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Nonalcoholic Beverages

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PREFACE

In 1991 the United States International Trade Commission initiated its current *Industry and Trade Summary* series of informational reports on the thousands of products imported into and exported from the United States. Each summary addresses a different commodity/industry area and contains information on product uses, U.S. and foreign producers, and customs treatment. Also included is an analysis of the basic factors affecting trends in consumption, production, and trade of the commodity, as well as those bearing on the competitiveness of U.S. industries in domestic and foreign markets.[1]

This report on nonalcoholic beverages covers the period 1991-95 and represents one of approximately 250 to 300 individual reports to be produced in this series. Listed below are the individual summary reports published to date in the agricultural, animal, and forest products sectors.

USITC publication number	*Publication date*	*Title*
2459	November 1991	Live Sheep and Meat of Sheep
2462	November 1991	Cigarettes
2477	January 1992	Dairy Produce
2478	January 1992	Oilseeds
2511	March 1992	Live Swine and Fresh, Chilled, or Frozen Pork
2520	June 1992	Poultry
2524	August 1992	Fresh or Frozen Fish
2545	November 1992	Natural Sweeteners
2551	November 1992	Newsprint
2612	March 1993	Wood Pulp and Waste Paper
2615	March 1993	Citrus Fruit
2625	April 1993	Live Cattle and Fresh, Chilled, or Frozen Beef and Veal
2631	May 1993	Animal and Vegetable Fats and Oils
2635	June 1993	Cocoa, Chocolate, and Confectionery
2636	May 1993	Olives
2639	June 1993	Wine and Certain Fermented Beverages
2693	October 1993	Printing and Writing Paper
2702	November 1993	Fur Goods

[1] The information and analysis provided in this report are for the purpose of this report only. Nothing in this report should be construed to indicate how the Commission would find in an investigation conducted under statutory authority covering the same or similar subject matter.

USITC publication number	*Publication date*	*Title*
2726	January 1994	Furskins
2737	March 1994	Cut Flowers
2749	March 1994	Paper Boxes and Bags
2762	April 1994	Coffee and Tea
2865	April 1995	Malt Beverages
2859	May 1995	Seeds
2875	May 1995	Certain Fresh Deciduous Fruit
2898	June 1995	Certain Miscellaneous Vegetable Substances and Products
2918	August 1995	Printed Matter
2917	October 1995	Lumber, Flooring, and Siding
2928	November 1995	Processed Vegetables
3015	February 1997	Hides, Skins, and Leather
3020	March 1997	Nonalcoholic Beverages

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ABSTRACT

This report addresses trade and industry conditions for nonalcoholic beverages for the period 1991-95. The industry consists of bottlers, processors, canners, freezers, and distributors.

- U.S. producers of nonalcoholic beverages appear to be competitive in foreign markets both on the basis of price and quality as evidenced by a more than doubling in the value of exports since 1991. U.S. exports consist mainly of fruit juices and drinks, and bottled water. U.S. producers of soft drinks are also competitive, although most of these products are bottled in foreign countries by subsidiaries of parent U.S. companies.

- U.S. retail sales of nonalcoholic beverages in 1995 amounted to $73.2 billion. Bottled and canned soft drinks, with retail receipts of $52.1 billion in 1995, made up the largest segment of the nonalcoholic beverage market. Other segments of the market include fruit juices and fruit-juice drinks ($12.5 billion), bottled water ($4.0 billion), ready-to-drink teas ($2.8 billion), and sports drinks ($1.8 billion). Imports ($808 million) and exports ($622 million) were equivalent to about 1 percent of U.S. consumption of nonalcoholic beverages.

- Firms in the industry number over 500, but have been decreasing in recent years as smaller local bottlers consolidate or go out of business. Employment in the industry has also been declining, and amounted to more than 80,000 employees in 1992. For each employee involved in the production of nonalcoholic beverages, several are involved in the distribution of these beverages.

- Transportation costs are an important part of the total costs of nonalcoholic beverages because of the heavy weight of these products compared with their relatively low prices. The industry tends to have production facilities throughout the United States, with most retail sales occurring within 50 miles of the production facilities.

- International trade in nonalcoholic beverages is small. More than one-third of U.S. imports in recent years have been apple juice, which is shipped in bulk in concentrated form. Other imports include grape juice, bottled water, and high-priced specialty articles. Most of the nonalcoholic beverage imports enter the United States duty-free or with low import duties. Major trading partners include Canada, Japan, Argentina, France, and Germany.

INTRODUCTION

This summary covers nonalcoholic beverages provided for in chapters 20 and 22 of the ***Harmonized Tariff Schedule of the United States (HTS)*** for the years 1991-95. The industry consists of bottlers, processors, canners, freezers, and distributors. This summary describes the structure and trends in the domestic industry as well as foreign trade.

Nonalcoholic beverages include carbonated soft drinks, bottled waters, fruit juices and drinks, vegetable juices, iced teas, sports drinks, health drinks, milk drinks, chocolate drinks, and nonalcoholic beers, wines, and champagnes.[1] U.S. retail receipts from nonalcoholic beverages in 1995 totaled $73.2 billion, of which soft drink sales accounted for $52.1 billion, fruit juices and drinks $12.5 billion,[2] bottled water $4.0 billion, ready-to-drink teas $2.8 billion, and sports drinks $1.8 billion.[3] Also included in this summary is manufactured ice, U.S. shipments of which amounted to about $360 million in 1995.

Although the United States is a large producer of nonalcoholic beverages, foreign trade makes up only a small fraction of commerce because transportation costs are high, relative to the value of most packaged beverages. Imports and exports of these products were $808 million and $622 million, respectively, in 1995. Imports exceeded exports in each of the 5 years covered, but remained small as a percentage of domestic consumption, less than 2 percent in the years covered. Apple juice was the leading nonalcoholic beverage import (about 35 percent of all summary imports in 1995). Next in rank of value were sparkling water, soft drinks, pineapple juice, grape juice, and berry juice.

Beverage products may be sold to retailers who market to final consumers, to institutions such as restaurants, cafeterias, and hotels, or to final consumers through vending machines, which may be owned by bottlers, vending companies, or location owners. Some of the fastest growing sources of sales are retail warehouse outlets, wholesale clubs, and membership warehouses where consumers buy large volumes at discount. Another growth area is soft drinks dispensed from soda fountains, especially those in fast food restaurants and convenience stores. The industry spends a large amount on media advertising and on displays inside supermarkets and convenience stores.

Packaging plays a vital role in the beverage industry and varies widely according to the type of beverage and the market being targeted. Carbonated soft drinks consist of carbonated water that is flavored and sweetened with sugar, corn syrup, or high-intensity sweeteners, and sold in a large variety of bottles, cans, and dispensers. Bottled water may be sold carbonated or

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[1] Citrus juices are covered in USITC Publication no. 2615, *Citrus Fruit*, March 1993, and alcoholic beverages are covered in USITC Publication no. 2639, *Wine and Certain Fermented Beverages*, June 1993, and USITC Publication 2865, *Malt Beverages*, April 1995.

[2] This figure includes citrus juices which were included in another summary, USITC Publication no. 2615, March 1993.

[3] *Beverage World*, May 1996, pp. 46-70.

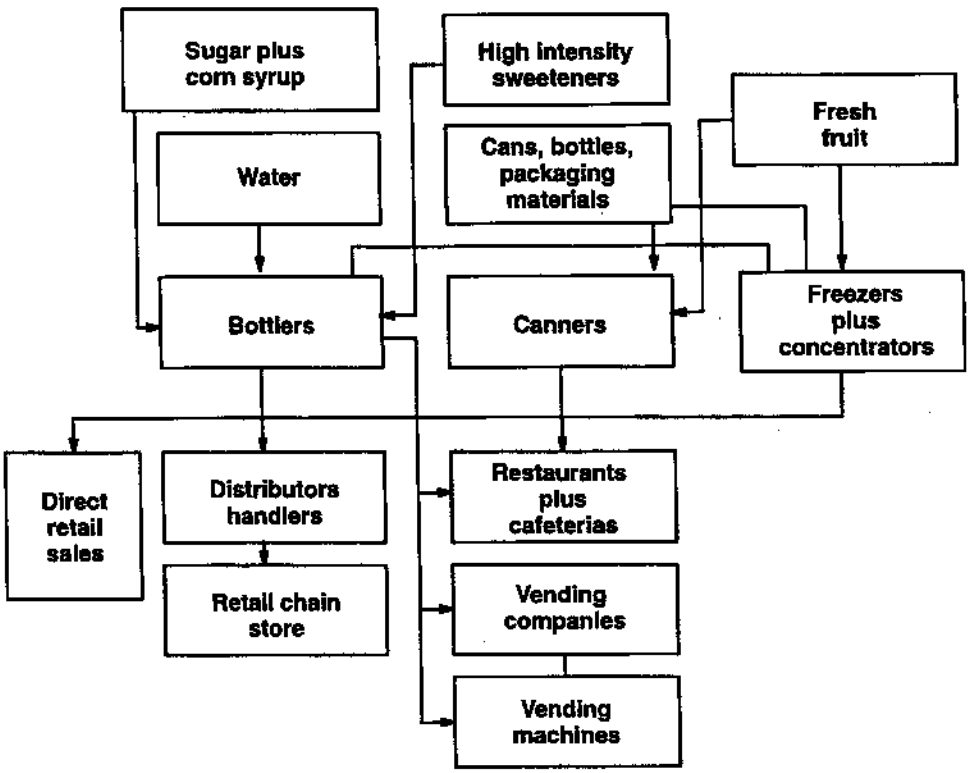
noncarbonated and in bottles containing up to 38 liters. Nonalcoholic beers, wines, and champagnes are sold in bottles and cans, or through soda fountains. Fruit and vegetable juices and drinks, as well as milk-based drinks, are sold in bottles, cans, cartons, and pouches that may be stored at room temperature, chilled, or frozen, and may be concentrated. Beverage containers must be lightweight, strong, inexpensive, attractive to consumers, and easily disposable. Packaging must often be tailored according to the regulations of importing countries regarding container materials, deposits, and recycling laws.

U.S. INDUSTRY PROFILE

Industry Structure

The structure of the nonalcoholic beverage industry in the United States is illustrated in figure 1. Bottling establishments primarily engaged in production of nonalcoholic carbonated

Figure 1
Nonalcoholic beverages: Flowchart of U.S. industry



Source: USITC staff.

and noncarbonated drinks, mainly sweetened soft drinks, are included in SIC 2086, Bottled and Canned Soft Drinks. Some bottlers also produce iced tea, lemonade, fruitades, bottled pasteurized water, and carbonated mineral water. Establishments classified in the frozen juice industry are in SIC code 2037, Frozen Fruits and Vegetables, while those primarily engaged in canning fruit and vegetable juices are in SIC 2033, Canned Fruits and Vegetables. The former category consists mainly of concentrated, the latter of single-strength, fruit and vegetable juices. Domestic bottlers of natural spring waters are included in SIC 5149, Groceries and Related Products, as are grocery stores that distribute soft drinks and other beverages. Manufactured ice is categorized in SIC 2097,Manufactured Ice, while nonalcoholic ciders are classified in SIC 2099, Food Preparations.

Number and Size of Producers

According to the *1992 Census of Manufactures*, there were 637 bottled and canned soft drink companies in 1992, a decline of 25 percent since 1987, when there were 846 companies, and a decline of 48 percent since 1982, when there were 1,236 companies.

The *Census of Manufactures* reported 525 manufactured ice companies in 1992, up from 503 in 1987, but only 59 had 20 or more employees, down from 65 in 1987. Among ice companies with shipments of at least $100,000, 48 shipped primarily block ice, and 154 primarily cubed, crushed, or other processed ice. Among firms that processed and shipped at least $100,000 in fruit juices in 1992, 18 shipped bulk frozen concentrated orange juice; 10, frozen concentrated grape juice; 17, frozen concentrated grapefruit juice; and 19, other frozen concentrated fruit and berry juices.[4]

Canned fruit and vegetable juices and drinks include products sold in metal cans as well as glass or plastic bottles and cardboard or pouch containers. These products are generally stored at room temperature and are not concentrated. The number of companies that canned and shipped at least $100,000 in goods in 1992 included 21 canners of tomato juice or juice containing at least 70 percent tomato juice, 40 apple juice canners, 38 orange juice canners, 26 grapefruit juice canners, and 13 prune juice canners.[5]

Employment

The beverage industry hires production workers who bottle, can, or process beverages, service workers who deliver, distribute, or sell beverages, and others who manufacture, recycle, or dispose of containers. For each person employed in production, several others work in service

[4] Many of these firms processed several types of fruit juice so that the total number of firms may be less than the addition of each type of fruit juice.

[5] The total number of canners may be fewer than the addition of the various types of juice since many canners may can more than one type of juice.

jobs in supermarkets, restaurants and cafeterias, and vending operations. Many service jobs are indirectly related to beverages in that beverages are a subsector of products sold or served.

