

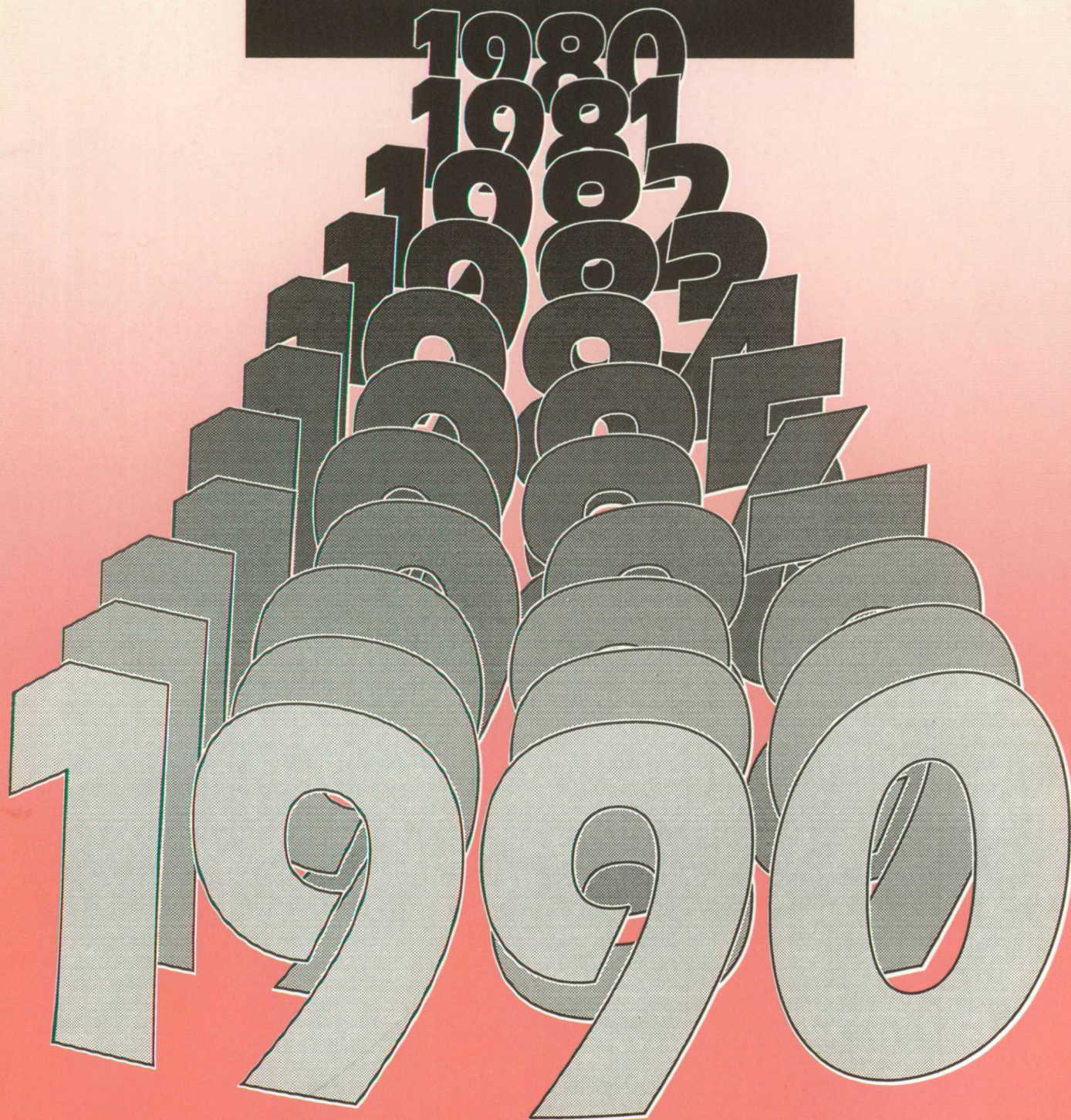
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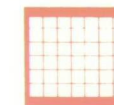
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Editor's Note: This is the 1990 Yearbook issue that traditionally focuses on what's occurred in the food sector in the last year. As we start the 1990's, however, we felt it appropriate to review the trends of the last decade. We hope you'll find this historical review interesting and informative.

Food Consumption

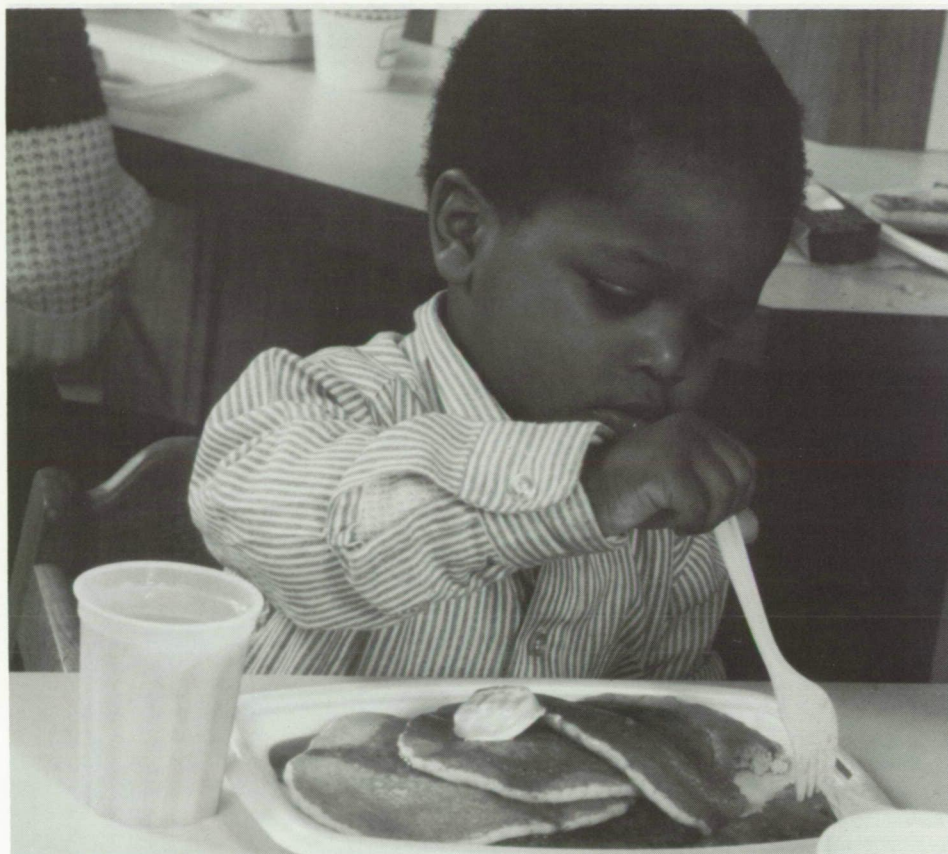
The American diet has changed quite a bit over the last two decades. Beef consumption, for example, fell almost 7 percent between 1966-68 and 1986-88, while chicken rose almost 72 percent, turkey 80 percent, and fish and shellfish more than 38 percent (*table 1*). Egg use has also declined, while cheese has increased steadily. Fresh fruits and vegetables reached record levels in 1988, with fresh broccoli one of the biggest gainers, increasing over 940 percent between 1966-68 and 1986-88.

A variety of factors are responsible for the changes in U.S. consumption patterns, including diet and health concerns and increases in real (adjusted for inflation) disposable income. New products, particularly more convenient ones, have also contributed to shifts in consumption along with an aging population, advertising campaigns, smaller households, more two-earner households, more single-person households, and an increasing proportion of ethnic minorities in the U.S. population.

The Economic Research Service (ERS) publishes per capita consumption statistics annually in *Food Consumption, Prices, and Expenditures*. ERS estimates are based on food disappearance data (*see box*). These data represent the amount of food available for human use. They can be used as a proxy to estimate human consumption even though the data may overstate what's actually eaten because they do not account for waste.

Here are some of the highlights from the ERS bulletin:

- **Meat, poultry, and fish:** In 1989, total meat, poultry, and fish consumption reached a record 187 pounds per person (boneless, trimmed equivalent), 6 pounds more than in 1971. However, we consumed an average of 24 pounds less red meat, 26 pounds more poultry, and 4 pounds more fish and shellfish than in 1971.



Pork consumption averaged 44 pounds per person (on a boneless basis) in 1989, about the same as 1980-89 and 1970-79 but 5 pounds below 1960-69 and 9 pounds less than 1955-59 (*see box*). At 65 pounds per capita in 1989, beef use was 14 pounds below 1971's total and 24 pounds less than the high of 89 pounds in 1976 when beef supplies reached record levels as ranchers reduced the size of the Nation's beef herd. The current forecast for 1990 indicates beef consumption will be at the lowest level since 1962.

Americans consumed 19 pounds per capita more chicken in 1989, up 70 percent from 1971. Chicken is forecast to top 75 percent of beef consumption in 1990, up from 35 percent in 1971. Turkey rose 4.7 pounds to 14.2 pounds per capita, gaining an average of 9.9 percent annually between 1985 and 1990, com-

pared to 2.8 percent a year between 1976 and 1984.

Per capita fish and shellfish consumption rose 5 percent in 1989 to 15.7 pounds. That's a 4.2-pound increase from 1971. Canned tuna rose 10 percent to 3.9 pounds per person—a 1.5-pound gain from 1971. Fresh and frozen fish and shellfish totaled 10.4 pounds per person in 1989, up 3.7 pounds from 1971. Consumption of cured fish, canned salmon, shellfish, and sardines declined on a per capita basis between 1971 and 1989.

- **Eggs.** Total egg consumption dropped from 310 per capita in 1971 to 235 in 1989. Shell egg use declined from 274 to 190. At the same time, consumption of eggs in the form of egg products rose from 36 per capita in 1971 to 45 in 1989. The increase reflects greater numbers of both foodservice (fast food and other)

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Table 1. Consumption Statistics Show Twenty Years of Change

Item	1966-68	1971-73	1976-78	1981-83	1986-88	1966-68 to 1986-88	1976-78 to 1986-88
	<i>Pounds per capita¹</i>					<i>Percent change²</i>	
Some Gainers...							
Fresh broccoli	0.3	0.7	1.0	1.9	3.5	940.4	231.8
Low-calorie sweeteners ³	6.9	5.1	6.5	10.2	19.2	179.1	193.2
Fresh cauliflower	0.9	0.7	0.9	1.5	2.5	179.7	174.1
Fresh grapes	3.5	2.2	2.9	4.6	6.8	91.2	134.8
Rice	na	7.2	6.7	10.8	13.1	na	95.1
Yogurt	0.5	1.3	2.4	2.8	4.5	846.1	89.4
Fresh carrots	6.6	6.3	5.6	7.1	9.9	50.0	77.0
Frozen broccoli	na	1.0	1.2	1.5	2.1	na	67.6
Turkey ⁴	6.5	6.8	7.2	8.6	11.7	80.1	62.7
Cheese (excl. cottage)	10.1	12.8	16.1	19.5	23.5	133.5	46.0
Lowfat milk ^{5,6}	3.1	5.4	8.1	9.7	11.6	276.2	43.0
Chicken ⁴	24.9	28.0	30.5	36.2	42.8	71.7	40.2
Cream ⁷	5.8	4.8	5.0	5.5	7.1	22.7	42.4
Fresh tomatoes	10.4	10.2	10.8	11.4	14.7	41.9	36.2
Fresh onions	11.2	12.0	12.6	13.8	16.3	46.4	29.3
Salad and cooking oils	13.0	16.7	19.6	22.4	25.0	92.8	27.8
Fresh bananas	18.4	18.0	19.6	21.7	24.9	35.7	27.5
Skim milk ⁵	1.3	1.5	1.4	1.3	1.7	34.9	24.7
Soft drinks ⁵	18.6	22.4	25.4	27.1	31.4	68.3	23.2
Shortening	16.1	17.1	17.6	18.5	21.6	34.2	22.8
Frozen corn	na	5.6	6.5	6.2	7.9	na	21.8
Wine ^{5,8}	1.7	2.6	2.9	3.3	3.4	96.7	19.0
Fish and shellfish ⁴	10.9	12.2	13.0	12.6	15.0	8.2	15.7
Pasta ⁹	6.3	8.5	10.3	10.4	11.9	88.3	15.7
Fresh apples	15.4	15.4	16.5	17.1	19.0	23.8	15.3
Breakfast cereals	9.9	10.7	12.2	12.0	13.5	37.2	11.2
Orange juice ⁵	2.7	3.7	4.4	4.5	4.9	83.1	10.1
Wheat flour ¹⁰	106.3	103.8	109.5	110.4	119.3	12.2	8.9
Frozen potatoes	na	14.6	20.8	19.3	22.6	na	8.8
Butter	5.7	5.0	4.3	4.5	4.6	-20.3	5.6
Iceberg lettuce	19.9	21.1	23.5	23.9	24.7	24.5	5.5
Caloric sweeteners ¹¹	116.2	124.9	125.5	124.0	131.5	13.2	4.8
Fresh potatoes	na	53.2	46.6	45.5	48.8	na	4.7
Some Losers...							
Veal ⁴	2.9	1.6	2.4	1.4	1.3	-53.8	-46.1
Whole milk ⁵	27.5	24.0	19.5	15.6	12.9	-53.1	-33.8
Canned green peas	na	3.2	2.9	2.5	2.0	na	-32.8
Canned peaches	na	5.0	4.6	3.4	3.3	na	-27.8
Distilled spirits ^{5,8}	2.8	3.1	3.1	2.8	2.3	-17.6	-25.2
Nonfat dry milk	5.7	5.0	3.3	2.2	2.5	-55.8	-23.9
Canned corn	na	14.8	13.5	11.7	10.8	na	-19.6
Beef ⁴	75.4	78.5	85.8	73.0	70.5	-6.6	-17.8
Coffee ⁵	36.2	33.0	28.1	26.1	26.0	-28.2	-7.5
Lamb ⁴	2.5	2.0	1.1	1.1	1.0	-59.9	-8.8
Eggs ¹²	317.3	300.3	270.0	262.7	249.7	-21.3	-7.5
Evaporated & condensed milk	14.2	10.9	8.0	7.1	7.9	-44.6	-2.5
Beer ^{5,8}	28.3	31.7	34.7	36.2	34.4	21.4	-0.8

na = not available.

¹Annual average data. ²Percent computed from unrounded data. ³Sugar-sweetness equivalent. ⁴Boneless, trimmed equivalent. ⁵Gallons. ⁶Includes buttermilk. ⁷Includes half and half and sour cream. ⁸Adult population, 21 years and over. ⁹Excludes fresh pasta products. ¹⁰White and whole wheat flour excluding durum and semolina used in pasta. ¹¹Dry basis. ¹²Number of eggs.

Source: Food Consumption, Prices, and Expenditures. SB-804. USDA, ERS. May 1990.

Contact: Judith Jones Putnam (202) 786-1870.

establishments using eggs and food products containing eggs, such as pasta and sweet baked goods.

● **Dairy products.** Per capita use of total fluid milk declined steadily from 271 pounds in 1971 to 229 pounds in 1988. Whole milk's share fell from 80 percent in 1971 to 46 percent in 1988. Lowfat and skim milk (including buttermilk and lowfat and nonfat yogurts) increased from 20 percent to 54 percent.

Cheese consumption nearly doubled from 12 pounds per person in 1971 to 23.6 pounds in 1988. Cheddar cheese, Americans' favorite, increased 59 percent to 9.5 pounds per capita. Italian cheese consumption more than tripled. Mozzarella quadrupled from 1971, reaching 6 pounds per capita in 1988.

Fluid cream consumption was 7.2 pounds per capita in 1988, up from 4.8 pounds in 1971. However, it was still just over half of the 13.6 pounds in 1946. As cream sales fell between 1946 and 1972, the probability of getting cartons of spoiled cream increased dramatically. Consequently, consumer dissatisfaction and industry costs rose due to a high rate of return of spoiled product. Sales began to reverse when ultrapasteurization was widely adopted in the early 1970's, increasing the shelflife of cream products. This brought single-serving packages of cream back into restaurants.

Policy changes at about the same time resulted in a decrease in the relative prices for milkfat and, consequently, cream. High Federal dairy support prices made cream more expensive than imitation cream products, encouraging their production and use.

● **Fats and oils.** Use of visible fats and oils (butter, margarine, shortening, salad and cooking oils, lard, and edible tallow) increased 21 percent from 1971, reaching 62.7 pounds per person (on a fat-content basis). A 39-percent increase in vegetable fats and oils (mainly shortening and salad and cooking oils) more than offset a 26-percent decrease in the use of animal fats (lard and butter). As consumers

How Food Consumption Is Measured

Estimates of the total available U.S. food supply are based on the sum of production, beginning inventories, and imports. These three components are either directly measurable or estimated by Government agencies using sampling and statistical methods.

The food available for human use is what's left after deducting exports, industrial uses, farm seed and feed, and end-of-year inventories. Human food use is not directly measured or statistically estimated. Instead, use is often referred to as "food disappearance." It measures food supplies for consumption through all outlets, at home and away from home. Per capita food consumption usually is calculated by dividing total food disappearance by the U.S. total population on July 1.

In general, food disappearance data indicate trends in consumption over time rather than measure absolute levels of food eaten. Food disappearance estimates can overstate actual consumption because they include spoilage and waste accumulated through the marketing system and in the home.

While the data reflect the amount of fats and oils sold for

human food, they probably do not accurately reflect trends in what is actually eaten because the proportion wasted has grown over the last two decades. A recent study by SRI International indicates that the quantity of used frying fat disposed of by restaurants and processed by renderers for use in animal feeds, pet foods, industrial operations, and for export now annually amounts to about 6 pounds per person, or about 10 percent of the 1988 disappearance of food fats and oils.

The Nationwide Food Consumption Survey (NFCS), conducted by USDA's Human Nutrition Information Service, provides information on food use by U.S. households or food intake by individuals. The survey is conducted every 10 years, with data collection for the most recent NFCS completed in 1988.

The Continuing Survey of Food Intake by Individuals (CSFII), initiated in 1985, reports individual food intake data for each year between the decennial NFCS. CSFII results provide annually updated moving averages of dietary intakes. For more information, call Dr. Howard Riddick, Human Nutrition Information Service, (301) 436-8485.

the two decades. Americans also ate more asparagus, cauliflower, and celery, while fresh corn declined almost 1 pound per person. Gains in frozen corn were more than offset by declines in canned corn consumption. We're also using fewer canned and more frozen vegetables.

Fresh fruit consumption gained 19 pounds per capita from the 1971-73 annual average to a total of 94 pounds (retail-weight equivalent) in 1988. The rise was due entirely to sharp increases in

fresh noncitrus fruits like bananas, grapes, apples, avocados, pineapples, and strawberries.

● *Flour and cereal products.* Per capita use rose from the annual average of 142 pounds in 1971-73 to 172 pounds in 1988. However, this is still considerably below the 204 pounds consumed in 1945-49 and 287 pounds in 1910-13. Rice, pasta, and breakfast cereals together increased 55 percent between 1971 and 1988 to 41 pounds per person (*figure 1*).

● *Sweeteners.* Total use, including caloric sweeteners on a dry weight basis and low-calorie sweeteners on a sugar-sweetness equivalency basis, increased steadily from 121 pounds per capita in 1966 to 153 pounds in 1988.

Americans increased per capita caloric sweetener consumption (dry basis) 16 percent during 1966-88 to 133 pounds. Increased use of high-fructose corn syrup (HFCS) cut food use of refined sugar from the record 102.3 pounds per capita in 1972 to 61.7 pounds in 1988. HFCS, glucose, and dextrose (all corn sweeteners) became economical because of abundant corn supplies and low corn prices. At the same time, Federal policy ensured high support prices for domestic sugar growers through import quotas on refined sugar. In 1985, total corn sweeteners surpassed cane and beet sugar use for the first time.

U.S. per capita consumption of low-calorie sweeteners (mainly aspartame and saccharin) increased faster than caloric sweeteners in the 1980's. By 1988, low-calorie use was about 20 pounds (sugar sweetness equivalent) per person, accounting for nearly 13 percent of total sweetener consumption, compared with 6 percent in 1980. This segment of the sweetener industry is changing rapidly because of new uses for low-calorie sweeteners approved by the U.S. Food and Drug Administration (FDA), introduction of new sweeteners, and growth in the "light" food segment of the food industry.

grew more concerned about saturated fat, animal fat declined from 28 percent of total visible fat consumption in 1971 to 17 percent in 1988.

● *Fresh fruits and vegetables.* Total per capita consumption of nine major commercial fresh vegetables reached a record high in 1988—20 percent more than in 1980 and 37 percent above 1971. Onions, iceberg lettuce, and tomatoes rose about 5 pounds each and carrots and broccoli more than 3 pounds each over

USDA Meat Consumption Series To Be Revised In Early 1991

USDA is currently revising its red meat and poultry consumption series to reflect changes in marketing practices and to facilitate comparisons of red meats and poultry on an equivalent basis. USDA has several meat and poultry consumption series, depending on the amount of bone and internal organs removed. Consumption of red meat is reported on carcass, retail, and boneless trimmed weight bases. Chicken and turkey consumption is reported as ready-to-cook and boneless. The National Marine Fisheries Service similarly reports an edible-weight or boneless-weight series for fish and shellfish.

The boneless, trimmed series are a close measure of the amount Americans have available for consumption, but should not be equated with the amount actually eaten. Significant losses occur in home preparation and consumption, including trimming, cooking, and disposal of uneaten portions (including that fed to pets).

The boneless, trimmed series show that Americans continued to eat more beef than poultry in 1989. Since 1987, however, many in the press and elsewhere have reported that Americans, on average, are eating more poultry than beef. Such reports are based on an increasingly inappropriate comparison of retail weight for beef which contains little bone and ready-to-cook

(RTC) weight for poultry which includes bones, skin, fat, liver, heart, gizzard, and neck. The difference between RTC weight and boneless weight for chicken was 24.5 pounds per capita in 1989.

USDA uses conversion factors to derive retail and boneless weights from the carcass. In 1989, for example, USDA estimated that 70.5 percent of the beef carcass was processed into products suitable for sale in grocery stores (retail-weight). The conversion factor had remained at 74 percent from 1962 through 1985. Changes in beef production and processing, however, have prompted adjustments in the factor annually since 1986.

The revised figures account for leaner cattle, closer trimming of fat, and removal of more bone. The lower conversion factor means that 3.6 pounds less beef per capita were purchased in 1988 than if the 1962-85 factor were used. Exterior fat trimmed from beef cuts before retail sale accounted for 2.2 pounds of the difference, less bone amounted to 1 pound, and less fat in hamburger and processed meat to 0.4 pound.

