Industry & Trade Summary

Citrus Fruit

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This report was prepared principally by

Alfred L. Dennis

Fruits, Vegetables, and Specialty Products Branch
Agriculture and Forest Products Division

Address all communications to
Secretary to the Commission
United States International Trade Commission
Washington, DC 20436

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 citrus fruit covers the period 1987 through 1991 and represents one of approximately 250 to 300 individual reports to be produced in this series during the first half of the 1990s. Listed below are the individual summary reports published to date on the agricultural, animal, and vegetable products sector.

USITC publication number	*Publication date*	*Title*
2459 (AG-1)	November 1991	Live Sheep and Meat of Sheep
2462 (AG-2)	November 1991	Cigarettes
2477 (AG-3)	January 1992	Dairy Produce
2478 (AG-4)	January 1992	Oilseeds
2511 (AG-5)	March 1992	Live Swine and Fresh, Chilled, or Frozen Pork
2520 (AG-6)	June 1992	Poultry
2524 (AG-7)	August 1992	Fresh or Frozen Fish
2545 (AG-8)	November 1992	Natural Sweeteners
2615 (AG-11)	March 1993	Citrus Fruit

[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.

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INTRODUCTION

This summary covers fresh and processed citrus fruit, including citrus juices, for the years 1987-91. It describes the structure of the U.S. industry, foreign competition, domestic and foreign tariffs, and nontariff measures. It also describes trade patterns and trends and implications for the U.S. citrus industry.

Commercially, the most important citrus fruits produced in the United States are oranges, grapefruits, lemons, tangerines, tangelos, and limes. Within these fruit categories are subcategories. For example, U.S.-grown oranges include valencia, navel, and temple, to name a few varieties. Valencias and temples are grown mostly in Florida; the valencia is used principally as a juice orange. Navels are grown primarily in California, with some in Arizona, and are consumed mainly as fresh table oranges. Lime production is centered in south Florida, while lemons are grown mainly in California and Arizona. There is also a growing market for specialty citrus such as ugli fruit, satsumas, and kumquats. In 1991, Florida accounted for 80 percent of U.S. citrus production, California 17 percent, and Arizona 3 percent. Texas accounted for about 1.5 percent before 1989, when a freeze largely destroyed its citrus crop, which had mostly consisted of grapefruits and some oranges. Fruit is grown in warm climates in groves that require 4 to 10 years to produce bearing trees.[1]

Imports of processed citrus far exceed exports, but exports of fresh citrus far exceed imports. Most imports were in the form of frozen concentrated orange juice (FCOJ), and in some years of the period covered, imports of FCOJ exceeded domestic production of FCOJ. Another processed citrus product, satsumas in airtight containers, was an important citrus import. Fresh grapefruits, lemons, navel oranges, and orange juice are the most important citrus exports.

U.S. citrus production for the 1990/91 season, the latest season for which data are available, totaled 11.3 million tons, 4 percent higher than the 1989/90 crop, but 16 percent below the 1988/89 crop. This decline was caused by a severe freeze in the Florida and Texas citrus belts during late December of 1990. Oranges are the most important citrus fruit consumed in the United States, generally accounting for over 60 percent of consumption; grapefruit is next in importance, accounting for about 30 percent. Lemons and limes account for much of the balance.

The value of 1990/91 citrus production, at $2.94 billion, was 11 percent above the 1989/90 value, but 7 percent less than the total citrus value of the 1988/89 season. Approximately 28 percent of the 1990/91 citrus crop was marketed as fresh citrus. The remaining 72 percent was sold processed, mainly in the form of frozen concentrated citrus juices, but also packaged or canned into slices and sections.

[1] There are no other States that have significant areas of citrus production. Louisiana and Hawaii each have about 300 acres planted in citrus, compared to over 1,000,000 acres U.S. total. Puerto Rico grows some citrus, but mainly for local consumption. Hawaii and Puerto Rico have had problems with medflies which makes the citrus almost nonexportable; agricultural land receives higher returns from other crops such as pineapples and macadamia nuts in Hawaii, sugar in Puerto Rico.

U.S. INDUSTRY PROFILE

Industry Structure

The structure of the citrus industry in the United States is illustrated in figure 1. The citrus industry falls mostly into two Standard Industrial Classification (SIC) codes, one for growing and one for processing. The SIC code that includes enterprises involved in the cultivation and harvesting of citrus products in this summary is Citrus Fruits (0174 pt.), which includes establishments primarily engaged in the production of citrus fruits. The processing of citrus products is covered by Frozen Fruits and Fruit Juices (2037 pt.), which includes establishments primarily engaged in freezing fruits and fruit juices and also in producing byproducts, such as fresh or dried citrus pulp and essential citrus oils. Citrus is marketed from growers to processors or distributors and then marketed to final consumers.

Number and Size of Producers

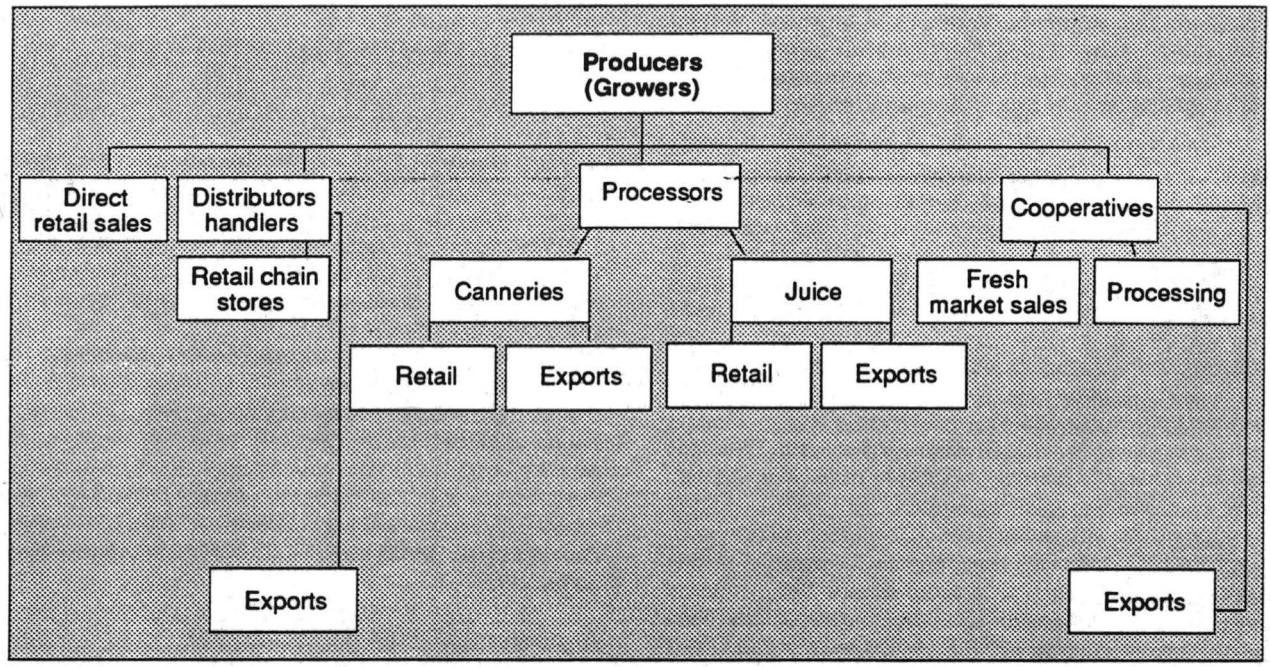
The industry is characterized by a large number of growers relative to processors. In 1987, the last year for which Census Bureau statistics were collected, there were approximately 18,000 citrus growers in the United States, down from over 19,000 in 1982. The 1992 census is expected to show a similar downward trend. The University of Florida estimates that there were approximately 14,000 citrus producers in Florida in 1990. By comparison, there are only about 25 citrus processors in the United States.

The average established grove is estimated to be about 50 acres and costs between $6,500 and $10,000 per acre to establish. It has been estimated that 10 percent of Florida's growers are out-of-State absentee owners, many of them corporations.[2] It takes approximately 4 years for a new tree to produce fruit and 10 to 12 years for it to reach maturity. All but about 2,000 of the growers were relatively small, with tracts of less than 100 acres. Approximately 75 percent of production was concentrated among farms larger than 100 acres, and about 65 percent of citrus production was concentrated in approximately 300 farms that had at least 500 acres.

In a recent USDA questionnaire survey of 201 Florida orange operations, the average orange grower grew oranges on only 131 acres out of 409 total crop acres. Only 56 percent of the surveyed orange acres had trees of bearing age. The high proportion of acres with nonbearing trees reflects both replacement of frozen trees and expansion of orange acreage, primarily farther south in the State. By contrast, the same survey found that 96 percent of the orange acres in California had trees bearing fruit. Seventy percent of

[2] Based on estimate by Florida Citrus Mutual.

Figure 1
U.S. citrus industry: Producer types, major products, and principal outlets



Source: Derived by the staff of the United States International Trade Commission.

the orange operations surveyed in Florida had less than 50 acres of oranges, while in California 74 percent had less than 50 acres.

The processors, which produce juice or canned citrus sections from fresh fruit, may be divided into cooperatives, of which there are 5, and corporations, of which there are about 20. Unlike cooperatives, which are viewed as extensions of their members' growing operations, corporations generally have more latitude to choose citrus product based on price and quality considerations. Cooperatives and corporations may take sharply different positions on trade policy issues with corporations favoring liberal import policies and cooperatives favoring import restrictions. In addition to processing and marketing, most cooperatives provide grove care, maintenance, and harvesting services for their members. In addition to processors who freeze or concentrate citrus juice, or do both, there are repackagers around the country who reconstitute and repackage bulk frozen concentrate into retail-size containers. Among these repackagers are dairies that also package dairy products, supermarkets, and vending machine companies.

Most of the corporations that process citrus are also importers. The industry supplies over half of the domestic market, although the amount has varied in some years as domestic supplies were affected by freezes. U.S. corporations own operations in Brazil and Mexico and helped set up processing plants in these countries.

Growers may either market their produce in the cash market, where there is considerable price risk, or they may market through a cooperative or participation plan to reduce some of the price risk. Growers that are members of a cooperative deliver all their fruit to the cooperative-owned processing plant, where it is processed and marketed. The members share in all sales proceeds based on their contributions. Under one type of participation plan, a nonmember of a cooperative agrees to deliver fruit to a cooperative or corporate processor. The grower's return is determined by an agreed upon formula based on the final selling price of the fruit. Under another plan, the grower may be guaranteed a floor price for fruit delivered.

Employment

Most employment in the citrus industry is in Florida and California, is highly seasonal, and depends to a large extent on migrant labor.[3] It is estimated that

[3] Many of the migrant laborers are foreign nationals who may be granted temporary work permits during the harvest season but who are still subject to minimum wage laws. According to a recent industry report, about 62 percent of all seasonal agricultural workers in 1990 were foreign born, with 92 percent of this group born in Mexico. A 1989 study of central California agricultural labor found that 9 out of every 10 farm workers were born in Mexico. Under current negotiations between the United States and Mexico over the proposed free-trade agreement, one issue is the extension of the existing seasonal agricultural worker labor program scheduled to expire in September 1993.

about 250,000 people were employed directly or indirectly in the U.S. citrus industry in 1991, with over 100,000 in the State of Florida alone. Most of the labor goes into maintaining orchards and harvesting fruit, although processing plants also employ workers. Harvesting is especially labor-intensive. In many orchards, fruit is still picked by hand and must be harvested during a harvest window of only a few weeks. Other workers are employed in distribution and retailing. The majority of hired agricultural farm workers are paid by the hour, with a median U.S. hourly wage rate of $4.85 in 1990, but $6.42 in California, which has a higher minimum wage than the U.S. minimum wage.

A steady trend towards mechanization of many operations in the groves has reduced the total number of workers in the growing sector. There has also been a trend towards planting groves to fully integrate irrigation, pest management, fertilization, and harvesting. For example, a system of linear irrigators is being implemented in some Florida groves in which giant overhead pipes on wheels disperse water, nutrients, and pesticides using sensors and computer-controlled applicators. These capital-intensive approaches are likely to continue in the future, especially because of the gradual trend towards fewer but larger groves that can afford the capital investment.

Industry Trends

As imports made inroads into the processed citrus market during the 1980s, the industry devoted more marketing effort towards the fresh market, where U.S. producers have a substantial competitive advantage because of the perishability of fresh citrus fruit and transportation costs. The industry promoted single-strength juices[4] where domestic producers also have a competitive advantage. They emphasized varieties of citrus that can go either into the fresh market or the processed market by having both a high-juice content and good appearance.

The U.S. citrus fruit industry, including growers, processors, importers, shippers, and marketers, experienced considerable change during the 1980s. Freezing weather resulted in moving groves to warmer climates and led to a surge in imports of FCOJ that exceeded domestic production in several years. Growers were especially hard hit by prices that fluctuated in response to supply shortages and surpluses owing to freezes and foreign competition. The industry was able to improve quality and productivity by planting new groves in areas less prone to frost and by using new equipment and new citrus strains, thus improving yields. Figure 2 shows the share of various citrus fruits that were produced by each of the major citrus-producing states.

[4] Single-strength juice is juice that is not concentrated and may be either reconstituted from FCOJ or fresh juice that has never been concentrated. It may be sold either chilled or at room temperature.

Location of Producers

The U.S. citrus industry is concentrated in Florida and California. Although Florida's primary citrus product is FCOJ, California predominates in the production of lemons and fresh table oranges, especially navel oranges. Florida also produced most of the U.S. grapefruit crop, including most pink grapefruit, and almost all of the processed grapefruit. Texas produced more grapefruit than any other State except Florida and California until 1989, when a freeze destroyed a large part of the Texas citrus-growing industry. There was virtually no Texas citrus production in 1991. Approximately 95 percent of Florida oranges are used for processing, while 89 percent of the total value of California oranges went for fresh use. Florida produced 59 percent of U.S. oranges in 1990 and California produced 39 percent of the oranges as well as 84 percent of domestic lemons. Arizona is notable for its fresh lemons and navel oranges.

Costs of Production

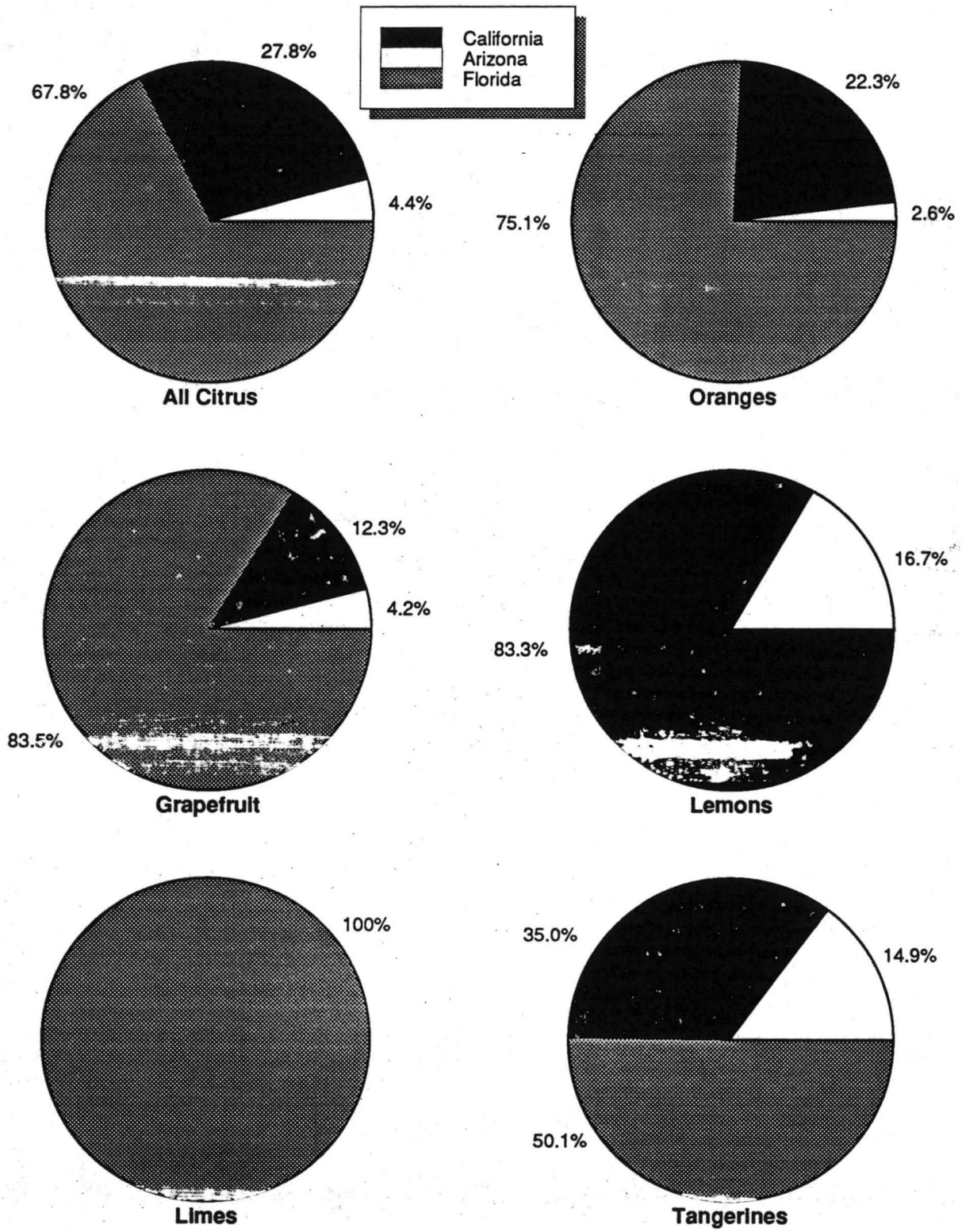
Cost of production data were collected in March 1990 for oranges and grapefruits in Florida and California as part of a USDA survey, Farm Costs and Returns Survey.[5] For the 1988-89 season, cash receipts per acre minus both variable and fixed cash expenses and capital replacement were positive for both oranges and grapefruits in both States. Total economic costs per box of oranges were estimated to be $7.29 in California (75 pound box) and $7.48 in Florida (90-pound box). When these costs were subtracted from receipts, it was found that return to management was $311 per acre in Florida and $174 per acre in California. For grapefruit groves, the same survey found returns to management to be $413 per acre in Florida and $142 per acre in California.

