

Japan's Fruit and Vegetable Market

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Japan's fruit and vegetable markets are important not only to farmers and consumers in Japan, but to world trade. Stable, high levels of consumption in Japan require supplies from a changing array of farms around the world. The demanding quality standards in Japan's retail markets provide opportunities for specialized production techniques. Japan's phytosanitary controls rule out imports of some important vegetables and fruits; nevertheless, Japanese companies are increasingly contracting for horticultural supplies outside Japan. Within Japan, the previous system dominated by wholesale markets is being replaced by supply contracts with individual farmers or groups of farmers. The changes on the supply side of the market make Japan an interesting case study.

Japanese Fruit and Vegetable Consumption

Japan is a large market for vegetables and fruit. One indicator is the value of consumption; the total wholesale value of vegetables in 1999 was 2.56 trillion yen (about \$22.49 billion) (MAFF). For the United States in the same year, the value of the 25 leading vegetables (shipping point basis) was \$9.27 billion (NASS, 2002). Fruit and nut wholesale value in Japan was 1.58 trillion yen (about \$14 billion) (MAFF). The high value of Japan's vegetable and fruit consumption reflects both high consumption per person and high prices for vegetables and fruits.

In 2000, Japan's consumers each ate about 101.9 kg of vegetables (MAFF). U.S. consumption per person in the same year was about 137 kg (potatoes excluded for both countries) (NASS, 2002). Japan's consumption has declined over the last quarter-century when measured in kilograms (Tanino, 1995). However, the decline appears to reflect a move away from heavy vegetables (such as Japanese radishes) towards lighter ones. On a caloric basis, consumption per person appears to have remained stable. Japan's leading vegetables by value are tomatoes, cucumbers, cabbages, Welsh onions (which resemble leeks), lettuce, and bulb onions. In addition, potato consumption, at 16.2 kg per person, is quite important (MAFF). Besides vegetables commonly used in the United States, Japan consumes those associated with Northeast Asian diets in substantial amounts: Japanese radishes, burdock roots, bamboo shoots, lotus roots, Chinese cabbages, fresh soybeans, taros, and shiitake and enokidake mushrooms (MAFF).

Japan's fruit consumption was 41.5 kg per person in 2000. The volume of fruit per person has hovered around 40 kg over the last 25 years. The caloric value of fruit consumption appears to have increased slightly. Leading fruits

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by wholesale value are mandarin oranges, strawberries, apples, grapes, bananas, watermelons, pears, persimmons, and peaches (MAFF).

Retail marketing of vegetables and fruits in Japan emphasizes freshness and quality. Appearance and size are important characteristics. Produce is commonly packaged with labeling that advertises its origin. Japan's cooperatives, for example, usually highlight their names and locations on their produce packages, so that a consumer knows not just the prefecture, but even the town where the produce was grown. Since April 2000, fresh fruits and vegetables must be labeled with the country of origin (or prefecture, if the produce is domestic) (USDA, FAS, GAIN #JA9022, 1999; #JA1049, 2001).

Japanese Fruit and Vegetable Production

Vegetable production is extremely important to farmers in Japan, rivaling rice and livestock as a source of income. If fruit and vegetable output are combined, their sum is the largest source of farm income in Japan—32 percent of gross agricultural output (MAFF). Vegetable production tends to be small-scale and specialized. Japan's vegetable operations are typically set up to absorb the full-time labor of one, two, or three family members; the size of the operation is limited to what these workers can do, with part-time or occasional help from other family members or hired nonfamily members. A farm household will produce a few vegetables, or even only one type. Rice production is a common sideline activity or income source and is often contracted out by vegetable farmers, who reserve their labor for their vegetable crops.

For many vegetables, covered production is important. The most common coverings are vinyl houses, followed by glass houses and plastic tunnels. In 2000, 72 percent of tomatoes and sweet peppers, 69 percent of cucumbers, 45 percent of eggplants, and 34 percent of lettuce crops were grown in covered facilities (MAFF). Vinyl and glass houses usually include heating/ventilation machinery for climate control and systems to control fertilizer and pesticide application. Covered facilities typically produce higher yields than open-field vegetable production and provide the opportunity to raise crops over a longer season. Because Japan's main islands stretch almost as far from north to south as the continental United States, the nation's effective growing season for a vegetable is already long; with covered production, it is extended even more. Nevertheless, in the coldest winter months Japan's production of tender vegetables shrinks dramatically, creating an opportunity for imports from Southern Hemisphere and tropical countries.

Fruit production in Japan benefits from abundant water and a relatively mild climate, but suffers from high humidity, which encourages plant diseases. Temperate fruits such as apples and pears are grown in large volumes. Citrus fruit production is significant in and around the island of Shikoku. The main citrus product is the unshu mandarin orange. Japan's climate does not support significant commercial production of bananas and other tropical fruits, and pineapple production is small.