It is not clear how these changes affect the amount of beef fat actually ingested. In earlier years, consumers may have trimmed much or all of the beef fat now being removed by meat packers and food distributors.

Revised estimates of the pork carcass-to-retail weight conversion factors will put per capita pork con-

sumption at the retail-weight level somewhat lower than currently reported for all years. The revisions, to be published in early 1991, will go back to 1955 to reflect the trend toward leaner hog carcasses over the last 35 years, closer trimming of fat, and removal of more skin and bone. The difference between the current and new series will likely gradually increase over the 1955-89 period, reflecting a pronounced trend at retail to a largely boneless and nearly skinless product. The current factors do not adjust for skin and bone removal.

Revisions of the boneless-trimmed-weight pork consumption series have the potential to significantly alter the historical pattern of per capita pork supplies available for domestic consumption. The current series has a constant factor of 67 percent for all years, while the new series' conversion factors will increase annually to better reflect the trend toward leaner hog carcasses and changes in pork marketing practices.

Current plans call for a new and revised poultry consumption series also to be introduced in early 1991. The RTC series will likely be adjusted to make it more comparable to the red meat carcass-weight series. A new retail-weight poultry series will be introduced that reflects trends in merchandising practices, including the increasing availability of boneless and skinless poultry.

On a Boneless, Trimmed Weight Basis, Beef Consumption Was Still Greater Than Poultry in 1989¹

Year	Red meat					Poultry ²			Fish and shellfish	Total red meat, poultry, and fish ³
	Beef	Veal	Pork	Lamb	Total ³	Chicken	Turkey	Total ³		
Pounds per capita										
1966	73.7	3.2	44.3	2.6	123.8	24.6	6.3	30.9	10.7	165.4
1971	79.0	1.9	52.6	2.1	135.5	27.7	6.6	34.3	11.5	181.3
1976	88.9	2.7	39.2	1.2	132.1	29.3	7.2	36.5	12.9	181.4
1981	72.7	1.3	46.8	1.0	121.9	35.4	8.5	43.9	12.7	178.5
1986	74.1	1.6	41.6	1.0	118.3	40.5	10.5	51.1	14.5	183.8
1987	69.2	1.3	41.8	1.0	113.3	43.2	12.0	55.3	15.5	184.1
1988	68.2	1.1	44.7	1.0	115.1	44.5	12.6	57.1	15.0	187.2
1989	65.0	1.0	44.3	1.1	111.3	47.0	13.5	60.5	15.7	187.4
1990 ⁴	63.9	.9	42.6	1.1	108.5	49.7	14.2	63.9	na	na

na = not available.

¹Boneless equivalent for poultry and red meat subtracts all bone and the fat that is normally trimmed before retail sale. Conversion factors for red meats adjust from carcass to boneless, trimmed weight: beef = 0.698 for 1962-85, 0.69 for 1986, 0.67 for 1987, 0.667 for 1988-1990; pork = 0.67; veal = 0.685; lamb = 0.658; chicken = 0.69; and turkey = 0.79. Boneless equivalent, or edible weight, for fish is calculated by the U.S. Department of Commerce. ²Includes skin, neck meat, and giblets. ³Total may not add due to rounding. ⁴Forecast.

Source: *Food Consumption, Prices, and Expenditures*. SB-804. USDA, ERS. May 1990.

Contact: Judith Jones Putnam (202) 786-1870.

Because only a fraction of low-calorie sweeteners is needed to provide the same degree of sweetness as sugar, low-calorie use is reported on a sugar-sweetness equivalent (SSE) basis. Aspartame, for example, is 180-200 times as sweet as sucrose, compared with saccharin's 300 SSE. Aspartame's taste, however, is considered superior to saccharin. In fact, the rapid rise of low-calorie sweetener use reflects accelerated adoption of aspartame, first introduced for commercial use in 1981.

Another high-intensity, low-calorie sweetener, acesulfame-k (ace-k) entered U.S. commercial use in 1988. Ace-k is equal to aspartame in sweetness but, unlike aspartame, does not lose its sweetness when heated. Its taste quality, however, is said to be below that of sucrose or aspartame.

Other low-calorie sweeteners are awaiting approval by the FDA for use in the U.S. market. Among them are alitame, which is 2,000 times sweeter than sugar, and sucralose, 600 times sweeter than sugar. Cyclamate use was

banned by the FDA in 1970 but is being reconsidered for certain restricted uses.

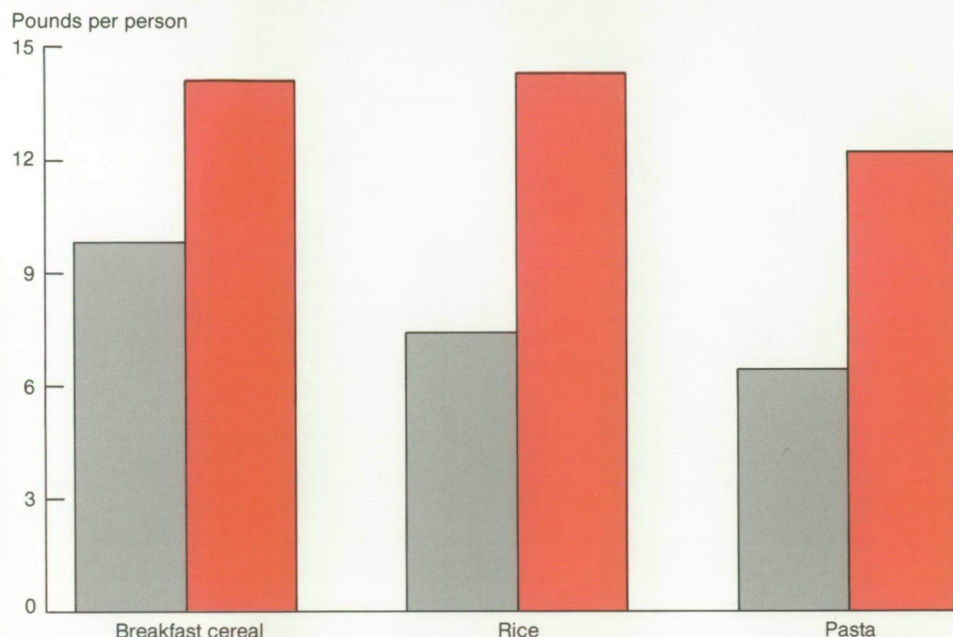
The potential exists over the next decade for a reduction in the use of sugar and corn sweeteners as high-intensity sweetener alternatives find increasing areas for substitution at competitive prices. Food processors could also adopt a multisweetener policy; sweeteners, both caloric and low-calorie, are likely to be increasingly combined to obtain the optimal mix in terms of price and such functional factors as sweetness, taste, texture, and stability. Moreover, interest in "light" foods appears to be growing rapidly and low-calorie alternatives are well positioned to capture the growth. For example, a West Coast food processor is now marketing a new low-calorie line of "light" fruit spreads that use aspartame rather than sugar. The jams contain about half of the calories of sugar- or corn-sweetener based jams, and are currently being marketed at about 15 cents a jar more than traditional sugar-based jams.

What's Behind the Food Consumption Trends?

A number of factors explain the changes in food consumption over the last two decades. Diet and health information, for example, have directly influenced the amount of fat trimmed from retail beef and pork cuts. Some retailers have been selling leaner cuts of beef (mostly Good/Select grades) and less fatty ground beef to satisfy consumer demand. Meat processors have been marketing a host of reduced-fat and reduced-sodium processed meat products which carry nutrition labeling.

The popularity of fish, seafood, and chicken has increased even though prices rose faster than for beef and pork from 1980 to 1989. The cost of 3 ounces of cooked lean meat from bone-in chicken breasts, for example, jumped from 50.8 cents in 1980 to 83.8 cents in 1989 (*table 2*). In contrast, the same amount of cooked lean meat from a U.S. Choice chuck roast increased from 81.9 cents to 84.7 cents.

Health concerns about tropical oils (palm oil, palm kernel oil, and coconut

Figure 1. Consumption of Rice and Pasta Doubled Between 1967 and 1988

Source: Judith Jones Putnam, *Food Consumption, Prices, and Expenditures 1967-88*. USDA, ERS, Stat. Bull. No. 804, May 1990.

Contact: Judith Jones Putnam (202) 786-1870

oil) in processed foods are receiving widespread attention. According to a recent ERS study, the United States used about 14.5 billion pounds of fats and oils in edible products in 1987/88, of which 550 million pounds, or 4 percent, were tropical oils.

Several major food processing companies have eliminated these oils in all or most of their products. Other firms plan to follow. Substitution is fairly easy in baking and frying fats, salad and cooking oils, and margarine. However, replacing tropical oils in confectionery products and cracker spray coatings is more difficult because other oils do not have the same properties. ERS estimates that as much as half of the tropical oils in U.S. food products could be eliminated, more if acceptable substitutes are found.

Annual per capita consumption of fresh fruits and vegetables rose very slowly in the 5 years after the Government began advising Americans in late 1977 that risk for various chronic diseases could be reduced by moderating dietary fat and eating foods containing

Table 2. With Its Growing Popularity, the Cost of Chicken Has Risen Faster than Beef

Year	Retail price per pound						Cost of 3 ounces of cooked lean¹					
	Chicken			Beef		Canned tuna, chunk, light	Chicken			Beef		Canned tuna chunk, light
	Whole, ready-to-cook	Legs, bone-in	Breasts, bone-in	Ground chuck	U.S.Choice chuck roast, bone-in		Whole ready-to-cook	Legs, bone-in	Breasts, bone-in	Ground chuck	U.S.Choice chuck roast, bone-in	
Cents												
1980	70.9	106.7	127.1	183.3	181.9	235.5	39.0	49.1	50.8	47.7	81.9	49.5
1981	73.2	111.9	148.5	180.4	181.7	255.3	40.3	51.5	59.4	46.9	81.8	53.6
1982	71.4	106.9	148.5	177.5	178.9	246.9	39.3	49.2	59.4	46.2	80.5	51.8
1983	72.5	104.2	151.7	173.1	173.3	230.9	39.9	47.9	60.7	45.0	78.0	48.5
1984	81.0	115.4	170.2	171.7	168.1	211.8	44.6	53.1	68.1	44.6	75.6	44.5
1985	76.3	107.7	166.1	167.8	157.1	200.6	42.0	49.5	66.4	43.6	70.7	42.1
1986	83.5	116.7	184.8	163.3	158.5	199.8	45.9	53.7	73.9	42.5	71.3	42.0
1987	78.5	108.8	180.4	170.7	167.8	197.2	43.2	50.0	72.2	44.4	75.5	41.4
1988	85.4	114.1	193.2	176.1	173.1	215.6	47.0	52.5	77.3	45.8	77.9	45.3
1989	92.7	120.6	209.4	182.7	188.2	207.5	51.0	55.5	83.8	47.5	84.7	43.6

¹Part of retail-weight pound for 3 ounces of cooked lean: Whole ready-to-cook broiler, 0.55; bone-in chicken legs, 0.46; bone-in chicken breasts, 0.40; ground chuck, 0.26; U.S. Choice bone-in chuck roast, 0.45; and canned light chunk tuna, 0.21. These factors are based on data from Agriculture Handbook No. 8-5 (revised August 1979) for chicken, No. 8-13 (revised August 1986) for beef, and No. 8-15 (revised September 1987) for fish.

Source: ERS, USDA and the Bureau of Labor Statistics, U.S. Dept. of Labor.

Contact: Judith Jones Putnam (202) 786-1870.

more complex carbohydrates (fruits, vegetables, grains, legumes, and cereal products). Consumption began increasing more rapidly following public health reports beginning in the early 1980's. The National Academy of Science's (NAS) Committee on Diet, Nutrition, and Cancer (1982) and the American Cancer Society (1984) proposed interim dietary guidelines aimed at lowering cancer risk. The Consensus Conference of the National Institutes of Health resulted in recommendations to lower blood cholesterol (1985). Consumers were advised to eat carotene-rich dark green/yellow and cruciferous vegetables, such as broccoli, to reduce the risk of cancer. Demand for such vegetables increased dramatically, led by broccoli and cauliflower. Consumption is likely to continue growing, particularly in light of a recommendation by the NAS Committee on Diet and Health that Americans double their consumption of fruits and vegetables. The Committee also concluded that any increased exposure to pesticide residues posed by eating more produce was "greatly outweighed by the potential benefits (i.e., reduced risk of cancers of the lung, stomach, colorectum, and other sites and reduced risk of other chronic diseases)." USDA recommends two to four servings of fruit and three to five servings of vegetables per day as part of its pattern of daily food choices.

Per capita consumption of cereal and grain products showed a similar trend, rising slowly from the late 1970's and then very rapidly beginning in 1985. In late 1984, the Kellogg Company began an advertising and labeling campaign for All-Bran citing the National Cancer Institute's statements on the link between fiber and cancer. (The labeling portion of this campaign was in direct violation of longstanding FDA policy that essentially created a ban on health claims on food products. Spurred by the cereal campaign and other activities in the marketplace, FDA began developing criteria that would underlie a new policy initia-

tive in the area of health messages on food labels. In the interim, FDA has permitted companies to use health messages on labels if they follow certain criteria established by FDA.)

Other cereal producers followed with their own health claims and developed new high-fiber cereals. The ripple effect of the promotion of high-fiber cereals likely contributed to rapid increases in the use of rice and wheat flour products.

Awareness of the importance of calcium in the diet has been partly responsible for the recent upturn in consumption of dairy products. Over the longer run, however, concerns about reducing fat intake have been cited as one of the major factors influencing the trends away from whole milk to lowfat and skim milk and away from fluid milk to soft drinks.

The aging of the population also has encouraged greater consumption of soft drinks and beer. Between 1971 and 1988, annual average soft drink consumption increased 45 percent to 32 gallons per person. During the same period, the number of Americans under 16, the heavy milk-drinking group, fell from 30 percent to 23 percent of the population. The number of 16 to 44 year olds increased by nearly 30 million, from 40 percent of the total population in 1971 to 46 percent in 1988. They drank less coffee and more soft drinks and beer than their same age counterparts in 1971.

Americans, particularly middle-aged people fighting weight gain, significantly increased their consumption of low-calorie soft drinks and light beer in the 1980's. In the *1986 Continuing Survey of Food Intake by Individuals*, diet soft drinks accounted for about one-third of the soft drinks consumed by younger women and about one-half of those drunk by older women. Light beer's share of the market was 27 percent in 1989, compared to 13 percent in 1980. Similarly, diet soft drinks captured 27 percent of the market in 1989, compared to 16 percent in 1980.

The aging of the population also has encouraged greater consumption of flour and cereal products. ERS research indicates that in 1988 homes where the household head was 45 years or older spent an average of 36 percent more per person for cereals and bakery products than did younger households. Demand for flour and cereal products might be expected to rise in the 1990's as the first of the baby boom generation, the largest U.S. population segment, reaches 45 in 1991.

Changes in the racial and ethnic mix of the population also have influenced American food use patterns over the past 20 years. In 1989, whites accounted for 84.1 percent of the U.S. population, blacks for 12.4 percent, and others (mostly Orientals) for 3.5 percent. In 1971, whites accounted for 87.5 percent, blacks for 11.2 percent, and others for 1.3 percent. (Hispanics can be any race.) ERS research based on the *1981-86 Continuing Consumer Expenditure Diary Surveys* conducted by the Bureau of Labor Statistics indicates that whites, blacks, and others allocate their food dollar in substantially different ways.

In 1986, black urban households spent about 5 percent more per capita on meat, poultry, fish, and eggs than white urban households. Conversely, whites spent about 90 percent more than blacks on total dairy products, 195 percent more on cheese, 50 percent more on carbonated soft drinks, and 49 percent more on sugar and sweets. Whites also spent about 112 percent more on food away from home. Others (excluding blacks) spent 440 percent more than whites on rice, 106 percent more on fish, and 17 percent more on fresh fruits and vegetables.

The influx of minority groups, particularly from Third World countries, has diversified our food choices. Hispanics comprised 8.3 percent of the population in 1989, and Asians, 2.8 percent. Their various cuisines, which are increasingly popular among the general population, include more rice which partially

explains the big increase in per capita use. Shipments of specialty vegetables (oriental and tropical vegetables, snow peas, chili peppers, and others) have increased every year for more than a decade, as consumers have added variety to their diets. For instance, we imported 76 million pounds of chili peppers in 1988 (nearly a third of a pound per capita), up from 26 million pounds in 1985.

Over the last two decades, many new products have affected consumption. The rapid expansion in poultry, for example, has occurred mainly in the processed and cut-up sectors rather than in whole birds. Today's consumers can choose

from an array of poultry products, including leg packs, skinless breast fillets, whole baked hens, ground turkey, turkey "hams," turkey hotdogs, and turkey salami. One of the biggest boosts to chicken use has been its proliferation in fast food menus, giving consumers an alternative to hamburgers.

Convenience seems to be a key attribute of many new food products. Developments in packaging and processing cheese, for example, have encouraged greater consumption of some dairy products. Consumers can now purchase individually wrapped cheese slices, packaged shredded cheese, and frozen, prepared dairy products, such as quiche.

The greater quality and variety of oven-ready and microwaveable prepared foods with ingredient labeling and cook-

ing instructions boosted fish and seafood consumption over the last two decades. Seafood and dairy products also gained from intensive advertising campaigns. The National Seafood Council advised people to eat fish at least twice a week and the industry made a concerted effort to educate consumers about how to prepare seafood.

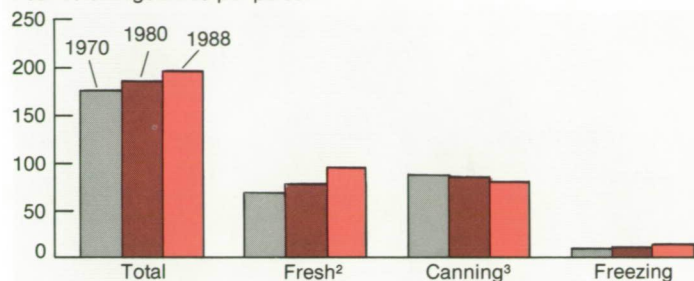
A 40-percent increase in real (adjusted for inflation) per capita disposable income between 1971 and 1989 also influenced food trends. Rising incomes enabled consumers to buy more costly processed products and to eat out more often. Americans spent 46 cents of every food dollar in restaurants and other foodservice establishments in 1989, compared to 34 cents in 1971.

Food Consumption. . . At a Glance

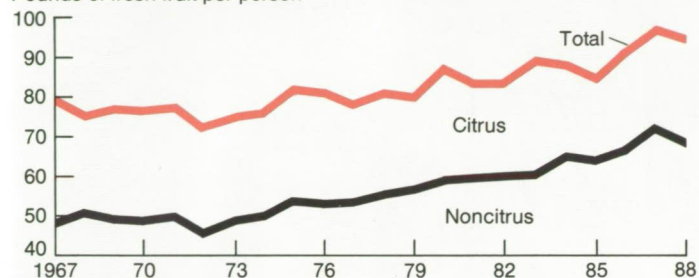
Americans are increasingly favoring foods that are fresh, lowfat, and sweet.

The American Diet Includes More Fresh Fruits and Vegetables

Pounds of vegetables per person¹



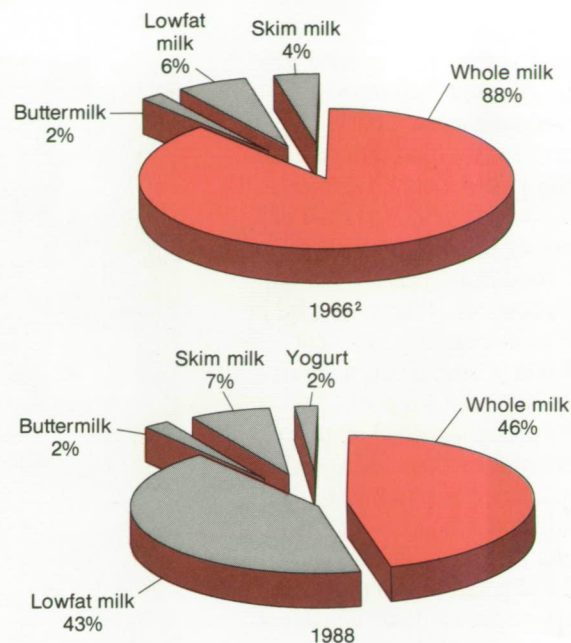
Pounds of fresh fruit per person⁴



¹Farm weight. ²Asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, onions, and tomatoes. ³Tomato products are about 60 percent of the total. ⁴Retail weight.

Source: *Food Consumption, Prices, and Expenditures 1967-88*.
Contact: Judith Jones Putnam (202) 786-1870.

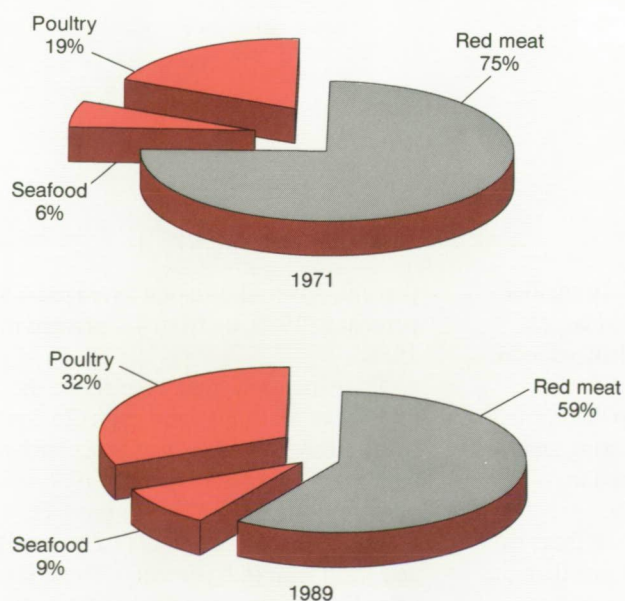
The Use of Whole Milk Has Declined Dramatically¹



¹Product weight. ²Yogurt = less than 0.2 percent.

Source: *Food Consumption, Prices, and Expenditures 1967-88*. Electronic database.
Contact: Judith Jones Putnam (202) 786-1870.

