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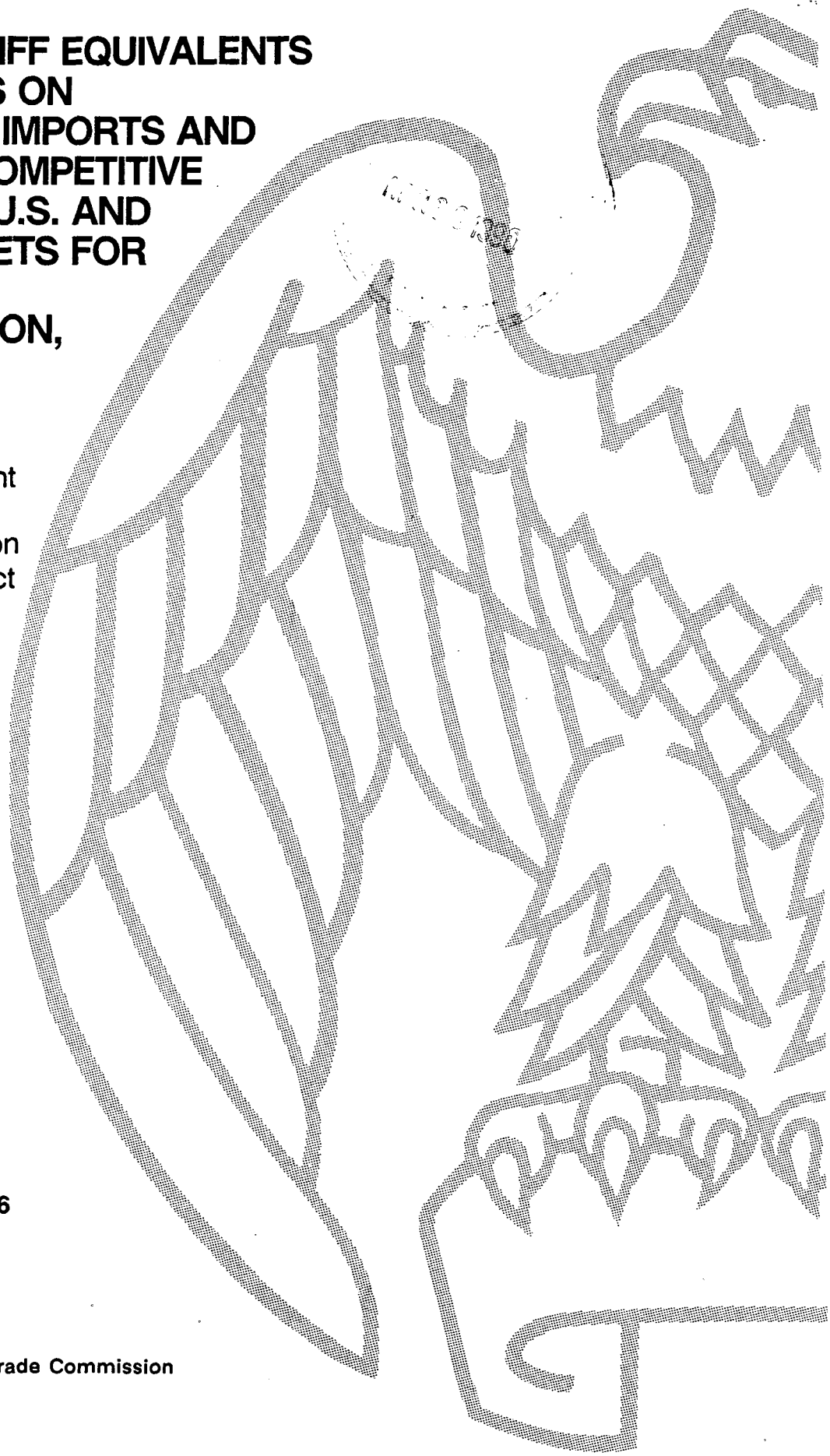
ESTIMATED TARIFF EQUIVALENTS OF U.S. QUOTAS ON AGRICULTURAL IMPORTS AND ANALYSIS OF COMPETITIVE CONDITIONS IN U.S. AND FOREIGN MARKETS FOR SUGAR, MEAT, PEANUTS, COTTON, AND DAIRY PRODUCTS

Report to the President on Investigation No. 332-281 Under Section 332(g) of the Tariff Act of 1930, as amended



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PREFACE

On October 25, 1989, following receipt of a request from the United States Trade Representative (USTR), at the direction of the President,[1] and in accordance with section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)), the U.S. International Trade Commission instituted investigation No. 332-281, Estimated Tariff Equivalents of U.S. Quotas on Agricultural Imports and Analysis of Competitive Conditions in U.S. and Foreign Markets for Sugar, Meat, Peanuts, Cotton, and Dairy Products, for the purpose of providing (1) calculated tariff equivalents of U.S. import quotas on dairy products, peanuts, cotton, and sugar and sugar-containing products for the individual years 1986-88; (2) a calculation of the tariff equivalent of the voluntary export restraint on meat imported into the United States during 1987-88; and (3) an assessment of the competitive factors affecting the performance of the dairy, peanut, cotton, sugar, and meat industries in domestic and foreign markets.

The USTR requested that the Commission report the results of its investigation not later than February 28, 1990.

Notice of the investigation was given by posting copies of the notice of investigation at the Office of the Secretary, United States International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register (54 FR 210, November 1, 1989, p. 46134).[2]

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[1] The request from the USTR is reproduced in App. A.

[2] A copy of the Commission's Notice of Investigation is reproduced in App. B.

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EXECUTIVE SUMMARY

Introduction

As requested, this study examines two aspects of agricultural trade. First, it examines the competitive conditions affecting five key sectors of U.S. agriculture, with particular reference to U.S. Government trade barriers and farm-support programs, and their effects on the ability of U.S. producers to compete in domestic and foreign markets; it also examines competitive conditions in major foreign supplying countries and in major foreign markets for these agricultural sectors. Second, it provides the results of one method of estimating the tariff equivalents of U.S. quantitative restraints on agricultural imports.

CONDITIONS OF COMPETITION IN U.S. AGRICULTURE

The major factor affecting competition in all the agricultural sectors examined in this report is the set of agricultural support programs of the U.S. Department of Agriculture (USDA). In those sectors, commodity prices, and in many cases the quantity of domestic and imported supply for these commodities, are set by the Government. Processors and marketers often pay artificially high prices, which makes it difficult to compete in domestic and export markets against those foreign rivals that do not suffer from inflated costs. In addition, high prices drive consumers to cheaper substitutes.

The quantitative restraints on agricultural imports examined herein are an integral part of U.S. Government intervention in markets. In each case, they facilitate the operation of USDA farm-support programs. Without import restraints, the farm-support programs would either fail or become more expensive for taxpayers. By reducing or eliminating imports, these restraints prevent the price-boosting effects of support programs from spilling over into international markets, raising prices abroad, and helping foreign rivals. Import restraints raise domestic prices and thereby reduce (or eliminate) the level of Government expenditures needed to maintain high farm-level prices.

Other factors that affect competition in the agricultural markets examined herein are as follows:

Sugar and sugar-containing articles

U.S. sugar supplies are affected by the costs of beet and sugarcane production, returns from alternative crops, the availability of sugar beet factories and sugarcane mills, and the prices set by the Government and the market. In addition to being purchased directly for use as table sugar, sugar is a significant component of many food products. Total demand for sugar depends on the price of sugar, the price of sugar substitutes, consumer incomes and population. The USDA support programs for and import restraints on sugar have been the important forces behind the significant growth in the

sweetener market for sugar substitutes such as High Fructose Corn Syrup (HFCS) and aspartame. However, because of the physical nature of HFCS, it will probably not capture much more of the sweetener market.

In foreign markets, the combination of U.S. price-support/import policies and the EC Common Agricultural Policy (CAP) for sugar has resulted in a depressed world price for sugar. The EC has been transformed from a net importer of sugar prior to the CAP to the world's second largest exporter. The EC exports refined sugar; its export support policies (and U.S. import restriction policies) have resulted in depressed world prices for refined sugar to the extent that the margin between world prices for raw sugar and world prices for refined sugar are less than refining costs. This has made it difficult for U.S. cane sugar refiners to compete on the world market for refined sugar even though the U.S. reexport program provides for the importation of raw sugar to be refined and reexported. Most sugarcane producing countries have limited refining capacity, and with higher transportation costs for refined sugar than for raw sugar, these countries export only raw sugar.

For sugar-containing articles, U.S. producers generally are at a disadvantage in both the U.S. and foreign markets since foreign suppliers generally have access to world-priced sugar and U.S. producers generally must use higher priced U.S. sugar. This is mitigated to some extent by the U.S. reexport program for sugar in sugar-containing articles and by the import quotas on certain sugar-containing articles.

Meat

U.S. meat imports subject to quantitative restrictions are mostly beef and veal. Annual domestic supplies of beef available for domestic consumption change due to the nature of the cattle cycle, feed availability, changes in the dairy industry and the level of current and expected beef prices. There has also been a general shift in consumer demand away from beef to poultry and pork. This shift in consumer demand is apparently the result of relatively high beef prices and consumer concerns about health issues.

In foreign markets, Japan is the largest market for U.S. exports of fresh, chilled or frozen beef. The recent opening of the Japanese market for meat imports was the result of an early experiment with tariffication in which the United States negotiated a replacement of Japanese quantitative restrictions with tariffs.

The United States has a comparative advantage in producing grain-fed beef because of its low-cost feed grains. The major exporters of beef to the United States--Australia and New Zealand--have a comparative advantage in producing grass-fed beef because of the availability of low-cost, high quality forage areas in their countries.

As suggested by a comparison of actual imports with USDA estimates of imports without quotas, the meat VRAs have had no significant effects on prices or on other factors affecting the ability of the U.S. beef sector to compete in the domestic or foreign markets. This is supported by the small

and even negative tariff equivalents calculated for this study and the apparent difference between the type of beef the United States produces and that imported from Australia and New Zealand. There are also no direct price support for beef; however, there may be indirect effects on beef from price support programs in the U.S. dairy and grain sectors.

Peanuts

The available supply of domestic peanuts is affected by climate, the availability of land suitable for peanuts and the quota and price support programs. Consumer demand for peanuts is strong in the United States and is small but growing in foreign markets such as the EC. About half of the U.S. supply is used for edible purposes such as peanut butter, the single most important U.S. peanut product. The remainder is used for seed, feed and other purposes, or is exported. Government intervention is particularly important; a support program fixes a two tier price program for peanuts and sets quotas on higher tier price supported domestic output and on import supply. An unlimited quantity of lower-price-tier "additional" peanuts can then be produced to be exported or crushed into oil and meal in the highly competitive oil and meal markets, which are dominated by soybeans and other oilseeds. U.S. peanut crush and export volumes may be indirectly affected by the USDA domestic peanut support programs.

The main foreign competitors of the U.S. peanut industry in the world market are Argentina and China, both of which produce peanuts of significantly lower quality than U.S. export peanuts. This quality difference is reflected in a price premium for U.S. peanuts in important commodity exchanges such as Rotterdam. However, only about 6 percent of the world's peanut production is traded internationally; the EC and Japan are major importers of processed and unprocessed peanuts.

Cotton

The annual supply of domestic cotton is determined by planted acreage, yield per acre, government policies, inventory levels, and expected prices. U.S. cotton programs influence domestic cotton prices and planted acreage by using nonrecourse loans, target prices, deficiency payments, and acreage diversions in an effort to maintain farm incomes and ensure a stable supply of cotton. The demand for cotton, derived primarily from the demand for textiles and textile products (especially apparel), is subject to shifts in consumer tastes for clothing and to competition from substitute fibers such as polyester and wool.

Domestic cotton prices are also influenced by U.S. cotton exports, which absorb roughly half of U.S. cotton production. Foreign textile manufacturers in Asia and Europe are the single most important market for U.S. cotton producers. Moreover, anywhere from 10 to 15 percent of such exports are reimported as clothing from Asian and European textile producers. Textile imports, however, are regulated by the Multifiber Arrangement, which moderates

the impact that uncontrolled textile imports could have on the domestic processing of U.S. cotton into textiles.

The main exporters or producers of cotton, besides the United States, are China, the Soviet Union, Pakistan, India and Australia. However, most major producers of cotton are also large consumers of cotton and have import and export controls in place to ensure domestic supplies of cotton for their own textile industries.

Dairy Products

The supply of milk and dairy products is influenced by feed costs, genetic improvements in dairy cows, the number of cows milked, and the price of milk received. Milk producers are subject to a complex system of State and Federal price and product controls and to import quotas on a variety of dairy products. These policies influence the prices of such dairy products as fluid milk, ice cream, nonfat dry milk, cheeses, chocolate and other milk-containing products. However, milk products face increasing competition from such dairy product substitutes as imitation cheese made from casein, a milk-derived product not produced in the United States, nondairy coffee creamer made from corn syrup solids, and margarine made from vegetable oils. But growing demand for cheese and low-fat products, declining prices of milk products relative to other foods, and rising consumer incomes have recently increased the demand for milk products.

A combination of factors has affected the ability of the U.S. industry to compete in foreign markets with EC, New Zealand, Australian, and Canadian dairy exports. The price-support and import-control programs of the United States, the EC, Japan, Canada; the lack of hard currency and nonmarket structures in some potential markets such as the Soviet Union; and low income levels in other potential markets have combined to create a relatively small volume of total world dairy production being traded in the world market. Despite this "thin" world market for dairy products, low-cost producers, such as New Zealand and Australia export a large share of their dairy production; however, their combined output accounts for only 3% of world production. The small volume of traded dairy products and the high prices of Northern Hemisphere dairy producers inhibit the ability of those producers to compete effectively in world markets without some form of Government export assistance.

THE TARIFFICATION CONCEPT

Tariff Estimates

There are several methods of varying sophistication by which to calculate tariff equivalents. Data limitations in most cases required us in this study to rely on the price-gap method to estimate the tariff-equivalents of U.S. import quotas. The price-gap method assumes the gap between the U.S. price and the (presumably lower) world price is caused by the restrictive effects of the import quota. A tariff equal to the price gap would then cause

the same trade distortion, but in a more transparent manner. In some cases, including some articles containing sugar or dairy products, adjustments must be made by applying the estimated tariff equivalent for sugar or milk components to the product on the basis of its sugar or milk-component content per unit of weight. Specific tariff equivalents are the price gaps themselves, and ad valorem tariff equivalents are equal to the price gaps divided by the world price. As requested, separate estimates are provided for the years 1986, 1987, and 1988.

Table A on the following page summarizes the Commission's estimates of the tariff equivalents of U.S. quotas and voluntary export restraints on agricultural imports.

Inadequate Data And Other Problems

Several problems present themselves in the estimation of tariff equivalents of quantitative import restrictions. Some of these problems can be accommodated, but others must be ignored. Inadequate data are the most common problem; accurate calculation requires price data for the same stage of production, the same geographic and product market, and over the same time period. Where possible, adjustments were made for product differences (which can distort domestic and world prices apart from any effects of quotas) and geographic differences (registered mainly in transportation costs). However, it is usually difficult, and often impossible, to obtain prices that are truly comparable, the differences between which truly reflect only the effects of the quota.

A related problem is the fine definition of products subject to quotas; it is often impossible to find either domestic or world prices for products that are highly disaggregated.

Finally, many quotas are country-specific and may be binding on some but not all of the countries subject to the quota. Moreover, in most cases, a quota covers a broad range of products, the price gaps for which differ from product to product. The often complex presentation of tariff schedules also can make it difficult to determine exactly which products are covered by a quota. That there is a single tariff equivalent of such multiple quotas is a difficult conceptual and empirical argument to make.

Table A. Estimated tariff equivalents of U.S. quotas on selected agricultural imports

Item	Ad valorem			Specific		
	1986	1987	1988	1986	1987	1988
	percent			cents/kilogram		
Raw Sugar	223	203	102	29.76	30.01	22.80
Refined Sugar	163	163	62	32.01	32.28	19.52
Sugar-Containing Products:						
Blended syrups, not in retail containers	77	77	36	15.04	15.12	11.46
Edible preparations containing less than 65 percent sugar, not in retail containers	127	127	60	24.96	25.11	19.03
Sweetened cocoa powder	82	82	39	15.98	16.09	12.19
Flour mixes and doughs containing over 10 percent sugar, not in retail containers	49	49	23	9.59	9.66	7.32
Edible preparations containing over 10 percent sugar	106	106	50	20.79	20.92	15.85
Boneless Cow Beef		1.6	6.1		2.9	12.2
Bull Beef		0*	2.0		0*	4.4
Peanuts:						
In-shell, unroasted	34.3-51.2	35.7-52.8	69.1-90.1	6.9-10.3	7.1-10.5	11.2-14.6
Shelled, unroasted or roasted	31.4-38.6	32.4-39.7	55.2-63.6	12.7-15.6	13.0-15.9	19.1-22.0
Cotton:						
Type "A"	7-25	0-8	0-4	7.19-24.67	0-10.94	0-5.20
Type "B"	17-40	0-7	0-7	12.83-30.31	0-8.40	0-7.17
ELS cotton	0-4	0	0	0-9.04	0.00	0.00
Dairy:						
Dry Whole Milk	160.6	164.1	64.5	148.4	151.3	97.5
Nonfat Dry Milk	142.5	67.6	5.7	99.9	68.3	9.3
Butter	190.2	182.1	95.9	192.5	177.5	128.3
Butteroil	273.7	271.2	200.9	321.7	312.2	271.0
Cheddar Cheese	132.5	121.8	47.3	145.8	134.0	78.0
Fluid Milk Products in Item--						
9904.10.03	(1)	(1)	(1)	116.6	109.4	73.0
9904.10.06	(1)	(1)	(1)	17.2	14.1	6.6
Dried Milk Products in Item--(2)						
9904.10.09	142.5	67.7	5.7	99.9	68.3	9.3
9904.10.12	160.6	155.6	64.5	148.4	151.2	97.5
9904.10.15	73.5	(1)	(1)	148.4	151.2	97.5
9904.10.18	179.0	88.0	5.5	99.9	68.3	9.3
Butter (Item 9904.10.21)	190.2	188.9	95.9	192.5	184.1	128.3
Butteroil (Item 9904.10.24)	273.7	271.3	200.8	321.7	312.2	271.0
Cheese in Item--(3)						
9904.10.27	105.2	88.9	34.7	145.73	134.04	78.04
9904.10.30	132.5	121.8	47.3	145.73	134.04	78.04
9904.10.33	172.5	(1)	(1)	145.73	134.04	78.04
9904.10.36	92.4	72.1	27.2	145.73	134.04	78.04
9904.10.39	115.0	112.6	42.8	145.73	134.04	78.04
9904.10.42	74.7	67.0	27.5	145.73	134.04	78.04
9904.10.45	96.6	91.5	40.3	145.73	134.04	78.04
9904.10.48	83.5	78.9	30.8	145.73	134.04	78.04

1 Not available.
2 Based on butterfat and nonfat solids content.
3 Based on FAS world price data; data also reported based on butterfat and nonfat solids content in the chapter on dairy products.
*=The estimated tariff equivalent for this item in this year was negative.

NOTE: See text and tables in the following chapters covering the respective commodities for detailed explanations of the estimation of these tariff equivalents, and for important qualifications and caveats applicable to them.

CHAPTER 1. INTRODUCTION

The Scope of this Report

In this study, the Commission was requested to examine two aspects of agricultural trade. The first is an examination of the conditions of competition currently affecting several key sectors of U.S. agriculture, with particular reference to U.S. Government trade barriers (specifically, import quotas and voluntary export restraints negotiated with foreign exporters), and their effects on the ability of U.S. producers to compete in domestic and foreign markets. It is important when negotiating reductions in agricultural trade barriers to understand and anticipate the various benefits and costs that such barriers -- and their removal -- have for the U.S. industry. Detailed descriptions of the industries and markets for the various agricultural sectors are presented in chapters 2 through 6.

The second aspect is the estimation of tariff equivalents of one set of trade-distorting policy measures--quantitative restrictions on U.S. agricultural imports. These are presented at the end of each of the respective chapters and summarized in tabular form in the Executive Summary.

On a conceptual level, this approach to trade liberalization is attractive because it is uncomplicated and it enables one to address at once a wide variety of trade barriers -- a particularly important aspect of trade negotiations in agriculture. However, in actually carrying out the calculation of tariff equivalents of a rather narrow group of trade-distorting policies (import quotas and VERs), we have encountered a number of empirical difficulties. We discuss these difficulties in the following chapters with the intent of alerting those who wish to pursue the tariffication approach to potential pitfalls in its application, pitfalls that are magnified when tariffication is expanded to the wider range of trade-distorting policies found in agricultural sectors abroad.

Method Used to Calculate Tariff Equivalents

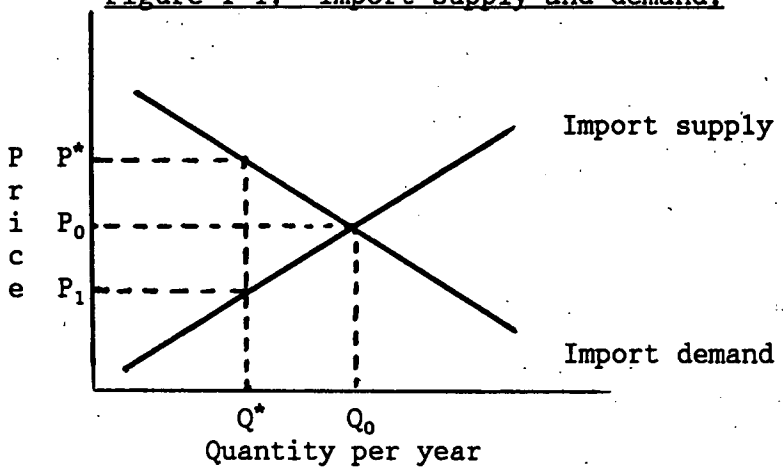
Definition of a Tariff Equivalent

This study presents estimates of the tariff equivalents (TEs) of U.S. import quotas on dairy products, peanuts, cotton, and sugar and sugar containing products for 1986, 1987, and 1988. It also presents estimates of the TEs for the voluntary export restraints (VERs) on exports of meat to the United States in 1987 and 1988.

Figure 1 illustrates the effect of an import quota on the U.S. market for the restricted imports. The import demand and supply curves are as

labelled. In a free-trade environment, P_0 and Q_0 are the free market price and quantity. If imports are restricted by quota to Q^*, then the price in the importing country will be P^* and the price in the exporting country will be P_1.[1] A tariff in the amount (P^*-P_1) will also restrict imports to Q^*--the imports allowed under the quota. The tariff $(P^* - P_1)$ is called the tariff equivalent of the quota.[2]

Figure 1-1. Import supply and demand.



There are cases discussed in the literature under which this "equivalent" tariff would not have the same effect on imports as the quota. One such case is if the domestic producers are not pure price-takers with the quota. Other such cases involve the presence of uncertainty, changes in the economy, or the possibility of trade retaliation.[3] The most important of

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[1] Transport and insurance costs are ignored in fig. 1. Per unit transport and insurance costs to the U.S. from the country of origin should be subtracted from the price gap between the U.S. and originating-country prices to obtain the appropriate TE. To be consistent with U.S. Customs practice, ad valorem tariff equivalents should be stated as a percentage of customs value, i.e., the import's price f.o.b. foreign port. Ad valorem estimates that could not be computed on this basis are noted in their respective chapters; these cases include refined sugar, articles containing sugar, peanuts, and cotton.

[2] See Caves and Jones, World Trade and Payments Boston: Little, Brown and Company, 1981, p. 246.

[3] For a discussion of the less than pure price-taker case, see Jagdish Bhagwati, "On the Equivalence of Tariffs and Quotas," in R. Baldwin (ed.), Trade, Growth, and the Balance of Payments (Chicago: Rand McNally, 1965) and, by the same author, "More on the Equivalence of Tariffs and Quotas", American Economic Review Vol. 58 (1968), pp. 142-46; also, Hirofumi Shibata, "A Note on the Equivalence of Tariffs and Quotas," American Economic Review, Vol. 58 (March 1968), pp. 137-42. For a discussion of equivalence in the presence of

(continued...)

these for the quotas considered in this study is the presence of uncertainty over world prices.[4]

A tariff equivalent can also be found for an export quota or VER. It should be noted, however, that a tariff applied to total imports of the product will reduce the total imports by more than a tariff of the same height that is levied only on imports from the VER countries. Also, the general tariff will allow greater imports from the VER countries than the tariff limited to these countries.

The tariff equivalent of any quota is likely to change over time for several reasons. One important reason is that exchange rates change over time. For example, although the Japanese auto VER has remained at 2.3 million vehicles per year, the TE for this VER has fallen from around $3,000 per car in 1985 to nearly zero in 1988, largely as a result of the sharp drop in the value of the U.S. dollar.[5]

For agricultural products, changes in weather conditions are particularly important sources of changes in TEs. For instance, a devastating hurricane in the Caribbean could lower world sugar supplies, raise world sugar prices and lower the TE of U.S. sugar import quotas.

Other market conditions can also change, such as production technologies or agricultural programs at home or abroad. Either type of change could affect U.S. or world prices and alter the TE.

Long-run supplies are likely to be more price responsive than short-run supplies. Consider sugar as an example. When the world price dropped

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[3](...continued)
uncertainty, see Gideon Fishelson and Frank Flatters, "The (Non)Equivalence of Optimal Tariffs and Quotas Under Uncertainty," Journal of International Economics, Vol. 5 (November 1975), pp. 385-93; and Leslie Young, "Ranking Optimal Tariffs and Quotas for a Large Country Under Uncertainty," Journal of International Economics, Vol. 9 (May 1979), pp. 249-64. For a discussion of equivalence under the possibility of trade retaliation, see Carlos Alfredo Rodriguez, "The Non-equivalence of Tariffs and Quotas Under Retaliation," Journal of International Economics, Vol. 4 (August 1974), pp. 295-98; and Edward Tower, "The Optimum Quota and Retaliation," Review of Economic Studies, Vol. 42 (October 1975), pp. 623-30.

[4] Uncertainty about price variability must be distinguished from the risk of variable prices. Uncertainty is an unsystematic form of risk. Thus, risk can be the awareness that prices may rise or fall by, say, 20 percent around the seasonal average, and with that knowledge, the actions of buyers and sellers may be modified accordingly. Uncertainty is the awareness only that prices may rise or fall, and is more difficult to accommodate.

[5] See Crandall, "The Effects of U.S. Trade Protection for Autos and Steel," Brookings Papers on Economic Activity, 1, 1987, p. 277, and USITC, Import Restraints, Phase I, USITC Publication Number 2222, October 1989.

significantly in the early 1980's, world production did not change much initially. Prices were determined largely by short-run variable production costs such as the cost of harvesting cane from existing fields. In the longer run, however, low prices have induced producers to leave the industry or cut back on planting new cane fields as the old fields are exhausted. Thus, the long run price more nearly reflects all production costs, including the planting of new fields. Consequently, the TE has become smaller.[6]

Examples of the variability of the gap between protected and world prices (and implicitly TEs) are presented in Table 1-1. It is obvious that the TE of a quota on an agricultural product is likely to change substantially from year to year.

Table 1-1.
Examples of the variability of the gap between protected and world prices, selected commodities, 1986-88

(Percent ad valorem)

Commodity	1986	1987	1988
Raw sugar	223	203	102
Nonfat dry mild	143	68	6
Cheddar cheese	133	122	47

Source: Taken from tables in later chapters of this report.

Quota Rents

The gap (P^*-P_1), multiplied by the quantity imported, is commonly referred to as the quota rent. This rent can go to importers or exporters, or can

[6] It should be noted that long-run cost functions do not affect the estimation of TEs for short-run periods, past or present. The fact that a short-run price is (or was) unsustainable does not affect the calculation of a tariff that would have yielded the same level of imports that occurred under a quota in a given year.

We have sometimes used a low-cost producer's price to estimate a price gap when there were a number of higher-cost suppliers. However, the estimated TE in this case might be overstated, because there may be higher-cost producers producing mainly for the U.S. market who would drop out of the market if a TE based on the low-cost producer's price were put in place, and the lowest-cost producer may not be able to totally replace their output.

be split between them, depending on the way the quotas are administered and the relative market power of the importers and exporters. In a competitive market with a global import quota (a quota applied to all foreign suppliers on a first-come, first-served basis), the quota rents will accrue to the importers. In a competitive market with VERs, the quota rents will accrue to the exporters. Any existing tariff and shipping charges will come out of quota rents and have no effect on the U.S. price or on world production. Where importers and exporters both have market power, the rents can be split, but again there will be no effect on either the U.S. price or total world production. Where exporters receive all or part of the quota rents, the U.S. customs and c.i.f. values of imports will exceed the price in the exporting country. In this case, it is inappropriate to compare unit values of U.S. imports with U.S. domestic prices to measure the TE of the quota.

The Price-Gap Method for Estimating Tariff Equivalents

There are a number of methods for estimating TEs.[7] The price-gap method is the most direct method of estimating the price effects of border measures. The price gap is the difference between the U.S. price for the product and the world price inclusive of freight and handling charges incured in moving the product from the foreign supplier to the U.S. market.[8] Most governments collect and report domestic prices for agricultural products. In addition, the United Nations Food and Agriculture Organization receives and publishes domestic prices for many agricultural commodities and countries.

Many products are traded on international commodity exchanges; in such cases the actual trading prices are publicly available. These prices, adjusted to include transport and insurance costs, serve as excellent proxies for world prices at the U.S. border. When commodity exchange quotes are not available, researchers often use import prices (c.i.f.) as proxies for world prices. If prices are not available, average unit values might be used although they are subject to greater measurement error than prices. As an alternative to unit values, we occasionally used the domestic price from a low-cost producer, after adjusting for international transport and insurance charges, as a proxy for the world price at the U.S. border. When exporters are likely to receive the quota rents, as with VERs, export prices to the United States can be compared to export prices to a country that allows free entry of the product. In this case it is inappropriate to use the U.S. import

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[7] R.E. Baldwin, "Measuring Nontariff Trade Policies," NBER Working Paper #2978, May 1989, and A.V. Deardorff and R.M. Stern, "Methods of Measurement of Non-tariff Barriers," UNCTAD, January 1985, provide excellent surveys of these methods.

[8] Tariff equivalents can be presented in two ways--as an addition to existing tariffs or as an all-inclusive tariff replacing any pre-existing tariff. The latter presentation is used in this report.

price to measure the price gap, because this price already includes the quota rents.

The price-gap method for estimating the TE of a quota is valid only if the two prices are measured accurately and the domestic and foreign products are nearly perfect substitutes for each other.[9] These two conditions are seldom met completely. However, for the agricultural products considered in this study, the error in this method usually is small. Nevertheless, errors can arise. The following summarizes the main sources of error.

Sources of Possible Errors

Errors in the domestic price observations

Errors in measuring the domestic price within a country can occur for a number of reasons. First, different countries might record the domestic price at different stages in the chain of distribution. The U.S. Department of Agriculture attempts to measure the price paid to farmers, i.e., the farmgate price. Other countries might measure the domestic price at the first point of sale between unrelated parties, which may exceed the farmgate price. Still other countries might choose to include direct payments to farmers and report the per-unit revenue received by farmers. Second, there might be more than one price for the same commodity during the same marketing period. For example, farmers may be guaranteed a minimum price for a prespecified volume of production with any additional production being sold at a free-market price.[10] The reported price could represent the support price, the free-market price, or an average of the two prices.

Errors in the world price observations

For many products, world prices are available from commodity-exchange transactions. These prices then must be adjusted for transport and insurance costs to obtain world prices at the border for a particular home country.

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[9] In order to interpret the tariff-equivalent estimate as the increase in the domestic price caused by the border measures, a further assumption must be made; namely, that the border measures do not affect the world price. Strong border measures protecting a large home market could depress the world price for a commodity below what it would be in a free-trade world. For example, the United States has very severe import restraints on sugar. This policy has reduced world consumption of sugar, thus resulting in a lower world price. In this case, the price-gap overstates the rise in the domestic price caused by the border measures, but it still accurately represents the TE of these measures.

[10] Similarly, processors may be subsidized provided they process designated domestic production.

For products not traded on international commodity exchanges, but for which domestic prices are available for a number of countries, the lowest domestic price is often used as a proxy for the world price.[11] Alternatively, the export price of a major exporter could be used for the world price. In both cases, an adjustment must be made to account for costs of international transport and insurance.

Imports are not identical to domestic products

If the domestic product and the imported product are not perfect substitutes, their prices would not be equal in the absence of border measures, and therefore, the difference between these two prices need not accurately reflect the price effects of border measures. Some agricultural products differ in attributes depending upon the end use. For example, fruits and vegetables destined for the fresh market may differ from those destined for the processor market. There are numerous varieties of wheat, e.g., for bread and for pasta. Cereal grains may differ depending upon whether they are for human or animal consumption.

In some cases, agricultural commodities produced domestically may differ from those produced in foreign countries. Such differences can arise as a result of differences in growing conditions, government standards, or production technologies. Where shipment costs are the same for different qualities of a product, quotas are likely to cause quality upgrading.

Even if commodities are physically identical at home and abroad, things such as delivery lead times and shipment sizes can differ between imports and domestically produced products, causing wholesaling costs to be higher for imports and leading to a higher factory gate price for the domestically produced product.[12] In this case, a price gap measured on what seems to be a comparable pre-wholesale basis (such as commodity exchange prices adjusted for transport and insurance costs) will overstate the true TE.

Other measures are also restricting imports

It should be noted that the price gap measures the effects of all border measures on a product. These include some border measures not usually associated with import restraints, such as sanitary and phytosanitary

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[11] For example, New Zealand is often cited as the most efficient producer of dairy products.

[12] See M. M. Jondrow, D. E. Chase, and C.L. Gamble, The Price Differential between Domestic and Imported Steel, Public Research Institute, October 1977 for an illustration.

standards that discriminate against imports.[13] To the extent that other border measures exist, price gaps will tend to overstate the true tariff equivalent for the nontariff barriers being considered.

The Treatment of Articles Containing Sugar or Milk

Placing a tariff on the sugar content of articles containing sugar (ACS) equal to the TE on refined sugar should remove the incentive to import ACS solely because of a price advantage from lower world sugar prices. Imports should therefore be equal to their free-trade levels.

For example, suppose there is a bulk cake mix with 20 percent sugar content. Suppose the nonsugar content costs 50 cents per pound in foreign countries and 60 cents per pound in the United States. Suppose the U.S. price for refined sugar is 25 cents per pound and the world price is 14 cents per pound. One pound of cake mix made in the U.S. would cost

$$(60 \times 0.8) + (25 \times 0.2) = 53 \text{ cents.}$$

One pound of foreign-made cake mix would cost

$$(50 \times 0.8) + (14 \times 0.2) = 42.8 \text{ cents.}$$

Eight cents of the price advantage that the foreign product has is due to the cost advantage from nonsugar components and would constitute the free-market advantage for imports. 2.2 cents of the price advantage is due to the sugar content.

If import quotas of ACS have been set equal to the prequota free-trade levels, then application of the refined sugar TE to the sugar content of ACS should yield the correct TE on these articles, and ACS imports would not undermine the sugar quotas. If import quotas on ACS have been set at levels higher (lower) than free-trade levels, then application of the refined sugar TE to the sugar content would lead to higher (lower) protection for the sugar producers than under the current quotas.

The same reasoning can be applied to obtaining TEs for dairy products based on price gaps for the butterfat and milk solids components. Actual application is more complicated for dairy products than for ACS, and the resulting estimated TEs are less accurate. One of the biggest complications is that there is no reason to expect that quotas on dairy products are close to free-market import levels, since most of the dairy product quotas are based on trade patterns of many years ago.

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[13] A list of major categories of nontariff measures and related policies is given in Deardorff and Stern, op. cit., pp. 13-14.

Written Submissions Received from Interested Parties

The Commission received numerous comments on the investigation in response to its invitation for written submissions from interested parties (see the Notice of Investigation reproduced in Appendix B). Many of these comments pertained to the various methods available for estimating tariff equivalents; others concerned the analysis of competitive factors in U.S. agriculture. These comments were considered and incorporated in the following chapters. Summaries of the written submissions are presented in Appendix F.

CHAPTER 2. SUGAR AND SUGAR-CONTAINING ARTICLES

Introduction

Sugar and other sweeteners are among the most pervasive food items in every market in the world, ingredients in almost everything we eat. Producers of sugar-containing articles include firms in virtually every line of the food business, from candy to bread to soup to TV dinners--even table salt (the iodized version) contains dextrose (as a drying agent). In many of these uses, sugar can be replaced with alternative sweeteners such as high-fructose corn syrup (HFCS), the consumption of which has surpassed that of sugar in recent years in the United States. Sugar (sucrose) is produced from sugarcane and from sugar beets; cane-produced sugar accounts for most of the world's supply.

Worldwide production of sugar topped 100 million metric tons in both 1987 and 1988, of which about one-quarter entered international trade. The six largest producers of sugar are, in declining order of importance, the European Community (EC), India, the Soviet Union, Brazil, Cuba, and the United States; together these nations supply just over half of the world's supply. The largest exporters are Cuba and the EC, accounting for about two-fifths of world exports. The largest import markets include the Soviet Union, the EC, China, and the United States, together accounting for over two-fifths of world imports.

International trade in sugar is restricted by the trade barriers of some large markets, most notably the EC and the United States. These barriers help expand sugar production in these countries, but they hinder exports from important developing-country producers. There is also some question as to their overall benefit to U.S. sugar producers (particularly cane refiners), in view of the competitive advantage given by sugar support programs to producers of sugar substitutes, such as HFCS.

The U.S. Sugar Industry

Domestically produced sugar comes from both sugarcane and sugar beets. The important physical and locational differences between these raw materials support two completely separate lines of production; at the refining stage they converge to produce an identical end product, sugar (sucrose), which then enters a complex set of markets centered around the food processing industry. The effects of Government intervention (primarily farm-support policies) are felt directly at the level of the beet and cane farms, but the indirect effects flow through the entire chain of production, through the entire food industry and consumer market. The following examines first the structure and performance of the sugar industry, then the market for sweeteners, then the farm support programs of which sugar import quotas are an important part.

INDUSTRY STRUCTURE

The sugar producing industry consists of five segments: sugar beet growers; sugar beet factories; sugarcane growers; sugarcane millers; and raw cane sugar refiners. Figure 2-1 presents a schematic representation of the process of producing refined sugar.

Sugar beets are grown in 13 States scattered throughout the Midwest, the Great Plains, and the West (table 2-1). There are about 8,000 sugar beet farms, nearly all of moderately large size (50-500 acres),[1] but none so large that its supply has any effect on the markets for raw and refined sugar. The total value of U.S. sugar beet production topped $1 billion in 1987 and 1988.

Nearly 1,000 sugarcane farms are found across 4 States (Florida, Louisiana, Texas, and Hawaii) and Puerto Rico.[2] U.S. production of sugarcane exceeded $900 million in 1988.

Approximately 36 beet sugar factories process U.S. sugar beets into refined sugar. These firms employ 7,600 persons, and annually produce 3 million-4 million tons of beet sugar, valued at upwards of $1.7 billion. The refining of sugarcane requires two steps: cane sugar mills, which number about 40 in the United States, produce raw cane sugar, which is further processed into refined sugar in about 23 cane sugar refineries. These firms employ about 5,500 persons, and annually produce 3.4 million tons of refined cane sugar, at a value of $1.5 billion. Combined U.S. output of refined sugar (excluding that from imported raw sugar) in 1988 totaled 7 million tons, valued at over $3 billion.

INDUSTRY PERFORMANCE

Industry sources indicate that the U.S. sweetener industry is now healthy, stable, and well balanced.[3] All segments of the industry, including cane and beet growers and processors, cane sugar refiners, and corn sweetener producers, are now operating at close to capacity. To arrive at this condition required substantial change in all parts of the industry, with substantial rationalization in the beet and cane processing segments and particularly in the cane sugar refining segment.

Data on costs of production for raw cane sugar and refined beet sugar are calculated by the U.S. Department of Agriculture. In 1987, the latest

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[1] 1987 Census of Agriculture.

[2] Ibid.

[3] The Changing Structure of the U.S. Sweetener Industry, William C. Shanley, III, President and CEO, Amstar Sugar Corp., paper presented at the USDA Annual Agricultural Outlook Conference, Nov. 29, 1989.

year for which data are available, production costs for refined beet sugar totaled about 21 cents per pound, while production costs for raw cane sugar totaled about 19 cents per pound.[4]

One indicator of industry performance is price trends. Prices for both sugar beets and sugarcane have generally been rising in recent years (table 2-2). The price for raw sugar, as well as wholesale and retail prices for refined sugar, have similarly increased in recent years (table 2-3). A relatively rapid increase in the wholesale price for refined beet sugar during 1986-88 squeezed the retail-wholesale price margin from 11.7 to 11.1 cents per pound, and widened the wholesale-raw price margin from 2.5 to 3.4 cents per pound. This rise in the wholesale price is hard to explain, as the (mostly variable) costs of refining beet sugar declined during this period, according to annual cost data from the USDA.

THE U.S. MARKET FOR SUGAR

The U.S. market for sugar is, as noted, the fifth largest in the world, valued at over $3 billion. In addition to sugar, there are growing markets for HFCS, aspartame,[5] and other substitutes for sugar, which together have succeeded in capturing more than half (by volume) of the 16 million-ton U.S. sweetener market, compared with less than one-third of the 1980 market of 14 million tons.

The largest consumers of sugar in the United States are the bakery, cereal, and confectionery sectors of the food processing industry; together, these products account for about one-third of the sugar market (table 2-4). Another third enters a variety of nonindustrial channels, including the retail market for table sugar and the restaurant and institutional trades. Other food uses, including dairy products and beverages, account for the remaining third of the market. The beverage industry, once the principal industrial market for sugar, has declined in importance as HFCS and low-calorie sweeteners have displaced much of the demand for sugar; it now accounts for a

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[4] Angelo, Luigi, Annette L. Clauson, Ron Lord, and Frederic L. Hoff, "Sugar beet and Sugarcane Production and Processing Costs--1987 Crop," Sugar and Sweetener Situation and Outlook Report, U.S. Department of Agriculture, pp.23-28.

[5] The patent on U.S. aspartame production, held by the Nutrasweet Company, will expire in December 1992, at which time its price will probably fall sharply (by as much as 60 to 70 percent, according to USDA reports), as production increases. As the USDA has noted, this development has greater implications for HFCS producers than for sugar producers, because aspartame faces its greatest competition in the soft-drink market, where HFCS is also strong. According to industry analysts, both products benefit significantly from the USDA price-support program for sugar.

mere 3 percent of the sugar market. Trace amounts of sugar go into various non-food uses, such as pharmaceuticals, toothpaste, and cigarettes.