Like vegetable farmers, fruit farmers tend to be specialized. The multiyear planning horizon for orchard production reduces year-to-year flexibility.

Greenhouse production of certain fruits, such as melons and strawberries, has increased over the last decades and requires a large fixed investment. Local fruit cooperatives, tied to regional and national federations, have been very important, especially for apple production. The cooperatives provide packing, distribution, and marketing functions for member farmers.

Recent developments include efforts to streamline the marketing of domestic produce; initiatives by international trading firms to weave together a year-round, stable vegetable and fruit supply through direct contracts for domestic and imported production; and overhaul of Japan's organic produce marketing rules. Organic certification and labeling rules enacted in April 2001 have tightened the criteria that domestic producers must meet.

Japan's national and prefectural governments are highly interested in promoting vegetable and fruit production. Government goals include (Nagata, 1997):

- Development of Designated Vegetable Production Areas,
- Development of large-scale production areas of two or more villages,
- Development of new production areas, especially in upland fields,
- Promotion of greenhouse vegetable and fruit production, and
- A supply of high-quality seeds and seedlings.

At the national level, the government has budgeted large sums to subsidize production capacity and marketing efficiency. Subsidies are available for constructing facilities and acquiring machinery and technologies. These programs pay much of the cost for the construction and outfitting of modern packing plants, in particular.

Stabilizing prices is a major goal of Japan's vegetable and fruit sectors. Farmers fear volatile prices that could depress their main source of income. The government, through the Ministry of Agriculture, Forestry, and Fisheries (MAFF), wants to avoid price swings that would hurt farmers and seeks stable prices for consumers. Retail firms, while welcoming lower prices, also place considerable weight on price stability and do not like to risk sudden price hikes.

Several mechanisms operate to stabilize prices, or to correct the effects of volatile prices if they cannot be avoided. Each year MAFF surveys supply and demand conditions for four major vegetables—onions, cabbage, Chinese cabbage, and Japanese radishes (daikon)—and sets a target for the planted area of each. Given historical yields, the target area is expected to produce a volume that will satisfy domestic consumption without significant changes in prices. The target planting area is then divided up regionally and passed on to cooperative federations, which make prefectural targets. Finally, each local cooperative is assigned a target area and works with its farmers to achieve, but not exceed, that area. For 10 other vegetables, national producer groups are entrusted with the responsibility of stabilizing prices by coordinating planting decisions of their members. These associations (in addition to the producing groups of the four major vegetables) are

supported by the Vegetable Supply Stabilization Fund (VSSF) when prices or harvests are disappointing (Ito and Dyck, 2002).

Price compensation guarantees payments of a portion of the difference between current season wholesale prices and a moving average of prices in previous seasons, depending on a variety of factors (Ito and Dyck, 2002). For onions, potatoes, and cabbages, the VSSF makes advance purchases for stockholding, releasing stocks in case of market price spikes. MAFF also has the authority to subsidize cooperatives for shipping low-graded vegetables that are not usually shipped in order to dampen price increases. Producer groups for vegetables not included among the 14 handled by the VSSF receive government support for undertaking similar supply management plans. The Fruit Supply Stabilization Fund operates to plan production and stabilize prices for certain fruits, currently for citrus, apples, peaches (for processing), and pineapples (OECD, 1995).

Some large cooperative units also do autonomous planning, especially Hokuren, the Hokkaido cooperative federation. Hokuren tries to reach a targeted onion production level, set with regard to the MAFF area target and the prospective planting in other major Japanese production areas. In addition to volume, timing the release of onion stocks is a critical factor in Hokuren's planning. To maintain its onion supply to Japan's markets, Hokuren purchases imports from outside Japan when its own supplies are short of its targets.

The Government of Japan has undertaken several voluntary programs to pay farmers to remove land from rice cultivation and substitute other uses. The programs have been heavily structured, with goals or limits on the number of hectares accepted for subsidies for a given kind of production, such as vegetables. The goals or limits have been set in order to control the over-supply of produce from the diversified areas. The first diversification program resulted in the conversion of about 56,000 hectares from rice to vegetable production (not including potatoes) in the early 1970s. By the 1990s, about 100,000 hectares had been converted from rice to vegetable production, using the subsidies from various diversification schemes. This represents about 20 percent of the total vegetable area. In recent years, subsidies for planting vegetables have been less than those for some other crops (Ito and Dyck, 2002). Diversification for fruit has been less important than for vegetables.

