



AgEcon SEARCH

RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

Farm Value Grew More Than Marketing Costs in 1996

Howard Elitzak
(202) 694-5375

U.S. consumers spent \$546.5 billion on food in 1996 (excluding imports and seafood), \$17 billion more than in 1995. For every dollar spent, 23 cents covered the farm value of food purchases, and the remaining 77 cents covered the cost of marketing these products. Food marketing costs—as measured by USDA's mar-

keting bill—includes expenses associated with processing, wholesaling, distributing, and retailing of foods produced by U.S. farmers and eaten by U.S. consumers. It is the difference between the value farmers receive for food commodities and the amount consumers spend on food both at home and away from home.

The marketing bill rose 1.9 percent in 1996, following a 3.7-percent increase in 1995 (table 1). This increase was considerably smaller than the 1996 general inflation rate of 2.9 percent. The small increase in

1996 was the result of a sharp increase in the farm value (7.9 percent) which surpassed a modest 3.2-percent increase in consumer food expenditures, and moderate inflation which restrained marketing cost increases. The farm value had a larger impact than the marketing bill on increases in 1996 consumer expenditures—something that has not happened since 1973. Retail food sales rose sluggishly, reflecting modest food price increases.

In addition to recording a higher percentage increase than the marketing bill, the farm value grew more in

The author is an agricultural economist with the Food and Rural Economics Division, Economic Research Service, USDA.

Table 1
Labor Costs Are the Largest Share of Food Expenditures

Component	1980	1985	1990	1995	1996
<i>Billion dollars</i>					
Labor ¹	81.5	115.6	154.0	196.6	206.3
Packaging materials	21.0	26.9	36.5	47.8	46.9
Rail and truck transportation ²	13.0	16.5	19.8	22.3	22.9
Fuels and electricity	9.0	13.1	15.2	18.6	19.3
Pretax corporate profits	9.9	10.4	13.2	22.8	24.0
Advertising	7.3	12.5	17.1	20.0	20.8
Depreciation	7.8	15.4	16.3	18.7	19.4
Net interest	3.4	6.1	13.5	11.7	12.1
Net rent	6.8	9.3	13.9	19.6	20.2
Repairs	3.6	4.8	6.2	8.0	8.3
Business taxes	8.3	11.7	15.7	19.4	20.1
Total marketing bill	182.7	259.0	343.6	415.7	423.7
Farm value	81.7	86.4	106.2	113.8	122.8
Consumer expenditures	264.4	345.4	449.8	529.5	546.5

Notes: ¹Includes employees' wages/salaries and health and welfare benefits. ²Excludes local hauling charges.

absolute dollar terms. The farm value rose \$9 billion, while the marketing bill grew \$8 billion. The higher farm value reflected higher farm prices of pork, eggs, dairy products, and grains.

Eggs, Poultry, Fresh Fruit, Wheat, and Dairy Post Large Farm Value Gains

Changes in retail prices, the farm value, and the farm-to-retail spread for major food groups are derived from USDA's market basket, which measures price changes for foods sold in the at-home market. In contrast, the marketing bill data series considers both the at-home and away-from-home markets (see box).

Eggs posted the largest increase in farm and retail prices—25.9 percent and 17.9 percent, respectively (table 2). However, eggs account for only a small percentage of the market basket, so their impact on aggregate farm-level increases is relatively small. Retail prices of eggs are relatively sensitive to farm value fluctuations, because there is relatively little processing involved in marketing eggs. Higher feed costs and strong export demand were primarily responsible for the hike in both the farm value and retail price of eggs.

These same conditions were also responsible for an 11-percent increase in the farm value of poultry, following a 0.8-percent decline in 1995. Much of this increase was passed on to the retail level, so retail poultry prices climbed 6.2 percent in 1996, after rising only 1.4 percent the previous year. Higher farm values also caused a slightly smaller increase in the 1996 poultry farm-to-retail spread.

Fresh fruits posted one of the larger 1996 price increases at all three levels of the marketing system (farm value, farm-to-retail spread, and retail cost), although the increase was less than in 1995. The rise was mostly due to weather-

related damage in California and cold weather in the Pacific Northwest that reduced supplies.

The farm value of cereal and bakery products surged 14 percent in 1996, reflecting tight wheat supplies. However, the spread rose only 3 percent, resulting in a 3.9-percent increase in retail prices of cereal and bakery products. The large jump in the farm value would be expected to produce only a small bump at the retail level, in view of the small farm value percentage.