Sugar demand is determined by, among other things, the price of sugar and sugar-containing items and their substitutes, disposable income, and population. Price and income elasticities of demand for sugar, which vary according to the stage of production and the end use market, are generally considered to be inelastic,[6] because sugar is a small part of the total cost of many of the items in which it is used, and consumer expenditures on sugar do not absorb a major share of disposable income. The growing availability of sugar substitutes, however, will probably make future sugar demand more responsive to price.[7]

In recent years, HFCS has, to a large extent, replaced sugar in beverages and in certain processed foods. Between 1980 and 1988, consumption of HFCS tripled to 6 million tons, while that of refined sugar fell by one-fifth, to 7.6 million tons (table 2-5). The HFCS market, after growing rapidly since the mid 1970's, is now believed to be a mature market, with any future growth linked to growth in the soft-drink market.[8] Other sweeteners, such as honey and syrups, maintain small but stable shares of the overall sweetener market.

The greatest influence on the sugar market, and the main factor behind the growth of the market for sugar substitutes and the need for the U.S. quota that currently restricts imports to one-tenth of total supply (in 1989), has been the USDA support program for growers of sugar beets and sugarcane. This program, which is of paramount importance in shaping the U.S. sugar market, is explained next. Its implications for competition in the domestic and foreign sugar markets are explained later in this chapter.

GOVERNMENT INVOLVEMENT IN THE SUGAR INDUSTRY

Government involvement in the U.S. sugar industry has a long history. The "Sugar Trust" of the late 1800's was one of the first concentrations of market power to attract the attention of the Federal Government.[9] The U.S. sugar industry has been subject to government programs since 1890, mainly in the form of tariffs and quotas on imported sugar and sugar products.

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[6] For examples of estimates of these elasticities, see Rigoberto A. Lopez, "Political Economy of U.S. Sugar Policies," American Journal of Agricultural Economics 71(1) (February 1989), pp. 20-31, and sources cited therein.

[7] Ibid.

[8] The Changing Structure of the U.S. Sweetener Industry, paper presented by William C. Shanley, III, President and CEO, Amstar Sugar Corp., at the USDA Agricultural Outlook Conference, Nov. 29, 1989.

[9] Alfred S. Eichner, The Emergence of Oligopoly: Sugar Refining as a Case Study, Baltimore: Johns Hopkins Press, 1969.

The principal U.S. Government policy is the maintenance of a price-support program for producers of sugarcane and sugar beets. U.S. Government sugar programs mainly involve the provision of minimum price supports through the use of nonrecourse loans and require the administration of import restrictions on raw sugar, refined sugar, specialty sugar, and sugar-containing products. These programs affect not only sugar producers, but also U.S. consumers, both intermediate and end users, and foreign producers. The following discussion describes the various mechanisms employed by the U.S. government that affects the U.S. sugar industry.

The price-support program for sugarcane and sugar beets

Section 201(j) of the Agricultural Act of 1949, as amended by the Food Security Act of 1985, requires a price-support program for domestic sugarcane and sugar beets for the 1986-90 crop years. Price support for sugarcane is effected through a system of nonrecourse loans for raw cane sugar at not less than 18 cents per pound; sugar beet prices are supported through nonrecourse loans on refined beet sugar at such levels as the Secretary of Agriculture determines is fair and reasonable in relation to the loan level for raw cane sugar. The USDA support price for refined beet sugar is based on the historical relationship between net selling prices of refined beet sugar and raw cane sugar.

Loan rates vary by region. The national average loan rates for 1988/89 raw cane sugar and refined beet sugar are 18.0 cents and 21.37 cents per pound, respectively. The loan rates, by region, for 1988/89 and 1989/90, are shown below (in cents per pound):

Region	Beets	1988/89	1989/90
1	Michigan & Ohio	21.94	22.43
2	Minn. & eastern N. Dakota	21.04	21.55
3	NE Col., NW Kan., Neb., & Wyoming	20.91	21.54
4	Texas	21.74	22.03
5	Mont., NW Wyoming, & western N. Dakota	20.90	21.47
6	Eastern Idaho	20.55	20.90
7	Western Idaho	20.55	20.90
8	California	21.34	21.64
	Cane		
	Florida	17.76	17.98
	Louisiana	18.27	18.49
	Texas	18.03	18.29
	Hawaii	17.42	17.71
	Puerto Rico	17.19	17.30

The national averages for sugar beet and sugarcane loan rates during the 1985/86-1988/89 crop years are as follows (in cents per pound):

Year	Beets	Cane
1985/86	21.06	18.00
1986/87	21.09	18.00
1987/88	21.16	18.00
1988/89	21.37	18.00

Section 902 of the Food Security Act of 1985 requires the President to use all available authority to enable the Secretary of Agriculture to operate the sugar program at no cost to the Federal Government, by preventing the accumulation of sugar acquired by the Commodity Credit Corporation. The USDA, in order to avoid loan forfeitures, has established a market stabilization price (MSP) above the loan rate. The difference between the loan rate and the MSP includes the estimated freight and related marketing expenses for raw sugar, the interest required to redeem a loan, and an incentive factor to encourage processors to sell sugar in the marketplace rather than forfeit their loan. The MSP for the 1986-89 crop years is as follows (in cents per pound):

Item	1985/86	1986/87	1987/88	1988/89
Loan rate for raw cane sugar.....	18.00	18.00	18.00	18.00
Transportation and handling costs.....	2.51	2.93	2.96	2.97
Interest costs at full loan maturity...	.79	.65	.60	.63
Incentive to market sugar.....	.20	.20	.20	.20
Total (MSP).....	21.50	21.78	21.76	21.80

Loans under the sugar price-support program are nonrecourse loans. Sugar processors can elect to forfeit to the CCC the sugar held as collateral on the loan and not be liable for any additional amounts. Sugar cannot be forfeited earlier than 6 months after the loan is obtained. A notice of intention to forfeit most be given to the CCC at least 30 days prior to forfeiture. There have been no forfeitures of sugar since the 1984/85 marketing year.

Quotas on sugar imports

Additional U.S. Note 2 to Chapter 17 of the Harmonized Tariff Schedule of the United States (HTS) authorizes the President to proclaim quotas on imports of sugar whenever the Sugar Act of 1948 or substantially equivalent legislation is not in effect. The Sugar Act of 1948 expired on December 31, 1974. The President proclaimed a global nonrestric-tive quota, effective January 1, 1975, which was revised to a country-by-country quota effective May 11, 1982 (Presidential Proclamation No. 4941). The overall quota is allocated among specified countries according to percentages expressed in the proclamation (the allocations were based on shares of U.S. imports held during 1975-81, a period when no restrictive import quotas were in effect). The percentage allocations, enumerated in additional U.S. note 3 to Chapter 17 of the HTS are shown in appendix D.

The proclamation contained several provisions for the modification of the quota system. The Secretary of Agriculture is authorized to establish minimum quotas for specified countries to provide them reasonable access to the U.S. sugar market, to provide for quota periods other than quarterly quota periods, and to provide for the carrying forward of unused quota amounts into subsequent quota periods. The United States Trade Representative may modify the country-by-country allocation provisions and may prescribe further rules, limitations, or prohibitions on the entry of sugar if such actions are found appropriate to carry out the international obligations of the United States.

Initially, the quotas were established on a quarterly basis; beginning October 1, 1982, they were put on an October 1-September 30 quota year. Later, the quota year was put on a calendar year basis. The current quota "year" is 21 months, from January 1, 1989-September 30, 1990. Country-by-country quota allocations for 1986-88 are shown in table 2-6. Imports under the quota system must be accompanied by country-of-origin certificates issued by the USDA. The certificates are issued in accordance with a previously announced quarterly shipping distribution plan.

Sugar for use in the production of polyhydric alcohols and sugar to be reexported in refined form or in sugar-containing products are exempt from the quotas, pursuant to additional U.S. Note 3(ij), Ch. 17, of the HTS. Such sugar must be imported in conformance with regulations issued by the U.S. Department of Agriculture.

The Caribbean Basin Economic Recovery Act of 1983 provides for annual absolute quotas on duty-free imports of sugar into the United States from the Dominican Republic, Guatemala, and Panama, effective January 1, 1984, as follows:[10]

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[10] These quotas provide for an absolute limit on total imports of sugar into the United States from the named countries. The quota quantities are much larger than the quantities in the quotas provided for in additional U.S.

(continued...)

Source	Quota (metric tons)
Dominican Republic	780,000
Guatemala	210,000
Panama	160,000
Total	1,150,000

Quotas on imports of sugar-containing products

In order to protect the price-support program for sugarcane and sugar beets, imports of certain sugar-containing products are restricted pursuant to section 22 of the Agricultural Adjustment Act, as amended. The quotas, provided for in five HTS subheadings in Chapter 99 (reproduced in app. C), are summarized below:

Subheading	Abbreviated Article Description	Quota Quantity (metric tons)
9904.50.20	Blended syrups containing sugar, not in retail containers.	None
9904.50.40	Edible preparations containing over 65 percent sugar, not in retail containers.	None
9904.60.20	Sweetened cocoa powder.	2,721
9904.60.40	Flour mixes and doughs containing over 10 percent sugar, except doughs in retail containers.	6,350
9904.60.60	Edible preparations containing over 10 percent sugar.	76,203

These quotas are on a first-come, first-served basis covering a calendar year. They have been in effect since January 1, 1989 (the effective date of the HTS). Their predecessor provisions under the TSUS (ostensibly with the same product coverage) were in effect since June 28, 1983, with respect to articles provided for in HTS items 9904.50.20 and 9904.50.40 (Pres. Proc.

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[10](...continued)
note 2 to Chapter 17 of the HTS which limits imports of sugar for consumption in the United States, but provides for additional sugar to be imported for the manufacture of polyhydric alcohols and for refining and reexport as refined sugar or in sugar-containing products.

5071) and since January 28, 1985, for HTS items 9904.60.20, 9904.60.40, and 9904.60.60 (Pres. Proc. 5294, as modified by Pres. Proc. 5340).

Quotas on specialty sugars

In June 1983, the Secretary of Agriculture announced a quota of 2,000 short tons, raw value, for specialty sugars (48 F.R. 122). Such sugars are defined to be (1) sugars, sirups, or molasses provided for in items 155.20 and 155.30 of the TSUS which are not currently commercially produced in the United States or reasonably available from domestic sources; (2) the product of a country listed in headnote 3(c)(ii) of subpart A, part 10, schedule 1 of the TSUS; and (3) requiring no further refining, processing, or other preparation prior to consumption, other than incorporation as an ingredient in human food.[11] Included among such products are certain types of brown sugar, powdered sugar, and pearl sugar. This quota, which has changed slightly over time, currently is set at 1,814 metric tons, raw value. The countries that have been provided a portion of this quota are shown in the headnotes to Chapter 17 of the Harmonized Tariff Schedule (app. D).

Quotas on imports of certain sugar-containing articles from the EC

As a result of the so-called "pasta war," the United States imposed quotas on imports of certain articles from the European Community (EC), including candy and other confectionery and sweetened chocolate in bars or blocks weighing 4.5 kilograms each. The quotas, reproduced in appendix D, became effective January 1, 1987 and restrict imports from the EC to about 150 percent of the annual amount that entered previous to the quota.

Fees on imports of refined sugar

Imports of refined sugar and liquid sugar are subject to a fee, pursuant to section 22 of the Agricultural Adjustment Act, of 2.2 cents per kilogram (1 cent per pound) (HTS items 9904.40.20 and 9904.40.60; see appendix C). The fees originally were imposed on raw as well as refined sugar and were used in conjunction with the import duties to regulate imports (instead of quotas); the fees were imposed effective December 23, 1981 (Pres. Proc. 4887). The fees on raw sugar imports were suspended and the fee on refined and liquid sugar was set at 2.2 cents per kilogram effective October 1, 1982 (Pres. Proc. 4940).

[11] The quota now applies to HTS items 1701.11, 1701.12, 1701.91.20, 1701.99, 1702.90.30, 1702.90.40, 1806.10.40, and 2106.90.10.

Import duties

Additional U.S. Note 2 to Chapter 17 of the HTS provides for the column 1 (most-favored-nation) rates of duty on sugar. It provides that whenever the Sugar Act of 1948 or substantially equivalent legislation is not in effect, the President shall proclaim a rate of duty (not lower than the rate in effect on January 1, 1968) and a quota which will give due consideration to the interests in the U.S. sugar market of domestic producers and materially affected contracting parties to the GATT. The current column 1 rate of duty applicable to sugar is 1.377928 cents per kilogram (0.625 cent per pound), raw value (the lowest rate which the President can proclaim).[12] Duties on sugar are assessed by a rate formula (1.4606 cents per kilogram less 0.020668 cent per kilogram for each degree under 100 degrees (and fractions in proportion) but not less than 0.943854 cent per kilogram).[13] Application of the rate formula based on degrees of purity is intended to yield the same duty per kilogram of recoverable sucrose content for raw sugar of varying concentrations as is applied to refined sugar (100 percent recoverable sucrose). Duties are generally quoted on the basis of 96-degree raw sugar-equivalent, as such sugar constitutes the bulk of world trade. Section 201 (a) (2) of the Trade Expansion Act of 1962 establishes the ceiling rate, which is to be no more than 50 percent above the rate existing on July 1, 1934 (1.875 cents per pound or 4.13368 cents per kilogram), raw value, or a maximum rate of 6.2004375 cents per kilogram (2.8125 cents per pound), raw value. Sugar-containing articles are provided for under numerous item numbers with import duties ranging from free to 35 percent ad valorem in column 1 (see app. D for excerpts from the HTS).

Foreign trade zones

Foreign trade zones (FTZ's) were created by the Foreign Trade Zones Act of 1934, as amended (19 U.S.C. 81a-u). The Act is administered by the Foreign Trade Zone Board, which comprises the Secretaries of Commerce (the Chair), Treasury, and the Army. FTZs are areas under the supervision of the U.S. Customs Service that are technically outside the customs territory of the United States but are, in fact, geographically within such territory. FTZs were originally created to allow approved firms to import goods free from duties and other restrictions in order to store, distribute, condition, or combine the goods with domestic products, all for reexport; or for temporary storage until such time the imported goods are entered into U.S. customs territory and are subject to duties and restrictions. The Act was amended in 1950 to include manufacturing as an approved activity, and was further amended in 1952 to create special purpose zones or subzones. Various other amendments and decisions have broadened the scope of FTZs throughout the years.

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[12] This rate is the rate that was in effect on Jan. 1, 1968.

[13] Sugar degrees, a measure of purity, are determined by polariscopic test.

The first FTZs for sugar were approved in 1983 for seven sugar blending operations in four FTZs. The USDA initially advised the FTZ Board that it would not be opposed to these operations, which produced blends containing less than 65 percent imported sugar. However, in 1984, the USDA reversed its position and notified the FTZ Board that the operations interfered with the domestic price support program for sugar. The FTZ Board decided to allow the initial seven operations to continue and set an annual quota of 55,950 tons of sugar in products produced for domestic consumption.[14] According to the U.S. General Accounting Office (GAO), FTZ operations resulted in imported finished products containing about 39,950 tons of sugar in 1986.[15] However, any such imports are subject to appropriate duties, fees, and quotas. According to the GAO, three of the FTZ sugar operations were active as of May 31, 1988.

In March 1987, the FTZ Board approved four new subzones (two firms) involving the use of sugar for a two year trial period. The operations in these subzones were restricted to either reexporting or producing sugar-containing articles that are subject to import quotas. A one-year extension was granted in early 1989.

In October 1989, a major U.S. candy manufacturer requested FTZ status for imports of sugar. The request is currently being considered.

Drawback

Under section 313(a) of the Tariff Act of 1930 (19 U.S.C. 1313 (a)), a manufacturer that imports merchandise and then exports products produced from the imported merchandise is eligible to receive a refund of the duties and fees paid on the imports, less 1 percent.[16] Additionally, if both imported and domestic materials of the same kind and quality are used within a specified period to produce a product, some of which is exported, drawback equal to 99 percent of the duties and fees paid on the imported material is payable on the exports. Under this section, called the substitution provision, it does not matter whether the actual imported material or similar domestic material was used to produce the exported articles (19 U.S.C. 1313 (b)). To claim drawback, exports must be made within 5 years of the date of importation, and the product to be exported must be produced during the first 3 of those years. Also, claims for drawback must be filed within 3 years of the date of exportation.

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[14] This is in addition to the quotas administered by Customs.

[15] U.S. General Accounting Office, Report to Congressional Requesters, Sugar Program, Issues Related to Imports of Sugar-Containing Products, June, 1988.

[16] This refund also applies to any dumping, countervailing, or marking duties paid on imports (Customs regulations, 19 CFR 22.41).

Embargoes

Several embargoes currently restrict U.S. imports of sugar. The most longstanding embargo prohibits imports of all goods, including sugar, from Cuba. This embargo was effective pursuant to Presidential Proclamation 3447, dated February 3, 1962, under the authority of section 620(a) of the Foreign Assistance Act of 1961 (75 Stat. 445), as amended. The embargo is significant for sugar because Cuba is the world's fourth leading sugar producer and is the world's leading sugar exporter.[17]

On May 7, 1985, pursuant to Executive Order 12513, the President prohibited imports of any goods from Nicaragua. However, Nicaragua is a relatively minor sugar producer.

On September 30, 1986, pursuant to the Comprehensive Anti-Apartheid Act of 1986, the South African sugar quota was transferred to the Philippines, where it still remains. South Africa's quota was set at 2.3 percent of total imports and amounted to 58,420 short tons, raw value, in 1984/85.

U.S. imports of sugar from Panama were suspended in March 1988 under the authority of the Anti Drug Abuse Act of 1986 and the Foreign Operations Act of 1988. The quota was pro rated among the remaining quota countries for the remainder of the year.

Competitive Conditions in Foreign Sugar Industries

EUROPEAN COMMUNITY

The EC is the world's leading sugar producer (table 2-7). In 1988, the EC accounted for 14 percent of total world sugar production (raw value basis). EC sugar production fluctuated during the period under review and ranged from 14.2 million metric tons in 1988 to 15.0 million metric tons in 1987. The principal EC member sugar producers are France (28 percent of 1988 EC production), West Germany (21 percent), Italy (13 percent), and the United Kingdom (9 percent). Virtually all EC sugar production is from sugar beets.

The EC is the world's second leading sugar exporter, following Cuba. EC sugar exports decreased from 5.6 million metric tons in 1986 to 5.5 million metric tons in 1988, or by 3 percent (table 2-7). Exports were equivalent to 39 percent of production in 1988.

Data on sugar production costs in major producing countries are periodically published by Landell Mills Commodities Studies, Ltd. (LMC). The reports published by LMC are confidential and copyrighted with regards to data

[17] Not including the EC as a single unit.

on individual countries. However, LMC has allowed the publication of cost ranges for groups of countries. Table 2-8 gives data on such costs. The EC is included in the LMC category for major beet sugar exporters. According to the LMC data, beet sugar production costs (refined value basis) in the category including major EC sugar producers (France, West Germany) ranged between 14.00 cents per pound and 23.90 cents per pound in 1987, the latest year for which data are available.

Government involvement in the EC sugar industry is extensive. The main components of EC government sugar programs are production quotas, price supports, and export subsidies. It is generally acknowledged that such EC government involvement has had the effect of making the EC the world's leading sugar producer and one of the leading exporters despite being one of the world's highest cost sugar producers.

The EC establishes annual production quotas which are allocated among member nations, where they are further allocated among individual processors. There are two quotas, designated as "A" and "B". The A quota is set to approximate EC sugar consumption. The B quota represents sugar that is produced in excess of EC consumption and is subsidized either through EC intervention or export subsidies. Each member state receives an A and a B quota. The quotas are allocated by the member states to refiners in their regions and are further allocated by refiners to growers (mainly of sugar beets). Sugar that is produced in excess of both the A and B quota amount is referred to as "C" sugar and is not subsidized or allowed to be marketed within the EC. Producers generally produce C sugar as a hedge against poor yields. B and C sugar may be carried forward into the next marketing year to be charged against the next year's A quota. The carry-over, which is eligible for EC government storage assistance, is limited to 20 percent of the A quota. The EC quota system generally has led to chronic overproduction, as the cost of producing A and B sugar is covered by the EC government, and the cost of holding C sugar may be subsizided. In 1988, A sugar production totaled 10.2 million metric tons (refined basis), B sugar production totaled 2.2 million metric tons, and C sugar production totaled 1.3 million metric tons.

The EC price support program for sugar consists of annually set minimum support prices for both sugar beet growers and sugar refiners. Sugar processors are required to pay a minimum beet price to sugar beet producers. The EC government sets a minimum intervention price for A and B sugar at a level which appropriate EC agencies are required to purchase all sugar offered by refiners. Such purchases are rarely made, as domestic prices are further supported by export subsidies on surplus sugar supplies. Producers generally bid for export restitutions in order to be competitive in the world sugar market. The EC generally grants such restitutions based on the lowest bids and the quantity desired to be exported in a given time period, usually a week.

Under the Lomé convention, the EC grants preferential treatment to imports of sugar with certain African, Caribbean, and Pacific (ACP) countries.

Specific quantities are imported annually free of levies at guaranteed prices. Such imports are limited to 1.3 million metric tons annually.

Costs of the EC sugar program are financed, in part, by the imposition of production levies on sugar beet producers and processors. Levies, which are a percentage of the intervention price, are imposed on processors who, in turn, are allowed to pass a proportion of the levy back to growers. Since 1982, a maximum levy of 2 percent on A sugar and 39.5 percent on B sugar has been collected. An additional levy was imposed in 1985 as a result of continued deficits in the EC sugar program. This levy, called the elimination levy, is 1.31 percent of the intervention price. And, the EC imposed a special elimination levy in 1988 to further reduce the deficit.

INDIA

India is the world's leading producer of sugarcane[18] and the world's second largest sugar producer, accounting for 10 percent of total world sugar production in 1988 (table 2-7). Indian sugar production increased from 8.0 million metric tons in 1986 to an all-time record 10.0 million metric tons in 1988, or by 25 percent. Increased domestic sugar demand was the primary factor which led to the rise in production.

According to data from the U.S. Department of Agriculture, there are 410 licensed sugar units in India.[19] Annual capacity is reported to total 8.2 million metric tons.

Indian sugar exports are relatively unimportant compared with the domestic market. Such exports are mainly covered by preferential bilateral agreements between the EC and the United States, with a relatively small amount of exports destined to neighboring areas. Exports decreased from 57,000 metric tons in 1986 to 30,000 metric tons in 1988 (table 2-7). Exports were equivalent to less than 0.5 percent of production in 1988.

Detailed data are not available on sugar production costs in India. However, the USDA estimates that aggregate Indian sugar production costs were $356.40 per metric ton (approximately 16.17 cents per pound) in 1988. Under this estimate, India can be considered to be a relatively low cost sugar producer. In 1988, the average price of sugar in India was approximately $479.15 per metric ton (about 21.73 cents per pound). Given the above estimated production cost, Indian sugar producers showed an average net revenue of $122.75 per metric ton (about 5.57 cents per pound).

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[18] In 1987/88 India harvested about 3.3 million hectares of sugarcane.

[19] Foreign Agricultural Service report IN9023, "India: Sugar Annual," April 14, 1989, New Delhi.

The government of India maintains a statutory minimum price for sugarcane. However, in most years, mills generally pay a higher, state-advised price to cane growers. The government also regulates the domestic marketing of raw sugar. Mills must sell a percentage of their output at a government-mandated price, which is usually lower than the free market price. The government also regulates the location and capacity of sugar mills.

BRAZIL

Brazil is the world's second leading producer of sugarcane[20] and the fourth leading sugar producer. Brazilian sugar production rose from 8.3 million metric tons in 1986 to 8.7 million metric tons in 1987 before falling slightly to 8.5 million metric tons in 1988 (table 2-7). The decline in 1988 production resulted from lower sugarcane output due to drought. The decline was mitigated somewhat by a higher yield.

As with sugar production, Brazil's sugar exports ranks fourth in the world. Sugar exports generally trended downward during the period under review and totaled 2.1 million metric tons in 1988. This was equivalent to about one fourth of total Brazilian sugar production that year.

Data on sugar production costs in major producing countries are periodically published by Landell Mills Commodities Studies, Ltd. (LMC). The reports published by LMC are confidential and copyrighted with regards to data on individual countries. However, LMC has allowed the publication of cost ranges for groups of countries. Table 2-8 gives data on such costs. According to the LMC data, raw cane sugar production costs (raw value basis) in the category including Brazil ranged between 10.30 cents per pound and 14.70 cents per pound in 1987, the latest year for which data are available.

The Brazilian sugar industry is subject to extensive government involvement. The sugar industry is regulated by the Sugar and Alcohol Institute (IAA). The IAA determines total sugarcane availability through planting quotas and allocates cane supplies to alcohol and sugar production. This is done after the IAA considers domestic alcohol and sugar demand, export opportunities, and stock requirements. Alcohol production receives preferential consideration for cane supplies.

For sugar production, the IAA sets annual production quotas for each mill. Domestic sugar prices are also set by the IAA, usually at annually fixed levels. In addition, the IAA controlled sugar exports and owned sugar export storage and handling facilities during the period under review. The export functions of the IAA were privatized as of June 1, 1989.

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[20] In 1987/88, Brazil harvested about 2.0 million hectares of sugar cane.

The IAA provides investment credit to the sugar industry at nominal interest rates that are significantly lower than the Brazilian inflation rate. This credit, which is for modernization and expansion, is effectively at negative rates of interest and may significantly lower the cost of production estimates reported above.

CHINA

China is the world's fourth leading producer of sugarcane and the sixth leading producer of sugar beets.[21] It is the world's seventh leading sugar producer. China's sugar production declined significantly during the period under review, from 5.5 million metric tons in 1986 to 4.8 million metric tons in 1988, or by 16 percent (table 2-7). A decline in sugarcane and sugar beet production was directly responsible for the fall in sugar production.

According to the USDA, there are more than 500 sugar processing facilities in China, with a total annual sugar production capacity of 6.3 million tons. Official Chinese statistics report that in 1984, the latest year for which data are available, there were 535 sugarcane mills and 122 sugar beet refineries.

Chinese sugar exports are relatively small and ranged between 271,000-459,000 tons during 1986-88. Exports were equivalent to between 5-8 percent of production during the period.

Data are not available on the costs of producing sugarcane and sugar beets in China. Sugarcane procurement prices were set by the Chinese government at $18-$21 per metric ton and sugar beet procurement prices at $24 per metric ton during the period under review. Data on sugar production costs in major producing countries are periodically published by Landell Mills Commodities Studies, Ltd. (LMC). According to the LMC data, beet cane sugar production costs (refined value basis) in the category including China ranged between 33.60 cents per pound and 46.40 cents per pound in 1987, the latest year for which data are available (table 2-8). The USDA further reports that China's cost of production for raw cane sugar in 1986 was 37 percent above the world average. [22] The main factor in China's high-cost position is the fact that most Chinese sugar processing facilities are relatively small and outdated.

China is a nonmarket economy and government involvement in the sugar industry is extensive. All land is state owned, as are sugar processing

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[21] In 1987/88, China harvested 859,000 hectares of sugar cane and 498,000 hectares of sugar beets.

[22] Buzzanell, Peter J., Robert D. Barry, and Francis C. Tuan, "China's Sugar Industry: Performance and Prospects," Sugar and Sweetener Situation and Outlook Report, March 1989, U.S. Department of Agriculture, Washington, D.C.

facilities. In general, the government sets prices and production quotas, subsidizes and allocates production inputs, and regulates the marketing of sugar. Most targets are set in 5-year plans.

In the early 1980's, farm production was reorganized from a commune system to a household contract responsibility system, whereby each farm household is responsible for marketing and production decisions for its individual plot.

The Chinese government controls trade in sugar through a licensing system.

AUSTRALIA

Australia is the world's seventh leading producer of sugarcane[23] and the eighth largest sugar producer. Production was relatively stable during 1986-88 and totaled a record 3.5 million metric tons the latter year (table 2-7). Sugar production stability resulted mainly from tight government control of the industry. In 1985, there were 6,600 sugarcane growers in Australia.[24] In 1986, there were 33 sugar mills and 7 sugar refineries.

Australia is the world's third leading sugar exporter. Exports play a major role in the Australian sugar sector. As with production, exports have been quite stable during the past several years, ranging between 2.7 million and 2.9 million metric tons during 1986-88. Exports were equivalent to between 77-84 percent of production during this period.

Data on sugar production costs in major producing countries are periodically published by Landell Mills Commodities Studies, Ltd. (LMC). Table 2-8 gives data on such costs. Australia is included in the LMC category for major raw cane sugar exporters. According to the LMC data, raw cane sugar production costs (raw value basis) in the category including Australia ranged between 10.30 cents per pound and 14.70 cents per pound in 1987, the latest year for which data are available.

The Australian sugar industry is regulated by the Commonwealth and Queensland governments. The Queensland government administers a quota system for cane growers and mills. The government also contracts with two private firms, CSR Limited and Millaquin Sugar Company Pty. Limited, to refine and market sugar for domestic production. CSR Limited acts as the agent for

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[23] In 1987/88, Australia harvested 321,000 hectares of sugar cane.

[24] Year Book Australia 1986, p. 288, Australian Bureau of Statistics, Canberra, 1986.

export transactions and distributes industry revenues to cane growers and millers.[25]

Domestic refined sugar prices are set by the Queensland and Commonwealth governments, using the consumer price index as a base. In addition, the Australian government has historically maintained an import embargo on sugar.

Recent developments portend the decontrol of the Australian sugar industry. The longstanding sugar import embargo was lifted on June 30, 1989 and replaced with tariffs of 35 percent ad valorem on raw sugar and 25 percent ad valorem on refined sugar. These duties are to be staged to a uniform 15 percent ad valorem level by July 1, 1992. In addition, sugar producers in New South Wales have recently established a refining cooperative apart from the regulated producers in Queensland. These developments will create a more competitive Australian sugar market.

THAILAND

Thailand is the sixth leading producer of sugarcane[26] in the world with an estimated 106,000 sugarcane growers. [27] It is the world's ninth leading sugar producer. Thai sugar production rose moderately from 2.6 million metric tons in 1986 to 2.7 million metric tons in 1988 (table 2-7). The increase in sugar production during the period totaled only about 5 percent, despite a 13 percent rise is sugarcane production. Unfavorable weather conditions generally caused lower sucrose yields from sugarcane during the period.

According to USDA reports, [28] there are 46 sugar mills in Thailand. There reportedly are 3 state-owned sugar mills in Thailand. Data are not readily available on the number of sugar refineries in Thailand; however, according to USDA reports, there is at least one refinery in Thailand. [29]

Thailand is the world's fifth leading sugar exporter. Exports are the driving force of the Thai sugar industry, as more than three-quarters of production is exported annually. Thai sugar exports were relatively stationary during 1986-88 at about 2 million metric tons annually. Ever-increasing domestic demand for sugar is likely to diminish the importance of exports to the Thai sugar industry in the near future.

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[25] Year Book Australia, 1986, Australian Bureau of Statistics, Canberra, 1986.

[26] In 1987/88, Thailand harvested about 571,000 hectares of sugar cane.

[27] U.S. Department of Agriculture, Foreign Agricultural Service, Thailand Sugar and Molasses Annual Report, report number TH8016, April 8, 1988.

[28] Ibid.

[29] Ibid.

Data on sugar production costs in major producing countries are periodically published by Landell Mills Commodities Studies, Ltd. (LMC). Table 2-8 gives data on such costs. Thailand is included in the LMC category for major raw cane sugar exporters. According to the LMC data, raw cane sugar production costs (raw value basis) in the category including Thailand ranged between 10.30 cents per pound and 14.70 cents per pound in 1987, the latest year for which data are available.

Thai government involvement in the sugar industry consists mainly of a system of regulated wholesale and retail refined sugar prices in order to support the farm price of cane sugar. In addition, the government imposes business taxes on domestic sugar sales and premiums on sugar exports. The government has recently been reducing or waiving the business taxes and export premiums for the sugar industry from the published tax and premium rate of 9.9 percent.

The government also affects sugarcane acreage by only guaranteeing sugarcane prices to planters that are registered with the government. Nonregistered growers are allowed to produce sugarcane, but at nonguaranteed prices.

The Thai government also maintains a production quota system. Sugar produced under the quota designation A is primarily for the domestic market; sugar produced under the quota designation B is for long-term export contracts; sugar produced under the quota designation C is for unrestricted export. Sugar mills must produce sufficient sugar for the A and B quota before producing sugar for unrestricted export under the C quota.

Thai sugar exports must be carried out by four producer groups, each of which comprises individual sugar mills. All of the mills and the producer groups are members of the Thai Cane and Sugar Corporation, which negotiates long-term export contracts.

U.S.S.R.

The Soviet Union is the world's third leading sugar producer, behind the EC and India; it is the world's second leading producer of sugar beets, producing nearly as much as the entire EC.[30] Soviet sugar production rose from 8.3 million metric tons in 1986 to 9.6 million metric tons in 1988, or by 16 percent (table 2-7). In 1988, there were approximately 10,500 state and collective sugar beet farms and 323 sugar factories in the Soviet Union.[31]

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[30] In 1987/88, the Soviet Union harvested about 3.4 million hectares of sugar beets.

[31] USSR: Annual Centrifugal Sugar Report, 1988, Report Number UR9041, Foreign Agricultural Service, U.S. Department of Agriculture, April, 1989.

Most of the sugar factories are located in the Ukraine and the Russian Republic in the proximity of sugar beet farms.

Exports are relatively unimportant to the Soviet sugar industry. Soviet sugar exports showed no discernable trend during 1986-88, when they ranged between 173,000-327,000 metric tons. Exports were equivalent to 2 percent of production in 1988. Most Soviet sugar exports are destined to the Eastern European market.

The Soviet Union is the world's leading importer of sugar. However, Soviet sugar imports declined from 5.2 million metric tons in 1986 to 4.5 million metric tons in 1988, or by 13 percent (table 2-7). The share of consumption accounted for by imports also declined, from 39 percent in 1986 to 32 percent in 1988, as production increased and imports declined during the period.

As the Soviet Union is a nonmarket economy, government involvement in the sugar industry is pervasive. In general, production inputs, such as land and capital, are state owned or controlled. The government sets production targets and procurement quotas, guarantees and sets prices, and provides capital and input subsidies. The government also provides for research and development for the industry.

CUBA

Cuba is the world's fifth leading sugar producer and the third leading producer of sugarcane. Cuban sugar production was virtually constant during 1986-88, ranging between 7.2 million-7.4 million metric tons (table 2-7). An extended drought during the period caused erratic cane production and sucrose content and led to flat production.

According to the USDA, there are 154 state-owned sugar mills in Cuba.[32] The mills are scattered throughout the island in sugarcane producing areas. It is believed that there are no large scale, commercial sugar refineries in Cuba. According to dated sources,[33] several sugar mills are equipped with sugar refining machinery. These mills refine sugar primarily for domestic consumption, with small amounts exported.

Cuba is the leading sugar exporter in the world. Historically, sugar has been the mainstay of the Cuban economy. Sugar exports provided about

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[32] Buzzanell, Peter J. and Jose F. Alonso, "Cuba's Sugar Economy: Recent Performance and Challenges for the 1990's," Sugar and Sweetener Situation and Outlook Report Yearbook, June, 1989, U.S. Department of Agriculture, Washington, D.C.

[33] Smith, Dudley, Cane Sugar World, p. 9, Palmer Publications, New York, 1978.

three-fourths of annual export revenues during the 1980's. Cuban sugar exports declined during 1986-88, from 7.0 million metric tons the former year to 6.5 million metric tons the latter year, or by 7 percent. Lagging production levels and increasing domestic demand led to the overall decline in sugar exports during the period.

Data are not available on costs and revenues in the Cuban sugarcane industry. However, a relatively recent shift from manual labor to machines in the cane cutting process is believed to have substantially increased sugarcane harvesting efficiency and decreased production costs. Data on sugar production costs in major producing countries are periodically published by Landell Mills Commodities Studies, Ltd. (LMC). Table 2-8 gives data on such costs. Cuba is included in the LMC category for major raw cane sugar exporters. According to the LMC data, raw cane sugar production costs (raw value basis) in the category including Cuba ranged between 10.30 cents per pound and 14.70 cents per pound in 1987, the latest year for which data are available.

Cuba, like the Soviet Union, is a nonmarket economy, and the sugar industry is virtually owned by the state. The government controls the production and marketing of all sugarcane and raw sugar and sets sugar prices. All sugar mills are owned by the state, and the government negotiates export contracts, mainly with other nonmarket economies such as the Soviet Union and China.

SOUTH AFRICA

South Africa is the ninth leading producer of sugarcane in the world, just ahead of the United States. South Africa is the world's tenth leading producer of sugar. South African sugar production was relatively stable during 1986-88 at about 2.2 million metric tons annually (table 2-7). High rainfall and flooding contributed to the slack production trend during the period under review.

South African sugar exports ranged between 875,000 metric tons and 1.1 million metric tons during the period under review. Sugar exports were affected during 1986-88 by trade embargoes imposed by the United States and Canada in 1985 because of the apartheid policy of the South African government. In addition, generally increasing domestic consumption of sugar diverted sugar supplies from the export market during the period. In 1988, about 41 percent of South African sugar production was exported.

Data on sugar production costs in major producing countries are periodically published by Landell Mills Commodities Studies, Ltd. (LMC). Table 2-8 gives data on such costs. South Africa is included in the LMC category for low-cost raw cane sugar producers. According to the LMC data, raw cane sugar production costs (raw value basis) in the category including

South Africa ranged between 7.70 cents per pound and 10.30 cents per pound in 1987, the latest year for which data are available..

Sugar production is regulated by an agreement with the South African Sugar Association (SASA), an industry group that comprises growers' and millers' associations. The agreement provides for production quotas, registration procedures, the division of proceeds and cane payments, and the imposition of levies on mills to finance aid to small growers and a Price Stabilization Fund. The agreement is subject to approval by the Minister of Economic Affairs.

In general, domestic market needs must be met before quotas are allowed for sugar exports. Permits are required by the Department of Commerce and Industries for sugar exports.

The Ministry of Economic Affairs controls retail sugar prices. In addition, an equalization levy in the Price Stabilization fund protects the substantially higher South African domestic sugar price from fluctuations in the lower world sugar price.

DOMINICAN REPUBLIC

There are approximately 3,000 independent sugarcane producers in the Dominican Republic; these producers account for just under a quarter of cane production. The remainder is accounted for by the State Sugar Council, a government-owned group, and two private groups, Central Romana and the Vincini family.

According to the USDA,[34] there are approximately 41,000 cane cutters employed annually in the Dominican Republic. However, these workers are mostly Haitian, and the work is seasonal. Most sugarcane in the Dominican Republic is cut by hand. Only about 10 percent of the cane harvest is mechanized.[35]

The Dominican sugar industry comprises three groups. The State Sugar Council (CEA), which is government owned, operates 2 mills and accounts for about one-half of sugar production. Central Romana, a private firm that was founded by foreign (mainly U.S.) investors, operates one mill and accounts for about 40 percent of production. And, the Vincini family, which has been in the sugar industry for about 100 years, operates 2 mills and accounts for about 10 percent of production. In addition to the cane sugar mills, there are 2 refineries that produce refined sugar for the domestic market. There

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[34] Dominican Republic Sugar Annual Report, 1988, Report Number DR9010, Foreign Agricultural Service, U.S. Department of Agriculture, April, 1989.
[35] Ibid.

are approximately 9,000 workers employed in the Dominican sugar processing industry.[36]

Sugar production in the Dominican Republic declined during 1986-88, from 894,000 metric tons the former year to 777,000 metric tons the latter year; this was a decline of 13 percent (table 2-7). Variable sugarcane production, declining recovery rates, unfavorable weather, and labor problems during the period led to the decline.

Dominican sugar exports varied during 1986-88 and ranged from 480,000 metric tons in 1986 to 587,000 metric tons in 1987. Exports were equivalent to from 54-72 percent of production during the period. The main export markets are the United States (42 percent of total exports in 1988) and the Soviet Union (39 percent). In 1986, these shares were 72 percent and 11 percent, respectively. A declining U.S. import quota has seriously affected Dominican sugar exports.

Data on sugar production costs in major producing countries are periodically published by Landell Mills Commodities Studies, Ltd. (LMC). Table 2-8 gives data on such costs. The Dominican Republic is included in the LMC category for major raw cane sugar exporters. According to the LMC data, raw cane sugar production costs (raw value basis) in the category including The Dominican Republic ranged between 10.30 cents per pound and 14.70 cents per pound in 1987, the latest year for which data are available.

As sugar is of paramount importance to the Dominican economy, government involvement in the sugar industry of the Dominican Republic is extensive. The industry is managed by the Dominican Sugar Institute, which consists of members from producers, labor, and government. The Institute sets production quotas based on anticipated domestic and export demand. In addition, the Government Price Stabilization Institute administers the distribution of sugar for domestic consumption between mills and wholesalers.

A major policy goal of the Dominican government in recent years has been to shift from sugar production to alternate crops, such as palm oil, citrus and other fruits, and vegetables. In addition, the government has been developing sugar export markets other than the United States. This policy has been caused mainly by a major cut in the U.S. quota for sugar imports from the Dominican Republic. This quota has been reduced from 492,800 short tons in 1984 to 204,300 short tons in 1989.

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[36] Smith, Dudley, Cane Sugar World, p.15, Palmer Publications, New York, 1978.

THE PHILIPPINES

The Philippines is the eleventh largest producer of sugarcane in the world. Philippine sugar production declined from 1.6 million metric tons in 1986 to 1.4 million metric tons in 1987 and 1988 (table 2-7).

Philippine sugar exports declined from 296,000 metric tons in 1986 to 129,000 metric tons in 1988, or by 56 percent. Increasing domestic demand for sugar and sugar products, particularly soft drinks, combined with a declining U.S. import quota share for the Philippines led to the decline.

According to USDA reports[37], the average cost of production of raw sugar in the Philippines ranges between 12-14 cents per pound.

The Philippine government controls the production, distribution, and trade in the sugar industry. The Sugar Quota Administration (SQA) allocates production quotas among sugar mills. Sugarcane acreage is registered to each mill. The production quotas are established for domestic, export, and reserve supplies.

The Government Price Control Council sets raw sugar prices for domestic and export sugar as well as industrial use sugar. In addition, all sugar trading is centralized under a state-owned sugar trading company.

Competitive Conditions in Foreign Markets

The major world sugar markets, in terms of sugar consumption, are the Soviet Union (which accounted for 14 percent of world sugar consumption in 1988), the EC (11 percent), India (10 percent), China (7 percent), the United States (7 percent), and Brazil (6 percent). Most major foreign sugar markets are either relatively self sufficient in sugar production, employ measures that restrict sugar imports in order to protect their domestic sugar industries, or engage in preferential trading arrangements that limit their markets. In general, trade accounted for slightly more than one-fourth of world sugar consumption in 1988.