Japanese Trade in Vegetables

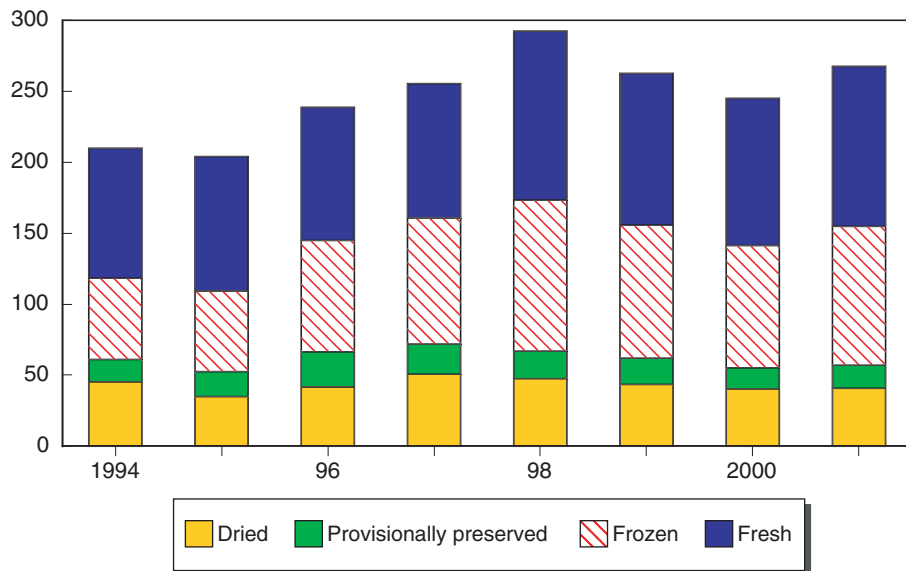
Japan's vegetable imports, \$2.21 billion in 2000, grew by one-third in volume from 1997 to 2000 and remained constant in 2001.¹ The 1997-2000 rise in volume coincided with a decline in prices for most of Japan's vegetable imports and a decrease in the aggregate value of vegetable imports. Imports are distributed among four main categories: dried vegetables and beans; vegetables that are provisionally preserved so that they can be further processed; frozen vegetables; and fresh vegetables (fig. 7.1). While fresh vegetable imports have shown some growth in recent years, the import volume of frozen, dried, and provisionally preserved vegetables has not risen as much. Unit values for fresh vegetable imports (as an aggregate)

¹ Data on Japan's imports in the following pages comes from Japan Tariff Association, *Japan Exports & Imports*, as provided electronically by the World Trade Atlas.

Figure 7.1

Japan's vegetable imports

Billion yen



Source: Japan Tariff Association, *Japan Exports & Imports*.

dropped by one-third from 1997 to 2000 and volumes rose by 58 percent. For frozen vegetables, a 17-percent drop in unit values coincided with a 19-percent rise in the volume of imports for this period. Dried vegetable import unit values dropped by 20 percent from 1997 to 2000, but there was no increase in volume. The 42-percent decrease in provisionally preserved vegetable import unit value over the same years was accompanied by a 21-percent gain in volume.

Mushrooms are the leading imports, comprising 14 to 18 percent of the total value of Japan's vegetable imports. Frozen potato products, chiefly french fries, are the next largest import item, making up 9 to 11 percent of imports. Other imports are distributed over a wide range of vegetables (table 7.1).

China is the largest source of Japan's vegetable imports, supplying virtually all of the provisionally preserved vegetables, most of the mushrooms, half of the dried vegetables, and substantial shares of the fresh and frozen vegetables (fig. 7.2). China's share of Japan's imports has been rising, growing from 40 percent in 1994 to 50.7 percent in 2001.² Shares of other major exporters to Japan (except for South Korea) have fallen. China's leading frozen exports to Japan are green soybeans, taros, spinach, and mixed vegetables. The leading fresh vegetables from China are Japanese radishes, leeks, peas, and garlic. In 2001, Japan instituted proceedings under the WTO Agreement on Safeguards to impose import quotas on leeks (Welsh onions) and fresh shiitake mushrooms. The move was in reaction to rising imports of these commodities from China (Ito and Dyck, 2002).

Japan's imports from the United States, the second largest source of its vegetable supply, are concentrated in the fresh and frozen categories. Frozen

² See Huang, 2002, for a discussion of China's rising fresh/frozen vegetable exports to Japan.