The highest variable cost to growers was labor cost associated with picking and hauling the citrus fruit, which accounted for about 40 to 50 percent of the variable cost. Next in importance was the cost of fertilizers and chemicals, including biological pest control. These costs are higher for fruit going into the fresh market, where more inputs are required to improve the visual appearance of the fruit.

Although 1988-89 was a typical year in terms of grower profitability, profits vary greatly from one year to another and among growers. Much of this variability is owing to climate. For the 1989-90 year, the value of citrus production in Florida fell to $1.190 billion from $1.815 billion the year before. This followed a

[5] Grower profitability was determined by subtracting total costs from cash receipts. Cash receipts per acre were calculated by multiplying the total boxes produced per acre of both bearing and nonbearing trees by the price per box. Yields in boxes per acre are calculated from survey data. Variable expenses include labor, equipment, fertilizers, chemicals, equipment, fuel, irrigation, seeds, and trees. Fixed expenses include land costs, taxes, insurance, coop fees and general grove overhead.

Figure 2
Share of U.S. production of principal citrus fruits by leading U.S. States, 1990/91 season



Note.—Figure 2 corresponds to table A-1.
Source: *Citrus Fruits, 1991 Summary*, U.S. Department of Agriculture, National Agricultural Statistical Service.

December freeze that greatly reduced yield per acre as well as juice content of citrus fruit. Growers were doubly hurt by receiving less per box and having less to sell. Since 1981, there have been December or January freezes in 8 of the 10 years. While the December 1989 freeze killed fruit but not trees, some earlier freezes were far more destructive to growers, who lost trees as well as fruit.

Government Programs

Research and development is supported through public funding. The Cooperative State Research Service (CSRS) and the Agricultural Research Service (ARS) of the U.S. Department of Agriculture, as well as the Current Research Information System (CRIS), collect data on public research expenditures for citrus fruit. The funding includes expenditures from all sources (Federal, State, and private) and is used to research such areas as genetics, marketing, pest management, soil, and equipment. The amount of public research expenditures for citrus fruit increased steadily from $19.6 million in 1986 to $23.6 million in 1989. Water is a scarce resource in parts of California and Arizona, where citrus growers often pay less than market prices, the balance being paid by State and Federal water programs. If citrus growers in these States were required to pay full market prices for water, which is an important input, the cost of growing citrus would rise dramatically.

Extent of Globalization

Historically, the U.S. citrus industry has been domestically oriented because of high transportation costs, high perishability, and high tariffs between countries. Frozen citrus juice consumption, until recently, was limited mainly to the United States and Canada, although there has always been some trade in fresh and canned citrus. In some northern countries that do not have a suitable climate to grow citrus, such as Canada and northern European countries, world trade has been more important.

A great change took place in world citrus trade starting in the early 1980s when U.S. citrus and soft drink beverage companies began searching for foreign sources of citrus and export markets in foreign countries. With an interest in year-round supplies, joint ventures were initiated with citrus growers in other countries, especially Brazil and Mexico. Ten years after the beginning of these ventures, the U.S. citrus industry has radically changed from being domestic based to being highly internationalized. The decade has been marked by high levels of capital investment in ocean transport, infrastructure, and cold storage. There is now a high degree of integration between U.S. processors and foreign suppliers from growing through retailing. These trends are also being fueled by the prospects of lower trade barriers.

Globalization, in the sense of increased foreign trade as well as integration of domestic organizations with foreign subsidiaries, has both helped and hurt the U.S. citrus industry. Processors have gained the most by securing year-round supplies and lower prices, especially in times of domestic supply shortages. In general, growers who produce for the fresh market have benefitted from the steady growth in foreign demand, but growers for the processed market have been hurt by increasing foreign competition, especially in the juice market. Consumers have benefitted from lower prices. World trade in citrus has climbed dramatically, owing to better transport, increased supplies, and higher quality.

Consumer Characteristics and Factors Affecting Demand

The primary consumers of citrus products are processors and retailers who market citrus products to households, restaurants, and cafeterias. As stated earlier, there are approximately 25 processors of citrus products, mainly in Florida and California. These companies process fresh citrus fruit into juice as well as canned or chilled sections and slices, and preparations such as orange marmalade, citrus oil, and pectin. Most of the juice is marketed in retail-size containers and sold frozen or in chilled single-strength containers; there has been fast growth in the sale of single-strength containers in recent years. The share of the orange juice market sold as FCOJ has fallen from 52 percent to 40 percent since 1984-85 as the share accounted by chilled, single-strength juice has increased. Canned juice accounts for the balance, about 1 percent.

There are two main classes of chilled single-strength juice. The bulk of chilled single-strength juice is derived from frozen concentrate and is known as reconstituted juice. Retail food chains, dairies, and brand name citrus companies purchase bulk frozen concentrate, add water and natural ingredients that were removed when the juice was concentrated, and package the juice in retail containers. There has been some controversy over whether the term "fresh" may be applied to these types of citrus juices as some retailers were allowing this word to appear on labels. The word "reconstituted" now is required labelling for these products.

The other type of single-strength citrus juice is juice that has never been concentrated. This product may or may not have been frozen; most of it is frozen in large ice blocks to maintain freshness before being repackaged in retail-size containers. The word "fresh" may be used on the label of these products. There has been an even more rapid growth in the sale of fresh citrus juice products than in the sale of reconstituted juice. Most of the sale of fresh citrus juice is handled by a few companies that may also grow and process citrus fruit.

Retailers, such as supermarket chains, are the primary consumers of fresh citrus, which they market with minimal packaging to consumers such as households, restaurants, and cafeterias. Over the last year, these chains have protested a proposed provision that would require additional labels for fresh, whole citrus that has been waxed. A thin wax coat is sprayed on fresh citrus to help maintain freshness—the Food

and Drug Administration (FDA) has proposed that labels be posted near the fruit to indicate the ingredients in the wax.

Domestically produced fresh oranges are available throughout the year, but are most abundant during January through June. Fresh California valencia oranges are the only domestically produced or prepared oranges available in the summer months. Consumption of prepared or preserved oranges consists almost entirely of canned or chilled orange and grapefruit sections, a large part of which is believed to be canned mandarin oranges from Spain and Japan. The supply of fresh citrus products is seasonal, and demand depends on the price of the citrus as well as prices of other fruit products that are direct substitutes. Price also depends on availability, which is seasonal.

Appearance is more important for citrus products that are marketed fresh because consumers are willing to pay more for unblemished fruit with good coloration. Other characteristics are size, lack of seeds, and peeling characteristics. California navel oranges normally sell for the highest prices. Processors are less interested in appearance than they are in fruit that has good processing characteristics such as high-juice content and thinner peel. Citrus beverages such as frozen concentrates are substitutes for fresh citrus fruit. Frozen concentrated citrus juice is available on a year-round basis. Frozen concentrated citrus juices compete with fresh citrus as well as with beverages such as milk and soft drinks.

FOREIGN INDUSTRY PROFILE

The bulk of world citrus production is around the Mediterranean basin, in Brazil, and the United States. Mexico and Japan are also notable producers. Spain is the world's largest exporter of fresh citrus, followed by the United States. World fresh citrus production in 1991 was about 48 million metric tons. Of the 7 million metric tons exported in 1991 by citrus producing countries, Spain exported 2.3 million and the United States 1.1 million. Other notable exporters of fresh citrus were Morocco, Cuba, and South Africa.

FCOJ is the most important processed citrus product. This industry is dominated by Brazil and the United States. These two countries accounted for 88 percent of world production in 1991. While the United States is a net FCOJ importer and accounted for 56 percent of world consumption, Brazilian consumption was less than 3 percent of production and Brazil had no imports in 1991. Another important player is Mexico, which is rapidly expanding its orange juice capacity, most of which is exported to the United States.

Brazil

Brazil became the leading world producer and exporter of FCOJ when it edged out the United States in the mid-1980s, following freezing weather in Florida that destroyed a large portion of the Florida production. The Brazil FCOJ industry owes its existence, in large part, to joint ventures with U.S. firms that invested heavily in the early 1980s. The Brazilian Government has also helped support the citrus sector. Between 1987 and 1991, Brazil accounted for 75 percent of total world trade in FCOJ, but only a small portion of Brazilian citrus is exported fresh.

Most Brazilian citrus production is from the State of Sao Paulo. Oranges make up 90 percent of total Brazilian citrus production. Low producer prices from the processing sector are projected to force an increased quantity of oranges into the fresh markets, domestic and export, for 1991/92. The processing sector, however, will continue to receive the bulk of the harvest. Producers are said to be seriously decapitalized as a result of low prices in the past year for citrus products. It is reported that producer prices for oranges fell from $3.53 per 40.8 kilogram box for the 1989/90 crop to $1.11 per box for 1990-91. Citrus juice production, also dominated by orange juice, is projected to decline further in marketing year 1991/92 as more oranges go to the domestic fresh market and fewer go to the processing sector. For 1990/91, juice output was down from the previous year because of the reduced 1989/90 crop harvest after the record size output the previous harvest. Brazilian citrus juice consumption is not expected to change notably, but to remain at the 1991 level of 2.5 percent consumed domestically. Orange juice exports for 1991/92 are projected to decline as a result of the lower crush. However, more citrus trees are being planted in Brazil, and there is land available for far more citrus trees.

Brazil has a cost advantage over the United States in FCOJ production. Relative to Florida, land and labor prices are lower, and Brazil can export to third countries at a lower CIF price: $2,150 versus $2,600 per metric ton (5:1 concentrate basis) in the Japanese market. However, U.S. quality is higher as evidenced by the more rapid growth of U.S. sales in Japan. An advantage of Brazilian growers is that they can supply citrus during the summer months to such important markets as the European Community (EC) and Japan when producers in the northern hemisphere cannot.

According to official Brazilian sources, Brazil's largest trading partners for citrus products in 1991 were the Netherlands, which imported about $390 million of citrus products, mostly FCOJ, most of which was later re-exported, followed by the United States, which imported $246 million. According to the International Trade Centre,[6] Brazil was by far the largest world exporter of citrus juice in 1989 with exports valued at $1.2 billion. The United States placed second with $234 million in exports, and Israel placed third with $229 million. Netherlands, which is a re-exporter, placed fourth with $227 million.

[6] U.N. Committee on Trade and Development-General Agreement on Trade and Tariffs, International Trade Center, Fruit Juices, With Special Reference to Citrus and Tropical Fruit Juices, A Study of the World Market, Geneva, 1991.

Mexico

Relative to Brazil, Mexico has a competitive advantage in single-strength citrus juice and fresh citrus because these products can be shipped quickly over land and over relatively short distances to the U.S. market. Mexico was particularly competitive in the export of single-strength orange juice and supplied about 90 percent of 1991 U.S. imports of $26 million. Mexico has had more difficulty in exporting fresh product to the United States because of problems with pests, such as fruit flies, and phytosanitary regulations. In 1991, Mexico exported less than $1 million of fresh citrus to the United States, but the amount may increase with the lifting of some U.S. quarantine restrictions on Mexican fresh fruit. A long-standing quarantine on Mexican oranges that had been found to contain canker was lifted on July 23, 1991. U.S. import duties for orange juice are 9.25 cents per liter for FCOJ, equivalent to about 22 percent ad valorem in 1991. For fresh oranges, the United States had a trade surplus with Mexico in 1990, with U.S. exports to Mexico estimated at 4,163 metric tons versus U.S. imports from Mexico estimated at 3,515 metric tons.

Frozen orange juice concentrate production in Mexico is forecast to have fallen 40 percent in 1991 because of low prices in the U.S. market. The decrease in orange processing will be offset by higher domestic consumption of fresh fruit and a larger than normal waste factor. Exports of concentrate fell to 28,000 metric tons in 1991 from 45,000 metric tons in 1990. Domestic consumption of FCOJ in Mexico is small relative to exports, with only about 1,750 metric tons consumed domestically. The reason for low domestic consumption of FCOJ is that most Mexican households do not have freezers to store FCOJ and are less dependent on FCOJ because fresh citrus is available on a year-round basis.

Orange production in Mexico in 1991 was 2.4 million metric tons, with 65 percent coming from the State of Veracruz. Although Mexico has fewer citrus-bearing trees, it is increasing the number of new trees at a faster rate than Brazil. In 1991, Brazil had approximately 160 million bearing citrus trees, compared to 30 million for Mexico. In Brazil the number of newly planted trees is a third of bearing trees; in Mexico, the number of newly planted trees is equal to the number of bearing trees.

Relative to producers in the United States, Mexico has the advantage of lower wage rates and fewer regulations. However, Mexican exporters face restrictions when entering the United States, their primary export market, and the risk of product refusal at the border not faced by the U.S. industry. The citrus market, and especially that for FCOJ, has a winner-take-all character that Mexico has not been able to fully take on in the way Brazil has. It takes an enormous amount of capital investment in growing, processing, and transportation infrastructure, as well as vertical integration with distributors in the importing country, to become an important participant. The United States, for example, has only a small number of importers, most of whom are tied to Brazilian suppliers, and there is great complexity in growing, processing, and transporting FCOJ. On top of this, a long time is needed to achieve reasonable returns on investment, about 10 years or more to develop top-quality groves. Mexico is not an important supplier in citrus markets outside the United States. Entering the FCOJ market also seems to require an enormous change such as the one that gave Brazil an opening when the Florida citrus industry was badly damaged by the freeze of 1983. Such a triggering event for Mexican citrus could be a trade agreement that gives it a substantial advantage over Brazil, and puts Mexico in a position to compete with the Florida industry. However, it may take many years for Mexican fruit quality to approach that of Florida.

Mexican lime exports in 1990/91 were a record 60,000 tons. Exports of limes are expected to set another record in 1991/92. The United States is the major market of Mexico for persian limes. Shipments are expected to be higher in the new season owing to the recent lifting of U.S. import restrictions on Key limes imposed under citrus canker regulations.

Spain

Spain is the largest world exporter of fresh citrus. More than half of the citrus harvest normally is marketed for export, with only about 12 percent going to the processing industry. The 1991/92 citrus crop is forecast at 4.38 million tons, 7 percent below the previous season's harvest, owing to poor weather conditions. Under the Treaty of Accession, Spain will be fully integrated into the European Community (EC) after a transition period that started in 1986. There is a 10-year transition for fresh citrus and a 7-year period for processed citrus. The Government of Spain and trade groups continue to seek EC agreement to reduce the long transition period for Spanish citrus and products. Spain had been asking for free entry to coincide with the Single Market in 1993, but is now seeking the immediate removal of import barriers as compensation for problems deriving from German reunification. Spain's shipments to the former German Democratic Republic now face higher tariffs than they did before reunification of Germany and the subsequent integration of eastern Germany into the EC. Trade groups argue this puts Spain at a competitive disadvantage in comparison to Greek and Italian fruit.

The EC continues to provide export refunds for fresh orange and lemon exports to non-EC countries outside North America. Spanish orange and lemon exports to third countries currently receive EC export refunds of 8.78 ECU per 100 kilograms (approximately 12 U.S. cents per kilogram) and 5.66 ECU per 100 kilograms (approximately 8 cents per kilogram).[7]

Spain's EC membership gives it an upper hand over U.S. suppliers in the European fresh citrus market, especially after all tariffs are removed on the Spanish

[7] U.S. Department of Agriculture, Foreign Agricultural Service (FAO), Horticultural Products Review, Jan. 1992, p. 10

fruit. In spite of this, U.S. fresh citrus, especially grapefruit, is able to compete with Spanish fruit to some extent.

U.S. TRADE MEASURES

Tariff Measures

Table 1 shows the column 1 rates of duty, as of January 1, 1992, for the articles included in this summary (including both general and special pre-Uruguay Round rates of duty), and U.S. exports and imports for 1991. An explanation of tariff and trade agreement terms is shown in appendix A. The aggregate trade-weighted average rate of duty for all products covered in this summary, based on 1991 imports, was 27 percent ad valorem equivalent. The only duty-free import in this summary is satsumas in airtight containers.