In terms of relevance to the U.S. sugar industry, the EC and Canada are the most important. This importance is due to both current trade policy effects and potential effects of tarrification on the U.S. industry.

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[37] U.S. Department of Agriculture, Foreign Agricultural Service, Philippine Sugar Annual 1989, report no. RP9019, April, 1989.

EUROPEAN COMMUNITY

The EC is the world's second largest sugar market. Although the EC comprises a diverse combination of markets, the sugar market is similar, in the aggregate, to the U.S. sugar market. Most sugar in the EC is consumed in food and beverages. The consumption of sugar in the home is declining, but the use of sugar in manufactured food products is increasing in the EC.

Principal users of sugar in the EC market include producers of bakery and cereal products, confectionery products, and dairy products. The beverage industry is also a major user of sugar. A small amount of sugar is used in pharmaceutical and tobacco products.

Sugar consumption increased in the EC during the period under review, from 11.6 million metric tons the former year to 12.3 million metric tons the latter year (table 2-7). Increased use of sugar both in manufactured food products and in the chemical sector led to the rise.

EC sugar imports varied during the period under review and ranged from 2.4 million metric tons in 1987 to 3.0 million metric tons in 1986. Such imports, which included intra-EC trade, accounted for between 20-26 percent of consumption annually during 1986-88.

The EC restricts sugar imports by the use of a variable levy system. This system sets a sluice gate price for imports of sugar that assures that imported sugar will not enter the EC at a lower price than that of domestic sugar.

A major difference between the U.S. and EC markets is that in the EC, HFCS does not compete freely with sugar. The EC has a quota system for HFCS production which parallels its sugar system. Strict production controls restrict annual HFCS-42 output to 291,085 metric tons (dry basis); higher concentration syrups are effectively prohibited. High EC corn prices hinder the competitiveness of HFCS, and production has been about 182,000 tons annually. HFCS is sold at a premium over sugar in the EC, usually at 8-10 percent over refined sugar prices.[38]

CANADA

Canada is a relatively minor world sugar market, accounting for about 1 percent of world consumption annually. Its beet sugar factories and cane sugar refineries are located close to Canadian and U.S. consumption centers. Most sugar in Canada is consumed as an ingredient in food products and

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[38] Sugar and Sweetener Situation and Outlook Report, SSR14N3, Sept. 1989, p. 17, U.S. Department of Agriculture, Economic Research Service.

beverages. The principal users of sugar in Canada include producers of bakery and cereal products, confectionery products, and dairy products. The beverage industry is also a major user of sugar. The consumption of sugar in the home is believed to be declining, but the use of sugar in manufactured food products and in the food service sector is increasing in Canada. Total sugar consumption in Canada was relatively flat at about 1.1 million metric tons annually during 1986-88 (table 2-7). Imports of sugar into Canada during the same period declined from 1.1 million metric tons to 0.9 million metric tons. Such imports supply a large but declining share of consumption. Canada produces significant quantities of sugar beets, but most of the market for sweeteners is supplied by imported raw sugar.

Canada has three HFCS production facilities, with an annual output of 250,000-300,000 short tons of HFCS, dry basis, annually. In recent years, about 85 percent of the output has been exported to the United States (where it competes on the basis of U.S. sugar prices and not Canadian prices that are more closely related to world sugar prices).

Factors Affecting Competition in U.S. and Foreign Markets

THE EFFECT OF THE IMPORT BARRIER ON THE ABILITY OF THE INDUSTRY TO COMPETE IN DOMESTIC AND FOREIGN MARKETS

The import quota system for sugar and certain sugar-containing articles (and the domestic price-support program that this system protects) has widespread and diverse effects on domestic industries' abilities to compete in the U.S. and foreign markets. The industries whose abilities to compete in the U.S. market have been enhanced by the system include the sugarcane and sugar beet growing industries, the beet sugar factories, the sugarcane milling industry, and the corn wet milling industry (which produces high fructose corn syrup). The industries whose abilities to compete in the U.S. and in foreign markets have been reduced by the system include the cane sugar refining industry and the domestic food processing industry which uses sugar as an ingredient in its products.

Sugarcane and sugar beet growers

The system guarantees sugarcane and sugar beet growers that they will receive at least certain minimum prices for their unlimited output. These guaranteed minimum prices result in returns greater than those from alternative crops and have resulted in increased production (certainly larger than that which would have occurred in the absence of the system).

Sugarcane mills and beet sugar factories

Sugarcane mills and beet sugar factories are required by the price-support system to pay at least certain minimum prices to sugarcane and sugar beet growers. The price-support program requires the Government to purchase unlimited amounts of domestically-produced raw cane sugar and refined beet sugar at specified prices. The import quota system operates to keep domestic prices above those Government purchase prices (which include an incentive factor to ensure that the Government does not acquire any sugar). Thus, sugarcane mills and beet sugar factories are guaranteed at least minimum prices which are set slightly above their costs.

Corn wet milling industry

The corn wet milling industry produces corn sweeteners including dextrose, dextrose syrup, and high fructose corn syrup (HFCS). HFCS is used as an alternative to sugar in many uses where liquids can be used. The price-support system has guaranteed a minimum price for sugar which HFCS has to compete with for sales. This guaranteed competition price for sugar has been substantially above ingredient costs for HFCS production which encouraged the building of production facilities. The corn wet milling industry has been a major beneficiary of the system; it has had long-term knowledge of the minimum prices that its output would be competing against (the farm legislation has been for 5-year periods). These conditions led to rapid expansion in the industry to the point where industry observers believe that virtually all liquid sweetener applications that can utilize HFCS are using HFCS.

Cane sugar refining industry

The cane sugar refining industry uses raw cane sugar (domestic and imported) as its input. The industry's raw cane sugar supply is restricted by the import quota. As the share of the domestic sweetener market that is supplied by HFCS has increased, the import quota has been decreased. This has resulted in the capacity of the cane sugar refining industry being in excess of the supply of raw cane sugar available; in the United States. As a result, many cane sugar refineries have ceased operations since the import quota system went into effect in 1982.

The import quota system also has provisions for the importation of sugar for refining and re-export. Refiners have used these provisions in an attempt to stay in operation. However, industry sources claim that the spread between world prices for raw sugar and world prices for refined sugar have usually been less than refining costs in recent years (even with available drawback of previously paid import duties).

Food processing industry

Virtually all sugar usage is as an ingredient in foods. In some of these uses sugar is a minor ingredient. In others, sugar is a major cost ingredient. For all foods containing sugar, foreign producers who have access to world price sugar have had a cost advantage (for sugar) over U.S. producers. This has resulted in increased competition (and increased imports) in the U.S. market and increased competition for U.S. sugar-containing products in export markets.

The import quota system provides for the importation of additional sugar for refining and re-export in sugar-containing products; drawback of previously paid import duties on imported sugar is also available for sugar contained in product exports. However, the additional costs involved in using these provisions and the widespread use of sugar in domestic food processing results in rather limited use of these provisions.

The often wide disparity between U.S. and world sugar prices since the restrictive import quota system for sugar was imposed in 1982 has provided substantial incentive to import goods in which sugar is a major ingredient. Competition has been greatest for semifinished goods which are used as ingredients in further processing foods (e.g., chocolate coatings, beverage bases, confectioners coatings, and gelatin dessert bases). Multinational producers of prepared foods that contain sugar as a major ingredient have incentive to import the articles into the United States if the foreign affiliates have excess capacity. Other competing domestic firms reportedly have lost certain sales, had to reduce prices, or themselves became importers. Industries which have been particularly affected include the chocolate and confectionery industry and the jelly, jam, and preserves industries.

OTHER FACTORS

Myriad factors affect the competitive posture of the U.S. sugar industry. In general, the global regime whereby major sugar industries and markets are subject to extensive government regulation creates an environment that limits competition. In fact, a relatively small amount of world trade in sugar exists that is totally free of some sort of regulation or preferential treatment that distorts competition. According to a recent study, only 16 percent of world sugar production during crop year 1986/87 was traded on the "world market".[39] The U.S. sugar market is among the world's most highly regulated, as quotas place an absolute limit on imports for consumption. The U.S. sugar industry is focused on the domestic market as a result of a combination of protectionist U.S. policies and prohibitively restrictive foreign market policies. Indeed, the U.S. sugar industry usually exports less

[39] Womach, J., Sugar: Reexamining U.S. Policy, Congressional Research Service, Washington, D.C., 1987.

than 10 percent of its production annually, including raw sugar that has been imported and refined for export. Regulations affecting the ability of U.S. sugar refiners to import supplies of raw sugar at world prices, limited availability of duty drawback, and the narrow price spread on the world market between raw and refined sugar (generally less than refining costs) are major factors that limit the competitiveness of U.S. sugar refiners in the world sugar market. However, the import quotas have protected U.S. sugar beet and sugarcane growers, beet sugar factories, and cane sugar millers. Other domestic factors affect the U.S. sugar industry within the protected environment afforded by the import quota system. These factors are considered in the following discussion.

Substitute products

Sugar is subject to intense competition from other sweeteners. Historically, sugar has been the major sweetener and has enjoyed consumers' preference for hundreds of years. However, relatively recent developments in the sweetener market have eroded sugar's supremacy. Sugar has long been subject to competition from a variety of substitutes, including natural and artificial (high intensity) sweeteners. Most of the competitive natural sweeteners (e.g., honey, maple sugar, and maple sirup) have flavor characteristics which limit their uses. High fructose corn syrup, however, has become widely accepted in the United States as a caloric sweetener. The principal high-intensity (non- and low-caloric) sweeteners used are cyclamates, saccharine, and, more recently, aspartame. The demand for low-caloric sweeteners has increased, particularly during the last decade, as consumers became more health and weight conscious. Thus, a gradual shift occurred in consumer demand away from sugar to low-calorie sweeteners, particularly in beverages.

By 1989, the use of low-calorie sweeteners accounted for about 14 percent of the total U.S. sweetener market, up from 5 percent at the start of the 1980's, and totaled about 20 pounds per capita annually (sugar-sweetness equivalent).[40] The use of these sweeteners directly displaces sugar. Such sweeteners are subject to approval by the U.S. Food and Drug Administration (FDA). The primary FDA-approved sweeteners currently in use in the U.S. market include saccharin (which is 300 times as sweet as sugar), acesulfame-K (200 times as sweet), and aspartame (200 times as sweet). Low-caloric sweeteners currently awaiting FDA approval include alitame (200 times as sweet as sugar) and sucralose (600 times as sweet), with cyclamate (30 times as sweet) awaiting reapproval.

Most artificial sweeteners have posed health risks and were not very successful, such as cyclamate. Then, in 1981, a natural, low-calorie sweetener, aspartame, was introduced. Consumers have not perceived aspartame

[40] U.S. Department of Agriculture, Sugar and Sweetener Situation and Outlook Report, December 1989.

as posing the same health risk as previous non-caloric sweeteners, and food and beverage manufacturers have substituted aspartame for sugar in a multitude of food products as the FDA approved it for more uses. The growth in consumption of low-calorie sweeteners during most of the 1980's was fueled mainly by aspartame.

In comparison with wholesale refined beet sugar prices of about 29-30 cents per pound in 1989, the USDA reports that the average wholesale prices for low-calorie sweeteners are as follows: aspartame, $60-$70 per pound (30-35 cents per pound, sugar sweetness equivalent); saccharin, $3 per pound (1 cent per pound); and acesulfame-K, $40 per pound (20 cents per pound).[41] However, prices are not always directly comparable, as the various low-calorie sweeteners are not perfectly substitutable for sugar for all uses. However, such sweeteners are increasingly substituted for sugar as technology improves and as FDA approves their use in more products. In addition, the patent on aspartame production expires in December, 1992. The price of aspartame is expected to drop substantially, perhaps to as low as 10-15 cents per pound.[42] This may enable aspartame to compete with sugar and other sweeteners on a price basis.

Another major development regarding sugar substitutes has been the increasing use of high-fructose-corn-syrup (HFCS) as a replacement for sugar. A combination of guaranteed minimum domestic sugar prices and production incentives for corn have created a situation where HFCS enjoys a price advantage vís-a-vís sugar for many products, particularly soft drinks. Although HFCS possesses some disadvantages compared to sugar (e.g., it is a liquid), it can be used as a direct substitute in a wide range of products.

Per capita consumption of HFCS in the United States increased from 18.0 pounds in 1980 to 48.5 pounds in 1988, or by 169 percent (table 2-5). During the same period, per capita sugar consumption[43] declined 26 percent, from 83.6 pounds in 1980 to 62.0 pounds in 1988. Per capita consumption of other caloric sweeteners remained virtually constant during the period.

Total consumption of HFCS rose 191 percent, from 2.050 million short tons (dry basis) in 1980 to 5.975 million short tons in 1988; sugar consumption declined from 10.189 million short tons (raw value) in 1980 to 8.158 million short tons in 1988, or by 20 percent (table 2-5).

A substantial price differential between sugar and HFCS and the substitutability of the two sweeteners in many products are the factors which are directly responsible for this displacement.[44] In 1988, the price

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[41] Ibid.

[42] Economic Research Service, U.S. Department of Agriculture, Sugar and Sweetener Situation and Outlook Report, December 1989, p. 18.

[43] Refined basis, domestic and imported.

[44] HFCS and sugar generally are not blended but are used exclusively in particular product formulations.

differential between refined beet sugar and HFCS-55[45] in the Midwest U.S. market area totaled 18.68 cents per pound (table 2-9). This represented a discount of 26.7 percent. This discount, which may vary significantly both monthly and annually, has persistently grown larger during the past few years and was at 14.8 cents per pound in 1986.

It is generally acknowledged that the domestic sugar program has contributed to the rapid growth of the HFCS market. As the program guaranteed minimum domestic sugar prices, a window was created for the expansion of HFCS as a lower-cost sugar substitute. Thus, the expansion in the total U.S. market for caloric sweeteners was virtually totally filled by HFCS rather than higher-cost sugar.

Sugar-containing products

The U.S. sugar import quota system restricts imports of sugar for consumption in the United States to an absolute amount. The main, and intended, effect of this quota is to support the price of sugar in the U.S. market. One effect has been to provide an incentive to import sugar-containing products. Another effect has been to make U.S. food processors' sweetener ingredient costs higher than those of most foreign producers and placing them at a competitive disadvantage in export markets.

Following the imposition of restrictive import quotas on sugar in 1982, imports of certain sugar-containing articles increased rapidly. In 1983, in order to protect the price-support program for sugarcane and sugar beets from import interference, imports of blended syrups containing sugar and not in retail containers and certain edible preparations containing over 65 percent sugar and not in retail containers were made subject to zero quotas (i.e., an embargo). In 1985, imports of three other categories (sweetened cocoa powder, certain flour or dough mixes, and certain edible preparations) were made subject to import quotas. (See the section on government involvement in the U.S. sugar industry). Nevertheless, according to a recent study by the General Accounting Office (GAO), U.S. imports of selected sugar-containing products increased from 261,500 short tons in 1982 to 666,400 short tons in 1986, or by 155 percent.[46] The estimated sugar content in these imports

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[45] HFCS containing 55 percent fructose. This is primary type produced and used as a substitute for sugar.

[46] United States General Accounting Office, Report to Congressional Requesters, Sugar Program, Issues Related to Imports of Sugar-Containing Products, GAO/RCED-88-146, Washington, D.C., June, 1988. The estimates were based on categories comprising 46 import classification items in the Tariff Schedules of the United States, Annotated. Product categories included jams, jellies, and preserves; candied fruit and nuts; flavored sugar, syrups, and molasses; sweetened chocolate; sweetened cocoa; confectioners' coatings; candy and confectionery without chocolate or cocoa; biscuits, cakes, and wafers;

(continued...)

ranged between 102,700-118,000 short tons in 1982 and 264,700-307,300 short tons in 1986. U.S. imports of sugar in sugar-containing articles rose 160 percent between 1982 and 1986. The categories showing the greatest increase in imports were bulk sweetened chocolate blocks or slabs 10 pounds or over (1,345 percent increase), edible preparations of gelatin (1,148 percent), and currant and strawberry jelly (1,145 percent).

Other estimates have been made that give a wide range of imports of sugar-containing articles.[47] These estimates, which cannot be directly compared, indicate that a large, and growing, amount of such articles are being imported (table 2-10). Although the sugar import quotas are one factor in such imports, it is unclear to what degree other factors are responsible, such as increasing demand for the final products.

Costs of production

Cost of production data for sugar and competing products have been discussed throughout this report. Table 2-8 summarizes these data. In the United States, the cost of producing HFCS, at about 12.60 cents per pound in 1987, is lower than the cost of producing refined beet sugar or raw cane sugar, at about 20 cents per pound.[48] Thus, within the U.S. market, sugar is at a competitive disadvantage vís-a-vís the major substitute product, HFCS.

Compared with other world sugar producers, the United States can be considered a moderate-cost cane and beet sugar producer, as the range of production costs for U.S. producers lie between the ranges for low-cost and high-cost world producers (table 2-8). However, the U.S. government price-support program increases input costs for U.S. sugar processors and diminishes their competitive ability on the world market.

Transportation

Transportation costs represent a significant portion of the value of sugar traded on the world market. Given an average world price of raw sugar of about 11 cents per pound (Contract No. 11, f.o.b. Caribbean) during

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[46](...continued)
breakfast cereal; sauces; edible preparations of gelatin; edible preparations, over 5 percent butterfat; pancake and other flour; and, other edible preparations.

[47] See, for example, "U.S. Imports of Sugar in Sugar Containing Products, 1977-88," Sugar and Sweetener Situation and Outlook Report, Economic Research Service, U.S. Department of Agriculture, Sept. 1989, pp. 18-23.

[48] The cost of production for HFCS is given by a range of 12.60-28.20 cents per pound for major world producers. The United States is at the low-cost end of the range because of relatively low net corn costs.

January-May 1989 and current bulk shipping rates of about 2.5 cents per pound, transportation costs are nearly one quarter of the price of raw sugar.

Although transportation costs for sugar are substantial, industry sources indicate that there is no apparent competitive advantage in terms of transportation held by one sugar trading country over another. Transport contracts for sugar are relatively uniform throughout the world and differ more by type of sugar (raw versus refined) than by source and destination.

Preferential trading arrangements

A large share of world trade in sugar occurs under preferential trading arrangements. These arrangements include trade among customs unions (principally the EC), import quota allocations (such as in the U.S. market), and bilateral agreements (principally between the Soviet Union and Cuba). The primary effect of these arrangements is to restrict the supply of sugar on the "free" market and to contribute to artificially high prices for sugar in various markets. In addition, many of these arrangements involve long-term contracts that further diminishes the world supply of sugar traded on the "free" market. These preferential arrangements account for approximately 35 percent of world trade.[49]

Productive capacity and stocks

Productive capacity and inventories are utilized as a competitive factor in many industries. Excess productive capacity and stocks may be desirable in order to respond to temporary increases in demand and to take advantage of unforseen market opportunities, both in the domestic and world markets. In addition, cyclical production fluctuations may require that excess productive capacity be maintained, while seasonal or cyclical consumption patterns may necessitate the maintenance of stocks.

In the case of the sugar market, the productive capacity for the harvesting sector is determined by the acreage planted for sugar beets and sugarcane, while the productive capacity for the processed sugar sector is determined by the milling and refining capacity. Inasmuch as sugar beets are an annual crop, adjustments in productive capacity can be adjusted relatively quickly. Sugarcane is a perennial crop and adjustments in productive capacity cannot be effected as quickly as for sugar beets.

Sugar processing capacity can be increased only by installing more machinery in existing plants and by building new plants. However, as a rule, the world sugar market is characterized by protected markets, supported industries, and special trading arrangements. In addition, cyclical trends in the sugar market tend to be long in frequency, about 7 years or so. And, the

[49] International Sugar Organization, Statistical Bulletin, January 1989.

world sugar market has been in a long-term expansion, as growing demand for sugar in developing countries and nonmarket economies has countered relatively stagnant demand in developed countries. Thus, in practice, productive capacity and stocks have not generally been employed as a competitive device to obtain a comparative advantage in the world sugar market.

Estimates of Tariff Equivalents of U.S. Import Quotas

SUGAR

The U.S. import quotas on sugar apply to raw, refined, and liquid sugar; they are expressed in raw sugar equivalents. Tables 2-11 and 2-12 present estimates of tariff equivalents for U.S. quotas on raw-cane and refined sugar. The annual estimates for raw sugar are calculated using the price gap method. The price gap is the difference between the U.S. price for sugar and the world price gross of freight and handling charges needed to move the sugar from the foreign supplier to the U.S. market.

Currently, the only refined or liquid sugar imported into the United States are the very small quantities of refined beet sugar from Canada. The only other potential major source of refined beet sugar is the European Community and imports into the United States from the EC are subject to countervailing duties (currently, 10.45 cents per pound, or 23.04 cents per kilogram). It is unlikely there would be any large increase in U.S. imports of refined cane sugar in the absence of the quotas[50]. Because of the lack of trade and the absence of reliable information on the transportation costs of refined and liquid sugar, the price-gap method was not used to estimate the tariff equivalent for refined sugar and liquid sugar. However, since the quotas apply to raw, refined, and liquid sugar on a raw equivalent basis, the tariff equivalent for refined sugar (including refined sugar in liquid sugar) was obtained from the reported quantitative relation between raw and refined sugar. If one kilogram of refined sugar is equivalent to 1.0753 kilograms of raw sugar,[51] this same ratio should exist between the tariff equivalent of raw and refined sugar. The difference between the unit costs of a kilogram of refined sugar in the absence and presence of the quota is the tariff equivalent of the quota on refined sugar in specific terms. In table 2-12, the tariff equivalent for refined sugar was estimated by multiplying the price gap for raw sugar by the conversion ratio, 1.0753.

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[50] Refined cane sugar is not imported because high transportation and handling costs make it prohibitive. In addition, it is unclear whether FDA regulations impose a further barrier to imports of refined cane sugar. (From conversations with Mr. David Reinah of Ragus Traders, New York, New York, December 1989.)

[51] From conversations with Mr. Andrew Ferrier of Refined Sugars, Yonkers, New York, December 1989.

The tariff equivalents for raw and refined sugar are presented in both specific terms (cents per kilogram) and ad valorem terms (as a percent of the U.S. customs value). In percentage terms, the tariff equivalent of U.S. sugar quotas from 1986 through 1988 ranged from 102 and 223 percent of the world price for raw sugar and ranged from 77 and 163 percent of the constructed world price for refined sugar.

The problems in obtaining TEs using the price gap method (namely errors in measuring domestic and world prices, differentiated products, measuring domestic and foreign prices at the same point in the distribution chain, and other factors that restrict imports) should be considered when interpreting the estimates of the price gaps.[52] However, none of these are serious obstacles in applying the price-gap methodology to raw sugar.

As noted above, the lack of trade in refined sugar between the United States and sugar-exporting countries was an obstacle in applying the price-gap method. In the instance of refined sugar, the alternative was to estimate the tariff equivalent from the conversion ratio between raw and refined sugar. The world and domestic prices reported for raw sugar are the No. 11 price (f.o.b. stowed Caribbean port bulk spot-price) and the nearby No. 14 futures price (c.i.f. duty-paid, New York). Freight and handling charges between the Caribbean and New York must be added to the No. 11 price to get the free-trade U.S. price of sugar.

The price-gap method implicitly assumes that domestic and imported sugar are perfect substitutes. An imperfect substitutes model would be more appropriate if there were quality differences between domestic and imported sugar, or if other factors such as reliability of supply, delivery time, and warehousing costs differentiate the domestic product from the imported product. However, all information on such factors suggests that domestic and imported sugar are very nearly perfect substitutes for each other.

Finally, with the exception of the col. 1 rate of duty on raw and refined sugar[53] imports and the additional section-22 duty on refined sugar

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[52] These problems are discussed in the methodology section. It should also be noted that the estimates presented are based on the observed world price and that a long-run world price might be higher than this observed world price. Therefore, tariff equivalents for the long-run case might be smaller than the estimates presented in table 2-11.

A 1984 FTC study calculated a quota premium for the long-run case. See David G. Tarr and Morris E. Morkre, Aggregate Costs to the United States of Tariffs and Quotas on Imports: General Tariff Cuts and Removal of Quotas on Automobiles, Steel, Sugar, and Textiles, Washington, DC, Bureau of Economics Staff Report to the Federal Trade Commission, December 1984.

[53] There are only five sugar-exporting countries to whom column 1 rates of duty apply. These are Australia, Brazil, Canada, Paraguay, and Taiwan. The (continued...)

imports, there are no other significant border measures besides the quota that affect sugar. An embargo on Panamanian sugar has been in effect since 1988; however, Panama's quota, which accounted for only 2.9 percent of total sugar imports, was allocated to other sugar producers. Therefore, this border measure had no effect on the TE for the overall sugar quotas.

SUGAR-CONTAINING PRODUCTS

There are two practical methods that can be used to calculate tariff equivalents of quotas for sugar-containing products. The first method is the price gap method in which the price differential between domestic and foreign sugar-containing products themselves is determined. This method requires data on prices for both domestic and foreign sugar-containing products. But there typically are many different sugar-containing products with different prices in each category. Thus, the price gap between domestic and foreign products could be calculated by use of weighted averages of both domestic and foreign prices. However, even if more disaggregated data were available, domestic and foreign versions of the same product are seldom perfect substitutes for each other. Thus, the price-gap method would confound product differences with the effects of the quotas.

The second method is to infer the tariff equivalent for quotas on sugar-containing products from the tariff equivalent for the quotas on sugar. The first step in this method is to calculate tariff equivalents for refined sugar, which were already calculated in the previous section. Tariff equivalents for sugar-containing products are then calculated using the proportion of sugar content in total weight of the sugar-containing product. For instance, if a product contains 30 percent sugar, by weight, and the tariff equivalent for refined sugar is 11 cents per kilogram, its tariff equivalent would be 30 percent that of refined sugar, or 3.3 cents per kilogram of the product. Thus, the tariff equivalents for sugar-containing products are always lower per kilogram than tariff equivalents for refined sugar.

This method would provide the tariff equivalents for sugar-containing products that would be needed to maintain a given level of protection for domestic sugar producers. This is in line with the purpose of the sugar quotas. These were designed to protect sugarcane and sugar beet growers. Quotas on imports of sugar-containing articles prevent imports of such products from undermining the protection afforded sugarcane and sugar beet growers by the quotas on sugar. Thus, if the quota levels for sugar-containing products were set efficiently, they would exactly offset the loss in competitiveness to domestic producers of sugar-containing products caused

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[53](...continued)
remainder of the sugar-exporting countries are eligible for either GSP or CBERA duty-free treatment.

by the quotas on sugar. In stable markets, this goal would probably be maintained by setting quota levels on the sugar-containing products to keep import market shares at their levels prior to quotas on sugar. Since the quota levels were set for the sugar-containing products based on previous historic trade levels for these products, our method of inferring the tariff equivalents for these quotas should be reasonably accurate.

HTS items affected by U.S. import quotas

Sugar-containing products covered by quotas are specified in five eight-digit HTS subheadings in chapter 99, as described in the section on Government Involvement in the U.S. Sugar Industry of this chapter. Two subheadings have zero quota (they are banned from entry into the United States). These are specified in HTS 9904.50.20 (blended syrups containing sugar, not in retail containers) and HTS 9904.50.40 (edible preparations containing over 65 percent sugar, not in retail containers). The other three subheadings are HTS 9904.60.20 (sweetened cocoa powder), HTS 9904.60.40 (flour mixes and doughs containing over 10 percent sugar, except doughs in retail containers), and HTS 9904.60.60 (edible preparations containing over 10 percent sugar). As a general rule, any nonretail item containing over 65 percent sugar is not permitted to enter the United States.

With the exception of 9904.60.40, each of the five restricted subheadings consists of a number of 10-digit items. The only 10-digit HTS item included in the 9904.60.40 subheading is 1901.20.00.30. All corresponding items and commodity descriptions under the five subheadings are stated in appendix D.

Tariff equivalents by HTS item

During 1986-88, foreign sugar-containing products that contained more than 65 percent sugar by dry weight and that were not packaged for retail sale were usually banned from entry into the United States. Imports of sugar-containing products that contained 10 percent or less sugar were usually not included in the quantitative restrictions.

Each of the sugar-containing product import quota provisions covers products with a range of sugar contents. A single tariff equivalent of the quota on each of these categories will understate the quota protection for some (high-sugar-content) articles and overstate the protection for other (low-sugar-content) articles.[54] Choosing a tariff equivalent of the quota based on the maximum sugar content possible to be in an article covered by a particular quota provision would provide the tariff equivalent of the quota

[54] One possible means of avoiding this effect would be to require the importer to furnish proof of the sugar content and calculate the tariff for each shipment based on its actual sugar content.

for that particular product, but would overstate the quota protection for all other products covered by that quota provision. The Commission staff examined the sugar content of articles classifiable in each of the quota provisions and estimated the average sugar contents for each of the five eight-digit subheadings for sugar-containing products.[55] The average sugar contents (by weight) of HTS items 9904.50.20, 9904.50.40, 9904.60.20, 9904.60.40, and 9904.60.60 are 47 percent, 78 percent, 50 percent, 30 percent, and 65 percent, respectively. Having used these five percentages and calculated tariff equivalents of refined sugar (see table 2-12, Tariff Equivalents for Refined Sugar, 1986-1988), the Commission staff calculated the tariff equivalents for the five eight-digit subheadings for 1986-88. In 1986, for instance, the tariff equivalent for items with average sugar content in HTS 9904.60.20 (sweetened cocoa powder) was 15.98 cents per kilogram (50 percent of the specific duty rate on refined sugar), and in HTS 9904.60.40 it was 9.59 cents per kilogram (30 percent of the specific duty rate on refined sugar) (table 2-13).

By using the estimated ad valorem rates of tariff equivalents of quotas for refined sugar (table 2-12), the tariff equivalents for the five eight-digit subheadings for 1986-88 could be also calculated in terms of ad valorem rates. Since the prices of imported sugar-containing products in the five HTS items are not available for 1986-88, the estimated ad valorem tariff equivalents are based on the constructed world price of refined sugar. Estimates presented in table 2-14 are based on the assumption that the average percentage value of sugar content is equal to the average percentage weight of sugar content. In 1986, for instance, the tariff equivalent for HTS 9904.60.20 was 82 percent ad valorem (50 percent of the ad valorem rate on refined sugar); and for HTS 9904.60.40 it was 48.9 percent (30 percent of the ad valorem rate on refined sugar) (table 2-14).

These estimated tariff equivalents tend to overstate the ad valorem tariff equivalent of the quota since sugar tends to have a lower unit cost than the average unit cost of the other ingredients, and the products have value added in the production process. On the other hand, these ad valorem estimates could be slightly understated because the ad valorem equivalent on refined sugar is computed using the constructed equivalent of the c.i.f. value as a base, rather than the customs value. The net effect is probably to overstate the estimates.

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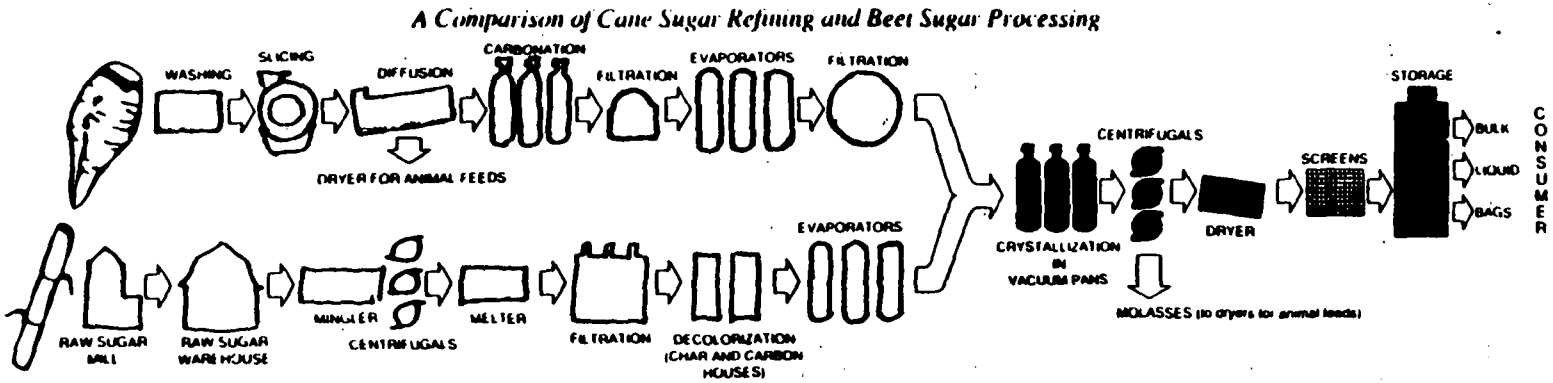
[55] The estimates are based on information from import invoices and on interviews with importers and officials of the U.S. Customs Service, the General Accounting Office, and the Economic Research Service and the Foreign Agricultural Service of the U.S. Department of Agriculture.

Figure 2-1
Flow chart of cane sugar refining and beet sugar processing



Source: 1989 Annual Report, Imperial Holly Corporation, p. 13.

Fig. 2-2. National average loan rates
sugar beets and sugarcane

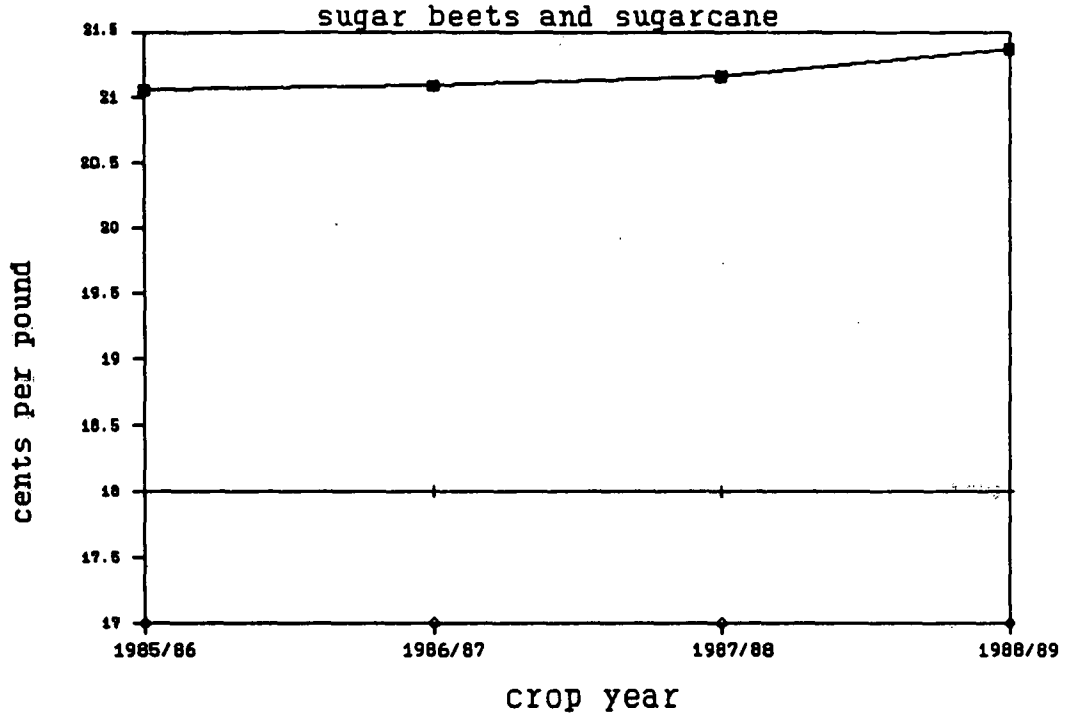


Table 2-1
Sugar beets and sugarcane: U.S. production, by area, crop years 1985-1988[1]

Area	1985	1986	1987	1988
	Quantity (1,000 tons)			
Sugar beets:				
Great Lakes:				
Michigan	2,325	2,288	2,911	2,393
Ohio	258	309	269	234
Total	2,583	2,597	3,180	2,627
Red River Valley:				
Minnesota	5,088	5,194	6,200	4,743
North Dakota	2,423	2,932	3,161	2,580
Total	7,511	8,126	9,361	7,323
Great Plains:				
Colorado	46	889	803	880
Kansas	0	0	0	0
Montana	811	1,016	1,086	1,032
Nebraska	1,229	1,387	1,102	1,319
New Mexico	0	0	2	9
Texas	833	829	621	723
Wyoming	1,032	1,000	1,127	1,137
Total	3,951	5,121	4,741	5,100
Northwest:				
Idaho	3,496	4,112	4,277	4,084
Oregon	319	374	422	376
Total	3,815	4,486	4,699	4,460
Southwest:				
Arizona	0	0	0	0
California	4,669	4,832	6,091	5,300
Total	4,669	4,832	6,091	5,300
Total, sugar-beets	22,529	25,162	28,072	24,810
Sugarcane:[2]				
Florida	13,117	13,446	13,469	13,304
Louisiana	6,006	7,371	6,469	7,708
Texas	961	907	1,085	1,088
Hawaii	8,129	8,587	8,195	7,804
Total, sugarcane	28,213	30,311	29,218	29,904

See footnotes at end of table.

Table 2-1.--Continued
Sugar beets and sugarcane: U.S. production, by area, crop years 1985-1988

Area	1985	1986	1987	1988
	Value (1,000 dollars)			
Sugar beets:				
Great Lakes:				
Michigan	68,820	68,640	90,241	[3]
Ohio	7,198	9,208	8,850	[3]
Total	76,018	77,848	99,091	[3]
Red River Valley:				
Minnesota	183,168	203,605	90,241	[3]
North Dakota	86,017	115,228	8,850	[3]
Total	269,185	318,833	99,091	[3]
Great Plains:				
Colorado	1,260	29,248	28,426	[3]
Kansas	0	0	0	[3]
Montana	28,466	39,726	45,829	[3]
Nebraska	35,027	45,078	39,121	[3]
New Mexico	0	0	7,100	[3]
Texas	24,490	19,896	20,804	[3]
Wyoming	33,127	36,600	44,291	[3]
Total	122,370	170,548	185,571	[3]
Northwest:				
Idaho	127,954	149,677	165,520	[3]
Oregon	11,165	12,791	15,445	[3]
Total	139,119	162,468	180,965	[3]
Southwest:				
Arizona	0	0	0	[3]
California	154,154	172,502	204,658	[3]
Total	154,154	172,502	204,658	[3]
Total, sugar-beets	761,236	902,199	1,080,613	1,015,970
Sugarcane: 2/				
Florida	355,743	374,564	401,391	[3]
Louisiana	120,546	156,387	171,339	[3]
Texas	18,961	23,953	31,665	[3]
Hawaii	222,440	233,774	217,981	[3]
Total, sugarcane	717,690	788,678	822,376	922,538

[1] Crop year September/August.
[2] Does not include sugarcane produced for seed.
[3] Not available.

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

Table 2-2
Sugar beets and sugarcane: Average costs and returns, 1986-88

Item	1986	1987	1988
	(Dollars per ton)		
Sugar beets:			
Cash receipts:			
Primary crop.....	35.90	38.49	40.95
Secondary crop....	.05	.05	.06
Total.....	35.95	38.54	41.01
Cash expenses:			
Variable[1].....	15.90	15.13	20.23
Fixed[2].....	6.10	6.31	7.79
Total.....	22.00	21.44	28.03
Economic costs[3].....	28.19	27.82	39.31
Residual returns to management and risk[4].....	7.76	10.72	1.70
Sugarcane:			
Cash receipts.....	27.30	29.35	30.85
Cash expenses:			
Variable[1].....	17.48	17.86	16.88
Fixed[2].....	4.71	4.91	3.62
Total.....	22.19	22.77	20.51
Economic costs[3].....	27.38	28.33	29.06
Residual returns to management and risk[4].....	-0.08	1.02	1.79

[1] Includes labor, chemicals, fertilizer, energy, seed, and other items.
[2] Includes general overhead, interest, taxes, and insurance.
[3] Includes variable cash expenses, general farm overhead, taxes and insurance, capital replacement, and allocated returns to owned inputs.
[4] Represents cash receipts less total economic (full ownership) costs.

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

Table 2-3
Sugar: Prices of raw and refined sugar, 1986-88

Type	1986	1987	1988
	Cents per pound		
Raw sugar[1]	20.95	21.82	22.12
Wholesale refined beet sugar[2]	23.42	23.60	25.49
Differential[3]	2.47	1.78	3.37
Retail refined sugar..	35.08	35.28	36.60
Differential[3]	11.66	11.68	11.11

[1] Nearby No. 14 futures.
[2] F.o.b., Midwest market, bulk.
[3] Difference between current and previous market levels.

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

Table 2-4
Sugar: U.S. deliveries to industrial and nonindustrial users, 1986-88

Type of user	1986	1986	1988
		1,000 tons, refined	
Industrial:			
Food use:			
Bakery and cereal products	1,432	1,513	1,541
Confectionery products	1,051	1,146	1,107
Dairy products	447	449	411
Processed foods	387	398	354
Other	443	534	529
Total, food use	3,760	4,040	3,942
Beverage use	266	212	237
Total, industrial	4,026	4,252	4,179
Nonindustrial:			
Institutions	142	163	175
Eating and drinking	84	91	89
Wholesalers, jobbers, and sugar dealers	1,867	2,040	2,200
Retail grocers, chain stores, and supermarkets	1,066	996	941
Other	58	72	86
Total, nonindustrial	3,075	3,199	3,316
Total food and beverage use	7,101	7,451	7,495
Total other use	138	149	121
All uses	7,239	7,600	7,616

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

Note: Does not include sugar deliveries in Hawaii.

Table 2-5
U.S. consumption of caloric sweeteners, 1980-88

Year	Refined sugar [1]	Corn sweeteners				Pure honey	Edible syrups	Total
		HFCS	Glucose	Dextrose	Total			
	Million short tons, dry basis							
1980....	9.522	2.050	2.004	0.399	4.453	0.091	0.046	14.112
1981....	9.130	2.550	2.047	0.403	5.000	0.092	0.046	14.268
1982....	8.561	3.100	2.091	0.407	5.598	0.105	0.046	14.310
1983....	8.334	3.650	2.110	0.410	6.170	0.106	0.047	14.657
1984....	8.008	4.425	2.130	0.414	6.969	0.118	0.047	15.142
1985....	7.579	5.275	2.161	0.418	7.854	0.120	0.048	15.601
1986....	7.347	5.550	2.171	0.432	8.153	0.121	0.048	15.669
1987....	7.605	5.800	2.190	0.430	8.420	0.122	0.049	16.196
1988[2]...	7.624	5.975	2.210	0.440	8.625	0.122	0.049	16.420
	Per capita, pounds, dry basis							
1980....	83.6	18.0	17.6	3.5	39.1	0.8	0.4	123.9
1981....	79.3	22.2	17.8	3.5	43.5	0.8	0.4	124.0
1982....	73.7	26.7	18.0	3.5	48.2	0.9	0.4	123.1
1983....	71.0	31.1	18.0	3.5	52.6	0.9	0.4	124.9
1984....	67.6	37.3	18.0	3.5	58.8	1.0	0.4	127.8
1985....	63.4	44.1	18.0	3.5	65.6	1.0	0.4	130.4
1986....	60.8	46.0	18.0	3.5	67.5	1.0	0.4	129.7
1987....	62.4	47.5	18.0	3.5	69.0	1.0	0.4	132.8
1988[2]...	62.0	48.5	18.0	3.6	70.1	1.0	0.4	133.5

[1] Includes imports.
[2] Preliminary.