Table 7.1—Japan's leading vegetable imports, 1996-2001 average volume, value, and unit value

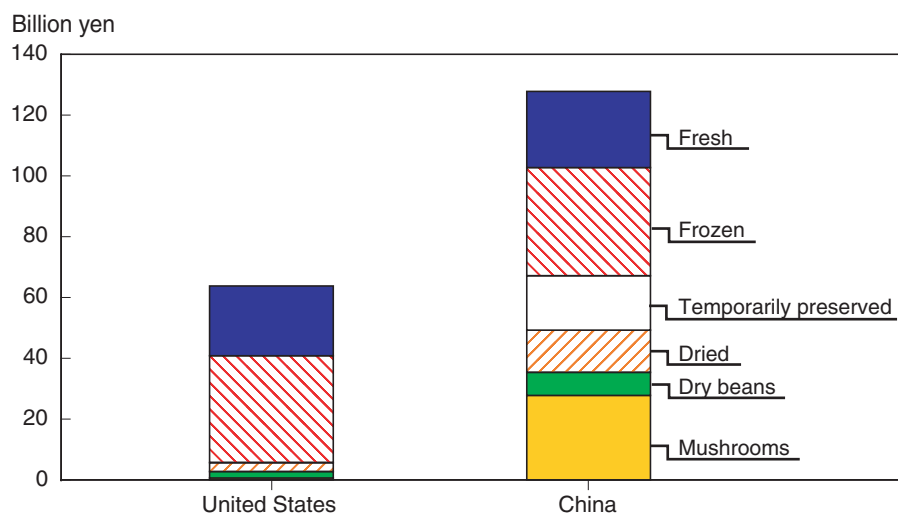
	Quantity	Value	Unit value
	<i>Metric tons</i>	<i>Bil. yen</i>	<i>Yen/kg</i>
Potatoes, processed, frozen	259,817	29.32	116
Mushrooms, fresh	37,202	26.04	754
Broccoli, fresh/chilled	80,337	14.34	182
Green soybeans, frozen	70,767	13.29	194
Mushrooms and truffles, dried	11,734	11.62	1,021
Asparagus, fresh/chilled	22,452	11.54	518
Pumpkins, fresh/chilled	138,465	10.70	77
Vegetable mixtures, provisionally preserved	90,242	10.32	111
Vegetable mixtures, dried	21,889	8.91	402
Onions and shallots, fresh/chilled	226,815	8.42	39
Taros, frozen	53,691	6.95	128
Sweet corn, frozen	49,483	6.83	140
Peppers, fresh/chilled	12,731	5.59	565
Burdock root, fresh/chilled	78,025	5.04	65
Mung beans, dried	51,606	4.64	91
Spinach, frozen	43,336	4.53	111
Beans, except soy, frozen	33,046	4.44	138
Peas, fresh/chilled	18,411	3.39	196
Cucumbers, provisionally preserved	50,673	2.86	55
Leeks, fresh/chilled	27,286	2.78	130
Bamboo shoots, dried	2,955	2.77	103
Garlic, fresh/chilled	27,298	2.72	934
Osmund (fern), dried	2,218	2.63	1,153
Adzuki beans, dried	28,061	2.17	80

Note: Average for burdock based on 1999-2001 data only.

Source: Japan Tariff Association, *Japan Exports & Imports*.

Figure 7.2

Japan's imports of vegetables from leading exporting countries, average 1996-2001



Source: Japan Tariff Association, *Japan Exports & Imports*.

potato products, fresh broccoli, fresh and dried onions, frozen and dried sweet corn, and asparagus are the leading commodities. New Zealand is the third most important supplier, exporting pumpkins, fresh onions, frozen sweet corn, and fresh peppers.

Seasonal differences are a factor in Japan's vegetable imports, especially of asparagus, with large Southern Hemisphere and tropical shipments from Oceania and Southeast Asia. Among the 10 largest suppliers to Japan, New Zealand, Thailand, and Australia have seasonal advantages. However, their market share, like that of most countries except China, tended to decline slightly over the 1994-2001 period.

Tariffs on most vegetables are 3 percent for fresh imports, 6 percent for frozen imports, and 9 percent for provisionally preserved and dried imports. Higher tariffs apply to potatoes and sweet potatoes, sweet corn, taro, some mushrooms, frozen and preserved burdock, and frozen peas and beans. The highest tariff is 12.8 percent for sweet potatoes (table 7.2).

These tariffs generally apply to both developed and developing countries. Dried vegetables are an exception: tariffs are zero for the least-developed countries, except for sweet corn, taros, shiitake mushrooms, and sweet potatoes. Fresh matsutake mushrooms and fresh burdock have a zero tariff for all developing countries.

Fresh onions are subject to a gate price system, under which importers of onions arriving with an import unit value below the gate price must pay the difference between the gate price and the import unit value. If the import unit value is low enough, however, a simple tariff (8.5 percent) is applied. If the import unit value is above the gate price, no tariff is applied. The system is designed to protect Japan's onions from competition from similarly priced imported onions, but not from very inexpensive or premium onion imports.

Japan has administered a quota on imports of dried beans and peas (except chickpeas and lentils) for many years. Within the quota, a tariff of 10 percent applies. Outside the quota (120,000 tons per year), the tariff is 354 yen/kg (\$2,927 per ton in 2001). The quota protects domestic production, primarily of Azuki and kidney beans.

