.0	4.0	14.0
1976	1,264.0	123.1	52.6	175.7	9.7	4.2	13.9
1977	1,391.3	131.8	58.5	190.3	9.5	4.2	13.7
1978	1,567.8	145.3	67.5	212.8	9.3	4.3	13.6
1979	1,753.0	162.2	76.9	239.1	9.3	4.4	13.6
1980	1,952.9	179.1	85.2	264.4	9.2	4.4	13.5
1981	2,174.5	191.0	95.8	286.8	8.8	4.4	13.2
1982	2,319.6	198.4	104.5	302.9	8.6	4.5	13.1
1983	2,493.7	209.0	114.2	323.2	8.4	4.6	13.0
1984	2,759.5	220.9	122.5	343.4	8.0	4.4	12.4
1985	2,943.0	230.7	129.4	360.1	7.8	4.4	12.2
1986	3,131.5	239.3	138.3	377.6	7.6	4.4	12.1
1987	3,289.5	247.9	147.4	395.3	7.5	4.5	12.0
1988	3,548.2	260.9	158.6	419.5	7.4	4.5	11.8
1989	3,787.0	279.4	167.3	446.7	7.4	4.4	11.8
1990	4,050.5	304.2	179.8	484.0	7.5	4.4	11.9
1991	4,236.6	316.9	186.8	503.7	7.5	4.4	11.9
1992	4,505.8	318.3	195.7	514.0	7.1	4.3	11.4
1993	4,688.7	324.0	210.2	534.2	6.9	4.5	11.4
1994	4,959.6	339.1	225.7	564.8	6.8	4.5	11.3

Source: Calculated by ERS based on data from government and private sources.

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>May not add due to rounding.

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 reach a low of 11.3 percent in 1994 (fig. 5).

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 has the percentage of income spent for food at home.

ERS developed the estimates of food expenditures in table 26, 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.

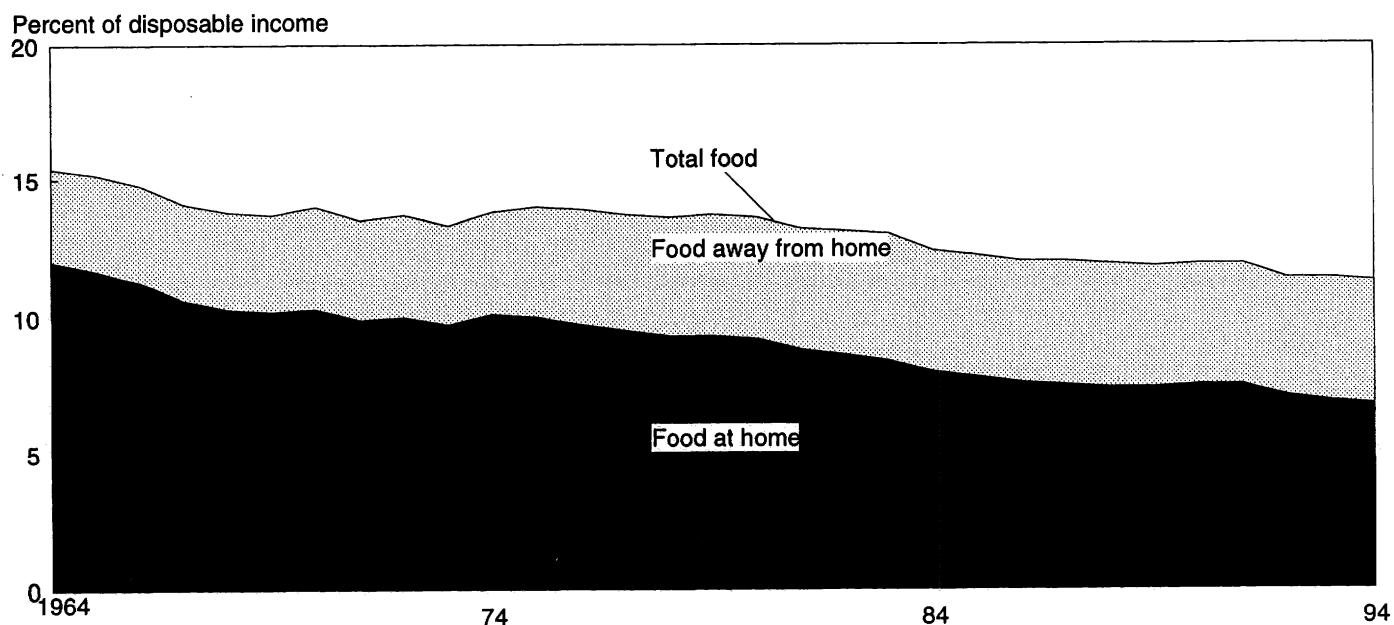
## Food Spending as a Proportion of Income

An annual consumer expenditure survey by the U.S. Department of Labor reveals comprehensive information about how much average households spend for food and other products and services. The findings for 1993 show that annual food expenditures averaged \$4,520 (table 27).

Spending varies by households of differing size, income, and other characteristics. For example, married couples with children, where the oldest child is 6-

Figure 5  
**Share of income spent for food**

*Food spending by families and individuals has declined to 11.3 percent of disposable personal income in the last 30 years.*



Source: Calculated by ERS based on data from government and private sources.

**Table 27—Average household food spending in 1993**

Item	All households	Household income before taxes		
		\$5,000 to \$9,999	15,000 to \$19,999	\$30,000 to \$39,999
<i>Number</i>				
Average persons per household	2.5	1.9	2.2	2.7
<i>Dollars</i>				
Household income after taxes	31,890	7,367	16,713	31,953
Annual food expenditures	4,520	2,564	3,505	4,706
Food at home	2,784	1,974	2,465	2,802
Cereal products	162	110	152	167
Bakery products	279	188	224	285
Beef	227	159	219	227
Pork	154	126	168	132
Other meat	99	74	91	97
Poultry	129	105	103	119
Fish and seafood	88	58	82	81
Eggs	31	25	35	34
Fresh milk and cream	132	95	124	139
Other dairy products	172	103	152	184
Fresh fruit	140	100	110	135
Fresh vegetables	134	98	129	123
Processed fruit	98	64	79	96
Processed vegetables	80	71	74	77
Sugar and other sweets	119	141	105	123
Fats and oils	79	63	81	85
Miscellaneous food	381	226	305	409
Nonalcoholic beverages	232	156	205	243
Food away from home	1,736	590	1,040	1,904
<i>Percent</i>				
Share of income spent for food	14.2	34.8	21.0	14.7

Source: U.S. Department of Labor, Bureau of Labor Statistics, Office of Prices, Consumer Expenditures in 1993, December 1994.

17 years old, spent an average of \$6,614 for food in 1993, or about \$127 per week. Among major food categories, spending was highest for bakery products, beef, and dairy products.

The proportion of income spent for food varies widely by household income. For example, households with incomes of \$5,000-\$9,999, before taxes, spent about 35 percent of their after-tax income for food. Households with before-tax income of \$15,000-\$19,999 spent 21 percent of their after-tax income for food. Households with incomes of \$30,000-\$39,999 spent 15 percent of after-tax income for food. 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. Several factors account for this difference. First, households may not have fully accounted for income from all sources. Moreover, household income does not include pension and welfare funds, such as insurance premiums paid by employers. Finally, the reported income is capped to protect the privacy of some survey households. All of these factors tend to cause an upward bias in the estimated percentage of income spent for food.