Poultry and Seafood's Share of Per Capita Meat Consumption Has Grown

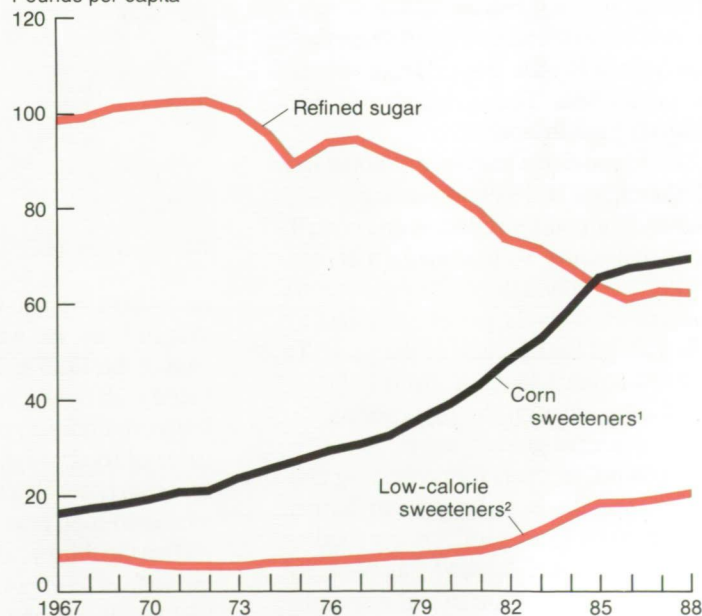


¹Boneless, trimmed basis.

Source: *Food Consumption, Prices, and Expenditures 1967-88*.
Contact: Judith Jones Putnam (202) 786-1870.

Total Sweetener Consumption Is Up, While Low-Calorie Sweeteners Are Becoming More Popular

Pounds per capita



¹Dry basis. ²Sugar-sweetness equivalent.

Source: *Food Consumption, Prices, and Expenditures 1967-88*.
Contact: Judith Jones Putnam (202) 786-1870.

Food Prices

Last year, food prices increased 5.8-percent—the largest jump since 1981. The increase in the Consumer Price Index (CPI) for food reflected the effects of the 1988 drought, weather-related disturbances in the first half of 1989, a growing demand for poultry among fast food firms, and inflation in the general economy. Prices for food in grocery stores increased 6.5 percent while food sold in restaurants and fast food outlets increased 4.6 percent.

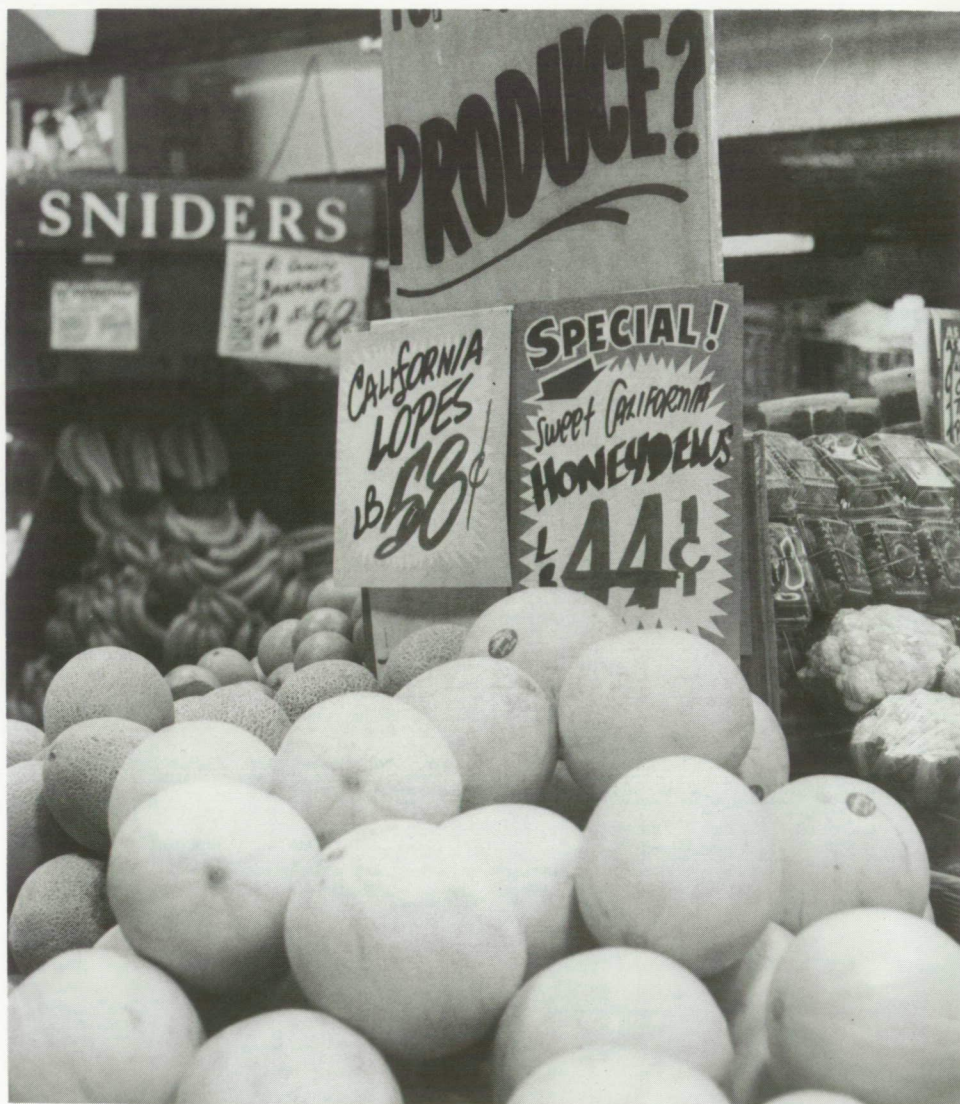
The 1988 drought pushed up prices for a number of farm commodities. The prices of potatoes, processed vegetables, and milk suffered most from its lingering effects. With smaller production in 1988, stocks of potatoes and processing vegetables were drawn down considerably. Consumers paid almost 29 percent more for potatoes in 1989 and 11 percent more for processed vegetables (table 1). Drought-damaged forage supplies meant poorer roughage for dairy cows and reduced milk output. By the last quarter of 1989, stocks of processed dairy products became tight and prices for all dairy products rose 6.6 percent.

A cold, wet first half of 1989 and a late frost in Florida slowed fresh vegetable production. Tomato prices were particularly high through May.

Fast food firms heavily promoted new chicken items in 1989, increasing demand for poultry products and contributing to a nearly 10-percent gain in poultry prices. Although broiler production was at record levels, prices continued to rise through the first half of the year. To ensure adequate supplies, firms bid wholesale prices up sharply, causing higher prices in grocery stores.

Farm prices, costs for processing and distributing foods, and consumer demand are the major factors influencing food prices. Consumer demand was bolstered by a 3-percent increase in real disposable (after-tax) personal income. This

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increase in income was slightly smaller than in 1988, but was the third largest gain in the 1980's. Strong demand, combined with tighter supplies of some food commodities, pushed up the farm value of food. Higher processing and distribution costs also contributed to increased food prices in 1989.

For the third year in the past four, the increase in food prices was more than the CPI for all consumer products and services. Housing, the largest component of the CPI, rose 3.8 percent, prices of apparel and upkeep rose only 2.8 percent, but medical care costs went up 7.7

percent. Overall inflation averaged 4.8 percent in 1989, up from 4.1 percent in 1988.

Price increases that were above the average of all foods were eggs (26.6 percent), fresh vegetables and processed vegetables (10.7 percent), poultry (9.9 percent), cereals and bakery products (8.4 percent), fats and oils (7.2 percent) and fresh fruit (6.6 percent). These large price increases resulted partly from the effects of the 1988 drought on commodity prices, and from strong demand among these food categories. Following many years of small price increases,

Table 1. Price Increases Larger for Most Foods in 1989

Item	1985	1986	1987	1988	1989
<i>Annual percent change in the Consumer Price Index</i>					
Food at home	1.4	3.2	4.3	4.2	6.5
Beef and veal	-2.1	0.6	7.6	5.5	6.4
Pork	0.2	8.2	8.2	-3.0	0.6
Other meats	0.6	2.6	6.3	2.6	2.8
Poultry	-1.0	7.5	-1.4	7.2	9.9
Fish and seafood	4.9	9.2	10.6	5.8	4.5
Eggs	-16.6	6.9	-5.9	2.3	26.6
Dairy products	1.9	0.2	2.5	2.4	6.6
Fresh fruit	10.1	2.1	11.2	8.3	6.6
Apples	6.1	15.5	0.3	2.4	4.7
Bananas	2.1	5.1	-0.8	14.4	10.2
Oranges	6.5	-9.3	25.1	6.4	1.7
Processed fruit	4.1	-2.9	4.0	10.3	3.2
Fresh vegetables	-4.3	4.0	12.9	6.3	10.7
Potatoes	-12.4	-5.3	20.7	2.7	28.9
Lettuce	10.5	6.2	21.0	8.9	2.0
Tomatoes	-1.9	7.4	4.9	5.4	10.6
Processed vegetables	1.1	-0.2	2.8	4.8	10.7
Fats and oils	2.2	-2.2	1.5	4.6	7.2
Sugar and sweets	2.5	3.1	1.8	2.7	4.7
Cereal and bakery products	3.8	2.8	3.5	6.4	8.4
Nonalcoholic beverages	2.0	5.9	-2.6	0.0	3.5
Food away from home	4.0	3.9	4.0	4.1	4.6
All food	2.3	3.2	4.1	4.1	5.8

Source: Bureau of Labor Statistics, Department of Labor.

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prices of dairy products rose 6.6 percent in 1989. Prices of fish and seafood advanced 4.5 percent, the smallest increase for that category in 5 years. Of all the major food categories, prices for nonalcoholic (coffee and soft drinks) beverages went up the least.

Retail Price Components

Retail prices can be broken down into two components—farm value and the farm-to-retail price spread (*see box*). The farm value represents the price farmers receive for the raw-commodity equivalent of foods in the market basket. USDA uses the market basket concept to track price changes for commodities farmers sell and foods consumers buy in retail grocery stores. It is representative

of foods purchased by urban consumers in grocery stores in 1982-84. The basket excludes fish, seafood, and beverages. Changes in retail prices of the market basket are components of the CPI for food at home.

The farm-to-retail price spread is the difference between the retail price and the farm value. The price spread covers processing, distributing, and retailing charges. A related concept is the farm value share—the average percentage farmers get from each dollar consumers spend in retail grocery stores.

The farm value of USDA's market basket of foods averaged 6.8 percent higher in 1989, nearly matching the year's rise in retail prices (*table 2*). The 1989 increase in farm value was due

partly to the 1988 drought and was the largest since 1984, when farm prices of citrus and soybeans rose sharply because of drought and freeze damage the previous year.

Red meat accounts for about 33 percent of the farm value of USDA's market basket. Farmers received 3.8-percent-higher prices for red meat in 1989, mainly reflecting a 4-percent increase in cattle prices and 1.5-percent-higher hog prices. For 1 pound of Choice grade beef selling for an average retail price of \$2.70, cattle producers received \$1.55 for the equivalent quantity of live animal (2.4 pounds) in 1989, or 8 cents more than in 1988. This increase reflected a 2-percent decline in beef production.

In contrast, slightly larger pork supplies had little effect on farm value. For 1 pound of pork selling for \$1.83 retail in 1989, hog producers received 70 cents for the equivalent quantity of live animal (1.7 pounds), 1 cent more than in 1988.

Much higher producer prices for milk increased the farm value of dairy products by more than 9 percent in 1989. Producers received about 59 cents—5 cents more than in 1988—for a half-gallon of fluid milk retailing for \$1.27.

Broiler and turkey production increased more than 6 percent in 1989, up from a 4-percent gain in 1988. Despite this larger output, rising poultry demand increased farm value more than 7 percent. Broiler chicken producers received 51 cents of the average retail price of 93 cents per pound for frying chicken, about 3 cents more than in 1988.

Reacting to losses and rising feed costs in 1988, egg producers reduced production 4 percent in 1989, causing a 40-percent increase in the farm value of eggs in the market basket. Farm value averaged 65 cents for a dozen eggs that averaged \$1 at grocery stores in 1989. Farm value was up about 19 cents from 1988.

Understanding Food Price Changes

USDA uses a fixed set of foods representing consumer purchases to track changes in the prices of food commodities that originate on U.S. farms. These data, called the market basket, account for about 88 percent of food eaten at home, with prices for fish, and nonalcoholic beverages making up the remainder.

The cost of the market basket is divided into two components—the farm value and the farm-to-retail spread. USDA's Economic Research Service (ERS) calculates the farm value of food by multiplying the price farmers receive for commodities by the quantities of farm products equivalent to foods sold at retail. An allowance is made if byproducts are obtained in processing. Thus, the farm value is based on a quantity equivalent to a retail unit. It is computed from a larger quantity than the retail unit

because the foods farmers produce lose some weight in storage, processing, and distribution.

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

The second component of food price change, the farm-to-retail spread, is more closely related to the inflation rate and prices of inputs used in food processing and distribution, such as labor, energy, and transportation.

ERS developed a food marketing cost index (FMCI) for monitor-

ing and analyzing changes in labor costs and prices of other inputs to food processing and distribution. The FMCI measures price changes for supplies and services used in processing, wholesaling, and food store retailing of domestically produced foods. It does not cover input prices for doing business at eating places. The FMCI represents all nonfarm food marketing costs except depreciation of buildings and equipment, long-term interest, and profits.

Prices in the index are weighted by the quantities used in 1972. The purpose is to ensure that price changes of individual input items have the same relative effect on the index proportionate to the use of each input by the food industry. Labor, for instance, is weighted far more heavily than packaging materials because of the food industry's proportionately greater dependence on labor input.

Costs Beyond the Farm Gate

The farm-to-retail price spread for the market basket rose 7.1 percent in 1989 in response to several factors, including higher prices of most inputs and greater use of some inputs per unit of output. Prices of inputs used in handling, processing, and retailing foods increased an average of 3.5 percent in 1989 (*table 3*), as measured by an Economic Research Service food marketing cost index (*see box*). Labor, the largest input, rose by 2.8 percent. A 4-percent rise in the food

packaging and containers index, such as paperboard shipping boxes, and a 7-percent gain in energy prices also heavily contributed to the increase. New products, such as microwavable foods, have increased the use of packaging materials.

The amount of labor used in food retailing to provide more prepared foods and services, such as in-store bakeries and salad bars, has increased faster than output, causing increases in unit labor costs. Increased spending on advertising and promotion of branded food products also has added to costs.

Price spreads increased for most food groups in the market basket, reflecting higher marketing costs and some additional use of inputs. The farm-to-retail price spread for red meats increased about 4 percent. The price spread for Choice beef increased about 7 percent in 1989, which may partly reflect value added from greater trimming of fat and deboning of beef. A year earlier, the price spread for beef rose only 2 percent despite sharply higher retail beef prices because of increased farm value. In contrast, the farm-to-retail price spread for

Table 2. In 1989, Farm Value Rose As Much as the Retail Cost of the Market Basket

Group and price components	1980	1988	1989	Annual change	
				1980-89	1988-89
	Index, 1982-84=100			Percent	
Market basket:					
Retail price	88.0	116.5	124.6	3.9	7.0
Farm value	96.7	100.5	107.3	1.2	6.8
Farm-to-retail spread	83.5	125.1	134.0	4.6	7.1
Meats:					
Retail price	92.7	112.2	116.7	2.6	4.0
Farm value	96.7	99.5	103.3	.7	3.8
Farm-to-retail spread	88.8	125.2	130.4	3.9	4.2
Dairy:					
Retail price	90.9	108.4	115.6	2.7	6.6
Farm value	96.2	90.6	99.1	.3	9.4
Farm-to-retail spread	85.9	124.7	130.9	4.8	5.0
Poultry:					
Retail price	93.7	120.7	132.7	3.9	9.9
Farm value	95.5	110.2	118.2	2.4	7.2
Farm-to-retail spread	91.5	132.8	149.3	5.6	12.4
Eggs:					
Retail price	88.6	93.6	118.5	3.3	26.6
Farm value	88.3	76.7	107.7	2.2	40.5
Farm-to-retail spread	89.0	123.9	137.7	4.9	11.2
Cereal and bakery:					
Retail price	83.9	122.1	132.4	5.2	8.4
Farm value	110.7	92.7	101.7	-1.0	9.7
Farm-to-retail spread	80.6	126.2	136.7	6.0	8.3
Fresh fruit:					
Retail price	83.9	145.4	154.7	7.0	6.4
Farm value	83.7	116.5	108.9	2.9	-6.5
Farm-to-retail spread	84.2	158.7	175.8	8.5	10.8
Fresh vegetables:					
Retail price	79.0	129.3	143.1	6.8	10.7
Farm value	73.4	105.8	124.0	7.2	17.2
Farm-to-retail spread	81.3	141.3	152.9	6.4	8.2
Processed fruit and vegetables:					
Retail price	82.6	117.6	125.0	4.7	6.3
Farm value	96.6	136.6	134.6	3.8	-1.5
Farm-to-retail spread	79.1	111.7	122.0	4.9	9.2
Fats and oils:					
Retail price	89.3	113.1	121.2	3.4	7.2
Farm value	95.8	103.0	95.7	0	-7.1
Farm-to-retail spread	86.9	116.8	130.5	4.6	11.7
Other prepared food:					
Retail price	97.0 ¹	118.0	125.5	3.8	6.4
Farm value	97.3 ¹	104.5	114.5	2.3	9.6
Farm-to-retail spread	96.9 ¹	120.1	127.2	4.0	5.9

¹Data for 1982.Source: *Food Cost Review*, 1989. AER-636. July 1990.

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pork increased about 10 percent in 1989, after declining slightly the previous year.

The price spread for cereals and bakery products widened 8 percent—nearly double the yearly increase since 1980. The 1989 gain partly reflected rising packaging costs, which account for more than 25 percent of the value of materials consumed by the cereal industry. Industry advertising and product development costs likely rose to capitalize on the growing demand for products that consumers perceive to be nutritionally beneficial.

The price spread for poultry, which declined slightly in 1988, increased 12 percent in 1989. The spread between farm and retail poultry prices has widened much more in recent years than in the early 1980's. The price spread for eggs rose 11 percent last year, reflecting the large increase in egg prices.

The price spread for dairy products rose 5 percent, slightly less than farm and retail milk prices. The marketing spread for dairy products has risen less than for most foods, reflecting the 4.5-percent annual increase in labor productivity for the fluid milk processing industry during the 1980's.

Table 3. The Cost of Labor, Packaging, and Other Food Marketing Inputs Rose in 1989¹

	1975	1980	1985	1988	1989
<i>Index, 1967=100</i>					
Labor, hourly earnings and benefits	187.4	292.6	363.0	368.9	379.4
Packaging and containers	174.4	261.5	312.1	350.7	364.6
Transportation services	176.9	296.8	393.9	403.5	404.9
Advertising	136.9	214.5	320.2	384.7	410.4
Fuel and power	236.1	563.2	700.0	578.2	619.4
Communications, water, and sewage	131.8	153.9	224.9	241.3	247.3
Rent	167.0	235.0	262.9	265.3	269.8
Maintenance and repair	182.2	277.1	360.3	395.9	410.7
Business services	159.6	230.6	321.9	371.4	388.3
Supplies	169.9	259.3	287.9	305.6	321.4
Property taxes and insurance	180.1	270.2	362.0	419.9	439.7
Interest, short-term	123.7	240.3	157.2	150.3	172.1
Total marketing cost index	178.8	286.0	358.6	371.8	384.8

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

Source: *Food Cost Review*, 1989. AER-636. July 1990.

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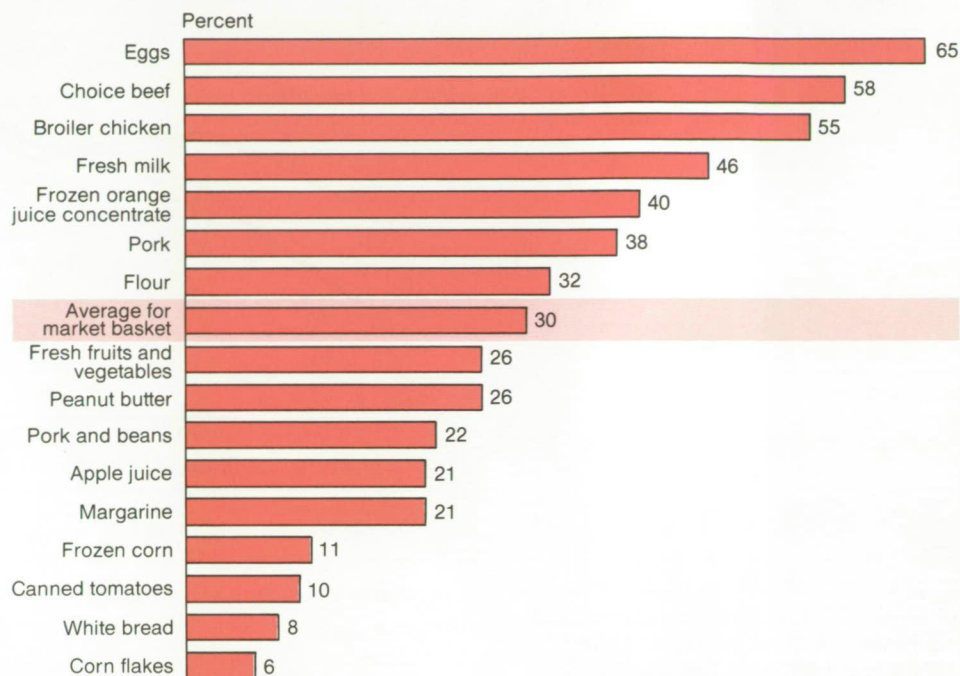
Farm Value Share

The farm value share is computed from retail prices and farm values of foods. Over time, this measure reflects changes in farm value and retail food prices. The 1989 farm value share was stable because the increase in farm value nearly matched the rise in retail prices. This contrasts with most other years in this decade, when abundant food supplies held down farm prices, while rising food processing and distributing charges boosted retail prices. These opposing forces reduced the farm value share from 37 percent in 1980 to 30 percent in 1987, 1988, and 1989.

Farm value shares vary greatly among foods. In general, the more highly processed the product is, the smaller the farm share. This can be seen by compar-

ing flour with bread (*figure 1*). Wheat is the principal ingredient of both products but in the case of bread, there are additional manufacturing processes. Foods derived from animal products tend to have a higher farm value share than those derived from crops because farm inputs for animal products are greater. For example, the 1989 farm value share was 65 percent for eggs, 58 percent for Choice beef, and 55 percent for broiler chicken. Other factors influencing the farm share among foods include shipping distance from the farm to the consumer and product perishability. These factors may partly explain why the farm share for California fresh oranges is much lower than that for frozen concentrated orange juice.

