The fishing industry continues to experiment with aquaculture, a method of production under controlled conditions similar to agriculture, but progress has been slow. Aquaculture accounts for a small share—less than 10 percent—of total U.S. landings of both edible and nonedible fish. One of the problems is the lack of suitable and available ocean shoreline. This is not the case for fresh water fish, such as catfish in the Southern states and trout in the Northwest. However, imported high value fish, such as salmon, are produced by aquaculture. Aquaculture production is increasing worldwide and may have some impact on domestic and foreign markets for U.S. fish and fish products.—*William Bellows, Trade Services Division, National Marine Fisheries Service, (301) 713-2383. September 1992.*

Additional References

Fisheries of the United States, 1991, U.S. Department of Commerce, National Marine Fisheries Service, Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Telephone: 202-783-3238.

Fishing News International, MBC Fishing and Marine Publications, 33-39 Bowling Green La., London EC1RODA England. Telephone: 837-1212.

Seafood Business, Journal Publications, P.O. Box 908, Rockland, ME 04841. Telephone: 207-594-6222.

Simply Seafood, Waterfront Press Co., 1115 NW 46th St., Seattle, WA 98107. Telephone: 800-835-2722.

Pacific Fishing, Salmon Bay Communications, 1515 NW 51st St., Seattle, WA 98107. Telephone: 206-789-5333.

PROCESSED FRUITS, VEGETABLES, AND SPECIALTIES

In 1992, estimated current-dollar industry shipments of the fruit, vegetable, and specialty processing industries increased 9 percent to $47.8 billion. In constant dollars, the increase was only 1.4 percent.

This sector includes two major industries, canned goods and frozen foods. Canned goods producers manufacture or can baby foods, ethnic foods, and soups (SIC 2032); process fruits, vegetables, juices, tomato products, jams, jellies, and preserves (SIC 2033); package dry fruits and vegetables, and manufacture soup mixes from dehydrated ingredients (SIC 2034); and process salad dressings, relishes, seasonings, and pickles (SIC 2035). Establishments classified in the frozen food industry freeze fruits, fruit juices, and vegetables (SIC 2037); and m[anufacture spe]cialty foods such as frozen dinners, [...] whipped toppings, and pizzas (SIC 2038).

Canned Goods Industry

Current-dollar shipments of the canned goods industry rose 8.5 percent to $32.3 billion. In constant dollars, shipments increased a modest 1.2 percent. Those products that showed significant growth during 1992 included: salad dressings, canned ethnic foods, dried soups, tomato products, and other sauces.

Although the domestic market is maturing for canned goods, except for those listed above, exports to Canada and Mexico continued to increase, and contributed to U.S. production growth.

Consumers are demanding more quality and variety in their meals. The plethora of sauces, low-calorie dressings (some containing olive oil), and ethnic foods on the market cater to these demands. While "Italian" is still the most popular ethnic cuisine, "Mexican" is gaining ground, partly because of the sharp rise in the Hispanic population.

According to the U.S. Bureau of the Census, the number of Hispanics reached 22.4 million in 1990 (9 percent of total U.S. population), an increase of 53 percent since 1980. Aggregate Hispanic purchasing power exceeded $180 billion in 1992. Hispanics spend 35 percent of their income on food and nondurables, a higher proportion than any other population group.

Another indicator of the popularity of "Mexican" cuisine is that salsa retail sales reached $720 million in 1992 surpassing ketchup retail sales.

INTERNATIONAL COMPETITIVENESS

In 1992, exports of canned goods increased an estimated 10 percent from $1.39 billion in 1991 to $1.53 billion in 1992, as exports to Mexico, now our third largest market, grew more than 75 percent. Exports to Mexico were primarily dried vegetables and salad dressing preparations. More than 80 percent of all exports of canned goods fell into six categories: dried fruits (22 percent), fruit juices (16), canned vegetables (11), tomato products (11), dried vegetables (11), and salad dressings and condiments (10).

Trends and Forecasts: Canned Foods (SIC 2032–5)
(in millions of dollars except as noted)

Item	1987	1988	1989	1990	1991[1]	1992[2]	1993[3]	Percent Change (1987–1993) 87–88	88–89	89–90	90–91	91–92	92–93
Industry Data													
Value of shipments[4]	24,112	25,688	27,300	29,224	29,819	32,341	—	6.5	6.3	7.0	2.0	8.5	—
Value of shipments (1987$)	24,112	24,729	24,949	26,062	26,282	26,594	27,055	2.6	0.9	4.5	0.8	1.2	1.7
Total employment (000)	121	120	124	127	124	122	—	−0.8	3.3	2.4	−2.4	−1.6	—
Production workers (000)	100.0	99.6	103	105	104	102	—	−0.4	3.4	1.9	−1.0	−1.9	—
Average hourly earnings ($)	9.05	9.48	9.59	9.80	—	—	—	4.8	1.2	2.2	—	—	—
Capital expenditures	672	672	791	929	—	—	—	0.0	17.7	17.4	—	—	—
Product Data													
Value of shipments[5]	23,247	24,552	27,187	28,679	29,762	31,825	—	5.6	10.7	5.5	3.8	6.9	—
Value of shipments (1987$)	23,247	23,635	24,770	25,483	25,701	26,012	26,468	1.7	4.8	2.9	0.9	1.2	1.8
Trade Data													
Value of imports	—	—	1,661	1,553	1,699	1,990	—	—	—	−6.5	9.4	17.1	—
Value of exports	—	—	899	1,141	1,389	1,530	—	—	—	26.9	21.7	10.2	—