Source: Economic Research Service, U.S. Department of Agriculture.

Table 2.6
U.S. sugar imports under quotas, by country, 1985/86-1988

In short tons, raw value

Country	1985/86 [1] Quota allocation	1985/86 [1] Actual imports	1987 [2] Quota allocation	1987 [2] Actual imports	1988 [2] Quota allocation	1988 [2] Actual imports
Argentina	73,788	72,917	39,130	38,720	43,175	43,175
Australia	142,428	142,428	75,530	75,530	83,335	83,438
Barbados	12,500	11,678	7,500	7,500	8,205	8,205
Belize	18,876	18,876	10,010	10,010	16,692	16,692
Bolivia	13,728	13,728	7,500	7,500	8,230	8,230
Brazil	248,820	248,820	131,950	131,950	145,590	145,462
Canada	18,876	18,902	10,010	9,749	11,045	10,375
Colombia	41,184	41,184	21,840	21,840	24,100	24,102
Congo	12,500	12,500	7,500	7,500	8,000	8,000
Costa Rica	34,713	34,713	17,583	17,583	19,577	19,547
Cote D'Ivoire	12,500	12,151	7,500	7,500	8,000	8,000
Dominican Republic	302,016	302,016	160,160	159,319	176,710	169,190
Ecuador	18,876	18,876	10,010	10,010	11,045	7,903
El Salvador	50,000	48,133	26,020	25,893	28,815	28,815
Fiji	12,500	12,500	25,190	25,190	9,035	9,200
Gabon	12,500	12,322	7,500	7,500	8,000	8,000
Guatemala	82,368	82,368	43,680	43,347	48,185	48,962
Guyana	20,592	20,592	10,920	10,920	374	374
Haiti	12,500	12,500	7,500	7,500	8,000	7,600
Honduras	32,713	32,713	15,917	15,917	17,877	17,896
India	13,728	13,728	7,500	7,500	8,230	6,026
Jamaica	18,876	18,876	10,010	10,010	16,692	16,426
Madagascar	12,500	12,462	7,500	7,500	8,000	7,934
Malawi	17,160	17,142	9,100	9,100	10,045	10,045
Mauritius	30,592	30,592	10,920	10,920	12,050	12,050
Mexico	12,500	12,500	7,500	7,500	8,000	8,000
Mozambique	22,308	22,290	11,830	11,830	13,055	13,055
Nicaragua	0	0	0	0	0	0
Panama	49,764	49,625	26,390	26,390	[3]	210
Papua New Guinea	12,500	12,500	7,500	7,416	8,000	8,000
Paraguay	12,500	12,190	7,500	5,787	8,000	8,017
Peru	70,356	68,686	37,310	36,883	41,165	28,580
Philippines	246,999	243,880	143,780	158,640	158,640	373,942
St. Christopher-Nevis	12,500	12,500	7,500	7,500	8,000	8,086
South Africa	24,129	24,129	0	0	0	0
Swaziland	27,456	27,456	14,560	14,560	16,065	16,065
Taiwan	20,592	19,976	10,920	10,920	12,050	12,050
Thailand	24,024	23,993	12,740	12,637	14,055	9,806
Trinidad-Tobago	12,500	12,500	7,500	7,500	8,588	8,588
Uruguay	12,500	12,500	7,500	7,500	8,000	8,000
Zimbabwe	20,592	20,592	10,920	10,920	12,050	12,050
Subtotal	1,848,054	1,845,352	1,001,430	997,131	1,054,675	1,024,791
Specialty sugars	1,840	306	2,000	[4]	2,000	[4]
Grand total	1,849,894	1,845,658	1,003,430	997,131	1,056,675	1,024,791

[1] Dec.1, 1985-Dec. 31, 1986.
[2] Jan. 1-Dec. 31.
[3] Panama's quota suspended.
[4] Not available.

Note: Imports are reported on an actual weight basis adjusted by Customs upward by a factor of 1.035. When final polarization results are received or when adjustments are made to raw value on final vessels, cumulative import data are adjusted accordingly. A country's excess of cumulative entries and adjustments over its quota allocation is carried over to and against the country's allocation for the next quota period.

Source: Compiled from official statistics of the U.S. Department of Agriculture, Foreign Agricultural Service.

Table 2-7
Sugar: World production, supply, and distribution, by countries, marketing years 1985/86-1987/88

Country and year	Beginning stocks	Sugar production	Imports	Total supply	Exports	Domestic consumption	Ending stocks	Ratio of imports to consumption	Ratio of exports to production
	(1,000 metric tons, raw value)							(percent)	
EC:									
1985/86	3,246	14,520	2,987	20,753	5,604	11,635	3,514	25.7	38.6
1986/87	3,511	14,989	2,436	20,936	5,407	12,073	3,456	20.2	36.1
1987/88	3,456	14,160	2,795	20,411	5,451	12,289	2,671	22.7	38.5
India:									
1985/86	1,803	7,983	1,775	11,561	57	9,338	2,166	19.0	.07
1986/87	2,166	9,474	1,020	12,660	25	9,675	2,960	10.5	.03
1987/88	2,960	10,000	80	13,040	30	10,310	2,700	.8	.03
USSR:									
1985/86	3,894	8,260	5,183	17,337	327	13,400	3,610	38.7	4.0
1986/87	3,610	8,700	5,057	17,367	173	14,494	2,700	34.9	2.0
1987/88	2,700	9,560	4,515	16,775	175	14,100	2,500	32.0	1.8
Brazil:									
1985/86	1,571	8,270	0	9,841	2,560	6,300	981	0	31.0
1986/87	981	8,650	0	9,631	2,086	6,700	845	0	24.1
1987/88	845	8,457	0	9,302	2,131	6,400	771	0	25.2
Cuba:									
1985/86	1,156	7,200	0	8,356	7,000	806	550	0	97.2
1986/87	550	7,220	0	7,770	6,630	780	360	0	91.8
1987/88	360	7,400	0	7,760	6,500	770	490	0	87.8
US:									
1985/86	1,597	5,473	2,356	9,426	416	7,511	1,499	31.4	7.6
1986/87	1,499	6,246	1,503	9,248	591	7,299	1,358	20.6	9.5
1987/88	1,358	6,483	1,140	8,981	354	7,433	1,194	15.3	5.5
China:									
1985/86	2,177	5,535	1,216	8,928	271	6,600	2,057	18.4	4.9
1986/87	2,057	5,774	1,507	9,338	459	7,200	1,679	20.9	7.9
1987/88	1,679	4,706	3,199	9,584	309	7,600	1,675	42.1	6.6
Australia:									
1985/86	603	3,404	0	4,007	2,858	801	348	0	84.0
1986/87	348	3,457	0	3,805	2,658	837	310	0	76.9
1987/88	310	3,528	0	3,838	2,797	805	236	0	79.3

Table 2-7--Continued
Sugar: World production, supply, and distribution, by countries, marketing years 1985/86-1987/88

Country and year	Beginning stocks	Sugar production	Imports	Total supply	Exports	Domestic consumption	Ending stocks	Ratio of imports to consumption	Ratio of exports to production
	(1,000 metric tons, raw value)							(percent)	
Thailand:									
1985/86.....	473	2,586	0	3,059	2,060	740	259	0	79.7
1986/87.....	219	2,639	0	2,858	1,960	780	118	0	74.3
1987/88.....	118	2,704	0	2,822	1,891	820	111	0	69.9
South Africa:									
1985/86.....	578	2,287	29	2,894	1,128	1,405	361	2.1	49.3
1986/87.....	361	2,200	0	2,561	875	1,320	366	0	39.8
1987/88.....	366	2,235	0	2,601	925	1,450	226	0	41.4
Philippines:									
1985/86.....	229	1,561	0	1,790	296	1,211	283	0	24.4
1986/87.....	283	1,350	0	1,633	197	1,227	209	0	16.1
1987/88.....	209	1,400	105	1,714	129	1,420	165	7.4	9.1
Dominican Republic:									
1985/86.....	374	894	0	1,268	480	331	457	0	53.7
1986/87.....	345	815	0	1,160	587	351	222	0	72.0
1987/88.....	222	777	0	999	531	223	245	0	68.3
Canada:									
1985/86.....	215	60	1,145	1,420	67	1,122	231	102.0	111.7
1986/87.....	231	118	1,119	1,468	101	1,147	220	97.6	85.6
1987/88.....	220	129	928	1,277	76	1,051	150	88.3	58.9
All others:									
1985/86.....	10,361	30,931	14,335	55,627	6,393	39,387	9,847	36.4	20.7
1986/87.....	9,790	31,639	14,682	56,111	6,374	41,172	8,565	35.7	20.1
1987/88.....	8,565	31,821	14,676	55,062	6,302	41,481	7,279	35.4	19.8
World:									
1985/86.....	28,277	98,964	29,026	156,267	29,517	100,587	26,163	28.9	29.8
1986/87.....	25,951	103,271	27,324	156,546	28,123	105,055	23,368	26.0	27.2
1987/88.....	23,368	103,360	27,438	154,166	27,601	106,152	20,413	25.8	26.7

Source: U.S. Department of Agriculture, World Sugar Situation and Outlook, various issues.

Table 2-8
Sugar: Cost of producing raw cane sugar, beet sugar, and high fructose corn syrup, by category of world producers, 1986-88[1]

In cents per pound

Category	1986	1987	1988
Raw cane sugar:[2]			
Low-cost producers[3]	8.60-9.60	7.70-10.30	[4]
High-cost producers[5]	28.50-38.30	27.80-42.10	[4]
Major exporters[6]	9.10-14.50	10.30-14.70	[4]
Cane sugar, white value equivalent:			
Low-cost producers[3]	13.54-14.63	12.56-15.39	[4]
High-cost producers[5]	35.17-45.82	34.41-49.95	[4]
Major exporters[6]	14.08-19.95	15.39-20.17	[4]
Beet sugar, refined value:			
Low-cost producers[7]	10.60-20.90	13.30-23.90	[4]
High-cost producers[8]	30.90-62.00	33.60-46.40	[4]
Major exporters[9]	15.90-21.90	14.00-23.90	[4]
High fructose corn syrup:[10]			
Major producers[11]	14.30-24.60	12.60-28.20	[4]

[1] Crop year basis.
[2] Ex-mill/factory basis.
[3] Average of 5 countries (Malawi, South Africa, Swaziland, Zambia, and Zimbabwe).
[4] Not available.
[5] Average of 5 countries (Congo, Guadaloupe, Paraguay, Vietnam, and Japan).
[6] Average of 7 countries (Cuba, Brazil (Center-South), Australia, Thailand, Dominican Republic, South Africa, Mauritius).
[7] Average of 5 producing countries (Belgium, Chile, France, West Germany, and Turkey).
[8] Average of 6 producing countries (Bulgaria, China, Japan, Romania, USSR, and East Germany).
[9] Average of 6 exporting countries (France, West Germany, Belgium, Denmark, Netherlands, and Turkey).
[10] Dry weight, 42-percent HFCS basis.
[11] Average of 12 countries (Canada, Argentina, Japan, South Korea, Spain, Belgium, France, West Germany, Italy, Netherlands, United Kingdom, and the United States).

Source: Lord, Ronald C., Robert D. Barry, and James Fry, "World Sugar and HFCS Production Costs, 1979/80-1986/87," Sugar and Sweetener Situation and Outlook Report, June 1989, U.S. Department of Agriculture, Washington, D.C. Data originally from Landell Mills Commodities Studies, Ltd., London.

Table 2-9
HFCS prices and their discount to sugar, Midwest market, 1986-88

Year	Price		Refined beet sugar	Price discount to sugar	
	HFCS-42	HFCS-55		HFCS-42	HFCS-55
	Cents per pound (dry basis)		Percent		
1986....	18.07	19.96	23.42	22.8	14.8
1987....	16.50	17.46	23.60	30.1	26.0
1988....	16.47	18.68	25.49	35.4	26.7

Source: Milling and Baking News, and John Crowe and Company.

Table 2-10
U.S. imports of sugar in sugar-containing articles, 1977-82 average and 1986-88

Item	1977-82 average	1986	1987	1988
	(1,000 tons, sugar equivalent)			
Confectionery and chewing gum.....	38.0	90.6	87.3	81.3
Miscellaneous food preparations.....	16.2	75.1	70.6	51.1
Bakery and cereal products.....	16.6	39.8	41.3	38.5
Cocoa and chocolate.....	8.0	34.2	37.5	36.0
Flavored sugars, syrups, and molasses.....	2.2	15.4	23.3	35.4
Processed berries; preserves; and candied fruits and nuts.....	18.9	25.2	28.7	27.6
Total.....	99.9	280.1	288.6	269.9
	(Share of total, percent)			
Confectionery and chewing gum.....	38.0	32.3	30.2	30.1
Miscellaneous food preparations.....	16.2	26.8	24.4	18.9
Bakery and cereal products.....	16.6	14.2	14.3	14.3
Cocoa and chocolate.....	8.0	12.2	13.0	13.3
Flavored sugars, syrups, and molasses.....	2.2	5.5	8.1	13.1
Processed berries; preserves; and candied fruits and nuts.....	18.9	9.0	9.9	10.2
Total.....	100.0	100.0	100.0	100.0
	(Average sugar content, percent)			
Confectionery and chewing gum.....	56.2	56.7	56.4	56.7
Miscellaneous food preparations.....	31.9	33.1	33.8	33.7
Bakery and cereal products.....	24.3	24.7	24.6	24.6
Cocoa and chocolate.....	50.4	50.4	50.3	50.8
Flavored sugars, syrups, and molasses.....	70.0	70.0	70.0	70.0
Processed berries; preserves; and candied fruits and nuts.....	36.2	40.0	40.6	42.0
Average, all items.....	38.6	40.0	40.7	42.3

Source: Economic Research Service, U.S. Department of Agriculture.

Table 2-11
Tariff equivalents of import quotas for raw sugar, 1986-88[1]

Year	Average world price[2]	Average freight & handling charges[3]	Average world price gross of freight & handling	Average U.S. price[4]	Tariff equivalent	
					Specific (Price gap)	Ad valorem[5]
	Cents per kilogram					Percent
1986	13.34	3.09	16.43	46.19	29.76	223
1987	14.79	3.71	18.10	48.11	30.01	203
1988	22.44	3.53	25.97	48.77	22.80	102

[1] Includes HTSUS items 1701.11 and 1701.12.
[2] The world price is the annual average contract No. 11 price--i.e., f.o.b. stowed Caribbean port (including Brazil) bulk (spot price).
[3] Average charge per pound of shipping raw sugar between Caribbean countries and the U.S. customs district of New York City. These estimates, provided by the U.S. Department of Agriculture (USDA), include freight, stevedoring, weighing, interest, insurance, and miscellaneous charges.
[4] The U.S. price is the annual average price for nearby No. 14 futures.
[5] As a percent of the world f.o.b. price.

Source: U.S. and world price data were obtained from U.S. Department of Agriculture, Sugar and Sweetener: Situation and Outlook Report, Economic Research Service, September 1989; freight and handling charges provided by the USDA, Economic Research Service, Commodity Economics Division; specific and ad valorem tariff equivalents computed by the staff of the U.S. International Trade Commission.

Table 2-12
Tariff equivalents of import quotas for refined sugar, 1986-88[1]

Year	Constructed world price[2]	Average wholesale U.S. price[3]	Tariff equivalent	
			Specific (Price gap[4])	Ad valorem[5]
	Cents per kg			Percent
1986	19.62	51.63	32.01	163
1987	19.75	52.03	32.28	163
1988	31.68	51.20	19.52	62

[1] Includes HTSUS items 1701.91.20 and 1701.99.
[2] The constructed world price of refined sugar is the difference between the average wholesale U.S. price and the estimated price gap. This would be the price in the United States absent the quotas.
[3] The U.S. price is the annual average f.o.b. price of wholesale refined beet sugar, Midwest market.
[4] The price gap for refined sugar was estimated by multiplying the price gap for raw sugar by the factor 1.0753, which is the conversion ratio between raw and refined sugar--i.e., 1.0753 pounds of raw cane sugar render one pound of refined cane sugar.
[5] As a percent of the constructed world price. The ad valorem equivalent tends to be understated, as explained in the text.

Source: U.S. price data were obtained from U.S. Department of Agriculture, Sugar and Sweetener: Situation and Outlook Report, Economic Research Service, September 1989; the constructed world price, and specific and ad valorem tariff equivalents computed by the staff of the U.S. International Trade Commission.

Table 2-13
Tariff equivalents of import quotas for sugar-containing-products, items with average sugar content by HTS subheadings, 1986-88

(In cents per kilogram)

Subheading	Abbreviated article description	Tariff equivalents 1986	1987	1988
9904.50.20.....	Blended syrups containing sugar, not in retail containers	15.04	15.12	11.46
9904.50.40.....	Edible preparations containing over 65 percent sugar, not in retail containers	24.96	25.11	19.03
9904.60.20.....	Sweetened cocoa powder	15.98	16.09	12.19
9904.60.40.....	Flour mixes and doughs containing over 10 percent sugar, except doughs in retail containers	9.59	9.66	7.32
9904.60.60.....	Edible preparations containing over 10 percent sugar	20.79	20.92	15.85

Source: Computed by staff of the U.S. International Trade Commission based on the estimated tariff equivalents for refined sugar in table 2-12.

Table 2-14
Tariff equivalents of import quotas for sugar-containing-products, items with average sugar content by HTS subheadings, 1986-88

(Percent ad valorem)1/

Subheading	Abbreviated article description	Tariff equivalents 1986	1987	1988
9904.50.20.....	Blended syrups containing sugar, not in retail containers	77	77	36
9904.50.40.....	Edible preparations containing over 65 percent sugar, not in retail containers	127	127	60
9904.60.20.....	Sweetened cocoa powder	82	82	39
9904.60.40.....	Flour mixes and doughs containing over 10 percent sugar, except doughs in retail containers	49	49	23
9904.60.60.....	Edible preparations containing over 10 percent sugar	106	106	50

1/ All ad valorem rates are based on the constructed world price of refined sugar. These rates are based on the assumption that the average percentage value of sugar is equal to the average percentage weight of sugar content. There are factors that tend to overstate as well as understate these estimated ad valorem equivalents. The net effect of these factors is probably to overstate the ad valorem equivalents. See the text for further discussion.

Source: Computed by staff of the U.S. International Trade Commission.

CHAPTER 3. MEAT

Introduction

The following types of meat are subject to quantitative restrictions under the Meat Import Act of 1979 (quota-type meats) and to voluntary restraint agreements (VRAs) negotiated under authority of the Agricultural Act of 1956: fresh, chilled, or frozen beef and veal; fresh, chilled, or frozen meat of sheep (mutton) except lamb; fresh, chilled, or frozen goat meat; and certain other beef and veal described as "prepared or preserved" under the Tariff Schedules of the United States, Annotated (TSUSA), and as "processed" under the Harmonized Tariff Schedule of the United States (HTSUS).

The types of meat for which information is presented in this chapter are limited to fresh, chilled, or frozen beef and veal (and the cattle from which such meat is produced), because such meat accounted for 99.5 percent or more, by value, of all U.S. imports of quota-type meats during 1986-88.

Competitive Conditions in the U.S. Industry and Market

INDUSTRY STRUCTURE

Cattle farmers

The U.S. cattle growing industry, especially the cow-calf sector, is not concentrated; even the largest firms account for only a small share of the total U.S. production. During 1988 there were 1,370,640 cattle operations[1] in the United States, down from 1,408,070 during 1987.[2] The cattle feeding industry is slightly more concentrated however; during 1988, 80 feedlots with a capacity of 32,000 or more animals (about 0.2 percent of the total feedlots in the United States) fed 7.6 million animals, equal to 29 percent of the 26.7 million fed cattle slaughtered in the United States during that year.

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[1] An operation is any place having one or more head of the species on hand at any time during the year.

[2] Although cattle are raised and beef is processed in each of the fifty States, more than half of the industry is concentrated in the Corn Belt (which held 34 million, or 34 percent, of the 100 million animals in the U.S. cattle inventory on January 1, 1989) and the Western Rangelands (which accounted for 40 million or 40 percent of the January 1, 1989, cattle inventory). The Southeastern States accounted for an additional 18 million head of cattle (or 18 percent).

Many cattle operations are parts of diversified farming enterprises, especially in the Corn Belt and the Southeast. Many cattle operations grow all or nearly all of the feed supplied to their animals, but otherwise there is little additional vertical integration in the cattle growing sector.

Beef processors

In general, cattle are slaughtered and beef is processed near where they are raised or fed. Because many cattle are shipped from the Western Rangelands and Southeastern States to feedlots in the Corn Belt, the Corn Belt States account for a large share of cattle slaughter. In 1988 the Corn Belt States accounted for 19.1 million or 55 percent of U.S. Federally Inspected cattle slaughter; the Western States accounted for 13.0 million or 37 percent, and the Southeastern states accounted for 1.5 million or 4 percent.

During 1987, the most recent year for which data are available, there were 419 firms slaughtering cattle, employing 140,000 persons in 1,300 cattle-slaughtering plants. In contrast to cattle farming, in which there are numerous producers, the beef sector is moderately concentrated, and the market shares held by the largest firms are growing:

Year	Share of U.S. cattle slaughter accounted for by-- Top four companies	Top eight companies	Top twelve companies
	(Percent)		
1986.....	42.3	52.9	59.5
1987.....	53.9	62.7	67.6
1988.....	56.6	65.9	70.4

TRENDS IN PRODUCTION

Beef and veal production has declined slightly in recent years, as the industry has entered the most recent downturn in a business cycle referred to as the cattle cycle. During this cycle of approximately 10 years, the number of beef cattle in the United States is alternately expanded and reduced for several consecutive years in response to changes in the current profitability, or expected future profitability, of cattle production. Because of inherent biological factors described below and the nature in which female animals are slaughtered for beef, the supply effect of production decisions are experienced only after a lag. Indeed, as described below, the immediate effect of a production decision is the opposite of the intended effect.

Cow-calf production, the basis for beef production, includes any cattle-breeding enterprise operated primarily for the production of young cattle

ultimately placed in pastures or rangelands and feedlots to condition for slaughter. This production process takes about 2-1/2 years between the breeding of beef cows and heifers and the time when the resulting beef is available for retail sale. If a producer then decides to expand production by saving even more breeding stock, an additional 2 years (a total of 4-1/2 years) will be necessary before the additional beef production is available for retail sale. Choosing to expand production by retaining cows and by holding back heifers (that would have been available for slaughter if no expansion in production were attempted) initially reduces supplies of beef available for slaughter, and higher prices normally follow. Producers typically respond to the higher prices by saving even more breeding stock. At some point beef production expands and supplies become too large to clear the market at prevailing prices. Prices decline and cattlemen, to reduce production, begin to cull breeding stock. The culled breeding stock immediately adds to the already substantial meat production. Young animals that would normally go to feedlots or breeding herds are also sold for slaughter, resulting in additional supplies of meat. As more and more meat enters the market, prices and profits become more depressed. At some point supplies are sufficiently reduced and prices begin to rise. The industry is then poised for another expansion phase of the cycle.

Many factors contribute to the expansion and contraction of the cattle cycle. During the late 1960's and early 1970's, expansion in the U.S. cattle industry was encouraged by moderate grain prices, growth in consumers' income, and restrained inflation. From 1975 to 1979, however, cattle inventories were sharply reduced--declining from 132 million animals to 111 million animals, or by 16 percent. Because of reduced inventories, U.S. producers were able to get record high prices during 1979/80. Consequently, producers began to build up their herds--increasing to 115.4 million animals in 1982. However, a severe drought (which reduced forage supplies) was experienced in parts of the western rangelands and the Corn Belt region as well as in the Eastern United States in 1983-84. The drought forced producers to liquidate their cattle rather than hold them for expansion. On mixed livestock-crop operations, poor livestock returns, lower grain prices, and falling land values continued to force herd liquidation to improve cash flow and reduce debt. Also during this period, the U.S. cattle industry was competing against expanding pork and poultry production. Recent changes in inventories suggest that the U.S. cattle industry is reexperiencing a modest contraction.

TRENDS IN PRICES AND PROFITABILITY

Farm-level prices for beef cattle, according to the USDA, increased sharply in recent years, averaging nearly $69 per hundredweight in 1988, an increase of 27 percent from just 2 years earlier. As a result, total cash receipts from cattle marketing also rose significantly, exceeding $36 billion in 1988 compared with $29 billion in 1986. However, notwithstanding these increases, the profitability of cow-calf producers and cattle feeders

apparently worsened between 1987 and 1988, according to USDA data presented in the tabulation on the following page.

TRENDS IN CATTLE AND BEEF TRADE

According to the U.S. Department of Commerce, U.S. exports of cattle increased steadily during 1986-88. The largest market for cattle exports is Mexico (the difficulty in shipping cattle long distances prevents much overseas trade); shipments to Mexico rose to 73 percent of total cattle exports in 1988, up from 58 percent in 1986. Total exports tripled, from 107,000 animals in 1986 to 321,000 animals in 1988; export value increased by 82 percent, from $111 million to $202 million, during the same period. One of the principal factors behind this increase was an increase in the availability of U.S Government funds for export promotion.

U.S. exports of beef and veal also rose during 1986-88; the volume of such exports grew by nearly one-fourth, to 473 million pounds in 1988, while export value nearly doubled, to just over $1 billion. The bulk of this increase reflects the opening of Japan's import market; Japan is now the largest market for U.S. exports of beef and veal. The development of the Japanese meat import market is described in greater detail later in this chapter.

Recent trends in U.S. imports of fresh, chilled, or frozen beef and veal are shown in the following tabulation of data from the U.S. Department of Commerce:[3]

Year	U.S. imports of beef and veal (million pounds, product weight)	(million dollars)
1986.....	1,406	1,118
1987.....	1,480	1,333
1988.....	1,551	1,488

During 1986-88 Australia accounted for about 50 percent of the value of the subject imports and New Zealand accounted for another 25 to 30 percent. Canada, Central America, and the EC accounted for nearly all of the remainder.

[3] These data are not necessarily consistent with USDA data reporting U.S. imports of quota-type meats.

U.S. cow-calf production costs, all sizes of operations, 1987-89

Item	1987	1988e	1989p
	----dollars per cow----		
Gross value of production:			
Steer calves (1.116 cwt)....	94.03	105.70	105.06
Heifer calves (.7813 cwt)...	60.01	68.59	68.17
Feeder steers (.9982 cwt)...	77.63	86.28	85.76
Feeder heifers (.7150 cwt)..	47.72	52.70	52.38
Cull cows (.7974 cwt).....	34.31	34.91	34.70
Total.....	313.70	348.18	346.06
Variable expenses:			
Feed:			
Grain.....	5.94	8.68	9.71
Silage.....	6.07	6.28	6.55
Protein supplements.....	17.65	23.57	25.07
Salt and minerals.....	2.69	2.78	2.90
Hay.....	35.17	44.93	46.91
Pasture.....	39.78	50.82	53.06
Public grazing.....	0.71	0.73	0.77
Crop residue.....	0.06	0.06	0.06
Other:			
Veterinary/medicine.....	6.69	6.86	7.16
Livestock hauling.....	1.98	2.04	2.13
Marketing.....	4.42	4.57	4.77
Custom feed mixing.....	0.28	0.29	0.30
Fuel, lube, and electricity.....	14.06	14.50	15.14
Machinery and building repairs.....	21.96	22.62	23.61
Hired labor.....	15.01	15.46	16.14
Total.....	172.47	204.19	214.29
Fixed expenses:			
General farm overhead.....	30.00	33.31	33.09
Taxes and insurance.....	9.77	10.85	10.78
Interest.....	43.60	48.42	48.10
Total.....	83.37	92.58	92.02
Total variable and fixed expenses.....	255.84	296.77	306.26
Value of production less total expenses.....	57.86	50.46	39.80
Capital replacement.....	75.58	78.15	81.59
Value of production less total expenses and capital replacement.....	-17.72	-26.69	-41.79

U.S. fed cattle production costs, all sizes of operations, 1987-89

Item	1987	1988e	1989p
	---dollars per cwt[1]---		
Gross value of production:			
Fed beef (100 lbs).....	65.36	69.54	72.96
Variable expenses:			
Feeders:			
Feeder cattle.....	36.81	40.87	40.81
Feed:			
Haylage.....	0.14	0.14	0.15
Silage.....	1.54	1.59	1.66
Dry grain.....	6.46	9.44	10.56
Concentrates.....	1.92	2.85	2.98
Protein supplements..	2.62	3.50	3.72
Legume hay.....	0.44	0.56	0.59
Other roughages.....	1.02	1.30	1.36
Pasture.....	0.01	0.01	0.01
Other:			
Veterinary/medicine..	0.53	0.54	0.57
Livestock hauling....	0.36	0.37	0.39
Marketing.....	0.19	0.20	0.21
Bedding.....	0.14	0.14	0.15
Fuel, lube, and electricity.....	0.66	0.68	0.71
Machinery and building repairs...	1.02	1.05	1.10
Hired labor.....	0.67	0.69	0.72
Miscellaneous.....	0.72	0.77	0.80
Manure credit.....	-0.08	-0.08	-0.08
Total.....	55.17	64.64	66.40
Fixed expenses:			
General farm overhead..	0.45	0.48	0.50
Taxes and insurance....	0.29	0.31	0.32
Hired management.....	0.06	0.06	0.07
Interest.....	4.70	5.00	5.25
Total.....	5.50	5.85	6.14
Total variable and fixed expenses.....	60.67	70.49	72.54
Value of production less total expenses.....	4.69	-0.95	0.42
Capital replacement.....	2.76	2.85	2.98
Value of production less total expenses and capital replacement.....	1.93	-3.81	-2.56

e=Estimate.
p=Projection.
[1] Of liveweight sold.

Source: USDA, Livestock Situation and Outlook, May 1989.

The bulk of U.S. imports of fresh, chilled, or frozen beef and veal consist of lean beef comparable to that derived from cull cattle and certain lean cuts and trimmings from grain-fed cattle. Much imported lean beef is reportedly mixed with domestic beef fat to produce meat products with a preferred lean-to-fat ratio. Such beef is used in the production of soups, stews, frozen dinners and other prepared foods.

U.S. imports of fresh, chilled, or frozen beef and veal are subject to various health and sanitary regulations, and most such imports are subject to quantitative limitations and voluntary restraint agreements (described later in this chapter). However, as part of the United States-Canada Free Trade Agreement Implementation Act of 1988, the United States and Canada have mutually excluded each other from their respective meat import acts; both countries have also agreed to not allow transhipment of quota-type meats into the other country. Fresh, chilled, or frozen boneless beef, which accounted for 80 percent of the subject U.S. imports in 1986 and 1987 and 84 percent in 1988, is dutiable at 4.4 cents per kilogram (about 2 cents per pound) under the HTS (items No. 0201.30.60, fresh, or chilled and 0202.30.60, frozen). Under the TSUS, (item No. 106.10), U.S. imports of fresh, chilled, or frozen beef and veal were dutiable at 2 cents per pound. The estimated ad valorem equivalent of that duty in 1988 was 2.1 percent.

The remainder of the subject imports are dutiable at 4.4 cents per kilogram, 3.3 cents per kilogram, 4 percent ad valorem, or 10 percent ad valorem, or, duty free depending on the HTS item number. The subject HTS item numbers (including the numbers applicable to mutton and goat meat) and the applicable duty rates are shown in appendix D.

The subject imports are eligible for duty free treatment under the United States-Israel Free Trade Area Implementation Act of 1985. However, because of health and sanitary reasons Israel is not authorized to ship such meats to the United States. Also, certain of the subject imports are eligible for preferential duty treatment under the Caribbean Basin Economic Recovery Act (CEBRA); imports from the Caribbean accounted for about 8 percent of the quantity of the subject imports annually during 1986-88. Imports of quota type meats are subject to reduced tariff rates under the United States-Canada Free Trade Agreement Implementation Act of 1988.

PROFILE OF THE MARKET FOR BEEF AND VEAL

Almost everyone consumes fresh, chilled, or frozen beef and veal, although the quantity consumed varies significantly among individuals. The U.S. market for beef and veal is primarily a domestic one; only about 2 to 3 percent of domestic production is exported. Higher quality beef, generally associated with grain-fed animals, is consumed as table beef and lower quality beef, generally associated with cull cattle, is consumed as manufacturing beef; veal, at approximately 2 percent of total beef and veal output, is consumed as table meat.

U.S. consumption of beef and veal declined by 3.3 percent during 1986-88, as shown in the following tabulation of USDA data:

Year	Beef and veal consumption (million pounds, carcass weight equivalent)
1986.....	26,485
1987.....	25,654
1988.....	25,598

The decline in consumption reflects a cut-back in U.S. beef supply, part of the cattle cycle discussed earlier in this chapter.

According to data from the Bureau of Labor Statistics, the annual average price of retail cuts (from Choice Yield Grade 3 cattle carcasses) rose from $2.31 per pound in 1986 to $2.55 per pound in 1988. In recent years, an increasing share of total U.S. food consumption has taken place outside the home; currently, such consumption accounts for an estimated 40 percent of consumer expenditures for beef and veal. This phenomenon may help explain why beef prices have risen in recent years, as out-of-home consumption of beef is probably less price-sensitive than in-home consumption of beef.

The price elasticity of demand for beef in general has been estimated to be -0.7, or moderately price-inelastic.[4]

Per capita consumption of the major types of meat has shifted in recent years from beef to pork and poultry, as shown in the following tabulation of USDA data (in pounds consumed per person):

	Beef	Pork	Poultry
1986---	107.3	62.1	72.0
1987---	103.3	62.5	77.8
1988---	102.3	66.7	80.6

Possible reasons for the shift from beef to other meats may include a rise in the price of beef relative to prices of other meats, and consumers' health perceptions, especially in relation to cholesterol.

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[4] A Database for Trade Liberalization Studies, U.S. Department of Agriculture, Economic Research Service, March 1989.

GOVERNMENT INVOLVEMENT IN THE MEAT INDUSTRY

The U.S. meat quota program

The Meat Import Acts of 1964 and 1979.--The Meat Import Act of 1964 was passed to protect the domestic cattle industry. In the view of the Committee on Finance of the U.S. Senate, the industry was "caught in the crossfire of rising production costs and decreased product prices."[5] The Committee concluded, on the basis of price data provided as a result of a study by the Tariff Commission (the predecessor of the ITC),[6] "that imported meat has played an important part in creating the distressed market conditions" in the industry.[7] The Committee noted that imports of beef accounted for one-half of the total increased domestic use of beef over the 8-year period 1956-63.[8]

Under section 2(a) of the Meat Import Act, the aggregate quantity of fresh, chilled, or frozen beef and veal,[9], meat of sheep (except lambs),[10] and goats[11] to be imported into the United States in any calendar year beginning after December 31, 1964, was not to exceed an adjusted base quantity. Provision was made for that base quantity (725,400,000 pounds) to be increased or decreased for any calendar year by the same percentage that estimated average annual domestic commercial production of these articles in that calendar year and the 2 preceding calendar years increased or decreased in comparison with the average annual domestic production of these articles during the years 1959 through 1963, inclusive.

A 10-percent overage was allowed, so that only when imports were expected to exceed the adjusted base quota level by 10 percent were those quotas triggered. Each year the Secretary of Agriculture was required to publish in the Federal Register the estimated quantity that would trigger the imposition of quotas under the law, and each quarter, the quantity of meat that, but for the law, would enter the United States in such calendar year.

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[5] S. Rept. No. 1167, 88th Cong., 2d sess. 2, reprinted in 1964 U.S. Code Cong. and Ad Nes 3070, 3071 /hereinafter cited as Meat Import Report.

[6] Report on Investigation No. 332-44 (Beef and Beef Products) Under Section 332 of the Tariff Act of 1930 Pursuant to a Resolution of the Committee on Finance of the United States Senate Adopted November 20, 1963, TC Publication 128, June 1964.

[7] Meat Import Report, note 3, page 1 at 3074.

[8] Ibid at 3071.

[9] HS items 0201.10.00, 0201.20.60, 0201.30.60, 0202.10.00, 0202.20.60, and 0202.30.60; previously TSUS item 106.10.

[10] HS items 0204.21.00, 0204.22.40, 0204.23.40, 0204.41.00, 0204.42.40, and 0204.43.40; previously TSUS item 106.2020 (except lamb) which was discontinued and transferred to 106.22 effective January 1, 1980.

[11] HS item 0204.50.00; previously TSUS item 106.2040 which was discontinued and transferred to TSUS item 106.25 effective January 1, 1980.

If the Secretary's estimate of imports exceeded the trigger level, the President was required by law to proclaim quotas on imports of meats subject to the law. The quota proclamation could be suspended or the total quantity increased if the President determined and proclaimed pursuant to section 2(d) that--

> (1) such action is required by overriding economic or national security interests of the United States, giving special weight to the importance to the nation of the economic well-being of the domestic livestock industry;
>
> (2) the supply of articles of the kind described . . . will be inadequate to meet domestic demand at reasonable prices; or
>
> (3) trade agreements entered into after the date of the enactment of this act ensure that policy set forth will be carried out.

Section 2(d) further provided that any such suspension would be for such period, and any such increase would be in such amount, as the President determined and proclaimed to be necessary to carry out the purposes of section 2(d).

The Meat Import Act of 1979, which became effective January 1, 1980, amended the Meat Import Act of 1964, primarily to extend its coverage to include certain prepared or preserved beef and veal. The additional meat now subject to quantitative limitations is provided for in HTS items 0201.30.40 (previously TSUS item 107.55); 0201.20.20, 0201.30.20, 0202.20.20, and 0202.30.20 (previously TSUS item 107.61 and a new item created by the amendment which provides for certain high-quality, fancy cuts of beef and veal on which the United States made a tariff concession in the Tokyo Round of the MTN); and 0201.20.40, 0201.30.40, 0202.20.40, and 0202.30.40 (previously TSUS item 107.62).

The amendment was designed to make imports of the subject meats countercyclical with domestic production of beef and veal (i.e., when production is high, imports are to be further limited, and vice versa). Under the amended act, the President's authority to suspend or increase quotas is more narrowly defined than under the original act. The amendment also provides an import floor (minimum restraint level) of 1,250 million pounds.

A summary of actions taken under the Act are shown in Appendix E.

Voluntary restraint agreements.--Section 204 of the Agricultural Act of 1956 (7 U.S.C. 1854) authorizes the President to negotiate agreements with foreign governments to limit the exports from such countries and the importation into the United States of any agricultural commodity or product manufactured therefrom. Section 204 also provides that when such a bilateral agreement has been concluded with countries accounting for a significant part

of world trade in the articles covered by the agreement, and as long as the agreement remains in effect, the President may also issue regulations governing the entry or withdrawal from warehouse of the same articles that are products of countries not parties to the agreement.

The President has used this authority from time to time since 1964 as an adjunct to the Meat Import Act. He has had the Secretary of State and subsequently the United States Trade Representative negotiate numerous bilateral agreements with countries supplying beef and veal to the United States to limit their exports to below the respective calendar-year trigger levels established under the Meat Import Act. All of the bilateral agreements negotiated have been substantively the same. The shares of the adjusted aggregate import quota for each calendar year are allocated (pursuant to section 2(c) of the Meat Act)--

> . . . among supplying countries on the basis of the share such countries supplied to the United States market during a representative period of time . . . , except that due account may be given to special factors which may have affected or may affect the trade in such articles.

A typical agreement states the total amount of imports the United States will permit into the country from participants in the voluntary restraint program and the portion of that quantity that the signatory will be allocated to receive. Additionally, there is usually a provision permitting the United States to limit imports to that level by the issuance of regulations governing entry or withdrawal from warehouse, along with a provision permitting the United States to increase the total amount imported under the program and allocate shortfall resulting from some countries being incapable of filling their negotiated levels.

Other Government programs

Health and sanitary regulations applicable to imports.--Certain health and sanitary regulations with respect to U.S. imports of live cattle, sheep, and goats as well as fresh, chilled, or frozen beef, veal, mutton, and goat meat are administered by the USDA to protect the livestock industry and to ensure an adequate supply of safe meat for consumers.

U.S. imports of certain live animals, including cattle, sheep, and goats, and certain fresh, chilled, or frozen meats, including beef, veal, mutton, and goat meat, are generally limited to countries that have been declared free of rinderpest and foot-and-mouth diseases [12] by the U.S.

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[12] Rinderpest and foot-and-mouth diseases are highly contagious, infectious diseases that can afflict cloven-footed animals (such as cattle, sheep, swine, (continued...)

Secretary of Agriculture. [13] U.S. imports of the subject animals from countries not declared free of the diseases are limited to those that have passed quarantine inspection in a USDA facility. Meat imports from those countries not rinderpest and foot-and-mouth disease free generally must be cooked, canned, or cured--processes that destroy the disease-causing organisms. The general effect of such regulations has been to limit U.S. imports of the subject meats to those from Australia, New Zealand, Canada, Central America, and Denmark. (Mexico has been found to be free of the diseases but for other reasons, Mexico was not authorized to export the subject meats to the United States from 1982 through December 1988; subsequently, imports of meat from Mexico have been small.)

The USDA administers section 20 of the Federal Meat Inspection Act (21 U.S.C. 661 and 21 U.S.C. 620), which provides, among other things, that meat and meat products prepared or produced in foreign countries may not be imported into the United States ". . . unless they comply with all the inspection, building construction standards, and all other provisions of this chapter [ch. 12, Meat Inspection] and regulations issued thereunder applicable to such articles in commerce in the United States." Section 20 further provides that "all such imported articles shall, upon entry into the United States, be deemed and treated as domestic articles subject to the provisions of this chapter [ch. 12, Meat Inspection] and the Federal Food, Drug, and Cosmetic Act [12 U.S.C. 301]. . ." Thus, section 20 requires that foreign meat-exporting countries enforce inspection and other requirements with respect to the preparation of the products covered that are at least equal to those applicable to the preparation of like products at Federally inspected establishments in the United States, and that the imported products be subject to inspection and other requirements upon arrival in the United States to identify them and further ensure their freedom from adulteration and misbranding at the time of entry.[14] However, section 20 does not provide that the imported products be inspected by U.S. inspectors during their preparation in the foreign country.