Figure 1. Farm Value Share of the Food Dollar Varied Widely Among Foods in 1989



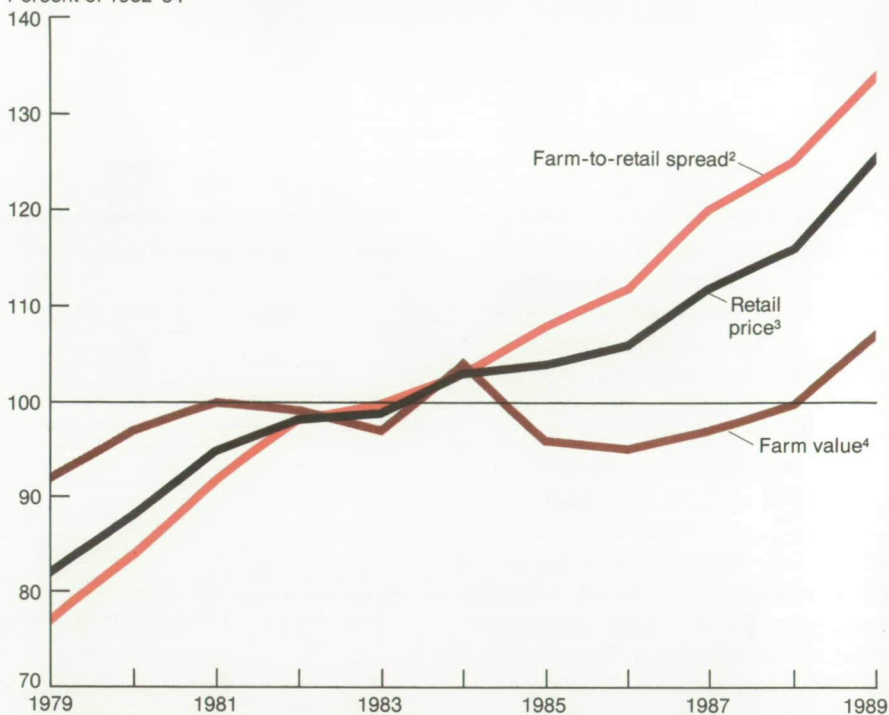
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Food Prices. . .At a Glance

Retail prices of the market basket of foods bought in grocery stores rose 52 percent during 1979-89. Food prices climbed much less than the 74-percent increase in the Consumer Price Index (CPI) for all items less food. Food prices rose more slowly mainly because the farm value was only 16 percent higher last year than in 1979. In contrast, the farm-to-retail spread rose 74 percent, equalling the rise in the CPI for all items less food.

Increases in the Farm-to-Retail Spread Raised Food Prices the Most¹

Percent of 1982-84



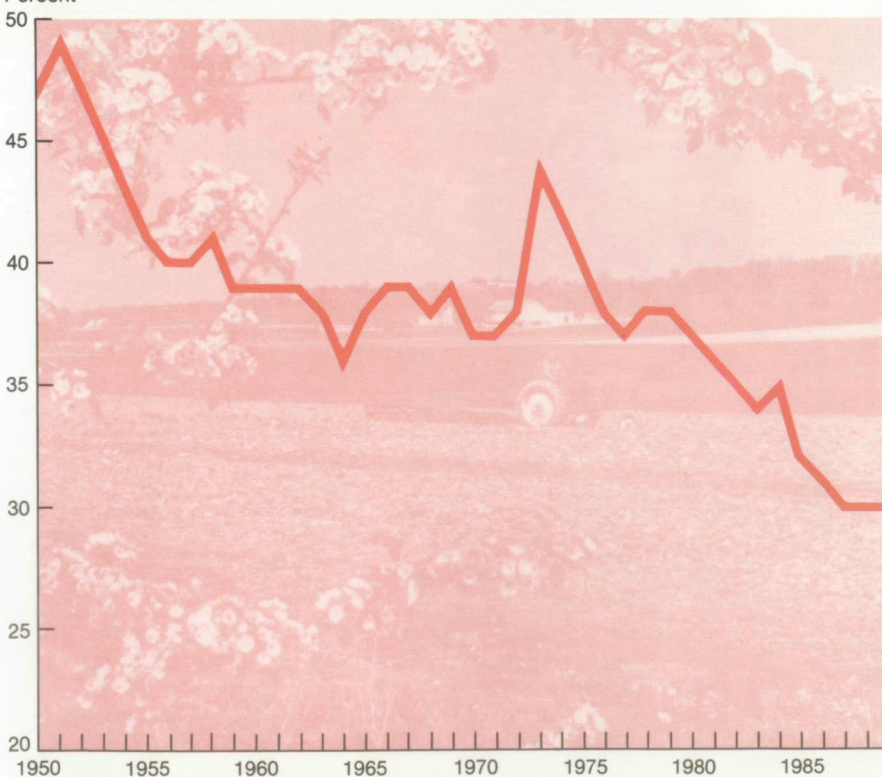
¹Data are for a market basket of foods sold in grocery stores. ²Price spread represents all charges for processing and marketing. ³Retail price is that paid by consumers. ⁴Farm value is derived from prices received by farmers for commodities.

Contact: Denis Dunham (202) 786-1870.

The farm value share of the retail cost of food sold in grocery stores averaged 38-40 percent most years during the 1960's and 1970's but has trended down since 1979 because farm prices did not increase most years but retail prices continued to, reflecting higher processing and marketing charges.

Farm Value Share Stabilized in 1987-89 After a Long Downtrend

Percent



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Food Expenditures

Food and beverage expenditures in the United States totaled \$515 billion in 1989, 6 percent more than in 1988. Individuals and families accounted for \$421 billion of the total, up 6 percent from 1988. Sixty-one percent of personal food expenditures went for food to be used at home, down 16 percent from 1965.

About 17 percent of total expenditures in 1989 were made by governments and businesses (*figure 1*). The Federal Government spent \$20 billion on food stamps, donated commodities, and feeding the armed forces and prisoners in Federal institutions. State and local governments accounted for another \$5 billion in food expenditures. Businesses spent \$54 billion for such expenses as meals on business trips and those furnished employees in restaurants. The value of home-produced food, including sport fish and game, totaled \$8 billion.

Spending for food to be eaten at home rose 6.4 percent from 1988 to 1989, while away-from-home expenditures were up 5.7 percent from 1988. Since 1965, away-from-home food expenditures have increased nearly nine fold, more than double the at-home rate (*table 1*). People are eating out more as incomes rise and as more women enter the work force. Also, prices for meals and snacks have risen faster than those for at-home food. Spending for alcoholic beverages, such as beer, wine, and liquor, rose 4 percent from 1988.

In real terms (adjusted for inflation), overall food sales increased 0.5 percent between 1988 and 1989, while population increased 1 percent. Real spending for food at home went down 0.1 percent, while spending for meals and snacks rose 1.3 percent.

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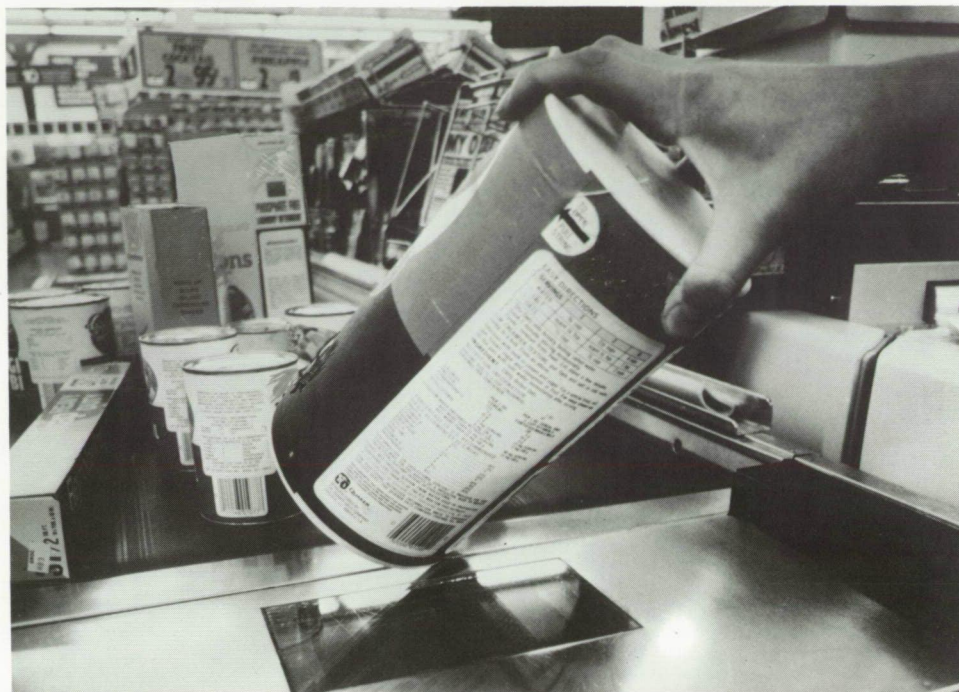
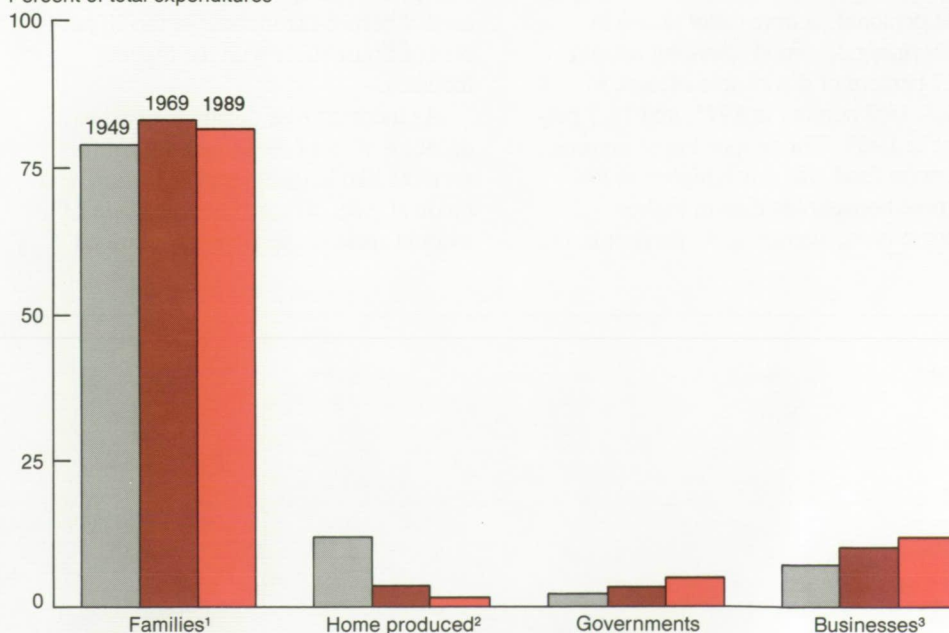


Figure 1. Who Pays for Food?

Percent of total expenditures



¹Families and individuals. ²Food produced and consumed by the same family. ³Includes philanthropic institutions. Contact: Alden Manchester (202) 786-1880.

Table 1. Away-From-Home Food Spending Has Soared

Year	1965	1970	1975	1980	1985	1988	1989 ¹
<i>Billion dollars</i>							
All food	86.7	117.1	188.0	306.2	407.4	485.5	514.9
At-home food	60.5	77.5	119.9	185.6	234.6	263.3	280.1
Sales	56.6	73.4	113.9	177.4	227.5	255.1	271.6
Home production and donations	3.9	4.1	6.0	8.3	7.1	8.2	8.5
Away-from-home meals	26.2	39.6	68.1	120.5	172.8	222.2	234.8
Sales	22.1	33.8	57.8	103.3	151.0	196.4	208.0
Supplied and donated ²	4.1	5.8	10.3	17.2	21.8	25.8	26.8
Alcoholic beverages	15.6	22.0	31.8	50.0	65.7	74.0	77.2
Packaged	9.0	12.9	19.3	29.4	39.2	42.1	43.9
Drinks	6.6	9.1	12.5	20.6	26.5	31.9	33.3

¹Preliminary. ²Includes child nutrition subsidies.

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Food Spending and Income

The \$446 billion spent for food in 1989 amounted to 11.8 percent of disposable personal income (after taxes) in 1989 (*table 2*). Food spending totaled 12.1 percent of disposable income in 1988, 14.2 percent in 1975, and 15.3 percent in 1965. The proportion of income spent on food was much higher in low-income households than in higher income ones, averaging 42 percent in the

20 percent of households with the lowest before-tax incomes (including food stamps). Food spending totaled 9 percent of before-tax income in the 20 percent of households with the highest incomes.

As incomes rose during the past two decades, most of the increase went for services like housing, transportation, and medical care. Since 1965, the share of income spent on services has climbed

from 38 to 50 percent. The share for medical care alone rose from 5 to 12 percent, counting only the share paid for by families and individuals.

Food Marketing Costs

Higher marketing costs were the primary cause of rising consumer expenditures over the past decade. The marketing bill—the cost of processing, wholesaling, transporting, and retailing—rose 93 percent between 1979 and 1989 to \$320.4 billion (*figure 2*). At the same time, consumer food expenditures increased by almost 73 percent and the farm value rose only 30 percent (*see box*).

Higher labor costs were primarily responsible for the 6.1-percent increase in the marketing bill between 1988 and 1989. Labor costs rose 6.4 percent to \$146.7 billion, largely because of increases in food industry employment and employee compensation (*table 3*). Employment in eating and drinking places—which accounts for 52 percent of total food industry employment—rose 1.4 percent in 1989. About 27 percent of industry employment was in retail outlets and 21 percent in food manufacturing and wholesaling.

Food industry retail employment grew 5.5 percent, the largest increase of the decade for the sector. Increased retail sales, including purchases of microwave-

Table 2. Increases in Incomes Since 1965 Went Mostly for Services¹

Component	1965	1975	1985	1988	1989
<i>Billion dollars</i>					
Disposable personal income	486.8	1,142.8	2,838.7	3,477.8	3,779.4
Total personal consumption expenditures	440.8	1,012.8	2,629.0	3,235.1	3,471.1
Nondurables	191.9	416.2	911.2	1,052.3	1,123.4
Food	74.3	162.4	361.8	419.4	445.9
At home	57.4	115.1	230.5	258.6	276.6
Away from home	16.9	47.4	133.4	163.5	173.4
Alcoholic beverages	13.5	28.1	58.9	65.6	68.8
At home	9.0	19.3	39.1	41.9	43.9
Away from home	4.5	8.8	19.8	23.7	24.9
Cleaning and household supplies	5.7	12.5	26.4	30.8	33.0
Toiletries	4.5	10.3	23.1	27.9	29.7
Tobacco	8.1	15.1	32.2	36.9	40.7
Drugs	5.2	12.0	28.1	34.5	36.9
Clothing and shoes	34.1	70.8	156.4	186.8	200.1
Gasoline and oil	14.8	39.7	90.6	76.8	84.0
Fuel oil and coal	4.4	8.4	18.5	19.5	20.4
Other	27.3	56.9	115.2	153.7	163.9
Durables	63.5	135.4	372.2	455.2	473.2
Motor vehicles and parts	29.9	55.8	179.1	211.6	213.9
Furniture and household equipment	25.1	54.5	129.9	162.0	173.6
Other	8.4	25.1	63.2	81.6	85.8
Services	185.4	461.2	1,345.6	1,727.6	1,874.4
Housing	65.4	148.4	403.0	501.3	534.0
Household operation	26.5	63.5	175.3	197.6	204.4
Transportation	14.5	35.7	89.8	117.9	126.5
Personal care	8.2	13.2	32.1	43.6	49.1
Medical care	25.9	84.2	291.5	398.3	452.8
Personal business service	20.2	52.2	169.9	234.4	247.8
Recreational services	9.4	24.7	74.1	100.8	112.4
Other	15.3	39.3	109.9	134.1	147.4
Savings	34.3	104.6	125.4	144.7	206.3
Other²	11.7	25.4	84.3	98.0	103.4

¹Reflects data as of March 28, 1990. Totals may not add due to rounding. ²Includes interest paid by consumers to businesses and personal transfer payments to foreigners.

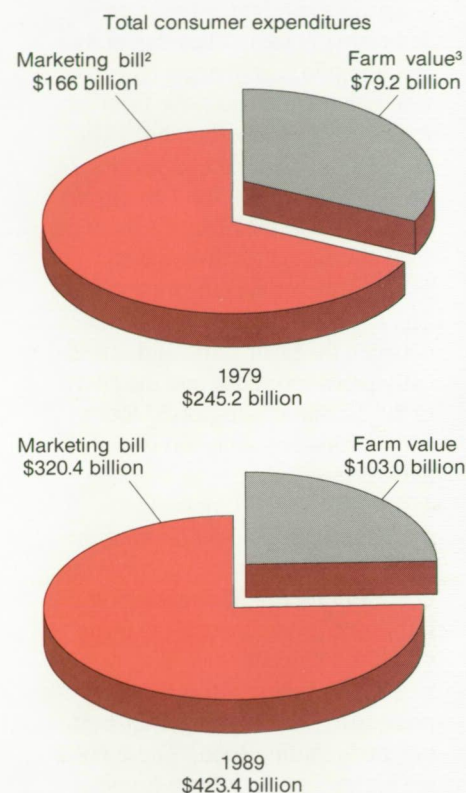
Sources: Bureau of Economic Analysis, Department of Commerce; USDA for food and alcoholic beverage data.

Contact: Alden Manchester (202) 786-1880.

able foods and take-out foods from salad bars, bakeries, in-store delicatessens, and other prepared food departments in supermarkets, slowed food sales at restaurants.

Part-time workers are being hired to fill many of the positions created in response to consumer demand for these increased supermarket services. Part-

time workers hold down labor costs because they are paid less, qualify for fewer benefits, and reduce overtime pay to full-time workers. However, recruiting competition from fast food restaurants has meant higher wages for supermarket employees. This has been especially true in areas where the teenage

Figure 2. Marketing Bill's Share of Consumer Food Spending Has Risen¹

¹1989 preliminary. Data are for domestically produced farm foods purchased by consumers for consumption both at home and away from home. ²The marketing bill is the difference between the farm value of domestically produced foods and the cost to the consumer. ³The farm value is an estimate of the farmer's share of food purchased for at-home and away-from-home consumption.

Source: Food Cost Review, 1989, July 1990. Contact: Howard Elitzak (202) 786-1870.

population, a major source of these workers, has diminished.

Manufacturing employment grew 1.8 percent in 1988-89, the sector's largest growth of the decade. Most of the increase was due to a 6.6-percent gain in the number of employees working for poultry dressing plants. The demand for processed poultry products (such as deboned chicken) has soared, especially at foodservice establishments. Employment in canned fruit and vegetable plants

Where Our Food Dollars Go

Consumer food expenditures cover items bought at foodstores and eating places. They can be broken into two components based on where the dollars go—the farm value and the marketing bill. The farm value, which accounted for 24 percent of the 1989 food dollar, is an estimate of the farmer's share of food purchased for at-home and away-from-home consumption. The marketing bill is the difference between the farm value of domestically produced foods and the cost to the consumer. Imported foods and seafood are excluded from these estimates.

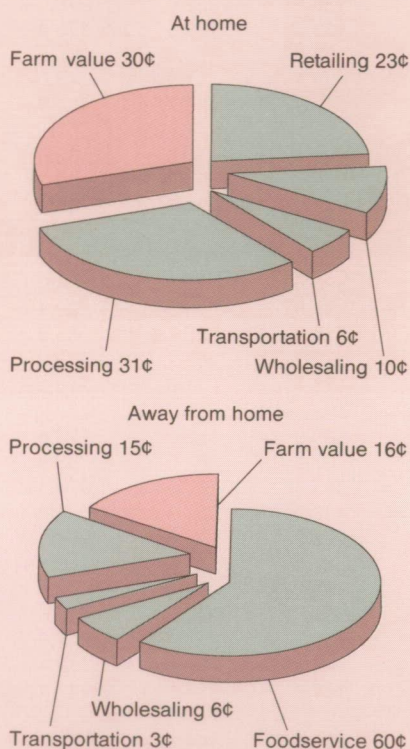
In 1989, marketing costs accounted for \$320.4 billion of the \$423.4 billion Americans spent for U.S. farm foods. The marketing bill rose 6.1 percent and the farm value, 6.4 percent.

The marketing bill is the cost of processing, wholesaling, transporting, and retailing food. These costs are higher for away-from-home meals than for at-home spending. Correspondingly, the farm value share for away-from-home food is smaller, primarily because the cost of additional labor needed to prepare meals and snacks reduces the farmers' share of the final product's value. For the same reason, away-from-home foodservice costs are much greater than their retailing counterpart in the at-home market—60 cents of the food dollar versus 23 cents.

Processing is a larger share of at-home expenditures than away-from-home, 31 cents versus 15 cents. However, when an allowance is made for the larger share of foodservice in the away-from-home market relative to the share of retailing in the at-home market,

processing costs are about the same. This suggests that retail stores and away-from-home outlets purchase about the same proportions of raw and processed foods.

Farm Value is Smaller Share of the Away-from-Home Food Dollar¹



¹1989 data. Farm value is an estimate of the farmer's share of food purchased for at-home and away-from-home consumption.
Source: Food Cost Review, 1989, July 1990.
Contact: Howard Elitzak (202) 786-1870.

increased 6.5 percent due to the recovery of this industry following the 1988 drought-induced production slowdown and the growth of such products as aseptically packaged juices. Aseptic packaging consists of paperboard layered with plastic film or aluminum film which is sterilized by heat or chemicals. However, the poultry industry's impact on food manufacturing employment was greater than the canned fruit and vegetable industry because poultry processing employs nearly twice as many people.

Lower inflation rates and fewer union concessions held down labor costs during the 1980's, although this trend has bottomed out. Cost-of-living adjustments (COLA's), for example, were once a major feature of union wage contracts, but played only a minor role in 1989 bargaining. With low inflation rates, COLA's were phased out and replaced by lump sum payments. However, COLA provisions are tied to changes in the Consumer Price Index. They may once again become a major point of contention at the bargaining table if the increased inflation rates recorded during the first quarter of 1990 continue.