[1]Estimated, except exports and imports.
[2]Estimate.
[3]Forecast.
[4]Value of all products and services sold by establishments in the canned foods industry.
[5]Value of products classified in the canned foods industry produced by all industries.
SOURCE: U.S. Department of Commerce: Bureau of the Census, International Trade Administration (ITA). Estimates and forecasts by ITA.

Table 9: Exports and Imports of Major Canned Goods, 1991

Exports: Country destination/product	Percent of product	Percent of total exports	Imports: Supplying country/product	Percent of product	Percent of total imports
Japan	15		Argentina	23	
United Kingdom	14		Germany	15	
Canada	13		Austria	9	
Germany	13		Philippines	7	
All others	35		Hungary	6	
			All others	40	
Dried fruit	100	26	Fruit juices	100	25
Canada	31		Thailand	42	
Japan	26		Philippines	40	
France	8		Japan	7	
All others	35		All others	11	
Fruit juices	100	14	Pineapples	100	11
Japan	19		Indonesia	29	
Canada	13		Hong Kong	19	
Germany	9		China	19	
United Kingdom	7		Taiwan	18	
Taiwan	7		All others	15	
All others	45				
Vegetables	100	12	Mushrooms	100	8
Canada	35		Spain	83	
Mexico	9		Greece	7	
Saudi Arabia	8		Morocco	4	
Japan	6		Mexico	3	
All others	58		All others	3	
Salad preparations	100	10	Olives	100	8
Canada	25		Japan	12	
Japan	13		China	11	
United Kingdom	10		Taiwan	7	
Germany	10		Mexico	7	
Mexico	9		South Korea	6	
All others	33		All others	57	
Dried vegetables	100	9	Dried vegetables	100	7
Canada	58		Mexico	32	
Japan	15		Chile	27	
Hong Kong	4		Italy	13	
All others	23		Israel	11	
			All others	17	
Tomato products	100	8	Tomato products	100	3
All other canned exports		21	All other canned imports		40
Total		100	Total		100

SOURCE: U.S. Department of Commerce, International Trade Administration.

Table 9 is based on actual statistics in 1991, while the narrative refers to 1992 estimates.

In 1992, Canada and Japan continued to be the major export markets for U.S. canned goods. In 1992, the United States' top five export markets were Canada (27 percent), Japan (19), Mexico (6), the United Kingdom (6), and Germany (5).

Imports of canned goods rose more than 17 percent in 1992 from $1.7 billion in 1991 to $2 billion as juice imports, primarily apple juice concentrate from Germany and Argentina, increased more than 40 percent. Also, imports of both canned citrus juice and canned olives grew 25 percent.

Six products accounted for 60 percent of all canned imports: fruit juices (23 percent), pineapples (15), olives (7), mushrooms (6), dried vegetables (6), and dried fruit (3).

In 1992, five countries accounted for more than half of U.S. imports of canned goods: Thailand (17 percent), Spain (15), Mexico (7), the Philippines (7), and Germany (6).

Frozen Food Industry

Frozen food industry shipments rose 10 percent to $15.4 billion in 1992, but the growth was uneven within the industry. While frozen specialties (SIC 2038) increased 3 percent in constant dollars, frozen fruits and vegetables grew less than 1 percent.

The frozen specialty industry is maturing, following a rapid expansion of competitors during the past few years. Due to this increased competition, the less efficient plants and companies that could not secure sufficient shelf space in the grocery stores were forced to shut down or consolidate. Employment in the frozen specialty sector fell 2 percent to 86,900 workers. Those product categories still growing included breakfast items such as waffles and French toast, Mexican dishes, entrees/dinners, and, especially, low-calorie items.