While the number of service jobs in the beverage industry has increased, the number in manufacturing has declined sharply, continuing the long-term trend towards consolidation of bottling plants. According to *1992 Census of Manufactures* data, employment in soft drink bottling establishments, SIC 2086, fell 32 percent between 1982 and 1992, from 113,800 to 77,100 persons. Nineteen percent of the decline occurred between 1987 and 1992. Employment declines also occurred in fruit and vegetable juice production. The number of workers who freeze fruits and vegetables, SIC 2037, including fruit juice concentrates, fell from 49,800 in 1987 to 48,000 in 1992, while the number who can fruits and vegetables, SIC 2033, including single strength fruit and vegetable juices, fell from 65,100 in 1987 to 63,900 in 1992. Ice manufacturing companies, SIC 2097, employed 4,800 people in 1992, up from 4,700 in 1987.

Geographic Distribution

Beverage-bottling plants are located throughout the United States, as are transportation and distribution centers. The location of the soft drink industry is influenced by the high cost of transportation; most retail sales occur within a 50-mile radius of bottling plants. The number and size of plants are larger in and around metropolitan areas.

Fruit juice companies are found primarily in fruit-growing areas. Southeastern Massachusetts is home to the cranberry juice industry and site of most domestic cranberry bushes, while much of the grape juice industry is in upstate New York and the upper Midwest. The apple juice industry is largely in upstate New York, the upper Midwest, and the Pacific Northwest, while cherry juice processors are found mainly in Michigan and Washington State. Upstate New York, Maine, Pennsylvania, and Missouri are renowned for spring waters and are sources of many brands of bottled water, while purified water is bottled throughout the United States.

Labor Intensity and Levels of Automation

Most bottling plants are characterized by high levels of automation and low labor intensity. Although plant size, number of bottling lines per plant, and output has increased substantially over time, the work force has shrunk, resulting in job losses as smaller, less efficient bottling plants closed or combined with other bottlers. The number of plant closings more than offset any increased employment in the remaining plants. The number of production workers[6] in bottling plants, according to the *Census of Manufactures*, declined from 43,400 in 1977 to 30,400 in 1992, a decline of 30 percent.

In contrast to bottling plants, soft drink distribution is highly labor- intensive and employment levels have increased over time in response to higher consumption levels. According to

[6] This is a subset of total bottling plant employment.

wholesale trade data from the *Census of Manufactures*, 74,918 workers had jobs in wholesale distribution of soft drinks in 1992, up from 60,389 in 1987, an increase of 24 percent. Distribution jobs include loading, unloading, and driving delivery vehicles, stocking store shelves, check-out counter jobs, and jobs in eating establishments that serve beverages. Employment has grown with the proliferation of stores, distribution centers, and fast-food restaurants, and with the increasing numbers of workers involved in container collection, disposal, and recycling.

Industry Trends

New Products

A trend in the soft drink industry over the past 20 years has been towards a much larger variety of products. Three factors account for this. First, in the late 1970s plastic bottles were introduced. Bottlers, instead of completely replacing glass with plastic, continued to use both, as well as cans, to satisfy different market segments. Second, in the early 1980s, the industry began to offer a large variety of diet[7] and caffeine-free products in addition to their traditional ones. Third, packaging options increased dramatically in the 1980s as product was sold in many bottle and can sizes and packages proliferated. While longstanding products such as Coke and Pepsi remain the largest sellers, new flavors and variations of these traditional products added balance and filled niches in consumer needs. For example, diet soft drinks now comprise about 27 percent of the soft drink market.[8] Growth has stagnated for traditional cola beverages relative to high growth specialized products such as sports drinks, iced teas and coffees, health drinks, fruit juices, and bottled waters, each with ever greater flavor varieties.[9]

The growth of new products has caused problems, particularly for smaller bottlers. In the first 3 months of 1995, the average bottler came out with 25 new packages.[10] Typically, when a new brand is launched with heavy discounting and advertising, the brand sells modestly, but when discounting and advertising are removed, the brand stops selling. Difficulties in launching new brands include (1)overcoming strong brand loyalty to existing products on the part of consumers and, (2)low beverage prices, which prevent new products from being discounted sufficiently to encourage consumers to switch on the basis of price. Still, bottlers continue to use new offerings to penetrate the markets of rival bottlers and to diversify product lines. Sometimes a new brand will be so successful that other bottlers will seek to imitate.

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[7] Aspartame, an improved high-intensity sweetener approved by the Food and Drug Administration (FDA) for food use in 1983, had fewer health and taste problems than earlier cyclamates, and revolutionized the diet soft drink market.

[8] *Beverage World*, Mar. 1996, p. 68.

[9] Ibid, May, 1996 pp. 46-54.

[10] *Beverage World*, June 1996, pp. 48-56.

Disposal

An issue for the beverage industry, and the food-packaging industry in general, is container disposal. Reusable containers have not been popular, even though many States have enacted deposit laws.[11] The *Census of Manufactures* reports a sharp decline in the number of carbonated soft drinks sold in refillable glass bottles, from 303 million cases in 1987 to 189 million cases in 1992, a decline of 38 percent, while cases of nonrefillable glass bottles increased from 413 million in 1987 to 509 million during this period.[12]

As landfilling has become more costly, economically and socially, recycling now appears the most viable solution for used containers, and trends are towards higher recycling rates. Most community recycling programs have provisions for glass and plastic bottles, and aluminum cans. The National Soft Drink Association (NSDA) estimates that, as a result of more curbside recycling programs, 61 percent of all soft drink containers were recycled in 1994 compared to 52 percent in 1990.[13]

Soft Drink Container Recycling Rates/1990-94[1]

	1990	1991	1992	1993	1994
	Percentages				
Aluminum Cans	63.6	62.4	67.9	63.1	65.4
Bimetal Cans	33.0	46.0	50.4	55.0	NA
Glass Bottles	20.0	26.0	31.0	35.0	35.0
PET Bottles[2]	29.0	33.0	38.0	41.0	48.6
Total	52.4	54.1	60.0	57.6	61.0

[1] *Beverage World*, July 1995, from National Soft Drink Association data.
[2] PET stands for polyethylene trichloride, which is a plastic.

The demand for PET in packaging is growing by about 12 percent a year, spurred by such uses as automobile parts, food-packaging materials, vinyl sewer pipe, and vinyl siding.[14] However, the demand for recycled PET is driven, to a large extent, by State mandates to use recycled plastics. With some States repealing or easing up on these mandates, and the price of new PET falling, there has been some slackening recently in demand for recycled PET.[15]

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[11] USITC, *Industry Trade and Technology Review, "Implications of beverage container legislation for industry, technology, and trade," Feb. 1994, pp. 10-16.*

[12] U.S. Bureau of the Census, *1992 Census of Manufactures.*

[13] *Beverage World*, July 1995, p. 19.

[14] May 1996 "Take It Back" conference, sponsored by Recycling Laws International and Kranson Industries, as reported in Beverage World, July 1996, p. 24.

[15] Ibid.

Packaging

Since its introduction in the 1970s, the aluminum can has become the most widely used beverage container. Its advantages include light weight, stackability, resistance to breaking, and easy recyclability. Above all, aluminum has been the most inexpensive container material, at about 50 cents per pound, until 1994.[16] A change in aluminum pricing came in January 1994 with the signing of a "Memorandum of Understanding" with Russian aluminum suppliers that restricted the amount supplied.[17] Russia had been steadily increasing the sale of aluminum ingot, from 200,000 tons per year in the 1980s to 2 million tons by 1993.[18] Along with the reduction in Russian supplies, several large U.S. can manufacturers began closing plants and reducing production, resulting in much higher prices for aluminum cans.[19] In December 1994, several soft drink corporations announced plans to shift some of their packaging from aluminum cans to steel in Europe and Asia, and to PET bottles in the United States.[20] The NSDA petitioned to overturn the "Memorandum of Understanding" with Russia.[21] However, it is unclear whether a long-term trend away from aluminum cans is under way.

A packaging trend for fruit juices and drinks is higher use of "consumer packs," which are liquid-holding paper board cartons. Fruit juices have traditionally been packed in glass bottles and cans, but in 1981 the FDA approved aseptic carton packs,[22] which have gained widespread acceptance from packers and consumers. Aseptic carton packaging offers a long shelf life without refrigeration, while nonaseptic packaging requires refrigeration. A variation of the carton pack is the standup pouch, a pyramid-shaped container commonly used for fruit drinks.

A trend among bottlers, who have traditionally restricted their business to packaging and delivering, is towards greater ownership of machine vendors. Despite higher unit margins per vended soft drink than in discounted foodstores, bottlers have previously avoided this segment of the market, preferring high volume to high unit margins.[23] According to *Vending Times*,[24] the bulk of vended cans sell for 60 or 65 cents with a minority selling for other prices. This compares to typical foodstore cans selling for 25-30 cents. Bottlers are under pressure from stockholders to produce good quarterly results.[25] The decision to invest in vending machines and servicing organizations, which require large initial investments,[26] hurts quarterly performance in the short run and places bottlers in direct competition with vending companies, many of whom offer full lines of food, snacks, and beverages. Lately, battered by low margins

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[16] *Beverage World*, June 1995, p. 46.
[17] Ibid.
[18] Ibid.
[19] Ibid.
[20] Ibid.
[21] *Beverage World*, June 1995, p. 46.
[22] The FDA ruling applied to Tetra Pak, a brand name of aseptic packaging that had been used in Europe since the mid-1970s.
[23] From *Beverage World*, Feb. 1993.
[24] Ibid.
[25] *Beverage World*, Feb. 1993, pp. 36-40.
[26] Typical payback from vending operations is 12 to 24 months.

in foodstores, falling profit margins, and with interest rates low, bottlers have decided to take a longer term view. The percentage of bottlers who now own and operate vending machines has risen to 25 or 30 percent, compared with less than 5 percent 5 years ago.[27]

Vended soft drinks have held a steady 16 to 17 percent of total packaged soft drink sales since 1984 and 12 percent of all soft drink volume, trailing both supermarket and fountain sales.[28] Among vended beverages, the share of vended cans has grown steadily, from 48 percent in 1984 to 61 percent in 1995, while the share of vended bottles and cups has shown a steady decline.[29] However, the recent introduction of a 20-ounce contour PET bottle by Coca-Cola, and the increase in aluminum can prices has led to expectations[30] that plastic bottles may be the next growth area in soda vending.[31]

Another future vending trend may be towards "cashless" vending machines that will charge purchases electronically. For example, Visa teamed up with Coca-Cola at this year's Summer Olympics in Atlanta to make all vending machines in the Olympic village cashless.[32]

Globalization

U.S. soft drink companies have a large presence in the global market, participating through the use of franchises or direct ownership of bottling plants, and often successfully integrate bottling, transportation, and distribution. Foreign sales are growing faster than U.S. sales. Pepsi Cola's international soft drink operations are estimated to have grown 8 to 10 percent in 1995.[33] The maturity of domestic markets has led many larger U.S. soft drink companies to expand overseas operations, particularly in former communist block and developing countries, often purchasing state enterprises and applying western business skills to update accounting methods, introduce new plant equipment, and improve distribution. In other cases, U.S. firms have built entirely new plants and distribution networks. The advantage held by U.S. soft drink companies operating overseas is name-brand recognition, perceived quality, capital availability, technical expertise, worldwide support networks, and experience in advertising and promotion.

Globalization is prevalent among bottled water companies. For example, Perrier, a European-based group, had a 25-percent share of the U.S. market in 1995 with over nine brands of bottled water.[34] U.S. beverage companies have helped start fruit growing and processing operations in other countries to ensure year-round supplies of fruit juices. Beverages may be but one segment of a global corporation's overall food business.

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[27] *Beverage World*, Feb. 1993, pp. 36-40.

[28] Ibid.

[29] *Beverage World*, Feb. 1996, from the Beverage Marketing Corp.

[30] *Beverage World*, Feb. 1995, pp. 62-66.

[31] Several soda machine manufacturers have recently introduced machines capable of dispensing 20-ounce PET bottles according to *Beverage World*, Feb. 1996, p. 58.

[32] *Beverage World*, Feb. 1996, p. 64.

[33] *Beverage World*, Apr. 1995, page 27.

[34] *Beverage World*, Mar. 1996, p. 52.

Descriptions and Trends Among Beverage Segments

Soft Drinks

In 1995, the retail value of soft drinks reached $52.1 billion.[35] According to the *Census of Manufactures*, product shipments of bottled and canned soft drinks increased from $21.8 billion in 1987 to $25.5 billion in 1992, an increase of 17 percent.[36] The industry is relatively concentrated in a few firms whose share is growing, while the share held by smaller companies is shrinking. The top three companies, Coca-Cola, Pepsi-Cola, and Dr. Pepper/Seven-Up, held a 90-percent share of the market in 1995, up from 84 in 1991, and sold 20 percent more liters than 5 years ago, while all other companies combined sold 25 percent fewer liters than 5 years ago.[37] The average growth rate for the industry was 4 percent in 1995 and 14 percent for the past 5 years.[38]

Ten soft drink brands accounted for 73 percent of the U.S. soft drink market in 1995. Among them were Coca-Cola Classic, 20 percent; Pepsi-Cola, 15 percent; Diet Coke, 9 percent; and Dr. Pepper, 6 percent. Some major brands with the greatest 5-year growth include Mountain Dew, 73 percent; Sprite, 55 percent; and Dr. Pepper, 44 percent.[39]

The soft drink industry can be characterized as a volume business because volume and economies of scale are keys to profitability. Profit as a percentage of sales tends to increase with bottling plant size. Over the past 45 years, the greatest structural change in the soft drink industry has been the consolidation of production facilities. Fewer, larger plants are producing greater quantities of soft drinks at greater economies of scale. According to the NSDA,[40] there were 6,330 bottling plants in 1950, but only 1,500 by 1983, and the U.S. Census of Manufactures[41] reports that the number of bottling establishments fell from 2,192 in 1977 to 926 by 1992. According to the Beverage Marketing Corp.,[42] the number of bottling plants has continued falling, another 11 percent in 1995 alone, to 499. Sixty-one bottling facilities were either closed, bought out, or merged in 1995. The number of plant closings in 1995 particularly affected independent bottlers whose plant numbers fell by 14 percent to 220.