The farm value of dairy products surged 16.3 percent, reflecting increased slaughter of dairy cows due to high feedgrain prices and adverse forage conditions. The farm-to-retail spread for dairy showed one of the smallest increases of any category (2.3 percent), as the farm value narrowed the spread at a faster pace than a retail price increase of 7.0 percent could compensate.

In contrast, the farm value of fresh vegetables dropped 12.9 percent, helping to bring down the retail

The Market Basket and Marketing Bill Measure Food Marketing Costs in Different Ways

USDA uses its **market basket** concept to track food price changes in grocery stores and to determine the underlying causes of changes in grocery store prices. The market basket contains the average annual quantities of foods purchased per household in a base period (currently 1982-84). Since the basket relies on a fixed set of quantities, changes in the value of the market basket are strictly the result of changes in price. The market basket consists of three components—the retail price, the farm value, and the farm-to-retail price spread.

The **retail price** component of the market basket is a subset of the Consumer Price Index for Food at Home, adjusted to exclude imported foods, nonalcoholic beverages, and seafood. Moreover, food purchased for away-from-home consumption is excluded from this estimate. The retail price index for the market basket has two parts:

- The **farm value** represents the prices received by farmers for the quantities of raw farm commodities that must be purchased from farmers in order to sell a unit of food product at retail.
- The **farm-to-retail price spread** is the difference between retail price and farm value, and represents the costs of processing,

wholesaling, and retailing foods. The price spread concept should be distinguished from the concept of margins as defined and used in the food trade. The farm-to-retail price spread represents the difference between average prices at two levels of the food marketing system *at a given point in time*. A margin is the difference between sales of a good or goods and the cost of goods sold. Margins allow for pricing inputs *at a different point in time* than the one in which the product is sold.

The **marketing bill** differs from the farm-to-retail price spread in several important ways. The bill is the difference between consumer expenditures for foods produced on U.S. farms and an associated farm value. However, product quantities are allowed to vary from year to year, in contrast to the fixed quantities used to develop market basket estimates. Therefore, changes in the marketing bill may result from changes in price, product mix, product quantity, and the quantity of marketing services. Thus, the bill measures changes in marketing costs, whereas the market basket measures changes in prices. Moreover, the bill includes both the at-home and away-from-home markets.

Table 2

Farm Value Was Higher For Most Market Basket Food Categories

Item	1980	1985	1990	1994	1995	1996
	<i>Annual percent change</i>					
Food market basket:						
Retail price	7.2	1.2	7.1	2.5	2.8	4.4
Farm value	5.0	-7.1	5.6	-3.3	1.3	8.1
Farm-to-retail spread	8.6	5.6	7.8	4.4	3.3	3.2
Farm value percentage of retail cost	37.3	32.4	29.7	24.4	24.1	24.9
Meat products:						
Retail price	2.9	-.9	10.1	.6	.1	3.4
Farm value	.1	-8.1	12.7	-10.4	-2.4	7.0
Farm-to-retail spread	5.8	6.4	7.8	7.9	1.4	1.5
Farm value percentage of retail cost	50.7	46.8	46.0	35.9	35.1	36.3
Dairy products:						
Retail price	9.8	1.9	9.4	1.8	.8	7.0
Farm value	9.1	-4.0	2.6	1.5	-2.3	16.3
Farm-to-retail spread	10.4	7.1	14.3	2.0	2.5	2.3
Farm value percentage of retail cost	51.6	44.3	38.5	34.4	33.3	36.2
Poultry:						
Retail price	5.2	-1.0	-.2	3.4	1.4	6.2
Farm value	3.9	-6.0	-8.1	2.8	-.8	11.0
Farm-to-retail spread	6.5	5.4	7.0	3.9	3.0	2.8
Farm value percentage of retail cost	54.4	53.3	43.5	43.3	42.4	44.3
Eggs:						
Retail price	-1.8	-16.6	4.7	-2.4	5.4	17.9
Farm value	-5.2	-22.2	.5	-6.1	9.1	25.9
Farm-to-retail spread	4.6	-6.5	10.9	1.0	2.2	10.5
Farm value percentage of retail cost	64.2	60.6	55.9	47.0	48.6	51.9
Cereal and bakery products:						
Retail price	11.5	3.8	5.7	4.1	2.0	3.9
Farm value	15.5	-8.4	-10.9	12.1	7.1	14.0
Farm-to-retail spread	10.4	5.5	7.4	3.5	2.4	3.0
Farm value percentage of retail cost	14.4	10.7	7.9	7.7	7.5	7.2
Fresh fruit:						
Retail price	5.1	11.1	12.9	6.6	8.7	7.1
Farm value	-5.7	-2.6	18.2	-11.4	14.1	11.4
Farm-to-retail spread	9.9	18.0	11.3	11.7	7.4	6.1
Farm value percentage of retail cost	26.1	29.6	23.2	18.1	19.0	19.7
Fresh vegetables:						
Retail price	8.8	-4.3	5.6	2.3	12.1	-2.0
Farm value	2.9	-14.0	.9	-7.1	10.2	-12.9
Farm-to-retail spread	11.2	.6	7.6	5.5	12.6	1.2
Farm value percentage of retail cost	26.7	30.5	28.0	23.9	22.9	20.3
Processed fruit and vegetables:						
Retail price	7.0	2.6	6.2	2.3	2.2	5.0
Farm value	5.8	10.2	8.8	5.1	7.1	.8
Farm-to-retail spread	7.3	.3	5.2	1.5	1.1	6.2
Farm value percentage of retail cost	23.2	26.2	25.8	19.9	20.6	19.3
Fats and oils:						
Retail price	6.6	2.2	4.2	2.7	2.8	2.3
Farm value	-10.0	-16.1	12.0	16.8	-3.4	-7.4
Farm-to-retail spread	15.3	10.4	2.1	-1.2	4.8	5.5
Farm value percentage of retail cost	28.8	25.8	22.8	25.3	23.8	21.5