The tariff rate on citrus juice that is both frozen and concentrated, except lime, is 9.25 cents per liter, except for products of Canada and countries eligible for the Caribbean Basin Economic Recovery Act (CBERA). This rate is based on the single-strength equivalent (SSE) (for example, citrus juice concentrated 5 times would have an actual import duty of 46.25 cents per liter). Starting in 1992, the rate of duty for frozen and concentrated citrus juice imported from Canada is 5.5 cents per liter, while CBERA-eligible product may be imported duty-free. Tariffs are 5.3 cents per liter for unconcentrated, unfrozen citrus juices, except lime, and the tariff for such products of CBERA-eligible countries and Canada are free and 3.1 cents, respectively. The general rate of duty for all lime juice fit for beverage purposes is 2.6 cents per liter, and 2.76 cents per kilogram if unfit for beverage purposes, except for products of Generalized System of Preferences countries and CBERA-eligible countries, Israel, and Canada. The duty rates for products of these countries are free, except Canada, in which the rate is 1.6 cents for lime juice fit for beverage purposes and 1.5 cents per kilogram for lime juice unfit for beverage purposes. A court ruling[8] held that reconstituted orange juice withdrawn from a bonded warehouse was "manufactured" from imported concentrate and was properly classifiable as "concentrated" rather than as "not concentrated" orange juice. Duty rates for citrus juice vary on an ad valorem equivalent (AVE) basis depending on the unit value. In recent years, for example, the average unit value of frozen orange juice imported into the United States has varied between 19 cents and 42 cents per liter (single-strength equivalent). This corresponds to an AVE of 22 percent to 49 percent, with the AVE increasing as the average unit value decreases. This partially explains the decrease in imports when U.S. citrus juice prices are low; the combination of low prices and high duty rates makes the U.S. market less attractive to foreign suppliers. Compared with frozen concentrated citrus juices, the average unit values for single-strength juices tend to be higher, between 30 cents and 61 cents per liter (on a single-strength equivalent basis for concentrate). However, this advantage for single-strength juice is more than offset because of the higher transportation costs involved in transporting single-strength citrus juice. Most of the single-strength citrus juice enters from Mexico owing to lower transportation costs and less time in transit.

The tariff rate on most fresh citrus fruit, including oranges, mandarins (including tangerines and satsumas), and limes is 2.2 cents per kilogram. Lemons enter at 2.75 cents per kilogram. The tariff rate on fresh grapefruit varies according to the time of year. For fresh grapefruit entered between August 1 and September 30, the rate is 2.2 cents per kilogram; for fresh grapefruit entered in October, the rate of duty is 1.8 cents per kilogram, and for fresh grapefruit entered between November 1 and July 31, the rate is 2.9 cents per kilogram.

The rates of duty vary considerably for other citrus products included in the category "otherwise prepared or preserved citrus fruit." This includes citrus sections and canned citrus. The rates of duty vary from free of duty for satsumas in airtight containers to 17.5 percent for prepared or preserved limes, citrons, and bergamots.

A recent U.S. Customs decision denied a petition regarding the labeling of foreign citrus juice blended with domestic juice. The labeling had been challenged by importers who argued that, since the juice had been substantially transformed when it was blended, there was no need for labeling the country or countries of origin. Customs struck down the petition, ruling that such blending did not constitute a substantial transformation and therefore labeling must take place.[9] Another Customs decision ruled that country of origin must be marked, and it set forth the method of marking.[10]

The criteria used to classify the commodities under consideration in this summary are set forth in the General Rules of Interpretation of the HTS. In addition, there are three notes to chapter 20 of the HTS concerning citrus juice. 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 liter of natural unconcentrated fruit juice or liter of reconstituted fruit juice. Additionally, the term "reconstituted fruit juice" means the product that can be obtained by mixing the imported concentrate with water in such proportion that the product will have a Brix value equal to that found by the Secretary of the Treasury to be the average Brix value of like natural unconcentrated juice in the trade

[8] U.S. Court of International Trade, Slip Op. 92-28, Mar. 9, 1992

[9] 628-S Supp. 978 (Court of International Trade-1986) Volume 628, p. 978.

[10] Treasury Decision 89-66 published in the *Federal Register*, July 13, 1989 (54 F.R. 29540).

Table 1
Citrus products: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1992; rate of duty, U.S. exports, 1991; and U.S. imports, 1991

HTS subheading	Description	Col. 1 rate of duty As of Jan. 1, 1992 General	Special	U.S. exports, 1991	U.S. imports, 1991
				Million dollars	
0805.10.00	Oranges, fresh or dried	2.2¢/kg	Free (E,IL) 0.4¢/kg (CA)	178.0	45.1
0805.20.00	Mandarins (including tangerines and satsumas); clementines, wilkings and similar citrus hybrids	2.2¢/kg	Free (E,IL) 0.4¢/kg (CA)	11.2	15.1
0805.30.20	Lemons, fresh or dried	2.75¢/kg	Free (E,IL) 0.5¢/kg (CA)	125.3	4.0
0805.30.40	Limes, fresh or dried	2.2¢/kg	Free (CA,E,IL)	4.9	13.1
0805.40.40	Grapefruit, fresh or dried, if entered during the period from August 1 to September 30, inclusive, in any year	2.2¢/kg	Free (E) 0.2¢/kg (IL) 0.4¢/kg (CA)	(1)	0.1
0805.40.60	Grapefruit, fresh or dried, if entered during the month of October	1.8¢/kg	Free (E) 0.2¢/kg (IL) 0.3¢/kg (CA)	(1)	0.1
0805.40.80	Grapefruit, fresh or dried, if entered at any other time	2.9¢/kg	Free (E) 0.3¢/kg (IL) 0.5¢/kg (CA)	(1)	1.3
0805.90.00	Other, fresh or dried, including kumquats, citrons and bergamots	0.9¢/kg	Free (A,E,IL) 0.1¢/kg (CA)	0.6	0.5
0812.90.20	Citrus, provisionally preserved (for example, by sulfur dioxide gas, in brine, in sulfur water or in other preservative solutions), but unsuitable in that state for immediate consumption	2.2¢/kg	Free (E,IL) 1.3¢/kg (CA)	(2)	0.7
0814.00.10	Orange or citron peel, fresh, frozen, dried or provisionally preserved in brine, in sulfur water or in other preservative solutions	Free		(2)	0.7
0814.00.90	Peel of other citrus fruit or melon, fresh, frozen, dried or provisionally preserved in brine, in sulfur water or in other preservative solutions	2¢/kg	Free (CA,E,IL) 10.5% (CA)	(2)	0.1
2008.30.10	Peel of oranges, mandarins (including tangerines and satsumas), clementines, wilkings and similar citrus hybrids	3.1¢/kg	Free (A,E,IL) 1.8¢/kg (CA)	(3)	0.3

Footnotes are at the end of the table.

Table 1—Continued
Citrus products: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1992; U.S. exports, 1991; and U.S. imports, 1991

HTS subheading	Description	Col. 1 rate of duty As of Jan. 1, 1992 General	Special	U.S. exports, 1991	U.S. imports, 1991
				Million dollars	
2008.30.20	Peel of lemons	6.6¢/kg	Free (E,IL) 3.9¢/kg (CA)	(3)	0.1
2008.30.30	Peel of other citrus fruit	17.6¢/kg	Free (E,IL) 10.5¢/kg (CA)	(3)	(2)
2008.30.35	Orange pulp	17.5%	Free (E,IL)	(3)	0.1
2008.30.37	Pulp of citrus fruit other than orange	15%	Free (A,E,IL) 9% (CA)	(3)	0.1
2008.30.40	Prepared or preserved orange parts, other than peel or pulp	2.2¢/kg	Free (E,IL) 1.3¢/kg (CA)	(3)	2.9
2008.30.52	Satsumas, in airtight containers, for an aggregate quantity entered in any calendar year not to exceed 40,000 metric tons	Free		(3)	38.3
2008.30.54	Mandarins other than satsumas in airtight containers, prepared or preserved	0.44¢/kg	Free (A,E,IL) 0.2¢/kg (CA)	(3)	13.6
2008.30.55	Other mandarins, prepared or preserved	2.2¢/kg	Free (E,IL) 1.3¢/kg (CA)	(3)	0.7
2008.30.60	Lemons, prepared or preserved	1.3¢/kg	Free (A,E,IL) 0.7¢/kg (CA)	(3)	0.2
2008.30.65	Limes, prepared or preserved	17.5%	Free (E,IL) 10.5% (CA)	(3)	0.1
2008.30.70	Grapefruit, prepared or preserved	1.3¢/kg	Free (E,IL) 0.7¢/kg (CA)	2.8	14.3
2008.30.80	Kumquats, prepared or preserved	0.55¢/kg	Free (E,IL) 0.3¢/kg (CA) 5.5¢/liter (CA)	(3)	0.1
2008.30.85	Citron, prepared or preserved	17.5%	Free (E,IL) 10.5% (CA)	(3)	(2)
2008.30.95	Other citrus, including bergamots, prepared or preserved	17.5%	Free (A,E,IL) 10.5% (CA)	(3)	0.2
2009.11.00	Orange juice, frozen	9.25¢/liter	Free (E)	137.5	289.6
2009.19.20	Orange juice, other than frozen, not concentrated and not made from a juice having a degree of concentration of 1.5 or more (as determined before correction to the nearest 0.5 degree)	5.3¢/liter	Free (E) 3.1¢/liter(CA)	(4)	4.1

Footnotes are at the end of the table.

Table 1—Continued
Citrus products: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1992; U.S. exports, 1991; and U.S. imports, 1991

HTS subheading	Description	Col. 1 rate of duty As of Jan. 1, 1992 General	Special	U.S. exports, 1991	U.S. imports, 1991
				Million dollars	
2009.19.40	Other orange juice	9.25¢/liter	Free (E) 5.5¢/liter (CA)	(4)	1.6
2009.20.20	Grapefruit juice, not concentrated and not made from a juice having a degree of concentration of 1.5 or more	5.3¢/liter	Free (E) 3.1¢/liter (CA)	(5)	(2)
2009.20.40	Other grapefruit juice, including frozen	9.25¢/liter	Free (E) 5.5¢/liter (CA)	(5)	1.8
2009.30.10	Lime juice, unfit for beverage purposes	2.76¢/kg	Free (A,E,IL) 1.6¢/kg (CA)	(6)	1.9
2009.30.20	Other lime juice	2.6¢/liter	Free (A,E,IL) 1.5¢/liter (CA)	(6)	1.5
2009.30.40	Juice of any single citrus fruit other than lime, not concentrated	5.3¢/liter	Free (E) 3.1¢/liter (CA)	(6)	0.6

1 Total U.S. exports of citrus fruit classified in HTS subheadings 0805.40.40, 0805.40.60, and 0805.40.80 were $273 million in 1991.
2 Less than $50,000.
3 Total U.S. exports of citrus fruit classified in HTS subheadings 2008.30.10, 2008.30.20, 2008.30.30, 2008.30.35, 2008.30.37, 2008.30.40, 2008.30.52, 2008.30.54, 2008.30.55, 2008.30.60, 2008.30.65, 2008.30.80, 2008.30.85, 2008.30.95 were $10.0 million in 1991.
4 Total U.S. exports of citrus fruit classified in HTS subheadings 2009.19.20 and 2009.19.40 were $38.3 million in 1991.
5 Total U.S. exports of citrus fruit classified in HTS subheadings 2009.20.20 and 2009.20.40 were $39.8 million in 1991.
6 Total U.S. exports of citrus fruit classified in HTS subheadings 2009.30.10, 2009.30.20, 2009.30.40, and 2009.30.60 were $15.4 million in 1991.

Source: U.S. exports and imports compiled from data of the U.S. Department of Commerce.

and commerce of the United States. Finally, the term "Brix value" means the refractometric sucrose value of the juice, adjusted to compensate for the effect of any added sweetening materials, and thereafter corrected for acid.

The third note states that in determining the number of liters of reconstituted fruit juice that can be obtained from a concentrate, the degree of concentration shall be calculated on a volume basis to the nearest 0.5 degree, 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) shall be regarded as a natural unconcentrated juice.

Nontariff Measures

Nontariff measures (NTMs) are any trade restriction except tariffs and may include a wide range of regulations, quotas, or inspections for goods entering the United States. NTMs for citrus may be divided into those that affect U.S. imports of fresh products and those that affect processed citrus products. Fresh citrus fruit imported into the United States is governed by rules concerning phytosanitary regulations, environmental regulations, as well as grades and standards. Some of these measures are administered by USDA. Fresh citrus must be inspected at the port of entry by the Animal and Plant Health Inspection Service (APHIS) to check for pests or disease-causing organisms. The FDA and Environmental Protection Agency (EPA) both inspect fresh citrus for chemical residues. Standards of Identity are the principal NTM affecting processed citrus. FDA samples imports of FCOJ, for example, to ascertain that it meets minimum standards of concentration, Brix value, and sugar content, as well as coloration.

The U.S. Customs Service requires country-of-origin labeling for processed citrus, but not for fresh citrus that is sold loose without retail packaging. Reconstituting orange juice does not represent a substantial transformation of the product; therefore, country-of-origin labeling is required both at the wholesale and retail levels (628 FED SUP 978, 1986). However, this rule may be waived if the product is "substantially transformed."[11]

Import restrictions were lifted on July 23, 1991 for Mexican fresh citrus fruit that had been imposed under citrus canker regulations. The restrictions had been instituted by USDA in 1983 because it was believed that key limes and other citrus fruit from Mexico might be infected with a form of citrus canker. The recent suspension of restrictions follows a determination that citrus canker is not present in Mexico. The action affects key limes as well as all citrus fruit produced in areas of Mexico that had been considered infested. Decontamination requirements and special packing requirements for citrus have also been removed. However, regulations to keep out exotic flies remain in effect. Depending upon its origin within Mexico, citrus (other than limes) must be treated for fruit flies to be imported into the United States. In addition, all imported agricultural products will be inspected to ensure that they are free from pests and prohibited contaminants. The quarantines had applied to certain States within Mexico.

After a lapse of several years, Morocco is once again exporting fresh citrus to the United States. Cold treatment is required for fresh Moroccan citrus entering the United States since medfly is found in Morocco. In mid-March of 1991, APHIS sent an official to Morocco to initiate cold treatment and to train and certify Moroccan officials for the initiation of cold treatment for future shipments.

U.S. Government Trade-Related Investigations

On May 9, 1986, a petition was filed with the U.S. International Trade Commission (Commission) and the U.S. Department of Commerce (Commerce) alleging that imports of FCOJ from Brazil were being sold in the United States at less than fair value (LTFV), and that an industry in the United States was materially injured or threatened with material injury by reason of such imports. The Commission determined that there was a reasonable indication that an industry in the United States is materially injured by reason of such imports.[12]

At present, there are no countervailing duties in effect against FCOJ from Brazil. However, there is an antidumping order still in effect against two Brazilian FCOJ exporters. The antidumping duty is currently zero percent (57 F.R. 12910, April 14, 1992) and the two companies could be eligible for revocation of the antidumping order against them after 1 more year if Commerce finds in its final review, ending April 1993, that they are not selling at LTFV.[13]

Starting on April 29, 1987, all entries of FCOJ from Brazil, except those from the largest company, Sucocitrico Cutrale, S.A. Cutrale, were required to post a cash deposit equivalent to the weighted-average antidumping duty margin of 1.96 percent. On October 21, 1991, four firms, Citrosuco Paulista, Cargill Citrus Ltd, Coopercitrus Industrial Frutesp., and Montecitrus Trading were revoked from the antidumping duty order following 3 consecutive years in which their dumping margins were found to be zero percent. This leaves at present only two companies, Frutropic and Branco Peres Citrus still under the order and their dumping margins were found to be zero percent as of April 30, 1991. Because the margins were zero, no cash deposits are presently required of those firms. If the final

[11] The blending of one kind of juice with another juice after entry into the United States is an example of substantial transformation.

[12] USITC, *Frozen Concentrated Orange Juice from Brazil*, investigation No. 731-TA-326 (preliminary), USITC publication 1873, June 1986.

[13] U.S. Department of Commerce, International Trade Administration, case order No. A351605.

International Trade Administration (ITA) review, ending April 30, 1993, finds no dumping margins, then the dumping duties will be revoked for these two companies and there will no longer be an antidumping order for FCOJ.

It is somewhat speculative to analyze the effect on the domestic FCOJ industry following the institution of dumping duties. What can be stated is that the Florida industry was largely rebuilt following a series of freezes that either killed trees or damaged fruit during the mid 1980s. For several years, the Florida industry was extremely vulnerable to foreign competition as it planted new orange groves further south in Florida. After the Commission injury finding, the U.S. Department of Commerce continued to monitor the Brazilian price of FCOJ. Because there is only a small domestic market for FCOJ in Brazil, the finding of dumping margins was based on the difference between Brazilian FCOJ prices in the United States and third countries, mainly in Western Europe. The initial dumping margin of 1.96 percent, weighted average for the Brazilian companies, was based on the difference between confidential prices of individual Brazilian companies for FCOJ received in the United States compared to those in third countries. As long as the antidumping order is in effect, even if it is zero percent, the companies named in the order know that they must maintain U.S. prices at least as high as in third countries or face higher dumping margins and additional penalties. The Brazilian companies under the order need 3 consecutive years of zero percent dumping margins to qualify for revocation. This overhanging threat may have contributed to both price stability in the U.S. market and prevention of extremely low prices that could have further injured the Florida industry. Since this was a very sensitive period for the Florida citrus industry, the order may have given Florida more time to rebuild and become competitive again.