One reason for the large number of plant closings is that the proliferation of product families (defined by flavor, diet or nondiet, and packaging type) means that it has become difficult to stay on the lowest portion of the cost curve for a given plant line. One industry analysis

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[35] *Beverage World*, May 1996.

[36] *1992 Census of Manufactures*, Bureau of the Census.

[37] *Beverage World*, Mar. 1992, p. 69, and Mar. 1996, p. 67.

[38] Beverage World, Mar. 1996, p. 67.

[39] *Beverage World*, Mar. 1996, p. 61.

[40] Boston Consulting Group, *The Future of the Soft Drink Industry 1985-1990*. Prepared for the National Soft Drink Assoc., p. 3.

[41] Census of Manufactures, Preliminary Series 1992, Bureau of the Census.

[42] From *1995 Who Owns Whom*, Beverage Marketing Corporation, as reported in *Beverage World*, Mar. 1996, p. 83.

estimates that overhead plant costs per case increase by 18 percent for each doubling of product lines.[43] The burden of more product lines is greater on small plants that may not have reached sufficient volume levels on existing lines, and for whom more product lines represent higher marginal costs for all lines.

Before 1970, most bottlers were independent local franchises. Today, more than one-half of all bottling plants are owned by large companies with chains of manufacturing and warehousing facilities who may be syrup manufacturers, diversified corporations, or national or regional soft drink bottlers. This consolidation stems from the economies of larger volume. Costs affected by plant size include direct labor costs, factory expenses, and material costs. As a plant increases the speed and number of its bottling lines, direct labor costs decline. Direct labor costs are also influenced by the types of lines, with canning lines requiring the least direct labor cost, and returnable bottle lines the most. A larger plant with more lines is more readily switched to production of more profitable lines or to additional faster lines with slower ones kept in reserve to add capacity during peak loads. Boston Consulting Group showed that when output of a bottling plant is doubled from 2 million to 4 million cases per year, or from 4 million to 8 million cases per year, direct labor costs decline by about 11 percent per case for bottles, and about 6 percent for cans, while factory expense costs fall even more rapidly.[44] Cost reductions are greatest in small plants; after about 10 million cases of output, the cost curve begins to flatten out.[45] For example, total costs per case fall by as much as 25 cents when plant size is increased from 500,000 to 1 million cases per year, but only by 10 cents per case when plant size is doubled from 5 million to 10 million cases.[46]

Often, the only way a small plant may remain competitive is to serve a small market, such as a rural area, separated by distance from larger competitors. One successful strategy for small bottlers to remain competitive in larger markets is to form production and purchasing cooperatives with other small bottlers. In a production co-op,[47] each member specializes in a limited number of products, and thus the whole group achieves higher efficiencies of scale. In purchasing co-ops,[48] each member achieves the purchasing power of a larger bottler and similar prices for input materials. Materials represent the largest cost for bottling plants, ahead of factory and labor costs.[49] It is anticipated that more small bottlers will join production and purchasing co-ops in order to remain competitive.

Larger bottlers, who have historically enjoyed cost advantages from high volume, have found competitors reaching similar cost thresholds. Consolidation of the industry means volume alone

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[43] Boston Consulting Group. *The Future of the Soft Drink Industry 1985-1990*, prepared for the National Soft Drink Assoc.

[44] Ibid.

[45] Ibid.

[46] Ibid.

[47] A production co-op is an agreement between two or more producers to share production lines and facilities.

[48] A purchasing co-op is an agreement between two or more firms to share orders for inputs.

[49] Ibid.

no longer ensures competitive advantage.[50] With greater plant volume no longer sufficient to increase profitability, and with declining profit margins, equalization of profits and plant size is occurring throughout the industry.[51] The strategy of larger bottlers in this highly competitive environment is to push brand products where profit margins are higher than for private label products.[52] This has led to intense competition between major brands.[53]

With greater economies of scale, soft drink prices and costs of production have declined about 1 percent per year on average since 1950, in constant dollars, as average plant volume has increased from less than 100,000 cases per year to 5.1 million cases by 1992.[54] Lower production costs have not always been passed on to consumers, particularly during periods when bottlers anticipated high sugar prices or when distribution costs rose more rapidly than production cost savings.

According to Crooker Management Associates,[55] which conducted a survey at the end of 1991, 62 percent of bottlers questioned were experiencing flat or declining margins. Some of the reasons cited were parent company pressures for volume growth, deep discounting policies by competitors, the demand of chain stores to be competitive, and the advent of wholesale price clubs, which offer consumers low prices for volume purchases.[56] More recently, the industry has seen profits improve: according to Standard and Poor's,[57] "profits for the major U.S. nonalcoholic beverage companies continued their long upward trend in 1996's first half."[58]

Among soft drink packaging trends, a greater percentage of soft drinks are being sold in cans instead of bottles, especially non-returnable bottles.[59] In 1992, cans accounted for 57 percent of foodstore soft drink sales value, up from 52 percent in 1987.[60] Sales of soft drinks in 12-pack cans and 24-pack cans have increased, continuing a trend towards volume purchases of cans.[61] The share of sales of soft drinks in returnable glass bottles as a share of all glass-packed drinks fell from 36 percent in 1987 to 22 percent in 1992, continuing the trend towards recycling rather than reusing beverage containers.[62] According to the Bureau of the Census,[63] the number of soft drink glass bottle shipments fell from 8.6 billion in 1984 to 4.4 billion in 1994, a decline of 48 percent as the market shifted from glass to aluminum and plastic containers. The industry is moving away from glass bottles and towards plastic ones,

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[50] Boston Consulting Group, *The Future of the Soft Drink Industry 1985-90*, prepared for the National Soft Drink Assoc., p. iii.

[51] Ibid.

[52] Ibid.

[53] Ibid.

[54] 1992 Census of Manufactures, SIC code 2086.

[55] Boston Consulting Group, *The Future of the Soft Drink Industry 1985-90*. Prepared for the National Soft Drink Assoc.

[56] Ibid.

[57] Standard and Poor's, Industry Surveys, Foods and Nonalcoholic Beverages, Aug. 8, 1996.

[58] Ibid, p. 4.

[59] However, this trend could be reversed if the recent jump in aluminum prices continues.

[60] 1992 Census of Manufactures.

[61] Beverage World, various issues.

[62] Ibid.

[63] U.S. Bureau of the Census, Industrial Reports.

particularly PET.[64] PET combines the advantages of cans and glass bottles by being lightweight, clear, resealable, and breakage resistant. Among categories of soda sold in non-returnable bottles, the largest share was soda packaged in plastic, 2-liter nonreturnable bottles, which accounted for 30 percent of all soft drink sales.

Fruit Beverages

U.S. sales of fruit beverages in 1995 including fruit juices, nectars, and drinks amounted to nearly 13 billion liters. In addition, the equivalent of 4 billion liters of powdered drink mixes has been sold annually in the United States for several years.[65] Fruit juices offered for sale to consumers are normally 100-percent juice without additional sweetening or artificial coloration or flavoring. Also, most juices sold are one-fruit products, although sales of juices made from two or more fruits have increased in recent years. Tropical fruit juices with a 100-percent juice content are rarely sold on the retail market because of their high acidity and/or excessively strong taste; they are watered down to nectars and drinks. A fruit nectar consists of juice and/or pulp, sugar, and water, usually with a minimum fruit content of 25 to 50 percent of natural strength,[66] depending on the fruit. Nectars may be sold as one-fruit products or as blends made from two or more fruits. A fruit juice drink usually, but not necessarily, has a much lower juice content, and may include such ingredients as fruit pulp, citric acid, ascorbic acid, essential oils, aromas and preservatives, as well as additional sweetening and/or artificial flavoring or coloring. Products sold as "health drinks" may have a much higher fruit content as well as added vitamins or minerals.

Fruit beverages are the most popular nonalcoholic category behind soft drinks; U.S. per capita consumption was 48.1 liters in 1995, up from 46.5 in 1993.[67] More fruit juice is sold than fruit drink; but while fruit juice consumption declined slightly between 1993 and 1995, fruit drink consumption increased by 19 percent.[68] The retail value of fruit beverages reached $12.5 billion in 1995, including $7.7 billion in juice and $4.8 billion in drinks.[69] U.S. sales of powdered drink mixes have been losing market share to fruit juices and drinks.[70] Sales of juice nectars have also

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[64] PET is derived from polyester, the same material that is used in clothing. There is currently a worldwide shortage of PET, stemming from increased use in food packaging and clothing owing to a cotton shortage. Otherwise, conversion to PET would be occurring even more rapidly (Beverage World, June 1995, p. 68).

[65] International Trade Centre, *Fruit Juices, A Study of the World Market.* United Nations Conference on Trade and Development, General Agreement on Tariffs and Trade (UNCTAD/GATT), Geneva, 1991, p. 216.

[66] Natural strength fruit juice is juice that is neither diluted with water nor concentrated.

[67] *Beverage World,* May 1996, p. 52.

[68] Ibid, p. 52.

[69] Ibid, p. 52.

[70] International Trade Centre, *Fruit Juices, A Study of the World Market.* UNCTAD/GATT, Geneva, 1991, p. 216.

lost market share because of their association with high sugar levels.[71] The best selling juice nectars are apricot, peach, pear, guava, papaya, and mango.[72]

An example of a widely consumed fruit beverage is pineapple juice. Pineapple concentrate may be imported either in bulk or in industrial-size containers. Most imports are packaged and imported in ocean containers (approximately 13,000 liters/container), and may be imported in both frozen and non-frozen form. The product has two distinct uses: (1) as an ingredient in fruit-juice mixtures (such as pineapple-orange juice), in fruit-flavored drinks (such as fruit punch), in sauces and frozen desserts, in baby food, or in other prepared food products; and (2) as a retail product sold to consumers for consumption as pineapple juice. The former use accounts for over 80 percent of the pineapple concentrate consumed in the United States, whereas the latter accounts for less than 20 percent. When processed for consumption as juice, the product is sold either as frozen concentrate, which the consumer mixes with water, or as reconstituted juice, which has water already added by the manufacturer prior to retail sale. About one-third of pineapple juice sold in the U.S. market is from concentrate.

Bottled Water

Bottled water may be sold either as noncarbonated water, as a substitute for tap water, or as carbonated (sparkling) water, which competes with higher priced soft drinks. Higher priced carbonated water brands derive from artesian wells and springs, often "naturally carbonated."[73] The least expensive bottled water is simply purified tap water. "Mineral water" may or may not be carbonated, but is expected to contain naturally occurring trace minerals. Retail sales of bottled water reached $4.0 billion in 1995, of which over 90 percent was noncarbonated.[74] Sales have increased from 2.4 billion liters in 1980 to 9.8 billion liters in 1995.[75] Although the quantity sold of noncarbonated water rose by 17 percent from 1993 to 1995, sales of carbonated (sparkling) water fell slightly.[76] Bottled water may be sold in glass or plastic bottles of various sizes and shapes or in cans. The quantity of bottled water sold in PET containers increased by 22 percent in 1995.[77]

Compared to the soft drink industry, which is dominated by a relatively few firms, bottled water has been a relatively competitive industry with no one brand accounting for more than 8 percent of U.S. sales and the top 10 brands accounting for only 37 percent of total sales in 1995.[78] This reflects the regional nature of bottled water companies and transportation cost factors. However, the industry is consolidating through the acquisition of brands. Perrier Group now

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[71] Ibid, p. 217.
[72] Ibid, p. 217.
[73] Naturally carbonated water is water that comes out of the ground carbonated, or bubbly, while artificially carbonated water is water that has carbon dioxide added.
[74] *Beverage World*, May 1996, p. 52.
[75] Ibid, p. 52.
[76] Ibid, p. 52.
[77] *Beverage World*, Mar. 1996, p. 50.
[78] Ibid, p. 50.

accounts for 25 percent of the U.S. market through its acquisition of 10 brands in recent years.[79] The second largest company, McKesson Corp., owns four brands and has an 8-percent share of the U.S. market.[80] Because of brand consolidation, the top 10 companies accounted for 56 percent of U.S. sales in 1995.[81]

