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Food Costs. From Farm to Retail in 1990

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How much are food costs changing? Why? How much of the consumer food dollar goes to the farmer and how much to food processors and marketers? Because of the great interest in these questions, Congress has directed the U.S. Department of Agriculture (USDA) to regularly study them and to report its findings. This bulletin brings you up to date on the answers, focusing on developments during 1990.

Food Prices Higher in 1990

Retail food prices rose in 1990 by the same percentage as the year before, as measured by the Consumer Price Index (CPI). The CPI shows that retail food prices in 1990 averaged 5.8 percent above those in 1989. This increase equaled the 1989 price increase, which was the largest since 1981. Price gains in 1990 were greatest early in the year, advancing by nearly a 14-percent annual rate in the first quarter. This striking increase stemmed in part from a December 1989 freeze in Florida and Texas that sharply reduced citrus and vegetable supplies. Price gains for meats and dairy foods were sharp, reflecting tight market supplies. Increases in the CPI abated over the remainder of the year, but prices throughout 1990 averaged above 1989 levels.

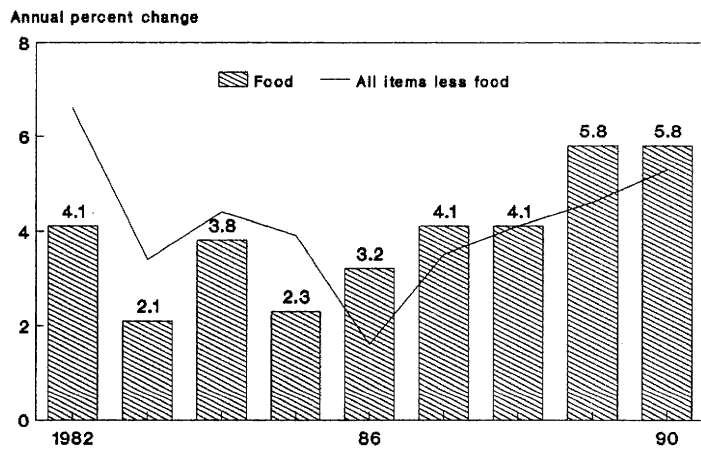
The two major components of the food index—food sold in grocery stores for use at home and meals and snacks consumed away from home—advanced by much different rates for 1990. Food prices in grocery stores climbed 6.5 percent in 1990, but prices for restaurant meals advanced by 4.7 percent. Last year was the fourth consecutive year the price rise was greater for the grocery food index. This increase is partly explained by a greater sensitivity of grocery store food prices to changes in farm and wholesale commodity prices.

Farm prices for commodities and costs for processing and distributing foods directly influence retail food prices, and both played a role in pushing food prices higher last year. Farm prices of commodities advanced an average of 6.2 percent. Higher livestock

prices resulting from reduced production accounted for much of the increase in farm-level prices. Charges beyond the farmgate for processing and distributing food increased over 7 percent. These marketing charges make up most of the retail price of foods. As a result, the rise in marketing charges increased food prices much more than higher farm prices last year, and nearly every other year in the decade. Consumer demand for food remained relatively strong through the first half of 1990, contributing to the upward movement in prices. However, a decline in personal real disposable income in the second half of the year likely dampened demand and price increases.

For the fourth year in the past five, food prices in 1990 rose by more than the CPI for all consumer products and services. Overall inflation averaged 5.4 percent in 1990, up from 4.8 percent in 1989. The acceleration in inflation primarily was due to a sharp price increase for motor fuels following the shutoff of petroleum exports from Iraq and Kuwait. Housing, the largest component of the CPI, went up 4.5 percent; prices of apparel and upkeep rose 4.6 percent, but medical care costs climbed 9 percent in 1990.

Consumer price indexes
Food lagged nonfood items in the first half of the 1980's, but after that it overtook nonfood items.



Retail Prices of Most Foods Rose

Price gains for meats, dairy products, and fresh fruit contributed most to the retail food price rise. Together, they accounted for half of the rise in food prices at grocery stores.

The three food groups of meats, dairy products, and fresh fruit accounted for half of the rise in prices in 1990 at grocery stores: red meat retail prices rose 10.1 percent, dairy products went up 9.4 percent, and fresh fruit advanced by 12.1 percent. Red meat, which has a weight of 20 percent in the food-at-home index, accounted for about one-third of the 6.5-percent rise in food at home. Price increases for these three food groups in 1990 were much larger than in 1989. However, price increases were more moderate for most other foods, particularly eggs, fresh vegetables, cereals and bakery products, and fats and oils. The smaller price increases partly reflected a return to more normal crop production since the 1988 drought.

Meat. Beef and veal prices averaged 8 percent higher in 1990 than a year earlier. The price increase mainly reflected a 1.5-percent decline in beef production and record-high cattle prices. However, additional consumer nutrition information on beef, more closely trimmed beef products, and more convenient cuts of beef such as boneless cuts have likely enhanced consumer willingness to pay higher prices for beef. Cattle production typically occurs in cycles lasting a period of years in which there are both cattle herd expansion phases and liquidation phases. During an expansion phase of a cycle, which was underway in 1990, beef production can be expected to decline, causing prices to increase. Reflecting the production decline, beef and veal consumption dropped to 68.5 pounds (retail weight) per capita in 1990, about 1.5 pounds less than in 1989.

Retail pork prices also climbed to a record-high level in 1990 as pork production fell about 3 percent. Hog production, which also has cycles, likely dropped to the cyclic low in 1990. Retail pork prices averaged 14.7 percent higher in 1990 than in 1989. With smaller production, pork consumption dropped to about 50 pounds (retail weight) per capita in 1990, 2 pounds less than in 1989.