Besides the commodities affected by the quotas and the special case of onions, Japan's tariff regime does not constitute a major barrier to vegetable imports. Far more important are phytosanitary barriers that affect the imports of fresh vegetables. Imports of some vegetables are banned from most countries, including the United States, because of disease restrictions. Fresh cucumbers, eggplants, potatoes, and other important vegetables are not imported in large quantities because of these restrictions. Other vegetables are affected by fumigation requirements designed to kill insects and other pests at the arrival port in Japan. Fumigation often seriously damages the quality of the imported vegetables, especially if they are soft or light-colored. Lettuce and cauliflower have been particularly affected. Japan's officials fumigate whenever they see insects in a shipment, even if the insect is already endemic to Japan (Ito and Dyck, 2002).

Table 7.2—Tariffs on vegetables and fruits

	Fresh			Frozen			Provisionally preserved			Dried					
	Percent									1/	2/	3/			
Vegetables:	1/	2/	3/										1/	2/	3/
Potatoes	4.3			8.5			9			12.8			10	0	
Sweet potatoes	12.8			12			12.8			12.8					
Tomatoes	3			6			9			9			9	0	
Onions 4/	8.5			6			9			9			9	0	
Garlic and leeks	3			6			9			9			9	0	
Cabbage and broccoli	3			6			9			9			9	0	
Lettuce and spinach	3			6			9			9			9	0	
Carrots and turnips	3			6			9			9			9	0	
Burdock	2.5	0	0	12			12			9			9	0	
Cucumbers	3			6			9			9			9	0	
Peas and beans 5/	3			8.5			9			10					
Artichokes	3			6			9			9			9	0	
Asparagus	3			6			9			9			9	0	
Peppers and eggplants	3			6			9			9			9	0	
Celery	3			6			9			9			9	0	
Sweet corn	6			10.6			9			9			9	0	
Pumpkins	3			6			9			9			9	0	
Lotus roots	3			6			9			9			9	0	
Taros	9			10			9			9			9	9	
Matsutake mushrooms	3	0	0	6			9			9			9	0	
Shiitake mushrooms	4.3			6			9			12.8					
Other mushrooms	4.3			6			9			9			9	0	
Fruits:	In-season						Out-of-season								
	1/	2/	3/	1/	2/	3/	1/	2/	3/	1/	2/	3/	1/	2/	3/
Bananas 6/	25	20	0	20	10	0	12			25/20			3	0	0
Dates	0						12			12			0		
Figs	6						12			12			6	5	0
Pineapples	17						23.8			12			7.2	7.2	0
Avocados 7/	3	3	0				12/7.2	12/3.6	0	12	10	0	3	3	0
Guavas and mangoes 7/	3	0	0				12/7.2	12/3.6	0	12	10	0	3	0	0
Oranges 6/	32			16			12			32/16			32/16		
Mandarins/tangerines	17						12			17			17		
Lemons	0						12			0			0		
Limes	0						12			0			0		
Grapefruit 6/	10			10			12			10			10		
Grapes 6/	17			7.8			12			12			1.2		
Melons	6						12			12			9		
Papaws/papayas 7/	2	2	0				12/7.2	12/3.6	0	12	10	0	7.5	7.5	0
Apples	17						12			12			9		
Pears	4.8						7			12			9		
Apricots	6						12			12			9		
Cherries 8/	8.5						13.8			17			9		
Peaches	6						7			12			9		
Plums	6						12			12			2.4		
Strawberries 7/	6						9.6/12			12			9		
Berries 7/	6						9.6/6			12			9		
Currants/gooseberries 7/	6						9.6/6			12			9		
Cranberries	6						12			12			9		
Kiwi	6.4						12			12			9		
Durians, rambutan, passionfruit, etc. 7/	5	2.5	0				12/7.2	12/3.6	0	12	10	0	7.5	7.5	0
Persimmons	6						12			12			9		

Notes:

Not an authoritative source for Japan's tariffs. For that, see Japan Tariff Association, *Custom Tariff Schedules of Japan*.

1/ If preferential tariffs exist, the column applies to developed country exports.

2/ If preferential tariffs exist, the column applies to developing country exports; if not, it applies to all countries.

3/ If preferential tariffs exist, the column applies to least-developed country exports.

4/ Tariffs are zero if the import unit value exceeds 73.7 yen/kg; 8.5 percent if the import unit value is less than 67 yen/kg; and the difference between 73.7 and the import unit value if import unit values lie between 67 and 73.7 yen/kg.

5/ A tariff-rate-quota is in effect for dried beans and peas. Within the quota, the tariff is 10 percent. Outside the quota, the tariff is 354 yen/kg.