FOREIGN TRADE MEASURES

Tariff Measures

Japan and Canada accounted for 73 percent of U.S. citrus exports in 1991, with most of the balance distributed between EC and East Asian countries. The rates of duty on imports of U.S. fresh citrus into Japan are 20 percent ad valorem, except for fresh oranges entered between December 1 and May 31, which are at 40 percent. The rate applied to citrus juice is 30 percent ad valorem. Under terms of the U.S.-Canada Free-Trade Agreement, U.S. citrus products may enter Canada duty-free, with the exception of single-strength citrus juice, the tariff on which is 2.1 percent as of January 1, 1992, but which will be phased out altogether over 5 years. Korea's import tariffs on fresh citrus fruit range from 30 to 50 percent ad valorem.

Nontariff Measures

Japan has phased out the last quotas on citrus products under the U.S.-Japan Beef-Citrus Agreement of July 5, 1988, which called for complete liberalization as of April 1, 1992. The quota on FCOJ had been raised every April since the agreement with the final year quota set at 40,000 metric tons (5:1 concentrate basis). Japanese imports of FCOJ are expected to rise to at least 130,000 metric tons annually with liberalization.[14] Japanese quotas on fresh oranges were removed effective April 1, 1991, under the Tokyo round of multilateral trade negotiations (MTN). There are no Canadian quotas on citrus products. Korea currently allows imports of lemons and grapefruit and imposes a restrictive quota on orange juice. Under the May 1989 U.S.-Korea Agricultural Agreement, Korea agreed to liberalize imports, and in November 1990, Korea agreed to phase out, or bring into conformity with the General Agreement on Tariffs and Trade (GATT) by 1997, all remaining restrictions on oranges and orange juice, among other agricultural products. The phase-out will take place in two 3-year programs, which began in March 1991. Taiwan banned imports of all non-U.S. citrus fruit in December of 1987, but, in line with Taiwan's recent application for GATT membership, has begun to liberalize these provisions.

In general, liberalization in Korea and Japan will benefit U.S. and Brazilian orange juice exporters who supply most of those markets. In the case of Taiwan, trade liberalization will hurt U.S. exporters of fresh citrus, who will now have to compete with suppliers from South Africa, Israel, and Spain.

U.S. MARKET

Consumption

U.S. apparent consumption of fresh and processed citrus, including citrus juice, as estimated by the staff of the Commission for the years 1987-91 is shown in table 2 and figure 3. During the period 1987-91, annual apparent U.S. consumption of all citrus fruit products peaked at $2.6 billion in 1988, then steadily declined to $2.1 billion in 1991. Consumption would likely have been higher in 1990 and 1991 had there not been freezes in Florida, Texas, and California that curtailed shipments. Most consumption was in the form of frozen concentrated citrus juice, particularly orange juice.

Import penetration is shown in the last column of table 2. For all citrus, imports as a percentage of consumption ranged from a low of 22 percent in 1991 to a high of 35 percent in 1990 and averaged 26 percent annually during 1987-91. Import penetration was higher for processed citrus (not shown on table) than for fresh citrus. For example, import penetration for FCOJ was 30 percent of consumption in 1991, and averaged 38 percent for the period 1987-91. By contrast, import penetration for fresh citrus in general was only 4.9 percent. Import penetration was highest for fresh limes, 68 percent, and lowest for fresh grapefruit, 1.3 percent. For fresh tangerines, import

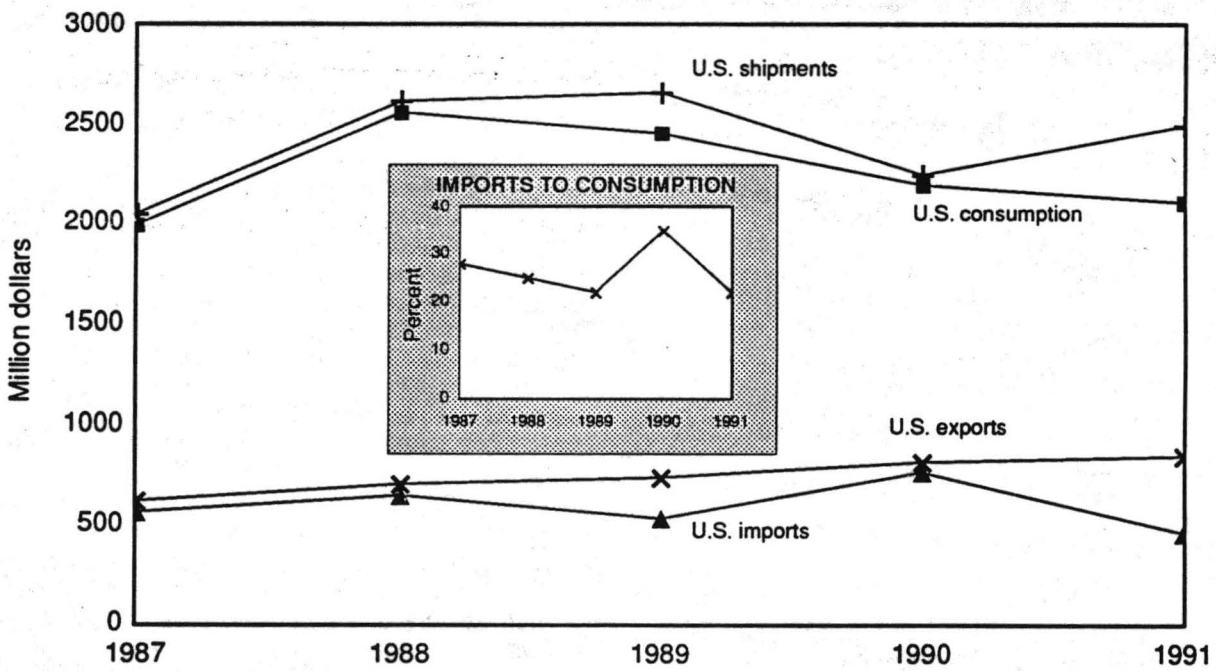
[14] U.S. Department of Agriculture, FAO, *Horticultural Products Review,* Apr. 1992, p. 10.

Table 2
Citrus fruit products: U.S. producers' shipments, exports of domestic merchandise, imports for consumption, and apparent U.S. consumption, 1987-91

Year	U.S. shipments[1]	U.S. exports	U.S. imports	Apparent U.S. consumption	Ratio of imports to consumption
	Millions of dollars				*Percent*
1987	2,000	619	563	2,000	28
1988	2,600	704	647	2,600	25
1989	2,700	737	530	2,500	22
1990	2,200	815	764	2,200	35
1991	2,500	845	457	2,100	22

[1] Estimated by the staff of the U.S. International Trade Commission.
Source: Compiled from official statistics of the U.S. Department of Commerce except as noted.

Figure 3
Citrus fruit products: U.S. producers' shipments,[1] exports of domestic merchandise, imports for consumption, and apparent U.S. consumption,[2] 1987-91



[1] Estimated by the staff of the U.S. International Trade Commission.
[2] Apparent Consumption = Producers' Shipments + Imports - Exports.

Note.—Figure 3 corresponds to table 2.
Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

penetration was 10.3 percent, for lemons 5.2 percent, and for oranges 1.8 percent.

Orange juice is the most important component of citrus consumption in the United States. Table 3 shows per capita consumption in 1990 for major citrus fruit groups. Per capita consumption of fresh citrus products in the United States amounted to 21.8 pounds in 1990. Oranges comprised the bulk of fresh citrus fruit consumption, 13.0 pounds per capita; followed by grapefruit, 4.3 pounds; and lemons and limes, 3.2 pounds.

More citrus is consumed in juice form than is consumed fresh. Total per capita citrus juice consumption in 1990 was 35.3 pounds, SSE. Most of this was frozen concentrate, 27.2 pounds; followed by chilled, 6.3 pounds; and canned juice, 1.8 pounds. Most of the citrus juice consumed was orange juice, 26.4 pounds per capita, followed by grapefruit juice, 2.5 pounds.

Production

U.S. citrus production is generally reported on a seasonal year basis because the harvest season runs from November through April. Table 4 shows the U.S. citrus crop, as reported by the U.S. Department of Agriculture for 1986-91, indicating the year in which the harvest season ended.

Total U.S. citrus production for the 1990/91 harvest was 11.3 million tons, of which 3.1 million tons was sold fresh and 8.2 million was sold processed. The U.S. citrus crop increased steadily until 1990, when a December 1989 freeze greatly curtailed the Florida crop. In 1991, the citrus crop rebounded in Florida but fell in California when California was hit by a frost. This is reflected in the increase in processed citrus, most of which comes from Florida, from 7.1 million tons in 1990 to 8.2 million tons in 1991. At the same time, fresh citrus, most of which comes from California, fell from 3.8 million tons in 1990 to 3.1 million tons in 1991. Much of the upward trend in citrus production, with the exception of the freeze years, reflects new production of trees that had been planted since the 1983 freeze in Florida, which killed a large portion of the Florida citrus trees. Because the December 1989 freeze ruined fruit without killing many trees, it is likely that future production will follow the upward trend.

Table 4 also shows that oranges accounted for the bulk of citrus production. Orange production in 1991/92 is projected to be up 7 percent over that of the preceding year because of the recovery in California, where the crop is twice the size of the 1990/91 freeze-damaged crop. The tabulation shows that grapefruit production fell from 2.8 million tons in 1989 to 1.9 million metric tons in 1990, a fall of 31 percent, as a result of the freeze that destroyed much of the Florida grapefruit and all of that in Texas. The tabulation does not show production of orange hybrids such as temples, tangelos, and tangerines, nor such specialty fruits as kumquats, bergamots, and ugli fruit.

The United States accounted for 77 percent of total 1990/91 orange juice production in the Northern Hemisphere. U.S. orange juice production in 1990/91 is estimated to have been 652,000 tons—41 percent above the freeze-reduced 1989/90 output. Florida accounted for more than 95 percent of 1990/91 U.S. orange juice output. U.S. citrus exports in 1991/92 are forecast at 1.1 million tons—30 percent above the 1990-91 volume. Oranges account for nearly all of the expected increase. Last season, orange exports were down sharply after the December 1990 freeze in California. Grapefruit exports in 1991/92 are expected to be down slightly because of the expected smaller crop.

Since the freezes of the past decade, Florida has replanted citrus groves and introduced varieties that are more resistant to freezing weather and that have marketing advantages, such as varieties more suitable to either fresh or processed markets. These changes may allow U.S. FCOJ production to surpass that of Brazil in the next decade. It is projected by the United Nations Food and Agriculture Organization (FAO) that the Florida FCOJ pack[15] will increase by approximately 50 percent by the year 2000, from 1.0 billion SSE gallons in 1991/92, to 1.5 billion gallons in 2000/01. The Brazilian pack of FCOJ is expected to increase from 1.3 billion to 1.5 billion gallons during this same period. An additional 70 million SSE gallons from other States in the United States would put the U.S. total slightly ahead of the pack of Brazil.[16]

[15] The term "pack" refers to all orange juice that is concentrated, whether shipped in bulk or in containers.

[16] United Nations Food and Agriculture Organization (UNFAO) report on world citrus to the year 2000, as reported in UNFAO, *Foodnews*, Juices/Fruits '91, June 1991, p. 8.

Table 3
Per capita citrus consumption in 1990 for major citrus groups, including fresh citrus, and citrus juice

Product	Pounds
Fresh Citrus:	
Oranges	13.0
Tangerines	0.9
Tangelos	0.4
Lemons and limes	3.2
Grapefruit	4.3
Total	21.8
Citrus Juice (SSE):	
Canned	1.8
Chilled	6.3
Frozen	27.2
Total	35.3
Total Orange Juice (SSE)	26.4
Total Grapefruit Juice (SSE)	2.5

Source: U.S. Department of Agriculture data.

Table 4
U.S. citrus production for major citrus groups, 1986-91

Year	Oranges	Grapefruit	Lemons	Limes	Total fresh citrus	Total processed citrus	Total citrus
	1,000's of tons						
1986	7,487	2,339	697	76	3,899	7,152	11,051
1987	7,697	2,568	1,087	63	4,021	7,947	11,968
1988	8,551	2,801	785	57	4,188	8,573	12,761
1989	8,949	2,844	759	55	4,172	9,014	13,186
1990	7,809	1,953	706	72	3,754	7,145	10,860
1991	7,887	2,255	722	64	3,144	8,180	11,324

Source: *Citrus Fruits*, 1991 summary, U.S. Department of Agriculture, National Agricultural Statistics Service.

Imports

Products imported

U.S. imports of citrus products in the 1987-91 period consisted mostly of FCOJ. The next most important product was single-strength orange juice. The United States imported $311 million of citrus juice in 1991 (almost all orange juice), of which $244 million came from Brazil and $48 million was of Mexican origin. The United States accounted for about 56 percent of world consumption of FCOJ in 1991. Imports of fresh citrus fruit were relatively insignificant when compared with imports of juice. This fact is explained, in part, by higher transportation costs, greater perishability, and stricter U.S. customs inspections for fresh product. For example, U.S. imports of FCOJ in 1991 were $293 million as compared with imports of fresh oranges of only $45 million. Canned citrus is also an important import—over $50 million of canned mandarin was imported in 1991, mostly in the form of satsumas from Spain. These products are shipped in airtight containers and so are far less perishable than fresh fruit. They also have a higher per pound value.

Import levels and trends

Imports of all citrus products fell from $563 million to $457 million during 1987-91, or 19 percent, as shown in table 2. There did not appear to be a consistent trend during this period, but rather a great deal of fluctuation that depended to a large extent on weather. For example, imports in 1990 spiked up to $764 million as a result of the December 1989 freeze in Florida. By far the largest category of citrus fruit imports consisted of orange juice. Of $459 million in total citrus fruit imports in 1991, $293 million, or 64 percent, consisted of orange juice, down from 90 percent in 1990. This corresponded to 44 percent of domestic production of orange juice in 1991. Imports of fresh citrus fruit were small relative to processed citrus, with imports generally less than 10 percent of domestic production. However, the value of fresh lime imports in 1991 was equal to 47 percent of the value of domestic production. On the other hand, fresh lemon and grapefruit imports were 1 percent or less than the value of domestic production in 1991.

Imports of citrus products appear to be driven by weather factors, especially in Florida. In years of freezing weather, U.S. supplies are curtailed which leads to higher prices. Higher prices lead to lower ad valorem equivalent tariff rates since the tariff on orange juice is based on quantity. In years of high Florida production, citrus prices decline and imports are at a relative disadvantage because of the higher ad valorem equivalent tariff rates and transportation costs as a percentage of prices received.

Table 5 shows import levels of citrus fruit except juice. U.S. imports increased from $90.2 million in 1987 to $146.0 million in 1991, an increase of 62 percent, but all of that increase occurred in 1991. The surge in imports was caused by the loss of over half the California navel orange crop that year from a freeze. At the same time, quarantine restrictions were liberalized on fresh citrus from Mexico and Morocco, and imports from Spain increased from $33 million to $51 million. It is expected that citrus fruit imports in 1992 will decline from their 1991 levels as the California navel crop recovers.

Table 6 shows import levels of citrus juice. Imports fell from $472.5 million in 1987 to $311.2 million in 1991, a decline of 34 percent. The decline from $677.0 million in 1990 to $311.2 in 1991 represents a decrease of 54 percent. This great volatility was caused when the Florida 1990 orange crop was greatly reduced by a freeze and then bounced back in 1991. It is hard to predict import trends for citrus juice because of the uncertainty of weather factors. However, in the absence of adverse weather in Florida, it is expected that imports from Brazil will not return to the 1990 level, but that imports from Mexico may eventually exceed the 1990 levels.

Unit prices for citrus fruit were highest in years of high imports, which also coincided with domestic shortages, as shown in table 6. The price fell from an average 35 cents per liter in 1990 to 24 cents per liter in 1991. About 2 percent of processed citrus entered duty-free, mostly from CBERA-eligible countries such as Belize and Costa Rica. In addition, about 10 percent of fresh citrus entered duty-free, mostly from Israel under provisions of the U.S.-Israel Free-Trade Agreement.