Poultry and eggs. Retail poultry prices were steady in 1990 following a 9.9-percent gain in 1989. Prices reflected larger supplies of poultry, although the downward pressure on prices was tempered by high red meat prices and record broiler exports. Broiler chicken production increased about 7 percent in 1990, extending the long-term expansion of the 1980's, and turkey production was up about 9 percent. As a conse-

quence, poultry consumption increased to 90 pounds per capita in 1990, about 4 pounds more than in 1989.

Table egg production was only fractionally higher in 1990 (despite very positive producer returns which typically encourage expanded production), causing egg prices to rise at both the wholesale and retail levels. Retail egg prices averaged 4.7 percent higher in 1990 than a year ago. Per capita egg consumption declined slightly, continuing a long-term trend. Consumption totaled 234 eggs per capita, 1 egg per capita less than in 1989, reflecting a decline in shell egg use. Use of processed egg products continued to grow. Since 1980, processed egg consumption has jumped 37 percent per capita due partly to expanded manufacturing use in food products, such as pasta and baked goods.

Dairy products. Retail prices of milk and other dairy products averaged 9.4 percent higher in 1990, because a much wider farm-to-retail spread combined with higher farm prices. Price increases were much larger for cheese (11.6 percent) and for fresh whole milk (10.8 percent) than for ice cream (6.7 percent) and other processed products. The 1990 increase in dairy prices was the largest since 1980, sharply contrasting with the 1- or 2-percent annual increases during most of the 1980's. The sharp price rise in 1990 largely was caused by expanding cheese production and sales that absorbed a 2-percent rise in milk production.

Fish and seafood. Fish and seafood prices increased 2.2 percent in 1990, the smallest increase in 7 years. Prices were moderated by larger imports of shrimp and some other fish, and much larger production of canned salmon. Consumption of seafood has been rising, reaching a record 15.7 pounds per capita in 1989, up from 15.1 pounds in 1988. Fresh and frozen seafood has accounted for most of the increase in consumption as well as in price.

Cereals and bakery products. Retail prices for cereals and bakery products averaged 5.7 percent higher in 1990, the smallest rise since 1988 when there were drought-induced sharp price increases for wheat and other food grains. The 1990 farm value of commodities used in cereals and bakery products averaged about 11 percent lower than in 1989. Rising retail prices reflected higher charges by bakers and cereal manufacturers to cover higher processing and marketing costs.

Annual cereal price increases have been larger than most other products in the food-at-home index in the 1980's, reflecting higher manufacturing and selling costs and strong consumer demand shown by growth in consumption. Per capita consumption of ready-to-eat cereals rose nearly 20 percent from 1982 to 1988.

Fresh fruits and vegetables. Fresh fruit prices averaged 12.1 percent higher in 1990. Price increases varied widely among fruits. Prices of bananas, the fresh fruit consumed in largest quantity, rose 5.3 percent, largely because of a worker strike in Honduras that disrupted supplies for several months. Apple prices averaged 5 percent higher, reflecting a 5-percent smaller 1990 harvest. However, orange prices averaged 9.3 percent higher due mostly to short fresh market supplies in the Eastern States created by the December 1989 freeze in Florida and Texas, and from strong exports. The grapefruit crop, also reflecting freeze damage, was the smallest in 20 years, resulting in a 25-percent increase in retail grapefruit prices.

Prices of fresh vegetables averaged 5.6 percent higher in 1990. Most of the increase was in the first quarter, resulting from freeze damage to crops the previous December. Prices of tomatoes, cabbage, and peppers were sharply affected by the freeze, averaging about 100 percent higher than a year earlier. With the exception of the first quarter, fresh vegetable prices, excluding potatoes, were generally lower in 1990 due to ample supplies.

Processed fruits and vegetables. Processed fruit and vegetable prices rose 6.2 percent. Prices for processed vegetables rose only 2.7 percent, but processed fruit advanced by 8.7 percent. Higher fruit prices mainly were attributed to tight supplies of frozen concentrated orange juice after the December 1989 freeze damaged the U.S. orange crop. The freeze resulted in a 16-percent increase in frozen concentrated orange juice prices in 1990.

Nonalcoholic beverages. Nonalcoholic beverage prices were up only 2 percent in 1990, which had a moderating effect on the overall increase in grocery store food prices. Coffee prices were 2.4 percent lower, reflecting a steep decline in green coffee bean prices late in 1989. But carbonated drink prices rose 3.4 percent, the largest increase since 1981. Annual price increases averaged slightly over 1 percent during most of the 1980's due to price competition for market share among soft-drink companies and industry productivity gains annually averaging 6.5 percent.

Price changes for food versus nonfood items in 1990

Food prices rose more than the average of all goods and services.

Year	Consumer Price Index				
	Food	Food at home	Food away from home	All items	All items less food
	<i>Percent change</i>				
1980	8.6	8.1	9.9	13.5	14.5
1981	7.8	7.2	9.0	10.3	10.9
1982	4.1	3.5	5.4	6.2	6.5
1983	2.1	1.0	4.4	3.2	3.5
1984	3.8	3.7	4.2	4.3	4.3
1985	2.3	1.5	3.9	3.6	3.8
1986	3.2	2.9	3.9	1.9	1.7
1987	4.1	4.3	4.0	3.6	3.5
1988	4.1	4.2	4.1	4.1	4.1
1989	5.8	6.5	4.6	4.8	4.6
1990	5.8	6.5	4.7	5.4	5.3

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

Major food category annual price changes

Rise in prices of most principal food categories was smaller in 1990 than in 1989.