Notes: 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. Data for 1996 are preliminary.

prices of vegetables 2 percent. Since farm prices decreased faster than retail prices, the farm-to-retail spread widened 1.2 percent. The farm value drop was primarily the result of a record-large crop of fall potatoes, which dropped farm prices for fresh potatoes by 50 percent. Potatoes are the single largest component of the fresh vegetables category.

Change in Marketing Costs Reflects Moderate Labor Cost Increases...

Despite the unusual trends delineated for 1996, it should be remembered that marketing costs are largely independent of farm prices, as reflected in instances where retail prices have held firm or risen, even though farm prices declined. Over the years, marketing costs have tended to rise, regardless of whether farm prices rose or fell. Thus, increases in marketing costs can, and often do, exceed the effect of a change in farm prices on retail prices.

While farm values for many commodities increased over 10 percent in 1996, marketing costs still exerted more influence on expenditures by accounting for 77 percent of total consumer food spending. Over the last decade, the marketing bill rose an average of 4.6 percent per year. In 1996, the bill rose only 1.9 percent after increasing 3.3 percent in 1995. Marketing costs were kept in check by moderate increases for most marketing inputs, as well as lower packaging costs.

Labor costs (wages and salaries, and employee benefits such as health insurance) constitute 38 percent of total consumer food expenditures, and are the largest component of the marketing bill. Labor costs grew about 4.9 percent in 1996, slower than the annual average rise

of the last 10 years (5.3 percent). This slower pace reflected small increases in food industry employment, wages, and benefits.

Food industry employment increased 1.4 percent in 1996, a smaller rate of increase than the 2.9-percent rise recorded in 1995. In 1996, 13.5 million people were employed in the food sector beyond the farm. About 25 percent worked for foodstores, 12 percent for food manufacturers, and 7 percent for wholesalers. Eating and drinking places represented the single largest share, 56 percent.

The small increase in the number of people employed by the post-farm food sector in 1996 reflects weak sales increases at foodstores, which dampened industry demand for personnel. Food manufacturing employment dropped 1.6 percent, reflecting higher labor productivity and increased use of technology, which continued to dampen hiring rates. The rate of employment increase was smaller in 1996 than 1995 for retailing, wholesaling, and foodservice.

Hourly earnings of food manufacturing employees rose 2.6 percent in 1996, about the same as the 1995 rise. Average hourly earnings of foodstore workers rose 2.8 percent, compared with 2.6 percent in 1995. The relatively stable rates of increase in these two sectors partially reflect provisions of union contracts negotiated over the last few years. Average hourly earnings of wholesaling employees rose 2.3 percent, compared with 2.6 percent in 1995. The average hourly earnings of eating and drinking place employees advanced 3.6 percent, compared with 2.2 percent in 1995. This higher rate of growth reflects brisk sales in the away-from-home market during most of the last decade, when sales increased an average of 5.1 percent per year. Moreover, this sector was one of the highest contributors to U.S. job growth in 1996.