Demand for frozen convenience foods continued to rise because of consistent demographic changes, such as the increases in single-parent households, two-income families, and women in the work force. Frozen convenience foods, especially ethnic foods and breakfast items, are convenient for families with limited time for meal preparation and a

Trends and Forecasts: Frozen Foods (SIC 2037–8)

(in millions of dollars except as noted)

Item	1987	1988	1989	1990	1991[1]	1992[2]	1993[3]	Percent Change (1987–1993) 87–88	88–89	89–90	90–91	91–92	92–93
Industry Data													
Value of shipments[4]	12,231	12,613	14,327	15,271	14,041	15,420	—	3.1	13.6	6.6	−8.1	9.8	—
Value of shipments (1987$)	12,231	12,079	13,326	13,597	13,687	13,937	14,185	−1.2	10.3	2.0	0.7	1.8	1.8
Total employment (000)	87.3	86.5	88.7	90.9	89.0	86.9	—	−0.9	2.5	2.5	−2.1	−2.4	—
Production workers (000)	72.9	71.8	73.6	75.5	74.1	73.2	—	−1.5	2.5	2.6	−1.9	−1.2	—
Average hourly earnings ($)	7.68	7.60	8.24	8.41	—	—	—	−1.0	8.4	2.1	—	—	—
Capital expenditures	353	424	430	580	—	—	—	20.1	1.4	34.9	—	—	—
Product Data													
Value of shipments[5]	11,506	12,274	13,618	14,446	13,247	14,591	—	6.7	10.9	6.1	−8.3	10.1	—
Value of shipments (1987$)	11,506	11,750	12,665	12,850	12,970	13,200	13,430	2.1	7.8	1.5	0.9	1.8	1.7
Trade Data													
Value of imports	—	—	668	1,038	716	897	—	—	—	55.4	−31.0	25.3	—
Value of exports	—	—	497	615	638	783	—	—	—	23.7	3.7	22.7	—

[1]Estimated, except exports and imports.
[2]Estimate.
[3]Forecast.
[4]Value of all products and services sold by establishments in the frozen foods industry.
[5]Value of products classified in the frozen foods industry produced by all industries.
SOURCE: U.S. Department of Commerce: Bureau of the Census, International Trade Administration (ITA). Estimates and forecasts by ITA.

taste for variety. With more than 80 percent of U.S. households owning microwave ovens, frozen breakfast items have been successfully competing with the breakfast menus of fast food restaurants.

INTERNATIONAL COMPETITIVENESS

Exports of frozen food increased an estimated 23 percent in 1992 from $638 million in 1991 to $783 million. Exports to Japan, our largest export market, rose more than 26 percent. During the first six months of 1992, exports of frozen orange juice concentrate to Japan surged 168 percent above 1991 levels. The United States' top five export markets for frozen foods accounted for three-quarters of total exports. Japan and Canada accounted for 44 percent and 20 percent, respectively, while South Korea, Hong Kong, and the Bahamas combined for another 12 percent. In 1992, three major product categories accounted for more than three-quarters of total frozen food exports: citrus juice (30 percent), french fries (26), and vegetables (22).

With frozen food exports to Mexico doubling in 1992, Mexico is now our seventh largest export market for frozen foods. Three-quarters of U.S. exports to Mexico were frozen potato products and vegetables. Higher value-added frozen specialty items such as frozen pasta and entree items, even though accounting for only 6 percent of total frozen food exports, have shown significant gains in recent years. Such exports have tripled since 1989. Exports of lower-value added products such as frozen fruits and vegetables, which make up most of fruits and vegetable exports, have shown little growth.

In 1992, imports of frozen foods rose an estimated 25 percent from $716 million in 1991 to $897 million, mainly as a result of a 50 percent increase in imports of frozen orange juice concentrate from Brazil. These imports from Brazil were down in 1991 due to a drought. Citrus juices are the largest imported item, accounting for 52 percent of the total, followed by broccoli (20), frozen fruits (8), and potatoes (5). Imported juices are used for blending with domestic production.

In 1992, an estimated 84 percent of frozen food imports came from five countries: Brazil (41 percent), Mexico (26), Canada (10), Guatemala (4) and Thailand (3).

Outlook for 1993

Constant-dollar shipments of the processed fruits, vegetables, and specialties industries are expected to grow 1–2 percent, as 1992 consumption patterns continue in 1993. Production of salad dressings, canned ethnic foods, dried soups, tomato-based sauces, and frozen convenient foods will outpace production of other processed food items.

Exports will grow at a greater pace than imports. In general, U.S. exports will continue to be more "value-added" than U.S. imports. U.S. exports to Canada and Mexico will continue to increase as Mexico becomes a strong number-three market for U.S. exports.

Long-Term Prospects

The real value of shipments of the processed fruit, vegetable, and specialty industry is expected to increase at a compound annual rate of 2 percent through 1997. Frozen and canned specialty items, along with sauces, dressings, and other condiments, will grow at a faster rate than other canned and frozen products. Demographic changes such as more single-parent households, two-income families, and women in the work force will continue to play an important role in what is being demanded in the form of convenience foods. The industry will meet these consumer needs to compete with fast food establishments.

As the industry becomes more concentrated, entrepreneurs will thrive in niche markets, producing items such as deluxe honey poppy seed salad dressings, Carolina swamp sauce, a cranberry-type poultry sauce, microwaveable chilled soups, deluxe honey and mustard condiments, and international meals in a cup, to name a few.