	Food	1988	1989	1990
		<i>Percent change</i>		
All food		4.1	5.8	5.8
Food at home		4.2	6.5	6.5
Meat		2.4	4.0	10.1
Beef and veal		5.5	6.4	8.0
Pork		-3.0	.6	14.7
Poultry		7.2	9.9	-.2
Fish and seafood		5.8	4.5	2.2
Eggs		2.3	26.6	4.7
Dairy products		2.4	6.6	9.4
Fresh fruit		8.3	6.6	12.1
Fresh vegetables		6.3	10.7	5.6
Processed fruits and vegetables		7.9	6.3	6.2
Cereals and bakery products		6.4	8.4	5.7
Sugar and sweets		2.7	4.7	4.4
Fats and oils		4.6	7.2	4.2
Nonalcoholic beverages		0	3.5	2.0
Other prepared foods		3.7	6.4	4.5
Food away from home		4.1	4.6	4.7

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

Farm Value of Food Products Rose

Farm value, boosted by higher livestock and milk prices, was higher in 1990 than the prior year, but the increase was slightly smaller than the rise in retail food prices.

The farm value (what farmers receive) of USDA's "market basket" of foods averaged 6.2 percent higher in 1990, but this increase failed to match the year's rise of 7.1 percent in retail prices of these foods. However, the 1990 increase in farm value was the second largest since 1984, and a review of the year shows that farm value during the first half of the year exceeded the rise in retail food prices. But farm value then declined for 6 consecutive months, the longest period of decline since January-May 1985, while small increases continued in retail prices.

Higher commodity prices increased the farm value of all but 2 of the 10 food groups. Increases were largest for fresh fruit (18 percent), red meats (13 percent), and processed fruits and vegetables and fats and oils (11 percent each). Farm values were sharply lower for poultry, and cereals and bakery products.

Red meat accounts for about 36 percent of the farm value of USDA's market basket. The higher farm value for red meat in 1990 mainly reflected 6-percent higher steer cattle prices and 24-percent higher hog prices. For 1 pound of Choice grade beef selling for an average retail price of \$2.81, cattle producers received \$1.68 for the equivalent quantity of live animal (2.4 pounds) in 1990, up 11 cents from 1989. This increase reflected a 1.5-percent decline in beef production. A decline of 3 percent in pork supplies resulted in a larger increase in farm value for pork. For 1 pound of

pork selling at retail for \$2.13 in 1990, hog producers received 87 cents for the equivalent quantity of live animal (1.7 pounds), 17 cents more than in 1989.

Higher producer prices for milk used in fluid products increased the farm value of dairy products by an average of 3 percent. A half-gallon of fluid milk retailing for \$1.42 returned the producer about 64 cents in 1990, 5 cents more than in 1989.

Although poultry producers increased broiler and turkey output, farm prices rose until mid-1990. But with production increasing more than 7 percent for the year, prices fell sharply in the fourth quarter. Reflecting this larger output, farm value of poultry decreased more than 8 percent. Broiler chicken producers received 46 cents of the average retail price of 90 cents per pound of whole frying chicken, about 5 cents less than in 1989.

Farm value of eggs was up only fractionally in 1990 following a dramatic 41-percent increase in 1989. Farm value averaged 65 cents for a dozen eggs that averaged \$1.01 at grocery stores in 1990.

The farm value of cereals and baked goods declined 11 percent in 1990, reflecting lower prices of wheat and rice. Farmers received 3.7 cents in 1990 for the wheat in a 1-pound loaf of white bread selling for 70 cents in supermarkets, 1.1 cents less than in 1989. The 1990 farm value of other bread ingredients, mainly shortening and sweeteners, was 0.7 cent, unchanged from 1989.

The Market Basket

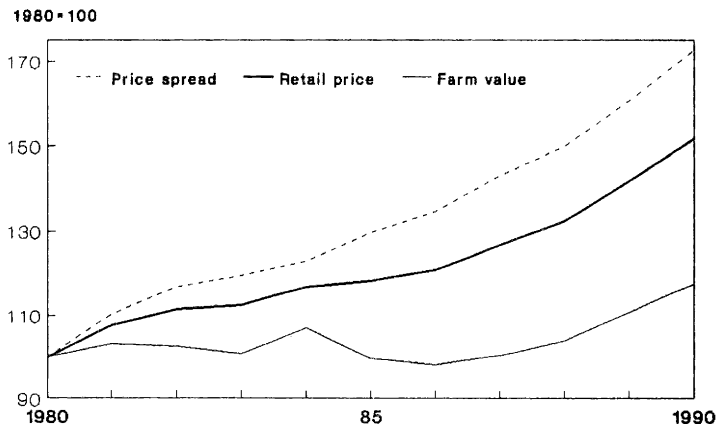
USDA uses its market basket concept to track price changes for the commodities farmers sell and the food consumers buy in retail grocery stores. The market basket contains the annual average quantities of foods purchased per household in a base period. It excludes fish and seafood, nonalcoholic beverages, and bananas. Retail price indexes for the market basket are components of the CPI for food at home, and are broken into two components.

- **Farm value** is the return or payment farmers receive for raw commodities equivalent to foods in the market basket.
- **Farm-to-retail price spread** is the difference between the retail price and farm value. The price spread is the charge for processing, wholesaling, and retailing foods.

The *farm value share*, a related concept, is the proportion farmers get from the amount consumers spend on the market basket of food purchased in retail grocery stores.

Food price components

Rise in food prices was mainly due to widening price spread.



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

Farm Value Share of Food Prices Was Stable

The farm value for a market basket of food averaged 30 percent of the retail price, the same share as in 1989. But, farm value shares varied widely among foods.

Over time, the farm value share reflects changes in farm and retail food prices. The 1990 farm value share was stable because the increase in farm value was nearly as large as the rise in retail prices. Last year was the fourth year in succession the farm value share averaged 30 percent. This contrasts with the early 1980's, when abundant food supplies held down farm prices, while rising food processing and distributing charges boosted retail prices. These opposing forces caused a decline in the farm value share from 37 percent in 1980 to 30 percent in 1987.