Table 5
Citrus fruit other than juice: U.S. imports for consumption, by principal sources, 1987-91

Source	1987	1988	1989	1990	1991
	Quantity *(1,000 metric tons)*				
Spain	41.1	30.7	38.2	37.2	49.7
Mexico	58.5	69.0	54.6	69.6	107.8
Morocco	(1)	(1)	0.4	(1)	19.7
Israel	13.5	8.4	3.0	10.6	13.5
China	5.8	6.8	4.2	5.2	11.3
Macao	(1)	(1)	(1)	2.5	4.8
Japan	7.2	5.1	3.0	2.3	1.1
Chile	1.9	1.0	0.6	0.7	4.2
Dominican Republic	2.6	3.8	4.4	4.7	5.0
Bahamas	6.1	11.4	10.9	14.2	16.4
All other	14.9	17.2	11.3	13.0	6.4
Total	151.6	153.4	130.5	157.4	239.8
	Value *(millions of dollars)*				
Spain	35.2	26.0	34.2	32.9	51.0
Mexico	12.7	14.3	13.0	16.9	37.7
Morocco	(2)	(2)	0.4	(2)	16.0
Israel	11.1	8.5	4.1	12.5	14.9
China	4.6	5.4	3.3	4.6	10.7
Macao	(2)	(2)	(2)	(2)	2.7
Japan	9.3	6.6	3.7	3.7	2.1
Chile	0.7	0.4	0.2	0.3	1.9
Dominican Republic	1.3	1.1	1.3	1.6	1.6
Bahamas	0.8	1.0	0.8	1.1	1.4
All other	14.5	15.9	10.9	13.7	6.1
Total	90.2	79.5	72.4	87.2	146.0
	Unit value *(dollars per metric ton)*				
Spain	860	850	900	880	1,020
Mexico	220	210	240	240	350
Morocco	NA	NA	1,070	NA	810
Israel	830	1,020	1,360	1,180	1,100
China	800	790	800	880	940
Macao	NA	NA	NA	2,340	570
Japan	1,290	1,300	1,240	1,600	2,010
Chile	370	400	390	390	460
Dominican Republic	410	340	370	340	320
Bahamas	140	90	80	80	90
All other	980	920	970	1,060	950
Average	590	520	560	550	610

[1] Less than 50 metric tons.
[2] Less than $50,000.
Source: Compiled from official statistics of the U.S. Department of Commerce.

Principal import suppliers

Although its share of U.S. imports dropped sharply in 1991, Brazil remains the largest supplier of U.S. imports of citrus products. In 1990, Brazil supplied $532 million out of $764 million in total citrus imports, or 70 percent. Of this amount, $520 million, or 98 percent, consisted of FCOJ. However, in 1991, the Brazilian share of total U.S. citrus imports fell to 53 percent as fresh citrus imports grew sharply and orange juice imports fell sharply. Fresh citrus imports grew because of the lifting of quarantine restrictions against Mexico and Morocco and because Spain had a bumper crop. Orange juice imports fell sharply in 1991 as Florida had ideal weather and prices were greatly depressed.

Brazil is the largest world supplier of FCOJ, accounting for nearly 80 percent of total world shipments. Roughly three-fourths of all oranges grown in Brazil are used in the processing industry. About half of all exported Brazilian orange juice goes to the EC and about one-third goes to the U.S. market.

Table 6
Citrus juice: U.S. imports for consumption, by principal sources, 1987-91

Source	1987	1988	1989	1990	1991
	Quantity *(millions of liters)*				
Brazil	1,792.2	1,341.9	1,271.8	1,507.4	1,036.8
Mexico	173.4	216.8	177.6	248.1	203.5
Argentina	13.1	11.1	22.1	32.6	20.8
Belize	32.3	29.8	33.5	39.0	16.4
Costa Rica	0.1	(1)	3.3	11.1	5.5
Venezuela	0.1	(1)	7.4	10.5	4.1
Canada	5.3	1.2	1.6	1.2	1.9
Spain	0.1	0.1	0.2	9.6	2.5
Pakistan	(1)	(1)	(1)	(1)	3.0
Honduras	6.5	(1)	3.0	7.6	2.2
All other	14.0	10.9	9.6	46.2	5.5
Total	2,037.2	1,611.8	1,530.1	1,913.3	1,302.2
	Value *(millions of dollars)*				
Brazil	409.1	474.0	373.5	531.8	244.1
Mexico	40.9	73.2	59.0	90.5	48.2
Argentina	3.3	2.5	4.4	9.8	5.1
Belize	10.3	11.7	11.8	15.4	4.9
Costa Rica	(2)	(2)	0.7	5.1	1.8
Venezuela	(2)	(2)	2.0	2.2	1.2
Canada	2.0	0.5	0.8	0.7	1.1
Spain	0.1	0.1	(2)	3.5	0.8
Pakistan	(2)	(2)	(2)	(2)	0.6
Honduras	1.5	(2)	0.6	1.3	0.6
All other	5.3	5.6	5.3	16.8	2.7
Total	472.5	567.6	458.1	677.0	311.2
	Unit value *(dollars per liter)*				
Brazil	0.23	0.35	0.29	0.35	0.24
Mexico	0.24	0.34	0.33	0.36	0.24
Argentina	0.25	0.23	0.20	0.30	0.24
Belize	0.32	0.39	0.35	0.39	0.30
Costa Rica	0.22	NA	0.21	0.46	0.33
Venezuela	0.24	NA	0.27	0.21	0.28
Canada	0.38	0.44	0.48	0.58	0.58
Spain	0.50	0.37	0.27	0.37	0.31
Pakistan	NA	NA	NA	NA	0.21
Honduras	0.24	1.10	0.21	0.18	0.29
All other	0.38	0.52	0.55	0.36	0.49
Average	0.23	0.35	0.30	0.35	0.24

[1] Less than 50,000 liters.
[2] Less than $50,000.
Source: Compiled from official statistics of the U.S. Department of Commerce.

Brazilian orange producers could receive higher prices and become even more competitive because of the elimination of two export taxes on orange juice (effective June 26, 1991). The 1-percent export tax on orange and tangerine juice, established in 1983, was reduced to zero. An additional 3.5-percent export tax on concentrated orange juice destined for the U.S. market was also reduced to zero. This tax was established in 1985 in agreement with the United States to offset Brazilian subsidies received by the Brazilian FCOJ sector at that time.

Mexico is also an important supplier to the U.S. market at $86 million, or about 19 percent of total U.S. citrus imports in 1991. Like those of Brazil, exports from Mexico were primarily in the form of orange juice although a larger percentage of Mexico's exports consisted of orange juice other than FCOJ, such as fresh orange juice. During the 1987-91 period, Mexican citrus exports to the U.S. market grew from $63 million to $86 million. It is likely that Mexican citrus juice exports will continue to grow relative to Brazilian. From 1987 to 1991, Mexican citrus juice exports to the U.S. market grew from $41 million to $48 million while Brazilian exports fell from $409 million to $244 million.

The proposed U.S.-Mexico Free-Trade Agreement would make Mexican orange juice products more competitive relative to those of Brazil since the high tariff rates on orange juice (up to 50-percent ad valorem equivalent in recent years) is an important restriction. Mexican orange juice production in 1990/91 is expected to decrease by 37 percent below the previous season's output because of low international prices for orange juice. The low prices

have induced many growers to sell oranges to the domestic fresh market or for fresh export where prices are more favorable.

On July 23, 1991, in an action that had a dramatic impact on U.S. imports of fresh citrus from Mexico, USDA lifted import restrictions on citrus fruit from Mexico imposed under citrus canker regulations. The restrictions had been instituted in 1983 because it was believed that oranges, key limes, and other citrus fruit from Mexico might be infected with a form of citrus canker. The action is likely to result in more imports of fresh citrus fruit from Mexico, imports of which already more than doubled between 1990 and 1991. Figures 4 and 5 show total citrus imports by country of origin, and, for each major type of citrus, the shares of 1987 and 1991 U.S. imports accounted for by the major suppliers.

U.S. importers

U.S. importers consist mainly of a few large packagers and marketers of FCOJ and many smaller importers of fresh, and prepared and preserved citrus. FCOJ is imported in bulk by container tankers to inshore holding and processing facilities where the importers either package it into retail and institutional size containers or ship the FCOJ in bulk to repackagers such as dairies and grocers around the country. FCOJ is also mixed with other juice and used in the soft drink industry. Importers in the Northeast have come to rely on Brazilian FCOJ and have located packaging plants near ports of entry to reduce transportation costs. In general, raw citrus is not imported for the processing industry because processors prefer using domestic raw product and because citrus is best processed soon after harvest.

Fresh citrus is imported by a wide variety of importers and for a wide variety of uses. Fresh oranges, tangerines, tangelos, and temples may be imported from Mexico or the Caribbean by supermarket chains during the U.S. off-season. Fresh limes are imported by the bar supply industry to be used as drink condiments. Specialty shops import Jaffa oranges from Israel or Chilean varieties. Mandarin orange segments in airtight, retail-size cans are imported from Spain by large supermarket chains or retailers, who then apply their own labels to the cans. Sliced grapefruit is packaged in Israel in retail-size cans and imported by major retail chains that label and market or label for other retailers.

Normally, citrus is shipped by ocean freight because air shipments are not economically feasible compared with other products that have higher unit values. In the case of Mexico and Canada, shipments are mainly by truck or rail. In many cases, specialized refrigerated container ships may transport automobiles in one direction and fresh citrus on the return voyage. In the case of FCOJ, Brazilian juice is imported in highly specialized ships that are refitted oil tankers and may be cooled down to as low as 0 degrees Fahrenheit. The FCOJ does not solidify at such low temperatures because of the high sugar content.

FOREIGN MARKETS

Foreign Market Profile

World consumption patterns of citrus products vary widely. In general, countries with tropical or mediterranean climates where citrus fruit is locally grown consume less processed citrus products and more fresh citrus than countries where citrus fruit is not grown domestically. The United States is an exception because more consumed citrus fruit is processed than is fresh. Although Brazil produces more orange juice than does the United States, per capita consumption of orange juice in Brazil is less than 4 percent of per capita consumption in the United States. For a country to become a market for processed citrus products, it must have a sophisticated marketing, transportation, and storage infrastructure. Most developing countries lack the necessary facilities, such as household refrigerators and refrigerated transport vehicles, to support such markets. If fresh citrus is widely and cheaply available, there may be little incentive to develop such an infrastructure.

The bulk of foreign trade in citrus is in processed products, especially FCOJ, although there is also a large trade in fresh citrus, especially fresh oranges, grapefruit, lemons, and limes. The United States and countries of the EC are by far the largest consumers and also importers of processed citrus. Within the EC, Germany and the Netherlands were the largest consumers and importers of processed citrus. Germany had the highest per capita consumption of orange juice in Europe, at 30 liters per person, followed by the Netherlands, with 21. The Netherlands is a major re-exporter of citrus products. In 1991, the Netherlands imported more FCOJ than the United States, but much of this was repackaged and exported to other countries.

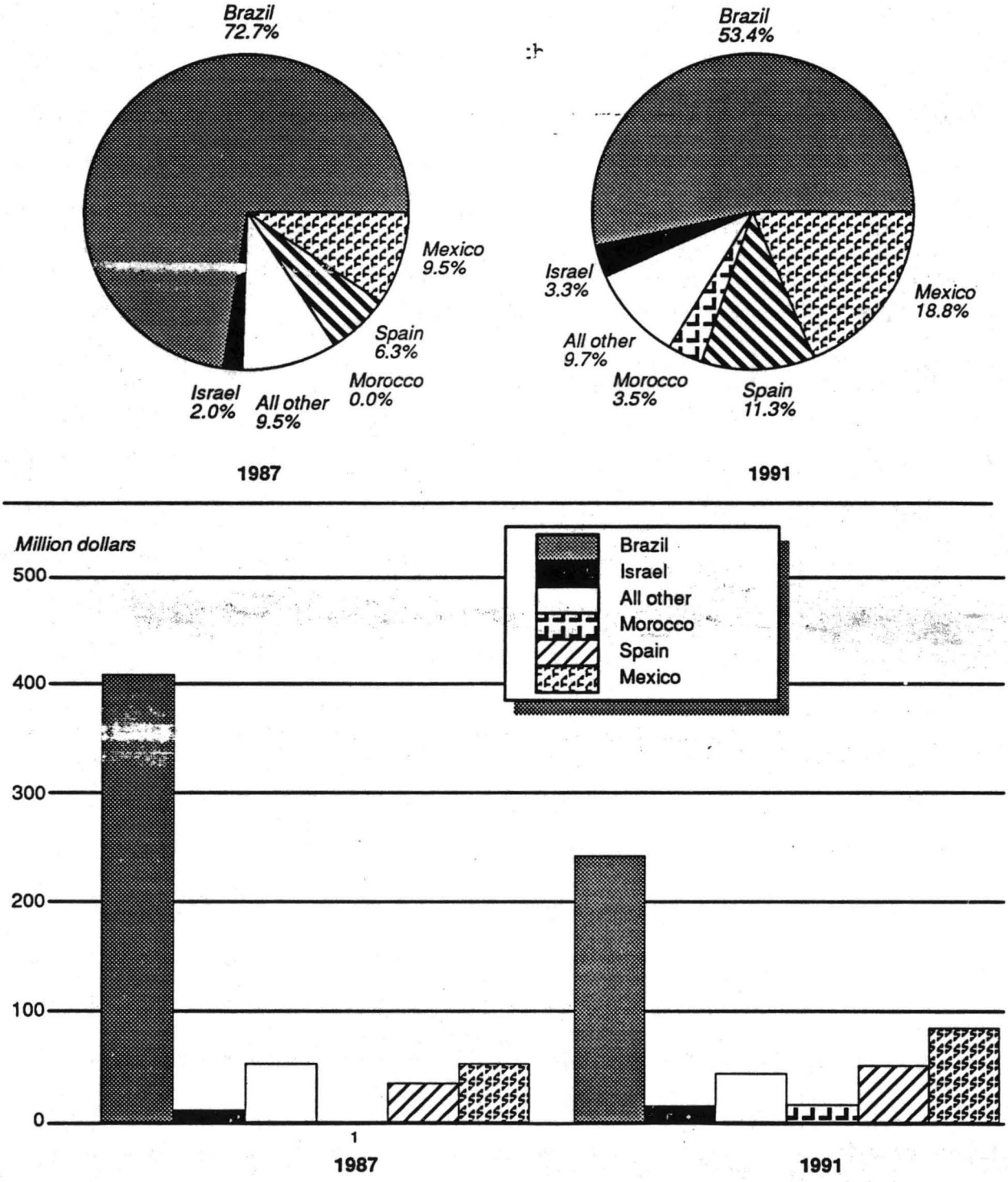
It is notable that in 1986-91, per capita consumption of processed citrus products climbed dramatically in many countries outside the United States. During this period, per capita consumption of orange juice declined slightly in the United States, but world consumption increased. In Japan, for example, as a result of trade liberalization, orange juice consumption climbed from 13,000 metric tons in 1986 to 39,000 metric tons in 1991 and is expected to climb to 160,000 metric tons per year in the next few years.[17] In Germany, consumption grew from 124,000 metric tons to 179,000 metric tons during the same period. Spanish consumption grew from 6,000 metric tons to 16,000 metric tons.

The French market for citrus juice imports is booming. During the 1980s, citrus juice consumption increased threefold. Despite this rapid increase in consumption, the French market is far from being saturated. Overall juice consumption is projected to increase at a rate of at least 5 percent annually through 1993.[18] In comparison with other northern EC

[17] U. S. Department of Agriculture, FAO, *Horticultural Products Review,* Apr. 1992, p. 10.

[18] U.S. Department of Agriculture, FAO, *Horticultural Products Review,* , Oct. 1991.