Exports will continue to grow at a faster rate than imports, and the trade deficit in processed fruits, vegetables, and specialty items should be eliminated by 1997.—*Donald A. Hodgen, Office of Consumer Goods, (202) 482–3346, September 1992.*

Additional References

(Call the Bureau of the Census at (301) 763-4100 for information about how to order Census documents.)

Preserved Fruits and Vegetables, 1987 Census of Manufactures, MC87-I-203, U.S. Department of Commerce, Bureau of the Census, Washington, DC 20233. Telephone: (301) 763–2510.

Producer Price Indexes and Employment and Earnings, U.S. Department of Labor, Bureau of Labor Statistics, Washington, DC 20212. Telephone: (202) 606–5900.

Fruit and Tree Nuts: Situation and Outlook Report, U.S. Department of Agricultural, Economic Research Service, Washington, DC 20250. Telephone: (800) 999–6779.

Vegetables and Specialties: Situation and Outlook Report, U.S. Department of Agriculture, Economic Research Service, Washington, DC 20250. Telephone: (800) 999–6779.

Agricultural Outlook, U.S. Department of Agriculture, Economic Research Service, Washington, DC 20250. Telephone: (800) 999–6779.

FDA Consumer, U.S. Department of Health and Human Services, Food and Drug Administration, Rockville, MD 20857. Telephone: (301) 443–3170.

National Food Review, U.S. Department of Agriculture, Economic Research Service, Washington, DC 20250. Telephone: (800) 999–6779.

The Almanac 1990: Of the Canning, Freezing, Preserving Industries, Edward E. Judge & Sons, Inc., P.O. Box 866, Westminster, MD 21157. Telephone: (301) 876–2052.

Prepared Foods, Gorman Publishing Co., 8750 West Bryn Mawr Ave., Chicago, IL 60631. Telephone: (312) 693–3200.

Food Processing, and *Food Business,* Putnam Publishing Co., 301 E. Erie St., Chicago, IL 60611. Telephone: (312) 644–1131 and (312) 644–2020.

AFFI Letter, and *Frozen Food Report,* American Frozen Food Institute, 1764 Meadow Lane, Suite 350, McLean, VA 22102. Telephone: (703) 821–0770.

Frozen Food Age, Frozen Food Age Publishing Corp., 230 Park Ave., New York, NY 10017. Telephone: (212) 697–4727.

Natural Foods Merchandiser, New Hope Communications Inc., 328 S. Main St., New Hope, PA 18938. Telephone: (215) 862–9414.

The Packer, Vance Publishing Corp., 7950 College Blvd, Overland Park, KS 66210. Telephone: (913) 451–2200.

DAIRY PRODUCTS

In 1992, the real value of product shipments for the dairy products industry increased 3 percent, with growth for individual product categories ranging from 9 percent for ice cream and frozen desserts to less than 1 percent for fluid milk.

Lower Fat Products Lead Consumption Gains

Low-fat and non-fat products registered strong rates of growth over the past several years, especially yogurt products, water ices, and skim and low-fat milk (Table 10).

Trends and Forecasts: Canned Foods (SIC 2032–5)

(in millions of dollars except as noted)

Item	1987	1988	1989	1990[1]	1991[2]	1992[3]	Percent Change 1987–88	1988–89	1989–90	1990–91	1991–92
Industry Data											
Value of shipments [4]	24,112	25,688	27,300	29,227	29,804	–	6.5	6.3	7.1	2.0	–
Value of shipments (1987$)	24,112	24,786	24,794	26,400	26,955	27,560	2.8	0.0	6.5	2.1	2.2
Total employment (000)	121	120	124	124	121	–	–0.8	3.3	0.0	–2.4	–
Production workers (000)	100	99.6	103	105	103	–	–0.4	3.4	1.9	–1.9	–
Average hourly earnings ($)	9.05	9.48	9.59	–	–	–	4.8	1.2	–	–	–
Capital expenditures	672	672	791	–	–	–	0.0	17.7	–	–	–
Product Data											
Value of shipments [5]	23,247	24,552	27,187	28,487	29,003	–	5.6	10.7	4.8	1.8	–
Value of shipments (1987$)	23,247	23,689	24,672	25,685	26,200	26,785	1.9	4.1	4.1	2.0	2.2
Trade Data											
Value of imports	–	–	1,655	1,553	1,595	–	–	–	–6.2	2.7	–
Value of exports	–	–	898	1,141	1,382	–	–	–	27.1	21.1	–

[1]Estimated, except exports and imports.
[2]Estimate.
[3]Forecast.
[4]Value of all products and services sold by establishments in the canned foods industry.
[5]Value of products classified in the canned foods industry produced by all industries.
SOURCE: U.S. Department of Commerce: Bureau of the Census, International Trade Administration (ITA). Estimates and forecasts by ITA.