Farm value shares vary greatly among foods. The more highly processed the product is, generally the smaller the farm share. For instance, when comparing flour with bread, wheat is the principal ingredient of each product, but additional manufacturing processes are required for bread. Foods derived from animal products tend to have a higher farm value share than those derived from crops, because farm inputs are greater for animal products than for crops. For example, the 1990 farm value share was 64 percent for eggs, 60 percent for Choice beef, but only 6 percent for corn flake cereal. Other factors influencing the farm share among foods include costs of transportation from the farm to the consumer, product perishability, and the amount of space occupied in retail food stores. These factors partly explain why the farm share for California fresh oranges is lower than that for frozen concentrated orange juice.

Farm value, price spread, and retail food prices

Higher farm value and the widening farm-to-retail price spread combined to boost retail food prices in 1990.

Year	Market basket of foods sold in grocery stores			
	Farm value of food	Farm-to-retail price spread	Retail price	Farm value share of retail price
	-----Percent change-----			Percent
1980	5.0	8.6	7.2	37
1981	3.2	10.3	7.6	36
1982	-.7	6.0	3.6	35
1983	-1.7	2.3	.9	34
1984	6.3	2.8	3.9	35
1985	-7.1	5.5	1.2	32
1986	-1.4	3.9	2.1	31
1987	2.1	6.2	5.0	30
1988	3.7	4.8	4.4	30
1989	6.6	7.1	7.0	30
1990	6.2	7.5	7.1	30

Farm value share differences by foods

Farm value share was highest for animal products in 1990.¹

Food	Retail price	Farm value	Farm value share of retail price ²
			-----Dollars----- Percent
Animal products:			
Eggs, Grade A large, 1 doz.	1.01	0.65	64
Beef, choice, 1 lb.	2.81	1.68	60
Chicken, broiler, 1 lb.	.90	.46	51
Milk, 1/2 gal.	1.42	.64	45
Pork, 1 lb.	2.13	.87	41
Cheese, natural cheddar, 1 lb.	3.50	1.19	34
Fruits and vegetables:			
Fresh—			
Lemons, 1 lb.	1.07	.27	25
Potatoes, Northeast, 10 lbs.	3.38	.76	22
Grapefruit, 1 lb.	.66	.16	25
Oranges, California, 1 lb.	.57	.13	23
Apples, red delicious, 1 lb.	.72	.16	22
Lettuce, 1 lb.	.60	.09	16
Frozen—			
Orange juice concentrate, 12 fl. oz.	1.62	.56	34
Broccoli, cut, 1 lb.*	1.21	.25	21
Corn, 1 lb.*	1.07	.12	11
Peas, 1 lb.*	1.06	.12	11
Green beans, cut, 1 lb.*	1.09	.11	10
Canned and bottled—			
Apple juice, 64-oz. bottle*	1.36	.28	21
Apple sauce, 25-oz. jar*	.90	.17	19
Pears, 2-1/2 can*	1.14	.20	18
Peas, 303 can (17 oz.)*	.61	.10	16
Corn, 303 can (17 oz.)*	.51	.08	16
Peaches, cling, 2-1/2 can*	1.07	.17	16
Green beans, cut, 303 can*	.49	.06	12
Tomatoes, whole, 303 can	.60	.05	8
Dried—			
Beans, 1 lb.*	.70	.30	43
Raisins, 15-oz. box*	1.30	.39	30
Crop products:			
Sugar, 1 lb.	.40	.15	38
Flour, wheat, 5 lbs.	1.25	.30	24
Shortening, 3 lbs.	2.75	.69	25
Margarine, 1 lb.	.84	.19	23
Rice, long grain, 1 lb.	.50	.10	19
Prepared foods:			
Peanut butter, 1 lb.	1.89	.46	24
Pork and beans, 303 can (16 oz.)*	.41	.09	22
Potato chips, regular, 1-lb. bag	1.99	.29	15
Chicken dinner, fried, frozen, 11 oz.*	1.40	.18	13
Potatoes, french fried, frozen, 1 lb.	.84	.11	13
Bread, 1 lb.	.70	.04	6
Corn flakes, 18-oz. box*	1.56	.10	6

¹January-June 1989 average for items noted with asterisk.

²Computed from unrounded data.

Farm-to-Retail Price Spread Widened

The 7.5-percent increase in the farm-to-retail price spread in 1990 was larger than both the increase in 1989 and the average for the 1980's.

Several factors widened the farm-to-retail price spread, including higher prices of most inputs, such as energy used by the food industry, and greater use of some inputs per unit of output. Labor used in food retailing to provide greater service and more prepared foods has increased faster than output, causing a decline in labor productivity. Development of new products, such as microwavable foods, has increased use of packaging materials. Increased spending on advertising and promotion of branded food products also has added to costs.

Prices of inputs used in processing, wholesaling, and retailing foods increased by an average of about 3.3 percent in 1990, as measured by an Economic Research Service food marketing cost index. A 3.6-percent rise in the labor component and an 8.4-percent rise in the energy component contributed most to the increase. Prices of packaging materials advanced by less than 1 percent. Short-term interest rates declined about 9 percent, moderating the rise in the overall index.

The rise in the labor component reflected increases in average hourly earnings of workers (payroll divided by hours worked) and higher employer benefit costs, such as health insurance and social security payroll taxes. Hourly earnings of workers, particularly in food retailing, have risen very moderately in recent years due partly to changes in the labor force, such as greater employment of part-time and entry-level workers who typically earn lower wages. Moreover, hourly earnings do not reflect lump-sum payments that many workers have received in lieu of wage increases.

Price spreads increased for all 10 food groups in the market basket, presumably reflecting higher food industry labor costs, higher prices of other inputs, and the lag in retail price adjustment to the decline in farm value after mid-1990.