Since the passage of the 1981 Farm Bill,[15] the Food Safety Inspection Service (FSIS) has placed increasing emphasis on review of a country's regulatory system as a whole, rather than review of individual plants so as to be in compliance with that legislation. FSIS now evaluates country controls in seven basic risk areas: residues, diseases, misuse of food additives,

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[12](...continued)
and deer). Because the diseases are easily transmitted and are debilitating, they are an ever-present threat to the U.S. livestock industry. The diseases do not present a direct threat to human health.

[13] Pursuant to sec. 306 of the Tariff Act of 1930 (19 U.S.C. 1306).

[14] See U.S. Senate, Agriculture and Forestry Committee, Report on S. 2147, S. Report. No. 799 (90th Cong. 2d sess.) 1967, as published in 2 U.S. Cong. & Adm. News 1967, p. 2,200. S. 2147, as modified, ultimately became Public Law 90-201 (the Wholesome Meat Act), approved Dec. 15, 1967.

[15] Sec. 1122 of Public Law 97-98, dated Dec. 22, 1981.

gross contamination, microscopic contamination, economic fraud, and product integrity.[16] As required by the 1981 Farm Bill, FSIS also vigorously carries on a species identification program under which the FSIS assures that meat is properly identified by origin and species.

Government export assistance programs.--The U.S. Government supports exports of agricultural products, including the subject animals and meats, through a number of programs. For example, the Food Security Act of 1985 made both general and specific provisions for the subject animals and meats under the Export Enhancement Program (EEP). Probably the most significant U.S. Government involvement in exports of the subject meats is the export cooperator program of the USDA's Foreign Agricultural Service (FAS). The Meat Export Federation (MEF) is a private, nonprofit trade group participating in the export cooperator program to promote exports of beef, veal, pork, lamb, mutton, and offal. U.S. Government funds equal to funds provided by the MEF are commingled for promotion of generic exports of the subject meats through trade shows, in-store promotions, and so-forth. All funds are for expenditures overseas, and are not used within the United States. U.S.-Government derived funds for the MEF are appropriated annually by the U.S. Congress.

Dairy termination program.--The dairy termination program (DTP) was established by the Food Security Act of 1985. The DTP was in effect from April 1, 1986, to September 30, 1987. The purpose of the DTP was to reduce the cost of price-support activities for milk and milk products by reducing the size of the country's dairy herd by contracting with producers, through a bidding process, to dispose of all of their female dairy cattle through slaughter or export. Participating dairy farmers agreed to terminate any interest they had in the production of milk or in dairy cattle for a period of 5 years. During this period, the USDA paid farmers to reduce milk production resulting in the slaughter or export of 1.55 million dairy cattle, leading to a reduction in milk production of 12.3 billion pounds, slightly more than the 12-billion-pound target specified in the Food Security Act of 1985. The disposal of cattle under the DTP was equivalent to about 10 percent of the U.S. annual inventory of dairy cattle and about 4 percent of the total cattle slaughter in 1987.

U.S. nondairy cattle growers were concerned that the program would increase the U.S. supply of beef and reduce beef prices. To minimize the impact of the DTP on beef, pork, and lamb producers, USDA agreed to purchase and distribute domestically 200 million pounds of red meat during the 18-month period, in addition to those quantities normally purchased and distributed by the Secretary, and agreed to purchase an additional 200 million pounds of red meat for use in commissaries on military installations located outside the United States, or for export. The cost of this program has been estimated to be about $1.8 billion.

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[16] Meat and Poultry Inspection, 1984, p. 50.

The USDA dairy price-support program.--To the extent that dairy cattle numbers are higher than they otherwise would be because of the USDA dairy price-support program, the program contributes to expanded beef production because almost all dairy animals are ultimately slaughtered for beef when they are no longer suitable for dairy production. The USDA price support program for milk is discussed in greater detail in chapter 6, "Dairy Products."

Competitive Conditions in Foreign Beef Industries

NEW ZEALAND

The nearly ideal climatic and grazing conditions in New Zealand have enabled its cattle and beef industry to operate as one of the world's most cost-efficient beef producers and exporters. Some 7,000 to 10,000 operations, holding inventories totalling about 8 million head of cattle, produce around 3.4 million calves annually. During 1986-88, New Zealand's production of beef increased from approximately 1 billion pounds to 1.2 billion pounds, most of which was exported.

Meat processing is handled mainly by a number of private-sector companies, some of which are also owned by producer cooperatives. There are approximately 40 meat processing plants in New Zealand.

Net income received by New Zealand cattle and sheep farms rose sharply in 1987-88, to $25,000-26,000 per farm per year, a two-thirds increase over 1986. A sharp rise in gross income caused this jump, the result of a 22-percent increase in the volume of beef produced between 1986 and 1988. This was itself partly the result of generally rising productivity in beef production, particularly in the yield of beef per animal: for example, the average weight of exported carcasses increased by 7 percent in one year alone (1988), to 558 pounds from 521 pounds in 1987.

The principal costs of New Zealand cattle and beef production include cattle for slaughter, labor, land, feed, fertilizer, and transportation. Labor cost varies from firm to firm depending on labor contracts, especially in beef packing and processing plants.

The Ministry of Agriculture and Fisheries (MAF) implements New Zealand's agricultural policies and programs. Quality Management Systems, a group within the MFA, is responsible for quality control and services to ensure a position for New Zealand's beef in the international marketplace. Such controls and services include meat inspection to ensure that quality standards and overseas market requirements are met, checking for residues of veterinary drugs and agricultural chemicals, surveillance of plant and animal diseases and pests, negotiation of access to overseas markets, and certification of livestock and produce imports and exports.

The New Zealand Meat Producers Board, a statutory body established under the Meat Export Control Act of 1921-22, is responsible for promoting the development of New Zealand's meat industry. Its activities include licensing, quality control, classification standards, and negotiations for access in foreign markets.

The Supplementary Minimum Price scheme for wool, sheepmeat, and beef producers, which in some years acted as a direct export subsidy when the minimum price was above the export price, has been the main policy instrument in New Zealand. However, according to one source, "(s)ince 1984, an important element of Government policy has been the removal of assistance. For agriculture, the focus has been on interest concessions, price support and tax concessions which were the major avenues of assistance delivery."[17] Members of the New Zealand Meat Producers Board state there were no government support programs affecting the New Zealand beef industry during 1986-88.[18]

AUSTRALIA

Cattle are raised throughout Australia mainly for the production of beef and to a lesser extent the production of dairy products. Beef cattle producers often combine other livestock, such as dairy cattle or sheep, as well as grains in their operations. The cattle inventory in Australia grew from 21.8 million animals in 1986 to 22.2 million animals in 1988, or by 2 percent, as many producers began to slowly build up their herds.

Most cattle are grass fed in Australia; however, there has been a rapid growth in the feedlot industry, primarily in New South Wales and southern Queensland. According to the Australian Meat and Live-stock Corporation (AMLC) the number of cattle in feedlots increased from around 350,000 in 1984 to 480,000 in February 1989. The continued growth of feedlots in Australia depends on feeder cattle, grain prices, the extent of future foreign investment, and environmental issues.[19]

In 1983-84, there were 174,025 agricultural establishments in Australia. Of these establishments, 4,726 were meat cattle with cereal grains establishments, 32,363 were meat cattle establishments, and another 10,154 establishments were sheep and meat cattle. The number of slaughter plants and processing plants in Australia totalled 189 as of June 1988.

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[17] Ministry of Agriculture and Fisheries, **Situation and Outlook for New Zealand Agriculture**, Wellington, April 1989, p. 9.
[18] Meeting with Laurie I. Bryant, Director Trade Policy-North America of the New Zealand Meat Producers Board and Edward J. Farrell, of Bronz & Farrell, Nov. 20, 1989.

[19] USDA, FAS, "Annual Livestock Report," Aug. 29, 1989, p. 2.

Between marketing years 1985/86 and 1987/88, Australian production of fresh, chilled, or frozen beef and veal rose from 3.1 billion pounds (carcass weight equivalent) in 1985/86 to 3.5 billion pounds in 1987/88, an overall increase of 400 million pounds, or 13 percent. Drought conditions throughout most of the period, and high saleyard prices decreased the economic incentive to keep cattle in inventory and thus contributed to the increase in beef production.

Production of fresh, chilled, or frozen beef and veal (as measured by the number of cattle and calves slaughtered) increased from 7.4 million animals in 1986 to 8.1 million animals in 1988, or by 9 percent, as shown in the following tabulation (in thousands of animals):[20]

Year	Cattle	Calves	Total
1986.....	6,156	1,245	7,402
1987.....	6,722	1,201	7,923
1988.....	6,872	1,189	8,061

Cattle slaughter increased by 12 percent over the period, while calf slaughter declined by 5 percent.

The following tabulation shows Australian exports of beef and veal by major markets for 1986-88, in millions of pounds, shipped weight:

Market	1986	1987	1988
United States.....	632	750	830
Japan.....	214	252	284
Canada.....	72	76	90
All other.....	114	144	154
Total.....	1,032	1,222	1,358

Australian exports of beef and veal increased from 1.0 billion pounds in 1986 to 1.4 billion pounds in 1988, or by 32 percent. The United States and Japan have been the two largest markets for Australian beef and veal exports, accounting for 61 and 21 percent, respectively, of total exports throughout 1986-88. Exports to Korea increased from 308,000 pounds in 1986 to 22 million pounds in 1988 as a result of Korea's lifting of a ban on beef imports.

The Australian Meat and Live-stock Corporation (AMLC), a statutory corporation, regulates and promotes the export and the domestic consumption of Australian meat and livestock. Australian exporters of meat and livestock

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[20] Australian Meat and Livestock Corporation, Statistical Review, July 1987-June 1988.

must be licensed by the AMLC. Australian government support to the beef industry comes primarily in the forms of programs for research, inspection, and disease control, credit, and tax concessions.

Competitive Conditions in Foreign Markets

JAPAN

For several years, Japan has been the principal market for U.S. exports of beef and veal; as shown in the following tabulation, it accounts for about 75 percent of total exports.

U.S. exports of all beef and veal to Japan

	Quantity	Value	As a share of--	
			Total U.S. exports	Total Japanese imports
	(million pounds)	(million dollars)	(percent)	
1986.....	250	481	76	44
1987.....	281	558	72	40
1988.....	360	841	76	43

Much of this growth is attributable to two events, a general increase in per-person meat consumption, and a recent liberalization of the Japanese market for meat imports. Domestic beef production, which supplies most domestic consumption, has stagnated at around 1.2 billion to 1.3 billion pounds annually; as a result, total apparent beef consumption, which in 1986 stood at 1.83 billion pounds, grew by 15 percent to 2.1 billion pounds in 1988.

Beef consumption, although rising, is still far outpaced by consumption of pork, poultry, and especially fish, according to the Japanese Ministry of Agriculture, Fisheries, and Forestry (MAFF):

	1975	1980	1987
	(pounds consumed per person)		
Fish.....	76.9	76.7	80.7
Pork.....	16.1	21.2	24.7
Chicken.....	11.7	17.0	22.3
Beef.....	5.5	7.7	11.0

Beef, pork, chicken, and fish compete as sources of animal protein for Japanese consumers. Between 1975 and 1987, per-person consumption of beef and chicken doubled, while that of pork increased by more than 50 percent. Fish

consumption increased only slightly, but still exceeded consumption of the others combined. U.S. export interests contend that the price elasticity of demand for beef in Japan is high, and that increased imports could be absorbed without sharp declines in prices. These interests also contend that, based on recent observations, the income elasticity of demand for beef in Japan is high. Some Japanese interests contend that for a number of reasons, including a strong consumer preference for fish, Japanese demand for imported beef will remain limited.

The price of beef in the Japanese market has been and apparently will continue to be strongly influenced by the Japanese Government. Beef imports have been subject to quotas which, however, are scheduled to be phased out. In July 1988, in an early experiment in tariffication, the United States and Japan signed an agreement to eliminate Japanese quotas on beef imports. The agreement also calls for a 3-year phase out of the import management operations of the Livestock Industry Promotion Corporation (LIPC) a quasi-governmental organization.

Under the agreement, quotas are to be phased out over two 3-year transition periods. During the first 3-year transition period, (Japanese Fiscal Years 1988-90[21]), quotas were to be expanded 60,000 metric tons annually from a base of 214,000 metric tons. As of April 1, 1991, quotas are to be eliminated and the LIPC is no longer to be involved in the pricing, purchase, sale, or distribution of imported beef.

During the second 3-year transition period, (JFY 1991-93) the current 25 percent ad valorem equivalent import tariff is to be increased temporarily to 70 percent in JFY 1991, and then reduced to 60 percent in JFY 1992, and to 50 percent in JFY 1993. Japan also has an option to implement an additional 25 percent ad valorem equivalent import tariff during the second 3-year transition phase if Japanese beef imports reach 120 percent of the previous years' import level. After JFY 1993 the import tariff level is scheduled to remain at 50 percent ad valorem equivalent but is to be subject to negotiation during the current round of multilateral trade negotiations under the GATT.

Producers of beef cattle in Japan are eligible to participate in a price deficiency program that provides for direct payments to growers if market prices they receive for calves they sell are below certain levels. Effective April 1990, a new calf price deficiency payment program (to include 80 percent of dairy animals raised for beef, up from 14 percent under the current program) is scheduled to become effective reportedly to help growers compete with the liberalized import program. Under the new payment program, to be financed by the tariff revenue on imported beef, there are to be three key prices: a standard guaranteed price; a rationalization target price; and an average market price. Deficiency payments are to be made to cover the difference between the guaranteed price and the rationalization target price. If the market price drops below the rationalization price, the difference

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[21] Japanese fiscal years begin Apr. 1.

between the rationalization price and the market will be paid from a fund contributed to by producers, prefectual governments, and the LIPC.

An August 1989 report from the USDA agricultural attaches' office in Tokyo illustrates the price determination method for U.S. beef in the Japanese market (data in dollars per pound):

A.	USDA Choice striploin, C&F price	$3.25
B.	Standard import expenses (10% of A)	0.325
C.	Import duty (25% of A)	0.8
D.	LIPC surcharges (about 50% of A)	1.6
E.	Retail margin (30% of A through D)	1.7925
F.	Primal to retail trimming loss (20% of A through D)	1.1950
G.	Interest on loaned payments	0.0375
H.	Theoretical price to consumer	9.0000
J.	Actual price to consumer	10.8000
K.	"Rumored" quota premium (J minus H, equal to 55% of A)	1.8000

These data indicate that there is a sizeable premium extracted by Japanese marketers, probably the combined result of import restraints and the perceived high quality of U.S. beef compared with beef from other sources.

The tariffication of Japanese beef imports appears to have had its expected effects, including an increase in imports (described earlier), a slow-down in domestic production, and a reduction in prices. According to the USDA, Japanese beef and veal production increased by only 2 percent during 1986-88, from 1.23 billion pounds in 1986 to 1.25 billion pounds in 1988.

About two-thirds of Japanese beef production is derived from culled dairy cattle, steers that are raised for beef, and bulls no longer suitable for breeding purposes. Almost all of the remainder of production is derived from Wagyu cattle, a beef breed derived from draft animals. During 1986-88, Japanese beef production was reportedly restrained by low slaughter rates as cattlemen retained dairy cows and heifers for milk production in response to favorable milk prices and Wagyu cattle were retained for breeding purposes in response to favorable calf prices.

Data on the wholesale price in Tokyo of middle grade carcasses from domestically fed Wagyu steers (described by the U.S. Department of Agriculture as an indicative market) from January 1987 through April 1989 are shown in the following tabulation:

Month	1987	1988	1989
	--(in yen per kilogram)--		
January.....	1,888	1,911	1,652
February.....	1,849	1,930	1,738
March.....	1,833	1,889	1,677
April.....	1,911	1,770	1,750
May.....	1,852	1,656	[1]
June.....	1,836	1,628	[1]
July.....	1,847	1,704	[1]
August.....	1,856	1,724	[1]
September.....	1,883	1,720	[1]
October.....	1,878	1,711	[1]
November.....	1,937	1,671	[1]
December.....	1,966	1,717	[1]

[1]Not available.

The general decline in price since early 1988 may reflect, in part, increased imports, inasmuch as production increased only slightly. Additional USDA data on the relative prices of U.S., Australian, and Japanese beef in the Japanese market during July 1988-July 1989 are shown in the following tabulation:

	Striploin			Chuck		
Year and month	U.S.	Australian	Japanese	U.S.	Australian	Japanese
	----------(Yen per kilogram)----------					
1988:						
July.....	2,550	2,800	3,444	820	900	1,552
August.....	2,340	2,575	3,507	825	850	1,544
September.....	2,100	2,000	3,571	965	945	1,607
October.....	2,000	1,700	3,502	1,340	1,010	1,762
November.....	1,910	1,375	3,495	1,160	890	1,814
December.....	1,935	1,450	3,564	1,150	900	1,756
1989:						
January.....	1,965	1,825	3,519	1,100	1,150	1,637
February.....	1,940	1,635	3,440	880	980	1,646
March.....	1,945	1,650	3,461	870	1,080	1,651
April.....	1,910	1,840	3,652	945	1,160	1,680
May.....	1,890	1,800	3,619	930	1,065	1,657
June.....	1,875	1,650	[1]	935	790	[1]
July.....	1,900	1,650	[1]	935	780	[1]

[1]Not available.

The Australian beef was derived from grass fed animals, the U.S. beef was frozen USDA Choice grades, and the Japanese beef was derived from grain-

fed Holstein steers; consequently, the U.S. and Japanese beef would be expected to be higher priced. The great bulk of U.S. exports of beef to Japan consists of grain-fed beef while the bulk of Australian exports consists of grass-fed beef.

KOREA

From May 1985 to August 1988, Korea banned all imports of beef. Since then, Korea has partially opened its market, allowing 14,500 tons in the remainder of 1988, and 39,000 tons in 1989 (boneless weight basis). The 1989 quota was increased to 50,000 tons in the face of insufficient domestic beef supplies. Subsequent to a GATT finding and U.S.-Korean negotiations, Korea agreed to expand its global import quota for beef from 50,000 tons in 1989 to 58,000 tons in 1990, 62,000 tons in 1991, and 68,000 tons in 1992. The principal suppliers to the Korean market are Australia, the United States, Canada, and New Zealand. The United States and Canada supply primarily grain-fed boxed boneless beef while Australia and New Zealand supply primarily grass-fed carcass beef.

During 1986-88, the consumption of live cattle (primarily domestic commercial slaughter) declined steadily from 1,087,000 animals to 852,00 animals, or by 22 percent. The following tabulation shows apparent consumption of beef, pork, and poultry in Korea during 1986-88:[22]

Type	Total consumption			Per-person consumption		
	1986	1987	1988	1986	1987	1988
	(1,000 metric tons)			(kilograms)		
Beef.....	148	152	142	3.6	3.6	3.4
Pork.....	320	373	425	7.7	8.9	10.1
Poultry.....	129	141	149	3.1	3.3	3.5
Total....	597	666	716	14.4	15.8	17.0

Per capita beef consumption in Korea decreased by 6 percent during 1986-88, reflecting the decline in the beef cattle inventory (and, therefore, a decline in the number of cattle available for slaughter) and rising prices, as described below. Consumers shifted to pork, consumption of which grew by 31 percent during the period, and poultry, up by 13 percent.

The following tabulation shows the average retail monthly prices for beef and veal in Korea (Prices in Won per pound, for a representative market):

[22] Compiled from unofficial data USDA, FAS, GEDES Report, Annual Livestock Report, Report No. KS9081, American Embassy, Seoul, Aug. 1, 1989.

Month	1986	1987	1988	1989
January.....	2,817	2,767	2,976	4,445
February.....	2,961	2,733	3,084	4,445
March.....	3,001	2,631	3,323	4,594
April.....	2,963	2,799	3,583	4,581
May.....	2,960	3,019	3,583	4,688
June.....	2,960	3,084	3,640	4,581
July.....	2,949	3,023	3,720	4,581
August.....	2,949	2,993	3,789	[1]
September.....	2,939	2,993	3,901	[1]
October.....	2,839	2,993	3,958	[1]
November.....	2,767	2,921	4,173	[1]
December.....	2,767	2,903	4,345	[1]

[1]Not available.

The increase in Korean retail beef prices during 1986-88 was attributable to a strong demand for beef and a decline in cattle inventory. Relative beef prices for Australian, United States, and Korean beef in the Korean market show that retail prices for domestic beef remain quite high due to continuing tight supplies and consumer preferences for local beef. For example, in July 1988, the retail price for domestic beef averaged 10,100 Won per kilogram, while prices for imported high quality beef from the United States, Australia, and Canada averaged 6,600 won per kilogram, and prices for imported carcasses from Australia averaged 5,900 won per kilogram.

As stated earlier, Korea banned beef imports during 1986, 1987, and most of 1988. To counter the continuing rise in beef prices, the Korean government in August 1988 partially opened its market to beef imports. (Imports of live cattle are still prohibited.) After opening the import market, the Korean government announced a minimum slaughter price guarantee of 1.15 million Won per head, below which all offerings would be purchased by the government. Actual market prices are above the minimum price level. The minimum slaughter price has been readjusted to about 1.5 million Won.

The 1988 beef import quota was 14,500 metric tons, boneless basis, although actual imports of beef reached 17,000 metric tons (product weight basis), at a value of $59 million. Exports from the United States accounted for 42 percent of the total, with 7,109 tons of high quality box beef; Australia accounted for 9,535 tons of carcass beef, or 56 percent of total imports; and Canada accounted for the remainder with 320 tons of high quality box beef.

During January-July 1989, Korea imported 57,030 tons of beef, (product weight basis). Australia dominated the market during this period, supplying 72 percent of the total quantity with 41,180 tons (mainly carcass beef), while U.S. exports to Korea fell to 9,983 tons of box beef, or 18 percent of Korea's

total imports during this period. Shipments from Canada and New Zealand totalled 3,655 tons and 2,212 tons, respectively.

The main substitutes for beef in the Korean diet are pork and chicken. Data presented earlier suggest that tight supplies of beef and higher prices during 1987-88 led to a greater consumption of pork and, to a lesser extent, a greater consumption of poultry. The following tabulation shows the retail price relation between Korean beef and pork on a semiannual basis for 1986-1988 and the first half of 1989, (data in Won per kilogram):

	1986		1987		1988		1989
Product	I	II	I	II	I	II	I
Beef.....	6,492	6,258	6,150	6,551	7,300	8,776	10,100
Pork.....	3,745	4,022	3,490	2,812	2,814	2,979	3,200
Ratio of beef to pork..	1.7:1	1.6:1	1.7:1	2.3:1	2.6:1	3.0:1	3.2:1

In August 1988, Korea established the Livestock Products Marketing Organization (LPMO) to import all beef (general consumption and hotel use). Korea Cold Storage Co (KCS) and the National Livestock Cooperative Federation (NLCF), both quasi-governmental organizations, are responsible for distributing imported beef into the domestic market. Initially, buyers rejected imported beef as too fatty or bought imported beef at a low price and resold it as domestic beef at a considerable profit. Now, Australian carcasses are deboned at KCS facilities and marketed at "import only" stores. High quality beef carcasses are also deboned and cut at KCS facilities and sold through KCS or NLCF stores. Imported high quality box beef is distributed through the Korea Tourist Hotel Supply Center auctions to middlemen, distributors, or directly to private retailers. Local governments continue to set a basic retail price for domestic beef.[23]

Factors Affecting Competition in U.S. and Foreign Markets

In the United States, labor typically accounts for about 5 percent of costs of goods sold for beef packers, second only to the raw material cost of slaughtered cattle. Comparisons of wage rates for packing house workers in the United States, Australia, and New Zealand are difficult because of lack of uniformity in base and premium wage rates, among various companies. Also, practices associated with fringe benefits in the United States appear to differ significantly from such practices in Australia and New Zealand. In the United States, for example, many contracts provide for company payment of health insurance; in New Zealand, much of medical care is provided by the

[23] USDA FAS Report, Annual Livestock Report, American Embassy, Seoul, Aug. 1, 1989.

Federal Government. Information supplied to the Commission by the New Zealand Meat Industry Association suggests that the base rate for packinghouse workers in New Zealand as of mid-1989 was closely comparable to the base rate of such workers in the United States. New Zealand interests suggest that while New Zealand packinghouse workers benefit from Government provided benefits, the workers face higher Federal Government taxes, in part because of the health program. Labor costs and fringe benefit practices similar to those in New Zealand are thought to prevail in Australia. Also, nominal labor cost may not reflect real labor costs because worker productivity reportedly varies considerably from plant to plant in all three countries owing either to efficiency of plant and equipment or to the skill of the work force.

Land costs and feed costs are the major expenses in cattle raising in the United States, Australia, and New Zealand and thus, indirectly, a major cost in the production of beef. Because of widely differing productivity, nominal prices for agricultural land vary significantly in the United States, Australia, and New Zealand; however, in general, real land costs appear to be somewhat lower in Australia and New Zealand than in the United States. This is particularly true in New Zealand because of its climate and soils, nearly year-round pasture is available, and minimal shelter requirements contribute to lower costs of production.

Feed, often corn, is usually the largest cost associated with growing feeder cattle to slaughter weights and is therefore another indirect cost in beef production for grain-fed of beef. In general, grain prices are lower in the United States; the price of grain in the United States often sets the world price. New Zealand is not a major grain producer and grain feeding of cattle there is negligible or nil. Although there is a history of grain feeding of animals in Australia, such feeding is still small compared with that in the United States. In recent years there has been considerable publicity concerning Japanese investment in cattle feeding and beef processing in the United States and Australia. Some U.S. interests have expressed concern that Australian beef benefiting from Japanese investment will possibly receive preferential treatment in Japan.

To the extent that Australia and New Zealand are closer to the Japanese and Korean market than the United States they may have a transportation cost advantage; however, detailed data are not available concerning the magnitude of any such advantage. Data supplied to the Commission by Australian and New Zealand interests report published maritime freight rates but those data are footnoted to indicate that such rates reflect maximum rates. Actual costs experienced are thought to typically be less than published maximum rates. For competitive reasons export and shipping interests are reluctant to release information about actual shipping rates.

The United States, Australia, and New Zealand all have large areas where the only suitable agricultural use of land is the production of forages, and the only practical use for the forages is as a feed for ruminant animals, such as cattle. All three countries currently, and in recent years, appear to have had excess packing house capacity.

The cattle raising and beef packing industries in the United States, Australia, and New Zealand are structurally similar. In each of the three countries cattle are, for the most part, grown on individually owned family farms and ranches and the share of each country's total production accounted for by even the largest producers is relatively small. Growers' production decisions are for the most part individual decisions. Marketing decisions in the United States are almost all individual, but to some extent in Australia, and New Zealand, marketing decisions reflect the decisions of producer marketing boards. In each of the three countries most beef packing is done by publicly owned (those whose stock trades on exchanges) or private companies. Grower cooperatives are more involved in meat packing in New Zealand and to some extent in Australia than in the United States. The beef packing industry is relatively concentrated in each of the three countries and there are relatively few packers in relation to the number of growers. In the three countries most packing house workers are members of trade unions.

At least one major U.K.-based multinational company is vertically integrated, owning large cattle raising operations in Australia, packer-processor plants there and in New Zealand, and meat importing and distributing operations in many countries of the world, including the United States. Indeed, this firm's importing and distribution subsidiary in the United States is believed to account for a large share of U.S. imports of beef and veal from Australia. Many of the other U.S. importing companies are independent U.S. businesses.

The United States tends to be much more cost competitive in the production of grain-fed cattle than Australia and New Zealand. Indeed, as noted earlier, grain production is limited in New Zealand and grain feeding of cattle there is negligible or nil. Australia and New Zealand appear to be competitive in the production of grass-fed beef apparently reflecting in large measure their large or highly productive forage producing areas.

Only limited data are available concerning factors affecting competition in the Japanese market. The packinghouse workers are generally thought to be not especially highly paid. Japan lacks vast areas of inexpensive land where ruminant animals can be grazed efficiently, and in part because of Japanese Government policies concerning grain prices, animal feeders there face somewhat higher grain prices. As described earlier, Japanese Government policies influence beef prices in Japan.

Detailed data concerning factors affecting competition in the Korean beef market are limited. The average farm size in Korea is about one hectare, and consist mainly of small-scale family operations. Many of the beef cattle in Korea are fed on local supplies of roughage. Larger operations and feedlots, however, rely heavily on imported coarse grains; their feed cost presumably would be higher than that of the United States. As the value of feed grain imports to Korea increased during 1986-88, the Korean government lowered tariffs on feed grains from 5 percent to 3 percent effective July 1, 1988. The cost of labor, although less than in the United States, Australia,

and New Zealand, rose in Korea--a reflection of the competition for labor caused by growing industrial sectors.

The Effect of the Foreign Export Restraint on the Ability of the Industry to Compete in Domestic and Foreign Markets

As described earlier in this chapter, U.S. imports of certain meats, mainly fresh, chilled, or frozen beef, are subject to quantitative restrictions under the Meat Import Act of 1979, and to VRAs negotiated under the authority of the Agricultural Act of 1956. As part of the Meat Import Act of 1979, the U.S. Secretary of Agriculture is required each quarter to estimate annual imports of quota-type meats that would enter the United States in the absence of quantitative limitations. The tabulation on the following page shows U.S. imports of quota-type meats, the Secretary of Agriculture's annual fourth-quarter estimate of U.S. imports in the absence of limitations, and the difference between the two.

There were no quantitative restraints in effect on U.S. imports of quota-type meats during 1986. During 1987 and 1988, the United States signed VRAs with Australia and New Zealand to limit their shipments of the subject meats to the United States. The data in the following tabulation suggest that imports in 1987 were actually more than they would have been in the absence of limitations and in 1988 only slightly less than they would have been in the absence of limitations. During 1986-88, the difference between actual imports

	U.S. imports of quota-type meats	USDA estimate of imports in the absence of limitations	Difference between imports and estimate	
	(Million pounds)			(Percent)
1986....	1,339.3	1,395	-55.7	-4.2
1987....	1,459.7	1,439	20.7	1.4
1988....	1,521.2	1,525.4	-4.2	-0.3

and the Secretary's estimate (at most 55.7 million pounds, or 4 percent in 1986) perhaps reflects the difficulty associated with projections of business activity. The apparent difference between recorded imports and projected imports that would have entered in the absence of limitations is much less than 1 percent of U.S. production, which averaged 24.3 billion pounds annually during 1986-88.

If the difference between the levels of actual imports and of imports in the absence of limitations is really as small as the Agriculture Secretary's estimate suggests, it appears that the limitations have not had any significant effects either on prices or on other factors affecting the ability of the U.S. beef sector to compete in the domestic or foreign markets. Indeed, it is possible that Australia and New Zealand may ship more meat to

the United States than they otherwise would in order to protect their market shares in anticipation of U.S. quotas (which under GATT rules are to be distributed on the basis of market shares held during a representative period). To the extent that the Meat Import Act provides for publically reported estimates of U.S. imports of quota-type meats, such estimates may help suppliers plan production and marketings and make the sector more stable than it otherwise would be. The bulk of U.S. imports of fresh, chilled, or frozen beef and veal consists of lean beef that is comparable to that derived from cull cattle and certain lean cuts and trimmings from grain-fed cattle. Much imported lean beef is reportedly mixed with domestic beef fat to produce meat products with a preferred lean-to-fat ratio.

The effect of the VRAs on the competitiveness of the U.S. beef industry depends on a number of factors. The estimated tariff equivalents suggest that the beef price increases caused by the VRAs were quite small; therefore, their removal would cause only small effects on the domestic beef industry. The VRAs probably had little effect on the ability of U.S. producers to compete in world markets, because the United States is a large net importer of beef; U.S. beef exports are mainly high quality steak cuts that differ substantially from the beef imported from Australia and New Zealand.

It also seems doubtful that quota-type meats are, to any significant extent, diverted from the U.S. market and compete with U.S. exports in third-country markets. As noted earlier, Japan is by far the largest U.S. export market for fresh, chilled, or frozen beef and veal, and the great bulk of such exports consist of grain-fed beef whereas most of the rest of Japan's imports consist of grass-fed beef from Australia and New Zealand.

Estimated Tariff Equivalents of the Voluntary Restraint Agreements on Meat Imported From Australia and New Zealand

The VRAs affecting various categories of meat exports from both Australia and New Zealand to the United States in 1987 and 1988 cover 22 categories in the Harmonized Tariff Schedule (HTS), including beef and veal, mutton, goatmeat, and selected high quality beef cuts. Since the United States imports no sheep carcasses from Australia or New Zealand, and only a small amount of selected cuts of sheepmeat and goatmeat, these categories are not included in the calculation of the tariff equivalents. Therefore, this report considers only U.S. imports of manufacturing beef. Imports of manufacturing beef account for more than 90 percent of the total amount of meat imports from Australia and New Zealand subject to restrictions under the Meat Import Act of 1979.

The process of calculating a tariff equivalent for the VRAs on beef is complicated by a number of problems. The method used is the price gap method; however, to calculate the price gap, the U.S. price of the imported product must be compared to the "world" price of the product plus transport costs to the U.S. port. It is virtually impossible to find a "world" price of beef

that reflects transactions in a free market. Also, it is important to note that, in theory at least, average unit values reported in U.S. import statistics already reflect the price effect of the VRA, because the foreign exporter captures the quota rent.

A second problem which complicates the calculation of a tariff equivalent is the difficulty in obtaining prices on comparable types of meat products. Exports of meat from Australia and New Zealand contain many different "cuts" of meat; to correctly measure any price differentials, one must compare cuts of similar quality. Otherwise, the price differential might confuse the effect of the trade barrier with differences in product quality. The argument is heard from some, such as U.S. meat industry interests, that manufacturing beef from Australia, which makes up the bulk of Australian exports to the United States, is a substitute for U.S. domestic beef, while others, such as some foreign industry interests, argue that Australian beef and U.S beef are actually complements. Those who assert that the two are complements point out that Australian beef is mixed with U.S. beef to produce a desired fat to lean ratio, so when exports from Australia are restricted, demand for U.S. beef might actually fall instead of rise.

Given all of these potential difficulties, the task of computing a tariff equivalent is formidable. Data were obtained on New Zealand export prices to Canada and to the United States for similar types and qualities of meat cuts.[24] (No similar data for Australia are currently available.) Tables 3-1 and 3-2 report the f.o.b. New Zealand prices, expressed in U.S. dollars per kilogram, during the last four years. The f.o.b. New Zealand export unit value is used to approximate the world price because exports from New Zealand to Canada were formally unrestricted.[25]. Table 3-1 presents price comparisons for boneless cow beef and table 3-2 presents the relevant price comparisons for bull beef.

As shown in the tables, the average price of beef exported to the United States exceeded the average price of similar beef exported to Canada by a small margin (in most cases less than 3 percent). Price gaps are also

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[24] Canada did not have import restrictions in place in 1987 and 1988, according to John Cheh, economist with the Import Controls Division 2, Department of External Affairs and International Trade, Government of Canada. Canada has a meat import act similar to the U.S. act, however, the Canadian act does not publish a "trigger" level for meat imports above which quotas will be imposed. Canadian authority to invoke import quotas is employed solely at the discretion of the Federal government.

[25] It is sometimes pointed out that an effect of a VRA against one country is to divert exports from the restricted market to an unrestricted market, and therefore affect the price to the unrestricted market. According to the New Zealand Meat Producers Board, there is no evidence that any significant diversion took place in 1987 and 1988. In any event, such diversion would not change the tariff equivalent of the VRA, since the tariff equivalent would cause the same diversion.

reported for 1986 and 1989, years in which VRAs were not in effect. The fact that price gaps existed in 1989 as well as in 1987 and 1988, suggests that the gaps in these latter years may not necessarily have resulted from the VRAs.

Along with the price data reported above, the following should also be considered. According to individuals at the USDA involved in monitoring the meat import quota program, the VRAs negotiated by the United States with New Zealand and Australia during 1987 and 1988 were not very restrictive. Two events support this conclusion. First, in 1987, letters negotiating the VRAs were not exchanged with New Zealand and Australia until October; as it turned out, the actual amount of meat imported into the United States in 1987 exceeded the trigger level set by the Meat Import Act. This occurred because of reporting errors by customs officials and a late surge in shipments from Australia in September. Secondly, in 1988, VRAs were not negotiated until September, so meat trade for the prior nine months was formally unrestricted. These events suggest that the VRAs in 1987 and 1988 were not very restrictive.

Table 3-1
Tariff equivalents for Boneless Cow Beef, 1986-89[1]

Year	Average Price to Canadian buyers[2 3]	Average Price to U.S. buyers[2 4]	Tariff equivalent Specific (Price gap)	Ad valorem[5]
	cents per kilogram			Percent
1986	179.5	178.1	-1.4	-0.8
1987	184.3	187.2	2.9	1.6
1988	199.7	211.9	12.2	6.1
1989	210.5	238.1	27.6	13.1

[1] These are comparable prices for boneless cow beef, 90% visual lean or 85% chemical lean. Prices reported here are arithmetic averages over the relevant period. Prices were quoted in New Zealand cents per kilogram and converted to U.S. dollars per pound using exchange rates published in International Financial Statistics, by the International Monetary Fund, May 1989. The New Zealand/U.S. exchange rate for 1989 was obtained by taking the arithmetic average of monthly rates for the first three quarters of 1989. This table compares f.o.b. New Zealand prices rather than c.i.f. prices. Since 1987, transport costs from New Zealand to the U.S. were identical to transport costs to Canada, either to the west coast or east coast, so they are irrelevant to the calculation. In 1986, transport costs differed by port of destination.
[2] F.o.b., New Zealand.
[3] The Canadian price for 1986 is an average of prices over five months; for 1987, it is an average over 11 months; for 1988, it is an average over 12 months; and for 1989 it is an average over the first 11 months of the year. Full 12-month data are not available for most years because in many months there were too few transactions to establish representative prices.
[4] The U.S prices are averaged over the same time periods as the Canadian prices.
[5] As a percent of the average price to Canadian buyers.

Source: New Zealand Meat Producers Board. Specific and ad valorem tariff equivalents computed by the staff of the U.S. International Trade Commission.

Table 3-2
Tariff equivalents for Bull Beef, 1986-89[1]

Year	Average Price to Canadian buyers[2] [3]	Average Price to U.S. buyers[2] [4]	Tariff equivalent Specific (Price gap)	Tariff equivalent Ad valorem[5]
	cents per kilogram			Percent
1986	186.3	186.5	0.2	0.1
1987	208.3	207.0	-1.3	-0.6
1988	222.7	227.1	4.4	2.0
1989	244.7	251.3	6.6	2.7

[1] These are comparable prices for bull beef, 90% visual lean or 90% chemical lean. Prices reported here are arithmetic averages over the relevant period. Prices were quoted in New Zealand cents per kilogram and converted to U.S. dollars per pound using exchange rates published in International Financial Statistics, by the International Monetary Fund, May 1989. The New Zealand/U.S. exchange rate for 1989 was obtained by taking the arithmetic average of monthly rates for the first three quarters of 1989. This table compares f.o.b. New Zealand prices rather than c.i.f. prices. Since 1987, transport costs from New Zealand to the U.S. were identical to transport costs to Canada, either to the west coast or east coast, so they are irrelevant to the calculation. In 1986, transport costs differed by port of destination.
[2] F.o.b., New Zealand.
[3] The Canadian price for 1986 is an average of prices over five months; for 1987, it is an average over 11 months; for 1988, it is an average over 12 months; and for 1989 it is an average over the first 11 months of the year. Full 12-month data are not available for most years because in many months there were too few transactions to establish representative prices.
[4] The U.S prices are averaged over the same time periods as the Canadian prices.
[5] As a percent of the average price to Canadian buyers.

Source: New Zealand Meat Producers Board. Specific and ad valorem tariff equivalents computed by the staff of the U.S. International Trade Commission.

CHAPTER 4. PEANUTS

Introduction

GENERAL

Peanuts are grown throughout the world, with the greatest production in Asia and Africa. The products that enter international commerce from these areas are mostly in the form of peanut oil and peanut meal. In the United States, about one-half of the peanut supply is used domestically for edible purposes, mostly for peanut butter, candy, salted shelled nuts, and nuts roasted in the shell. The remainder are either crushed for oil and meal, exported, used for seed or feed, or disposed of on the farm.

U.S. farmers produce three principal types of peanuts--Runners (about two-thirds of U.S. production), Virginia (about one-quarter), and Spanish (about one-tenth). Certain of these three types are preferred for particular uses because of differences in flavor, oil content, size, and shape, but for many uses they are interchangeable. Practically all peanuts marketed in the shell are of the Virginia type, along with some Valencia (a minor variety, accounting for about 1 percent of total production) selected for large size and attractive appearance of the shell. But the bulk of the Virginia peanuts are shelled, with the larger nuts generally used for salting and the smaller nuts generally used in making peanut butter or confectionery. Spanish peanuts are used mostly for peanut candy, salted nuts, and peanut butter. Most Runners are used to make peanut butter.

In the United States, as elsewhere, low-grade or culler peanuts not suitable for the edible market are crushed for oil and meal. Most of the "surplus" edible-grade peanuts acquired by the Government under the peanut price-support program administered by the U.S. Department of Agriculture (USDA) are diverted from the edible market and also crushed for oil and meal. Peanut oil is used almost exclusively as a cooking or salad oil. Peanut meal and oil-cake, obtained as byproducts from crushing peanuts for oil, are used for feed for livestock.

OVERVIEW OF U.S. AND FOREIGN INDUSTRIES

Peanuts are one of the principal oilseeds in the world, ranking fourth behind soybeans, cottonseed, and rapeseed, with over 11 percent of the total production of major oilseeds in 1986-88. Peanuts are an important source of edible oil for human consumption, an important source of protein meal for animal feed, and an important food source for direct human consumption. During 1986-88, 54 percent of the world's production of peanuts were crushed for oil.

The major world producers of peanuts are India, China, and the United States. Africa is also an important producing region. Most of the peanuts produced in India and Africa are crushed for oil and meal. In contrast, a large portion of the Chinese output is consumed as food.

Only about 6 percent of the world's peanut production is traded internationally. China, the United States, and Argentina are the principal world exporters of peanuts, together accounting for 62 percent of world exports during 1986-88.

U.S. produced peanuts are mainly used as edible nuts for food. Peanut butter accounts for nearly one-quarter of the U.S. peanut usage. Other food uses (peanut butter sandwiches and candy) account for another one-quarter. Domestically produced peanuts that are not suitable for the edible market because of quality factors are crushed. Peanuts of a particular variety that are in oversupply also may be crushed. During 1986-88, nearly 17 percent of U.S. output was crushed for oil and meal.