There are four principal reasons for the increase in canned vegetable production: (1) increased military purchases, (2) continued growth in the market of processed tomato products such as pizza and upscale pasta sauces, (3) increased export demand for sales to Mexico, and (4) expanded canned vegetable exports to Canada following tariff reductions.

Table 15: Consumers' Weekly Expenditures for Fresh, Frozen, and Canned Fruits and Vegetables

(dollars per week)

Product	1982	1989
Canned fruits and vegetables	2.42	3.23
Frozen fruits and vegetables	1.28	1.84
Fresh fruits and vegetables	3.54	4.87
Total	7.24	9.94

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

Today, consumers are demanding quality and variety in their meals. The assortment of sauces, low calorie dressings (some containing olive oil), and ethnic foods on the market cater to these demands. While "Italian" is still the most popular ethnic cuisine, "Mexican" is gaining ground, partly because of the sharp rise in the Hispanic population. More than 22 million Hispanics now live in the United States, an increase of 53 percent since 1980, and account for 9 percent of the total U.S. population. In the Los Angles area, which has a heavy Hispanic concentration, eight average sized supermarkets catering to Hispanics have opened since 1987.

INTERNATIONAL COMPETITIVENESS

In 1991, U.S. exports of canned goods rose more than 21 percent to $1.4 billion due to 20–50 percent increases in exports of tomato products, canned vegetables, dried fruit, and salad preparations. More than two-thirds of all exports of canned goods fell in five categories: dried fruits (27 percent), fruit juices (14 percent), canned vegetables (12 percent), salad dressings and condiments (9 percent), and tomato products (8 percent).

In 1991, as in 1990, Canada and Japan were the major export markets for U.S. canned goods. In 1991, exports to Canada accounted for 23 percent of total U.S. exports of canned goods. Japan accounted for 18 percent, and the United Kingdom, West Germany, and Mexico together accounted for another 20 percent.

Table 16: U.S. Major Canned Goods Exports and Destinations, 1991*

Product	Percent Share of U.S. Exports	Major Country Destination and Percent Share	
Dried fruit	27	Germany	16
		Japan	15
		United Kingdom	14
		Canada	12
Fruit juices	14	Japan	32
		Canada	27
		France	7
Vegetables	12	Japan	29
		Germany	11
		United Kingdom	8
		Canada	8
		Taiwan	5
		Saudi Arabia	5
Salad preparations	9	Canada	35
		Saudi Arabia	10
		Mexico	8
Tomato products	8	Canada	50
		Japan	19
		South Korea	8

*Estimate by ITA.
SOURCE: U.S. Department of Commerce, International Trade Administration (ITA).

During the first six months of 1991, exports to Canada w[...] up 26 percent. Principal products (with growth rates over 1[...] in parentheses) were tomato products (100 percent), can[...] vegetables (44 percent), salad preparations (34 percent), [...] canned fruit (33 percent). Offsetting these increases were [...]clines in citrus juices (15 percent), dried vegetables (10 p[...]cent), vegetable juices (50 percent), and only a nominal incre[...] in U.S. exports of dried fruits.

While exports to Canada were up, exports to Japan were down 5 percent during the first six months of 1991. Even though exports of a number of products grew during that period (canned fruit, 30 percent; tomato products, 180 percent; and dried fruit, 11 percent), some major U.S. export categories experienced declines (canned vegetables, 23 percent; dried potato products, 10 percent; and juices, 10 percent).

Table 17: Top Five U.S. Export Markets for Canned Goods, 1991*

Country	Percent Share of U.S. Exports	Major Export and Percent Share	
Canada	23	Tomato products	18
		Fruit juices	16
		Dried fruits	14
		Dried vegetables	11
		Salad preparations	13
Japan	18	Dried fruit	23
		Fruit juices	17
		Vegetables	13
		Tomato products	9
		Dried potatoes	5
		Citrus juices	7
Germany	8	Dried fruit	56
		Vegetables	16
		Dried vegetables	16
United Kingdom	8	Dried fruit	59
		Dried vegtables	16
		Vegetables	14
Mexico	4	Dried vegetables	23
		Salad preparations	20
		Vegetables	15
		Dried fruit	11
		Canned specialties	11

*Estimate by ITA.
SOURCE: U.S. Department of Commerce, International Trade Administration (ITA).

Table 18: U.S. Major Imports of Canned Goods and Suppliers, 1991*

Product	Percent Share of U.S. Imports	Major Suppliers and Their Percent Share	
Fruit juices	21	Germany	19
		Austria	17
		Hungary	13
		Argentina	6
		Philippines	6
Pineapples	12	Thailand	47
		Philippines	31
		Japan	13
Mushrooms	8	Indonesia	29
		Taiwan	19
		Hong Kong	19
		China	15
		Thailand	7
Dried vegetables	7	China	12
		Japan	12
		South Korea	8
		Taiwan	7
		Mexico	6
Olives	7	Spain	80
		Greece	10
Tomato products	3	Italy	21
		Mexico	18
		Canada	11
		Chile	7

*Estimate by ITA.
SOURCE: U.S. Department of Commerce, International Trade Administration (ITA).