The farm-to-retail price spread for red meats widened about 8 percent, mainly reflecting increases for pork. The price spread for pork increased about 11 percent, a likely adjustment to reduced pork sales and much higher inventory costs because of the dramatic rise in prices. In 1989, the price spread for pork had declined about 2 percent, and both farm value and retail pork prices were relatively stable. The farm-to-retail price spread for Choice beef increased about 4 percent in 1990, likely reflecting the relatively small rise in farm value and the fact that there was an increase in the

price spread in 1989. Fluctuations in the marketing spread for beef and pork partly reflect retail merchandising practices designed to maximize total meat department sales and profits. Added profits from one meat may offset lower revenues from another for a period, but may reverse over time due to changes in beef and pork sales, which, along with the margin, determines meat department profits. Retailers also may minimize price changes for customers by not fully adjusting margins with each change in commodity and marketing costs.

Cereals and bakery products account for 21 percent of the farm-to-retail price spread of the market basket, and the spread for these foods widened 7.5 percent in 1990. That was nearly double the yearly increase since 1980. The increase likely reflected some rise in processing and marketing costs, as well as the much lower farm value that was largely absorbed by the spread. Industry advertising and product development costs likely rose to capitalize on growing demand for products that consumers perceive to be nutritionally beneficial. However, the growth in product sales slowed in 1990 in likely response to rising retail prices that have largely consisted of increases in the farm-to-retail spread.

The price spread for poultry, which increased 12 percent in 1989, widened by 7 percent in 1990. The spread between retail poultry prices and farm prices has widened much more in recent years than earlier in the 1980's.

The price spread for eggs rose 11 percent in 1990, resulting from a 4.7-percent rise in retail egg prices and nearly stable farm egg prices. This large increase in the spread likely was caused, in part, by the volatility in market prices during the year.

The price spread for dairy products widened 14 percent, the largest increase among the 10 food groups in the market basket. The price spread for dairy products grew more in 1990 than at any time since 1980. The spread for dairy products has risen less than for most foods for most years of the decade, partly because of the fluid milk processing industry's large annual increase of about 4.5 percent in labor productivity in the 1980's. For much of 1990, the spread was about a tenth higher than a year earlier. But, farm value of milk dropped sharply in the fourth quarter and the spread

widened to 21 percent above a year earlier. The unusually large increase in the spread for dairy products in 1990 likely reflects the instability of markets created by record-high farm prices of milk early in the year, low stocks of cheese, and strong demand that resulted in nearly a 3-percent increase in commercial use of all dairy products in 1990.

The farm-to-retail price spread increased 11 percent for fresh fruits and 5 percent for fresh vegetables. The farm-to-retail price spread for fruits and vegetables tends to vary with farm values. When the farm values increase (as in 1990), the spread increases. Movement in the same direction suggests that retail pricing is based to a large extent on a constant percentage markup on costs rather than a constant absolute markup.

Market basket price components

Farm-to-retail price spread widened for all food groups in 1990.

Group and price components	1980	1989	1990	Annual change	
				1980-90	1989-90
	-----Index, 1982-84 = 100-----			-----Percent-----	
Market basket:					
Retail price	88.0	124.6	133.5	4.2	7.1
Farm value	96.7	107.1	113.7	1.6	6.2
Farm-to-retail spread	83.5	134.1	144.2	5.6	7.5
Meats:					
Retail price	92.7	116.7	128.5	3.3	10.1
Farm value	96.7	103.3	116.6	1.8	12.9
Farm-to-retail spread	88.8	130.4	140.6	4.7	7.8
Dairy:					
Retail price	90.9	115.6	126.5	3.3	9.4
Farm value	96.2	99.1	102.0	.5	2.9
Farm-to-retail spread	85.9	130.8	149.1	5.6	14.0
Poultry:					
Retail price	93.7	132.7	132.5	3.5	-.2
Farm value	95.5	117.1	107.6	1.2	-8.1
Farm-to-retail spread	91.5	150.6	161.6	5.8	7.0
Eggs:					
Retail price	88.6	118.5	124.1	3.4	4.7
Farm value	88.3	107.5	108.0	2.0	.5
Farm-to-retail spread	89.0	138.1	153.2	5.5	10.9
Cereal and bakery:					
Retail price	83.9	132.4	140.0	5.2	5.7
Farm value	110.7	101.7	90.5	-2.0	-11.0
Farm-to-retail spread	80.6	136.7	146.9	6.1	7.5
Fresh fruit:					
Retail price	83.9	154.7	174.6	7.6	12.9
Farm value	83.7	108.5	128.2	4.3	18.2
Farm-to-retail spread	84.2	176.0	195.9	8.8	11.3
Fresh vegetables:					
Retail price	79.0	143.1	151.1	6.7	5.6
Farm value	73.4	123.3	132.0	6.0	7.1
Farm-to-retail spread	81.3	153.2	161.0	7.0	5.1
Processed fruit and vegetables:					
Retail price	82.6	125.0	132.7	4.8	6.2
Farm value	96.6	133.6	148.0	4.3	10.8
Farm-to-retail spread	79.1	122.3	127.9	4.9	4.6
Fats and oils:					
Retail price	89.3	121.2	126.3	3.5	4.2
Farm value	95.8	95.6	106.4	1.0	11.3
Farm-to-retail spread	86.9	130.6	133.7	4.4	2.4
Other prepared food:					
Retail price	97.0 ¹	125.5	131.2	3.0	4.5
Farm value	97.3 ¹	114.5	116.5	1.8	1.7
Farm-to-retail spread	96.9 ¹	127.2	133.5	3.2	5.0

¹Data for 1982.

Higher Food Prices Boosted Consumer Food Expenditures

While spending went up, the percentage of income spent for food declined because food expenditures did not rise as much as disposable personal income.

Food expenditures by families and individuals totaled \$466 billion in 1990, 5 percent more than in 1989, mainly because of higher food prices. However, the increase in spending was less than the rise in prices and population growth, which implies that the quantity of food and marketing services purchased last year declined.