The top selling brand was Perrier Group's Arrowhead, with a 7-percent market share, followed by another Perrier owned brand, Poland Springs, which had a 6-percent share of the bottled water market in 1995.[82] Evian, owned by Great Brands of Europe, was third with a 5-percent share.[83] Other well-known brands are Sparkletts, Hinckley and Schmitt, Deer Park, Ozarka, Great Bear, and Calistoga.[84] No sparkling water brands were among the top 10 selling brands in 1995.[85] Sales of Perrier (the best known sparkling water) have declined by $46 million over the past 5 years.[86]

Since 1988, domestic manufacturers of bottled water have petitioned the FDA for more regulation, particularly for rules requiring labels to identify the source of water, whether from spring, well, artesian, river, or municipal reservoir, as well as whether the water is mineral, purified, distilled, or chlorinated. Late in 1995, the FDA issued new rules that require labels that indicate the source for all bottled water.[87]

Ready-to-Drink Tea

Ready-to-drink tea has recently experienced a sales boom and is among the fastest growing beverage market sectors, reaching about $2.8 billion in retail sales in 1995.[88] Per capita consumption has grown from 2.6 liters in 1992 to 8.3 liters in 1995. The boom in sales has benefited companies that derive a large part of sales from ready-to-drink tea, and has spurred soft drink companies to add more ready-to-drink tea products to their lines.[89]

Sports Drinks

A fast growing sector of the beverage industry is the market for "sports drinks," products designed not only to quench thirst but also to replace electrolytes and other minerals lost during exercise. Sales of sports drinks increased by about 15 percent from 1994 to 1995 to about $2.8

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[79] Ibid, p. 51.
[80] Ibid, p. 52.
[81] Ibid, p. 52.
[82] Ibid, p. 52.
[83] Ibid, p. 52.
[84] Ibid, p. 53.
[85] Ibid, p. 53.
[86] *Beverage World*, Mar. 1995, p. 95.
[87] FDA Identity Standards for Bottled Water. Federal Register, Volume 60, No. 218, Nov. 13, 1995, p. 57076.
[88] *Beverage World*, May 1996, p. 54.
[89] *Standard and Poor's Industry Surveys-Foods and Nonalcoholic Beverages*, Aug. 8, 1996, p. 5.

billion in retail sales, and to nearly 9 liters per capita.[90] Sports drinks appear far more popular in the warmer South and Southwest, where per capita use was about 11 liters versus 4 in the Northeast.[91]

Health Drinks

Health drinks are an example of "functional" beverages, as are sports, energy, and therapeutic drinks. Health drinks are marketed to consumers seeking health benefits such as meal substitution or supplemental vitamins, minerals, and fiber. Another variation on the functional beverage is the therapeutic beverage, which purports to cure such ailments as obesity, cavities, hay fever, or arthritis. Dessert beverages are another market niche that include such products as milkshakes and others that taste like cookies or candy bars.

Vegetable Juices

Most vegetable juices consist of tomato juice or products, such as V-8, which is mainly tomato juice, although there is a growing market for other vegetable juices, including carrot and celery. Most tomato juice imports are from Canada. Supermarket sales of bottled tomato juice in 1995 were about $36 million, bottled V-8 juice, $39 million, and all other vegetable juices, about $3 million.[92] Most sales of vegetable juice were by two companies, the Campbell Soup Co. and Motts U.S.A. Supermarket sales of tomato juice were up 5 percent from 1994 to 1995, while sales of V-8 juice were up nearly 12 percent.[93]

Milk-Based Beverages

Milk-based beverages may include such different products as cappucino sold in aseptic boxes or carbonated soft drinks that contain milk flavoring. An example of a milk-based drink is cappucino sold in an aseptic box and containing 90 percent milk, which has a 9-month shelf life.[94] Similar products come in other flavors. Several new products from major soft drink companies, such as Smooth Moose from Pepsi-Cola, use milk as a primary ingredient.

Chocolate Drinks

A variation of the milk-based beverage is beverages that are milklike. These typically consist of chocolate drinks that look like milk. One example is Yoo-Hoo. Such drinks generally contain ingredients such as whey and soybean oil instead of milk.

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[90] *Beverage World*, May 1996, p. 54.

[91] Ibid, p. 54.

[92] Food Institute, *Analysis of IRI InfoScan Data, Retail Price Analysis*, The Food Institute, Fair Lawn, NJ, July 1996.

[93] Ibid.

[94] Dairy Foods, Cahners Publications, June 1996, p. 27.

Manufactured Ice

Manufactured ice is used to pack and ship fresh produce and is also found in grocery stores or sold to consumers to be used in beverages or to keep food chilled. There has been a marked trend towards less shipments of block ice and greater shipments of cubed, crushed, or other processed ice, which now accounts for the majority of shipments.[95]

Nonalcoholic Beer

Nonalcoholic beer comprises less than 2 percent of all beer sales and has only been marketed since the late 1980s, when it was first mass marketed by some of the major breweries such as Anheuser-Busch, Miller Brewing Co., and Stroh's, although "near beers" have been around much longer.[96] Top selling nonalcoholic brands include O'Doul's, Sharp's, Old Milwaukee, and Coors Cutter.[97] Sales of nonalcoholic beers grew by about 30 percent a year during the early 1990s, but by 1994 sales began slipping and declined to 30 million cases in 1994 from 33 million cases a year earlier.[98] Nonalcoholic beers tend to appeal to people who are health conscious, so advertising is often linked to sports such as golf.[99]

U.S. MARKET

Consumer Characteristics and Factors Affecting Demand

Primary consumers of nonalcoholic beverages are retailers such as supermarket chains, vending machine operators, restaurants, and cafeterias. Final consumers drink beverages as a substitute for tap water, as well as for pleasant taste and refreshment. In general, factors that affect demand are prices, prices of competing beverages, and weather, with more consumed during hot summer months than in winter. Advertising, packaging, and new products that appeal to consumers are also important elements in consumer demand. Media advertising may be local, regional, or national, while point-of-sale advertising consists of store displays and signs.

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[95] *1992 Census of Manufactures*, U.S. Bureau of the Census. From SIC code 2097, Manufactured Ice.

[96] Market Watch, July/Aug. 1995, pp. 51-54.

[97] Ibid, pp. 51-54.

[98] Ibid, pp. 51-54.

[99] Ibid.

A survey of U.S. households[100] found that about 65 percent of urban and rural households purchased nonalcoholic beverages in any given week; cola beverages were purchased most frequently with about 45 percent of all households purchasing cola beverages each week. The survey found that consumption of nonalcoholic beverages is positively correlated to income, with highest income groups purchasing about 50 percent more beverages than the lowest income groups. The survey found that purchasing patterns are different among different age groups; those over 64, for example, drank the least amount of cola beverages, but the most amount of coffee. The survey found that dollar expenditures per person fell in relation to household size; for example, households with six or more persons spent less than one-half as much on nonalcoholic beverages as did one-person households.

Nonalcoholic beverage use has grown considerably over the past 30 years, but has slowed since the 1980s. Soft drink per capita consumption grew from 61 liters in 1965 to 197 in 1995,[101] but growth in consumption has slowed compared to the 5-percent annual rates of the 1980s. The slower rate, according to industry analysts,[102] stems from slow economic growth, concerns about health, changing purchasing patterns, interest in new products, more frequent eating away from home, and demographic shifts. Consumers have switched some of their purchases of mainstream colas and diet soft drinks to bottled waters, fruit drinks, and iced teas.

Soft drink purchases were lowest in the Pacific region, at about 141 liters per person in 1994, in contrast to about 241 in the West Central States and 236 in the South. Some of this difference may be explained by cooler summers in the lower consumption regions. Soda fountains accounted for about 27 percent of all soft drinks consumed in 1995, with fast food chains and convenience stores accounting for a large share.

Bottled water appears more income sensitive than either soft drinks or fruit beverages; it is seen as a close alternative to tap water, and so is driven in part by consumer perceptions of tap water quality. Per capita consumption of bottled water in 1995 was about 37 liters, about 24 percent more than in 1991, and a continuation of the high consumption growth of the 1980s. Per capita bottled water consumption varies widely by region, with Pacific coast residents averaging 74 liters in 1995, while those in central regions averaging only 16 liters.

Fruit beverage use in 1995 was about 48 liters per person, including fruit drinks and juices. Highest usage was in the Northeast, 64 liters per person in 1995, and lowest was the Southwest, 36 liters.[103]

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[100] Food Spending in American Households, 1980-92. U.S. Department of Agriculture, Economic Research Service, Statistical Bulletin No. 824.

[101] *Beverage World*, May 1996, p. 50.

[102] Ibid.

[103] *Beverage World*, May 1996, p. 52.

Consumption

U.S. apparent consumption of nonalcoholic beverages for 1991-95 is shown in table 1. During this period, consumption increased steadily from about $47billion in 1991 to about $55 billion in 1995.[104] Overall import penetration is small, between 1 and 2 percent of consumption. Highest import penetration is for fruit juices and bottled waters. Figure 2 shows shipments, exports, imports, and apparent consumption of nonalcoholic beverages for 1991-95.

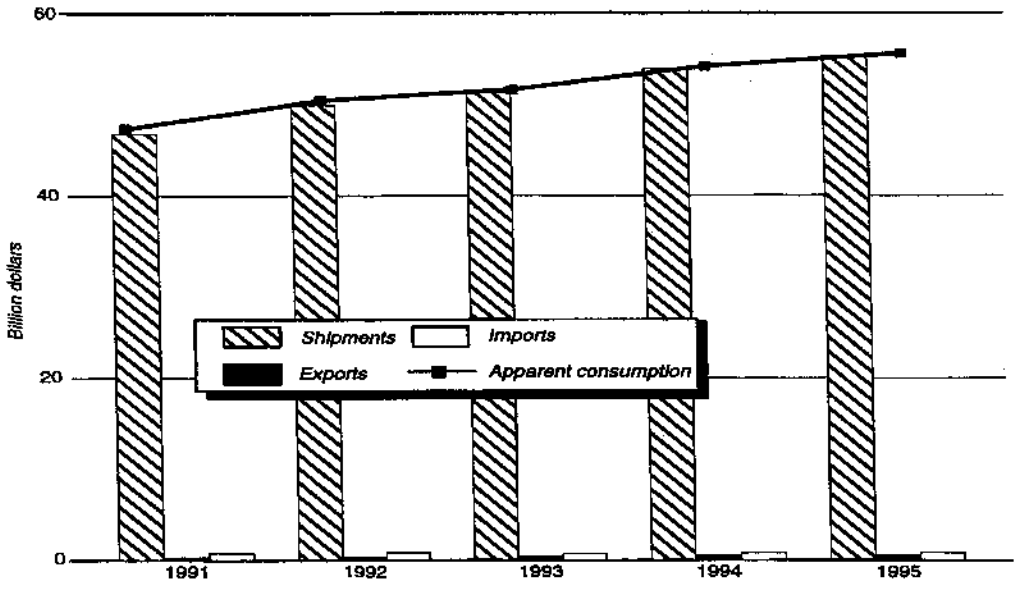
Table 1
Nonalcoholic beverages: U.S. shipments, exports of domestic merchandise, imports for consumption, and apparent U.S. consumption, 1991-95

Year	U.S. shipments[1]	U.S. exports	U.S. imports	Apparent U.S. consumption	Ratio of imports to consumption
			Million dollars		*Percent*
1991	46,785	308	722	47,199	1.53
1992	50,371	373	783	50,371	1.55
1993	51,282	406	678	51,554	1.31
1994	53,921	560	715	54,076	1.32
1995	55,311	622	808	55,497	1.45

[1] U.S. shipments are based on wholesale values as reported in *Beverage World*. U.S. shipments include citrus juices, but U.S. exports and U.S. imports do not.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

Figure 2
Nonalcoholic beverages: Shipments, exports, imports, and apparent consumption, 1991-95

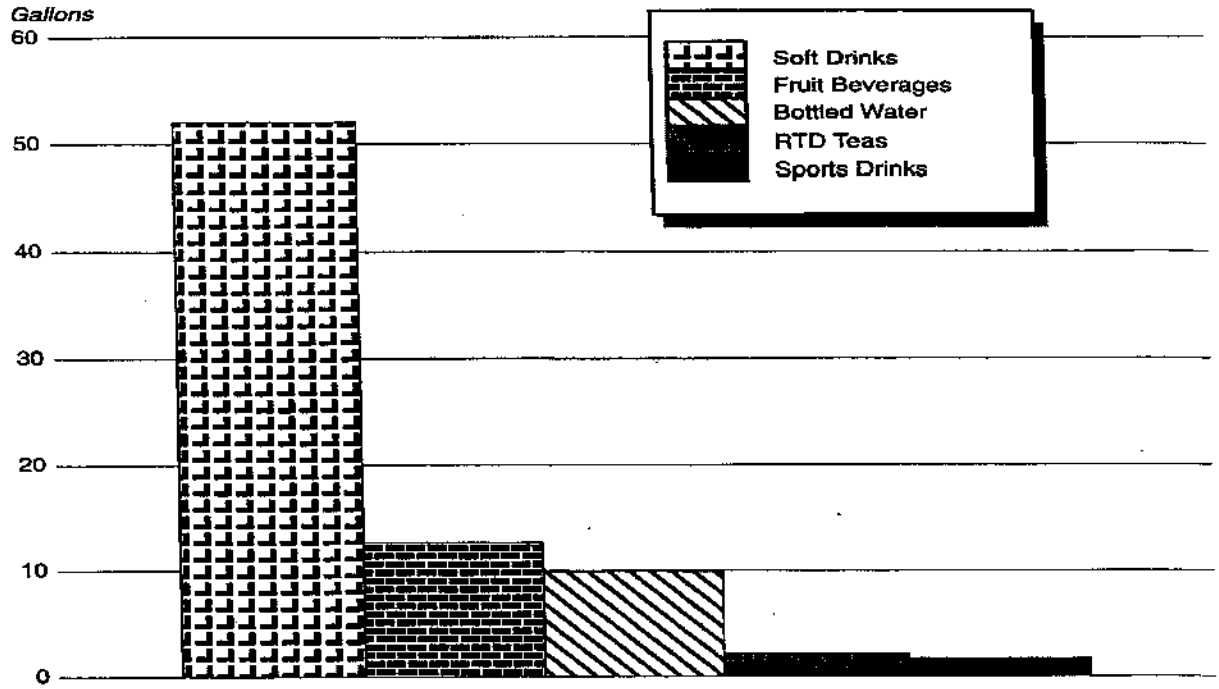


Source: Compiled from official statistics of the U.S. Department of Commerce and *Beverage World*.