Competitive Conditions in the U.S. Industry and Market

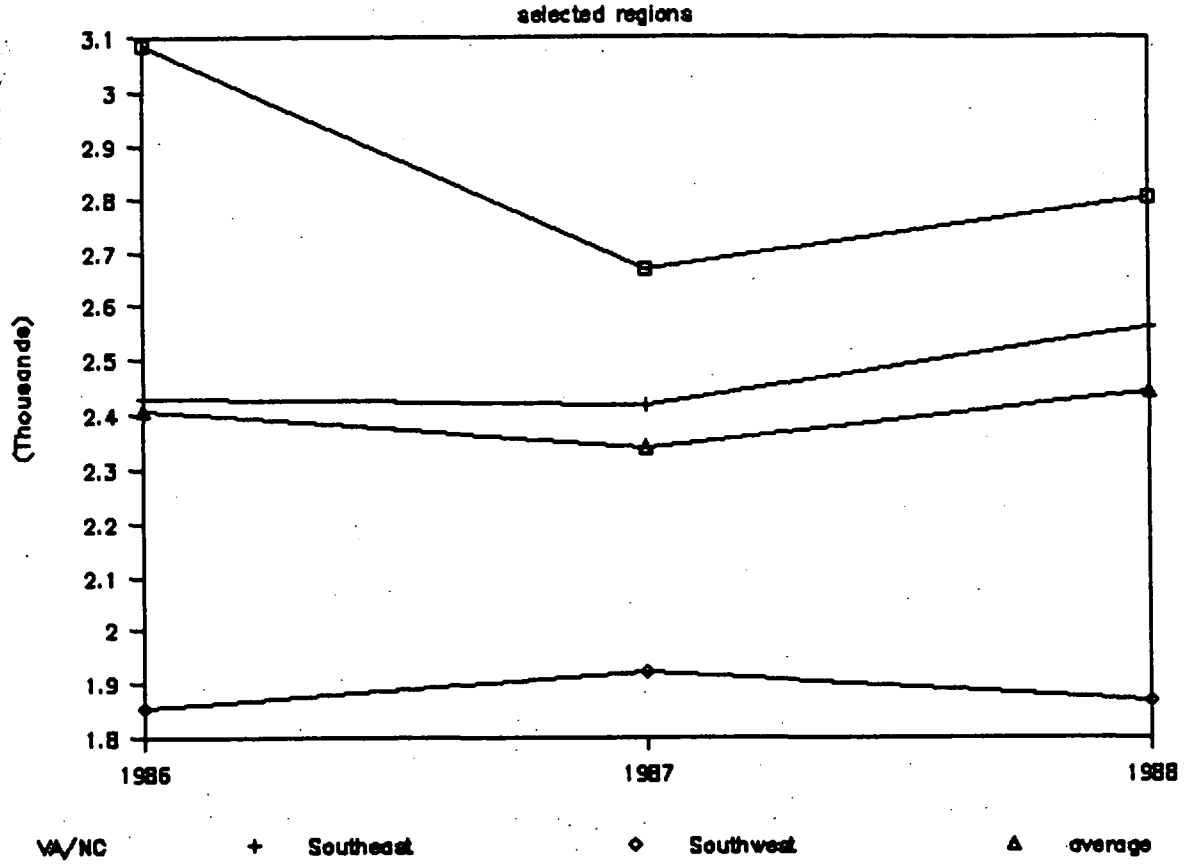
STRUCTURE OF THE FARMING SECTOR

About 19,000 farms, with over 1.6 million harvested acres, produce about 3.8 million metric tons of peanuts in the United States. Most of these farms, accounting for two-thirds of total output, are found in the Southeast (Alabama, Florida, Georgia, Mississippi, and South Carolina). The remaining third of production takes place in Virginia, North Carolina, and the Southwest (Texas, Oklahoma, and New Mexico).

Once the economic decision is made to plant peanuts, the volume of peanut production depends primarily on two variables, harvested acreage and yield per harvested acre. U.S. harvested acreage increased by about 6 percent during crop years 1986-88, to over 1.6 million acres in 1988 (table 4-1). Peanut production, however, varied during this period because of fluctuating yield per acre. As a result, U.S. peanut production declined from 3.7 billion pounds in 1986 to 3.6 billion pounds in 1987, then rose sharply in 1988 to 4.0 billion pounds. The farm-level value of this production rose from $1.07 billion in 1986 to $1.24 billion in 1988, as average annual prices rose from 29 to 31 cents per pound.

The following figure shows trends in yield-per-acre in selected regions as reported by the USDA during crop years 1986-88 (pounds per acre).

Fig. 4-1. U.S. trends in yield-per-acre



The widest variation in yield occurred in the highest-yield States of Virginia and North Carolina. The lowest-yield region is the Southwest, which actually saw an improvement in yield in 1987, when other regions experienced a decline. Several factors affect yield, such as soil texture, cultural practices, peanut varieties, and climate (rainfall, temperature, and length of growing season). This last factor, climate, was principally responsible for the swings in yield (and, therefore, in production), experienced in the various peanut-growing regions.

Significant changes in acreage depend on the level of the national poundage quota, price support levels, competition from other crops for the use of land and other resources, and the availability of land suitable for peanut production. The quota and price-support programs are described in greater detail later in this chapter.

Many farms that grow peanuts specialize solely in that crop. About two-thirds of U.S. peanut output occurred on farms whose principal product was peanuts.[1] The remaining one-third was grown on farms whose primary product

[1] U.S. Bureau of the Census, 1987 Census of Agriculture, table 53.

included livestock, poultry, cotton, tobacco, or diversified grains (such as corn or soybeans). Peanuts can be produced in rotation with diversified grains. Agricultural production specialists generally recommend a 3-year rotation for peanuts, which restricts production to 1 year out of 3 years on the same land. Such rotations improve control of diseases and nematodes as well as nutrient balances in the soil.

STRUCTURE OF THE PROCESSING SECTOR

In 1988, 49 firms shelled peanuts in the major producing regions, down from 52 firms in 1987, and down substantially from the 66 firms shelling peanuts in the early 1980's. Many of these firms operate multiple shelling plants, most of which are located in the Southeast region. In addition to cleaning, sorting, packaging, and storing peanuts, shellers perform commercial market and CCC functions by selling edible peanuts to processors and bidding on CCC loan peanuts for crushing and export. Most sales between shellers and processors are arranged by brokers although some sales are direct.

In 1988, there were approximately 100 firms manufacturing peanut-containing products; many of these firms produce more than one peanut-containing product. About one-quarter of these firms manufacture candies, in which the principal nut used is peanuts, followed by almonds. Peanut butter takes up much of the remaining supply of peanuts for manufacturing. The number of peanut butter processors has remained stable in recent years at about 40 firms; this is a highly concentrated industry, however, dominated by a few firms (the manufacturers of such well-known brand names as Skippy, Jif, and Peter Pan). In addition, some 6 to 8 firms used peanuts in bakery products, and about 60 firms produced roasted, salted, or unsalted peanuts.

Peanut manufacturing firms range in size from small family-owned companies to large multinational food processing companies. Some of these firms are among the world's largest multinationals and, therefore, widely diversified. Firms that process peanut products are typically not involved with the production of peanuts, using brokers to supply their raw material needs.

INDUSTRY PERFORMANCE

Trends In production

U.S. production of peanuts and peanut-containing products has increased steadily since the early 1980's. Peanut production for food uses increased by 10 percent between the marketing years 1986/87 and 1988/89. This increase was entirely attributable to increased peanut butter production, which grew by 22 percent during the three-year period. This growth in peanut butter output is tied with increased Government purchases of peanut butter under the Temporary

Emergency Food Assistance Program.[2] Consumption of salted peanuts and peanut candy remained relatively stable during the period, while consumption of peanut butter sandwiches and other products declined.

Domestic production of peanuts for food uses will most likely increase in line with population growth and increases in consumer income. Other factors affecting the use of peanuts are the price and availability of other nuts. However, most processors are reluctant to change product mixes in response to short-term price movements for fear of alienating consumers, so a processor would only reformulate if the cost relationship between peanuts and other edible nuts was foreseen as a long-term change.

Financial performance of growers

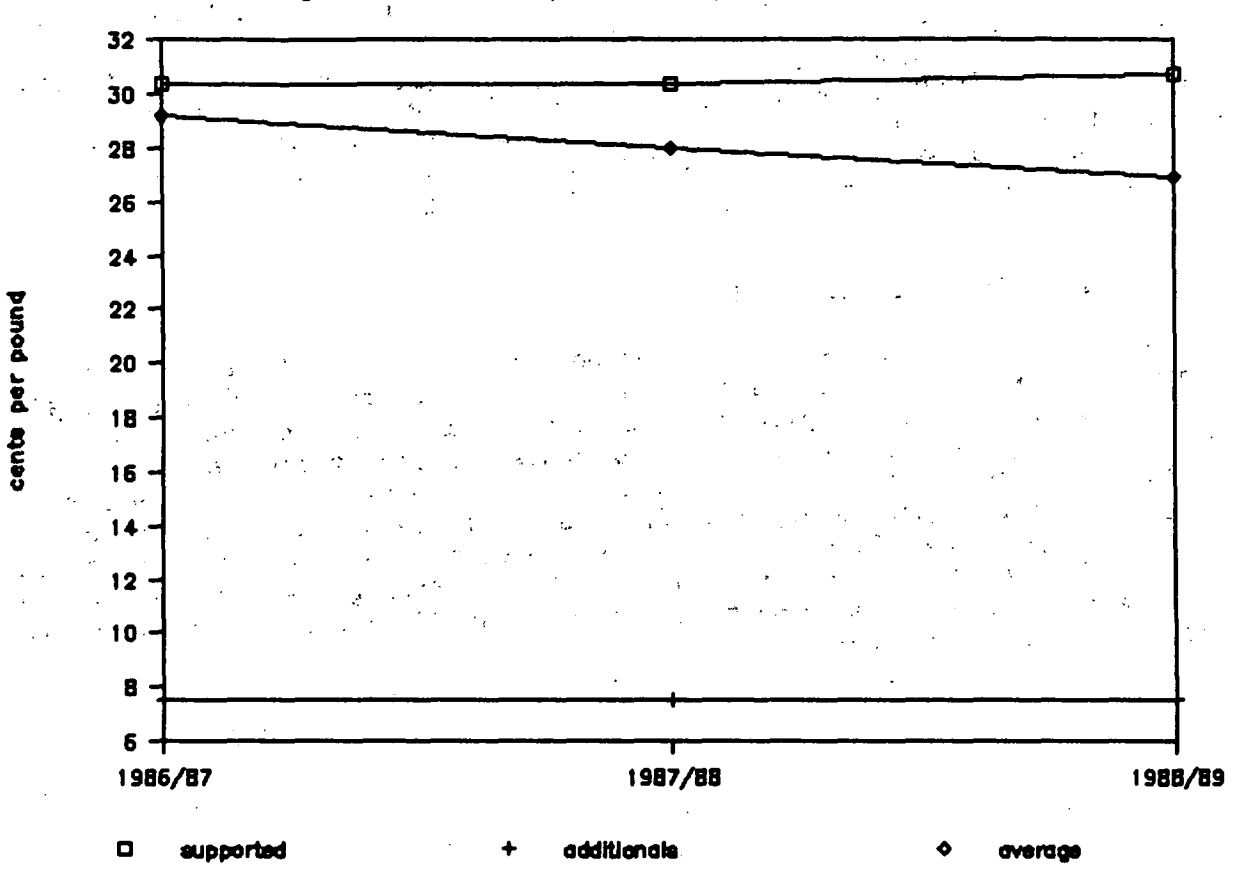
In the absence of precise data on peanut growers' profitability, cash receipts and expenses may be substituted as an indicator of peanut growers' financial performance. Despite wide variability in both cash receipts and cash expenses, receipts have exceeded expenses throughout the 1980s. Table 4-3 presents these data for the three most recent years available (1985-87). During this period, net receipts to U.S. peanut farmers fluctuated between a high of $261 per acre (39 percent of gross receipts) in 1986 and a low of $229 per acre (36 percent of gross receipts) in 1987. Both gross cash receipts and cash expenses followed the same trend during 1985-87, a result largely of the yield variability discussed earlier.

[2] The Temporary Emergency Food Assistance Program was established in 1983 to allow donations of commodities owned by the Commodity Credit Corporation to States in amounts relative to their numbers of unemployed and needy persons.

Prices

The prices and average unit value received by farmers for peanuts (farmers' stock equivalent[3]) is shown in the following figure from USDA data.

Fig. 4-2. U.S. farm peanut prices



The decline in the average unit value of peanuts received by farmers reflects the changes in the end use of peanuts over the period rather than any real decline in one or the other series of prices for quotas or additional peanuts. Although the total use of peanuts increased, the highest value use (the domestic edible market) increased by only 8 percent while other lower valued uses (seed, crush, and export) increased by 18 percent.

[3] Farmers' stock refers to peanuts that have not been shelled, cleaned, or crushed.

The average price received by farmers for in-shell peanuts can also vary significantly over the season, as shown in the following tabulation of USDA monthly price data (in-shell basis) for 1986-88:

Month	1986	1987	1988
	-----dollars per ton----		
January.....	437	390	505
February.....	(1)	(1)	(1)
March.....	(1)	(1)	(1)
April.....	(1)	(1)	(1)
May.....	(1)	(1)	(1)
June.....	(1)	(1)	(1)
July.....	(1)	(1)	(1)
August.....	652	655	441
September.....	575	613	639
October.....	611	591	593
November.....	675	589	564
December.....	639	575	542

[1]Too few transactions to establish a price.

The largest month-to-month change occurred during August-September 1988, when the price rose by almost $200, or by 45 percent, to $639 per ton.[4] Monthly fluctuations on such a scale are rare, of course--it is more common to find changes in the $20-$40 range, or from 3 to 7 percent around the long-run trend in average price.

Exports

U.S. exports of peanuts reached a recent peak of about 260,000 tons, valued at $186 million, in the 1988/89 marketing year (table 4-4). The European Community (EC) has been the principal destination for U.S. exports in recent years, accounting for two-thirds of all U.S. exports in terms of volume during 1986-88 (table 4-5). Shipments to Canada, the next largest market for U.S. peanut exports, averaged 16 percent of all U.S. exports during 1986-88.

Exports of shelled edible peanuts, neither blanched nor otherwise prepared or preserved, accounted for the majority of U.S. exports during 1986/87-1988/89 (table 4-4). Such exports totalled 188,637 tons in 1988/89, up by more than 10 percent from the 168,838 tons shipped in 1987/88. The EC was the destination for the majority of the shipments, followed by Canada and Japan. Exports in most other major product categories also increased over the

[4] This sharp price increase followed USDA's first estimate of the U.S. peanut crop for the 1988/89 crop year, which was substantially lower than what the industry and market had anticipated.

period. The improvement in exports in 1988/89 reflects the rebound in U.S. production following the drought-reduced 1987/88 crop, and a decline in the foreign prices of U.S. peanuts relative to Argentine and Chinese peanuts.

GOVERNMENT PROGRAMS AND POLICIES

The U.S. quota on domestic production

The production of peanuts in the United States is regulated through a maximum national poundage quota, and the price of peanuts is maintained through a two-tier price system. The programs for crop years 1986-88 are based on the Food Security Act of 1985, which continued the two-tier price program established by the previous farm bill. Quota support prices are limited to quota holders and apply to peanuts produced within the national poundage quota, but since acreage constraints were removed by the 1985 legislation, anyone is allowed to produce peanuts. Peanuts produced in excess of the poundage quota are eligible for the lower of the two price support levels. Such over-quota peanuts are referred to as "additional peanuts" or simply "additionals."

Even though quota and additional peanuts are often grown in the same field, there is a significant difference in the application of the program. Peanuts grown within a farm's quota are mainly used in the domestic edible market and for seed for the next year's crop. Quota peanuts may be contracted for any time prior to harvest or may be placed under quota loan at harvest.

Additional peanuts may be marketed in two ways by growers. Growers may contract for sale with a handler; the contract must be signed prior to August 1 and the peanuts may be used only for export or for domestic crushing to obtain peanut oil; they may not be used for domestic food or seed uses. Additionals may also be delivered to buying points at harvest and placed under loan, with the growers receiving the lower-tier price support. Additionals received for loan may be sold for crushing, export, or the domestic edible market. Buyers of such peanuts sold for use in the domestic edible market must pay no less than the higher-tier quota support price.

Acreage allotment and national poundage quota

The original price support legislation requires the Secretary of Agriculture to establish annually a national acreage allotment (however, the Food Security Act of 1985 suspended peanut acreage allotments for crop years 1986 through 1990) and a national poundage quota. The national poundage quota was 1,355,500 tons in both 1986 and 1987, and 1,402,200 tons in 1988. Those

quantities equalled the estimated domestic edible, seed, and related uses for each of the years indicated.[5]

Support levels and loans

The national average support price for within-quota peanuts for the current crop year equals the previous year's support price, adjusted for increases (not to exceed 6 percent per year) in the national average cost of production. The additional support price is set by the Secretary of Agriculture after consideration of the demand for peanut meal and peanut oil, expected prices of other vegetable oils and protein meals, and the demand for peanuts in foreign markets.

The national average price support levels for the 1988 crop were $615.27 per short ton for quota peanuts and $149.75 per short ton for nonquota additional peanuts. In both 1986 and 1987, quota and additional peanuts were supported at the national average price support levels of $607.47 and $149.75 per short ton, respectively.

Support at the quota price support level is available during the harvest season only on Segregation 1 peanuts grown within the farm poundage quota.[6] Support at the additional price support level is available on additional peanuts grown on farms with a poundage quota or on farms without a poundage quota.

Federal peanut marketing agreements

The Federal peanut marketing agreement program has been in effect since 1965 to control the quality of domestically produced peanuts. It was initiated at the request of the industry to prevent peanuts with aspergillus flavus mold from being used in edible products.[7]

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[5] Such estimates have been required of the Secretary of Agriculture since the 1985 Act.

[6]The peanut price support program and the peanut marketing agreement program require the separation of peanuts into three classes: Segregation 1, Segregation 2, and Segregation 3. These classifications are mainly concerned with the amount and type of damage in each lot of peanuts, with Segregation 1 being the highest quality.

[7]Some strains of aspergillus flavus mold produce toxic metabolites that are referred to as "aflatoxin." Aflatoxin are highly toxic and carcinogenic, and so there are strict limits on the amount of aflatoxin that may be present in peanuts if they are to be classified as edible peanuts. Although peanuts afflicted with aflatoxin are unusable as edible nuts, they may be used for seed or crushed into oil.

Practically all U.S. peanut handlers (shellers) have signed a marketing agreement contract with the Secretary of Agriculture. The program provides incoming and outgoing quality regulations on all peanuts that handlers purchase for commercial uses. Incoming regulations allow the handlers to acquire only Segregation 1 peanuts for milling and ultimate use in edible outlets. The outgoing regulations, applied after peanuts are milled, require all milled peanuts to meet specific quality factors and be chemically analyzed. Peanuts that fail to meet the requirements are not allowed to be used in edible products.

The marketing agreement program also provides indemnification to handlers who suffer losses when chemical analysis determines a batch of peanuts to be unwholesome and not suitable for edible use. All indemnification costs are paid by assessments levied on the handlers and by an insurance policy. No government expenses are involved.

Government export assistance program

The Food Security Act of 1985 authorized the use of CCC funds or commodities to counter or offset the adverse effects of unfair trade practices on U.S. agricultural exports. The Target Export Assistance (TEA) program has provided funds to the National Peanut Council to promote U.S. peanuts and peanut products in Europe; such funding amounted to $4.5 million in fiscal year 1987 and $6 million in 1988.

Import duties and quota

Imported peanuts are classifiable for tariff purposes in item 1202.10.00 of the Harmonized Tariff Schedule of the United States, if unshelled, not roasted or otherwise cooked; in item 1202.20.00, if shelled, whether or not broken, not roasted or otherwise cooked; and in item 2008.11.00, if prepared or preserved other than by vinegar or acetic acid or sugar, whether or not containing added sugar or other sweetening matter or spirit. The rates of duty currently applicable to imports are shown in appendix D.

In order to protect the price support program for peanuts, U.S. imports of peanuts have been subject to quantitative restrictions pursuant to section 22 of the Agricultural Adjustment Act, as amended. The quota provided for in HTS subheading 9904.20.20 in Chapter 99 is as follows:

Subheading	Abbreviated article description	Quota quantity (kilograms)
9904.20.20	Peanuts (ground nuts), shelled or not shelled, blanched, or otherwise prepared or preserved (except peanut butter)	775,189 (shelled basis)

This quota is on a first come, first-served basis in any 12-month period beginning August 1 in any year.

THE U.S. PEANUT MARKET

Market profile

The U.S. market for peanuts has grown steadily during 1986-88. Peanuts for food uses account for about one-half of the total U.S. peanut sales. Peanut butter is the largest outlet for edible peanuts, accounting for about 25 percent of all peanuts produced in most years. Another important outlet is in snack foods (salted peanuts and peanut candy). The vegetable oil market is also another important outlet for peanuts, accounting for one-sixth of U.S. marketings in recent years.

During 1986-88, disappearance of peanuts in all forms (including exports) increased steadily from 3.5 billion pounds to 4.0 billion pounds, reflecting increasing usage of peanuts in almost all forms (table 4-6). U.S. apparent consumption of edible peanuts rose over the period from 2,073 million pounds to 2,254 million pounds. Increased demand for peanut butter, in part stimulated by purchases under the Temporary Emergency Food Assistance Program, accounted for the majority of the growth. Demand also increased for peanuts used in salted peanuts and peanut candy. Rising consumer incomes during the recent economic recovery probably also contributed to the increase in apparent consumption.

The volume of peanuts going to crushing increased from 514 million pounds in 1986 to 814 million pounds in 1988. The increase in the quantity of peanuts going to crush is directly related to the rise in overall domestic production of peanuts and the diversion of additionals to the crush market. The resulting peanut oil output was a record 233 million pounds in 1988, up from 164 million pounds in 1986.

Imports

U.S. imports of peanuts and peanut products (including peanut butter, which is not subject to quantitative import restrictions) have been negligible in recent years, averaging only about 4.4 million pounds per year, or less than 0.5 percent of total U.S. consumption of edible peanuts. The principal suppliers of peanut imports are Argentina, Singapore, and China.

Imports of peanut butter, although small in absolute terms, increased steadily during 1986-88, rising from 954,000 pounds to 2.1 million pounds (table 4-7). Argentina and Canada were the principal suppliers during the period.

Factors influencing demand

Domestic demand for edible peanuts depends primarily on food preferences, changes in population, the level of personal income, and the price of peanuts relative to substitute nuts. Other factors that affect domestic demand are product quality, and merchandising and the promotion programs of the peanut industry. Competition from other snack foods also affects demand for peanuts. Edible peanuts compliment tree nuts in mixed nut packs, but they will also be substituted for tree nuts in such mixes as relative prices dictate.

Several studies have concluded that the demand for edible peanuts is price-inelastic,[8] but attempts at estimating the degree of such inelastic demand have been made only for farm-level demand; estimates of retail demand elasticities are not available. Using annual data for 1962-85, Schaub estimated the price elasticity of processors' demand for edible grade peanuts as inputs into the production of a variety of peanut products. For example, the elasticity of demand for peanuts used to make peanut butter was estimated to be -0.06, while that for peanuts used to make salted peanuts was -0.26. The high variances in some of Schaub's estimates make them statistically insignificant, and although they are unreliable as specific elasticity estimates,[9] they do provide general support for the argument that peanut demand is inelastic.

The data difficulties created by Government controls were more carefully accounted for in a recent study of the domestic peanut program.[10] The statistical results from this study indicate that the price elasticity of demand (at the farm level) for edible peanuts ranges between -0.14 (holding fixed the price of almonds as a substitute) and -0.09 (allowing almond prices to change).

Schaub's estimates of the income elasticity of peanut demand are more reliable (from a statistical point of view) than his price elasticity estimates, as the margins for error in the former are quite low.[11] Depending on the end-use of the peanut, income elasticities of demand for peanuts at the

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[8] See James D. Schaub, "Peanut Demand Estimates and Consumers' Cost of the Peanut Program," presented at the annual meeting of the American Peanut Research and Education Society, Orlando, Florida, July 14-17, 1987, and sources cited therein.

[9] One important reason for the low reliability is the distorting effects on the data caused by Federal Government controls on production volume, prices, and import supply, which were not accounted for in Schaub's study.

[10] Randal Rucker and Walter Thurman, The Economic Effects of Supply Controls: The Simple Analytics of the U.S. Peanut Program, North Carolina State University, May 1989.

[11] They are, however, subject to those caveats in the preceding footnote.

farm-level range from 0.66 (peanut butter sandwiches) to 1.2 (peanut candy), and to 2.0 (for peanuts for roasting stock). These estimates are both intuitively plausible and in agreement with what economic theory would suggest.

There is a small, specialized market for peanut oil where the quantity demanded is quite unresponsive to changes in the price of peanuts. However, after this specialized demand has been satisfied, the market demand becomes highly elastic because for many consumers peanut oil is considered interchangeable with other vegetable oils.

Competitive Conditions in Foreign Industries

The share of world peanut output being crushed for oil ranged from 52 percent (10.5 million metric tons) in 1987/88 to 56 percent (12.6 million metric tons) in 1988/89. The portion of world output going to crushing is the residual after food uses are satisfied. Food use of peanuts increased steadily over the period 1986/87-1988/89, rising from 7.5 million metric tons to 7.9 million metric tons, or between 35 and 38 percent of world output.

World output of peanuts has increased rapidly over the last decade, climbing by over 31 percent. Over the last three years alone, output has increased by more than 11 percent (table 4-10). India, China, and the United States are the leading producers, accounting for almost 70 percent of world output in 1988/89, followed by Indonesia, Senegal, and Burma.

World exports of peanuts totalled 1.3 million metric tons in 1988/89, less than 6 percent of world output (table 4-9). China and the United States are the leading world exporters of peanuts, together accounting for over half of world exports in 1988/89. Argentina accounted for another 8 percent of world exports during the same period. The majority of the peanuts exported by these countries are edible peanuts. The EC and Japan are the principal destinations for such peanuts. Other markets of note are Canada, the USSR, and Singapore.

INDIA

Peanuts are grown over a vast area of India, covering about 7 million hectares. Most peanut farms are small, less than 2 hectares. Peanuts are primarily grown on poor or submarginal farmland.

Most peanut farmers in India do not have access to modern farming technology. Crop inputs such as fertilizer and quality seed are also limited. These factors contribute to the relatively low productivity of the peanut growing sector in India. In addition, most farmers do not have access to adequate post harvest storage facilities.

Output of peanuts in India is highly dependent on the monsoons, which help sustain production in years that they appear, and cause major declines in years when they do not. Production in 1986 totalled 5.9 million metric tons (in-shell basis); however, the monsoon's failure in 1987 caused production to fall to 5.3 million metric tons. With the return of the monsoon in 1988, production rose to a record output of 8.3 million tons.

In most years, 90 percent or more of the peanuts grown in India are processed into peanut oil. About 6 to 10 percent of the peanuts are used as food and nominal amounts of quality HPS (Hand Picked Select Grade) are sold into the export market.

Exports of peanuts from India are very minor compared with total output. During 1986-88, exports ranged from a low of 10,000 metric tons in 1987 to a high of 80,000 metric tons in 1988. India prohibits the importation of all oilseeds, including peanuts.

In recent years, the Government of India has invested in research in the peanut producing sector. Such research has resulted in the introduction of many new peanut varieties, new cropping systems, and improved agronomic management recommendations. However, the transfer of this research to the many small farmers has been slow.

The Government of India has also provided assistance to peanut growers including subsidized seed, fertilizer, pesticide, and irrigation equipment, and has also assisted private sector breeders in order to make available to growers higher quality seed for planting.

THE PEOPLE'S REPUBLIC OF CHINA

Peanuts are grown throughout China, although the northern Province of Shandong accounts for more than 35 percent of total production. Peanuts are an important cash crop for Chinese farmers because they offer higher returns than many alternative crops. Data are not available on the number of farmers growing peanuts in China but it is believed to be substantial. In 1988, 2.9 million hectares of peanuts were planted, down from 3.3 million hectares in 1986.

China's production has increased dramatically over the last decade. In 1986, output totalled 5.9 million metric tons (in-shell basis). Production increased in 1987 to 6.2 million tons and then declined to 5.8 million tons in 1988 because of drought in Shandong province. At about 2 tons per hectare, peanut yields in China are among the highest in the world. The use of improved seed varieties, fertilizers, and plastic sheeting will help increase yields in the future. Continued growth in Chinese production of peanuts is limited by competition for farmland for grain production in the North and from

other cash crops in the South. Weather, however, will remain one of the major unknowns in the production of peanuts in China.

During 1986-88, 52 percent or more of the peanuts grown in China were processed into peanut oil. Peanut oil is a major component of the Chinese edible oil market and is virtually all consumed within China. Thirty-five percent of the peanuts were used as food and the remainder were used for seed or exported.

China has been one of the principal world exporters of peanuts in recent years. However, Chinese peanut exports have declined from a peak of 398,000 metric tons (in-shell basis) in 1987 to 325,000 tons in 1988. Reduced availability because of a drought in 1988 and increased domestic demand are believed to be the principal reason for the decline in exports. Most of the HPS exports are through Shandong and Guangdong Provinces. Hong Kong, the EC, Japan, and the U.S.S.R are the major destinations.

Competitive Conditions in Foreign Markets

EUROPEAN COMMUNITY

The EC is the largest non-peanut-producing consuming region in the world. During 1986-88, apparent consumption of peanuts in the EC ranged from 557,000 metric tons (in-shell basis) in 1986 to 585,000 metric tons in 1988. Virtually all of the EC's consumption of peanuts is supplied by imports.

Most of the peanuts consumed in the EC (78 percent in 1988) are consumed as food; nearly all the remainder are crushed. Food uses of peanuts consist primarily of roasted in-shell peanuts and shelled peanuts used in confectionery and bakery products. EC imports of in-shell and shelled peanuts enter duty-free.

Population growth and increases in consumer incomes are the principal factors influencing the consumption of peanuts in the EC. Both the population of the EC and its national income (as measured by the gross national product) have grown steadily in recent years. The availability and cost of tree nuts also has a bearing on the demand for peanuts since they can be substituted for peanuts in some applications (e.g., nut mixtures).

Prices for edible peanuts in the EC vary over time and are dependent in great part on the availability of export quantities of peanuts in the major exporting countries. Historically, the United States was the principal source for edible peanuts in the EC until the early 1980's when drought in the United States interrupted supplies, resulting in significant price increases. Argentina and China were able to fill the gap and have remained important supply sources.

During 1986/87-1988/89, prices for U.S. edible grade peanuts in Rotterdam ranged from an annual average high of $990 per metric ton[12] in 1987/88 (October-September) to a low of $818 per ton in 1988/89. The sharp price decline in 1988/89 reflects an increase in the availability of edible peanuts for export in the United States.

Average prices for U.S. edible peanuts in Europe during 1986-88 exceeded those from Chinese and Argentinean sources for every month. The price differential ranged from as little as $37 per metric ton in August 1987 to as high as $593 in November 1986 for Chinese sourced peanuts (table 4-10). The price differential for Argentine peanuts was as little as $48 per metric ton in January 1986 and peaked at $449 per ton in May 1988.

The price differential commanded by U.S. sourced peanuts reflects size and quality differences, reliability of delivery, and familiarity of European manufacturers with U.S. peanut varieties.

JAPAN

The Japanese import market for peanuts increased from 85,500 metric tons (shelled basis) in 1986 to 93,750 tons in 1988. Domestic supply is partially determined by a Government-set import quota, which applies only to unprocessed peanuts; Japan's imports of processed peanuts are not covered by any quota restrictions. Import duties on processed peanuts range from 22 percent to 27.5 percent; there are no import duties on unprocessed peanuts.

Japanese imports of unprocessed and processed peanuts except peanut butter increased from 88,495 metric tons (shelled basis) in 1987 to 93,016 tons in 1988. Unprocessed peanuts (unroasted in-shell and unroasted shelled) accounted for 60 percent and 57 percent of Japan's imports in 1987 and 1988, respectively. China was the principal supplier of such peanuts in both years, accounting for 45 percent or more of imports of unprocessed peanuts in both years. The United States was the next most important supplier of unprocessed peanuts, accounting for 39 percent of such imports in 1987 and 34 percent in 1988.

Japan's imports of processed peanuts (roasted in-shell, roasted shelled, peanuts with sugar, and prepared or preserved peanuts without sugar) totalled 35,389 metric tons in 1987 and 39,527 tons in 1988. China was the principal supplier accounting for over 80 percent of such imports in each year.

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[12]The price in Rotterdam (c.i.f.) for edible peanuts, shelled basis. Source: The Public Ledger.

Factors Affecting Competition in U.S. and Foreign Markets

THE U.S. MARKET

The nature and degree of competition in the U.S. peanut market are determined primarily by Government controls on prices and supply; secondary factors include, on the demand side, the structure of the two main markets for peanuts (edible and crush), and, on the supply side, input costs and the returns from crops that compete with peanuts for acreage. This section focuses on these secondary factors; the various effects of Government policy on the domestic industry are discussed in the following section.

Competition In The Edible Nut Market

Most peanuts grown in the United States are destined for edible-nut uses, the principal use being in the production of peanut butter, where peanuts have no substitutes. Of course, there are substitutes for peanut butter, so peanut growers must indirectly compete with producers of such sandwich preparations as chicken and tuna salad, and luncheon meats; depending on how widely one wants to define the market, one can also include other foods.

Peanuts also compete with other nuts, such as hazelnuts, walnuts, and almonds, as inputs into salted mixed nuts, candies, and other foods. Price is the main factor determining the demand by nut mixers for peanuts relative to substitute nuts. In certain uses, such as candies and bakery products, however, demand may not be so responsive to price because the cost of peanuts relative to the finished product's total cost may be comparatively small. In general, econometric studies have found a highly inelastic demand for peanuts, even in products as narrowly defined as peanut butter, suggesting that peanut products have few close substitutes for their most important uses. In any case, peanut growers are powerless to use price reduction as a competitive tool because the USDA support program forbids them from undercutting the support price.

Competition In The Crush Market

In the market for oilseed meal and oil, peanuts have so many substitutes that changes in the supply of peanuts available for crushing into these products has virtually no effect on meal and oil prices. The meal and oil from other oilseeds, such as soybeans, rapeseed, and palm, as well as from other sources, such as menhaden, are highly substitutable with peanut meal and oil, and are in such large supply relative to those from peanuts, that demand for peanut meal and oil, and therefore for crush peanuts, is almost perfectly price-elastic. Moreover, since crush peanuts and peanut meal and oil are not

subject to the direct control of the peanut price-support program, the markets for these products are highly price-competitive.[13]

FOREIGN MARKETS

In international trade, edible peanuts account for the majority of sales; peanut meal and oil are not significant. China and the United States are among the largest producers of peanuts and are the largest exporters of edible peanuts.

Some of the principal factors that affect the ability of a country to compete in the world market for edible peanuts are perceptions of purchasers regarding variations between lots of peanuts, reliability of delivery, familiarity of the purchaser with the supply source, and characteristics of the peanuts. Each of these factors are evaluated by the end users in determining from which country to source their needs. The United States enjoys a reputation as a supplier of high quality peanuts with minimal size variation between shipments. This is an important consideration for confectionery, bakery, and other peanut product producers. U.S. exporters are able to ship peanuts that are free of aflatoxin, an important competitive advantage given the toxicity of aflatoxin. Reliability of delivery is also an important consideration in a food processor's sourcing of peanut supplies; most processors prefer to contract in advance (for as much as a year) for their requirements, which reduces the risk of significant price increases resulting from a sudden shortage in the spot market. Because of the wide year-to-year variability of production in many smaller peanut producing countries, processors are hesitant to source all, or part, of their requirements from these countries.

The Effect of the Import Quota on the Ability of the Peanut Industry to Compete in Domestic and Foreign Markets

The U.S. import quota on peanuts and certain peanut-containing products has restricted U.S. imports of such items to less than 0.1 percent of U.S. supply in most years. The U.S. Government restricts imports of peanuts and certain peanut-containing products to prevent imports from interfering with the peanut price support program. In addition, the peanut price support program uses a national poundage quota system to limit the quantity of peanuts that can be used in the U.S. edible peanut market. (Such peanuts are eligible for the higher of the two price support levels.) This system ensures that the domestic supply of edible peanuts does not exceed domestic demand, which

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[13] The crush market is affected indirectly by the support program to the extent that high prices in the edible-nut market encourage surplus production that is sent to export and crush markets.

maintains an artificially high price for edible peanuts. This artificially high price, however, reduces the volume of peanuts demanded by edible nut processors and consumers.

U.S. peanut growers do not produce in a competitive market because of the restrictive import quota and the effect of the national poundage quota. U.S. peanut growers who produce peanuts covered by the national poundage quota receive an artificially high price for their output. Therefore, growers plant sufficient acreage to ensure that their national poundage quota allocation is filled. Output that is outside of the national poundage quota system receives a significantly lower price. Such output may be crushed, exported, or used in the U.S. edible market under certain conditions. Therefore, U.S. production of edible peanuts is limited by the quota system.

Estimated Tariff Equivalents of the U.S. Peanut Import Quota

The price gap method was employed to calculate tariff equivalents of the U.S. import quota on peanuts for the years 1986-88.[14] Although three major varieties of peanuts--Virginia, Runners, and Spanish--are grown in the United States, Runners dominate in both the domestic and world markets. Therefore, the price gap method (which aggregates all varieties into each HTS category) should be appropriate.

However, the absence of strictly comparable foreign and domestic prices complicates the calculation of price gaps. We used the U.S. support price for in-shell peanuts (the annual average quota support price received by U.S. farmers) as the equivalent domestic market price of in-shell peanuts. This support price was also used to calculate a domestic market price for shelled peanuts by taking into account product losses because of shelling, culling, grading and sorting, as well as domestic shellers' costs of performing these operations (table 4-11).

For the world price of in-shell peanuts, we constructed a world price by moving "backward" from the world (Rotterdam) price for shelled U.S. peanuts, using estimates of shipping and processing costs, to obtain an in-shell-equivalent price (table 4-12).[15] Although most world trade in peanuts is of

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[14] Data on domestic and world prices were provided by James Schaub of the Economic Research Service, USDA, and Lynn Garrett of the Foreign Agricultural Service, USDA.

[15] The quoted Rotterdam price for U.S. shelled peanuts was used to calculate the price at the U.S. port of export for both in-shell and shelled U.S. peanuts because this price is probably closer to a "true" world price (the EC has no tariff on peanuts) than other price series; and, since the quoted Rotterdam price for shelled Runners is readily available to the trade, it serves as a convenient guide to true world prices. And, since corresponding

(continued...)

the Runners variety, the United States does not export in-shell Runners to any significant extent, tending instead to export the higher valued, in-shell Virginia variety; therefore, the reported unit value of U.S. exports of in-shell peanuts was rejected because it exceeds the unit value of the representative foreign product (in-shell Runners).

For the world price of shelled peanuts, we used a quoted Rotterdam price for U.S. shelled peanuts.[16] We used a simple monthly average of reported Rotterdam prices because a weighted average annual price could not be constructed since the volume of sales in Rotterdam of U.S. shelled peanuts is not reported.

It should be noted that the price of U.S. shelled peanuts in Europe has been considerably above those of the two closest competitors, China and Argentina, as explained earlier in this chapter. Argentine and Chinese shelled peanuts sold in Rotterdam during crop year 1988/89 at prices about 15 percent below that of U.S. shelled peanuts.[17] The premium for U.S. peanuts is explained at least partly by quality differences, availability, and seasonal price changes. Therefore, even in a free market, U.S. peanuts might well maintain a price premium because of these factors. To account for the effects of these factors, we must compare the price of U.S. peanut exports to domestic peanuts; then we are able to attribute the difference between the price for the foreign market and the price for the domestic market for similar U.S. peanuts to the effects of the import quota.

It should be noted that the U.S. export price may not be identical to the export price of a competitor or likely supplier in the absence of an import quota. However, to the extent that the United States currently competes with another supplier in a third-country market, the U.S. price inclusive of shipping to the third-country market must be roughly equal, after adjusting for quality differences, to the competitor's price plus shipping to the third-country market. If one assumes that the shipping costs to the third country are similar for both the United States and the competing supplier, then the f.a.s. export prices from both suppliers should be the same (again, after adjustment for quality differences).

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[15](...continued)
prices are quoted for Chinese and Argentine peanuts, it is easy to compare relative price trends. However, because there is no quoted Rotterdam price for in-shell peanuts, it was necessary to calculate the price of in-shell U.S. peanuts by converting the price of shelled peanuts to in-shell equivalent.

[16] The Public Ledger (London) quotes prices in Rotterdam for U.S., Chinese, and Argentine shelled peanuts (Runners, 40/50-count per ounce). The Foreign Agricultural Service, USDA, compiles these data and publishes them as monthly averages in World Oilseed Situation and Market Highlights.

[17] During the 1988/89 crop year, U.S. shelled peanuts sold in Rotterdam at a simple monthly average price of 37.5 cents per pound while Argentine and Chinese shelled peanuts were both quoted at 31.9 cents per pound (see table 3-10).

In general, a tariff equal to the difference between the U.S. domestic price and the world price (c.i.f.) of U.S. peanuts at the U.S. border would overstate the protective impact of the current quota. This is due to the existence of international shipping costs from potential suppliers in the absence of a quota. Ideally, one measures the difference between the U.S. domestic price and the f.o.b. export price of the lowest cost supplier plus shipping costs from that supplier to the United States.

Current and likely future suppliers to the United States are Argentina, China, and possibly, Mexico. Shipping costs will differ, of course, depending on the source and on the extent of established shipping routes and maritime schedules. In the U.S. import market, Mexico would enjoy probably the lowest transport cost, and shipping from Argentina and China would be more expensive. The cost of shipping shelled U.S. peanuts to Europe (as of early 1989) was roughly $65 per metric ton (or 2.9 cents per pound), and about $75 per metric ton for in-shell peanuts (3.4 cents per pound).[18] A range has been presented representing likely upper and lower bounds on the estimated tariff equivalent.

Table 4-15 presents the estimated price gaps that are assumed to be the specific tariff equivalents of peanut quotas covering HTS categories 1202.10.00 (unshelled peanuts, not roasted or otherwise processed), 1202.20.00 (shelled peanuts, whether or not broken, but not roasted or otherwise processed), and part (excluding peanut butter) of 2008.11.00 (roasted shelled, and otherwise prepared or preserved peanuts). For in-shell, raw peanuts, the estimated specific tariff equivalent ranged from 12 to 16 cents per pound, or 63 to 108 percent ad valorem equivalent (AVE). For shelled peanuts, the estimated specific tariff equivalent ranged from 16 to 22 cents per pound, or 39 to 64 percent AVE.

There is no world price available for the roasted, shelled peanuts found in HTS category 2008.10.00, and therefore the estimates made for unroasted, shelled peanuts are applied to this category as well.