Spending for food eaten at home by families and individuals totaled \$289 billion in 1990, 5.2 percent more than in 1989. Spending for meals and snacks eaten away from home rose 4.9 percent. Since 1980, away-from-home food expenditures have slightly more than doubled, but at-home food expenditures went up 62 percent. The main reasons for this difference are that eating out increased as incomes rose and more women entered the work force. Also, prices since 1980 for meals and snacks eaten out rose faster than prices for at-home foods. The share of food spending for away-from-home meals and snacks rose from 33 percent in 1980 to 38 percent since 1988. Growth in away-from-home eating slowed in 1989 and 1990 due to increases in take-out of foods from supermarkets and purchases of microwavable foods.

Food spending by families and individuals accounted for 11.8 percent of total personal disposable income in 1990, slightly lower than the previous year. This percentage has declined over the years because personal income has risen more than food expenditures. The 1990 share of food spending compares with 13.8 percent in 1980 and 17.6 percent in 1960. The decline reflects the inelastic nature of the aggregate demand for food: as income rises, the proportion spent for food declines as the desire for nonfood items grows stronger compared with the desire for additional food.

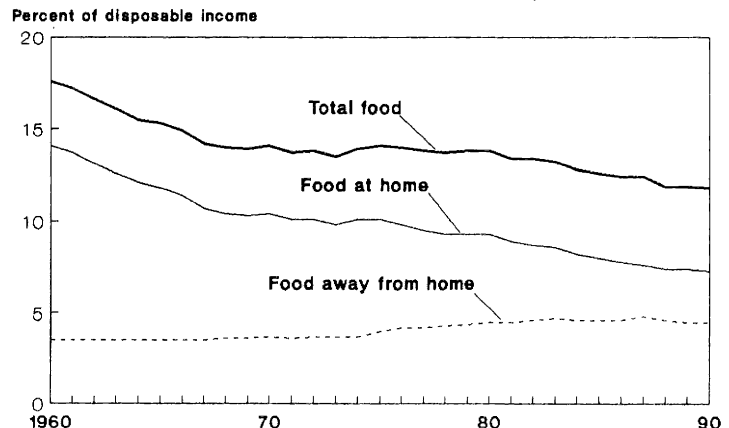
An annual Consumer Expenditure Survey by the U.S. Department of Labor reveals comprehensive informa-

tion on how much average households spend on food and other products and services. The findings for 1989 show that annual food expenditures averaged \$4,188 for all households, including single-person households. Spending varies by households of differing size, income, and other characteristics. For example, married couples with children, where the oldest child is between 6 and 17 years old, spent an average of \$5,860 for food in 1989, or about \$113 per week. Among major food categories, spending was highest for bakery products, beef, and dairy products.

The proportion of income spent on food varies widely by household income. Households with incomes, before taxes, of \$5,000-\$9,999 spent 30.7 percent of their after-tax income for food. Households with incomes of \$15,000-\$19,999 spent 20.5 percent of after-tax income for food. Households with incomes of \$30,000-\$39,999 spent 15.3 percent of after-tax income for food.

Share of income spent for food

Total food spending by families and individuals declined to 11.8 percent of disposable income in the last 30 years.



Income share spent on food over time

Food expenditures by families and individuals rose but continued long-term decline as a share of income.

Year	Disposable personal income	Expenditures for food			Proportion of income spent for food		
		At home ¹	Away from home ²	Total	At home	Away from home	Total
	<i>Billion dollars</i>	<i>Million dollars</i>			<i>Percent</i>		
1960	358.9	50,558	12,562	63,120	14.1	3.5	17.6
1965	486.8	57,382	16,946	74,328	11.8	3.5	15.3
1970	715.6	74,166	26,418	100,584	10.4	3.7	14.1
1975	1,142.8	115,087	45,918	161,005	10.1	4.0	14.1
1980	1,918.0	178,421	85,407	263,828	9.3	4.5	13.8
1985	2,838.7	228,440	129,689	358,129	8.0	4.6	12.6
1987	3,194.7	242,940	153,054	395,994	7.6	4.8	12.4
1988	3,479.2	255,910	158,992	414,902	7.4	4.6	11.9
1989	3,725.5	274,721	168,550	443,271	7.4	4.5	11.9
1990	3,945.8	289,000	177,000	466,000	7.3	4.5	11.8

¹Food purchases 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.

²Purchases 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 donated foods to schools, meals in prisons and other institutions, and expense-account meals.

Average household food spending in 1989

Food expenditures increase as income rises, but incomes generally rise more rapidly than food spending, so the share of income spent for food declines.

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	2.4	2.8
		<i>Dollars</i>		
Household income after taxes	28,496	7,438	16,443	31,477
Annual food expenditures	4,188	2,287	3,372	4,803
Food at home	2,403	1,597	2,122	2,812
Cereal products	130	100	117	146
Bakery products	232	159	210	284
Beef	204	140	192	250
Pork	117	96	98	139
Other meat	92	54	76	106
Poultry	100	65	93	112
Fish and seafood	71	35	75	78
Eggs	32	27	31	36
Fresh milk and cream	146	114	141	169
Other dairy products	158	103	128	189
Fresh fruit	122	87	102	148
Fresh vegetables	125	86	118	143
Processed fruit	89	67	78	102
Processed vegetables	67	41	63	80
Sugar and other sweets	86	56	67	105
Fats and oils	60	39	59	71
Miscellaneous food	356	188	293	419
Nonalcoholic beverages	216	140	181	235
Food away from home	1,785	690	1,250	1,991
		<i>Percent</i>		
Percent of income spent on food	14.7	30.7	20.5	15.3

Source: U.S. Department of Labor, Bureau of Labor Statistics, Office of Prices, *Consumer Expenditure Survey*.

Where Consumer Food Dollars Went

Three-fourths of last year's retail expenditures for food that originated on U.S. farms consisted of marketing charges.