[104] Consumption is based on wholesale values. Retail values are 25 to 30 percent above wholesale.

Figure 3 shows per capita consumption in 1995 for major beverage groups. The largest share of consumption was for bottled and canned soft drinks; followed by fruit juices, blends, and drinks; bottled water; ready-to-drink teas; and sports drinks.

Figure 3
1995 Per capita consumption for various beverages



Source: Based on estimates by *Beverage World.* May edition, 1996.

Production

U.S. production of nonalcoholic beverages reached nearly 78 billion liters in 1995 and consisted mostly of soft drinks. Packaged soft drinks, canned and bottled, was the largest category, followed by fountain soft drinks, fruit juices and drinks, bottled water, sports drinks, and ready-to-drink teas. Table 2 shows production of nonalcoholic beverages for 1991-95, by beverage categories. Following rapid growth in the 1980s, production of most beverage categories during the 1990s has increased at a slower pace because of weaker economic conditions and demographic shifts. For example, noncarbonated bottled water production grew and maintained a much larger share of bottled water production than did carbonated water, which showed a modest downtrend, a result of the high income elasticity of carbonated water amid slower economic conditions. Fruit drink production grew faster than that of more expensive fruit juices, and fountain soft drink production grew faster than that of packaged soft drinks. The fastest growing beverage category was ready-to-drink teas, which increased from 658 million

Table 2
U.S. nonalcoholic beverage production, by beverage type, 1991-95

Year	Packaged soft drinks	Fountain soft drinks	RTD teas	Sports drinks	Fruit juices	Fruit drinks	Noncarbonated bottled water	Carbonated bottled water	Total
					Million liters				
1991	34,721	11,447	NA	NA	7,288	3,444	6,759	821	64,480
1992	35,148	11,712	658	1,215	7,432	4,034	6,834	787	67,820
1993	35,508	12,636	1,260	1,328	7,603	4,034	7,152	787	70,308
1994	36,764	13,472	1,885	1,476	7,580	4,356	7,765	776	74,074
1995	37,627	14,418	2,168	1,718	7,550	4,836	8,674	761	77,752

Source: *Beverage World*. *Beverage World* estimates of wholesale values and quantities are based on industry contacts. May editions, 1992 through 1996.

liters in 1992 to 2.2 billion liters in 1995; this trend is likely to continue because teas tend to appeal to older consumers, one of the fastest growing consumer groups.

The wholesale value of nonalcoholic beverage production increased from about $47 billion to about $55 billion from 1991 to 1995 (table 3). Unit values were lowest for bottled water and highest for soft drinks, fruit beverages, and teas. Unit values of fruit beverages showed a significant decline, from $0.82 per liter in 1991 to $0.77 in 1995. This trend coincided with rising world supplies of fruit juices and the trend towards less expensive drinks. During the same time period, unit values of other products were steady or declined modestly, except for teas, which increased modestly.

U.S. TRADE

Overview

The United States was a net importer of nonalcoholic beverages in each year during 1991-95 (table 4). However, U.S. exports grew faster and more consistently than did U.S. imports, more than doubling during this period, while imports grew only modestly. The U.S. trade deficit in nonalcoholic beverage products fell steadily from $414 million in 1991 to $186 million in 1995, in part because of falling unit values of imports. The trade surplus in nonalcoholic beverages was greatest with Japan during the period, growing from $78 million to $245 million, while the greatest trade deficit was with Argentina, growing from $88 million to $112 million.

Table 3
U.S. wholesale value, quantity, and unit value of nonalcoholic beverage shipments, 1991-95

Year	Soft drinks	RTD teas	Sports drinks	Fruit beverages	Bottled water	Total
			Quantity *(million liters)*			
1991	46,168	NA	NA	11,046	7,622	64,836
1992	46,861	658	1,215	11,462	7,939	68,136
1993	48,147	1,260	1,328	11,958	8,545	71,239
1994	50,236	1,885	1,476	12,412	9,434	75,443
1995	52,045	2,168	1,718	12,715	9,873	78,519
			Value *(million dollars)*			
1991	35,112	NA	NA	9,052	2,621	46,785
1992	36,516	478	802	9,446	2,719	49,961
1993	37,247	905	875	9,295	2,960	51,282
1994	38,737	1,500	975	9,587	3,122	53,921
1995	39,299	1,665	1,135	9,837	3,375	55,311
			Unit value *(dollars per liter)*			
1991	0.76	NA	NA	0.82	0.34	0.72
1992	0.78	0.73	0.66	0.82	0.34	0.73
1993	0.77	0.72	0.66	0.78	0.34	0.72
1994	0.77	0.79	0.66	0.77	0.33	0.71
1995	0.75	0.77	0.66	0.77	0.34	0.70

Source: *Beverage World. Beverage World* estimates of wholesale values and quantities are based on industry contacts. May editions, 1992 through 1996.

U.S. Imports

Principal Suppliers and Import Levels

Nonalcoholic beverage imports totaled $808 million in 1995, up from $722 million in 1991, an increase of 12 percent. Canada remained the largest supplier during this period, followed by Argentina, France, Germany, and Mexico (table 5). Imports from Canada consisted mainly of packaged bottled waters and soft drinks, while imports from Argentina and Germany consisted mainly of concentrated apple juice. Argentina also supplied most of the pear juice imported in 1995. France mainly supplied bottled water, about 55 percent of all imports of unsweetened mineral water, while Canada provided most of the remainder. Many carbonated soft drinks imported from Canada and Mexico are bottled in plants near the U.S. border which are, in some cases, closer to U.S. markets than competing domestic bottlers. Berry juice has been among the fastest growing juice imports, growing from less than $3 million in 1989 to about $40 million in 1994; Austria, Poland, Chile, and Sweden were the four largest suppliers. In 1995, however, berry juice imports declined dramatically, down to about $17 million, primarily as a result of the accession of Austria, Sweden, and Finland to the EU which subjected them to 100 percent special U.S. tariff duties applied to the EU in retaliation for an EU ban on U.S. beef.[105] Imports

[105] USTR Proclamation 5759, December 24, 1987, 52 FR 49131.

Table 4
Nonalcoholic beverages:[1] U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries, 1991-95[2]

Item	1991	1992	1993	1994	1995
	Million dollars				
U.S. exports of domestic merchandise:					
Canada	100.1	99.9	112.3	122.1	142.1
Japan	91.6	95.2	98.7	180.7	251.0
Argentina	9.2	5.9	5.8	5.4	3.7
France	1.3	2.5	2.1	2.6	1.9
Germany	1.0	2.6	1.3	1.9	2.6
Mexico	28.0	51.7	77.8	106.2	27.4
Brazil	0.1	0.1	0.5	3.6	37.1
Thailand	0.6	0.7	0.4	0.9	1.7
Chile	0.7	0.7	0.9	1.1	0.6
Philippines	1.5	1.8	1.6	2.9	3.8
All other	74.1	91.4	105.0	132.5	150.4
Total	308.2	372.6	406.5	560.0	622.2
U.S. imports for consumption:					
Canada	105.2	108.5	99.6	139.8	148.8
Japan	13.3	11.2	8.5	5.2	5.6
Argentina	96.7	144.1	59.2	57.6	116.0
France	63.7	69.3	93.0	105.5	91.3
Germany	70.1	70.2	61.0	65.6	80.9
Mexico	36.9	38.5	38.4	45.0	54.4
Brazil	6.3	19.2	12.4	8.6	9.3
Thailand	36.5	41.7	39.1	34.4	41.6
Chile	45.2	55.9	33.7	22.8	41.8
Philippines	36.8	37.5	34.6	28.1	32.9
All other	211.8	187.5	198.9	203.1	185.4
Total	722.5	783.6	678.4	715.7	808.0
U.S. merchandise trade balance:					
Canada	-5.1	-8.6	12.8	-17.7	-6.7
Japan	78.3	84.0	90.2	175.5	245.4
Argentina	-87.6	-118.2	-53.4	-52.1	-112.3
France	-62.4	-66.8	-90.9	-102.9	-89.3
Germany	-69.1	-67.6	-59.7	-63.6	-78.2
Mexico	-8.9	13.3	39.4	61.2	-27.0
Brazil	-6.2	-19.1	-12.0	-5.1	27.7
Thailand	-35.9	-41.0	-38.7	-33.5	-39.9
Chile	-44.5	-55.1	-32.7	-21.7	-41.2
Philippines	-35.3	-35.7	-33.0	-25.2	-29.2
All other	-137.7	-96.1	-93.9	-70.6	-35.0
Total	-414.3	-411.0	-271.9	-155.7	-185.8

[1] Exclusive of citrus juices.
[2] Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.
Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 5
Nonalcoholic beverages: U.S. imports for consumption, by principal suppliers, 1991-95

Source	1991	1992	1993	1994	1995
			Quantity[1] *(million liters)*		
Canada	194.9	219.6	160.6	216.3	246.3
Argentina	323.8	410.4	298.5	372.2	393.4
France	171.8	195.1	247.6	276.7	238.6
Germany	183.0	168.6	193.9	245.9	205.3
Mexico	71.9	60.8	69.9	90.2	82.4
Chile	127.1	139.5	145.8	105.0	119.7
Thailand	124.2	139.9	164.7	113.3	127.1
Philippines	163.1	157.5	144.0	140.0	166.4
Hungary	104.9	54.0	56.9	115.4	84.5
Netherlands	14.6	16.0	28.3	63.7	63.4
All other	467.1	388.0	487.2	416.3	324.3
Total	1,946.3	1,949.4	1,997.5	2,155.1	2,051.6
			Value[2] *(million dollars)*		
Canada	105.2	108.5	99.6	139.8	148.8
Argentina	96.7	144.1	59.2	57.6	116.0
France	63.7	69.3	93.0	105.5	91.3
Germany	70.1	70.2	61.0	65.6	80.9
Mexico	36.9	38.5	38.4	45.0	54.4
Chile	45.2	55.9	33.7	22.8	41.8
Thailand	36.5	41.7	39.1	34.4	41.6
Philippines	36.8	37.5	34.6	28.1	32.9
Hungary	27.0	16.6	13.2	24.5	25.5
Netherlands	6.7	7.4	8.2	14.3	23.4
All other	197.7	193.9	198.5	178.2	151.4
Total	722.5	783.6	678.4	715.7	808.0
			Unit value *(dollars per liter)*[3]		
Canada	.50	.45	.54	.59	.54
Argentina	.30	.35	.20	.15	.29
France	.37	.35	.38	.38	.38
Germany	.38	.42	.31	.27	.39
Mexico	.51	.63	.55	.50	.66
Chile	.36	.40	.23	.22	.35
Thailand	.29	.30	.24	.30	.33
Philippines	.23	.24	.24	.20	.20
Hungary	.26	.31	.23	.21	.30
Netherlands	.46	.47	.29	.22	.37
All other	.42	.50	.40	.42	.46
Average	.37	.40	.33	.32	.38

[1] Does not include ice, which is measured in tons.
[2] Includes ice.
[3] Unit values apply only to liter-denominated quantities and so do not necessarily correspond to value data which include ice tonnage.

Source: Compiled from official statistics of the U.S. Department of Commerce.

from Austria alone declined from $22 million in 1994 to $273,000 in 1995. As of July 15, 1996, U.S. 100-percent special tariff duties have been suspended.[106]

[106] FR Doc. 96-18122, filed July 15, 1996.

Fruit juices are normally imported in bulk or drums. Fruit juices or nectars in retail packs are not imported generally, because of high freight costs compared with those for bulk concentrates and because of frequently higher packaging costs in developing countries. U.S. food laws and regulations, labeling, and packaging requirements often pose difficulties for importers of packaged products. Most imported consumer-ready items are in small quantities, which tend to be sold in delicatessens and specialty shops.