6/ Seasonal tariffs apply to one or more of the processed categories (frozen, provisionally preserved, or dried), indicated by two tariffs separated by a /.

7/ Tariffs differ in one or more processed categories, depending on whether sugar has been added. The first tariff refers to product with sugar added, and the second to product without added sugar. Tariffs are separated by a /.

8/ Tariff in the frozen category is for sour cherries containing added sugar. Tariff on other cherries is 12 percent.

Source: Japan Tariff Association, *Custom Tariff Schedules of Japan*, 2002.

Future Prospects for Japan's Vegetable Trade

Japan's trade in vegetables is likely to grow in the future. Consumption will be flat or decline (as the population begins to decrease), but Japan's production is relatively high cost and vulnerable to international competition.

Import penetration is already high in the provisionally preserved, dried, and frozen vegetable categories, but low among fresh vegetables. Fresh vegetables offer the principal opportunity for trade growth. The major barrier to their import is the existence of stringent phytosanitary barriers. Assuming that these barriers can be overcome, several factors influence the import potential of vegetables:

- Japan's consumers put a very high value on freshness. This is one of the main strengths of Japan's own vegetable production, which increases the probability of very fresh delivery. Among exporting countries, the emphasis on freshness gives a major advantage to the four economies geographically close to Japan: South and North Korea, Taiwan, and eastern China. North Korea lacks the infrastructure for large-scale trade. The other three economies are well-connected to Japan by shipping routes.
- Japanese consumers also emphasize the quality, visual perfection, and taste of vegetables. Again, this favors domestic producers, who know their customers well. Extra quality adds to both the cost and the riskiness of vegetable production. If a costly, high-quality vegetable is being produced just for one market (e.g., only for export to Japan), there is more risk than if it is produced for two or more markets. Economies with large domestic markets that offer a price premium for quality can provide a second market, additional to Japan. Examples are Taiwan, South Korea, the Netherlands, the United States, and a few other wealthy economies. This is less true for China.
- Naturally, other things being equal, Japan's consumers prefer lower prices. This favors exporting from regions such as eastern China, parts of Southeast Asia, and Mexico. To a lesser extent, exports from the United States, South Korea, and Taiwan also benefit from being priced lower than domestic produce in Japan.
- Tariffs vary by country of origin, in some cases. Japan applies tariffs bound under the WTO process to almost all countries, whether or not they are WTO members. The important exception is nearby North Korea, whose horticultural exports face significantly higher tariffs than exports from the rest of the world. Japan also grants two levels of preferential tariffs, chiefly for dried vegetables; developing countries can export these products to Japan with tariffs lower than the WTO bound tariffs, and a group of least-developed countries can sometimes export to Japan with no tariff at all (table 7.2). Among the main exporting areas, China, Southeast Asian countries, and South Africa benefited from preferential tariff treatment as developing countries (as of 2000), while the United States, the EU, South Korea, Taiwan, Australia, and New Zealand faced higher tariffs.
- Finally, stability of supply is very important to Japan's middlemen and retailers. This encourages them to diversify their sources of supply, in order to avoid being left without vegetables in the event of a weather

problem in one producing area. Firms also wish to avoid seasonal interruption of supplies. Thus, a supply network that includes imports as well as domestic production has advantages for distributors, because it reduces the risk from bad weather in Japan. Southern Hemisphere producers help provide diverse supply bases as well as offering vegetables in Japan's off-seasons.

These factors point to growing imports for Japan, particularly as production in eastern China achieves higher levels of quality. However, the insistence on freshness and quality is likely to support continued large-scale production in Japan itself indefinitely, and a gradual increase in imports and decrease in domestic production is much more likely than a sudden collapse of Japan's production.

Trade in Fruits

Japan's fruit/nut imports,³ almost \$2 billion in 2001, have grown slowly and erratically in volume over the last decade. The leading fruit imports, in volume and value, are bananas, grapefruit, lemons, and oranges (table 7.3). Kiwifruit and cherries are important high-value imports, and pineapples add a large volume. The leading nut imports are chestnuts and almonds.

Japan's fruit trade can be divided into five categories: nuts, dried fruit, provisionally preserved fruit, frozen fruit, and fresh fruit (fig. 7.3). Import quantities of nuts, dried fruits, and provisionally preserved fruits are fairly stable, but frozen and fresh fruit imports have been growing. Import growth in these categories is occurring because of the introduction of new fruits into wide use in Japan, supplied by imports; new uses of familiar fruits, especially of

Table 7.3—Japan's leading fruit and nut imports, 1996-2001 average volume, value, and unit value