Food expenditures can be divided into farm value and the marketing bill, which consists of the total charges by marketing firms for food processing, wholesaling, transportation, and retailing. In 1990, the marketing bill was \$338 billion, \$19 billion more than in 1989. The marketing bill was about three-fourths of the \$444 billion spent during 1990 for food that originated on U.S. farms. This expenditure figure includes food bought on business expense accounts, Government food donations, institutional feeding, as well as spending by families and individuals. About 24 percent, or \$106 billion, of last year's food spending represents the farm value returned to farmers. This share is a weighted average of the 30-percent farm share of spending for food consumed at home and a much lower 16-percent share of spending for food consumed away from home.

About \$9 billion of the \$19-billion increase in the marketing bill in 1990 can be traced to higher labor costs. Energy, food packaging materials, and transportation each added another \$1 billion. Here is USDA's analysis of what happened to food industry costs.

Labor. Total food industry labor costs were about \$154 billion in 1990, or about 35 percent of total consumer food spending and 45 percent larger than the farm value. Labor costs rose about 6 percent last year, about the same as in 1989, because of increases in the number of workers employed and worker wages and benefits. Average weekly earnings of workers in food processing and wholesaling rose nearly 3 percent, about 0.5 percentage point less than in 1989. Weekly earnings in food retailing advanced 2.4 percent, compared with only 1 percent in 1989. Food industry employment was stable in food processing, but it rose 2 percent for eating places and 3.3 percent for food stores.

Labor agreements with workers (particularly in retailing) that provide small wage increases, reduced pay for holiday and evening work, reduced medical benefits, and more management flexibility in scheduling work have tempered labor costs for the food industry during most of the past decade.

Packaging. Costs for food containers and packaging materials rose moderately in 1990. Costs increased mainly because of greater use of shipping boxes, food containers, and plastic materials. Prices of boxes and food containers were only slightly higher by 1 percent.

At \$36 billion, packaging costs accounted for 8 percent of total consumer expenditures for farm food.

Transportation. Costs of transporting food intercity by truck and railroad were nearly \$20 billion in 1990, 4.5 percent of consumer food expenditures. Railroad freight rates for hauling food products rose less than 2 percent. Deregulation kept truck rates stable for most of the 1980's, but steadily rising wages and higher fuel costs caused increases in truck rates for hauling produce and other food last year.

Energy. The energy bill for marketing foods from U.S. farms was \$16.5 billion in 1990, 3.5 percent of consumer expenditures for farm foods. Diesel fuel prices rose about 20 percent and electric rates rose about 2 percent, boosting energy costs of food processing and distribution.

Food Industry Profits Higher

Dollar profits in the food industry rose in 1990, in contrast to a decline the year before. The higher profits reflected larger sales and profit margins in food manufacturing and retailing. Food industry profits, before taxes, from marketing foods of domestic origin

Marketing bill versus farm value

Marketing bill is triple the farm value of food expenditures.

Year	Food expenditures ¹	Marketing bill	Farm value	Farm value share of expenditures ²
				Percent
-----Billion dollars-----				
1970	110.6	75.1	35.5	32
1975	167.0	111.4	55.6	33
1980	264.4	182.7	81.7	31
1985	345.4	259.0	86.4	25
1986	359.6	270.8	88.3	25
1987	375.5	285.1	90.4	24
1988	398.8	301.9	96.8	24
1989	422.9	319.1	103.8	24
1990	444.5	338.1	106.4	24

¹Includes foods bought on business expense accounts, Government donations, institutional feeding, as well as spending by consumers at grocery stores and eating places.

²This share includes spending on food away from home and, thus, is lower than the share for the market basket.

were nearly \$13 billion, or about 3 percent of consumer spending for farm foods.

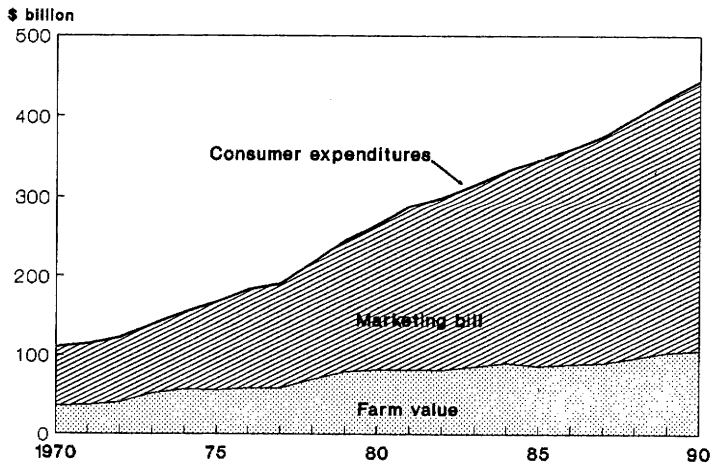
Aftertax profits of 26 leading manufacturers of food products were 4 percent of sales in the first 9 months of 1990, up from 3.8 percent in 1989. This increase reflects a much larger increase in net income (15 percent) than in sales (9 percent). A year earlier, the profit margin was squeezed, in large part, because some processors had much larger expenses, particularly interest on debt, stemming from changes in company ownership and corporate restructurings in recent years. The debt-to-asset ratio for the food manufacturing industry was 67.5 percent in 1989, up from 60.5 percent in 1988. In 1990, the ratio remained stable. The profit margin trended up from 1985 to 1988 partly because commodity prices were favorable and the corporate tax rate was lowered. Food manufacturers also have been able to hold down costs, with productivity gains averaging about 3 percent during the 1980's for major in-

dustries that include poultry processing and grain milling.

Aftertax profits of food chains rebounded in 1990, averaging 1.11 percent of sales in the first 9 months of the year, compared with 0.84 percent a year earlier. Returns on stockholder equity rose to the highest level ever, caused largely by a widespread shift from equity financing to debt financing in the past 2 years. This change decreased considerably the denominator of this ratio, equity. Profit margins of most food chains were higher in 1990 as a result of increases in income that offset continued high interest expense on debt. Retailers also continued to make greater use of technology, including scanning, satellite communications, and more sophisticated merchandising and labor scheduling systems to control labor costs, their largest operating expense.