Imports with high unit values include carbonated bottled waters, soft drinks, tomato and other vegetable juices, unconcentrated grape juice, cherry juice, berry juice, fruit juice mixtures, chocolate milk drinks, and nonalcoholic beer. Imports with lower unit values include pineapple juice concentrate, concentrated apple juice, and pear juice.[107]

Apple juice was the largest nonalcoholic beverage import category, accounting for about $280 million of $808 million in 1995 imports.[108] Imports of unsweetened and unflavored bottled water were valued at about $154 million in 1995, $84 million of which came from France. Imports of sweetened and/or flavored bottled water were valued at about $68 million, $51 million of which came from Canada. Carbonated soft drink imports were about $44 million in 1995, about $36 million of which originated in Mexico and Canada. In addition, imports of diet soft drinks, a new statistical category in 1994, were about $3 million in 1995, mostly from Mexico. Total pineapple juice imports were about $70 million, $61 million of which were from the Philippines and Thailand. Germany supplied about one-half of about $14 million in imports of nonalcoholic beer. Canada supplied most block and crushed ice imports in 1995. Although most nonalcoholic beverage imports, including frozen concentrates, are liquid and measured in liters, block and crushed ice are measured in tons. Block ice may be used as a packing material for transporting chilled produce, used in supermarkets, or sold to consumers.

U.S. Trade Measures

Tariff Measures

Duties collected in 1995 totalled $15.0 million, or 1.9 percent ad valorem equivalent, about the same as in 1994. Reduced duty rates were available under the North American Free Trade Agreement, Uruguay Round Agreements, Generalized System of Preferences, Israel Free Trade Agreement, and Andean Trade Preference Act. Most imports entered either free of duty or at reduced rates under one or more of these programs.[109]

Table 6 shows column 1 rates of duty, as of January 1, 1996, for articles included in this summary, including both general and special rates, along with bound rates of duty, proclaimed

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[107] Concentrate prices are quoted on a single-strength equivalent basis, a price based on hypothetical quantities if water were added to dilute the concentrate. Concentrate can be transported more cheaply because it does not include the cost of transporting additional water.

[108] All import and export figures are from official U.S. Department of Commerce data.

[109] From official statistics of the U.S. Department of Commerce.

Table 6
Nonalcoholic beverages: *Harmonized Tariff Schedule* subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1996; bound concession rate of duty; U.S. exports, 1995; and U.S. imports, 1995

HTS subheading	Description	Col. 1 rate of duty		Bound duty, Uruguay Round	U.S. exports, 1995	U.S. imports, 1995
		As of Jan. 1, 1996				
		General	Special			
					Million dollars	
2009.40.20	Pineapple juice, not concentrated, or having a degree of concentration of not more than 3.5 degrees (as determined before correction to the nearest 0.5 degree)	4.9¢/liter 1¢/liter (CA) 3.7¢/liter (MX)	Free (E,IL,J)	4.2¢/liter	1.0	29.0
2009.40.40	Pineapple juice, concentrated	1.2¢/liter 0.2¢/liter (CA) 0.5¢/liter (MX)	Free (E,IL,J)	1¢/liter	6.8	40.7
2009.50.00	Tomato juice	0.25¢/liter	Free (A,CA,E, IL,J,MX)	0.14¢/liter	10.3	0.6
2009.60.00	Grape juice (including grape must)	5.9¢/liter	Free (E,IL,J) 1.3¢/liter (CA)* 4.6¢/liter (MX)	4.4¢/liter	60.3	26.1
2009.70.00	Apple juice	Free	Free	Free	75.0	79.7
2009.80.20	Pear juice	Free	Free	Free	(1)	18.6
2009.80.40	Prune juice	0.88¢/liter	Free (E,IL,J) 0.2¢/liter (CA) 0.4¢/liter (MX)	0.64¢/liter	(1)	5.0
2009.80.60	Juice of any other single fruit	0.7¢/liter	Free (A,E,IL,J,MX) 0.1¢/liter (CA)[2]	0.5¢/liter	(1)	36.8
2009.80.80	Juice of any other single vegetable	0.3¢/liter	Free (A,CA,E,IL, J,MX)	0.2¢/liter	(1)	3.4
2009.90.20	Mixtures of vegetable juices	0.3¢/liter	Free (A,CA,E,IL, J,MX)	0.2¢/liter	8.9	0.3

Table 6—*Continued*

Nonalcoholic beverages: *Harmonized Tariff Schedule* subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1996; bound concession rate of duty; U.S. exports, 1995; and U.S. imports, 1995

HTS subheading	Description	Col. 1 rate of duty		Bound duty, Uruguay Round	U.S. exports, 1995	U.S. imports, 1995
		As of Jan. 1, 1996				
		General	Special			
					Million dollars	
2009.90.40	Mixtures of fruit juices	8.6¢/liter	Free (E,IL,J) 1.8¢/liter (CA)[3] 6.4¢/liter (MX)	7.4¢/liter	60.0	14.4
2201.10.00	Mineral waters and aerated waters	0.35¢/liter	Free (A,CA,E, IL,J,MX)	0.26¢/liter	9.0	153.8
2201.90.00	Nonaerated water, including ice and snow	Free	Free	Free	7.6	18.8
2202.10.00	Waters, including mineral waters and aerated waters, containing added sugar or other sweetening matter or flavored, including carbonated soft drinks	0.3¢/liter	Free (A,CA,E,IL,J) 0.2¢/liter (MX)	0.2¢/liter	200.7	114.7
2202.90.10	Chocolate milk drink	19%	Free (E,IL,J) 4% (CA) 8% (MX)	17%	[4]	0.1
2202.90.22	Milk based drinks, other than chocolate: Imported by the Government; for personal use of the importer; or for samples, display, or research	17.5%	Free (E,IL,J,MX) 3.5% (CA)	17.5%	[4]	[5]
2202.90.24	Subject to the tariff-rate quota described in additional U.S. note 10 to chapter 4	17.5%	Free (E,IL,J) 3.5% (CA)	17.5%	[4]	[5]
2202.90.28	Other milk-based drinks	26.2¢/liter + 16.6%	See 9906.22.01- 9906.22.03 (MX)	23.5¢/liter + 14.9%	[4]	0.8

Table 6—*Continued*

Nonalcoholic beverages: *Harmonized Tariff Schedule* subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1996; bound concession rate of duty; U.S. exports, 1995; and U.S. imports, 1995

HTS subheading	Description	Col. 1 rate of duty		Bound duty, Uruguay Round	U.S. exports, 1995	U.S. imports, 1995
		As of Jan. 1, 1996				
		General	Special			
					Million dollars	
2202.90.36	Juice of any single fruit or vegetable (except orange juice), fortified with vitamins or minerals	([5])	Free (E,IL,J) ([6]) (A*,CA,MX)	([6])	5.0	0.2
2202.90.37	Mixtures of juices fortified with vitamins or minerals	([6])	Free (E,IL,J) ([5]) (A*,CA,MX)	([6])	1.5	([5])
2202.90.90	Other nonalcoholic beverages, including nonalcoholic beer	0.3¢/liter	Free (A,CA,E, IL,J,MX)	0.2¢/liter	105.3	65.0

[1] Total U.S. exports of Schedule B subheading 2009.80.00, which includes pear juice, prune juice, cherry juice, berry juice, and the juice of any other single fruit or vegetable not elsewhere specified, were $68.5 million in 1995.

[2] The rate of duty is temporarily free on Canadian cranberry concentrate and other juices (not concentrated) under provision 9905.20.15.

[3] Mixtures of fruit juices, not concentrated, and concentrated mixtures of fruit juices containing not less than 50 percent by volume of pineapple juice (provided for in subheading 2009.90.40) and originating in the territory of Canada, is free of duty.

[4] Total U.S. exports of milk-based drinks, Schedule B subheading 2202.90.15, were $2.3 million in 1995.

[5] Trade in this *HTS* number was less than $50,000 in 1995.

[6] The duty rate for this *HTS* subheading is the same applicable to the natural juice in heading 2009.

* Imports of grape juice (not concentrated) from Canada under HTS 2009.60.00 enter free of duty under provision 9905.20.10.

Note.—The letter A or A* indicates GSP eligible countries, CA and MX designate NAFTA rates for products from Canada and Mexico, respectively, E applies to countries that are eligible for the Caribbean Basin Economic Recovery Act, IL applies to goods that enter under the United States-Israel Free Trade Area, and J designates the Andean Trade Preference Act.

under recently enacted U.S. legislation implementing the GATT Uruguay Round Agreements (URA), and U.S. exports and imports for 1995. An explanation of tariff and trade agreement terms is given in the appendix. URA concessions will lower all rates for dutiable nonalcoholic beverages on which section 22 quotas previously applied, such as milk-based drinks.

The criteria used to classify the commodities under consideration in this summary are set forth in the general rules of interpretation, legal notes, and headings of the HTS. Nonalcoholic beverages are distinguished from alcoholic ones in that the former have an alcoholic strength by volume not to exceed 0.5 percent. There are three notes to chapter 20 of the HTS concerning fruit juices. The first note states that "juices, unfermented and not containing added spirit" means juices of an alcoholic strength by volume not to exceed 0.5 percent.

The second note states that the term "liter" in the "Rates of Duty" column of the provisions applicable to fruit juices means a liter of natural unconcentrated fruit juice or a liter of reconstituted fruit juice. The term "reconstituted fruit juice" means the product that can be obtained by mixing degrees, as determined by the ratio of the Brix value of the imported concentrated juice to that of the reconstituted juice, corrected for differences of specific gravity of the juices. Any juice having a degree of concentration of less than 1.5 (as determined before correction to the nearest 0.5 degree) must be regarded as a natural unconcentrated juice.

Nontariff measures

Nontariff measures (NTMs) for nonalcoholic beverages may include grade and Brix value standards for fruit juices. The FDA published new labeling regulations specific to bottled water late in 1995 that require producers to state the source of the water.[110] Other FDA regulations set maximum levels for contaminants, such as benzene. FDA requires labeling of soft drink containers including caloric content, net weight, sodium, fat content, and expiration date. Recycling and disposal laws vary by State. Some States may require deposits or regulate the types of containers that may be sold.

Country of origin markings are required for fruit juices. In 1986 the U.S. Court of International Trade upheld a U.S. Customs Service ruling regarding the labeling of foreign citrus juice blended with domestic juice.[111] A Customs' ruling had been challenged by importers who argued that the juice had been substantially transformed when it was blended and that there was no need for labeling the country or countries of origin. Customs ruled that such blending did not constitute a substantial transformation and therefore country-of-origin origin labeling must take place. In another decision, Customs ruled that country of origin must be marked, and it set forth the method of marking.[112]

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[110] FDA Identity Standards for Bottled Water. 60 Federal Register 218, Nov. 13, 1995, p. 57076.
[111] *National Juice Products Assoc. V. United States*, 628 F. Supp. 978 (CIT 1986).
[112] Treasury Decision 89-66 published in the *Federal Register*, July 13, 1989 (54 *F.R.* 29540).

U.S. Government Trade-Related Investigations

On June 13, 1986, the U.S. International Trade Commission made a negative determination in a safeguard investigation conducted under section 201 of the Trade Act of 1974 (19 U.S.C 2251), determining that apple juice was not being imported into the United States in such increased quantities as to be a substantial cause of serious injury or threat of serious injury to the domestic industry - *Apple Juice, Report to the President on Investigation No. TA-201-59 - USITC Publication 1861.*

On March 19, 1991, a petition was filed with the Commission and the Department of Commerce under the U.S. antidumping law (19 U.S.C. 1673) by the Cherry Marketing Institute, Okemos, MI, alleging that an industry in the United States is materially injured by reason of LTFV imports of tart cherry juice and tart cherry juice concentrate from Germany and Yugoslavia. However, the Commission made a negative injury determination in a preliminary investigation in May 1991, and the investigation was terminated - *Tart Cherry Juice and Tart Cherry Juice Concentrate from Germany and Yugoslavia* - Investigation Nos. 731-TA-512 and 513 (Preliminary) (publication No. 2378).

U.S. Exports

Principal Markets and Export Levels

U.S. exports of nonalcoholic beverages expanded steadily from 1991 to 1995, from about $308 million to $622 million (table 7). Japan, Canada, Brazil, and Mexico, respectively, together were the destinations for about 74 percent of the value of U.S. exports in 1995. Exports grew rapidly to many U.S. trading partners. For example, exports to Japan grew from $92 million to $251 million, to Canada from about $100 million to $142 million, exports to Korea more than tripled, from about $7 million to over $23 million, and exports to Brazil grew from negligible to over $37 million by 1995.

Average export unit values, excluding ice, remained essentially unchanged, 46 cents per liter in 1991 and also in 1995. Exports to Canada had the highest unit values of any country, 83 cents per liter in 1995. Carbonated soft drinks were the most important export beverage category, increasing from about $69 million in 1991 to about $162 million by 1995, with most shipments going to Japan and Mexico. Exports of bottled waters increased from about $22 million to $65 million. Apple juice exports increased from about $43 million in 1991 to about $75 million in 1995, while grape juice exports rose from about $40 million in 1991 to about $60 million by 1995. Exports of nonalcoholic wines increased from $36 million in 1991 to about $96 million by 1995, mostly to Canada.