Lump sum payments, granted in lieu of wage increases or to offset wage reductions, remain popular. They restrain labor costs by holding down the wage rate base. For example, in 1988-89, contract settlements for workers in food manufacturing provided wage increases averaging 3.3 percent without lump sum payments, versus 2.8 percent with them. Such contracts were even more common in foodstores, where union workers without lump sums received wage increases of 4.0 percent, but those employees covered by lump sum provisions received increases of only 2.5 percent. Two-tiered wage contracts—in which workers hired after a specified date receive lower wages or fewer benefits—continue to be phased out. Both management and labor have noted the reduced productivity from lower tier employees.

Table 3. Labor and Packaging Are Major Components of the Marketing Bill

Component	1975	1980	1985	1987	1988	1989
<i>Billion dollars</i>						
Labor ¹	48.3	81.5	115.6	130.0	137.9	146.7
Packaging materials	13.3	21.0	26.9	29.9	32.4	35.1
Rail and truck transportation ²	8.4	13.0	16.5	17.2	17.8	18.6
Fuels and electricity	4.6	9.0	13.1	13.6	14.4	15.8
Pre-tax corporate profits	7.1	9.9	10.4	10.9	11.3	11.1
Other ³	29.7	48.3	76.5	83.5	88.2	93.1
Total marketing bill	111.4	182.7	259.0	285.1	302.0	320.4

¹Includes employee wages or salaries and their health and welfare benefits. Also includes imputed earnings of proprietors, partners, and family workers not receiving stated remuneration. ²Excludes local hauling charges.

³Includes depreciation, rent, advertising and promotion, interest, taxes, licenses, insurance, professional services, etc.

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Labor costs are also controlled by back-loaded contracts. These contracts provide lower wage rate increases in the first year of a contract, relative to subsequent years. Prior to 1983, more contracts were front-loaded, meaning the largest wage increases occurred in the first year. Back-loaded contracts were used to dampen the wage rate base and effectively delay increases. Many of these contracts are still in effect because of prior bargaining agreements, but they are becoming less common.

In 1989, front-loaded contracts predominated in bargaining agreements covering the food industry. They provided higher wage adjustments than back-loaded contracts. The Bureau of Labor Statistics reports that average front-loaded wage adjustments were 5.4 percent in the first year and 3.8 percent annually over the life of the contract. These increases contrasted with back-loaded contract hikes of 1.6 percent and 2.6 percent, respectively, across the entire retail trade. For food manufacturing workers, average wage increases were 3.53 percent during the first year of the contract and 3.1 percent over the contract life. Foodstore workers received wage increases of 3.97 percent during the

first year and 3.22 percent over the life of the contract.

Labor agreements with workers (particularly in retailing) that provide small wage increases, reduced pay for holiday and evening work, lower medical benefits, and more management flexibility in scheduling work tempered food industry labor costs during the 1980's. With greater part-time employment, unions are now demanding contract provisions limiting the number of part-timers. Profit-sharing plans are also lowering labor costs during slow business periods and rewarding more productive workers. However, higher Social Security taxes and rising health care costs continue to add to the overall labor bill. The net effect of these developments is that labor costs should continue to accelerate over the next few years.

Packaging Is Second Largest Component of the Marketing Bill

Packaging accounts for 8.5 percent of the food dollar (*figure 3*). Costs of these materials rose 8 percent in 1989, roughly the same rate of increase as in 1988. The 1988 increase was mostly due to large jumps in the price of paper and plastic products. However, packaging costs were higher in 1989 because of increased

demand, rather than higher costs for packaging materials. Paper prices rose more slowly than in 1988. Additional plant and equipment capacity became operational during 1989 and eased tight corrugated box supplies.

At the same time, the value of sanitary food containers and plastics shipments increased faster than in 1988. A number of factors are responsible for this rising demand.

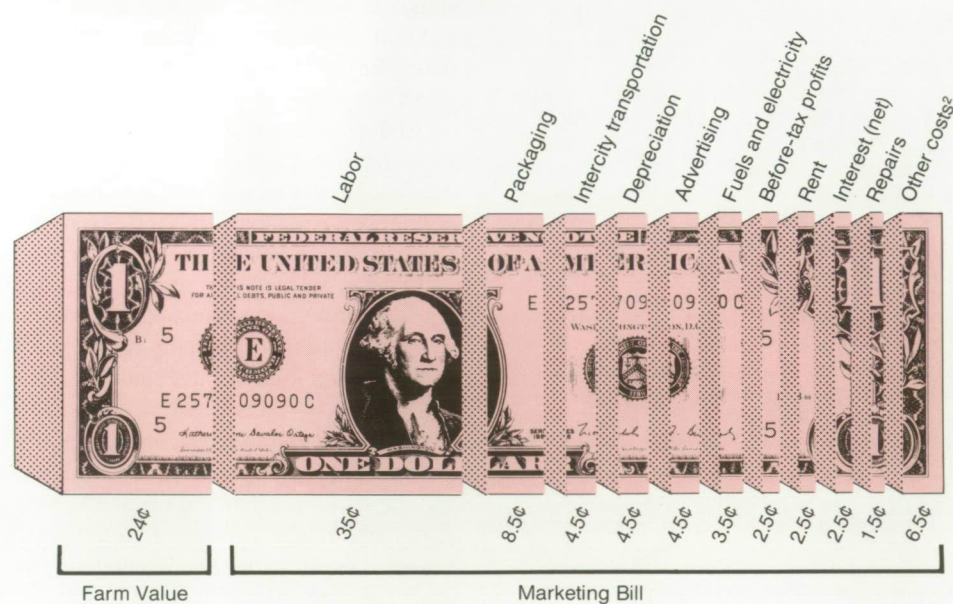
Industry sales of sanitary food containers are closely tied to consumer food spending patterns, especially for prepared and packaged foods, convenience foods, and fast foods. Fast-paced, two-income lifestyles have reduced the amount of time available for preparing food at home and increased the demand for quick, easy-to-prepare meals. Moreover, as the growing adult population ages, its tendency to use more convenience foods—especially those that are microwaveable—means increased sales of sanitary food packaging products. Aseptic packaging continues to be the most rapid growth product among sanitary containers, and is thus the most important factor explaining increased industry shipments.

These same forces—population changes, shifts in workforce composition, and modern cooking technology—also affect the demand for rigid container packaging. Consumers demand convenient containers that are lightweight and microwaveable. Consumer demand for convenience foods implies continued introduction of new products.

Manufacturer and retailer promotion of new value-added products, such as microwaveable frozen dinners, also means continued increases in advertising expenditures. Food industry expenditures on advertising jumped nearly 14 percent to \$19.7 billion last year.

Food Spending Trends

The average urban household spent \$19.05 (adjusted for inflation) weekly per person on food in 1986, up 0.6 percent from \$18.94 in 1980, according to

Figure 3. Dividing Up the American Food Dollar¹

¹1989 data. Includes food eaten at home and away from home. ²Other costs include property taxes and insurance, accounting and professional services, promotion, bad debts, and many miscellaneous items.

Source: Food Cost Review, 1989, July 1990.

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the latest Bureau of Labor Statistics survey available. Spending reached a record low of \$18.56 in 1981 before peaking at \$19.92 in 1985.

Not all demographic groups gained equally. For example, households with three members or less spent more per person on food in 1986 than they did in 1980, while spending by larger households declined (table 4). For any given

year, per-person food expenditures tend to decline rapidly as household size increases. Large households can buy items in bulk and often purchase a different mix of foods than smaller households.

Household income also affected food expenditures in 1986. For example, lower income households spent \$15.03 weekly per person on food compared

with \$24.90 for the highest income households, a 66-percent difference. The wealthiest households also experienced the largest increases in per-person spending during the 7-year period, probably because they ate out more often and bought more convenience foods.

Race may also influence food spending. Households headed by blacks tend to spend considerably less per person on food than those headed by whites or other races. In 1986, white households spent \$19.98 per person on food and black households \$12.96, a 54-percent difference. Spending by white households fell about \$1 per week between 1985 and 1986.

Other groups—including American Indian, Eskimo, and Asian—spent 10 percent less than whites but 39 percent more than blacks. Between 1980 and 1986, per-person food spending in black households declined about 33 cents per week, while spending by whites gained about 16 cents. American Indians, Eskimos, and Asians increased their spending by about 35 cents. Most of these differences can be explained by noting that, on average, whites have higher incomes.

As the age of the household head increases, per-person food spending tends to rise, at least until age 65. The major reason is that higher incomes are associated with greater age up to retirement. Households headed by 25- to 34-year-olds spent less per person on food in 1986 than in 1980. Other households spent more or about the same.

Table 4. Food Spending by Small Households Grew Between 1980 and 1986

Item	Weekly per person food expenditures			
	1980	1982	1984	1986
<i>Constant 1980 dollars</i>				
All urban households	18.94	19.21	18.95	19.05
Number of household members				
One	24.39	25.89	25.52	25.37
Two	22.98	23.07	22.22	24.11
Three	18.30	18.59	19.49	18.68
Four	17.13	17.85	17.34	16.48
Five	15.93	15.55	15.25	14.56
Six or more	13.97	12.20	12.94	12.25
Income groups				
Poorest 20 percent	16.48	15.60	13.08	15.03
Second poorest 20 percent	17.81	16.32	16.24	16.79
Middle 20 percent	18.14	18.78	18.92	19.25
Second richest 20 percent	21.10	20.87	20.08	20.02
Richest 20 percent	22.51	24.48	24.82	24.90
Race				
White	19.82	20.09	19.96	19.98
Black	13.29	13.46	12.69	12.96
Other ¹	17.67	17.74	16.72	18.02
Age of household head				
Under 25 years				
(nonstudents)	17.35	17.01	17.32	17.37
25 to 34 years	18.52	18.22	16.86	17.02
35 to 44 years	17.70	17.90	18.11	18.69
45 to 54 years	19.54	20.96	21.37	21.04
55 to 64 years	21.51	22.85	21.55	21.92
Over 64 years	20.10	19.36	20.29	20.06
Region and city size				
MSAs ² in the:				
Northeast	20.03	19.71	20.19	21.37
Midwest	19.23	18.55	18.35	18.42
South	17.76	18.71	18.30	17.87
West	19.29	21.98	20.92	20.25
Other urban areas	18.06	16.26	16.09	16.31

¹Includes American Indian, Aleut, Eskimo, Asian, and Pacific Islander. ²Metropolitan Statistical Areas (MSAs) are, except in New England, a county or a group of contiguous counties that contain at least one city of 50,000 or more inhabitants. In New England, MSAs consist of towns or cities.

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In 1986, urban households in the West and Northeast spent more per person on food than those in the South or Midwest, with the Northeast spending the most and the South the least. Some of these differences result from regional variations in food prices, household incomes, and food types. Between 1980 and 1986, per person spending rose about 5 percent in the West and 7 percent in the Northeast, stayed about the same in the South, but dropped 4 percent in the Midwest.

A more than 9.6-percent gain in eating out caused all of the gain in total inflation-adjusted food spending nationwide. Food expenditures for at-home use declined 4.3 percent between 1980 and 1986. Commodities with the most growth in at-home spending included breads (other than white), cola drinks, fresh milk (other than whole), ice cream, bananas, frozen prepared foods, and potato chips and related snacks. Among the biggest losers were white bread, beef and pork products, fresh whole milk, and oranges (table 5).

It is interesting to compare the changing at-home consumption patterns of foods that are close substitutes. For instance, expenditures for fresh whole milk fell almost 27 percent between 1980 and 1986, while spending on lowfat, skim and other fresh milk rose over 25 percent. Likewise, purchases of white bread dropped about 28 percent, while spending for other types of bread gained 36 percent. These types of purchases tend to indicate that consumers are shifting to products perceived as healthier. However, other examples run counter to this trend. Candy consumption rose 11 percent, cola drink, 13.5 percent, and snack-type food, more than 23 percent.

Table 5. At-Home Food Inflation Adjusted Expenditures Decreased Slightly Between 1980 and 1986

Item	Food expenditure index ¹			Item	Food expenditure index ¹		
	1981	1983	1986		1981	1983	1986
	<i>1980 = 100</i>				<i>1980 = 100</i>		
Total food	98.1	101.5	100.6	Cereal, cereal products	100.9	98.3	105.3
Food away from home	97.6	109.6	109.6	Flour and flour mixes	94.2	84.6	71.6
Lunch	104.1	111.4	114.0	Cereal	101.9	97.8	109.4
Dinner	102.6	119.7	118.3	Rice, pasta, cornmeal	96.1	92.3	101.6
Other meals and snacks	79.4	90.0	55.3	Bakery products	94.5	93.9	93.6
Food at home	98.3	97.4	95.7	White bread	92.2	91.7	71.8
Beef	98.0	89.6	84.1	Other bread	117.0	117.4	136.0
Ground beef	98.9	92.8	95.7	Fresh biscuits, rolls			
Chuck roast	104.9	88.5	72.2	and muffins	91.1	97.4	102.7
Round roast	66.6	76.8	71.2	Cakes and cupcakes	90.0	89.4	98.0
Round steak	82.8	66.4	61.4	Cookies	95.7	99.0	100.6
Sirloin steak	107.7	126.3	103.5	Crackers, cracker products	103.6	91.6	97.1
Pork	88.5	81.7	71.4	Doughnuts and sweet rolls	90.6	83.6	86.9
Bacon	94.6	89.3	77.4	Fresh fruits	106.3	107.6	97.3
Pork chops	91.1	83.2	72.1	Apples	118.2	105.4	94.0
Canned ham	69.9	63.4	64.4	Bananas	114.6	115.1	135.6
Other ham	76.7	72.7	61.9	Oranges	89.2	98.3	75.3
Pork sausage	107.7	104.4	92.5	Fresh vegetables	97.8	99.7	93.0
Other meats	102.4	98.2	90.2	Potatoes	103.5	97.6	92.6
Frankfurters	95.8	92.8	90.6	Lettuce	103.7	94.2	86.3
Bologna, liverwurst,				Tomatoes	96.1	90.3	89.9
and salami	101.6	90.4	92.2	Processed fruits	97.5	98.6	96.2
Lamb, miscellaneous				Frozen fruits and fruit			
meats	98.1	92.2	54.9	juices	98.2	89.7	78.0
Chicken	102.9	100.9	93.6	Other fruit juices	97.5	102.0	100.1
Fresh whole chicken	97.8	93.4	62.3	Canned and dried fruits	93.3	101.6	93.9
Fresh and frozen				Processed vegetables	94.0	91.2	88.6
chicken parts	106.2	102.5	115.3	Frozen vegetables	96.8	91.5	91.7
Other poultry	95.0	88.5	98.8	Canned beans and corn	88.8	84.2	79.9
Fish and seafood	104.5	111.3	98.0	Other processed vegetables	94.7	93.5	94.0
Canned	98.2	87.1	88.2	Sugar and sweets	92.7	98.8	96.9
Fresh and frozen	104.4	120.3	104.2	Candy and chewing gum	93.7	110.5	111.1
Eggs	96.0	90.7	83.8	Sugar, artificial sweeteners	89.3	88.9	82.0
Dairy	99.2	100.1	98.4	Beverages	95.9	97.8	101.7
Fresh milk and cream	100.9	97.4	93.6	Cola drinks	99.5	104.7	113.5
Fresh whole milk	94.6	88.4	73.5	Other carbonated drinks	107.4	97.4	109.2
Other fresh milk,				Coffee	99.1	96.4	80.0
cream	107.7	111.3	125.2	Roasted coffee	105.6	104.0	86.2
Cheese	96.2	99.8	92.9	Instant and freeze dried			
Ice cream, related				coffee	91.8	88.3	72.3
products	94.9	109.5	118.6	Other noncarbonated drinks	91.3	105.0	115.7
Fats and oils	99.2	93.4	88.3	Miscellaneous foods	102.9	108.4	122.1
Butter	92.9	89.8	86.4	Soups	102.0	95.3	101.6
Margarine	97.4	85.1	75.3	Frozen prepared foods	102.6	118.9	137.3
Other fats, oils, and				Potato chips, snacks, nuts	98.9	114.0	122.5
salad dressing	96.8	93.9	96.1	Sauces, gravies, and			
Nondairy cream sub-				other condiments	96.2	99.7	103.2
stitutes and peanut							
butter	97.3	92.0	85.3				

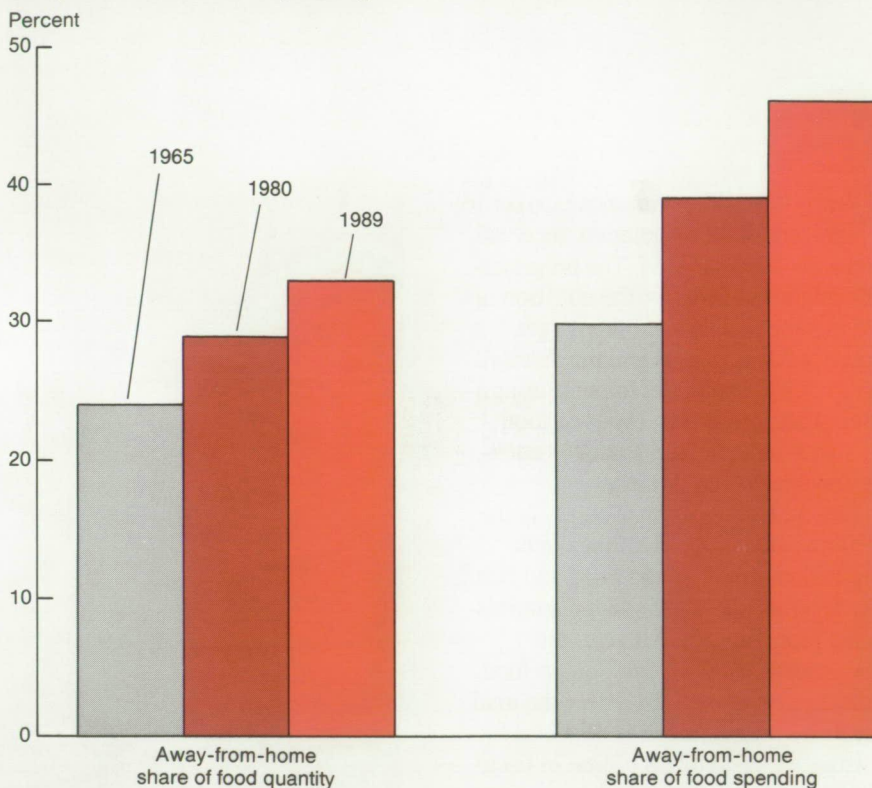
¹Index constructed by dividing spending in constant dollars for each food group each year by 1980 spending levels.

Contact: Jim Blaylock (202) 786-1862.

Food Expenditures ...At a Glance

The share of food spending for away-from-home meals and snacks rose from 30 percent in 1965 to 39 percent in 1980, and to 46 percent in 1989. However, away-from-home expenditures cover less food, since prices of meals and snacks also include the cost of preparing and serving the food. This is why the away-from-home share of the quantity of food purchased was only 24 percent in 1965. It increased to 29 percent in 1980 and 33 percent in 1989.

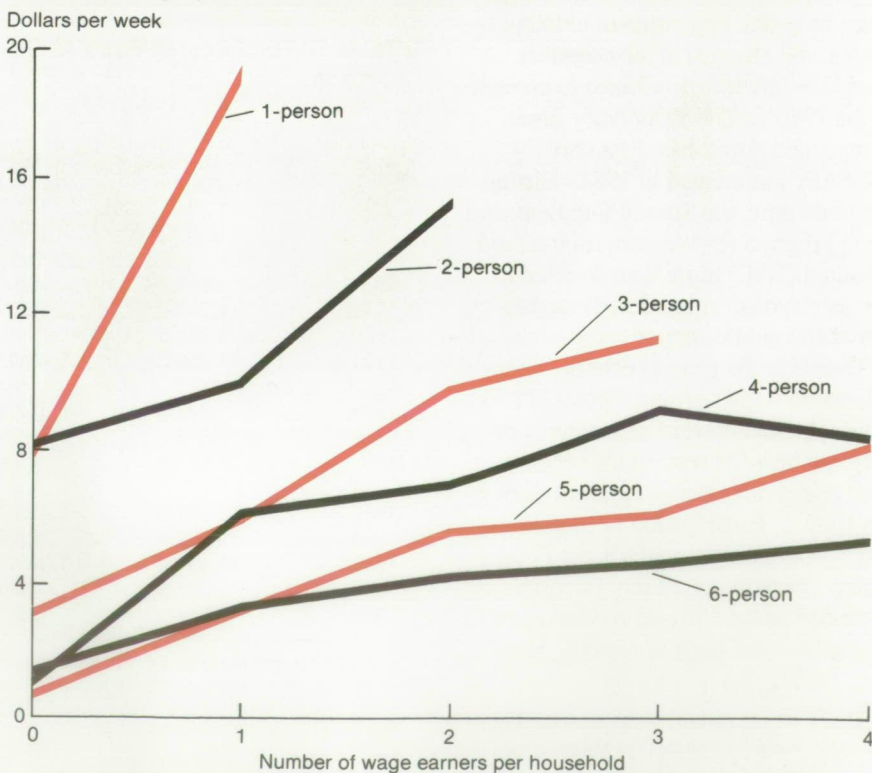
Away-from-Home Food Spending



Contact: Alden Manchester (202) 786-1880.

Single, employed persons living alone spend much more on eating out than any other group. Larger households generally spend less eating out than smaller households and those with more wage earners. Part of this trend is no doubt due to more lunches being eaten away from home by wage earners, although how many lunches are brown-bagged from home is unknown. The proportion of families with more than one earner began to increase sharply after World War II—from 39 percent in 1950 to 46 percent in 1960, 54 percent in 1970, and 57 percent in 1989. With the added effects of rising real income (adjusted for inflation) per wage earner and declining family and household size, average real income per person in the noninstitutional population rose 63 percent between 1963 and 1988.

Food Spending by Income and Household Size



Source: Calculated from Consumer Expenditure Survey data, Bureau of Labor Statistics.
Contact: Alden Manchester (202) 786-1880.



Food Assistance

Nearly 40 million Americans, over 16 percent of the population, received food assistance in 1989. The programs are designed to improve the nutrition of low-income people and other target groups, such as infants and the elderly, and to provide an outlet for surplus agricultural commodities. Types of food assistance include food stamps, vouchers, food packages, or cash.

Federal food assistance began in the 1930's as an outgrowth of the Great Depression. In 1969, the Food and Nutrition Service was established to administer the programs. In that year, the Government spent \$1.1 billion on food assistance programs. By 1980, the total was \$14.2 billion (*table 1*). Federal food assistance totaled \$21.8 billion in fiscal 1989—nearly twice as much as payments to farmers through the various commodity price support programs.