Wage supplements, about 20 percent of total labor costs, increased because of rising health insurance premiums and pensions. The rising cost of medical care pushed up health insurance costs. However, the 3.5-percent increase in the Consumer Price Index for medical services in 1996 was considerably smaller than the 6.5-percent average annual increase over the last 10 years, and helped mitigate 1995 labor cost increases. Similarly, the Employment Cost Index for private industry benefits rose just 1.8 percent in 1996, much less than the 5.9-percent average annual rise of the last decade.

...Lower Packaging Costs...

Packaging costs, which total 8.5 percent of food expenditures, fell 2 percent in 1996 and restrained aggregate food marketing costs. The price of paperboard (which accounts for about 40 percent of food industry packaging costs) fell 7.2 percent in 1996, following a record 16-percent rise the previous year. In 1995, the paper industry experienced the most rapid price increase in its history, stemming from an inability to add capacity fast enough to meet demand. In 1996, paperboard prices dropped after customers like the food industry restocked their inventories.

Meanwhile, the price of metal cans dropped 10.2 percent in the face of excess beverage can capacity due to increased demand for competing plastic containers. Despite this increased demand, plastic container prices dropped 1.2 percent, as producers were unable to raise prices in the face of price reductions for competing packaging products. Demand for packaging products prevented sales volumes from falling as fast as packaging prices.

...And Moderate Rises in Other Costs

Transportation costs, accounting for 4 percent of food expenditures, rose 2.5 percent—about the same as in 1995. This increase was primarily due to higher trucking rates, which climbed 2.4 percent. Higher fuel costs were the primary factor driving trucking costs, as petroleum prices surged nearly 20 percent and raised overall trucking fuel costs by 11 percent. Gasoline and petroleum costs surged in the face of unusually cold winter weather and low fuel inventories. Together, labor and fuel account for the main source of trucking expenses, accounting for 44 percent of the total. Railroad rates were only slightly lower.

Energy costs rose 3.8 percent in 1996, and totaled 3.5 percent of food expenditures. Energy costs increased despite a 2.0-percent drop in the price of electricity. Electricity makes up 55 percent of the energy costs incurred in food manufacturing, with natural gas accounting for the remaining 45 percent. Electricity accounts for 85 percent of the energy used by eating places and nearly all of the energy used in foodstores. Higher energy costs were largely the result of a 4.1-percent rise in the price of natural gas and increased volume of marketing services as measured by the higher 1996 marketing bill. In contrast to transporta-

tion, fuel cost increases did not have a large impact on direct energy costs because of electricity's dominant role in supplying the food industry's energy requirements.

Advertising expenses, which account for about 4 percent of food expenditures, rose 4 percent in 1996 following a 3.6-percent increase in 1995. Advertising expenditures have risen slightly faster than total marketing costs during the last few years. Food manufacturing makes up about 55 percent of total food industry advertising expenditures, with foodservice (restaurants, fast-food outlets, and others) contributing another 25 percent, and food retailing adding another 14 percent to the total. The food industry uses a mixture of print and broadcast media to promote their products.

Business taxes account for another 3.5 cents of the American food dollar. Business taxes include property, State, unemployment, insurance, and Social Security taxes, but exclude Federal income taxes. Business taxes rose 3.6 percent in 1996.

Net interest accounted for only 2 percent of total consumer expenditures. The 3.4-percent increase in 1996 interest expense occurred despite interest rate declines, because long- and short-term loans booked during years of rising interest rates are included in the estimates. Depreciation, rent, and repairs totaled \$47.9 billion in 1996, accounting for 8.5 percent of the

consumer food dollar. Foodservice establishments incurred high property rental expenses, and thus had the highest total of any sector. The foodservice sector incurred about 41 percent of these costs, foodstores made up 27 percent, and manufacturing and wholesaling firms together accounted for the remaining 32 percent.

Profits grew 5.3 percent in 1996, considerably less than the 9.1-percent rise recorded in 1995. Retail foodstores accounted for most of the profit gain in 1996 by attracting customers to cheaper generic brands and nonfood services such as instore pharmacies, greeting cards, health and beauty care, and video rentals. These items are especially appealing to customers seeking one-stop shopping convenience. *Supermarket Business* magazine reports that these products account for as much as 20 percent of total store profits, while constituting only 10 percent of store volume. However, profits were mitigated by a variety of conditions in the other food industry sectors. For example, food processors were unable to raise prices due to the moderate inflationary environment, and were further squeezed by higher farm prices. Meanwhile, competition among restaurants—particularly fast-food outlets—has restrained profit levels among eating and drinking places. ■