Figure 4
Citrus products: U.S. imports by leading sources, by share of total and by value, 1987 and 1991

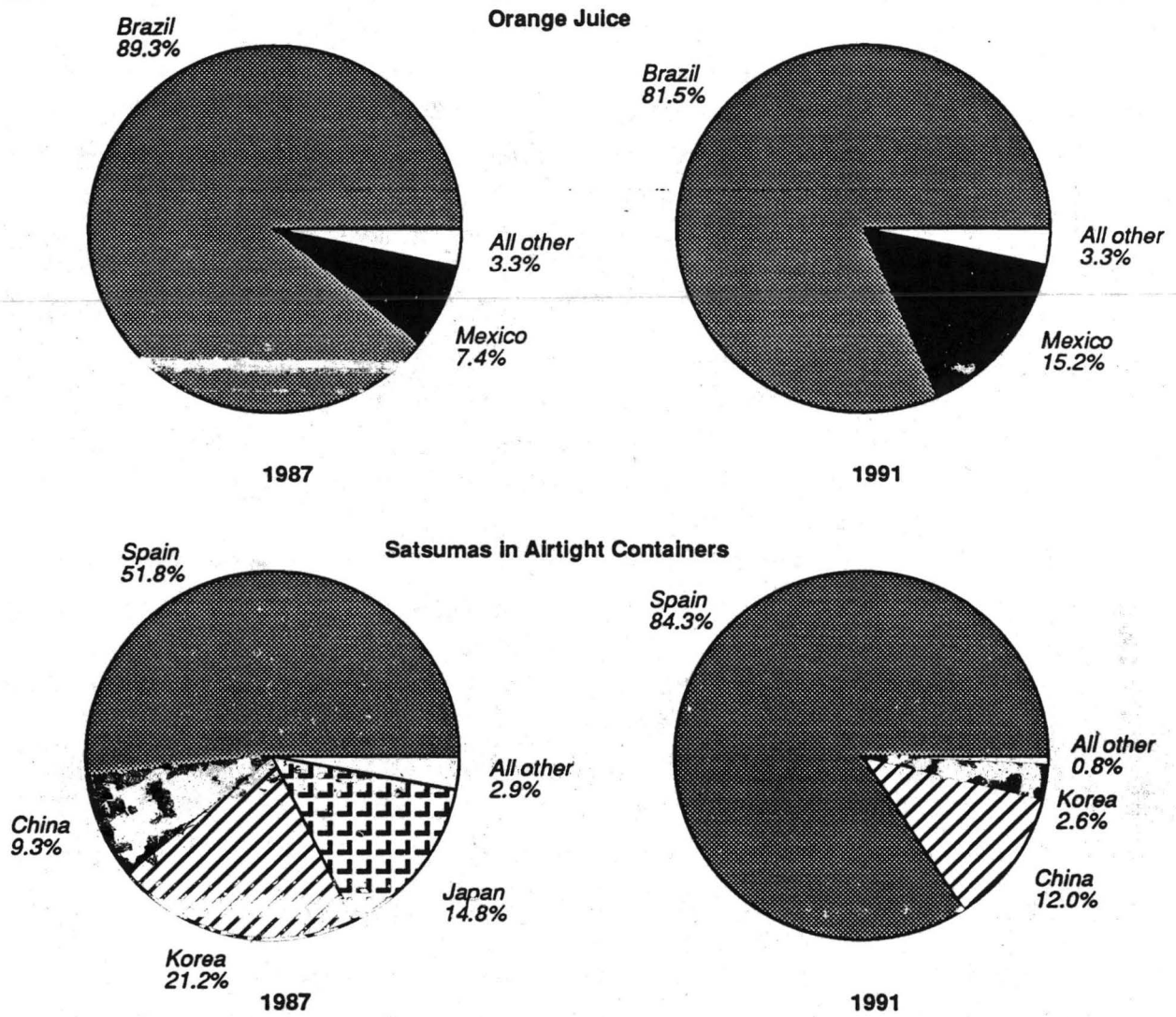


[1] Less than $50,000.

Note.—Figure 4 corresponds to table A-3.

Source: Official U.S. Department of Commerce trade statistics.

Figure 5
Citrus products: U.S. imports of processed citrus by principal sources, 1987 and 1991



Note.—Figure 5 corresponds to tables A-5 and A-6.
Source: Official U.S. Department of Commerce trade statistics.

countries, French consumption remains low. Orange juice and grapefruit juice account for approximately 45 percent and 8 percent, respectively, of total juice and nectar consumption in France. Consumer demand is particularly strong for high-quality orange and grapefruit juice that is marketed in glass containers and sold at a higher price than the same products sold in paper cartons. All orange and grapefruit juice consumed in France is imported. The United States is the second-leading supplier of grapefruit juice to France after Israel, and ranks fifth in the French orange juice market. The U.S. brand Tropicana[19] supplies about 10 percent of total juice consumption in glass jars.

Orange juice consumption appears to be highly income-elastic. Argentina is an example of a producing country where orange juice consumption declined dramatically between 1986 and 1990, from 8,200 metric tons to 2,700 metric tons, owing to poor economic conditions.

It is expected that during the 1990s, world consumption of processed citrus will continue to climb and that the EC and Japanese markets will grow dramatically as a result of trade liberalization and marketing advances. However, U.S. exporters may face more competition under trade liberalization. For example, U.S. exporters hold 99 percent of the

[19] U.S. Department of Agriculture, FAO, *Horticultural Products Review,* Aug. 1991.

Japanese market for fresh lemons, and 90 percent of all U.S. fresh lemon exports are to Japan. However, Japan has recently established plant quarantine requirements for Spanish lemons, which were previously denied entry into Japan because of the presence of the Mediterranean fruit fly in Spanish growing areas. This could open the Japanese market to Spanish lemons.

The Pacific Rim of Asia is the fastest growing region, apart from Canada, for U.S. citrus exports. The dynamic nature of the newly industrialized countries (NICs), such as Hong Kong, Singapore, Taiwan, and Korea, has fueled the growth of export markets for U.S. citrus products. Disposable incomes have risen sharply, and along with them, consumer demand has expanded for a broad variety of citrus products. Behind the NICs are the emerging nations of Asia, such as Thailand, Malaysia, the Philippines, and Indonesia, which are also becoming viable markets for citrus.

Japan and Korea have been two of the most difficult markets to enter, owing to trade barriers designed to protect local producers. Japan's phytosanitary regulations are especially stringent, but by working closely with Japanese regulators, the United States has opened markets that were previously closed. The United States is a leader in advanced phytosanitary procedures, which has allowed U.S. exporters to capture a large share of the fresh citrus market. As a result of the U.S.-Japan Beef-Citrus Agreement of 1988, Japan completely liberalized fresh orange import quotas on April 1, 1991, and orange juice quotas on April 1, 1992. Japan is already the largest foreign market for U.S. citrus, accounting for more than 45 percent of total U.S. fresh citrus exports. Nevertheless, the high Japanese duties on oranges still limit expansion of U.S. orange exports. These duties are 40-percent in-season (October-March) and 20-percent off-season. Reductions in tariff rates are being addressed in the Uruguay Round of MTN.

In April 1992, under the terms of the U.S.-Japan Beef-Citrus Agreement, Japan liberalized frozen concentrated orange juice imports. Although the United States stands to gain a significant share of this market, Brazil will also be a major player. Japanese consumer demand for orange juice concentrate has been on a strong upward trend for a number of years. Even though the Japanese Government has been expanding the annual import quotas for orange juice in accordance with the agreement, the actual import volumes permitted have been significantly greater than the agreed quota levels. For example, the import quota issued for FCOJ during Japanese fiscal year 1989 totaled 38,500 tons, more than twice the agreed level of 19,000 tons for that year. As of April 1, 1992, imports of orange juice were permitted in unlimited quantities. The only restriction is the current tariff, which is set between 25 and 35 percent ad valorem. It is expected that Japanese per capita yearly consumption of FCOJ will rise from 2.5 liters to 5.0 liters and total imports from 40,000 metric tons to 130,000 metric tons (5:1 concentrate basis), an import value of over $300 million, about half of which will be U.S. supplied.[20] The rest will be supplied by Brazil, which reportedly exports lower quality FCOJ, but at a lower price, $2,150 per metric ton for Brazilian, versus $2,600 for U.S., CIF basis. However, Japanese bottlers and distributors are reported to be highly conscious of quality, so the U.S. share is expected to increase.

Tangerine juice (mikan juice) consumption in Japan has been decreasing. Japan is the largest world producer of tangerines, but because of the strong taste of mikan juice, Japanese consumers generally prefer either straight orange juice or the blended product of mikan and imported orange juice.

Korea's import tariffs on fresh citrus fruit range from 30 to 50 percent ad valorem. Korea currently allows imports of lemons and grapefruit and imposes a restrictive quota on orange juice. Under the May 1989 U.S.-Korea Agricultural Agreement, Korea agreed to liberalize imports and in November 1990 agreed to phase out, or bring into conformity with the GATT by 1997, all remaining restrictions on oranges and orange juice, among other agricultural products. The phase-out will take place in two 3-year programs, which began in March 1991.

Taiwan is another important importer of U.S. citrus products. Taiwan banned imports of all non-U.S. citrus fruit in December of 1987. But, in line with Taiwan's recent application for GATT membership, Taiwan has begun to liberalize these provisions. For example, in the first such move, the Taiwan Council of Agriculture has announced that it will allow imports of a total of 100 metric tons annually of South African oranges and grapefruit, effective March 20, 1992, as long as the imports occur between April and August, the off-season of local citrus. In 1991, Taiwan imported 5,249 metric tons of oranges and 12,201 metric tons of grapefruit, all from the United States. The impact should be minimal in 1992, but more competition for citrus is expected in the coming years when other suppliers have more access to the Taiwan market.

U.S. Exports

Products exported

While U.S. imports of citrus products are dominated by one product, FCOJ, U.S. exports are mostly made up of fresh citrus products. Major markets for U.S. citrus products include the Pacific Rim, Canada, the EC countries, and Australia. The most important U.S. exports of citrus products in 1991, in order of importance, were fresh grapefruits, fresh oranges, orange juice, and lemons. The two most important markets for U.S. citrus exports during this period were Japan and Canada. Japan imported disproportionately more fresh grapefruit and lemons than Canada, while Canada imported much more fresh limes and orange juice than did Japan. The Asian market favors large navel oranges produced in California and high-quality pink grapefruit from Florida and Texas. Australia was the largest U.S. market for fresh temple oranges, followed by Canada. U.S. citrus products are important during the off-season in Australia, which corresponds to the U.S.

[20] U.S. Department of Agriculture, FAO, *Horticultural Products Review*, Apr. 1992, p. 10.

citrus-harvesting season. Most of the smaller fresh citrus fruits, such as mandarins, tangerines, kumquats, and limes went to the Canadian market. Canada was the primary importer of orange juice products in retail-size containers. Japan was the largest U.S. market for grapefruit juice.

Figures 6, 7, and 8 show U.S. exports of citrus products. Figure 6 shows total citrus exports, by country of destination, and figures 7 and 8 show the share to each country by major citrus groups.

The export market is particularly important to fresh grapefruit producers in Texas, California, and Arizona, which export half or more of their fresh grapefruit. A large percentage of lemon production is also exported, as are navel oranges.

Export levels and trends

U.S. exports of citrus products increased steadily during 1987-91, from $619 million in 1987 to $845 million in 1991, or about 9 percent per year. Exports to Canada of citrus products more than doubled in 1990 to $253 million from about $123 million in the year prior to the U.S.-Canada Free-Trade Agreement.[21] It is expected that citrus exports to Canada will continue to increase under accelerated duty reduction of the free-trade agreement.

Table 7 shows that U.S. exports of citrus fruit other than juice increased steadily from $506.2 million in 1987 to $613.7 million in 1991, an average annual increase of 5.3 percent. Trade agreements with Japan, such as the U.S.-Japan Citrus Agreement [illegible] contributed to export increases, though not as dramatically as those with Canada. Exports to Japan increased from $259 million in 1987 to $353 million in 1991, an increase of 36 percent. Much of this increase was in fresh grapefruit, lemons, and navel oranges. Now that the Japanese citrus market is completely liberalized, U.S. fresh orange exports are expected to exceed $100 million per year, up from $79.4 million before the agreement.

In 1991, U.S. exports of citrus products were equivalent to over one-third of U.S. production. Total exports increased in spite of reduced production in Florida and Texas following the December 1989 freeze. As a result of the freeze, Florida citrus production was down 28 percent from the year before, and Texas citrus production was reduced by 100 percent. The freeze was especially damaging to fresh grapefruit production, down 38 percent; tangerine production, down 31 percent; and fresh temple production down 82 percent. Fresh orange exports fell sharply in 1991 because of the December 1990 freeze in California.

Fresh grapefruit was the single most important citrus export in 1991. U.S. grapefruit exports by major destination for the last two seasons are shown in table 8.

U.S. fresh grapefruit exports in 1991 totaled 467,000 metric tons, or 45 percent above the previous season's freeze-reduced shipments of 321,000 metric tons. The four largest markets for U.S. exports remained Japan, Canada, France, and the Netherlands, with Japan's share alone growing from 46 percent to 54 percent from 1990 to 1991.

Citrus juice exports increased from $113 million in 1987 to $231 million in 1991, an increase of 104 percent, table 9. Exports increased significantly to Canada, Japan, France, and Korea, which together accounted for 74 percent of U.S. citrus juice exports in 1991. Canada, with imports of $97 million, was the largest importer of U.S. citrus juice in 1991. About half of U.S. exports to Canada consisted of FCOJ in retail-size cans, whereas most other U.S. exports of FCOJ where in drums or in bulk. Following the 1988 U.S.-Japan Beef-Citrus Agreement, Japanese imports of U.S. citrus juice approximately doubled from $20 million in 1987 to $39 million in 1991. Following the April 1992 lifting of Japanese quotas on orange juice, orange juice exports to Japan are expected to continue rising. Japan was the largest importer of U.S. grapefruit juice, with imports of $15 million in 1991. Prior to the lifting of orange juice quotas, most Japanese citrus juice imports consisted of frozen grapefruit juice. Citrus juice exports to France rose sharply from $1.2 million in 1987 to $22.2 million in 1991, table 9. France was the largest importer of single-strength, unfrozen orange juice, which is sold in glass jars. Consumption of this product has been increasing rapidly. Korea imported $14.1 million in U.S. citrus juice in 1991 and was the second-largest importer of bulk FCOJ after Canada.

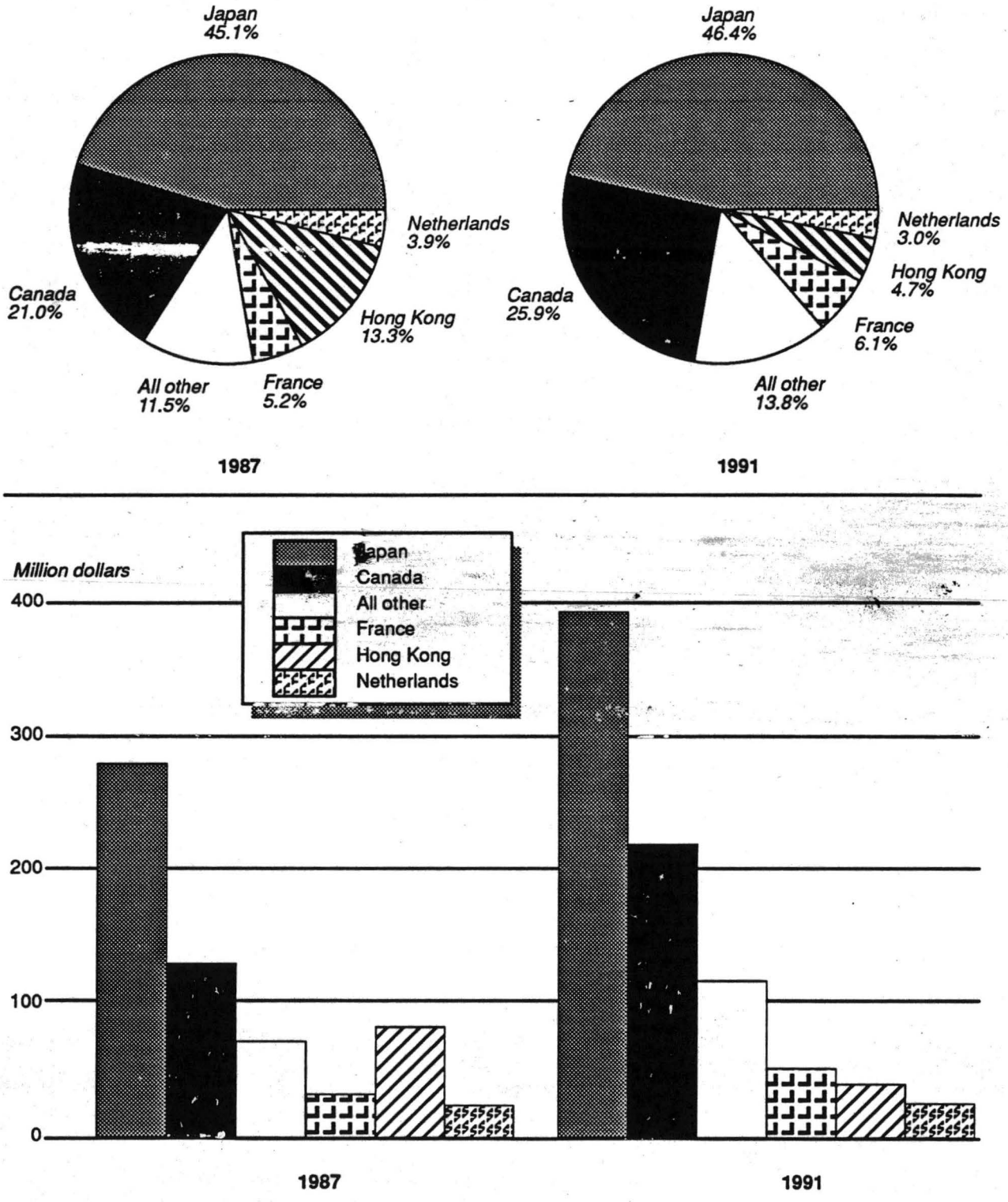
U.S. exporters

U.S. exporters of citrus products include mostly larger domestic firms and cooperatives that operate in both domestic and foreign markets. Most of the exporters are in Florida and California, where the citrus is grown. The exporters include distributors and handlers, processors, growers, and grower cooperatives.

Foreign market promotion of citrus fruit is conducted by the U.S. industry. The Florida Citrus Commission promotes the sale of fresh and processed oranges in Canada. It also has promotional programs in Europe and Japan in which the Foreign Agricultural Service (FAS) of the U.S. Department of Agriculture participates. Several California firms, in cooperation with the FAS, have programs for the promotion of fresh oranges and grapefruit in numerous countries. These U.S. firms try to target their products to specific foreign markets. They tend to market finished product, whether it be fresh citrus packaged for foreign retail sale or processed citrus in the form of retail-size juice containers. In some cases, fresh fruit is tightly wrapped to prolong freshness. In other cases, there is minimal packaging and the fruit is sold through street vendors or through open-air markets.