	Quantity	Value	Unit value
	<i>Metric tons</i>	<i>Bil. yen</i>	<i>Yen/kg</i>
Bananas	979,388	59.65	61
Grapefruit	258,312	27.02	105
Lemons	86,549	14.40	167
Oranges	125,632	13.92	114
Chestnuts	34,264	12.81	373
Cherries	14,223	10.96	792
Kiwifruit	41,220	10.51	255
Almonds	20,397	8.95	447
Other frozen fruit	30,653	8.50	279
Other fruits and nuts, provisionally preserved	39,520	8.27	211
Pineapple	98,264	5.63	57
Raisins	29,960	5.60	185
Strawberries, frozen	28,918	5.26	183
Walnuts	8,898	4.75	535
Prunes	18,491	4.64	250
Strawberries, fresh	5,141	4.32	845
Melons	33,781	3.78	112
Mangoes	9,162	3.08	337
Avocados	10,250	2.62	262

Note: Unit value is the average of annual unit values calculated for the 6 years 1996-2001.

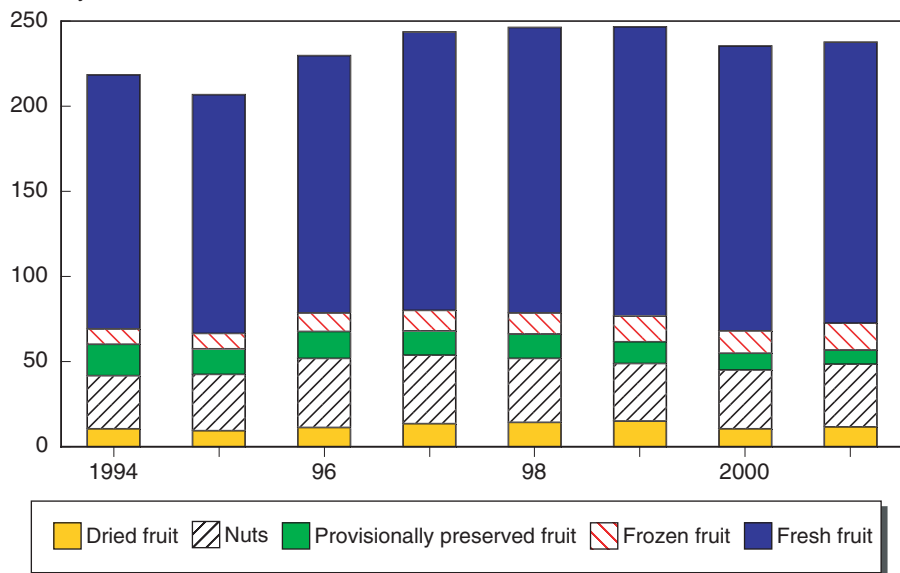
Source: Japan Tariff Association. *Japan Exports & Imports*.

³ Data on Japan's imports in the following pages come from Japan Tariff Association, *Japan Exports & Imports*, as provided electronically by the World Trade Atlas.

Figure 7.3

Japan's fruit and nut imports

Billion yen



Source: Japan Tariff Association, *Japan Exports & Imports*.

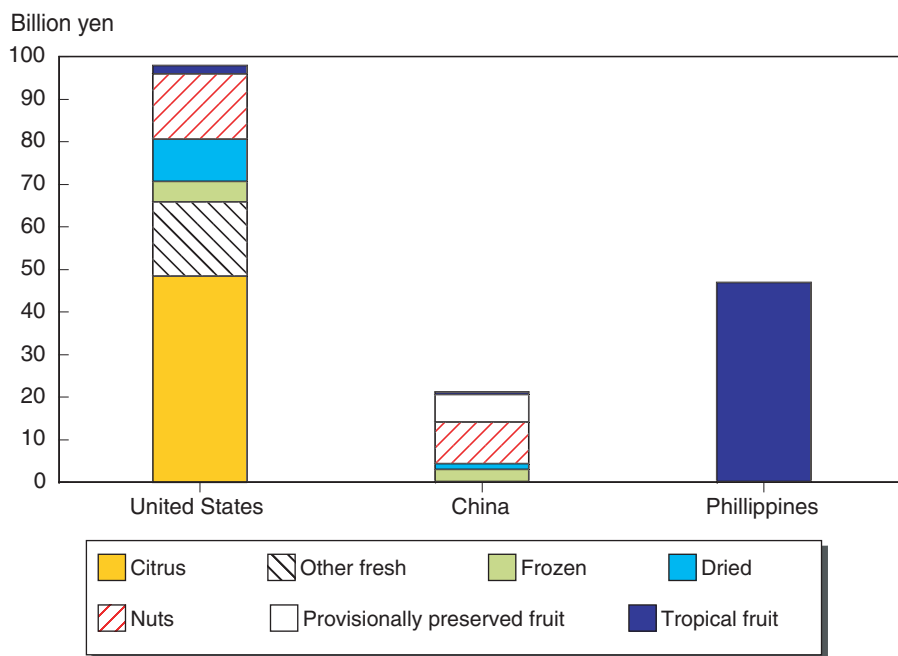
imported frozen fruit; imports of fresh fruit in the off-season; and competition that imports are giving to domestic products on price and quality.