Table 7
Nonalcoholic beverages: U.S. exports of domestic merchandise, by principal markets, 1991-95

Market	1991		1992	1993	1994	1995
				Quantity *(Million liters)*[1]		
Japan	199.4		212.1	214.1	423.0	577.7
Canada	142.3		142.4	165.7	153.1	169.6
Brazil	0.2		0.2	1.7	13.3	151.1
Mexico	89.4		171.1	230.5	303.8	62.8
Korea, South	11.6		17.0	22.9	29.2	32.1
Hong Kong	14.0		16.8	25.3	34.2	43.8
Taiwan	10.8		21.9	13.2	12.9	18.6
Bahamas	14.4		18.9	20.7	15.8	15.9
Panama	18.0		15.9	11.5	9.5	13.1
Neth Antilles	12.2		14.6	16.2	16.8	19.9
All other	147.9		228.4	187.9	233.6	242.0
Total	660.1		859.4	909.8	1,245.3	1,346.6
				Value *(Million dollars)*[2]		
Japan	91.6		95.2	98.7	180.7	251.0
Canada	100.1		99.9	112.3	122.1	142.1
Brazil	0.1		0.1	0.5	3.6	37.1
Mexico	28.0		51.7	77.8	106.2	27.4
Korea, South	6.5		10.0	15.3	20.4	23.2
Hong Kong	6.3		6.1	8.9	11.5	15.5
Taiwan	4.3		7.2	5.4	5.7	9.4
Bahamas	6.6		9.4	8.9	8.1	8.6
Panama	6.5		6.0	4.5	4.6	6.8
Neth Antilles	4.9		5.3	5.2	5.2	5.6
All other	53.1		81.5	69.0	91.8	95.7
Total	308.2	372.6	406.5	560.0	622.2	
				Unit value *(Dollars per liter)*[3]		
Japan	.46		.45	.46	.42	.43
Canada	.69		.69	.67	.79	.83
Brazil	.44		.57	.27	.27	.25
Mexico	.31		.30	.34	.35	.43
Korea, South	.56		.57	.66	.70	.72
Hong Kong	.45		.37	.35	.33	.34
Taiwan	.40		.33	.41	.44	.50
Bahamas	.46		.50	.43	.50	.54
Panama	.36		.38	.40	.48	.52
Neth Antilles	.40		.36	.32	.31	.28
All other	.35		.35	.36	.38	.39
Average	.46		.43	.44	.44	.46

[1] Quantities do not include ice, which is measured in tons.
[2] Values include ice.
[3] Unit values apply only to liter-denominated quantities and do not necessarily correspond to value data which include block ice tonnage.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Most nonalcoholic beverage exports are handled by larger domestic firms and cooperatives, including major soft drink companies, fruit juice processors, canners, bottled water companies, and bottlers of nonalcoholic beers and wines.

Foreign Market Profile

U.S. companies export mainly higher value products such as bulk fruit juices and soft drink syrups and maintain bottling facilities around the world for such lower value products as carbonated soft drinks. Competitiveness is determined differently for fruit and vegetable juices and drinks from the way it is for other beverages. Juices and juice-based drinks depend on raw fruit and vegetable availability, price, and quality, all factors that are highly dependent on season and weather. Juice imports increase when domestic raw materials are insufficient or of poor quality. For example, pineapple-growing areas in Hawaii have declined in recent years and that led to greater U.S. pineapple juice imports from Thailand and the Philippines.

Beverage products other than juices and juice-based drinks depend on such factors as bottling costs, plant capacities, and distribution networks, and such intangibles as brand-name recognition, advertising, and promotion. Bottled water derives competitiveness from recognition of the names of well-known springs, and from perceived quality.

Most U.S. soft drink products are not exported per se, but are bottled in foreign markets using U.S.-owned plants, labels, packaging, and flavoring materials. Soft drink competition depends on marketing strategies, the introduction of new products, and early entry in a new market. U.S. soft drink companies have often been among the first enterprises to enter developing, communist, or former communist countries. Examples include the former USSR, China, and Eastern Europe. Being first to enter a new market permits rapid expansion, control over distribution networks, opportunities to acquire existing facilities, and possible influence with governmental entities. Early entrants also have a better chance of achieving greater economies of scale through a larger market share, which may hinder later entrants from gaining a foothold.

Beverage companies, when looking at markets around the world, have identified two market types; one is "mature," such as the U.S. market, exhibiting high per capita use, and the second is "undertapped" in the sense that per capita use is low. In undertapped markets, most growth is in traditional soft drinks such as colas, while in mature markets growth is in beverage evolution or in segments such as sports drinks, ice tea, health drinks, and fruit juices. Most former communist and many developing Asian and Latin American countries are considered undertapped markets and have rapidly developing beverage industries. By contrast, in Japan, a mature market, growth has been in health drinks and so-called "lifestyle" beverages. An example is a therapeutic beverage containing DHA, a hormone extracted from fish, which supposedly helps memory and learning. In Switzerland, a drink named Biotta, containing organic potato juice, is designed for arthritis sufferers. Biotta also offers red beet, breakfast fruit, celery, and cabbage blends.

Cola-flavored drinks are still the largest selling beverages around the world (except in China and Taiwan), often capturing 50 percent or more of the carbonated beverage market.[113] Mexico is an example of a mature market for soft drinks, and is the second-largest soft drink market in the world after the United States. Soft drink consumption there is relatively high, 148 liters per capita, versus 197 in the United States. Factors contributing to high soft drink consumption in Mexico include a high percentage of the population in younger age brackets, a hot climate in many areas, and problems with tap water.[114] Imports supply about 2 percent of Mexican soft drink consumption, and almost all imports are of U.S. origin. Mexican imports of bottled water, driven by health concerns over tap water, increased rapidly during the 1990s until the economic crisis in late 1994.[115]

Consumer health trends have contributed to much of the recent growth in world beverage markets. In Taiwan, for example, bottled water has been commercially produced only in the last 15 years, with consumption taking off just 5 years ago and growing by more than 20 percent a year. Imports began to climb in 1992 with the introduction of Evian, a French mineral water. Since that time, France has captured about 42 percent of Taiwan water imports, followed by the United States with about 10 percent.[116] Imports account for 10 percent of bottled water consumption in Taiwan, are perceived to be of higher purity, freshness, and overall quality, but command a price about double that of local brands. The top U.S. bottled water brand sold there is "Talking Rain."

Japanese imports of mineral water have grown dramatically over the past 10 years, with imports more than doubling in the past 2 years alone. Imports now make up 27 percent of the market and industry observers expect continued high growth in coming years. Factors contributing to the growth of sales include a decline in the perceived safety and drinkability of tap water and a shift in consumer preferences away from sweetened soft drinks to low sugar drinks such as oolong tea, black tea, and mineral water. U.S. exports of mineral water to Japan increased 4000 percent from 1993 to 1994 and comprised 9 percent of Japanese imports in 1994.[117] European companies were first to recognize the potential of the Japanese bottled water market in the 1980s, but U.S. exporters are now third in sales.

The United States is the leading supplier of fruit-juice drinks to Taiwan, supplying about 57 percent of roughly $21 million in imports; however, import retail prices which are about double those of locally produced varieties, which along with a consumption shift towards pure fruit juices, limit growth in this market.[118]

In Korea, consumption of fruit juices has grown by 20 to 30 percent a year over the past 3 years. High import growth is fueled by increasing incomes, stagnant local fruit production, and the

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[113] *Beverage World*, Nov. 1994, pp. 42-50.

[114] *Beverage World*, Apr. 1995, p. 72.

[115] USDA/FAS, Post Report MX5544, prepared by Agricultural Trade Office (Mexico City, Mexico) Aug. 2, 1995.

[116] USDA/FAS Attache Report TW5329, Aug. 8, 1995.

[117] Market Opportunities in Japan for U.S. Exporters of Mineral Water. USDA, FAS, Aug. 1995, p. 3.

[118] USDA FAS, Attache Report TW5329, Aug. 8, 1995.

liberalization of apple and grape juice imports. The United States is the largest supplier of tomato, grape, apple, and vegetable juice, and the second-largest supplier of pineapple juice.[119]

There is good reason to believe world demand for fruit juices and nectars will continue to grow since per capita consumption is still low in most major markets.[120] First, consumers are becoming more health conscious. Development of new products and blends, better packaging, and more aggressive marketing should increase per capita consumption. Many tropical and exotic juices and blends have yet to gain wide consumer acceptance in countries such as the United States, but probably will as advertising and promotion reach potential consumers. Increasing demand for fruit juices for use in other food products such as yogurts, desserts, and baby foods will likely contribute to increased world demand. Use is expected to be boosted by growth in undertapped markets such as the former USSR and Eastern Europe, while the Japanese and Korean markets will likely continue to grow as a result of quota removal and other trade liberalization. Frozen concentrates have negligible markets outside industrialized countries because of the requirement for household freezers, but rapid market growth will likely ensue after freezers become more widespread in developing countries.

As world demand has increased, tropical juice supplies from developing countries and temperate-zone fruit and berry juices from East European countries have grown rapidly.[121] Roughly one-half of world exports of fruit juices are from developing countries.[122] In the past, uneven quantity and quality of tropical fruit juice supplies discouraged promoters in importing countries from market expansion. The United States, for example, has had a negligible market in the past for most tropical fruit juices and pulps, except banana puree. Tropical fruit juice and pulp exporters have upgraded production and quality levels and improved export services and marketing strategies in the last few years, leading to expanded world trade and expectations for rapid future growth.[123]

Foreign Trade Measures

Tariff Measures

Under the Uruguay Round, the European Union agreed to cut tariffs on imports in half, generally over a 10-year period. EU tariffs are relatively high for many nonalcoholic beverages,

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[119] USDA FAS, Attache Report KS4054, Aug. 29, 1995.

[120] International Trade Centre, *Fruit Juices, A Study of the World Market*, UNCTAD/GATT, Geneva, 1991.

[121] After pineapple, the best selling tropical fruit juices, pulps, and puree are passion-fruit, mango, and banana. Other tropical juices include guava, papaya, cashew, pomegranate, naranjilla/lulo, cherimoya, and acerola. Other commercial nontropical juices include apricot and peach.

[122] International Trade Centre, *Fruit Juices, A Study of the World Market*, UNCTAD/GATT, Geneva, 1991.

[123] Mango pulp is mainly supplied by Brazil, India, Mexico, the Philippines, and Colombia. Most guava pulp and puree is supplied by Taiwan, South Africa, India, the Philippines, Thailand, and Mexico. Banana puree suppliers include Honduras, Guatemala, El Salvador, and Nicaragua. Papaya pulp comes from India, Taiwan, Mexico, Colombia, and Brazil.

except those from many developing countries that are subject to lower preferential rates of duty. For example, most products from 68 African, Caribbean, and Pacific States, signatories to the Lomé Convention, as well as products from overseas countries and territories associated with the EU, are granted duty-free access. EU grape juice imports, previously subject to a 27.1-percent ad valorem equivalent duty, were subject to an additional import levy of 158.5 ECUs/100 liters (about $1,920 US per ton of 65 degree Brix) between September 1 and December 31, 1995.

Japan agreed to bind tariffs on all agricultural products and to reduce the bound rate by an average of 36 percent over a 6-year period beginning in 1995 with a minimum reduction on each tariff line of 15 percent. Japan has agreed to reduce tariffs on many fruit juices from 36.6 percent pre-Uruguay Round, to 23 percent ad valorem by the year 2000, and has converted quotas to tariffs on many juice products. Prune juice rates are scheduled to decline from 22.5 percent ad valorem to 14.4 percent. Duties on bottled waters are scheduled to decline from 5 percent ad valorem to 3 percent, while duties on carbonated soft drinks are scheduled to decline from 22.4 percent to 13.4 percent.

Korean duties on fruit juices (including drinks) were 60 percent AVE prior to the Uruguay Round, but under the URA Korea has agreed to reduce its duty to 54 percent by the year 2004. Grape juices and drinks, which were previously subject to a quota, had import duties of 50 percent ad valorem, beginning January 1, 1995. Apple juice has had a 50-percent duty starting January 1, 1996 when it was liberalized. In Taiwan, fruit and vegetable juice tariffs are 45 percent, and 7.5 percent for bottled water, although tariffs are expected to decline as Taiwan attempts to join the World Trade Organization.

Under the North American Free Trade Agreement, Mexico has agreed to phase out most tariffs on nonalcoholic beverages over 8 years. Most nonalcoholic beverages enter Mexico with 16-percent tariff rates, except pineapple juice, which has a 20-percent rate; tomato juice and certain mixed juices enter free of duty.

Nontariff Measures

In Japan, the principal NTM for nonalcoholic beverages traditionally was import quotas, but these have been replaced by tariffs in the last few years. Taiwan's standards on preservatives for soft drinks preclude the importation of many beverages.[124] Imported fruit juices are subject to an amino nitrogen test, a purity standard that is uniquely stringent.[125] Besides tariffs, Taiwan imposes smaller fees such as harbor construction, trade promotion, customs clearance and health department fees. The Taiwan Department of Health has established maximum mineral levels for 6 minerals in drinking water.