The creation of another food assistance program, expansion of existing programs, and changes in the economy caused program expenditures to escalate in the 1980's. The Temporary Emergency Food Assistance Program (TEFAP) was created in 1982. During the same time, the Special Supplemental Food Program for Women, Infants, and Children (WIC) more than doubled in size in response to increased congressional and public support.

Events in the general economy contributed to higher program costs in two ways. Annual upward adjustments of program benefits were made because food prices increased 46 percent during the 1980's. Participation in food assistance programs, particularly the Food Stamp Program (excluding Puerto Rico), expanded as the 1981-82 recession created substantial unemployment. How-

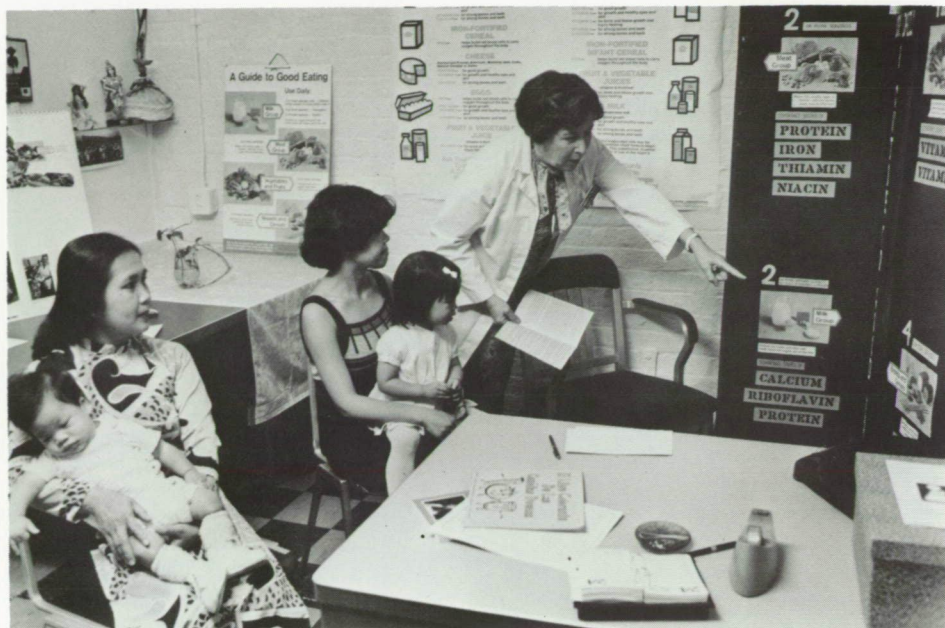


Table 1. Total Cost of Food Assistance Programs Climbed Steadily in the Last Decade

Fiscal year	Federal costs				Total ³
	Food stamps ¹	Food distribution	WIC ²	Child nutrition	
Million dollars					
1978	5,519.7	95.7	379.6	2,939.6	9,005.1
1979	6,939.8	150.0	525.4	3,468.7	11,157.9
1980	9,206.5	194.4	727.7	4,033.9	14,242.9
1981	11,255.2	239.9	871.6	4,221.3	16,633.0
1982	11,043.8	467.2	948.8	3,733.2	16,275.3
1983	12,675.7	1,356.9	1,126.0	4,061.9	19,302.9
1984	12,407.5	1,489.8	1,388.1	4,265.9	19,634.2
1985	12,531.9	1,439.2	1,489.3	4,391.0	19,935.9
1986	12,462.1	1,380.9	1,582.9	4,625.5	20,129.9
1987	12,461.4	1,313.1	1,679.6	4,883.3	20,421.6
1988	13,223.5	1,074.6	1,797.5	5,024.4	21,181.7
1989	13,817.0	736.1	1,913.4	5,213.9	21,763.5

¹Includes nutrition assistance to Puerto Rico and the Northern Marianas during 1982-88. ²Special Supplemental Food Program for Women, Infants, and Children. ³Total costs include Food Program Administrative ("PA") funds.

Source: FNS Program Information Division.

Contact: Masao Matsumoto (202) 786-1864

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ever, lower unemployment associated with an improved economy led to decreased food stamp participation between 1983 and 1989.

Food assistance program regulations and eligibility requirements are specified in the Food Stamp Act of 1977, the Child Nutrition Act of 1966, and other legislation. However, the 1985 Food Security Act and other authorizing legislation expire this year and the USDA and others are studying the effects of the legislation to see what lessons can be applied in the 1990's under a new food and agriculture law.

Family Nutrition Programs

The family nutrition programs are the Food Stamp Program, the Nutrition Assistance Program for Puerto Rico, and the Food Distribution Program on Indian Reservations (Needy Family Program). The Food Stamp Program is the largest of these, serving an average of over 18.7 million people monthly in fiscal 1989, up from 18.6 million a year earlier. Program costs totaled \$12.9 billion, compared to \$12.3 billion in 1988.

The Food Stamp Program was started in 1961 and became fully operational by 1964. Coupons issued monthly to eligible low-income households can be redeemed for foods at retail stores. Eligibility is determined by income and asset limits and certain nonfinancial requirements.

The Hunger Prevention Act of 1988 mandated the most recent changes in the Food Stamp Program. The act simplified the application forms for food stamps and permanently authorized rules which ease eligibility for the homeless. The act also provided for a three-stage increase in food stamp allotments from 100 to 103 percent of the Thrifty Food Plan (TFP) by fiscal 1991. The TFP is a recommended group of foods, called a market basket, which provides a nutritious diet at a low cost.

On a typical day, an estimated 1 out of 13 Americans participates in the Food

Stamp Program. On an annual basis, about one of eight Americans receives food stamps.

In July 1982, Puerto Rico's Food Stamp Program was replaced by the Nutrition Assistance Program. Puerto Rico received \$912 million in 1989 under this block grant program which covered the cost of food assistance provided to recipients in cash and half of the administrative costs.

The Food Distribution Program on Indian Reservations operates as an alternative to the Food Stamp Program for families living on or near Indian reservations. Under the program, recipients receive food packages, including canned meats, fruits and vegetables, and dairy products.

Child Nutrition Programs

USDA operates five child nutrition programs in cooperation with State and local governments—the National School Lunch, School Breakfast, Child Care Food, Special Milk, and Summer Food Service. The Federal Government spent \$5.2 billion (including the value of donated commodities) on these programs in fiscal 1989, a 3-percent gain over 1988.

Despite these increases, expenditures on child nutrition programs have not risen as fast as other food assistance programs over the last decade. The child nutrition programs' share of total expenditures for food assistance programs fell from 28 percent in fiscal 1977 to 24 percent in fiscal 1989. Shrinking school enrollments slowed the growth of the National School Lunch Program and accounted for some of the decline. The major portion, however, was due to administrative efforts to target program benefits to the most needy.

The School Breakfast and Child Care Food Programs increased relative to the National School Lunch Programs. Over 3.8 million children participated in the School Breakfast Program in 1989, 1.4 million more than when the program was

permanently authorized in 1974. Participation in the School Breakfast Program peaked in 1981 at 3.8 million then fell in 1982 to 3.3 million. In succeeding years, the program grew modestly until it reached its high point again in 1989. Federal costs for the School Breakfast Program were \$511.6 million in fiscal 1989, about one-eighth as much as the National School Lunch Program.

The Child Care Food Program grew faster in the 1980's than all other child nutrition programs. Participating sites peaked at 141,150 and the average number of participants grew from 660,000 in 1980 to 1.4 million recipients in 1989. The Child Care Food Program provides commodity assistance and cash to non-profit child care centers and family day care homes. Given the increasing need for child care, the constituency for this program likely will continue to grow and receive greater attention from Federal authorities.

The Special Milk and Summer Food Service Programs are small, and Federal outlays have been modest. Federal costs for the Special Milk Program have averaged between \$15 and \$19 million annually since 1982. Expenditures for the Summer Food Service Program increased from \$87.1 million in 1982 to \$193.8 million in 1989.

WIC and the Commodity Supplemental Food Program

The WIC program is designed to improve the nutritional status of low-income, nutritionally at-risk women, infants, and children up to age 5. The program grew quickly in the 1980's and now includes special provisions under the Hunger Prevention Act of 1988 to reach the homeless.

Launched in 1974, WIC provides supplemental nutrition, nutrition education, and access to health services. Participants receive vouchers that can be exchanged for monthly allotments of foods, such as infant formula, eggs, fruit juice, milk, cheese, and cereal.

A nonentitlement program (funding is allocated on the basis of a formula rather than solely on participation), WIC has grown rapidly. Its share of all Federal food assistance program outlays was 8.8 percent in fiscal 1989, compared with 3 percent in fiscal 1977. Total participation averaged 4.1 million in fiscal 1989, 21.5 percent higher than in fiscal 1980.

All States have negotiated contracts directly with infant formula manufacturers to accommodate more WIC recipients with existing funds and to offset high infant formula prices. Some States have negotiated rebates of as much as 70 percent of the retail price, although manufacturers are currently offering much lower rebates. Rebate contracts have enabled those States to provide benefits to a greater number of people.

The Commodity Supplemental Food Program (CSFP), begun in 1969, initially targeted a population similar to that of WIC. In 1989, however, over one-third of its 248,000 participants were low-income elderly. The CSFP provides supplemental food assistance, but unlike WIC's voucher system, commodities are purchased by USDA and shipped to State and local agencies for distribution to participants.

Food Distribution Programs

Food distribution programs historically have been associated with surplus commodities obtained through farm price support programs. Spending for the Temporary Emergency Food Assistance Program (TEFAP), the Nutrition Program for the Elderly, and Commodity Distribution to Charitable Institutions—the three major food distribution programs—peaked at \$1.5 billion in fiscal 1984. By 1989, food distribution program expenditures declined to \$736.1 million, primarily because some Government surpluses were depleted. TEFAP, the largest of the food distribution programs, accounts for most of this fluctuation.

TEFAP distributes surplus butter, honey, cornmeal, and flour from Govern-

ment holdings. In the past, cheese, rice, and nonfat dry milk were also distributed. Provisions of the Hunger Prevention Act of 1988 earmarked the distribution of some TEFAP commodities to soup kitchens and food banks. The Act authorized \$120 million annually from 1988 to 1990 to purchase commodities in the open market for distribution through TEFAP.

Under the Nutrition Program for the Elderly (NPE), USDA provides food and funds in lieu of commodities to the U.S. Department of Health and Human Services, which administers programs to provide meals to the elderly, either at centers or delivered to their homes. In fiscal 1989, USDA supplied \$144.6 million in cash and commodities to provide meals for nearly 1 million elderly persons.

USDA, through the Commodity Distribution to Charitable Institutions Program, provides surplus commodities to eligible charitable institutions not covered by other USDA programs. USDA donated \$130.5 million worth of commodities in fiscal 1989 to charitable institutions such as orphanages, summer camps, and nursing homes.

Domestic Food Programs in the 1990's

Food assistance policy for the 1990's must balance the conflicting forces of budget constraints and meeting the nutritional requirements of needy persons. Program growth and expenditures have been limited by budget constraints which resulted in the development of tighter program eligibility requirements and the creation of new program management systems. Regulatory and legislative changes mandated in the Omnibus Budget Reconciliation Act of 1981 (P.L. 97-35), the Agriculture and Food Act of 1981 (P.L. 97-98), and the Omnibus Budget Reconciliation Act of 1982 (P.L. 97-253) were partly responsible for lowering the growth rate of real (adjusted for inflation) program expenditures, particularly

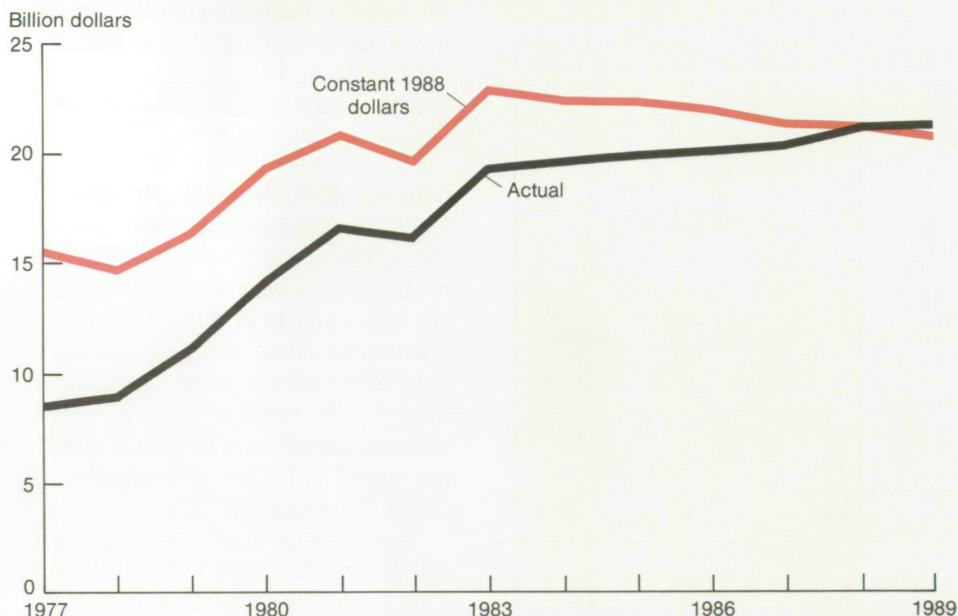
in the National School Lunch and Food Stamp programs. Although actual expenditures for all food assistance programs have continued to increase, real spending has declined since 1983 (*figure 1*). The number of participants in the Food Stamp Program, National School Lunch Program, School Breakfast Program, and WIC, however, has remained practically unchanged.

On the other hand, attempts to increase food consumption of low-income people have expanded the scope of some existing programs and created new ones. The increased funding of both the Child and Adult Care Food Program and WIC, the creation of TEFAP, and the rise in food stamp participation, from about 50 percent of eligible households in the mid-1970's to about 67 percent today, reflect efforts to expand food assistance programs. More recently, this goal is reflected in the gradual increase in food stamp benefits mandated in the Hunger Prevention Act of 1988, with future increases a possibility.

Current reform proposals include making WIC an entitlement program, replacing food stamp coupons with electronic debit cards, and increasing the frequency of food stamp benefit adjustments for inflation. However, with existing budget limitations, additional expenditures on some programs may come at the expense of others.

Changing WIC to an entitlement program would broaden the coverage to individuals who are eligible under program guidelines but do not receive benefits because of limited funding. Providing debit cards, a device used in some pilot studies, rather than food stamps may reduce administrative program costs but could possibly increase food retailers' operating costs. Program benefits are currently adjusted annually for food price inflation. More frequent adjustments could reduce the lags between changes in food prices and program benefits.

Most food assistance programs provide in-kind transfers, such as stamps,

Figure 1. Real Spending for Food Programs Has Declined Since 1983¹

¹Includes benefits, State administrative and other costs, and nutrition assistance to Puerto Rico and the Northern Marianas during 1982-88.

Source: FNS Program Information Division.
Contact: Masao Matsumoto (202) 786-1864.

vouchers, or commodities, rather than direct cash assistance. In-kind programs are able to provide specific food benefits to target groups deemed to have specific nutritional needs. Pilot programs designed to measure the impact of a cash-only Food Stamp Program are currently under way in selected sites in the United States.

The intensity of the debate on food assistance policy options will depend upon the public perception of the extent of "hunger" in the United States. Hunger is frequently defined in two ways. The first defines hunger in terms of malnutrition with measures such as anemia, low birth weight, and infant mortality. Hunger is also defined as a lack of "food security," a condition in which there is not access at all times to adequate food from normal food channels. This definition leads to a broader concept of hunger.

The Hunger Prevention Act of 1988 provides greater funding for food assistance programs and signals heightened congressional concern over hunger and malnutrition. The funding level and scope of domestic food assistance programs will remain volatile issues, generating significant public debate. As Congress considers the 1990 food and farm legislation, additional spending on food assistance will be weighed against other pressing domestic issues such as medical care, housing, drug abuse prevention, and job training.

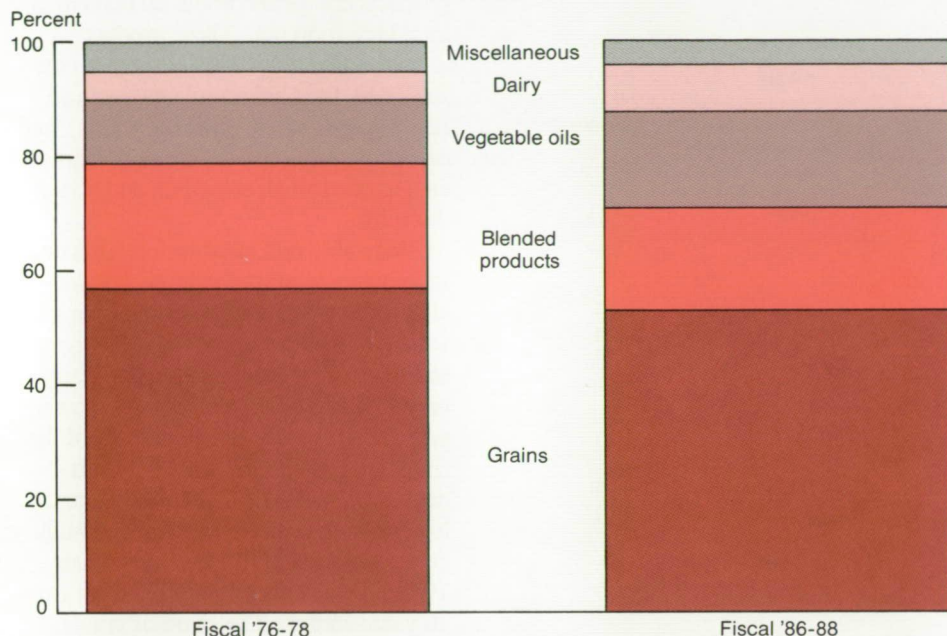
U.S. Overseas Food Aid

The United States provides a wide array of commodities through its food aid programs, ranging from bulk, unprocessed commodities to food easily used in relief camps. In fiscal years 1986-88, grains comprised almost 55 percent of the value of all food aid shipments (figure 2).

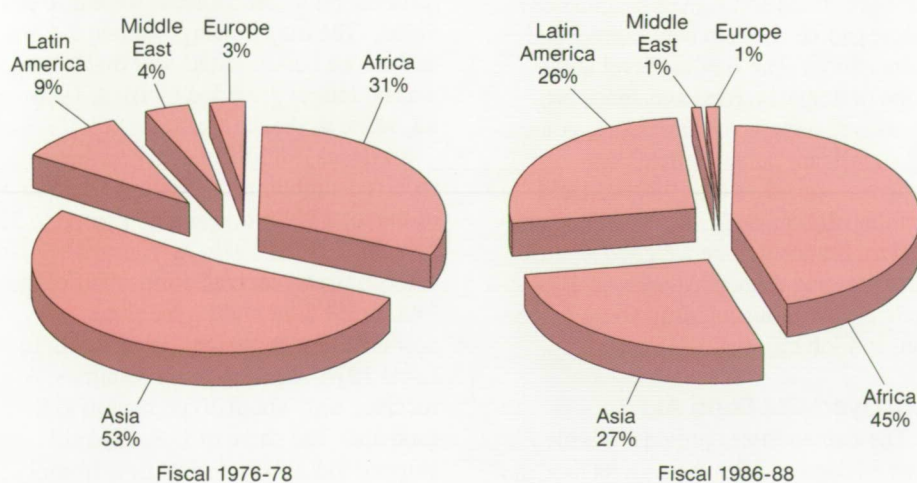
Much of it was wheat, followed by rice, corn, and sorghum. Blended products comprised about 20 percent of total U.S. food aid. These products, which can be more readily used or consumed by food aid recipients, include flour, bulgur wheat (cracked wheat), and cereal mixtures containing such ingredients as corn meal, soy flour, and nonfat dry milk.

Vegetable oils, used for cooking or as ingredients in other foods, comprised slightly more than 15 percent of the total value. Soybean oil made up the largest share of donated vegetable oils. Dairy products, largely nonfat dry milk, comprised a little less than 10 percent of the fiscal 1986-88 total value. Miscellaneous commodities included cotton, tallow, and other products. The commodity composition of U.S. food aid in fiscal 1986-88 was only slightly different from 10 years earlier. The share of grains, blended products (mainly cereal), and miscellaneous commodities showed a small decline, while vegetable oils and dairy products increased. Dairy's share increased largely because more types of products were donated than just nonfat dry milk. In fiscal 1986-88, anhydrous milk fat, butter, and cheese were also provided. The major change among the miscellaneous commodities was that tobacco was no longer provided by fiscal 1986-88, while soybeans were.

In fiscal 1986-88, Asian countries received slightly more than one-quarter of the total U.S. food aid, compared to 53 percent in fiscal 1976-78 (figure 3). African countries received almost half of the total in 1986-88 and Egypt alone accounted for more than 15 percent. In fiscal 1976-78, all African countries received only about 30 percent of U.S. food aid. The share of U.S. food aid shipped to Latin America grew from 9 percent in fiscal 1976-78 to 26 percent in fiscal 1986-88, reflecting unsteady growth in per capita grain production and higher debt burdens there.

Figure 2. Grains Still Predominate in International Food Donations¹

¹Composition by value.
 Source: Economic Research Service data.
 Contact: Mark Smith (202) 786-1820.

Figure 3. Recipients of Food Aid Have Changed Since the Mid-1970's¹

¹By value of food aid shipped.
 Source: Economic Research Service data.
 Contact: Mark Smith (202) 786-1820.

The distribution of U.S. food aid shifted, in part, to reflect changes in the agricultural situation in developing countries since the mid-1970's. In general, food production per capita has not improved in Africa as much as in other regions.

How the U.S. Provides Food Aid

The United States provides food aid abroad through two main channels. Commodities are donated through P.L. 480, also known as the Food for Peace Program, to help meet the needs of hungry individuals and to help developing countries. The Section 416 program involves overseas donations of surplus commodities owned by USDA's Commodity Credit Corporation (CCC).

Food is distributed through three P.L. 480 programs. Under Title I, the Government provides long-term, low-interest credit for the sale of U.S. agricultural commodities to designated countries. Local currencies, generated by the sale of the aid commodities, are programmed by the recipient government and the United States for jointly agreed self-help measures such as increasing farm production and improving storage, transportation, and distribution of farm products in the recipient country. The Food Security Act of 1985 reinstated Title I sales of U.S. farm products for local currency to generate economic growth through the recipient's private sector.