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[18] This information was obtained from a representative of the National Peanut Council. As noted above, U.S. exports of in-shell peanuts are low partly because transportation costs are higher than for shipping shelled peanuts. For shelled peanuts, shipping costs to Europe in crop year 1988/89 represented about 8 percent of the U.S. price (f.o.b. U.S. port) of shelled peanuts, and about 23 percent of that of in-shell peanuts.

Table 4-1
Peanuts: Area harvested, yield, and production, crop years 1986-88

Crop year[1]	Area harvested	Yield	Production	Value of production
	1,000 acres	Pounds per acre	Million pounds	Million dollars
1986/87.....	1,537	2,407	3,701	1,074.5
1987/88.....	1,546	2,339	3,619	1,023.0
1988/89.....	1,628	2,445	3,981	1,239.0

[1] Year beginning Aug. 1 and ending the following July 31.

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

Table 4-2
Peanuts: U.S. apparent consumption for food, by principal products, crop years 1986/87-1988/89

(In millions of pounds, shelled basis)

Crop year	Peanut butter	Salted peanuts	Peanut candy	Sandwich snacks[1]	Other	Total
1986/87.....	680	384	321	34	41	1,460
1987/88.....	701	374	325	46	38	1,484
1988/89.....	832	382	327	28	36	1,605

[1] Peanut butter sandwich snacks sold commercially.

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

Table 4-3
Peanuts: Cash receipts and cash expenses, by regions, 1985-87

Crop year	Cash receipts	Cash expenses	Return above cash expenses
	Dollars per planted acre		
1985:			
Southeast.....	679.78	416.54	263.24
Virginia/North Carolina.....	700.08	447.07	253.01
Southwest.....	482.83	303.23	179.60
United States..	638.00	391.52	246.48
1986:			
Southeast.....	673.81	424.32	249.49
Virginia/North Carolina.....	849.58	462.47	387.11
Southwest.....	563.98	358.93	205.05
United States..	677.32	416.37	260.95
1987:			
Southeast.....	653.83	416.73	237.10
Virginia/North Carolina.....	726.12	456.44	269.68
Southwest.....	500.91	325.53	175.38
United States..	631.23	260.95	228.50

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

Table 4-4
Peanuts: U.S. exports by type, crop years 1986/87-1988/89

Crop year[1]	Un-shelled (green)[2]	Shelled		Prepared or preserved		Total
		For oil stock	Not for oil stock	Blanched	Not blanched	
	Tons					
1986/87.....	28,382	12,884	187,557	17,520	3,015	249,358
1987/88.....	28,630	7,608	168,838	21,832	5,498	232,407
1988/89.....	44,064	2,636	188,637	23,222	4,438	258,587
	Value ($1,000)					
1986/87.....	30,229	8,527	132,293	12,652	3,189	186,892
1987/88.....	28,441	4,368	109,408	16,966	6,552	165,736
1988/89.....	39,419	1,698	116,747	21,423	6,826	186,113

[1] Aug. 1-July 31.
[2] Shelled basis.

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

Table 4-5
Peanuts: U.S. exports, by region or country of destination, crop years 1986/87-1988/89

(Tons, shelled weight basis)

Region or country	1986/87	1987/88	1988/89
EC	162,357	162,865	173,702
Canada	46,173	33,894	39,836
Japan	23,685	18,557	21,993
All other	17,143	17,091	23,057
Total	249,358	232,407	258,588

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

Table 4-6
Peanuts:[1] Supply and disappearance, crop years 1986-88[2]

Crop Years	Beginning stock	Production	Imports	Uses				
				Crush	Exports	Food	Other[3]	Total
	Million pounds							
1986/87	845	3,701	2	514	663	2,073	294	3,545
1987/88	1,003	3,620	2	560	618	2,071	543	3,791
1988/89	833	3,981	2	814	688	2,254	230	3,986

[1] Farmers' stock basis.
[2] Crop year Aug. 1 through following July 31.
[3] Seed, loss, shrinkage, and residual (includes farm use and local sales).

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

Table 4-7
Peanuts: U.S. imports for consumption, by products and by principal sources, 1986-88

Item and source	1986	1987	1988
	1,000 pounds		
Peanuts, unshelled:			
Singapore	0	465	345
China	0	0	102
Mexico	316	0	9
All other	400	45	3
Total	716	510	459
Peanuts, prepared or preserved:			
Peanut butter:			
Argentina	789	1,591	1,844
Canada	128	240	259
Panama	0	0	36
All other	37	265	2
Total	954	2,096	2,141
Unshelled:			
Singapore	255	106	167
Malaysia	89	29	31
Argentina	0	0	73
All other	295	33	54
Total	639	168	325
Other:			
Singapore	59	164	296
China	76	519	231
Hong Kong	46	4	282
Argentina	2,048	346	239
All other	84	429	224
Total	2,313	1,462	1,272

Table 4-7--Continued
Peanuts: U.S. imports for consumption, by products and by principal sources, 1986-88

Item and source	1986	1987	1988
		Value ($1,000)	
Peanuts, unshelled:			
Singapore	0	53	49
China	0	0	12
Mexico	79	0	4
All other	56	6	3
Total	135	60	67
Peanuts, prepared or preserved:			
Peanut butter:			
Argentina	311	683	608
Canada	85	125	169
Panama	0	0	11
All other	20	153	1
Total	415	960	790
Unshelled:			
Singapore	214	103	154
Malaysia	82	24	30
Argentina	0	0	23
All other	189	23	24
Total	485	150	230
Other:			
Singapore	54	155	293
China	53	237	114
Hong Kong	30	7	107
Argentina	601	91	84
All other	78	577	120
Total	815	1,067	719

Note: Because of rounding, figures may not add to the totals shown. Quantity data are reported on actual production weight and have not been converted to shelled basis.

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

Table 4-8
World peanut production, 1986/87-1988/89

(1,000 metric tons)

Year	China	India	United States	Indonesia	Senegal	All other	Total
1986/87.....	5,882	5,875	1,679	750	817	5,382	20,385
1987/88.....	6,170	5,300	1,642	786	932	5,509	20,339
1988/89.....	5,800	8,300	1,806	795	690	5,374	22,765

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

Table 4-9
World peanut exports, 1986/87-1988/89

(1,000 metric tons)

Year	United States	China	Argentina	India	All other	Total
1986/87.....	301	398	170	40	372	1,281
1987/88.....	280	359	160	10	503	1,312
1988/89.....	312	325	100	80	443	1,260

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

Table 4-10
Peanuts: Prices of U.S., Argentinean, and Chinese origin peanuts in Europe, by months, 1986-88 and January-July 1989

(Dollars per metric ton, c.i.f.)

Year and month	United States[1]	Argentina[1]	China[2]
1986:			
January	708	660	585
February	715	635	583
March	715	615	580
April	706	616	573
May	867	735	644
June	956	710	653
July	1,080	860	733
August	1,346	1,111	919
September	1,215	1,108	905
October	1,585	1,308	1,195
November	1,323	991	788
December	975	850	700
1987:			
January	830	760	694
February	796	598	668
March	730	533	523
April	678	514	526
May	686	531	544
June	658	523	528
July	625	495	519
August	542	460	514
September	586	460	523
October	810	523	574
November	918	618	606
December	1,048	685	636

Table 4-10--Continued
Peanuts: Prices of U.S., Argentinean, and Chinese origin peanuts in Europe, by months, 1986-88 and January-July 1989--Continued

(Dollars per metric ton, c.i.f.)

Year and month	United States[1]	Argentina[1]	China[2]
1988:			
January	1,019	630	626
February	1,081	624	648
March	1,040	605	679
April	985	605	710
May	1,105	656	815
June	1,148	720	859
July	1,085	722	827
August	878	648	736
September	789	650	671
October	802	638	663
November	784	640	685
December	790	685	734
1989:			
January	836	715	743
February	830	709	718
March	833	716	714
April	817	722	691
May	851	747	677
June	867	810	719
July	842	758	701

[1] Prices are for 40/50 Runner peanuts.
[2] Prices are for 40/50 Hsuji peanuts.

Source: Compiled from USDA, FAS, World Oilseed Situation and Highlights, originally obtained from The Public Ledger

Table 4-11
Shelled U.S. peanuts: Constructed U.S. domestic market price, 1986-88

Crop year	Average U.S. in-shell support price[1]		Less volume loss from shelling[2]		Less volume loss from culling[3]		Plus the costs of shelling, culling, etc.[4]		Equals constructed U.S. market price of shelled peanuts
	(cents/kg)						------(cents/kg)-----		
1986/87....	66.95	x	1.333	x	1.136	+	22.0	=	123.5
1987/88....	66.95	x	1.333	x	1.136	+	22.0	=	123.5
1988/89....	67.81	x	1.333	x	1.136	+	22.0	=	124.8

[1] Average quota support price received by U.S. farmers (in cents per kilogram of in-shell peanuts).
[2] Estimated loss of 25 percent (multiply by 1.333).
[3] Culling loss of 12 percent (multiply by 1.136).
[4] Costs are estimated as 22¢/kg (add 22¢/kg).

Note.--Price data are shown on a crop year basis; the 1986/87 crop year, for example, begins on Aug. 1, 1986 and ends on July 31, 1987.

Source: Compiled from data of the U.S. Department of Agriculture, and Commission staff estimates.

Table 4-12
In-shell U.S. peanuts: Constructed price of U.S. in-shell peanuts, at U.S. port, 1986-88

Crop year	Shelled U.S. peanuts, Rotterdam price[1]		Less costs of processing in U.S.[2]		Less volume loss from culling[3]		Less volume loss from shelling[4]		Equals constructed price at U.S. port of U.S. exports of in-shell peanuts
	--(cents/kg)--								(cents/kg)
1986/87..	95.5	-	22.0	x	0.88	x	0.75	=	48.5
1987/88..	94.8	-	22.0	x	0.88	x	0.75	=	48.0
1988/89..	82.7	-	22.0	x	0.88	x	0.75	=	40.0

[1] Less shipping costs of shelled peanuts. Source: table 4-10. Price is for U.S. Runners, 40/50's kernels count per ounce.
[2] Costs of culling, shelling, grading, etc., estimated at 22¢ per kilogram.
[3] Estimated loss of 12 percent (multiply by 0.88).
[4] Estimated loss of 25 percent (multiply by 0.75).

Note.--Price data are shown on a crop year basis; the 1986/87 crop year, for example, begins on Aug. 1, 1986 and ends on July 31, 1987.

Source: Compiled from Commission staff estimates, except as noted.

Table 4-13
Shelled U.S. peanuts: Gap between domestic and export price, crop years 1986/87-1988/89

Crop year	Shelled U.S. peanuts, delivered price, Rotterdam[1]	Shelled U.S. peanuts, at U.S. port of export[2]	Constructed U.S. market price, shelled[3]	Price gap
	Cents per kilogram			
1986/87.....	95.5	89.1	123.5	28.0-34.4
1987/88.....	94.8	88.4	123.5	28.7-35.1
1988/89.....	82.7	76.3	124.8	42.1-48.5

[1] Simple average of monthly prices. Source: table 4-10.
[2] Subtract shipping charge from EC of 6.4¢/kg (source: National Peanut Council).
[3] Source: table 4-11.

Note.--Price data are shown on a crop year basis; the 1986/87 crop year, for example, begins on Aug. 1, 1986 and ends on July 31, 1987.

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

Table 4-14
In-shell U.S. peanuts: Price gap between domestic and export prices, 1986-88

Crop year	Constructed U.S. price at Rotterdam[1]	Constructed U.S. in-shell price at U.S. export port[2]	Average U.S. support price at farmgate	Price gap
	Cents per kilogram			
1986/87.....	56.0	48.5	67.0	11.0-18.5
1987/88.....	55.5	48.0	67.0	11.5-19.0
1988/89.....	47.5	40.0	67.8	20.3-27.8

[1] U.S.-Europe transportation cost of 7.5 cents per kilogram added to U.S. port price. (Source of transportation cost: National Peanut Council).
[2] Source: table 4-12.

Note.--Price data are shown on a crop year basis; the 1986/87 crop year, for example, begins on Aug. 1, 1986 and ends on July 31, 1987.

Source: U.S. International Trade Commission, except as noted.

Table 4-15
Peanuts: Ad valorem tariff equivalents, 1986-88

Crop year	HTUS 1202.10 (in-shell, unroasted)			HTUS 1202.20 and HTUS 2008.11(pt.) (shelled, unroasted or roasted)		
	World price[1] (A)	Price gap[1] (B)	Tariff equivalent (B+A)	World price[2] (C)	Price gap[2] (D)	Tariff equivalent (D+C)
	Cents per kilogram		Percent	Cents per kilogram		Percent
1986/87..	48.5	11.0-18.5	22.7-38.1	89.1	28.0-34.4	31.4-38.6
1987/88..	48.0	11.5-19.0	24.0-39.6	88.4	28.7-35.1	32.5-39.7
1988/89..	40.0	20.3-27.8	50.8-69.5	76.3	42.1-48.5	55.2-63.6

[1] Source: table 4-14.
[2] Source: table 4-13.

Note.--Price data are shown on a crop year basis; the 1986/87 crop year, for example, begins on Aug. 1, 1986 and ends on July 31, 1987.

Source: U.S. International Trade Commission, except as noted.

CHAPTER 5. COTTON

Introduction

GENERAL

As the raw material for much of the textiles and fabrics used around the world, cotton is clearly an important commodity. Its markets support a global industry composed of farmers, ginners, spinners, weavers, and others involved in the several stages of transformation of a cotton harvest to usable fabrics.

Of the myriad products used as inputs or produced as outputs of the cotton industry, the products of immediate concern in this study are the three items directly affected by U.S. import quotas--raw cotton, cotton that has been carded or combed but not spun, and certain cotton waste. Raw cotton, the least processed cotton product (it is the cotton fibers, or lint, picked from the cottonseed), is carded and combed to clean the fibers, lay them parallel, and remove shorter fibers and waste. Carded and combed cotton that has not been spun is primarily in the form of sliver (loose, untwisted strands, usually the diameter of a broom handle) or roving (sliver that has been drawn to the approximate diameter of a pencil and given a slight twist). Neither sliver nor roving generally enter into commercial trade and virtually always are further processed into yarn at the mill in which they are produced.

The cotton wastes covered by this study are produced in the course of yarn production, and are called soft waste to distinguish them from the hard waste that is produced after the actual spinning process. Soft waste includes cotton comber waste, card strips, lap waste, sliver waste, and roving waste. While not all soft wastes can be recycled for spinning, these soft wastes are all spinnable. They are subject to import quotas because their capacity to be spun means they could be substituted for raw cotton in producing certain products and could therefore interfere with U.S. cotton support programs.

OVERVIEW OF THE WORLD COTTON MARKET

Cotton is grown on about 82 million acres of land in approximately 90 countries. The six leading producers--India, China, the United States, the Soviet Union, Pakistan, and Brazil--accounted for 77 percent of total acreage in 1989. In terms of production, the United States ranks second, behind China, producing 12 million bales[1], or one-sixth of the world's total of 80 million bales in 1989; China, with 20 million bales, accounts for one-quarter of global production. The United States leads the world in cotton exports, with over one-fourth of the world's total. Major foreign competitors in the export market include the Soviet Union (one-seventh of total exports),

[1] A bale weighs 480 pounds, net weight.

Pakistan (one-tenth), Australia (6 percent) and China (3 percent). The U.S. cotton industry depends on the export market for about half of its offtake; the leading markets for U.S. cotton exports are the Far East (Japan, Korea, Taiwan, Indonesia, and Thailand) and Europe (West Germany and Italy). Much of the world's trade in cotton is subject to restrictions such as the U.S. import quotas, and export controls in some major producing countries, while trade in textiles and other cotton products is subject to the import controls imposed under the authority of the Multifiber Arrangement.

The structure of the cotton industry varies considerably from country to country. In some, like China and the Soviet Union, the industry is Government-run, while in others, like the United States, it is privately operated. The level of technology, particularly in cotton harvesting, also varies widely, ranging from labor-intensive operations (as in the Soviet Union) to the most modern equipment (as in the United States). Foreign-grown cotton is generally similar to that grown in the United States, although some countries, mainly in Latin America, produce a short (less than 3/4 inch), coarse cotton, while some others, mainly in the Middle East, produce long, fine cotton fibers similar to American Pima.

Competitive Conditions in the U.S. Industry and Market

STRUCTURE OF THE FARMING SECTOR

Cotton is grown on about 40,000 farms across 14 States.[2] Because cotton requires a long growing season with high temperatures, the farming sector is located in the South, Southwest, and West. Texas, California, and Mississippi are the major producers, together accounting for about two-thirds of total U.S. production. Another fifth of the total is produced in Arizona, Louisiana, and Arkansas. American Pima cotton is grown mostly in New Mexico, California, and Texas. Farm size varies across these States, with the larger farms usually found in the West and the smaller farms located in the South and Southwest. The number of U.S. cotton farms has increased slightly since the early 1980's, while the average farm size (in acres) has declined, a reversal of the 1974-82 trend toward larger farms.

There were in the 1987/88 crop year about 1,650 cotton gins in the United States, down by about one-sixth from approximately 2,000 gins in the 1982/83 crop year.[3] More than half of these gins are located in three States,

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[2] Harold Stults, et al., Cotton: Background for 1990 Farm Legislation, Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture, Staff Report No. AGES 89-42, p. 6.

[3] Cotton and Wool Situation and Outlook Yearbook, Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture, August 1989, table 13, p. 29.

Texas, Mississippi, and California, and the rest are scattered across the various other cotton-growing States.

Trends in production

Annual U.S. cotton production has fluctuated between 8 and 16 million bales during the last decade (table 5-1). The rapid increase in production during 1986-88, up by 5.7 million bales, or nearly 60 percent, was caused by two forces, an increase in the harvested acreage relative to planted acreage, and an increase in yield per acre. These factors, planted and harvested acreage and yield per acre, along with stocks held in inventory, are the principal determinants of annual cotton supply. The amount of planted acreage is driven by economic forces (as well as Government policies, described below); expected prices, which in turn are influenced by stocks held at the beginning of the year and other variables, determine how many acres farmers will plant. The acreage actually harvested, as well as the yield per harvested acre, are primarily affected by natural forces, such as climate, weather, pest infestations, plant diseases, etc. The following tabulation of USDA data shows the variation in recent years in both the amount of planted acreage actually harvested and in the yield per acre, which help explain the upward trend in production through 1988, as well as the projected decline in 1989:

Crop year	Planted area	Harvested area	Yield per acre
	------thousands	of acres------	--pounds--
1986.....	10,045	8,468	552
1987.....	10,407	10,035	706
1988.....	12,510	11,943	619
1989[1].....	10,510	9,545	595

[1] Estimate.

Government farm-support programs are designed to help offset the various factors causing variations in cotton production (these programs are explained later in this chapter). Provisions in these programs influence both the planted acreage and the domestic price received by farmers; paradoxically, such programs can contribute to variations in production and in stocks, as when domestic support prices are set too high relative to prices in important export markets and, consequently, domestic stocks rise.

STRUCTURE OF THE PROCESSING SECTOR

The principal consumers of raw cotton are the spinning and weaving industries, which account for 85 percent of the U.S. market for raw cotton. The textile industry produces about three-quarters of the U.S. output of cotton yarn for its internal use mostly in weaving fabric; hence, this output

is generally referred to as "captive yarn production." The remaining quarter of domestic yarn output, known as "sales yarn," is produced by spinning firms primarily for marketing to the knitwear industry.

Industry size

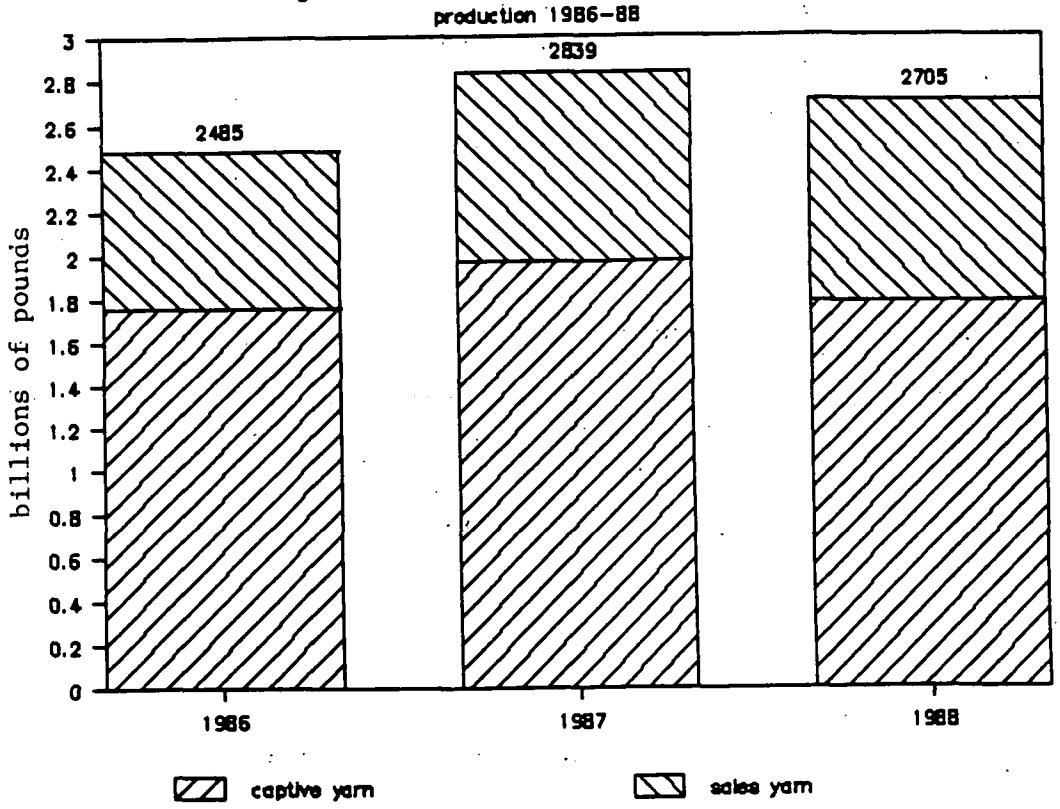
The cotton textile industry is concentrated in the Southeast States of North Carolina, South Carolina, and Georgia. In 1987, there were nearly 300 establishments in the cotton broadwoven fabric industry, plus more than 100 establishments primarily producing cotton yarn. Weaving is highly concentrated, with over 40 percent of the output produced by the four largest firms. Spinning is believed to be less concentrated, although no data on industry concentration are available.

Trends in production

Figure 5-1 (using data from the U.S. Department of Commerce) shows total production of cotton spun yarn during 1986-88.

The increase in total yarn production in 1987 and 1988 over 1986 can probably be attributed to a shift in consumer preferences toward natural fibers, particularly in knitwear, where sales yarn production grew by more than 25 percent during 1986-88.

Fig. 5-1. Cotton spun yarn



Cotton yarn and fabric production is influenced by many factors, including consumer demand for cotton products and other fashion trends, and the competitiveness of U.S. products in relation to imports. Consumer demand is shaped by price, quality, and service, and imports provide strong competition with domestic products, particularly in price. Increased labor productivity has enabled domestic producers to maintain price levels close to those of imported products; the domestic industry also competes with imports through service, such as short lead-times, and quality.

Employment

Employment in the spinning and weaving industries declined by about 6 percent, from 124,000 to 117,000, between 1986 and 1988, a result partly of technological developments in yarn manufacturing. In modern U.S. mills, technological improvements have largely eliminated manual handling, from bale opening through carding sliver. Open-end spinning equipment, which operates at much higher speeds than standard ring spinning, has been installed for coarse and medium count yarns, allowing for both the elimination of the roving process and the rewinding of small yarn packages. Advances in weaving have similarly increased labor productivity. According to the International Textile Manufacturers Federation, U.S. labor costs as a share of total manufacturing costs for spun yarn declined from 36 to 17 percent during 1985-89, and for weaving, from 40 to 25 percent.

Exports

As noted, the export market is a valuable one for U.S. producers of raw cotton, absorbing anywhere from two-fifths to two-thirds of the industry's domestic production in recent years:

	1986	1987	1988	1989
Quantity (million bales).....	6.7	6.6	6.3	7.8
Share of production (percent)..	69	45	41	66

Major markets for U.S. exports of raw cotton include Japan, Korea, and Taiwan, which together account for 50 to 60 percent of the total. Exports of cotton waste and other cotton products examined in this study are relatively small ($6 million in 1988), and are destined for the most part for Canada, the United Kingdom, and Mexico.

Total U.S. exports of cotton yarn increased by 62 percent, to $22 million, between 1986 and 1988, although this was more than offset by a decline in exports of cotton fabric of 9 percent, to $259 million, during the same period. Major export markets for cotton yarn are Canada and Mexico; for cotton fabric they are Canada and the United Kingdom.

GOVERNMENT PROGRAMS AND POLICIES

Cotton import quotas

All imports of cotton except harsh or rough cotton having a staple length under 28.575 mm (3/4 inch) are subject to quota limitations pursuant to section 22 of the Agricultural Adjustment Act. Under the same authority, imports of card strips from cotton having a staple length of 1-3/16 inches or more, cotton comber waste, lap waste, sliver waste, roving waste, and cotton that has been processed but not spun are also subject to quotas. These quotas were established to prevent imports from interfering with the operations of the U.S. Department of Agriculture (USDA) price-support programs for cotton.

The annual quotas for raw cotton are applicable to cotton in accordance with the staple length of the cotton fibers. These quotas are as follows (in kilograms:

Description	Quota
Cotton having a staple length under 28.575 mm (1-1/8 inches) in length, except harsh or rough cotton having a staple length under 19.05 mm (3/4 inch)	6,584,428
Harsh or rough cotton white in color and having a staple length 29.36875 mm (1-5/32 inches) or more but under 34.925 mm (1-3/8 inches)	680,388
Other cotton having a staple length 28.575 mm (1-1/8 inches) or more but under 34.935 mm (1-3/8 inches)	2,070,940
Cotton having a staple length 34.925 mm (1-3/8 inches) or more	17,958,074

The quota amount shown for the first item, raw cotton under 28.575 mm in length, is the sum of 19 country-specific quotas. Of these, the quota for Mexico of 4,029,378 kilograms accounts for 61 percent of the total. Other sources with notable shares are India and Pakistan together, with 14 percent; China, with 9 percent; Egypt and Sudan together, with 5 percent; Brazil, with 4 percent; the Soviet Union, with 3 percent; and Peru, with 2 percent. The remaining one percent of the quota is divided among Argentina, Haiti, Ecuador, Honduras, Paraguay, Colombia, Iraq, British East Africa, Indonesia and Netherlands New Guinea together, British West Indies (except Barbados, Bermuda, Jamaica, Trinidad and Tobago), Nigeria, and British West Africa

(except Nigeria and Ghana). For all other sources, including the United States, the quota is "None."[4]

In addition to the above restrictions, imports of most spinnable cotton waste, including card strips, comber waste, lap waste, sliver waste, and roving waste, have been limited by country-specific quotas since September 20, 1939. The total annual quota is 2,486,819 kilograms (5,482,509 pounds). Within this total, a minimum quota of 1,451,392 kilograms (3,199,770 pounds) is reserved for certain cotton comber waste that results from the processing of cotton that has a staple length of 1-3/16 inches or more. The unreserved quota totalling 1,035,427 kilograms (2,282,739 pounds) can be filled on the country-specific basis by imports of any of the specified types of cotton waste including the comber waste covered by the reserve quota.

The reserve quota for cotton comber waste is divided among seven countries with the United Kingdom having 1,307,392 kilograms, or 90 percent of the total.[5] France, the Netherlands, Switzerland, Belgium, Germany, and Italy each have an allocation of the remainder, none exceeding 5 percent of the total. The unreserved quota is divided among 13 countries.[6] The United

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[4] Imports from the United States are given no quota to prevent arbitrage, i.e., the reimportation of U.S.-produced cotton that had previously been exported at more favorable prices.

[5] The annual reserve quota for each country is shown in the following tabulation (in kilograms):

Source	Quota amount
United Kingdom...	1,307,392
France.....	68,770
Netherlands.....	20,636
Switzerland.....	13,423
Belgium.....	11,660
Germany.....	23,082
Italy.....	6,429

[6] The individual country amounts are shown in the following tabulation (in kilograms):

Source	Quota amount
United Kingdom...	653,695
Canada.....	108,721
France.....	34,385
India and Pakistan.....	31,582
Netherlands.....	10,317
Switzerland.....	6,711
Belgium.....	5,830
Japan.....	154,917

(continued...)

Kingdom again has the largest quota allocation of 653,695 kilograms, or 63 percent. Of the remainder, Japan and Canada have the next largest shares of 15 percent and 11 percent, respectively. France, India and Pakistan together, the Netherlands, Switzerland, Belgium, China, Egypt, Cuba, Germany, and Italy share the remaining unreserved quota, with none having more than 4 percent of the total.

A quota for cotton fibers that have been processed but not spun (primarily covering card laps, sliver, and roving) was established in September 1961. This global quota is 453 kilograms (1,000 pounds) annually.

The quota year for raw cotton under 28.575 mm (1-1/8 inches) and for cotton waste begins on September 20, the date established by the initial proclamation in 1939. The quota year for all other raw cotton coincides with the cotton crop year, beginning on August 1, and the quota year for the processed cotton begins on September 11. The quota years for raw cotton differ because the quotas for the longer length were at times suspended or modified. When the quotas were instituted in 1956, the authorizing legislation directed that the quota year conform with marketing practices, thus effecting the August 1 starting date.

Domestic price-support and production adjustment[7]

Since the 1930's, Government programs have attempted to support cotton prices and adjust acreage to insure adequate income to farmers and adequate and steady supply of cotton to meet market needs. Under normal market conditions, cotton comber waste and the other cotton wastes are not directly covered by the cotton support program.

Farmers are assured a certain minimum price through nonrecourse loans and several types of direct payments. Farmers may receive loans from the Commodity Credit Corporation (CCC) at the beginning of the planting season to cover costs of planting, cultivating, and harvesting the crop. Direct payments can be made under provisions covering target prices and acreage diversion. Because of the differing market conditions for upland cotton and for extra-long-staple (ELS) cotton, the Government has separate program

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[6](...continued)

China.....	7,857
Egypt.....	3,689
Cuba.....	2,968
Germany.....	11,540
Italy.....	3,215

[7] Information for this section is principally from Economic Research Service, USDA, Cotton, Background for 1990 Farm Legislation; and Agricultural Stabilization and Conservation Service, USDA, "ASCS Commodity Fact Sheets, Upland Cotton and Extra Long Staple Cotton," June 1989.

provisions for each of these types of cotton. A farmer may receive benefits under more than one provision of the program. The program for upland cotton accounts for about 98 percent of annual U.S. cotton production.

The following definitions apply to the main provisions of the USDA cotton program during recent years:

Acreage reduction program (ARP).--This is a land retirement system in which farmers idle a portion of their base acreage of certain crops, including upland and ELS cotton. The base is the average of both the acreage planted for harvest and that considered to be planted for harvest during a specified preceding period. The latter includes any acreage not planted because of acreage reduction and diversion programs. Farmers are not given a direct payment for ARP participation, although they must participate to be eligible for benefits such as CCC loans and deficiency payments. Participating producers are sometimes offered the option of idling additional land under a paid diversion program, which gives them a specific payment for each idled acre.

Offsetting compliance.--This condition concerns program requirements when a farmer grows a subject crop on more than one farm. When an offsetting compliance program is in effect, a producer participating in a diversion or acreage reduction program on one farm must not offset that reduction by overplanting the acreage base for that crop on another farm.

Cross compliance.--This condition concerns program requirements when a farmer grows more than one subject crop on a single farm. When a full cross-compliance program is in effect, a producer participating in one commodity program (for either wheat, feed grains, cotton, or rice) on a farm must also participate on that farm in all aspects of the other applicable commodity programs. When a limited cross-compliance program is in effect, a producer participating in one commodity program only must not plant in excess of the crop acreage base on that farm for any of the other program commodities for which an acreage reduction program is in effect.

Target price.--The target price is established yearly to be used as the basis for determining deficiency payments. Deficiency payments are a direct Government payment to participating producers if average prices received by farmers fall below the specified target price levels during the calendar year. Payment rates cannot exceed the difference between target prices and the CCC loan rate.

Nonrecourse loan.--A loan received by a farm from the CCC at the beginning of the growing season to cover costs of planting, cultivating, and harvesting the crop. Loans under the cotton

program are nonrecourse loans. To repay a nonrecourse loan, the farmer may pay back the full amount of the loan or alternatively deliver the cotton subject to the loan to the CCC. Such delivery constitutes full payment of the loan regardless of the current market value of the cotton.

Marketing loan.--The marketing loan provides a loan repayment plan if the loan rate is not competitive on world markets. If the world price of cotton, as determined by the Secretary of Agriculture, is below the loan rate, a loan repayment plan must be implemented. The Secretary chooses one of two alternative "market enhancement" plans for repayment of the loans. Under Plan A, the Secretary can lower the producer repayment rate by up to 20 percent, thus allowing farmers to redeem their crops and sell them at a more competitive price. Under Plan A, the repayment level must be announced at the same time the Secretary announces the loan rate (by November 1) and cannot thereafter be changed. Under Plan B, repayment rates would vary periodically during the year to keep pace with world markets. The enabling legislation provides that for the 1987-90 crops, if the world price, adjusted to U.S. quality and location (adjusted world price), is below 80 percent of the basic loan rate, the Secretary may set a loan repayment level at any level between the adjusted world price (AWP) and 80 percent of the loan rate. Plan A was chosen for the 1986 crop, with a loan repayment rate equal to 80 percent of the basic loan rate for each quality of cotton. Plan B was selected for the 1987-90 crops, although no payments were made under this plan because the AWP was above the loan rate during this period.

The concept of the marketing loan was an attempt to retain the basic cotton loan program, yet keep U.S. cotton competitive in world markets. Under this program, the USDA each week calculates and publishes an AWP. The AWP is the prevailing world market price of cotton adjusted to U.S. base quality and location. The procedure for establishing the weekly AWP is based on a specified formula developed by the USDA. Congress gave the Secretary of Agriculture discretionary authority to develop and modify this formula as deemed necessary to keep U.S. cotton competitive in world markets.

Upland cotton program for the 1989/90 crop year

To be eligible for target price protection payments and loans for the 1989/90 upland cotton crop, farmers must participate in a 25-percent acreage reduction program (acreage planted for harvest on a farm must be 25 percent below that farm's acreage base, the average of acres planted during the previous five years). In addition, a number of acres equal to one third of the planted acres must be devoted to approved conservation uses. Farmers who produce upland cotton on land in excess of the permitted acreage for a particular farm are ineligible for loans and payments on that farm. Cross-

compliance requirements are also be in effect for the 1989/90 crop. Offsetting compliance requirements do not apply for this crop year.

The 1989/90 loan rate is 50.0 cents per pound for strict low middling, 1-1/16 inch cotton. This grade and staple length is used as the basis for establishing loan rates. Higher qualities receive loan premiums and generally higher market prices and lower qualities receive lower loan rates and lower prices. Cotton quality is based on characteristics that affect processing performance and the quality of the various end products. The seven most important factors used to judge cotton quality are fiber length, length uniformity, strength, fineness, maturity, color, and trash content. The loan period is 10 months, but this may be extended during the tenth month for another 8 months whenever the spot market price is 130 percent or less of the average for the previous 36 months. The Secretary of Agriculture will determine weekly the AWP that will be used, if necessary, to adjust the loan repayment rate. During a week in which the AWP is lower than the 50.0-cent-per-pound loan rate, cotton producers may repay the 1989/90 upland cotton loans at the AWP in effect for that week. Eligible producers who do not receive CCC loans may receive deficiency payments for cotton sold, representing the difference between the higher of the average farm price or loan rate and the target price. The target price for 1989/90 is 73.4 cents per pound. Table 1 shows data related to the upland cotton farm program for 1980/81-1989/90.

ELS cotton program for the 1989/90 crop year

Farmers producing ELS cotton must participate in the acreage reduction program to be eligible for target price protection and price support loans for the 1989/90 crop. To participate, farmers must reduce their acreage by at least 5 percent of their acreage base. This base is the average acreage planted to ELS cotton during 1985-87. Additionally, a number of acres equal to 5.26 percent of the planted acres must be devoted to approved conservation uses. ELS cotton is exempt from cross-compliance requirements, so farmers operating more than one farm are not required to participate on all farms.

The loan level for ELS cotton for 1989/90 is 81.77 cents per pound and the target price is 96.70 cents per pound. The term of the loan is 10 months, and the loan may be extended for 8 months during the tenth month of the loan. If the average market price received by farmers during the first 8 months of the 1989/90 crop year is below the target price of 96.7 cents per pound, eligible producers will receive deficiency payments. These payments will be equal to the difference between the target price and the higher of the loan level or average market price. Table 5-2 shows data related to the ELS cotton farm program for 1980/81-1989/90. In recent years, particularly since the 1985/86 crop, U.S. production of ELS cotton has increased significantly, from 155,000 bales to an estimated 636,000 bales in 1989/90. This increased production has been largely for the export market as traditional suppliers to this market such as Egypt and the Sudan have been unable to meet demand.

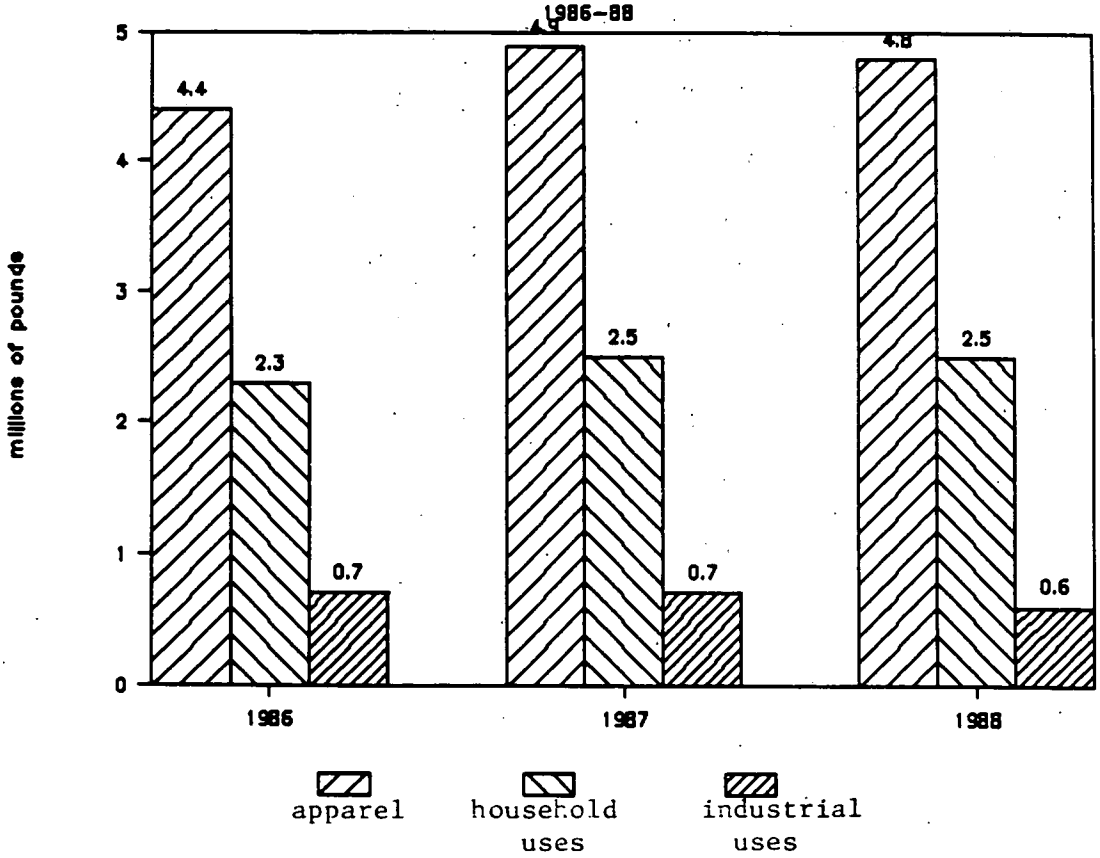
Payment limitations are imposed for participants in Government farm programs, including the upland and ELS cotton programs. The total of deficiency and diversion payments under the wheat, feed grain, cotton, and rice programs is limited to $50,000 per person. In addition, combined payments, including disaster payments, loan repayment gains, loan deficiency payments, inventory reduction payments, compensation for resource adjustment or public access for recreation, and diversion and deficiency payments, are limited to $250,000 per person.

THE U.S. COTTON MARKET

Market profile

The U.S. textile mill industry uses about 85 percent of U.S. cotton consumption to produce yarns and fabrics, as discussed in the previous section of this chapter. The remainder is used in a variety of products including wadding, batting, and medical, hygiene, and beauty products such as surgical sponges, absorbent pads, diapers, sanitary napkins, swabs, and cosmetic puffs. The yarns and fabrics produced by the textile mills are in turn used to produce end use products. The amount of cotton consumed in the manufacture of textile products in the United States by end uses for 1986-88, as reported by the National Cotton Council, is shown in figure 5-2.

Fig. 5-2. U.S. cotton consumption



U.S. consumption of cotton in manufacturing increased from 7.4 million bales in 1986 to 7.9 million bales in 1988, as a result of the increasing consumer demand for products containing cotton, as shown by the increase in cotton in apparel and household uses, compared with the slight decline in industrial use of cotton.

Price levels and trends

A standard price for fibers consumed in U.S. mills is called the group B mill prices. This can be used to compare relative prices of all fibers delivered to mills in the Southeastern States. Group B cotton prices during 1986-88, increased from 60.99 cents per pound in 1986 to 72.71 cents in 1987 and declined to 69.00 cents in 1988. The ten-year average price during 1979-88 was 72.77, and it ranged from 87.98 cents in 1980 to the 60.99 recorded in 1986. These shifts in prices primarily reflect changes in overall U.S. cotton supply for the crop year beginning in August of the preceding calendar year. Changes in demand tend to have been less significant than changes is supply and also have a smaller impact on overall cotton prices.

Imports

Most imports of cotton are subject to quota limitations under section 22 of the Agricultural Adjustment Act. During 1986-89, imports did not exceed 3,000 bales annually. During 1979-88 cotton imports averaged 25,500 bales annually. The relatively low imports during 1986-88 occurred because global cotton prices were close to U.S. prices whereas in some years during the 10-year period, world prices were lower than U.S. prices, making imports more competitive. Imports of the other products included in this chapter amounted to $139,000 in 1986, $158,000 in 1987, and $241,000 in 1988. No countries are significant sources of these imports.