U.S. imports of canned goods, meanwhile, grew less than 3 percent in 1991 to $1.6 billion. Increases in imports of canned fruits, non-citrus juices, and non-tomato sauces were offset by major declines (averaging 10 percent) in imports of canned vegetables, vegetable juices, citrus juices, and dried fruits and vegetables.

Six products accounted for 58 percent of all canned imports: fruit juices (21 percent), pineapples (12 percent), mushrooms (8 percent), olives (7 percent), dried vegetables (7 percent), and tomato products, (3 percent).

Table 19: Major U.S. Suppliers of Canned Goods, 1991*

Country	Percent Share of U.S. Imports	Product and Percent of Total Exports to the U.S.	
Spain	13	Olives	45
Thailand	12	Pineapples	47
Mexico	8	Citrus juices	8
		Tomato products	6
Philippines	6	Pineapples	64
		Pineapple juice	20
Japan	6	Pineapples	17
		Pineapple juice	11
		Bean cake	8
Taiwan	5	Mushrooms	33

*Estimate by ITA.
SOURCE: U.S. Department of Commerce, International Trade Administration (ITA).

In 1991, three countries accounted for one-third of U.S. imports of canned goods: Spain (13 percent), Thailand (12 percent), and Mexico (8 percent). Three other countries together accounted for another 17 percent: Philippines, Japan, and Taiwan.

Frozen Food Industry

In 1991, producer prices fell 1.1 percent. As a result, while constant-dollar shipments by the frozen food industry grew 4.9 percent, current-dollar shipments grew only 3.7 percent to $16.3 billion. All the growth in this sector was the result of increased production of frozen specialties. Production of frozen fruits and vegetables were flat. Although the frozen specialty industry is maturing, certain sectors have substantial growth rates of 5–15 percent. Big gainers included breakfast items (waffles and French toast), Mexican dishes, and individual entrees and dinners (particularly low-calorie items).

The demand for frozen convenience foods continues to increase due to such continuing demographic trends as increases in single-parent households, two-income families, and women in the work force. Frozen ethnic foods and breakfast items are convenient for families that want variety but have limited time to prepare meals. The demand for frozen convenience foods has also benefitted from the jump in microwave ovens in U.S. households from 1 in 10 in 1976 to almost 4 out of 5 households today. As a result, frozen breakfast items are successfully competing with the breakfast menus of fast food restaurants.

INTERNATIONAL COMPETITIVENESS

U.S. exports of frozen food increased by a marginal 0.2 percent in 1991 to $616 million. Although exports to the largest overseas market, Japan, grew about 5 percent, U.S. frozen food exports to Canada, the second largest export market, fell 10 percent. This decline was a result of reduced Canadian demand for U.S. frozen vegetables and potato products. Japan and Canada together imported 65 percent of total U.S. frozen food exports. Combined exports to the next three major markets, South Korea, Hong Kong, and Taiwan, accounted for another 12 percent.

Trends and Forecasts: Frozen Foods (SIC 2037–8)

(in millions of dollars except as noted)

Item	1987	1988	1989	1990[1]	1991[2]	1992[3]	Percent Change 1987–88	1988–89	1989–90	1990–91	1991–
Industry Data											
Value of shipments [4]	12,231	12,613	14,327	15,747	16,326	–	3.1	13.6	9.9	3.7	
Value of shipments (1987$)	12,231	12,071	13,388	14,315	15,020	15,640	–1.3	10.9	6.9	4.9	4.1
Total employment (000)	87.3	86.5	88.7	88.4	86.3	–	–0.9	2.5	–0.3	–2.4	
Production workers (000)	72.9	71.8	73.6	73.0	70.9	–	–1.5	2.5	–0.8	–2.9	
Average hourly earnings ($)	7.68	7.60	8.24	–	–	–	–1.0	8.4	–	–	
Capital expenditures	353	424	430	–	–	–	20.1	1.4	–	–	
Product Data											
Value of shipments [5]	11,506	12,274	13,618	15,002	15,569	–	6.7	10.9	10.2	3.8	
Value of shipments (1987$)	11,506	11,756	12,696	13,650	14,320	14,920	2.2	8.0	7.5	4.9	4.2
Trade Data											
Value of imports	–	–	664	1,032	585	–	–	–	55.4	–43.3	
Value of exports	–	–	497	615	616	–	–	–	23.7	0.2	

[1]Estimated, except exports and imports.
[2]Estimate.
[3]Forecast.
[4]Value of all products and services sold by establishments in the frozen foods industry.
[5]Value of products classified in the frozen foods industry produced by all industries.
SOURCE: U.S. Department of Commerce: Bureau of the Census, International Trade Adm stration (ITA). Estimates and forecasts by ITA.