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[124] USTR, *1995 National Trade Estimate Report on Foreign Trade Barriers*, p. 292.
[125] Ibid, p. 292.

Korea began phasing out quotas on apple, grape, and a number of other juices in January 1995 as part of its URA commitments.[126] Quotas on single juices have meant that most imports have consisted of "mixed juices," particularly those based on grape juice or apple juice. In many cases, Korean import procedures reportedly are slow and arbitrary, typically taking 2 to 4 weeks.[127] These problems may lie with Korean import clearance agencies other than the Korean Custom Service.[128] One Korean trade barrier is government-mandated shelf-life dates for each food product, including bottled water.[129] These dates may not be scientifically adopted or agree with manufacturers' dates.[130] Korean regulations that affect bottled water include a shelf-life of 6 months, a ban on television advertisements, limiting containers to less than one liter, and requiring glass bottles instead of more commonly used plastic bottle.[131] These regulations went into effect May 1, 1995.[132] Before the URA, grape and apple juices could only be imported into Korea after obtaining approval from the Minister of Agriculture. Under the URA, grape juice was import liberalized as of Jan. 1, 1995, and apple juice, Jan. 1, 1996.[133]

FOREIGN INDUSTRY PROFILE

Soft drinks dominate the beverage industries of many countries around the world and typically consist of a large number of domestic and foreign brands, including well-known U.S. brands. Most soft drinks are bottled locally rather than traded internationally, except for ingredients. In many countries, soft drinks are significantly more expensive than in the United States because of high consumption taxes. In some low-income countries prices may be equivalent to those in the United States but high relative to local income levels, and consumption may be considered a luxury reserved for special occasions. In tropical countries soft drinks compete with a large variety of fruit juices and drinks.

Among factors determining world fruit juice availability are crop supplies among key producing countries, sales of fresh fruit which compete for fruit supplies, sales of other products such as peeled and stewed fruit and fruit used in wine production, juice-processing capacities, and stock levels. Factors affecting demand include the quality of juice concentrates and the prices of alternative juices. Fruit juice consumption varies greatly around the world. In Germany, for example, fruit juice consumption in 1995 was 41.9 litres per person compared to only 9.4 in Italy, and 2.3 in Poland. Fruit drink consumption in 1995 was 56.9 in Denmark, but only 3.5 in Spain and 1.2 in Turkey.[134] Frozen juice concentrates are not commonly sold in tropical countries owing to a lack of freezers.

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[126] Ibid, p. 211.
[127] USTR, *1996 National Trade Estimate Report on Foreign Trade Barriers*, p. 220.
[128] USTR, *1995 National Trade Estimate Report on Foreign Trade Barriers*, p. 211.
[129] Ibid. 1996, p. 223, 1995, p. 213.
[130] Ibid. 1995, p. 213.
[131] Ibid. p. 213.
[132] Ibid. 1995, pp. 213-214.
[133] USDA, FAS, AGR no. KS4054, Aug. 29, 1994, p. 6.
[134] *Foodnews*, October 1996, pp. 72-75.

Major world exporters of apple juice in 1995 include Poland, Germany, Argentina, and Italy. Other important exporters include the Commonwealth of Independent States (CIS) which has consistently and rapidly expanded sales during the 1990s, and Italy. Germany, one of the world's largest producers of apple juice, has also been a net importer. The United States, whose production has risen each year in recent years, is the second-largest importer, after Germany, and is followed by Japan.[135]

Major producers of grape juice are Argentina, Chile, Brazil, and South Africa in the Southern Hemisphere, and the United States, Mexico, Spain, Italy, and France in the Northern Hemisphere. In recent years, some major exporters such as Argentina, Spain, and South Africa have had crop failures that resulted in their becoming net importers.

U.S. production of tropical juices is restricted, because of climate, to Hawaii, South Florida, and Puerto Rico; but competing land uses and high-labor costs have driven much of this land out of tropical fruit production. For example, the number of pineapple juice concentrators in Hawaii has fallen to no more than three.

Thailand dominates the world market for pineapple juice and supplies more than one-half of world production.[136] Most Thai production is exported. The Philippines is the other major producer; but while Philippine production has remained relatively constant, Thai production has increased dramatically, climbing from 28,000 metric tons in 1987 to 101,000 in 1994.[137] Other pineapple juice producers include Indonesia, Kenya, South Africa, Brazil, and Mexico. Pineapple juice prices have fluctuated considerably in recent years, following shifts in production and demand, with typical prices of $700 to $2,000 a metric ton (this corresponds to $15 and $42 per liter of 65 degree brix concentrate).[138] Principal importers of pineapple juice concentrate are the countries of Western Europe and the United States.

Pineapple juice is considered a byproduct of the pineapple fruit, the primary use being fresh and canned pineapple, and thus supplies are not particularly sensitive to prices. U.S. pineapple processors are large companies, most with operations in Thailand and the Philippines. Some imports are re-exported to third countries, especially Canada, Japan, the EU, and Eastern Europe. Market shortages a few years ago, and increased demand which drove up prices, caused processors to rely even more heavily on imports. Much of the demand increase has resulted from the introduction of new blends of pineapple juice drinks, such as pineapple/orange/banana, pineapple/orange, and pineapple/orange/guava. Adverse growing conditions in several pineapple-producing countries, mainly droughts, and the opening of new markets in Eastern Europe, have contributed to the worldwide shortage of pineapple juice concentrate.

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[135] *Foodnews*, July 1996, based on Eurostat/national statistics.

[136] *Foodnews*, July 1995, p. 46.

[137] Ibid, pp. 46-51.

[138] Droughts in producing areas are the largest contributor to supply changes.

Passion fruit juice has among the highest and most volatile prices, ranging in recent years from $2,000 to $6,000 per metric ton.[139] Passion fruit juice derives from the berries of the passion flower, a tropical woody tendr-iled climbing vine. Ecuador is the world's largest producer and exporter of passion fruit juice, followed by Colombia. World passion fruit juice exports were 12,000 tons in 1995.[140] Passion fruit is popular with growers because it can be brought to maturity in a relatively short time, is readily grown with other crops, and can easily be taken out of production. However, the relative ease of planting and removing passion fruit has led to booms and busts in world prod-uction and prices, and calls by producers for a system of price stabilization by such means as the establishment of price minimums and maximums.

It is reported that cranberries are being planted for the first time in several countries, such as Chile, to be processed and exported as cranberry juice.[141] Lingonberries, which grow naturally in Sweden and are closely related to cranberries, are exported as lingonberry juice. Until recently, berries used by U.S. juice processors were supplied mainly by domestic growers, but now domestic processors have sought supplies from countries such as Chile where berries are available when domestic supplies are out of season. There is no separate break-out in the HTS tariff schedules for cranberry juice.

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[139] C.i.f. United States, 50-degree Brix concentrate. From various issues of *Foodnews*, including December 20, 1996, p. 38.

[140] *Foodnews*, December 20, 1996, p. 38.

[141] Based on USITC staff telephone interview with an industry representative.

APPENDIX A
EXPLANATION OF TARIFF AND TRADE AGREEMENT TERMS

TARIFF AND TRADE AGREEMENT TERMS

In the ***Harmonized Tariff Schedule of the United States*** (HTS), chapters 1 through 97 cover all goods in trade and incorporate in the tariff nomenclature the internationally adopted Harmonized Commodity Description and Coding System through the 6-digit level of product description. Subordinate 8-digit product subdivisions, either enacted by Congress or proclaimed by the President, allow more narrowly applicable duty rates; 10-digit administrative statistical reporting numbers provide data of national interest. Chapters 98 and 99 contain special U.S. classifications and temporary rate provisions, respectively. The HTS replaced the *Tariff Schedules of the United States* (TSUS) effective January 1, 1989.

Duty rates in the ***general*** subcolumn of HTS column 1 are most-favored-nation (MFN) rates, many of which have been eliminated or are being reduced as concessions resulting from the Uruguay Round of Multilateral Trade Negotiations. Column 1-general duty rates apply to all countries except those enumerated in HTS general note 3(b) (Afghanistan, Cuba, Laos, North Korea, and Vietnam), which are subject to the statutory rates set forth in ***column 2***. Specified goods from designated MFN-eligible countries may be eligible for reduced rates of duty or for duty-free entry under one or more preferential tariff programs. Such tariff treatment is set forth in the ***special*** subcolumn of HTS rate of duty column 1 or in the general notes. If eligibility for special tariff rates is not claimed or established, goods are dutiable at column 1-general rates. The HTS does not enumerate those countries as to which a total or partial embargo has been declared.

The ***Generalized System of Preferences*** (GSP) affords nonreciprocal tariff preferences to developing countries to aid their economic development and to diversify and expand their production and exports. The U.S. GSP, enacted in title V of the Trade Act of 1974 for 10 years and extended several times thereafter, applied to merchandise imported on or after January 1, 1976 and before the close of May 31, 1997. Indicated by the symbol "A" or "A*" in the special subcolumn, the GSP provided duty-free entry to eligible articles the product of and imported directly from designated beneficiary developing countries, as set forth in general note 4 to the HTS.

The ***Caribbean Basin Economic Recovery Act*** (CBERA) affords nonreciprocal tariff preferences to developing countries in the Caribbean Basin area to aid their economic development and to diversify and expand their production and exports. The CBERA, enacted in title II of Public Law 98-67, implemented by Presidential Proclamation 5133 of November 30, 1983, and amended by the Customs and Trade Act of 1990, applies to merchandise entered, or withdrawn from warehouse for consumption, on or after January 1, 1984. Indicated by the symbol "E" or "E*" in the special subcolumn, the CBERA provides duty-free entry to eligible articles, and reduced-duty treatment to certain other articles, which are the product of and

imported directly from designated countries, as set forth in general note 7 to the HTS.

Free rates of duty in the special subcolumn followed by the symbol "IL" are applicable to products of Israel under the ***United States-Israel Free Trade Area Implementation Act*** of 1985 (IFTA), as provided in general note 8 to the HTS.

Preferential nonreciprocal duty-free or reduced-duty treatment in the special subcolumn followed by the symbol "J" or "J*" in parentheses is afforded to eligible articles the product of designated beneficiary countries under the ***Andean Trade Preference Act*** (ATPA), enacted as title II of Public Law 102-182 and implemented by Presidential Proclamation 6455 of July 2, 1992 (effective July 22, 1992), as set forth in general note 11 to the HTS.

Preferential or free rates of duty in the special subcolumn followed by the symbol "CA" are applicable to eligible goods of Canada, and rates followed by the symbol "MX" are applicable to eligible goods of Mexico, under the ***North American Free Trade Agreement***, as provided in general note 12 to the HTS and implemented effective January 1, 1994 by Presidential Proclamation 6641 of December 15, 1993. Goods must originate in the NAFTA region under rules set forth in general note 12(t) and meet other requirements of the note and applicable regulations.

Other special tariff treatment applies to particular ***products of insular possessions*** (general note 3(a)(iv)), products of the West Bank and Gaza Strip (general note 3(a)(v), goods covered by the ***Automotive Products Trade Act*** (APTA) (general note 5) and the ***Agreement on Trade in Civil Aircraft*** (ATCA) (general note 6), ***articles imported from freely associated states*** (general note 10), ***pharmaceutical products*** (general note 13), and ***intermediate chemicals for dyes*** (general note 14).

The ***General Agreement on Tariffs and Trade 1994*** (GATT 1994), annexed to the Agreement Establishing the World Trade Organization, replaces an earlier agreement (the GATT 1947 [61 Stat. (pt. 5) A58; 8 UST (pt. 2) 1786]) as the primary multilateral system of disciplines and principles governing international trade. Signatories' obligations under both the 1994 and 1947 agreements focus upon most-favored-nation treatment, the maintenance of scheduled concession rates of duty, and national (nondiscriminatory) treatment for imported products; the GATT also provides the legal framework for customs valuation standards, "escape clause" (emergency) actions, antidumping and countervailing duties, dispute settlement, and other measures. The results of the Uruguay Round of multilateral tariff negotiations are set forth by way of separate schedules of concessions for each participating contracting party, with the U.S. schedule designated as Schedule XX.

Pursuant to the **Agreement on Textiles and Clothing** (ATC) of the GATT 1994, member countries are phasing out restrictions on imports under the prior "Arrangement Regarding International Trade in Textiles" (known as the **Multifiber Arrangement** (MFA)). Under the MFA, which was a departure from GATT 1947 provisions, importing and exporting countries negotiated bilateral agreements limiting textile and apparel shipments, and importing countries could take unilateral action in the absence or violation of an agreement. Quantitative limits had been established on imported textiles and apparel of cotton, other vegetable fibers, wool, man-made fibers or silk blends in an effort to prevent or limit market disruption in the importing

countries. The ATC establishes notification and safeguard procedures, along with other rules concerning the customs treatment of textile and apparel shipments, and calls for the eventual complete integration of this sector into the GATT 1994 over a ten-year period, or by Jan. 1, 2005.