[21] Much of this increase may be owing to the undercounting of exports to Canada in previous years.

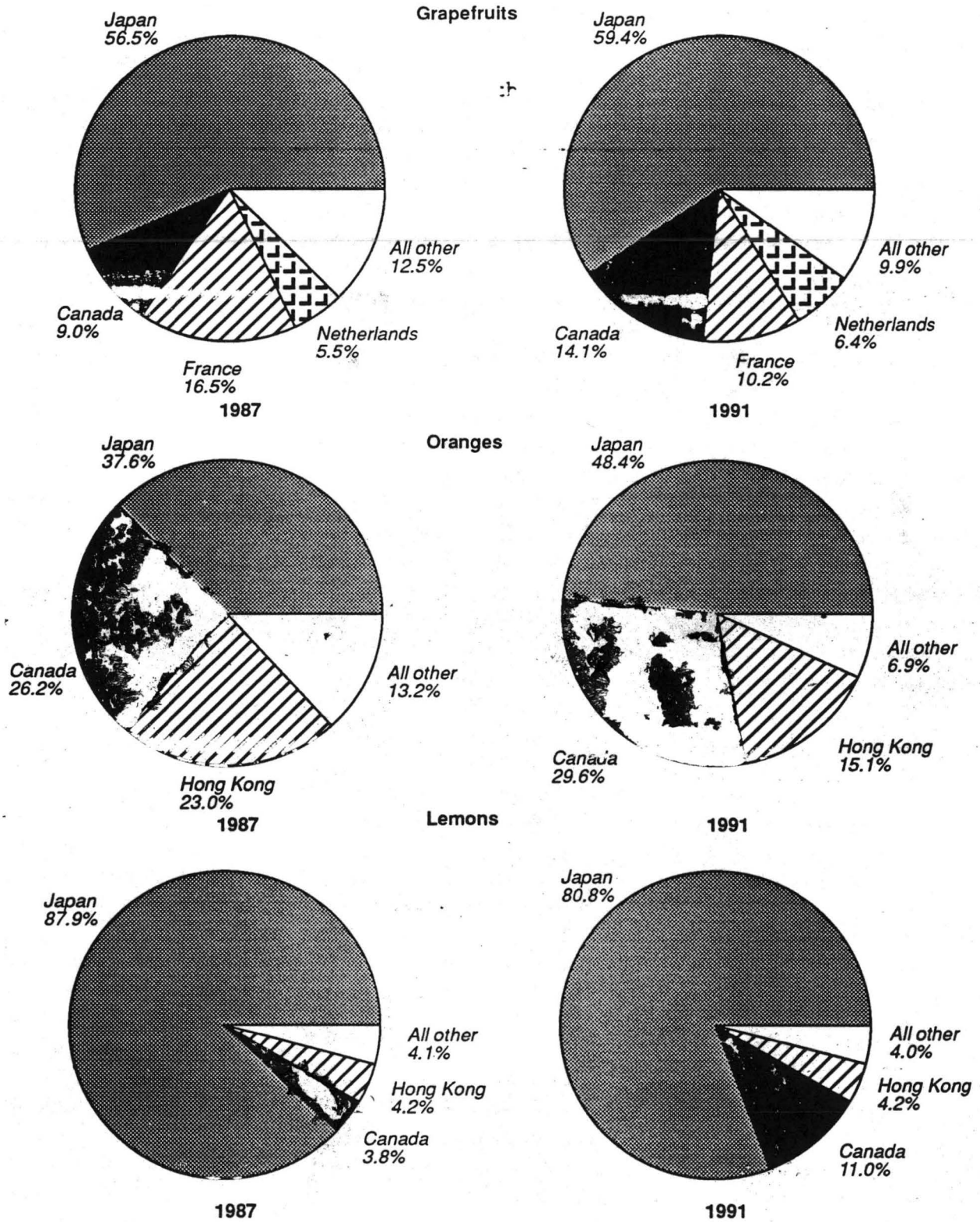
Figure 6
Citrus products: U.S. exports by principal markets, by share of total, and by value, 1987 and 1991



Note.—Figure 6 corresponds to table A-4.

Source: Official U.S. Department of Commerce trade statistics.

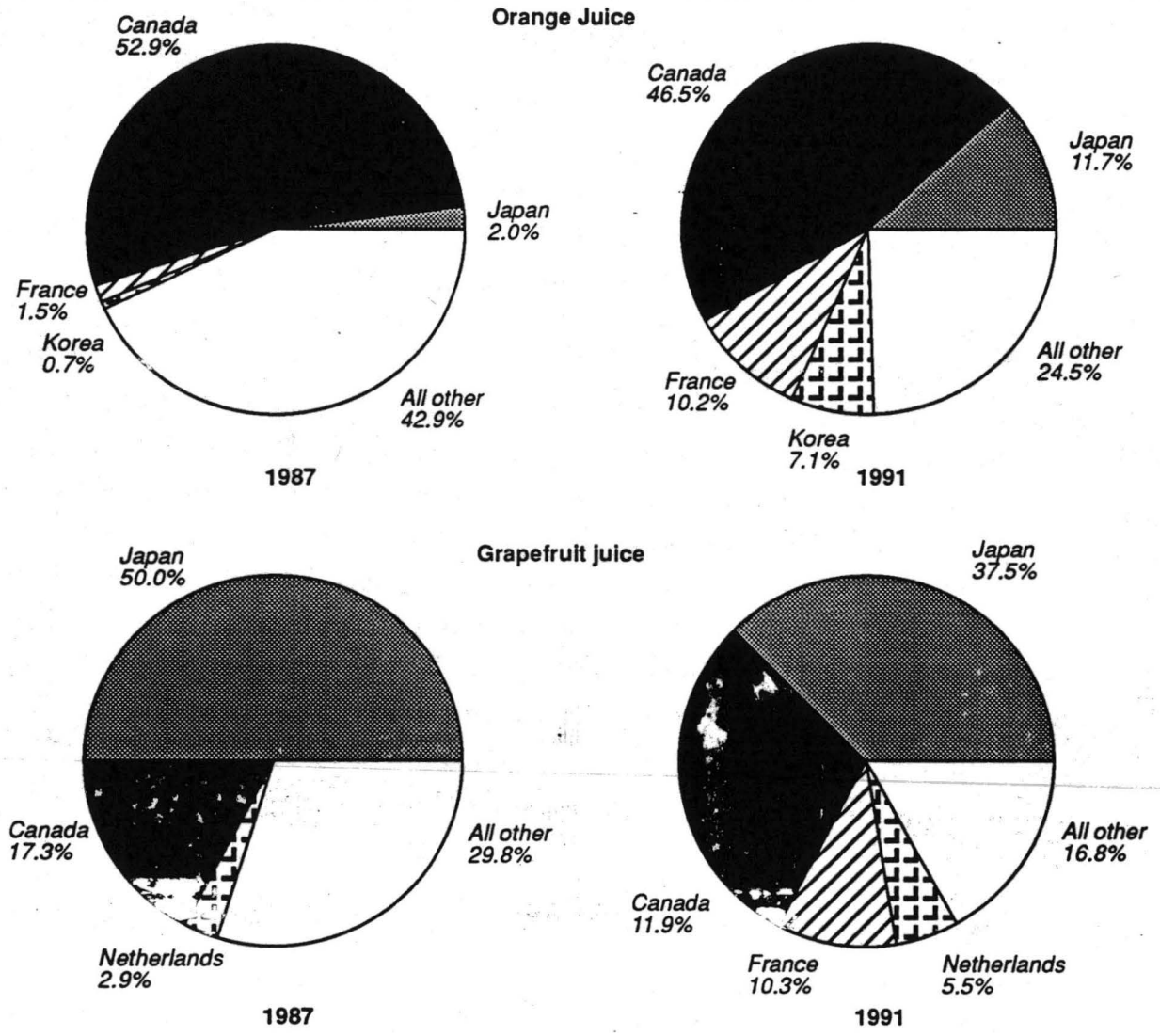
Figure 7
U.S. exports of fresh citrus, share of major types of citrus by principal markets, 1987 and 1991



Note.—Figure 7 corresponds to tables A-7, A-8, and A-9.

Source: Official U.S. Department of Commerce trade statistics.

Figure 8
Orange juice and grapefruit juice: Share of U.S. exports by principal markets, 1987 and 1991



Note.—Figure 8 corresponds to tables A-10 and A-11.
Source: Official U.S. Department of Commerce trade statistics.

Table 7
Citrus fruit other than juice: U.S. exports of domestic merchandise, by principal markets, 1987-91

Market	1987	1988	1989	1990	1991
	Quantity *(thousands of metric tons)*				
Japan	453.0	467.5	506.2	391.8	422.2
Canada	156.9	150.2	127.6	297.1	186.3
Hong Kong	109.1	97.2	114.8	120.2	52.4
France	65.2	63.4	70.6	44.6	53.5
Netherlands	39.3	42.4	47.6	45.6	41.1
Taiwan	22.7	39.4	37.0	20.7	17.3
Germany	13.6	16.7	16.6	8.9	14.7
United Kingdom	9.7	13.2	17.2	11.6	13.4
Korea	2.5	8.0	14.1	8.4	6.4
Belgium	0.0	20.3	13.3	7.4	8.5
All other	59.5	64.3	68.8	58.2	24.2
Total	931.5	982.9	1033.9	1014.5	840.0
	Value *(in millions of dollars)*				
Japan	258.9	284.8	309.2	258.7	353.5
Canada	81.7	77.5	81.2	155.7	122.2
Hong Kong	59.4	51.9	59.3	60.1	33.9
France	30.8	28.7	31.3	23.6	29.2
Netherlands	19.7	19.2	21.1	21.2	21.5
Taiwan	9.4	18.6	18.9	10.3	9.7
Germany	6.6	7.7	11.3	5.5	8.9
United Kingdom	4.8	6.7	7.5	5.5	6.9
Korea	1.6	5.0	7.9	6.3	6.0
Belgium	0.0	7.7	6.3	4.2	5.7
All other	33.2	35.8	38.2	31.2	16.1
Total	506.2	543.6	592.3	582.2	613.7
	Unit value *(in dollars per metric ton)*				
Japan	571.5	609.2	610.8	660.3	837.3
Canada	520.7	516.0	636.4	524.1	655.9
Hong Kong	544.4	533.9	516.6	500.0	646.9
France	472.4	452.7	443.3	529.1	545.8
Netherlands	501.3	452.8	443.3	464.9	523.1
Taiwan	414.1	472.1	510.8	497.6	560.7
Germany	485.3	461.1	680.7	618.0	605.4
United Kingdom	494.8	507.6	436.0	474.1	514.9
Korea	640.0	625.0	560.3	750.0	937.5
Belgium	(1)	379.3	473.7	567.6	670.6
All other	558.0	556.8	555.2	536.1	665.3
Average	543.4	553.1	572.9	573.9	730.6

[1] There were no exports on which to calculate a unit value.

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

Table 8
Grapefruit: U.S. exports of domestic merchandise, by principal markets, 1990 and 1991

Destination	1990	Percent of Total	1991	Percent of Total
	(Metric tons)		*(Metric tons)*	
Japan	147,236	45.9	253,292	54.2
Canada	58,362	18.2	76,572	16.4
France	40,460	12.6	52,196	11.2
Netherlands	35,828	11.2	35,274	7.6
United Kingdom	9,454	2.9	12,367	2.6
Taiwan	8,623	2.7	11,723	2.5
Belgium-Luxembourg	5,309	1.7	8,896	1.8
Germany	2,751	0.9	5,535	1.2
Korea	4,251	1.3	3,621	0.8
Other	8,400	2.6	7,400	1.6
Total	320,674	100.0	466,876	100.0

Source: *Horticultural Products Review*, USDA, FAS, 1992.

Table 9
Citrus juice: U.S. exports of domestic merchandise, by principal markets, 1987-91

Market	1987	1988	1989	1990	1991
			Quantity *(millions of liters)*		
Canada	(1)	(1)	(1)	204.6	192.7
Japan	(1)	(1)	(1)	60.1	66.1
France	(1)	(1)	(1)	36.3	44.0
Korea	(1)	(1)	(1)	17.8	31.5
Hong Kong	(1)	(1)	(1)	12.7	13.2
Greece	(1)	(1)	(1)	12.2	12.1
Taiwan	(1)	(1)	(1)	10.6	11.8
Germany	(1)	(1)	(1)	11.2	11.4
Norway	(1)	(1)	(1)	8.7	10.4
Belgium	(1)	(1)	(1)	4.7	8.1
All other	(1)	(1)	(1)	70.3	66.2
Total	(1)	(1)	(1)	449.2	467.7
			Value *(in millions of dollars)*		
Canada	48.6	51.5	42.0	97.8	96.7
Japan	20.3	31.2	26.3	40.4	38.8
France	1.2	1.4	7.1	24.8	22.2
Korea	0.9	3.7	18.7	8.5	14.1
Hong Kong	3.3	3.8	4.4	6.3	5.9
Greece	0.0	0.0	3.6	5.0	4.9
Taiwan	3.4	4.9	4.9	4.6	4.5
Germany, West	5.7	10.1	3.7	4.9	4.2
Norway	1.9	3.4	3.6	4.1	4.1
Belgium	0.0	1.2	1.1	2.2	3.9
All other	27.6	49.0	28.9	34.6	31.7
Total	113.0	160.0	144.3	233.1	231.0
			Unit value *(in dollars per liter)*		
Canada	(1)	(1)	0.52	0.48	0.50
Japan	(1)	(1)	0.60	0.67	0.59
France	(1)	(1)	0.67	0.68	0.50
Korea	(1)	(1)	0.44	0.48	0.45
Hong Kong	(1)	(1)	0.53	0.50	0.45
Greece	(1)	(1)	0.40	0.41	0.40
Taiwan	(1)	(1)	0.42	0.43	0.38
Germany	(1)	(1)	0.40	0.43	0.37
Norway	(1)	(1)	0.41	0.47	0.39
Belgium	(1)	(1)	0.53	0.47	0.48
All other	(1)	(1)	0.46	0.49	0.48
Average	(1)	(1)	0.50	0.52	0.49

[1] The quantity data for these years was not comparable.

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

U.S. TRADE BALANCE

The U.S. trade surplus in citrus products was quite volatile during 1987-91, table 10. The U.S. trade surplus in citrus fruit products rose from $65.8 million in 1987 to $387.5 million in 1991. Although there was a trade surplus in each of the 5 years, the surplus was far greater in 1989 and 1991 than in the other 3 years. The trade balance is heavily influenced by weather in Florida and California. Imports, especially from Brazil, rose sharply in years when Florida citrus was damaged by freezing weather, such as in 1990, and fell sharply when Florida had bumper citrus crops, such as in 1991. While imports showed no consistent trend during this period, exports showed a consistent upward trend that is attributable in large part to successful negotiations with trading partners, especially Japan and Canada, and with successful worldwide marketing of citrus products.

The trade surplus in citrus products is expected to continue with both increased exports and decreased imports. Exports to Japan and Canada are expected to continue to comprise the bulk of exports, especially with the removal of trade restrictions. France and Hong Kong will also be important importers with French imports of orange juice expected to continue increasing. As Florida orange production continues to recover from the freeze damage and as new trees there begin to mature, it is expected that domestic production will displace imports from Brazil. Imports from Mexico will be influenced by the outcome of negotiations of a U.S.-Mexico Free-Trade Agreement, with imports expected to increase if an agreement is

signed. Table 10 shows U.S. trade in citrus products, including exports, imports, and merchandise trade balance for 1987 through 1991. Figure 9 shows the U.S. trade balance in citrus fruit for major trading partners.