P.L. 480 Title II provides donated U.S. agricultural commodities to alleviate famine, provide disaster relief, combat malnutrition, and encourage economic and community development. These donations are distributed through recipient governments, private voluntary organizations, and the World Food Program. Under the Food for Development Program (Title III), a Title I loan may be forgiven if the local currency generated from Title I commodity sales is used to finance specified development purposes.

Funding for the P.L. 480 program peaked at about \$2.2 billion in fiscal

1985 during the African famine. Since the Food Security Act of 1985 was enacted, P.L. 480 programming has remained relatively stable after declining from the 1985 peak to \$1.5 billion in fiscal 1987-90. P.L. 480 has accounted for 5 percent or less of the value of total U.S. agricultural exports since fiscal 1974. Volumes shipped have declined from about 8.5 million tons in fiscal 1985 to about 6 million tons in fiscal 1988. This compares to peak shipment volume of more than 19 million tons in fiscal 1962.

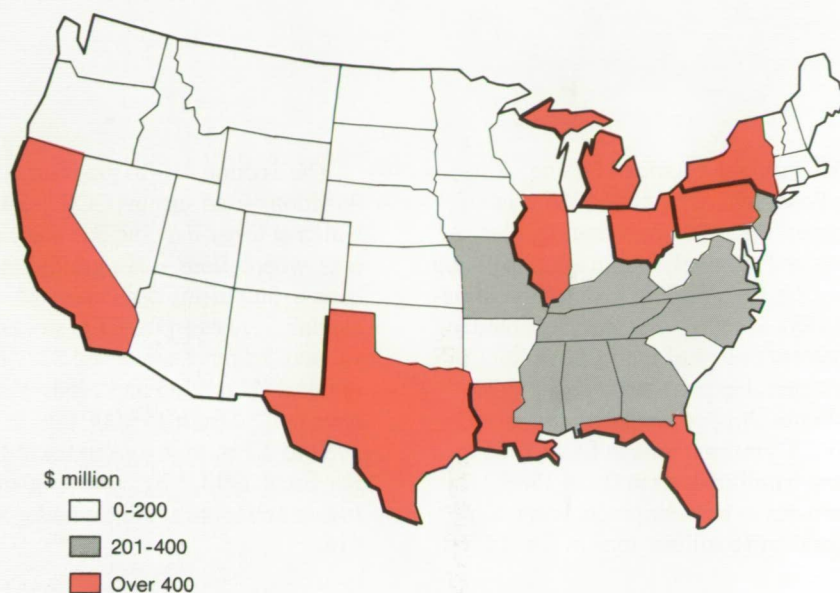
The Section 416(b) program provides donations from surplus CCC stocks, which at times may include dairy products, wheat, flour, other grains, and soybeans. Shipments depend on the availability of surplus CCC stocks. The value of shipments reached \$279 million in fiscal years 1985 and 1988. Volumes have ranged from 153,000 tons in fiscal 1984 to 2.1 million tons in fiscal 1988. For fiscal 1990, only corn, sorghum, and frozen butter are available under Section 416.

Over the years, the channels through which U.S. food aid has been distributed have changed slightly. In fiscal, 1976-78, Title I/III shipments accounted for 70 percent of the total. In fiscal 1986-88, such shipments comprised close to 65 percent. Title II's share dropped from 30 percent to 25 percent. The declines mainly were due to the growth in Section 416 shipments, which started in fiscal 1983 and accounted for about 10 percent of total shipments during fiscal 1986-88.

Food Assistance ...At a Glance

Assistance under the Food Stamp Program depends on the State's population and economic condition. Thirty-two States each received more than \$100 million in Federal food stamp assistance during 1989. On a regional basis, the 14 States in the Southeast and Midwest accounted for the largest shares of program benefits, each receiving between \$154 million and \$750 million. Nine States, including Texas, California, and New York, totaled more than \$400 million each.

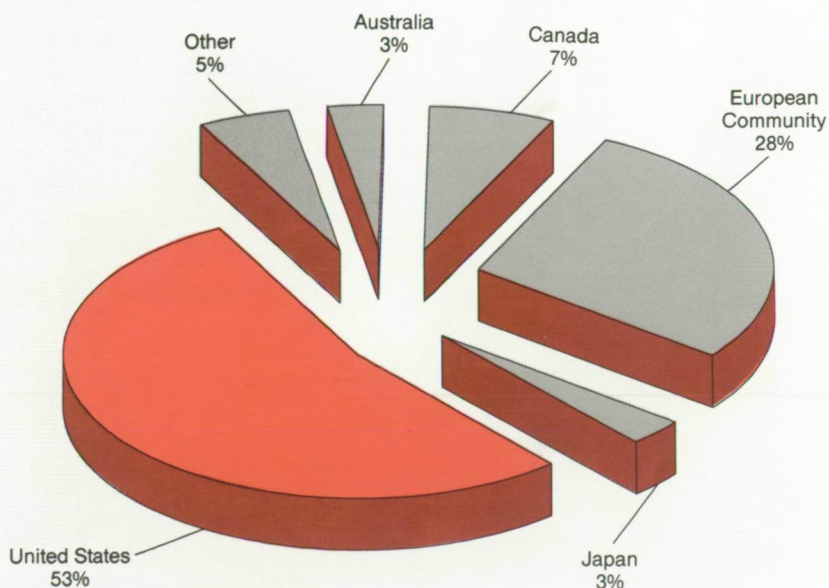
Nine States Received More than \$400 Million in Food Stamp Benefits in 1989



Source: Compiled from Food and Nutrition Service, USDA, data.
Contact: Masao Matsumoto (202) 786-1864.

The United States is a leader among nations that provide international food aid. The Food and Agriculture Organization (FAO) of the United Nations estimates that in 1989/90 the United States will provide almost 53 percent of total world cereal aid shipments. World cereal aid shipments will be about 11.6 million tons in 1989/90. The European Community will donate 28 percent, followed by Canada with 7 percent, and Japan and Australia with about 3 percent each. Other donors include principally Argentina, Austria, Scandinavian countries, and Switzerland, and the World Food Program.

The United States Provides More Cereal Aid Than All Other Donors Combined¹



¹Does not add due to rounding.
Source: FAO, *Food Outlook*, March 1990.
Contact: Mark Smith (202) 786-1820.

International Trade

The U.S. agricultural trade picture has brightened since the mid-1980's, although the sector and U.S. competitiveness have not completely recovered to early-1980's levels. Exports jumped from \$26 billion in fiscal 1986 to \$40 billion in 1989, and import growth slowed significantly as the world economy and U.S. competitiveness improved. U.S. farm exports outpaced imports by more than \$18 billion in 1989. This was more than triple the U.S. agricultural trade surplus of 1986 and the sixth largest surplus ever recorded (*figure 1*).

Despite agriculture's trade gains in the last 5 years, the value of farm exports remained 10 percent below the 1981 record. Agricultural export volume totaled 146 million tons in 1989, compared with more than 160 million tons at the beginning of the 1980's.

At the same time, imports hit record highs in 1988 and 1989, although they rose only \$500 million in 1989. Imports of products that compete with domestic agriculture have continued to surge, even as declining prices for noncompetitive tropical imports, such as coffee, slowed overall import growth.

Measuring Agriculture's Competitiveness

Export and import totals provide one indicator of the state of U.S. agricultural trade. However, these data tell only part of the story. Several other comparisons of trade performance can be made to gain a more complete understanding of changes in U.S. agriculture's global competitiveness. Measuring trade as a share of farm production, for example, can provide an indication of the sector's competitiveness. Similarly, U.S. farm trade can be compared with trade performance in other sectors of the U.S. economy and with other countries.

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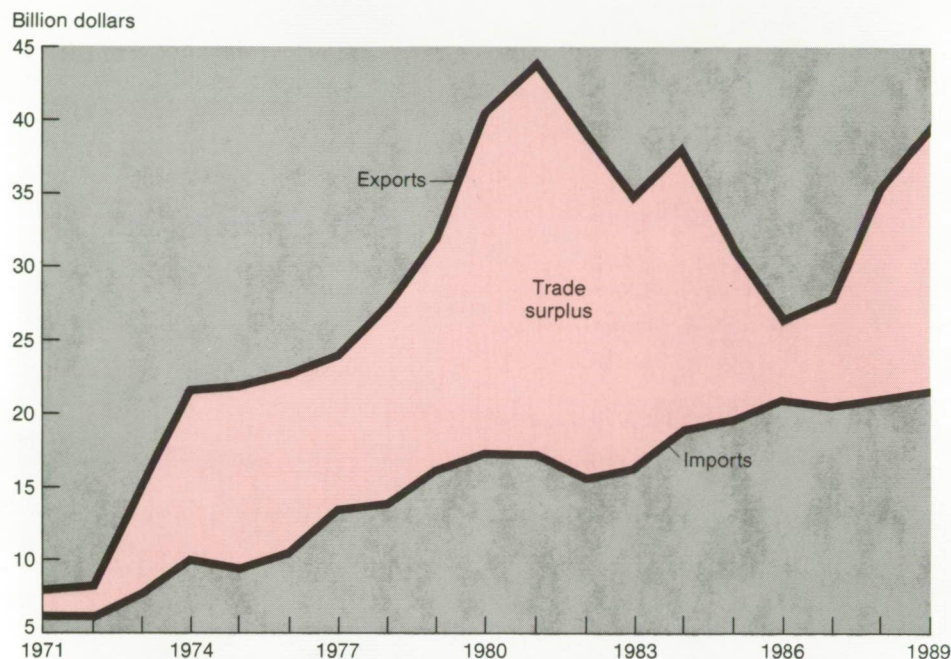


Export earnings as a share of cash receipts from the sale of commodities provide the broadest comparison of U.S. agricultural output and exports. Cash receipts change with prices and production tonnage, just as export earnings depend on both prices and volume. In 1989, U.S. agricultural exports equaled 25 percent of cash receipts. Since 1968, this share has ranged from 12 to 31 percent, with variations largely paralleling changes in exports. A country that exports a substantial share of its farm production can be considered fairly competitive. The United States, for example, has a large expanse of fertile soil and generally mild, moist weather, that makes it unsurpassed in its ability to competitively produce and export large amounts of corn, wheat, and other field crops (*table 1*). Other countries, such as Japan, that

rely heavily on imports generally lack the resources to meet domestic consumption needs.

Exports are even more important for some major U.S. field crops. Generally, the United States exports about half of its wheat and soybean crops and one-quarter or more of its corn crop in a given year. Other crops with high export shares include rice, sorghum, hops, almonds, walnuts, cotton, and tallow.

In contrast, exports of all livestock products equaled only 8 percent of cash receipts, while vegetable and fruit exports held 13 and 22 percent of their respective cash receipts. However, these shares are overvalued since the value of exports is inflated by transportation and processing costs. Such costs are higher for livestock and horticultural products than for grains, oilseeds, and cotton.

Figure 1. The U.S. Agricultural Trade Surplus Has Rebounded Since 1986

Source: *Foreign Agricultural Trade of the United States*, ERS, USDA, various issues.
 Contact: Steve Milmoie or Stephen MacDonald (202) 786-1822.

Overall, a larger share of the U.S. supply of farm products is exported than imported. The import share of domestic supply varied greatly among commodities. Less than 1 percent of eggs, butter, and lettuce was imported. Up to 99 percent of the domestic supply of coffee, tea, cocoa, and tropical vegetable oils, such as palm and coconut, was imported because the United States does not produce enough of these products to meet domestic demand.

Agricultural imports generally fall into two categories: commodities that cannot be produced profitably in the United States (noncompetitive imports) and those that compete directly with U.S. products (competitive imports). During the last 12 years, noncompetitive imports—such as coffee, cocoa, and bananas—fluctuated between \$5.3 and \$7.8 billion, but the value of competitive imports more than doubled (table 2).

U.S. imports of meats, fruits, vegetables, and other competitive products rose to \$15.2 billion in fiscal 1989 from less than \$7 billion in 1977.

Fruit and vegetable imports more than doubled between 1981 and 1989. Tariffs were lowered and, in some cases eliminated, for Caribbean Basin Initiative nations in 1983. Some nations are able to ship substantial amounts of fruits and vegetables during the winter and early spring when U.S. supplies are not available. Occasionally, bad weather also reduces supplies. Several freezes in Florida since 1970, for example, helped significantly reduce our supply of oranges for processing. Imports now account for 35 to 40 percent of domestic orange juice consumption, compared to just 1 percent in 1970.

Less than 2 percent of all U.S. dairy products were imported in 1988. With 10.3 million milk cows in the United

States producing 142.7 billion pounds of milk in 1987, U.S. dairy needs were easily met. Specialty cheeses and casein, a protein derivative from milk, comprised most U.S. dairy imports.

Approximately 8 percent of domestic red meat consumed in 1989 was imported, even though imports of fresh beef, veal, lamb, mutton, and goat are restricted under the Meat Import Law enacted in 1964, and amended in 1979. Pork imports had been unrestricted until recently when countervailing duties were applied to Canadian pork and live hogs.

The imported share of U.S. vegetable oil consumption varies greatly depending on how it is used. Approximately 10 percent of vegetable oil used in food preparation was imported. In contrast, imports accounted for approximately 85 percent of vegetable oil used for industrial purposes. Rapeseed (canola) and cottonseed oil are also imported to supplement traditional shipments of palm, palm kernel, and coconut oils. In general, the imported shares of vegetable oil for food and industrial use have been increasing.

Comparisons of U.S. agricultural exports and imports imply U.S. agriculture is not as competitive globally as it has been. The United States is exporting a smaller share of its farm production than at the beginning of the 1980's and imports of goods that compete with U.S. farm products are increasing.

Comparing Agricultural and Nonagricultural Trade

In 1989, nonagricultural exports surpassed their 1981 peak by more than \$100 billion, making them a significant source of growth for the U.S. economy. U.S. nonagricultural exports have been equivalent to nearly 6 percent of our gross national product (GNP) in recent years, rebounding since the mid-1980's and approaching the levels set at the beginning of the decade.

Imports of nonagricultural products also have increased. The nonagricultural trade deficit shrank from \$160 billion to

Table 1. Grains and Oilseeds Led the List of U.S. Agricultural Exports...

	Volume			Value		
	Fiscal year			Fiscal year		
	1981	1986	1989	1981	1986	1989
	<i>Thousand metric tons</i>			<i>Million dollars</i>		
Feed grains and products	69,516	36,237	61,094	10,497	3,817	7,379
Wheat and products	43,592	26,981	39,021	8,052	3,547	6,292
Oilseeds and products	29,802	27,582	20,402	9,305	6,266	6,624
Fruits, nuts and vegetables	4,024	3,445	5,037	3,558	2,915	3,939
Animal products	2,685	2,598	3,325	4,107	4,353	6,542
Rice	3,172	2,382	3,052	1,537	648	955
Other	9,220	10,637	15,638	6,724	4,763	7,920
Total	162,011	109,862	147,569	43,780	26,309	39,651

...While Fruits, Nuts, and Vegetables Dominated Imports in 1989

Bananas	2,442	2,859	2,870	501	700	795
Coffee, green	987	1,185	982	2,800	4,151	2,110
Cocoa and products	431	507	564	953	1,189	969
Meat	905	1,139	1,092	2,222	2,248	2,433
Fruits, nuts and vegetables	na	3,794	4,644	1,966	3,493	4,170
Sugar	3,746	1,905	1,630	2,170	654	620
Vegetable oils	831	1,173	1,133	522	555	721
Other	na	na	na	6,084	7,894	9,661
Total	na	na	na	17,218	20,884	21,479

na = not available

Source: *Foreign Agricultural Trade of the United States*. USDA, ERS, various issues.

Contacts: Steve Milmoie and Stephen MacDonald (202) 786-1822.

\$140 billion between 1986 and 1989, but remained \$100 billion larger than 10 years earlier. The gains in nonagricultural exports, coupled with agriculture's growing trade surplus since 1986, meant a slight improvement in the total U.S. merchandise trade deficit—the broadest indicator of U.S. trade performance.

U.S. imports grew rapidly beginning in the early 1970's when the price of foreign oil skyrocketed, but U.S. demand changed little. Recessions in 1974-75 and 1981-83 temporarily reversed the upward trend. In recent years, machinery

and transport equipment (passenger cars) have shown the most rapid growth in import value.

In 1989, agricultural commodities accounted for about 5 percent of all U.S. imports, compared to about 25 percent as recently as 1960 and 50 percent in 1940. U.S. import demand has shifted from food to luxury items, such as automobiles and VCR's, that are more responsive to income growth. At the same time, farm products fell from about 23 percent of total U.S. exports in 1974 to less than 13 percent in 1986 and have failed to

rebound despite the surge in agricultural exports.

It will be difficult for agriculture to expand its share of either trade or the domestic economy because of two basic principles about prices and consumer demand. First, prices for basic goods like food tend to increase over the long run less than prices for cars and other consumer products. At the same time, consumers have a finite appetite for basic goods like food. In contrast, new products like VCR's and personal computers are continually being introduced or improved. The list of products consumers might want or need continues to grow, steadily outstripping the growth in food consumption here and in the countries that are our major trading partners.

U.S. Share of World Agricultural Trade

The United States has been the world's largest exporter of farm products since the 19th century, but in terms of net agricultural trade, the United States has occasionally relinquished first place. In 1986, the United States had the third largest agricultural trade surplus, exceeded only by Australia and Brazil. This marked the first time since 1973 that the United States did not rank first. By 1988, however, the U.S. agricultural trade surplus was twice as large as that of its nearest competitor, Australia.

The United States experienced a comparable reversal in its nonagricultural ranking. The United States had been the world's largest single-country exporter since the end of World War II. In 1986, however, U.S. exports fell behind those of Germany and Japan. The United States regained first place in 1989 as trends in the world economy and exchange rates reversed in the mid-1980's in favor of U.S. export growth. While U.S. export values fluctuated by as much as \$150 billion between 1983 and 1989, the U.S. share of world trade changed only slightly. During the 1980's, U.S. exports were equivalent to

Table 2. The Value of U.S. Imports of Competitive Products Is Increasing

	Volume			Value		
	Fiscal year			Fiscal year		
	1981	1986	1989	1981	1986	1989
	<i>Thousand metric tons</i>			<i>Million dollars</i>		
Competitive imports						
Meat	905	1,139	1,092	2,222	2,248	2,433
Fruits, nuts and vegetables	na	3,794	4,644	1,966	3,493	4,170
Sugar	3,746	1,905	1,630	2,170	654	620
Vegetable oils	831	1,173	1,133	522	555	721
Grains and feed	na	2,311	3,468	412	668	1,139
Other	na	na	na	4,010	5,456	6,158
Total	na	na	na	11,302	13,074	15,241
Noncompetitive imports						
Bananas	2,442	2,859	2,870	501	700	795
Coffee, green	987	1,185	982	2,800	4,151	2,110
Cocoa and products	431	507	564	953	1,189	969
Rubber	625	794	927	759	605	1,051
Other	na	na	na	903	1,165	1,313
Total	na	na	na	5,916	7,810	6,238
Total	na	na	na	17,218	20,884	21,479

na = not available.

Source: *Foreign Agricultural Trade of the United States*, USDA, ERS, various issues.

Contacts: Steve Millmoe or Stephen MacDonald (202) 786-1822.

between 10 and 13 percent of global export activity.

Rapidly expanding world farm trade generally means a greater share for U.S. agricultural exports. The U.S. agricultural sector has the transportation, stockholding, and productive infrastructure necessary to meet greater export demand. When global trade is weak, however, U.S. exports tend to fall disproportionately. The result has been large variations in the U.S. share of agricultural world trade. Between 1980 and 1986, the U.S. share of total world agricultural export value fell from over 18 percent to 12 percent, with only a partial recovery since then.

Agricultural Exports

At \$39.7 billion, the 1989 value of U.S. agricultural exports was about \$1 billion below its 1980 value. The difference becomes much larger, however, when the effects of inflation are factored out. U.S. exports in 1989 were only worth \$26 billion in constant 1980 dollars (*table 3*). Reduced export volume and falling prices for agricultural products relative to other prices account for this lagging performance. In 1980, the volume of U.S. agricultural exports totaled 163 million metric tons. By the middle of the decade, it had fallen to 110 million as world trade faltered and the U.S. share shrank. By 1989, volume had rebounded to 146 million tons, but still fell short of U.S. export performance 9 years earlier.

Prices performed similarly. Average export prices fell and then partially recovered during the course of the decade, closing the 1980's almost 10 percent lower than at the beginning. Consumer prices, in contrast, rose about 50 percent. This difference between changes in farm export prices and consumer prices in the rest of the economy represents a loss of purchasing power for the agricultural sector.

Changes in U.S. competitiveness account for some of the additional variation in agricultural trade. Although U.S. and overseas farm policies affect the competitiveness of U.S. agricultural trade, macroeconomic factors, such as exchange rates, can affect the competitiveness of all sectors simultaneously. The most general economic trends favor increased U.S. exports, but continued industrialization in the developing countries means the United States is unlikely to recover to its largest share of world trade.

Helping Exporters Compete

The U.S. Government launched several new programs and expanded older export programs in the 1980's to encourage foreign sales of U.S. commodities. These programs have helped boost commercial exports significantly in recent years.

The Export Enhancement Program (EEP) was announced in May 1985 and extended under the Food Security Act of 1985 and the Omnibus Trade Act of 1988. The EEP permits exporters to counter competitors' subsidies and other "unfair" trade practices in specified overseas markets (*see box*). As of March 15, 1990, the program had assisted sales of more than \$10 billion of U.S. agricultural goods. Wheat has been the chief commodity sold under the EEP, accounting for more than 80 percent of the value of all EEP shipments (*figure 2*). EEP also has been used to sell barley, barley malt, dairy cattle, eggs, flour, frozen poultry,

Table 3. The U.S. Share of World Agricultural Exports Has Fallen

	1970	1975	1980	1985	1988	1989
<i>Billion dollars</i>						
Agricultural exports (deflated) ^{1 2}	15	33	41	24	25	26
Total exports (deflated) ²	92	166	221	168	224	239
Agricultural trade balance ¹	1	12	23	12	14	18
U.S. trade balance	1	2	-36	-134	-138	-135
<i>Percent</i>						
Export share of U.S. farm production ¹	14	25	29	22	25	23
All U.S. exports as share of GNP	4	7	8	5	7	7
U.S. share of world agricultural exports	14	18	18	15	14	14
U.S. share of world exports	15	13	12	12	12	12
U.S. share of world agricultural imports	11	7	7	9	7	7
U.S. share of world imports	15	13	14	20	16	16
U.S. agricultural exports as share of all exports	16	20	18	14	11	11
U.S. agricultural imports as share of all imports	13	9	7	6	5	4
U.S. agricultural export price index ¹	40	88	100	88	85	91
U.S. consumer price index	47	65	100	131	143	150

¹Fiscal year. All others are calendar year. ²In 1980 dollars.