Distribution of food expenditures

Marketing bill was three-fourths of 1990 food expenditures.

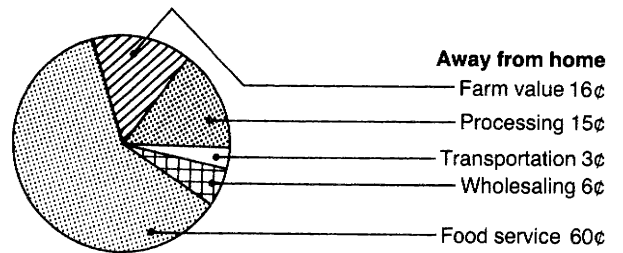
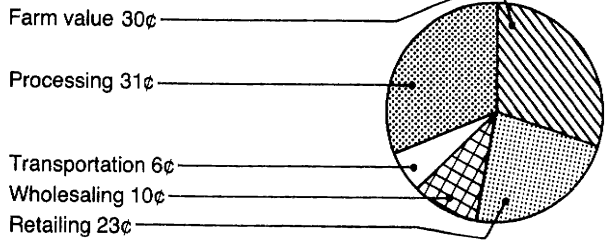


1990 preliminary. Data for foods of U.S. farm origin purchased by or for consumers for consumption both at home and away from home.

Marketing functions of the food dollar

Processing costs are largest marketing function for food eaten at home.

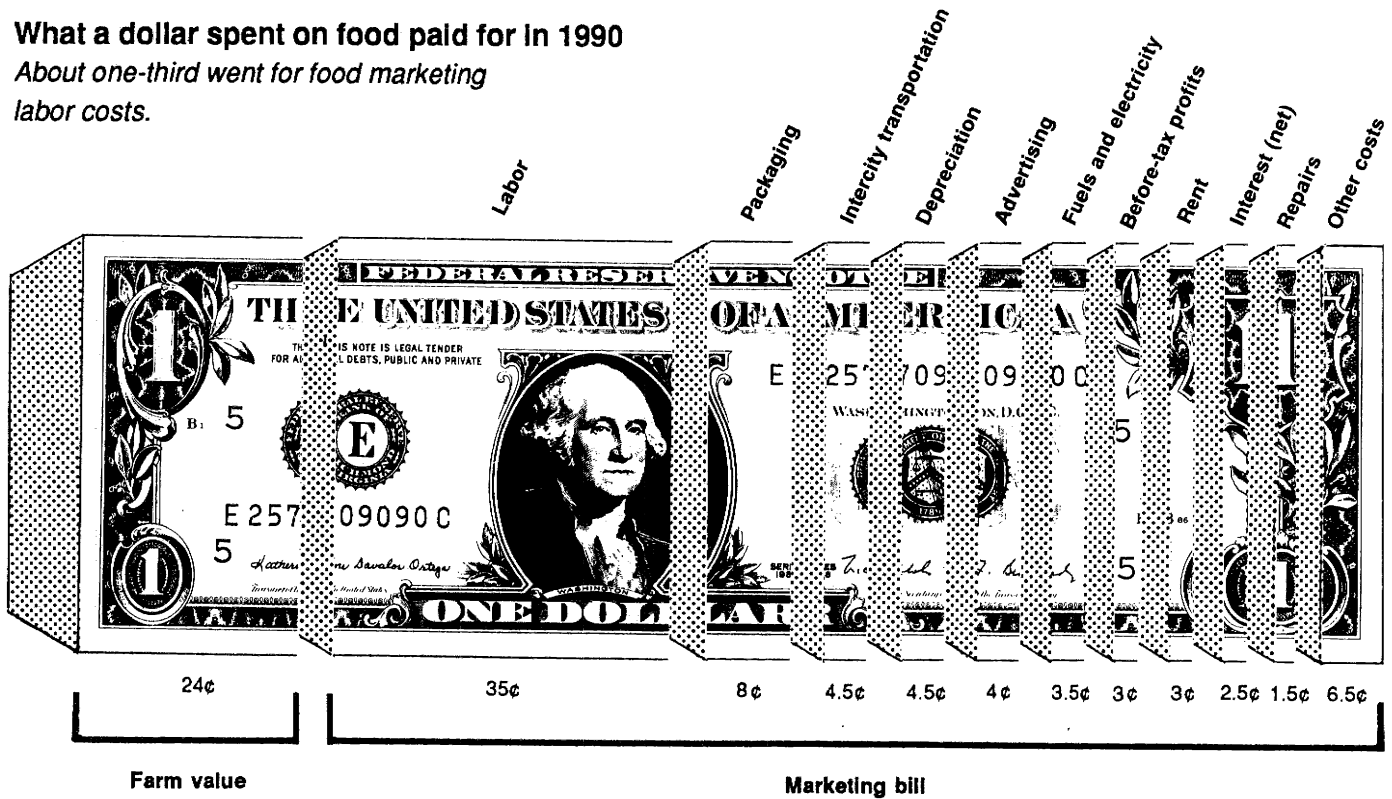
At home



1990 data.

What a dollar spent on food paid for in 1990

About one-third went for food marketing labor costs.



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

Would You Like More Information?

This report summarizes a more detailed report, *Food Cost Review, 1990*, to be published in the summer. In addition to reporting on recent developments in food prices, farm-to-retail price spreads, food spending, profits, and marketing costs in the food industry, the full report discusses price spread changes for leading food items such as Choice beef, milk, and bread. It also includes statistical tables and charts.

To receive ordering information when the report is issued, send your name and address to the Commodity Economics Division, Room 1137, Economic Research Service, USDA, 1301 New York Avenue, NW., Washington, DC 20005-4788. Call Denis Dunham at 1-202-219-0870 for information.

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