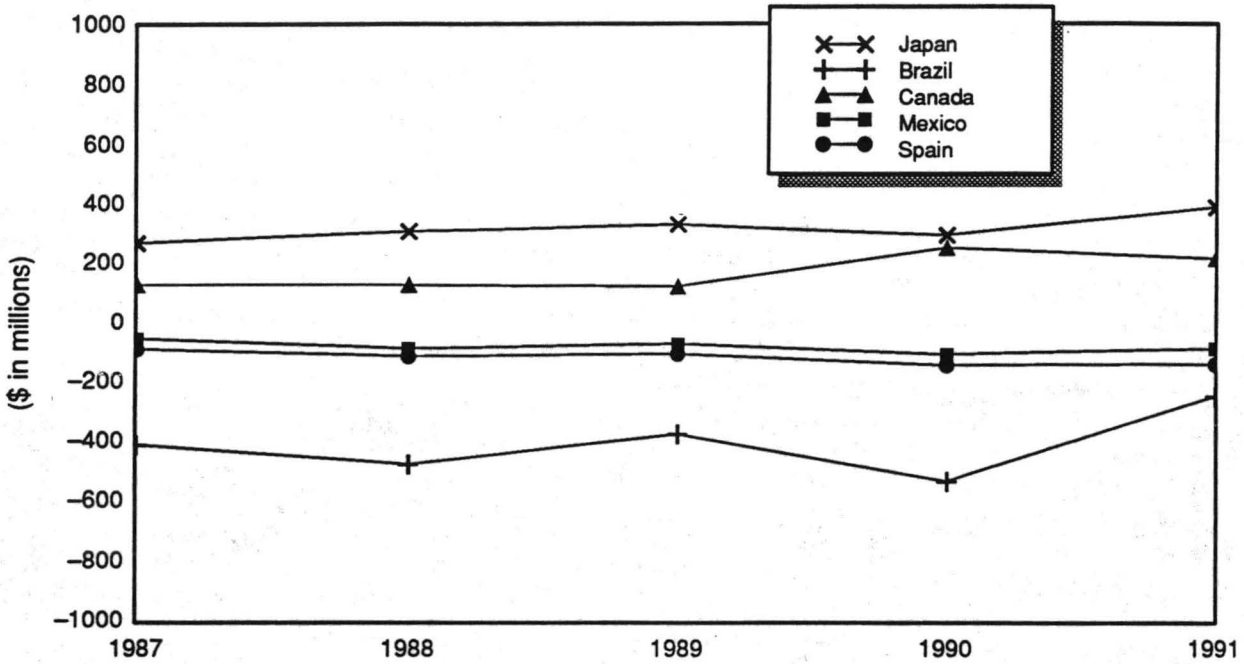
Table 10
Citrus products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1987-91[1]

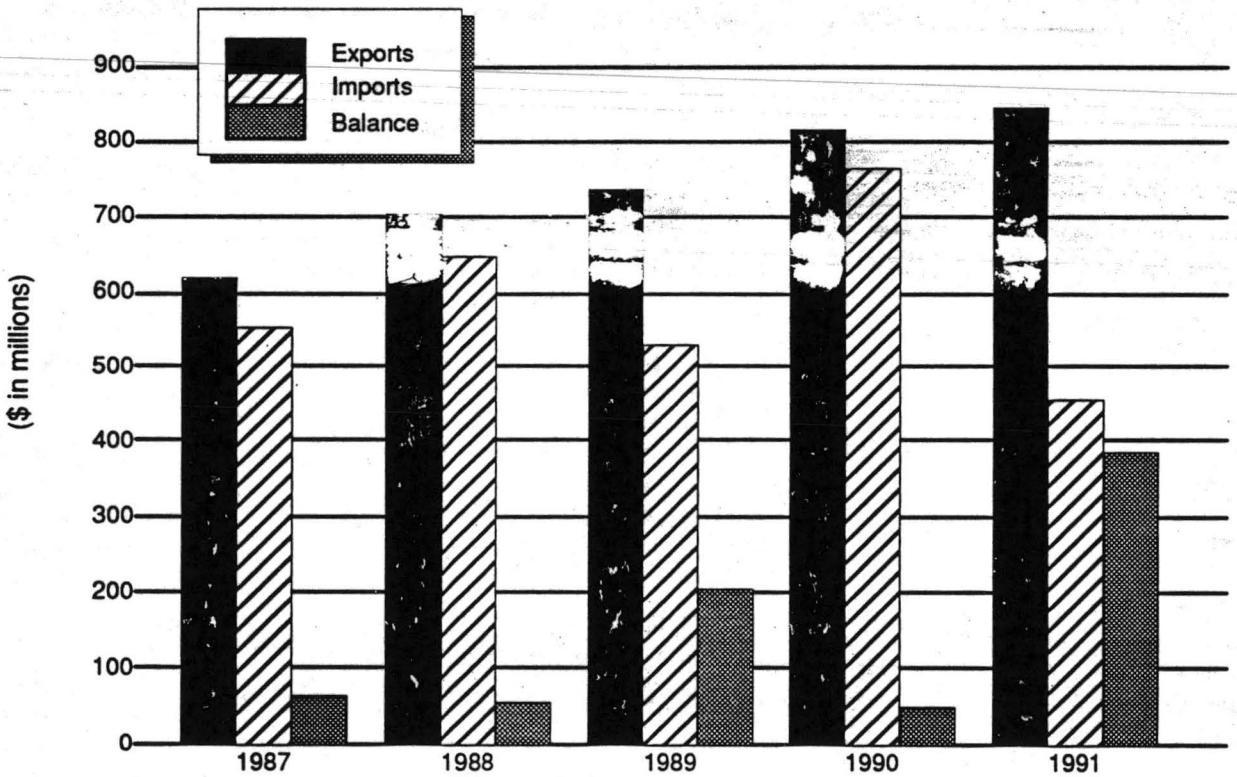
Item	1987	1988	1989	1990	1991
	Millions of dollars				
U.S. exports of domestic merchandise:					
Japan	279.2	316.0	335.5	299.1	392.3
Brazil	0.0	0.0	0.0	0.0	0.0
Canada	130.3	129.0	123.2	253.5	218.9
Mexico	0.5	1.0	2.0	2.0	2.0
Spain	0.0	0.4	0.0	0.0	0.0
France	32.0	30.1	38.4	48.4	51.4
Hong Kong	82.4	55.7	63.7	66.4	39.8
Netherlands	23.9	30.5	26.9	25.4	25.4
All other	70.9	140.9	146.9	120.5	114.9
Total	619.2	703.6	736.6	815.3	844.7
U.S. imports for consumption:					
Japan	9.3	6.6	3.7	3.7	2.1
Brazil	409.1	474.0	373.5	531.8	244.1
Canada	2.0	0.5	0.8	0.7	1.1
Mexico	53.6	87.5	72.0	107.4	85.9
Spain	35.3	26.0	34.2	36.4	51.8
France	0.9	1.7	1.7	0.3	0.0
Hong Kong	0.0	0.0	0.0	0.0	0.0
Netherlands	0.0	0.0	0.2	0.7	0.2
All other	43.2	50.8	44.4	83.0	72.0
Total	553.4	647.1	530.5	764.2	457.2
U.S. merchandise trade balance:					
Japan	269.9	309.4	331.8	295.4	390.2
Brazil	-409.1	-474.0	-373.5	-531.8	-244.1
Canada	128.3	128.5	122.4	252.8	217.8
Mexico	-53.1	-86.5	-70.0	-105.4	-83.9
Spain	-35.3	-25.6	-34.2	-36.4	-51.8
France	31.1	28.4	36.7	48.1	51.4
Hong Kong	82.4	55.7	63.7	66.4	39.8
Netherlands	23.9	30.5	26.7	24.7	25.2
All other	27.7	90.1	102.5	37.5	42.9
Total	65.8	56.5	206.1	51.1	387.5

[1] Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export. U.S. trade with East Germany is included in "Germany" but not "Eastern Europe."

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

Figure 9
Citrus fruit: U.S. bilateral trade balances, 1987–91





Note.—Figure 9 corresponds to table 10.

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

APPENDIX A
STATISTICAL TABLES

Table A-1
Citrus fruit: U.S. production by major producing State, by type of citrus fruit, 1990/91 season

Item	Arizona	California	Florida	Texas	U.S. Total
	Millions of dollars				
Citrus Production:					
Oranges	32.3	374.0	1,265.8	[1]0.0	1,672.1
Grapefruits	15.3	47.2	318.2	[2]0.0	380.8
Lemons	49.1	245.4	0.0	0.0	294.5
Limes	0.0	0.0	27.9	0.0	27.9
Tangerines	11.5	27.2	39.0	0.0	77.8
All Citrus	108.2	693.8	1,692.5	0.0	2,494.5

[1] Texas orange production for the 1989/90 season was $8.3 million.
[2] Texas grapefruit production for the 1989/90 season was $14.2 million.

Source: *Citrus Fruits, 1991 Summary*, U.S. Department of Agriculture, National Agricultural Statistics Service.

Table A-2
Citrus fruit: U.S. consumption by major type of fruit, 1989/90 to 1991/92 seasons[1]

Item	1989/90	1990/91	1991/92
	(1,000s of metric tons)[2]		
Fresh fruit:			
Oranges	1,402	955	1,424
Tangerines	151	163	165
Lemons	299	301	289
Grapefruit	500	667	607
Other Fresh Citrus	77	87	88
Total Fresh Citrus	2,429	2,173	2,573
Orange Juice	755	843	835

[1] Data for 1991/92 season are forecasts.
[2] For juice at 65 degrees Brix.

Source: *Horticultural Products Review*, USDA, Foreign Agricultural Service, Jan. 1992.

Table A-3
Citrus products: U.S. imports by leading sources, by share of total, and by value, 1987 and 1991

Source	1987		1991	
	Share (Percentage)	*Value ($ in millions)*	*Share (Percentage)*	*Value ($ in millions)*
Brazil	72.7	409.1	53.4	244.1
Mexico	9.5	53.6	18.8	85.9
Spain	6.3	35.3	11.3	51.8
Morocco	([1])	([2])	3.5	16.0
Israel	2.0	11.1	3.3	14.9
All other	9.5	53.6	9.7	44.5
Total	100.0	562.7	100.0	457.2

[1] Less than 0.05 percent.
[2] Less than $50,000.

Source: Official U.S. Department of Commerce trade statistics.

Table A-4
Citrus products: U.S. exports by principal markets, by share of total and by value, 1987 and 1991

Market	1987		1991	
	Share (Percentage)	*Value ($ in millions)*	*Share (Percentage)*	*Value ($ in millions)*
Japan	45.1	279.2	46.4	392.3
Canada	21.0	130.3	25.9	218.9
France	5.2	32.0	6.1	51.4
Hong Kong	13.3	82.4	4.7	39.8
Netherlands	3.9	23.9	3.0	25.4
All other	11.5	71.4	13.8	116.9
Total	100.0	619.2	100.0	844.7

Source: Official U.S. Department of Commerce trade statistics.

Table A-5
Orange juice: U.S. imports by leading sources and by share of total, 1987 and 1991

Source	1987		1991	
	Share (Percentage)	*Value ($ in millions)*	*Share (Percentage)*	*Value ($ in millions)*
Brazil	89.3	407.1	81.5	240.5
Mexico	7.4	33.9	15.2	45.0
All other	3.3	15.0	3.3	9.7
Total	100.0	456.0	100.0	295.2

Source: Official U.S. Department of Commerce trade statistics.

Table A-6
Satsumas in airtight containers: U.S. imports by leading sources and by share of total, 1987 and 1991

Source	1987		1991	
	Share (Percentage)	*Value ($ in millions)*	*Share (Percentage)*	*Value ($ in millions)*
Spain	51.8	24.9	84.3	32.2
China	9.3	4.5	12.0	4.6
Korea	21.2	10.2	2.6	1.0
Japan	14.8	7.1	0.3	0.1
All other	2.9	1.4	0.8	0.3
Total	100.0	48.1	100.0	38.2

Source: Official U.S. Department of Commerce trade statistics.

Table A-7
Grapefruit: U.S. exports by principal markets and by share of total, 1987 and 1991

Market	1987		1991	
	Share (Percentage)	*Value ($ in millions)*	*Share (Percentage)*	*Value ($ in millions)*
Japan	56.5	95.5	59.4	162.2
Canada	9.0	15.3	14.1	38.5
France	16.5	27.9	10.2	27.8
Netherlands	5.5	9.3	6.4	17.6
All other	12.5	21.1	9.9	27.0
Total	100.0	169.1	100.0	273.1

Source: Official U.S. Department of Commerce trade statistics.

Table A-8
Oranges: U.S. exports by principal markets and by share of total, 1987 and 1991

Market	1987		1991	
	Share (Percentage)	*Value ($ in millions)*	*Share (Percentage)*	*Value ($ in millions)*
Japan	37.6	78.4	48.4	84.8
Canada	26.2	54.5	29.6	51.9
Hong Kong	23.0	48.0	15.1	26.5
All other	13.2	27.4	6.9	12.1
Total	100.0	208.3	100.0	175.3

Source: Official U.S. Department of Commerce trade statistics.

Table A-9
Lemons: U.S. exports by principal markets and by share of total, 1987 and 1991

Market	1987		1991	
	Share (Percentage)	*Value ($ in millions)*	*Share (Percentage)*	*Value ($ in millions)*
Japan	87.9	82.0	80.8	101.3
Canada	3.8	3.6	11.0	13.8
Hong Kong	4.2	3.9	4.2	5.2
All other	4.1	3.8	4.0	5.0
Total	100.0	93.3	100.0	125.3

Source: Official U.S. Department of Commerce trade statistics.

Table A-10
Orange juice: U.S. exports by principal markets and by share of total, 1987 and 1991

Market	1987		1991	
	Share (Percentage)	*Value ($ in millions)*	*Share (Percentage)*	*Value ($ in millions)*
Canada	52.9	38.7	46.5	81.7
Japan	2.0	1.5	11.7	20.6
France	1.5	1.1	10.2	18.0
Korea	0.7	0.5	7.1	12.5
All other	42.9	31.4	24.5	43.0
Total	100.0	73.2	100.0	175.8

Source: Official U.S. Department of Commerce trade statistics.

Table A-11
Grapefruit juice: U.S. exports by principal markets and by share of total, 1987 and 1991

Market	1987		1991	
	Share (Percentage)	*Value ($ in millions)*	*Share (Percentage)*	*Value ($ in millions)*
Japan	50.0	15.6	37.5	14.9
Canada	17.3	5.4	29.9	11.9
France	0.0	(1)	10.3	4.1
Netherlands	2.9	0.9	5.5	2.2
All other	29.8	9.3	16.8	6.7
Total	100.0	31.2	100.0	39.8

[1] Less than $50,000.

Source: Official U.S. Department of Commerce trade statistics.

APPENDIX B
EXPLANATION OF TARIFF AND TRADE TERMS

TARIFF AND TRADE AGREEMENT TERMS

The ***Harmonized Tariff Schedule of the United States*** (HTS) replaced the *Tariff Schedules of the United States* (TSUS) effective January 1, 1989. Chapters 1 through 97 are based upon the internationally adopted Harmonized Commodity Description and Coding System through the 6-digit level of product description, with additional U.S. product subdivisions at the 8-digit level. Chapters 98 and 99 contain special U.S. classification provisions and temporary rate provisions, respectively.

Rates of duty in the ***general*** subcolumn of HTS column 1 are most-favored-nation (MFN) rates; for the most part, they represent the final concession rate from the Tokyo Round of Multilateral Trade Negotiations. Column 1-general duty rates are applicable to imported goods from all countries except those enumerated in general note 3(b) to the HTS, whose products are dutied at the rates set forth in ***column 2***. Goods from Armenia, Bulgaria, the People's Republic of China, Czechoslovakia, Estonia, Hungary, Latvia, Lithuania, Moldova, Mongolia, Poland, Russia, the Ukraine and Yugoslavia are currently eligible for MFN treatment. Among articles dutiable at column 1-general rates, particular products of enumerated 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 column 1. Where eligibility for special tariff treatment is not claimed or established, goods are dutiable at column 1-general rates.

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 and renewed in the Trade and Tariff Act of 1984, applies to merchandise imported on or after January 1, 1976 and before July 4, 1993. Indicated by the symbol "A" or "A*" in the special subcolumn of column 1, the GSP provides duty-free entry to eligible articles the product of and imported directly from designated beneficiary developing countries, as set forth in general note 3(c)(ii) 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; this tariff preference program has no expiration date. Indicated by the symbol "E" or "E*" in the special subcolumn of column 1, 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 3(c)(v) to the HTS.

Preferential rates of duty in the special subcolumn of column 1 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 3(c)(vi) of the HTS. Where no rate of duty is provided for products of Israel in the special subcolumn for a particular provision, the rate of duty in the general subcolumn of column 1 applies.

Preferential rates of duty in the special subcolumn of column 1 followed by the symbol "CA" are applicable to eligible goods originating in the territory of Canada under the ***United States-Canada Free-Trade Agreement*** (CFTA), as provided in general note 3(c)(vii) to the HTS.

Preferential nonreciprocal duty-free or reduced-duty treatment in the special subcolumn of column 1 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 in 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 3(c)(ix) to the HTS.

Other special tariff treatment applies to particular ***products of insular possessions*** (general note 3(a)(iv)), goods covered by the ***Automotive Products Trade Act*** (APTA) (general note 3(c)(iii))

and the ***Agreement on Trade in Civil Aircraft*** (ATCA) (general note 3(c)(iv)), and ***articles imported from freely associated states*** (general note 3(c)(viii)).

The ***General Agreement on Tariffs and Trade*** (GATT) (61 Stat. (pt. 5) A58; 8 UST (pt. 2) 1786) is the multilateral agreement setting forth basic principles governing international trade among its more than 90 signatories. The GATT's main obligations relate to 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, and other measures. Results of GATT-sponsored 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.

Officially known as "The Arrangement Regarding International Trade in Textiles," the ***Multifiber Arrangement*** (MFA) provides a framework for the negotiation of bilateral agreements between importing and producing countries, or for unilateral action by importing countries in the absence of an agreement. These bilateral agreements establish quantitative limits on imports of textiles and apparel, of cotton and other vegetable fibers, wool, man-made fibers and silk blends, in order to prevent market disruption in the importing countries—restrictions that would otherwise be a departure from GATT provisions. The United States has bilateral agreements with more than 30 supplying countries, including the four largest suppliers: China, Hong Kong, the Republic of Korea, and Taiwan.

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