Source: *Foreign Agricultural Trade of the United States*, USDA, ERS, various issues. *Agricultural Outlook*, USDA, ERS, various issues. *FAO Trade Yearbook*, United Nations, Food and Agriculture Organization, various issues.

Contact: Stephen MacDonald (202) 786-1822.

poultry feed, rice, semolina, sorghum, and vegetable oil.

EEP shipments represented about 60 percent of total U.S. wheat exports in 1988 and 1989. In fiscal 1989, EEP shipments accounted for 60 percent of barley exports but played a smaller role in the export of other commodities. EEP's share totaled about 30 percent of flour exports and 10 percent of vegetable oil exports in 1989.

Importers in more than 65 countries may purchase U.S. agricultural commodities under EEP. Since 1985, importers in the Middle East and North Africa have been the chief buyers. However, the Soviet Union and China also have been major destinations for EEP wheat (*figure 3*).

Mexico, Iraq, South Korea, Egypt, and Algeria were the chief users of the Export Credit Guarantee Program (GSM-102) from 1986 through 1988. GSM-102 is the largest of two credit guarantee programs that allow exporters to make credit available to importers in countries that

U.S. Export Programs

Commercial exporters can turn to an array of programs to help them compete in overseas markets. The Export Enhancement Program (EEP), for one, permits exporters to reduce the price of a commodity to meet subsidized competition. Under the EEP, exporters make sales of U.S. agricultural products in specified foreign markets at competitive prices, and receive bonuses in the form of certificates redeemable for commodities held by the Commodity Credit Corporation (CCC). The EEP's major goal is to further the U.S. negotiating strategy in the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) by countering competitors' subsidies and other "unfair" trade practices.

The CCC operates short-term and intermediate-term credit guarantee programs to make purchases of U.S. agricultural commodities more affordable and to increase

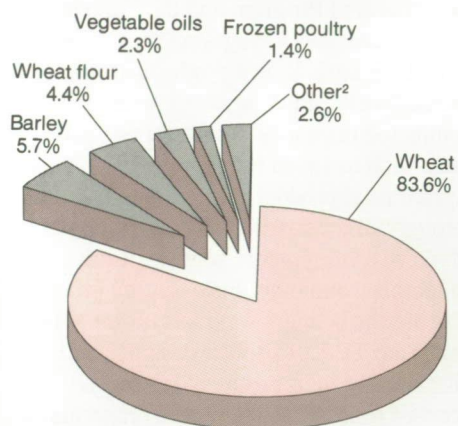
U.S. exports. The Export Credit Guarantee Program (GSM-102) has guaranteed short-term credit (up to 3 years) since 1981. The Intermediate Export Credit Guarantee Program (GSM-103) was established by the Food Security Act of 1985. The program complements GSM-102 but guarantees repayment of private credit for more than 3 to 10 years.

Exporters seeking to increase overseas demand for U.S. agricultural products may work with USDA's Foreign Agricultural Service (FAS) through the Targeted Export Assistance (TEA) and Foreign Market Development Programs to conduct advertising and other promotional activities. The goals of the Foreign Market Development Program are to develop, maintain, and expand long-term foreign markets for U.S. agricultural goods. Under the program, FAS works with nonprofit producer organizations and private compa-

nies to make contact with foreign importers and government officials, to host trade conferences, to fund consumer promotions such as advertising campaigns and in-store demonstrations, and to conduct agricultural experiments, livestock nutrition programs, and other educational activities.

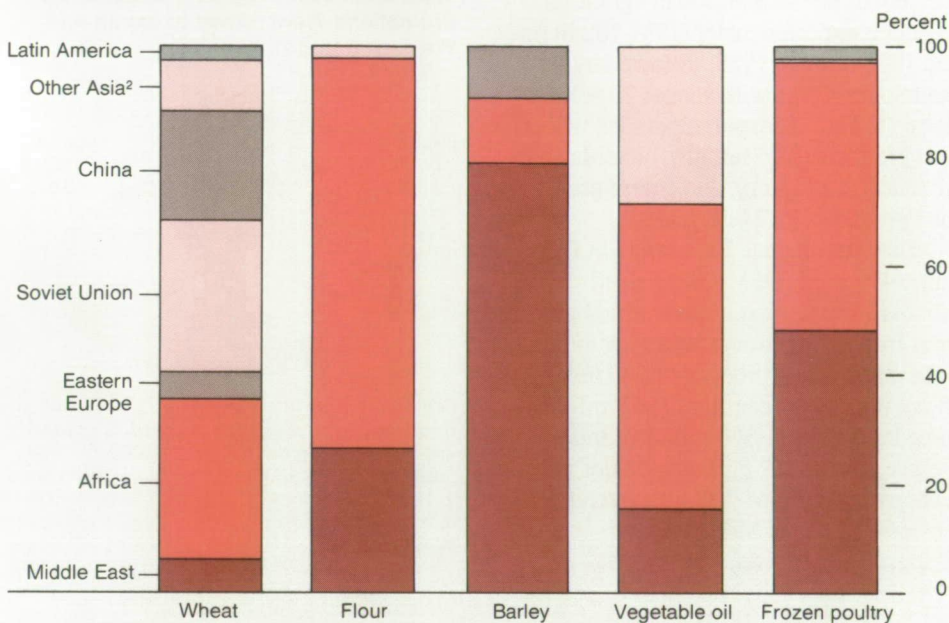
The Targeted Export Assistance Program assists producers who have suffered losses due to the unfair trade practices of other nations. Priority for assistance under the TEA is given to U.S. producers of commodities or products who have filed a complaint to the U.S. Trade Representative under Section 301 of the Trade Act of 1974 and have received a favorable decision or have suffered retaliatory action as a result of a favorable Section 301 decision. TEA participants conduct promotions aimed at overseas consumers, particularly media advertising.

Figure 2. Wheat Accounted for the Largest Share of Export Enhancement Program Sales Value¹



¹1985 through March 1990. ²Includes barley malt, dairy, cattle, eggs, poultry feed, rice, semolina, and sorghum. Source: Calculated from Foreign Agricultural Service, USDA, data. Contact: Karen Ackerman (202) 786-1821.

Figure 3. The Soviet Union, China, Middle East, and North African Countries Were the Chief Destinations for EEP Commodities¹

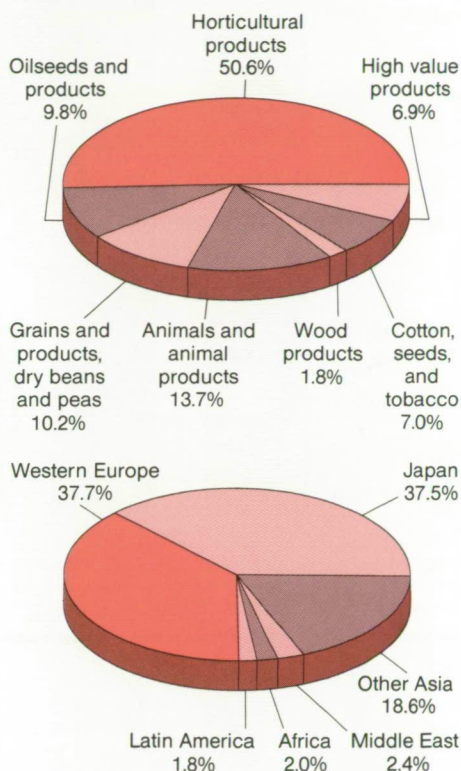


¹1985 through December 15, 1989. ²Other Asia includes Bangladesh, India, the Philippines, Singapore, and Sri Lanka. Source: Compiled from Foreign Agricultural Service, USDA, data. Contact: Karen Ackerman (202) 786-1821.

may be facing foreign exchange constraints. Mexico accounted for over 25 percent of the \$8.6 billion in agricultural products exported under GSM-102 in fiscal 1986 through 1988, followed by Iraq and South Korea with almost 20 percent each. GSM-102 exports included wheat and products (\$2.5 billion), oilseeds and products (\$2 billion), and coarse grains and products (\$1.7 billion).

The Intermediate Export Credit Guarantee Program (GSM-103) helped ship almost \$450 million in agricultural products from 1986 through 1988, including wheat and wheat products (\$239 million), protein concentrates (\$67 million), breeder livestock (\$50 million), and coarse grains (\$39 million). Major purchasers under GSM-103-guaranteed financing were in Morocco, Iraq, Bangladesh, Tunisia, and Jordan.

Figure 4. Horticultural Products Gained the Bulk of TEA Program Funds, While Promotions Were Aimed at Japan and Western Europe¹



¹TEA commodity distributions are based on approved program budgets for fiscal 1986-89. TEA regional distributions are based on 1986 TEA budgets committed as of April 1989.

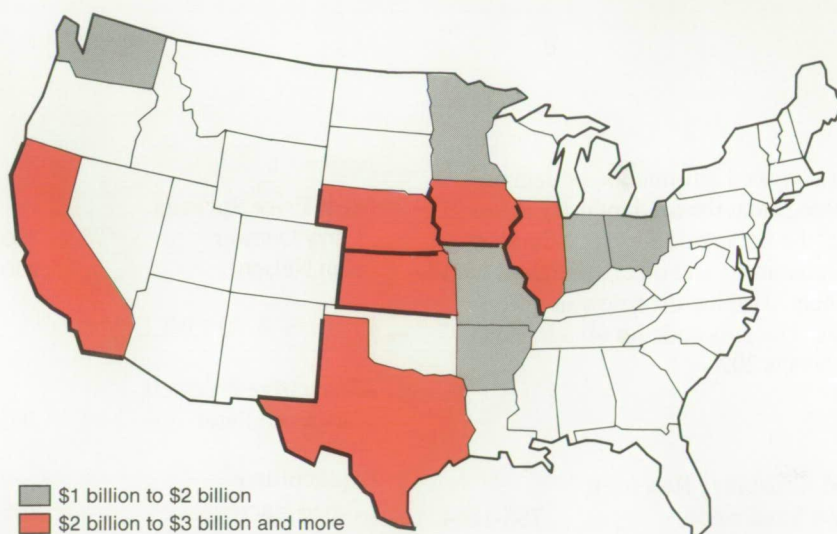
USDA's Foreign Agricultural Service (FAS) administers two market development programs, the Foreign Market Development Program and the Targeted Export Assistance Program (TEA) to promote U.S. agricultural products in overseas markets. TEA promotions are conducted primarily in developed countries, such as Japan and Western Europe. Agricultural products are promoted throughout the world under the Foreign Market Development Program. Fruits, vegetables, and other horticultural products are the primary products promoted under the TEA. In contrast, grains and oilseeds and their products dominated Foreign Market Development programs (figure 4).

In 1986, the first year of the TEA, over 35 percent of the program's activities were in Western Europe, followed by Japan and other Asian countries. After 4 years in operation, the TEA continues its focus on Western European and developed Pacific Rim countries.

International Trade ... At a Glance

California led the list of agricultural exporting States in 1989, shipping more than \$3.5 billion. The State ranked first in fruit, vegetable, and nut exports. Nebraska exported almost \$3.0 billion of farm products in 1989 and led in shipments of feed grains and products. Though not one of the top 10 exporting States, Arkansas was the leading rice exporter in 1989.

Farm Exports Totalled More than \$2 Billion for Six Leading States in 1989



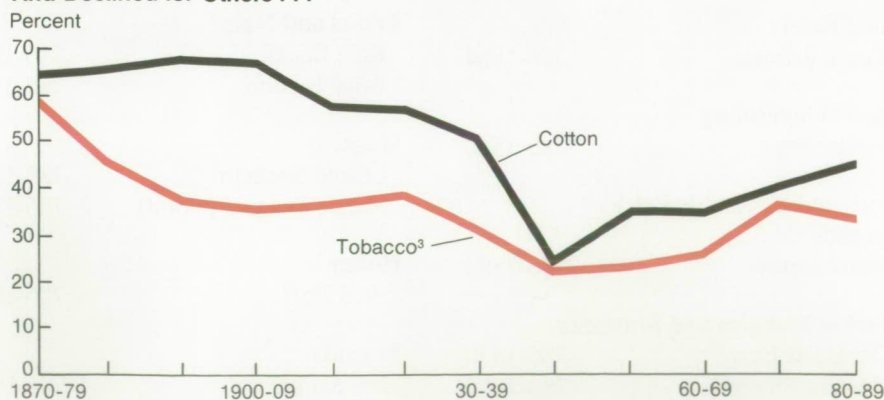
Source: Economic Research Service estimates.
Contact: Steve Milmo (202) 786-1822.

Trade has played an integral role in U.S. agriculture through most of the 20th century. With the exception of the 1930's, a period characterized by restrictive Depression-era tariff laws, and the war years of the 1940's, agricultural exports have provided important outlets for U.S. agricultural production. For example, almost 25 percent of the wheat crop was exported from 1900 through 1930. In the 1950's, the export share of wheat production reached 33 percent each year, and climbed to an average of 58 percent in the 1970's.

The Share of Production Exported Has Grown for Some Commodities . . .



And Declined for Others . . .



¹Rice production and trade data were not reported prior to 1930. ²Soybean production and trade data were not reported prior to 1931. Nine-year average used for soybeans in 1930-39. ³Eight-year average used for tobacco in 1980-88.

Source: Karen Z. Ackerman and Mark E. Smith. *Agricultural Export Programs Background for 1990 Farm Legislation*. USDA, ERS, Staff Report No. AGES 9033. May 1990. p. 3.
Contact: Karen Ackerman (202) 786-1821.



Dialling the Experts

If you need information or data on anything from the food industry to world trade, the Economic Research Service has economists and other specialists who can help. Use the list below as your guide. The area code for all telephone numbers is 202.

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Food Prices

Food Cost Review, 1989 AER- 636. Denis Dunham. July 1990. \$11.00. Published annually, this report provides answers to such questions as: How much did food prices rise last year? How much of the retail food dollar does the farmer receive and how much is spent on marketing? How have recent developments affected food industry costs, profit margins, and productivity? The detailed information on food costs are presented in over 50 pages of text, tables, and charts.

Food Costs...From Farm to Retail in 1989, AIB-593. \$4.00, summarizes the more detailed *Food Cost Review*. This 12-page bulletin discusses the causes of higher food prices in 1989 and shows that the farmer's share of the food dollar has changed only slightly since 1986. At the same time, however, the farm-to-retail price spread widened.

Supermarket Prices and Price Differences: City, Firm, and Store-level Determinants, TB-1776. Phillip R. Kaufman and Charles R. Handy. December 1989. \$8.00. This bulletin presents the findings of a nationwide survey taken in 1982 from 616 supermarkets representing 321 firms operating in 28 cities. More than

300,000 food and nonfood prices were included. Separate surveys collected detailed data on grocery item prices, labor compensation, and store characteristics and services.

Food Expenditures

Food Spending in American Households, 1980-86, SB-791. David Smallwood. March 1990. \$11.00. This report presents information on trends in prices and in household food expenditures for major food groups by selected demographic factors for 1980-86. In addition, for 1985 and 1986, there are detailed tables for 133 food categories by 10 household socioeconomic characteristics. The information in this report can be used to assess existing market conditions, product distribution patterns, consumer buying habits and living conditions. Combined with demographic and income projections, the information can be used to anticipate consumption trends.

The data are from the 1980-86 Continuing Consumer Expenditure Surveys prepared by the Bureau of Labor Statistics, U.S. Department of Labor.

The Food Industry

Food Marketing Review, 1988, AER-614. Anthony Gallo. August 1989. \$8.00. This annual report profiles the food marketing system and provides information on food manufacturing, wholesaling, retailing, and food service. The report includes, but is not limited to, detailed data on mergers, sales, advertising, prices, profits, productivity, plant and equipment expenditures, and international performance measures. Many of the topics are further explained with charts and a sizable appendix.

The Food Marketing System in 1989, AIB-603, \$4.00, is a summary of the upcoming more detailed report. It analyzes and assesses yearly developments in industry growth, conduct, performance, and structure of the institutions—food processors, wholesalers, retailers, and foodservice firms—that comprise the nation's food marketing system.

Food Consumption

Food Consumption, Prices, and Expenditures, 1967-88, SB- 804. Judith Jones Putnam. May 1990. \$11.00. This mostly statistical report presents historical data from 1967-88 on per capita consumption of major foods in the United States. It also includes basic data on supplies and disposition from which the consumption estimates are derived. The statistics are grouped in categories of per capita food consumption, supply and utilization, prices, income and expenditures, and total expenditures. Each category breaks the statistics down by major foods and, where appropriate, income groups, at-home or away-from-home consumption, meals and snacks, and alcoholic beverages. The prices category includes consumer and producer price indexes, and the average retail food prices for individual items.

International Trade

Foreign Agricultural Trade of the United States, available by subscription, \$20 domestic, \$25 foreign. See ERS ordering information. The latest information on U.S. foreign agricultural trade, including quantity and value by country and commodity as well as price trends and calendar and fiscal year summaries, is presented in six bimonthly issues, two annual supplements, and monthly

updates. Tables highlight commodity and country information, including values, quantities, principal markets for agricultural exports, import sources and trade indexes.

World Agriculture Situation and Outlook, available by subscription, \$12.00. This series offers four issues per year analyzing the situation and outlook of world agriculture. The reports contain timely analyses and forecasts about how the world economy affects agricultural supply and demand, the latest analysis of trade liberalization negotiations, the outlook for the competitiveness of U.S. agri-

culture in world markets, and developments abroad that change agricultural production patterns.

Food Assistance

Food Aid: Motivation and Allocation Criteria, FAER-240. Shahla Shapouri and Margaret Missiaen. February 1990. \$8.00. This study identifies major factors affecting food aid and reviews the evolution of the policies for developing countries of the United States, the European Community, and Canada. It also

measures the domestic effects of food aid in the recipient countries over time.

U.S. Domestic Food Assistance Programs: Lessons From the Past, AIB-570. William Levedahl and Masao Matsumoto. January 1990. \$4.00. Current domestic food assistance programs, their relationships to each other, their effectiveness, their impact on the food production and marketing sectors, and their costs, are discussed in this bulletin. The authors also suggest food assistance reforms that could be included in discussions of farm policy for the 1990's.



National Food Review Index

This index covers the last 5 years—from NFR-28 (1985) to NFR Vol. 13, No. 2 (April-June 1990). The articles in issues NFR-28 to NFR-38 (Fall 1987) are referenced using the issue number and page. For example, 28/11 means NFR-28, page 11. Beginning in 1988, the *National Food Review* is issued in volumes. Those articles will be cited by quarter (January-March, April-June, July-September, and October-December) and page. For example, J-M88/5 means the January-March issue of 1988, page 5, and J-S88/18, the July-September issue, page 18.

Copies of articles are available by writing to the *National Food Review*, 1301 New York Ave. NW, Room 1134, Washington, DC, 20005-4788. Starting with 1989, single issues can be purchased (\$8.00 per copy), while supplies last, by calling 1-800-999-6779.

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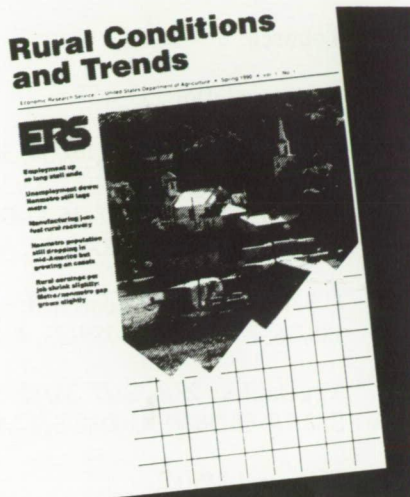
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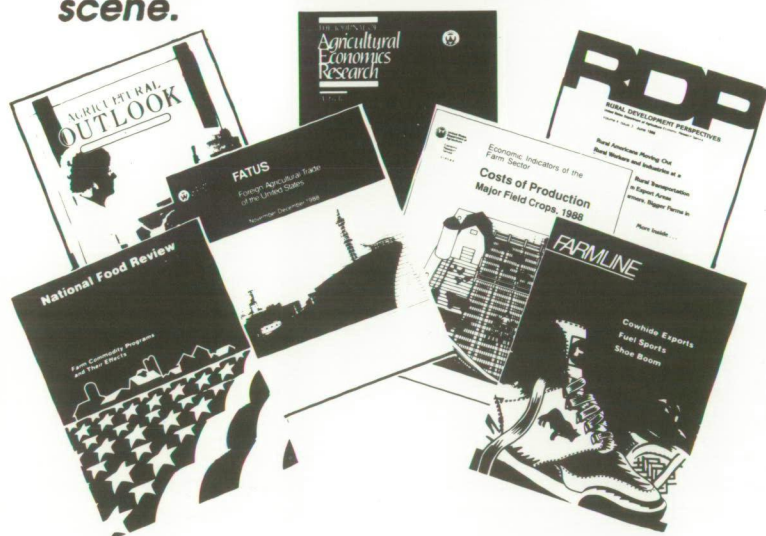
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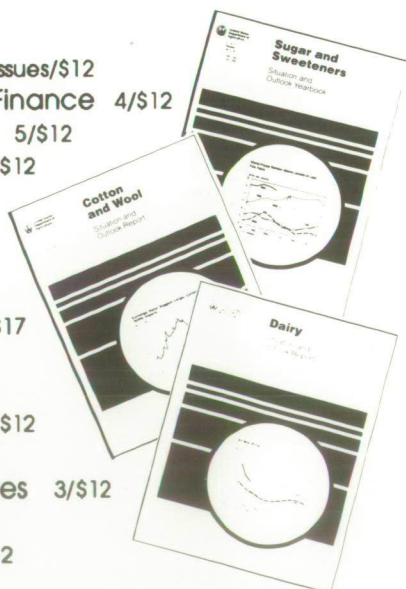
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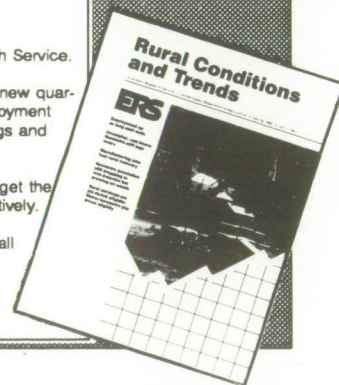
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