The United States and the Philippines dominate Japan's imports, together supplying over 55 percent of the total value. Philippine exports are fresh tropical fruits, mainly bananas, followed by pineapples and mangoes (fig. 7.4). U.S. exports are diverse, spread across all the categories except provisionally preserved fruits. Citrus fruits, led by grapefruit, constitute over 40 percent of U.S. exports to Japan by value. Besides citrus, the United States is the leading supplier of other fresh fruits, frozen and dried fruits, and nuts.

Both the value of Japan's total fruit/nut imports from the United States and the share of total import value accruing to the United States have fallen in recent years. From 1994 to 2000, the U.S. share of fruit/nut imports fell by almost 9 percentage points, from 47 to 38 percent, although the share increased in 2001 to 39.8 percent. Japan's imports from South Korea and Taiwan also fell, but imports from the Philippines, China, Mexico, Ecuador, New Zealand, South Africa, and Chile each grew by more than 1 percent of Japan's total import value. From 1994 to 2000, imports from South Africa tripled in value, and those from Mexico and Chile doubled. Fruit imports from South Africa, Chile, and New Zealand increased in part because these countries have growing seasons opposite to Japan's. Increased imports from the Philippines and Ecuador were chiefly bananas. China's trade with Japan increased mainly because it displaced provisionally preserved fruit that previously was imported from Taiwan and South Korea. Preferential tariffs for developing countries are not as frequent as for vegetables. However, preferential tariffs apply to almost all the potential banana-supplying coun-

Figure 7.4

Japan's fruit and nut imports from leading countries, 1996-2001 average



Source: Japan Tariff Association, *Japan Exports & Imports*.

tries, reducing the effective import tariff to 10 percent out of season and 20 percent in season.

Imports supplement and compete with Japan's own fruit and nut production, especially of oranges, kiwifruit, cherries, and chestnuts. Trade in some fresh fruits important in Japan's diet is very small, that is, trade in apples, pears, peaches, persimmons, and mandarin oranges. This reflects both the strength of Japanese production and the phytosanitary barriers maintained by Japan.

Tariffs on fruits range from 0 to 32 percent (table 7.2), and are generally higher than for vegetables. No tariffs are collected on dates, lemons, and limes. Some fruits are tariff-free from the least-developed countries, and tariffs are sometimes lower for all developing countries than for imports from developed countries. Tariffs on fresh oranges, fresh grapes, and bananas are adjusted seasonally. Tariffs on oranges are 32 percent from December 1 to May 31, and 16 percent otherwise. Grape tariffs are 17 percent from March 1 to October 31, and 7.8 percent otherwise. Banana tariffs are 20 percent from October 1 to March 31, and 10 percent otherwise.⁴ Besides grapes and oranges, tariffs are relatively high (17 percent) for fresh apples, mandarin oranges, and pineapples.

Aside from the tariff on oranges, the main barriers to fresh fruit imports into Japan are phytosanitary. Phytosanitary regulations protect against the introduction of diseases into Japan that could hurt domestic production. Japan's application of these regulations is very strict, requiring expensive protocols that farms in foreign regions, where a disease is known to exist, must follow in order to export to Japan. The protocols include onsite inspection by

⁴ These tariffs apply to imports from developing countries. Higher tariffs apply to imports from developed countries, and imports from least-developed countries face a zero tariff.

Japan's authorities. Paying for the required changes in farm practice and inspections adds considerably to the cost of imported fruits in Japan, and makes them less competitive against domestic products. Japan also has refused to allow procedures agreed to for one variety of a fruit (or vegetable) to be recognized for other varieties of the same fruit. This means that separate testing and application procedures must be developed for each variety, adding to the expense of trade and delaying the beginning of trade in a given variety, sometimes for several years. In 2000, Japan agreed to allow most varieties of tomatoes, and all apple and nectarine varieties, to be imported following the protocols laid down for individual varieties prior to that date.

Future Prospects for Japan's Fruit Trade

Prospects for fruit trade vary significantly by category. Overall, consumption is unlikely to increase and may decrease; Japan's population growth has slowed to near zero, and the government projects that a population decline will begin before 2010. Import penetration for processed and simply preserved fruits is already high and may not grow in the future. The trade in fresh fruits is the most likely to grow. The main opportunities for growth are for the temperate fruits, including apples, pears, peaches, persimmons, plums, cherries, and strawberries. In those markets, if phytosanitary barriers are reduced or met, the same attributes demanded in vegetables will be important to increasing the flow of imports—freshness, quality and visual perfection, taste, price, and stability of supply.