Table 20: Top Five U.S. Export Markets for Frozen Foods, 1991*

Country	Percent Share of U.S. Exports	Major Export and Percent Share	
Japan	40	French fries	43
		Vegetables	30
		Non–citrus juices	10
		Citrus juices	9
Canada	25	Citrus juices	60
		Vegetables	11
		Specialties	10
		Potato products	5
South Korea	5	Citrus juices	64
		Potato products	29
Hong Kong	4	French fries	38
		Vegetables	28
		Citrus juices	27
Taiwan	3	Citrus juices	38
		French fries	34
		Vegetables	21

*Estimate by ITA.
SOURCE: U.S. Department of Commerce, International Trade Administration (ITA).

Table 21: U.S. Major Frozen Food Exports and Destinations, 1991*

Product	Percent Share of U.S. Exports	Major Country Destination and Percent Share	
Citrus juice	30	Canada	50
		Japan	12
		South Korea	11
Vegetables	24	Japan	52
		Canada	12
		Hong Kong	4
		United Kingdom	4
		Australia	4
		Taiwan	4
French fries	21	Japan	64
		Canada	5
		Hong Kong	5
		South Korea	5
Frozen specialties	6	Canada	45

*Estimate by ITA.
SOURCE: U.S. Department of Commerce, International Trade Administration (ITA).

Exports of frozen fruits grew more than 30 percent during t first six months of 1991 over 1990 levels, and exports of fr juices registered a marginal growth of 0.2 percent. Howev U.S. exports of the other two major categories experienced d clines: frozen potato products fell 2.5 percent and frozen ve tables were down 7.3 percent.

In 1991, three major product categories accounted for thr quarters of total U.S. frozen food exports: citrus juice (30 p cent), vegetables (24 percent),and french fries (21 percent). T higher value-added frozen specialty items, such as frozen p and entree items, meanwhile, which account for only 6 perc of total U.S. frozen food exports, have shown significant g in recent years. U.S. frozen specialty exports have doub since 1989.

Table 22: U.S. Major Imports of Frozen Foods an Suppliers, 1991*

Product	Percent Share of U.S. Imports	Major Supplier an Their Percent Sha
Citrus juices	43	Brazil
		Mexico
		Belize
Broccoli	16	Mexico
		Guatemala
Strawberries	7	Mexico
		Guatemala
Potato products	6	Canada

*Estimate by ITA.
SOURCE: U.S. Department of Commerce, International Trade Administration (ITA).

In 1991, U.S. imports of frozen foods fell more than 40 cent to $585 million as a result of a drastic reduction in fr orange juice concentrate (FOJC) imports from Brazil and ico, the two principal overseas suppliers. Citrus juices ac for 43 percent of the total, followed by broccoli (16 perc strawberries (7 percent), and potatoes (6 percent). T fourths of U.S. imports of frozen foods in 1991 come from countries: Brazil (32 percent), Mexico (31 percent) and C (12 percent). Thailand and Guatemala each accounted f other 4 percent.

Table 23: Major U.S. Suppliers of Frozen Foods, 1991*

Country	Percent Share of U.S. Imports	Product and Percent of Total Frozen Foods Exports to the U.S.	
Brazil	32	Orange juice	99
Mexico	31	Broccoli	49
		Strawberries	19
		Orange juice	15
Canada	12	Potato products	48
		Blueberries	11
Thailand	4	Pineapple juice	93
Guatemala	4	Peas	16
		Broccoli	16

*Estimate by ITA.
SOURCE: U.S. Department of Commerce, International Trade Administration (ITA).

Outlook for 1992

Both the canned goods and frozen food industries will grow at similar rates from 1991 to 1992, partly due to increased output per farm acre. In 1992, the constant-dollar shipments of the canned goods industry are expected to increase a modest 2 percent, with an increase of 4 percent for the frozen food industry. There will be strong competition within both industries as companies try to find ways to increase their market shares. For example, Campbell's, the major canned soup manufacturer, is being challenged by another dominant force in the food industry, Conagra. As a consequence, both have introduced new lines of healthier soups. Also, a small manufacturer of baby food, Earth's Best, has challenged the market leaders and gained more than 15 percent of the baby food market. Overall, most of the growth in the two sectors will come from a limited number of product categories: canned baby food; soups, sauces and dressings; asceptically packaged juices; canned and frozen ethnic foods; and frozen breakfast items. (Asceptic packaging uses high-strength laminated materials for an airtight seal of foods that would otherwise require refrigeration; a common application is boxed juices.)

Long-Term Prospects

During the next 5 years, the value of shipments of the processed fruit, vegetable, and specialty industry is expected to increase at a compound annual rate of at least 2 percent, adjusted for price changes. These rates are based on maturation within the industry resulting in fewer new products, and only minor variations in farm acreage contracted for growing fruits and vegetables destined for processing.

Demand for the higher value-added products, such as canned and frozen ethnic foods, entrees, low-calorie salad dressings, and frozen breakfast items, will grow at a much higher rate than commodity items, such as canned fruits and vegetables. However, some growth potential for canned commodities is anticipated from the proposed North American Free Trade Area (NAFTA), which would stimulate the free flow of goods among Canada, Mexico, and the United States.

Demographic changes continue to play an important role in demand. Some consumers will continue to want more convenient types of food. Others are more concerned with nutrition. The better the industry is able to react to these specialized needs, the better it can compete with fast food establishments.

Although the frozen dinner category is in its mature cycle, it will continue to grow modestly for several reasons. First, the number of homes with microwave ovens has steadily increased; by 1996, close to four out of five households will have microwave ovens. Second, two-thirds of the nation's households will be one- and two-person households, and two-thirds of all women will be in the work force. These are all conditions that necessitate quick and easy-to-prepare meals. Finally, children are playing a more important role in food shopping and meal planning. Children are less attuned to more formalized meal occasions. Sit-down meals are declining as "on-the-run" meals are becoming the norm, thus favoring microwaveable convenience foods. In order to meet consumer demands, food companies expect that in 1996 almost seven-eighths of their products will be mircowaveable.—*Donald A. Hodgen, Office of Consumer Goods, (202) 377–3346, September 1991.*

Additional References

(Call the Bureau of the Census at (301) 763–4100 for information about how to order Census documents.)

Preserved Fruits and Vegetables, 1987 Census of Manufactures, MC87-I-20З, Bureau of the Census, U.S. Department of Commerce, Washington, DC 20233. Telephone: (301) 763–2510.

Producer Price Indexes and Employment and Earnings, Bureau of Labor Statistics, U.S. Department of Labor, Washington, DC 20221. Telephone: (202) 523–1327.

Fruit and Tree Nuts: Situation and Outlook Report; Vegetables and Specialties: Situation and Outlook Report; National Food Review; and Agricultural Outlook. All published by the Economic Research Service, U.S. Department of Agriculture, Washington, DC 20250. Telephone: (800) 999–6779.

FDA Consumer, U.S. Department of Health and Human Services, Food And Drug Administration, Rockville, MD 20857. Telephone: (301) 443–3170.

The Almanac 1990: Of the Canning, Freezing, Preserving Industries, Edward E. Judge & Sons, Inc., P.O. Box 866, Westminster, MD 21157. Telephone: (301) 876–2052.

Prepared Foods, Gorman Publishing Co., 8750 West Bryn Mawr Ave., Chicago, IL 60631. Telephone: (312) 693–3200.

Food Processing, Putman Publishing Co., 301 E. Erie St., Chicago, IL 60611. Telephone: (312) 644–1131.

Food Business, Putman Publishing Co., 301 E. Erie St., Chicago, IL 60611. Telephone: (312) 644–2020.

AFFI Letter, American Frozen Food Institute, 1764 Meadow Lane, Suite 350, McLean, VA 22102. Telephone: (703) 821–0770.

Frozen Food Report, American Frozen Food Institute, 1764 Meadow Lane, Suite 350, McLean, VA 22102. Telephone: (703) 821–0770.

Frozen Food Age, Frozen Food Age Publishing Corp., 230 Park Ave., New York, NY 10017. Telephone: (212) 697–4727.

Natural Foods Merchandiser, New Hope Communications Inc., 328 S. Main St., New Hope, PA 18938. Telephone: (215) 862–9414.

Northeast International Business, 401 Theodore Fremd Ave., Rye, NY 10580–1422. Telephone: (914) 921–1400.

The Packer, Vance Publishing Corp., 7950 College Blvd, Overland Park, KS 66210. Telephone: (913)451–2200.

DAIRY PRODUCTS

In 1991, total value of dairy product shipments reached \$43.6 billion, down 4.4 percent from 1990. In real terms, the decline was 2.5 percent. Only ice cream and frozen desserts grew in constant dollars, increasing 10.7 percent. A strong recovery in per capita consumption of ice cream, up 4.9 percent, stimulated much of this growth. Rapidly increasing demand for hard pack frozen yogurt, up 91.5 percent, and strong sales of frozen yogurt mix, used in frozen yogurt dispensers, up 18.8 percent, also contributed to gains for ice cream and frozen desserts. Demand for cheese weakened as per capita consumption decreased 4 percent. Fewer people dining out and a slower increase in new restaurant entrees with cheese translated into a 4.6 percent drop in per capita consumption of processed cheese. Despite gains in per capita consumption of yogurt and lowfat milk, the real value of shipments for the fluid milk industry declined 2.6 percent.