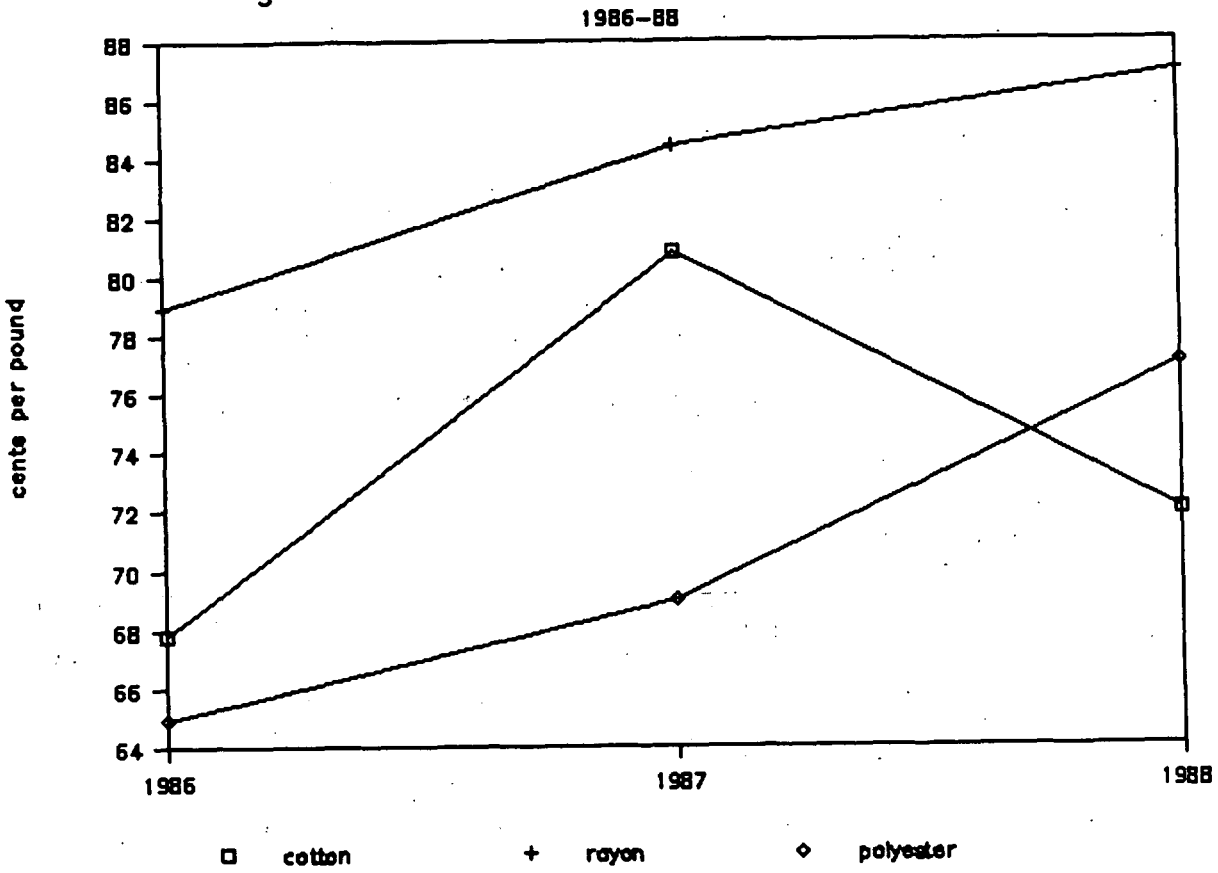
U.S. imports of cotton yarn and fabric have an indirect but substantial impact on the U.S. cotton market. Such imports totaled $1 billion in 1988, of which fabric accounted for 98 percent. Domestically produced yarn and fabric compete not only against imported yarn and fabric but against imported apparel, since the apparel industry is the principal consumer of yarn and fabric. Trade in textile products is regulated by the Multifiber Arrangement, a program under the aegis of the General Agreement on Tariffs and Trade, under which bilateral agreements are made to limit trade in textiles and apparel. Thirteen of the 15 leading suppliers of U.S. imports of cotton fabric and 11 of the top 15 yarn suppliers faced U.S. import quotas in 1988.

Factors influencing demand

The primary factor influencing demand for cotton in the U.S. market is the relative prices of competing fibers at textile mills. Rayon and polyester staple fibers are the fibers most substitutable for cotton in U.S. mills. To

facilitate comparisons group B prices for these fibers are calculated at the raw fiber equivalent, to compensate for the higher waste of cotton. These equivalent prices for 1986-88 are illustrated in figure 5-3.

Fig. 5-3. Prices of competing fibers



Marketing Systems

The marketing of cotton begins when the cotton is moved from the field to the gin, and continues through warehousing, selling, and delivery to the purchaser. No one standard marketing flow exists for U.S. cotton, but it all passes through the same essential steps.

Cotton is transferred from the field to the gin by truck. Usually the grower is responsible for this, but in some areas gins offer this service. At the gin, six processes are used to clean the cotton and prepare it for market. First the cotton is dried to increase the ginning efficiency. Dried cotton gives up more foreign matter and the ginned lint is smoother. Next the cotton is cleaned to remove burs, sticks, grass, stems, dirt, and sand. This improves the grade of the cotton, and thus increases its value. The extraction step follows. There the cotton is subjected to a machine similar to a card in a yarn mill, and smaller bits of trash are removed. Next the actual "ginning" takes place and the cotton fibers, or lint, are separated from the cottonseed. The lint next goes to lint cleaners that remove any

remaining leaf trash, motes, stems, and grass. Though this step reduces the volume of the cotton by about 10 percent, it improves the quality and thus the price. Ideally, the weight loss will be offset by the increase in price. Last, the cotton lint is compressed into a bale, covered with jute or polypropylene wrapping, and secured with metal ties.

The standard weight for a bale of U.S. cotton is 480 pounds net weight. To produce this amount of cotton lint, about 1,800 pounds of harvested cotton are required. In addition to the bale of lint, this yields approximately 520 pounds of trash, 20 pounds of motes, 70 pounds of linters, and 710 pounds of cottonseed.

After ginning, the bales of cotton are transported to warehouses at which several crucial functions are performed. Upon arriving at the warehouse, the cotton bales are received for storage. Each bale is weighed, tagged, and sampled. (Sampling involves cutting into the bale and removing a sample of lint for use in determining the quality and other physical characteristics of the cotton.) After the sample is tagged, a negotiable warehouse receipt is issued for the cotton bale. The sample and receipt are sent to the owner of the cotton or, to a USDA classing office, a broker or merchant, or elsewhere. The negotiable warehouse receipt serves as proof of ownership of the cotton and as representing the actual bale described thereon.

If needed, the warehouse will compress the bale to what is called "universal density"; this is equal to 28 pounds per cubic foot, and is the standard accepted for domestic and foreign shipping. This is not necessary when the bale was compressed to this density at the gin or if it is known that the cotton will be shipped to a nearby mill. As its name implies, storage is the chief function of the warehouse. The tagged and compressed bales are stacked for storage until the warehouse receives a request for shipping. When it receives a shipping request, the warehouse removes the designated bales from storage, arranges them in lots as requested, and loads them onto the truck or rail car for shipping.

Before a bale of cotton can be sold, the sample that was drawn at the warehouse must be sent to the USDA classing office to be graded and to measure the staple length of the fibers in order to determine the value of the cotton and to identify the particular characteristics of the cotton in that bale. U.S. upland cotton is classified into 44 grades, and Pima into 10 grades. Grade is determined by trash content, color, and preparation, or smoothness to the lint as a result of the ginning process. Trash refers to the quantity and type of foreign matter in the cotton lint. Trash can include pieces of stems, leaf, dirt, and grass or oil, bagging and twine introduced during harvesting and subsequent handling. Cotton is normally white, but may become spotted or various shades of yellow or gray with age and exposure to weather. The amount of color deterioration affects the cotton's grade. Preparation of the cotton lint is judges by the size and amount of tangles of fibers referred to as naps and neps. Naps are large masses of fibers that generally result from ginning wet cotton, and neps are smaller clusters of fibers that look like small dots in the lint.

The staple length for a bale of cotton is the predominant length of the fibers. The USDA has established 31 official standards for staple length ranging from under 13/16 inch to over 1-3/4 inches. The length is measured in 1/32 inch increments. Within this range of staple lengths, cotton is grouped into four categories. Short staple, refers to cotton under 1 inch in length, medium staple to cotton 1 inch to 1-1/4 inches, ordinary long staple (OLS) to cotton 1-1/4 to 1-3/8 inches, and extra long staple (ELS) or Pima to cotton over 1-3/8 inch.

The classing office also determines other characteristics of the lint including fineness, maturity, strength, length uniformity, elongation (how much the fiber can be stretched), stickiness, nep count, and moisture content. The results of the classing are recorded on a card that is sent to the producer, the gin, or other authorized person.

The actual selling of the cotton can be done in one of several ways. Most directly, the grower can sell it directly to a mill or other user. Merchant-shippers or marketing cooperatives handle most U.S. cotton. They usually take title to the cotton from the farmer and are responsible for it until it is delivered to the domestic or foreign mill. These organizations usually never see the actual bales of cotton as sales transactions are handled based on the information on the warehouse receipt and the classing card.

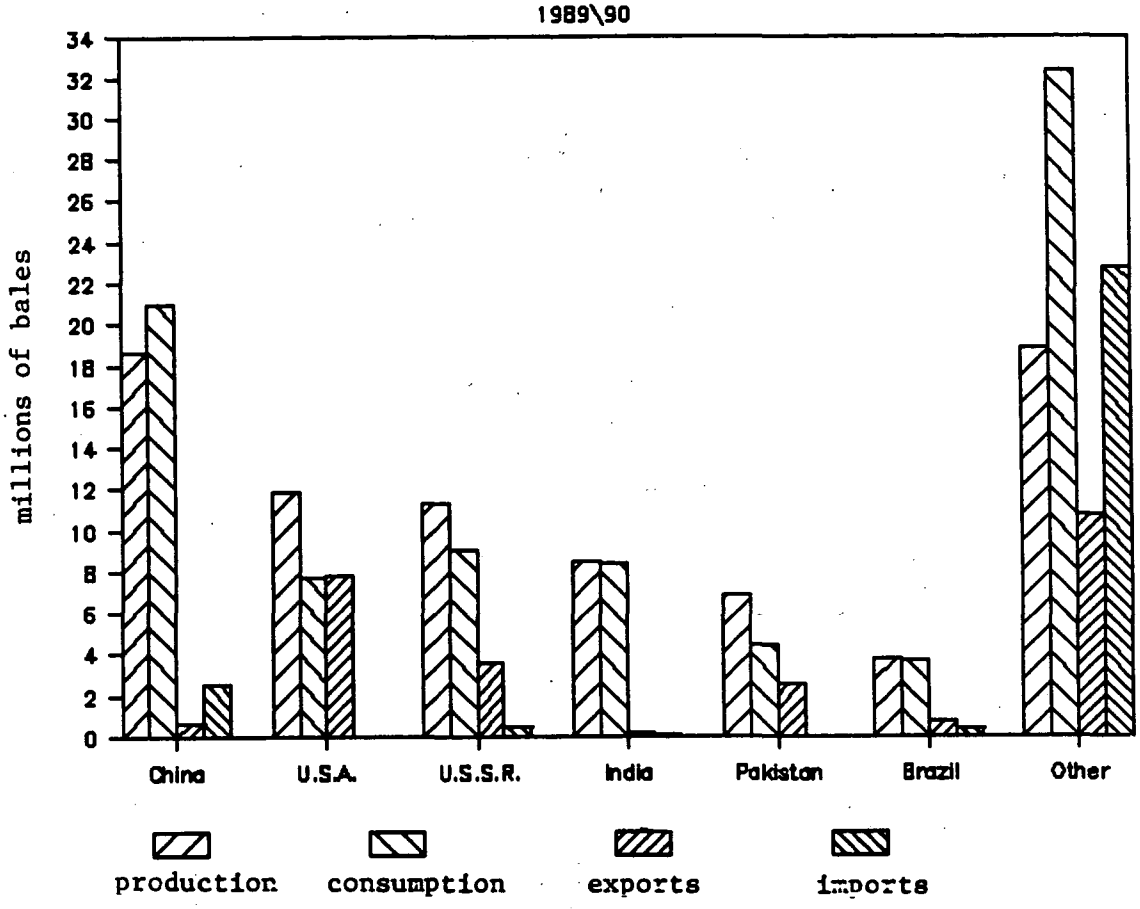
Competitive Conditions in Foreign Cotton Industries

FARMING

Leading foreign producers and exporters

Each of the world's leading producers of cotton, including the United States, restricts cotton imports, allowing them only to offset shortfalls in domestic production. Imports are permitted only to supplement domestic production, and in many countries exports are also controlled to ensure adequate cotton supply for the domestic textile industry. As a result, all but one of the leading producers consume most of their production internally. The United States is the main exception, annually exporting approximately 50 percent of its production. Data for world cotton production, consumption, exports, and imports during the most recent crop year, 1989/90, are presented in figure 5-4 (using data from Cotton: World Statistics (October 1989), International Cotton Advisory Committee).

Fig. 5–4. World cotton



Note.--Data do not account for stocks which, on a global basis, account for about 30 to 35 percent of annual production.

Trends in production and trade

Annual production of cotton in any one of the leading producing countries is dependent on several factors. In all countries, the Government is involved to varying degrees in influencing the level of cotton production. Internal demand for cotton both for direct domestic consumption and to produce textile products and apparel for export are factors influencing a country's production of cotton. Another factor affecting cotton production is competition with other crops. The effects of weather during the growing season can also significantly affect a country's cotton production for a specific year. Production of cotton by the leading sources and the world

total for the crop years 1986/87-1989/90 are shown in the following tabulation (in thousands of bales):

Country	1986/87	1987/88	1988/89	1989/90
China.....	16,261	19,500	19,093	18,649
United States...	9,731	14,760	15,412	11,834
Soviet Union....	12,217	11,331	13,517	11,300
India.....	7,418	7,105	8,120	8,484
Pakistan.....	6,059	6,686	6,405	6,900
Brazil.....	2,909	3,968	3,244	3,780
Other.....	15,827	17,865	19,038	18,778
World.....	70,422	81,215	84,829	79,725

Demand by the global cotton market is important in determining production levels for those producing countries for which cotton exports are significant. Although the leading producers of cotton are also the leading consumers of cotton, most are also the leading exporters. Exports of the leading producers of cotton and for the world in 1986/87-1989/90 are shown in the following tabulation (in thousands of bales):

Country	1986/87	1987/88	1988/89	1989/90
China.....	3,169	2,322	1,550	700
United States...	6,684	6,582	6,250	7,800
Soviet Union....	2,419	3,458	3,800	3,600
India.....	1,222	309	150	156
Pakistan.....	2,893	2,535	3,700	2,500
Brazil.....	304	595	150	760
Other.....	10,019	8,000	10,400	10,706
World.....	26,710	23,801	26,000	26,222

In addition to the countries in the preceding tabulation, Australia is a major exporter of cotton, accounting for 1.5 million bales in 1989/90. Australia's production of cotton that year also was 1.5 million bales, and its recent annual consumption has been about 100,000 bales.

A large share of these exports go to a second tier of cotton-consuming countries that are entirely dependent on imports. These countries are Japan, Korea, Taiwan, Italy, Thailand, and Hong Kong; together these six countries imported 11 million bales of cotton during 1989/90, or 42 percent of world exports.

PROCESSING

The world's leading consumers of cotton are also the major producers. These countries, however, strictly limit imports of cotton and therefore are not as significant in terms of global trade as the second tier of consuming countries, Japan, Korea, and Taiwan, who import virtually all of their cotton. Japan accounted for approximately 14 percent of world imports of raw cotton in crop year 1988/89, Korea accounted for 8 percent, and Taiwan, 7 percent.

Production costs in the cotton spinning sector in recent years have been higher in Japan than those in Korea or the United States. The total cost of producing one kilogram of cotton yarn in 1989 in Japan was $3.04, compared with $2.60 to produce the same yarn in the United States, and $2.46 in Korea. Raw cotton constituted the largest share of the production costs, accounting for 49 percent of total costs in Japan, 51 percent in the United States, and 61 percent in Korea. The cost of cotton per kilogram of yarn produced was lowest in the United States at $1.33, compared with $1.50 in Japan and $1.49 in Korea. Unlike the United States, Japan and Korea import virtually all of their cotton. Capital costs, including interest and depreciation, accounted for the next largest share of total costs, at 23 percent for Japan, 24 percent in the United States and 22 percent for Korea. Labor accounted for 16 percent of total costs in Japan, and 17 percent in the United States, compared with only 6 percent in Korea. [8] Similar data are not available for Taiwan. However, Taiwan's production costs are believed by U.S. industry sources to be slightly higher than those of Korea.

Labor costs account for a larger share of total production costs in downstream products, such as fabric, and particularly apparel and other made-up goods. Production and trade in these downstream products affect the competitiveness of the spinning industry, since cotton yarn is used to manufacture fabric and made up articles. Hourly compensation costs in the apparel industry in Korea and Taiwan in 1988 were $1.62 and $2.09, respectively, compared with hourly rates of $6.49 in Japan and $7.75 in the United States.[9]

Japan

Japan's spinning industry consists of a few very large companies and many small companies. The textile industry is linked through a series of subcontracting arrangements, whereby a large company, such as a spinner, or a trading company, commissions various steps in the production process through

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[8] 1987 Production Cost Comparison, International Textile Manufacturers Federation, 1987, p. 16.

[9] Bureau of Labor Statistics, August 1989.

smaller firms. In 1984, there were 932 establishments in the entire spinning industry in Japan.[10] Cotton yarn accounted for 35 percent of total spun yarn production in 1984, in terms of quantity, and this ratio increased to 40 percent by 1988.[11] Employment in the spinning industry totaled 59,667 people in 1988, down considerably from 71,942 in 1986.[12]

Japan has had official government programs assisting the development of the textile industry since the 1950's. The government provides planning and financial assistance to small and medium-sized firms to make the industry more efficient through improved technology and increased vertical cooperation within the industry.[13]

The spinning industry, like the rest of the textile industry in Japan, has been upgrading its production to higher-valued products. As a result, cotton yarn spinners have been shifting their production from carded yarn into combed yarn, particularly fine-count combed yarn, which requires long staple and relatively high quality cotton. Over 90 percent of the cotton yarn produced in Japan is wholly of cotton, rather than blends.

Production of cotton yarn totaled an estimated 1 billion pounds in 1988, up 4 percent from 1986 levels.[14] Exports of cotton yarn were small, relative to domestic production during 1986-88. In 1988, exports totaled 8 million pounds, accounting for less than 1 percent of domestic production. The top export market for cotton yarn in 1988 was Hong Kong, accounting for 60 percent of total cotton yarn exports. Exports of downstream cotton products were considerably larger. Cotton fabric exports totaled 122 million pounds. The top three markets for these exports were Hong Kong (27 percent), the United States (12 percent), and Singapore (8 percent).

The high value of the yen relative to the dollar and other major currencies has made Japan's textile products less competitive abroad. In addition, imports of yarn and other textile products into Japan have increased from low-cost neighboring Asian countries. These factors, combined with higher production costs, reportedly have resulted in lower profits for the industry in 1985 and 1986.[15] The increased demand for natural fibers however, combined with the production of higher-valued goods, has helped the cotton

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[10] U.S. Global Competitiveness: The U.S. Textile Industry, The U.S. International Trade Commission, chapter 7, p.3.
[11] "Situation and Prospects in the Main Industrialized Countries," Comitextil, 89/1-2, p. 153.
[12] Ibid. p. 161.
[13] U.S. Global Competitiveness: The U.S. Textile Industry, chapter 7, pp. 12-14.
[14] World Cotton Statistics, The International Cotton Advisory Committee.

[15] The U.S. International Trade Commission, U.S. Global Competitiveness: The U.S. Textile Industry, p. 7-5.

textile industry in Japan to remain competitive at the higher end of the market.

Korea

The spinning industry in Korea is smaller and less sophisticated than that of Japan. Since 1960, the Government of Korea has been instrumental in the development of the textile industry. In 1986, the Government instituted a policy that designated certain industries, including the weaving industry, for rationalization. The program aimed at reducing the total number of textile firms, and the modernization of equipment and facilities, with the help of low interest, long-term loans. [16]

Higher labor costs, combined with the appreciation of the Korean won, and increased competition from neighboring low-cost textile suppliers, has forced the Korean textile industry to move into higher valued products. From 1987 to 1988, labor costs in Korean won have increased by 23 percent.[17] In order to compete against lower cost producers, many cotton spinners are upgrading their product by moving from carded to combed yarns, mostly of medium counts. In general, the yarn is used in products sold at intermediate price points, compared with yarn produced in Japan, which is aimed at the top end of the market.

Despite rising costs and increased foreign competition, the industry appears to be growing. There were 113,000 people employed by the entire spinning sector in 1987, up from 104,000 in 1985.[18] Cotton yarn production increased by about 11 percent from 1986 to an estimated 1.3 billion pounds in 1988. [19]

Korea's exports of cotton yarn increased by 9 percent from 1986 to 156 million pounds in 1987. Jamaica was the largest export market, accounting for about one-half of Korea's total cotton yarn exports, followed by Canada at 30 percent. Korea's cotton fabric exports were at about the same level in 1986 and 1987 at 51 million pounds.

Taiwan

There were 198 establishments engaged in spinning in Taiwan in 1986.[20] Cotton yarn accounted for less than one-third of total yarn production in

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[16] The Asian Textile Outlook 1988, Japan Textile News, 1987, p.42.
[17] U.S. Bureau of Labor Statistics, August 1989.
[18] "Annual Korean Textile Industry Report," United States Embassy, Seoul, Korea, December 19, 1988, p. 23 and December 17, 1987, p. 20.
[19] World Cotton Statistics, The International Cotton Advisory Committee.

[20] "Cotton Spinning," Taiwan Textile Industry Survey Report, 1986.

1986. In addition, a large share of cotton yarn production is cotton/manmade-fiber blends. Employment in the cotton textile sector, including spinning and weaving, was 52,766 persons in 1988, down 8 percent from the 1986 level.[21]

Production of cotton yarn increased by 19 percent from 1986 to 932 million pounds in 1988. The increase was largely attributable to an increase in demand for cotton products at the retail level. In terms of value, production of all textile mill products, excluding manmade fibers, decreased by 7 percent to $8.9 billion. [22]

The spinning and weaving industries have invested heavily in new technology to increase productivity and to cut costs. Taiwan's textile industry has been under considerable pressure from lower-cost suppliers, such as Thailand and Malaysia. Rising labor costs and the appreciation of the NT dollar have particularly cut into the industry's competitiveness vis a vis foreign suppliers.

Despite an increase in production costs, Taiwan's exports of cotton yarn totaled 37.3 million pounds in 1987, up by 67 percent from 1986. Hong Kong was the largest market, accounting for 54 percent of Taiwan's cotton yarn exports, followed by Japan (11 percent), and Canada (10 percent).

Competitive Conditions in Foreign Markets

The world's leading producers of cotton are also the leading consumers. All of these countries strictly limit or prohibit imports of cotton except when needed to supplement domestic production. As a result of these protected markets, the global market for cotton in terms of actual trade is primarily the second tier of consuming countries that are essentially wholly dependent on imports to meet their needs. Demand for cotton in these markets is dependent primarily on demand for downstream textile products and apparel containing cotton. Consumption of cotton by the leading cotton-importing countries during 1986-89 is shown in figure 5-5.

Factors Affecting Competition in U.S. and Foreign Markets

The leading world producers of cotton restrict or prohibit imports, essentially only allowing imports when needed to supplement domestic production. Additionally, many of the leading producers of cotton have restrictions controlling cotton exports. These controls are intended to ensure adequate supplies of cotton for the domestic textile industries in

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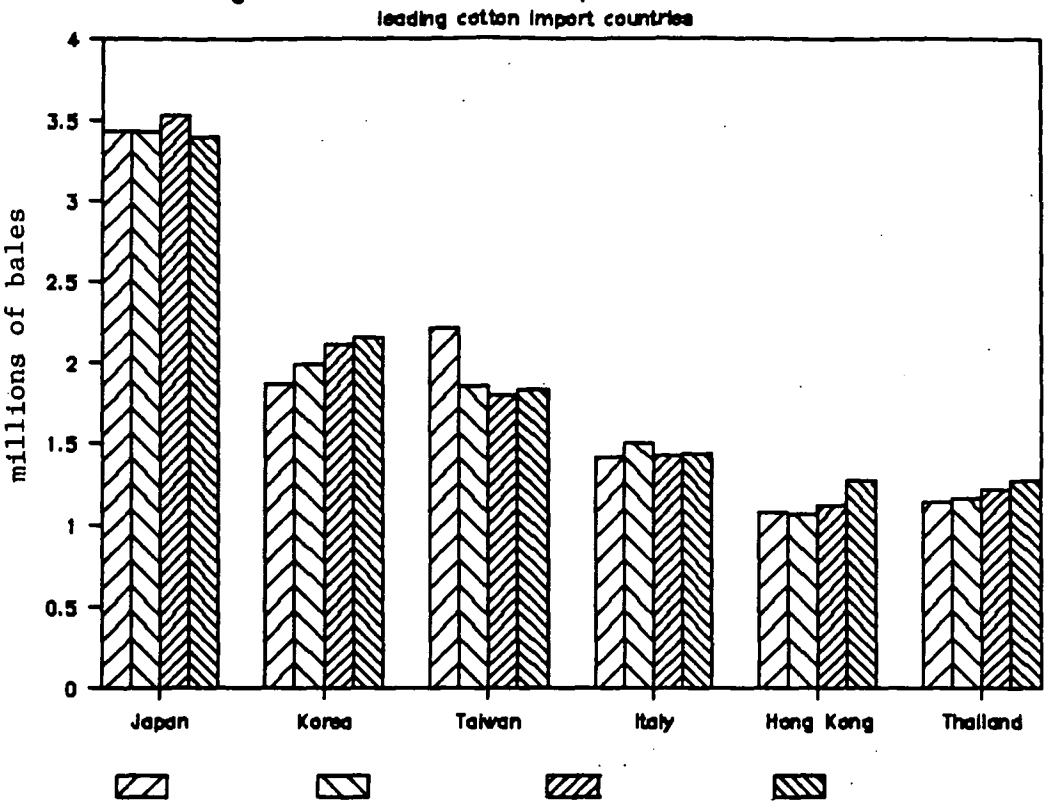
[21] "Taiwan's Textile Industry, 1988," American Institute in Taiwan, September 20, 1989, p. 18.
[22] Ibid., p. 1-18.

Fig. 5-5. Consumption of cotton



these countries. Through these export controls the amount of cotton available for the world export market can be markedly affected by these nonmarket forces.

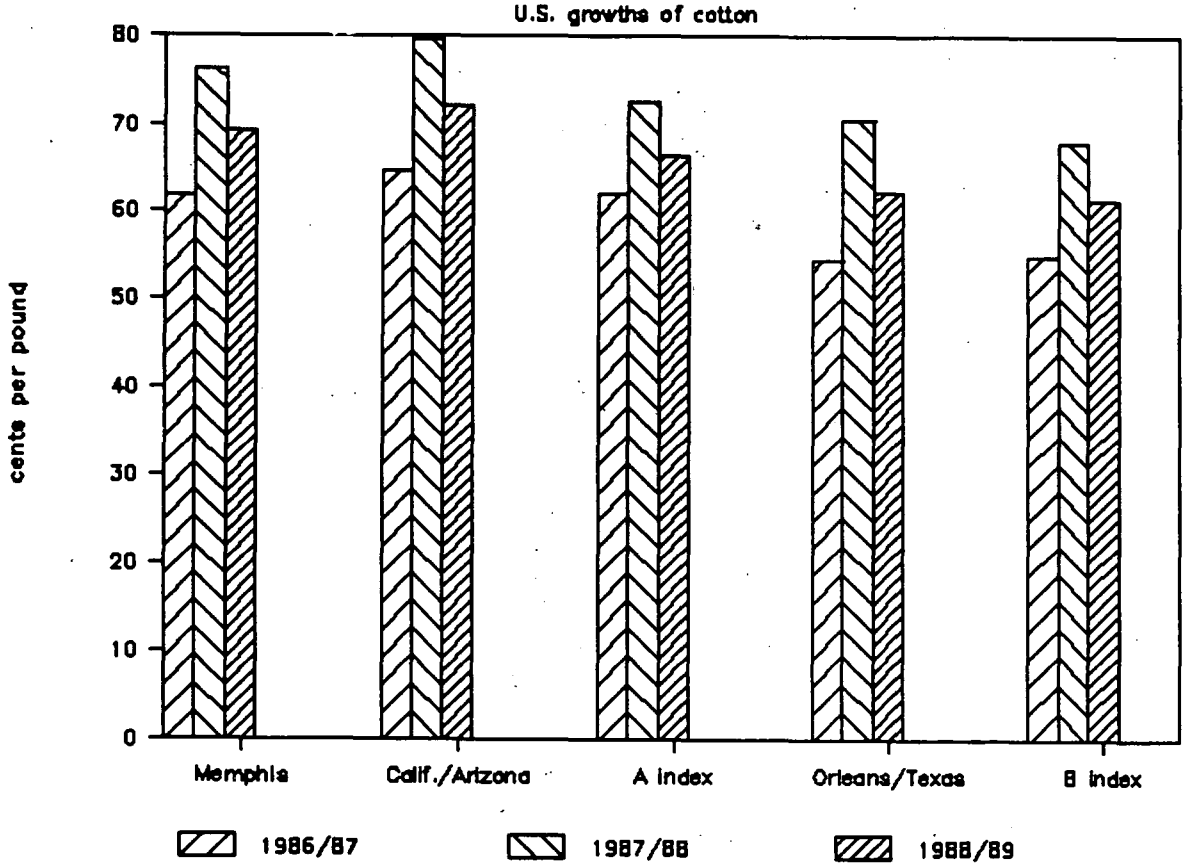
As stated earlier, the world market for cotton encompasses primarily those countries that consume substantial amounts of cotton but do not have the climate favorable to growing cotton. In these markets, competition is based primarily on price. The relative prices of cotton from the exporting sources are based largely on the supply available for export within each country with world demand a factor affecting all prices for cotton traded on the global level.

World prices of cotton are reported by the Liverpool (England) Cotton Service. These prices represent quoted prices to mills in Northern Europe and are quoted in U.S. dollars, delivered to Liverpool. Two summary indexes of these prices are issued weekly. The "A" index is the average of the 5 lowest of 10 prices quoted for Middling 1-3/32 inch cotton. The "B" index is the average of the three lowest of six prices quoted for coarse count cotton varying in staple length from 1" to 1-3/32". These prices are the best comparative prices for world cotton though it should be noted that they are price quotes and do not represent actual selling prices.

Figure 5-6 shows average annual Liverpool prices for three quoted U.S. growths of cotton and the comparable index prices for the crop years 1986/87-1988/89.

During these years, the quoted U.S. prices ranged from 1 cent under to 7 cents over the index price. This margin is considered within the range that allows U.S. cotton to be competitive in world markets. As a consequence, foreign demand for U.S. cotton was reasonably strong and exports ranged between 6.3 and 6.7 million bales annually. When U.S. prices are significantly above world prices, exports decline. This most recently occurred during the 1985/86 crop year when U.S. quotes were 16 cents higher than both the A and B indexes and U.S. exports were 2.0 million bales.

Fig. 5-6. Liverpool and index prices



The Effect of U.S. Cotton Import Quotas on the Ability of the Cotton Industry to Compete in Domestic and Foreign Markets

The quotas on imports of cotton enhance the U.S. industry's ability to compete in the domestic market. For those quotas that are country-specific,

many of the country allocations are too small to be commercially useable. However, imports from sources with large allocations and imports for products with substantial global quotas have been negligible in recent years. Thus it would appear that U.S. cotton is and for several years has been competitively priced in the domestic market relative to those sources with access to this market. The adoption of the adjusted world price beginning with the 1986 marketing year, described earlier in this chapter, largely eliminated differences between U.S. and world cotton prices. However, even during prior years, when lower world prices could have led to imports of cotton, these largely did not occur and the cotton import quotas were not binding. The quotas are not known to have any effect on the ability of U.S. cotton to compete in the world market where price is the primary factor affecting purchases.

Estimated Tariff Equivalents of U.S. Cotton Import Quotas

Tables 5-2 through 5-4 present estimated ad valorem and specific tariff equivalents for U.S. cotton import quotas. Tariff equivalents are calculated for the three most readily identifiable market segments of the cotton industry: "A" Index cotton,[23] "B" Index cotton,[24] and extra-long staple (ELS) cotton. "A" index type cotton accounts for just over half of world production and 40 percent of world cotton trade. "B" index type cotton accounts for 33 percent of world production and 35 percent of world cotton trade. ELS cotton accounts for 5.5 percent of world production and 5 percent of world cotton trade.[25] While substitution between type "A", type "B", and ELS cotton is possible, substitution is much more likely to occur between various grades within each of these general categories.[26]

The estimates of tariff equivalents are calculated using the price gap method, taking the specific tariff equivalent as the difference between the U.S. price and the world price (adjusted for insurance and transport costs). In the case of cotton, the price of U.S.-produced cotton sold in the United States is compared with the price of the same grade of U.S.-produced cotton sold in Northern Europe. This isolates the effect of the quota since

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[23] The "A" Index is an unweighted average of the five least expensive world growths (spot c.i.f. Northern Europe) of high quality raw cotton similar to U.S. Memphis Territory middling 1-3/32 inch cotton.

[24] The "B" Index is an unweighted average of the least expensive world growths (spot c.i.f. Northern Europe) of coarse quality raw cotton similar to U.S. Orleans/Texas strict low middling 1 inch cotton.

[25] The remaining world production is comprised of high-quality, long staple cotton. This staple length is not included in the A Index. However, long staple cotton is more highly substitutable with A Index cotton than with ELS cotton.

[26] The TSUS and HS nomenclatures do not concord well with three categories of cotton examined in this section.

reimportation of U.S.-produced cotton is prohibited. Further, this avoids confusing price differentials that are caused by differences between products with the effects of border measures. If we merely compared prices of domestic and foreign growths, part of the price gap could be attributed to differences in the physical characteristics of the product or differences in non-physical attributes such as differences in delivery time or the reliability of on-time delivery.[27]

The markets for cotton are highly developed. There are spot and futures markets for various cotton grades and staple lengths both at home and abroad. This study uses the c.i.f. price of U.S.-produced cotton quoted in Liverpool as the world price.

Domestic U.S. prices are measured as the average spot quotes from the major markets for each grade.[28] The spot price of "A" Index type cotton, as represented by U.S. grade 3135, is the spot price reported in Memphis. The average spot price for U.S. "B" index type cotton, represented by U.S. grade 4132, is the average of the spot prices in Memphis, Dallas, and Lubbock. Finally, the U.S. price for ELS cotton, American PIMA grade 3, is the average of the spot prices in Phoenix and El Paso.

A range representing likely upper and lower bounds of the estimated tariff equivalents is reported in each table. The upper bound estimates are equal to the difference between the U.S. price and the world price (net of marketing costs from the U.S. farm gate.) This price differential tends to overstate the tariff equivalent because transportation costs from a potential exporter of cotton to the U.S. are not included. The transportation cost would drive a wedge between the farm gate price received abroad and the landed U.S. price.

The lower bound estimates of the gap are reduced by the estimated shipping costs of potential suppliers to the U.S. market in the absence of a quota. Ideally, the lower bound estimate should be obtained by examining the difference between the U.S. domestic price and the quality-adjusted export price of potential suppliers plus shipping costs from that supplier to the United States. However, there are a large number of potential suppliers and it is extremely difficult to make the appropriate quality adjustments. The cost of shipping U.S. cotton to Europe was 17.45 cents per kilogram in 1986, 15.48 cents in 1987 and 11.35 cents in 1988. These costs are used in calculating the lower bounds of the tariff equivalent.

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[27] It should be noted, however, that to the extent the United States competes with other suppliers in third markets, the quality-adjusted prices in the third market should be approximately equal. If U.S. shipping costs to the third market are similar to those of foreign competitors, the quality-adjusted export prices (f.o.b. export port) should also be approximately equal.

[28] The spot quotes are farmgate-level prices.

Estimates for tariff equivalents are subject to additional errors. First, actual marketing costs will differ from average marketing costs depending on location of production and shipment. Second, the average yearly tariff equivalent is actually an average over monthly fluctuations in relative prices. For example, a major change in the U.S. cotton program dramatically lowered cotton prices in August 1986. As a result, the high level of the tariff equivalent in 1986 is due largely to the high price differentials in the first half of that year. In addition, unsystematic adjustments in the U.S. cotton programs during several months in 1987 and 1988 have altered the estimated tariff equivalents in those years.

Table 5-1
U.S. cotton: Supply and apparent consumption, crop years 1980-89

Year beginning Aug. 1	Area harvested	Yield	Beginning stocks	Production	Imports	Exports	Apparent consumption[1]
	1,000 acres	lbs./ acre	----------1,000 480-lb. bales----------				
1980	13,215	404	3,000	11,122	27	5,926	5,555
1981	13,841	542	2,668	15,646	26	6,567	5,141
1982	9,734	590	6,632	11,963	20	5,207	5,471
1983	7,348	508	7,937	7,771	112	6,786	6,259
1984	10,380	600	2,775	12,982	24	6,215	5,464
1985	10,229	630	4,102	13,432	33	1,960	6,259
1986	8,468	552	9,348	9,731	3	6,684	7,372
1987	10,035	706	5,026	14,760	2	6,600	7,417
1988[2]	11,943	619	5,771	15,411	3	6,250	7,435
1989[3]	9,545	595	7,500	11,834	2	7,800	[4]

[1] Calculated as Beginning stocks + Production + Imports - Exports - Ending stocks.
[2] Estimated.
[3] Forecast.
[4] Not available.

Source: Cotton and Wool Situation and Outlook Yearbook, Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture, August 1989, table 1, p. 19.

Table 5-2
Tariff equivalents for type "A" cotton, 1986-88

Year	Average price c.i.f. northern Europe[1]	Average Marketing Costs[2]	Average World Price Net of Average Marketing Costs	Average U.S. Price[3]	Tariff equivalent[4]	
					Specific (price gap)	Ad valorem[5]
	(A)	(B)	(C=A-B)	(D)	(D-C)	((D-C)÷C)
	cents per kilogram					(percent)
1986	126.66	29.90	97.76	121.96	7.19-24.67	7-25
1987	163.67	27.93	135.74	146.67	0.00-10.94	0-8
1988	152.60	25.99	126.61	131.82	0.00-5.20	0-4

[1] Memphis territory, based on middling 1-3/32 inch cotton.
[2] Cotton marketing costs: U.S. average location to Northern Europe. These estimates, provided by the U.S. Department of Agriculture, include buying and selling, transportation, insurance, and financing. This estimate does not include overhead.
[3] Grade 3135; spot price reported in Memphis.
[4] Range represents adjustments for shipping costs. See accompanying text for further explanation.
[5] As a percent of the world price net of marketing costs.

Source: Cotton Outlook, Liverpool Cotton Services, Ltd.; and U.S. Department of Agriculture.

Table 5-3
Tariff equivalents for type "B" cotton, 1986-1988

Year	Average price c.i.f. northern Europe[1]	Average Marketing Costs[2]	Average World Price Net of Average Marketing Costs	Average U.S. Price[3]	Tariff equivalent[4] Specific (price gap)	Ad valorem[5]
	(A)	(B)	(C=A-B)	(D)	(D-C)	((D-C)÷C)
	cents per kilogram					(percent)
1986	105.00	29.90	75.4	105.43	12.83-30.31	17-40
1987	151.17	27.93	123.24	151.17	0.00-8.40	0-7
1988	135.78	25.99	109.79	135.78	0.00-1.17	0-7

[1] Orleans/Texas, based on strict low middling 1 inch cotton.
[2] Cotton marketing costs: U.S. average location to Northern Europe. These estimates, provided by the U.S. Department of Agriculture, include buying and selling, transportation, insurance, and financing. This estimate does not include overhead.
[3] Grade 4132; average of spot prices in Memphis, Dallas, and Lubbock.
[4] Range represents adjustments for shipping costs. See accompanying text for further explanation.
[5] As a percent of the world price net of marketing costs.

Source: Cotton Outlook, Liverpool Cotton Services, Ltd.; and U.S. Department of Agriculture.

Table 5-4
Tariff equivalents for ELS cotton, 1986-1988

Year	Average price c.i.f. northern Europe[1]	Average Marketing Costs[2]	Average World Price Net of Average Marketing Costs	Average U.S. Price[1]	Tariff equivalent[3] Specific (price gap)	Ad valorem[4]
	(A)	(B)	(C=A-B)	(D)	(D-C)	((D-C)÷C)
	cents per kilogram					(percent)
1986	239.75	29.90	210.30	219.34	0-9.04	0-4
1987	264.64	27.93	236.70	230.60	0.00	0
1988	356.71	25.99	330.72	310.92	0.00	0

[1] U.S. Pima G3.
[2] Cotton marketing costs: U.S. average location to Northern Europe. These estimates, provided by the U.S. Department of Agriculture, include buying and selling, transportation, insurance, and financing. This estimate does not include overhead.
[3] Range represents adjustments for shipping costs. See accompanying text for further explanation.
[4] As a percent of the world price net of marketing costs.

Source: Cotton Outlook, Liverpool Cotton Services, Ltd.; and U.S. Department of Agriculture.

CHAPTER 6. DAIRY PRODUCTS

Introduction

Milk is important as a food product in all areas of the world, both in fluid form (for drinking purposes) and as the raw material from which dairy products are made. Whole fluid milk is a bulky, perishable product that is generally used near the area of production either for fluid consumption or for making dairy products. Products produced from milk, such as concentrated and dried milk, butter, and cheese, can be more readily transported for longer distances than whole milk. The products made from milk constitute nearly all of the world's trade in dairy products.

In 1988, the European Community (EC) and the Soviet Union each produced about 25 percent of the world's production of milk; the United States produced about 15 percent; Eastern Europe, 10 percent; India, 5 percent; and New Zealand and Australia combined, 3 percent. Transportation costs (as well as an adequate supply of animal feed) largely confine the location of dairy farms to areas relatively near the large population centers, the markets for milk for fluid consumption.

A combination of government milk production control programs in the EC, the United States, and Canada (which resulted in reduced cow numbers), drought-related conditions in India and New Zealand, declining cow numbers in the Soviet Union (in an effort to increase per animal yields), and tight profit margins in Eastern Europe, resulted in a decline in world milk production in 1987. This decline is the first drop in such production since 1981. Milk production in 1988 increased less than 0.5 percent above the 1987 level.

In view of these factors, particularly the government milk production control programs (that result largely from budgetary pressure in connection with domestic dairy price-support programs), there appears to be little potential to significantly expand world milk production or exports of dairy products in the next few years, especially if the EC continues to contain its production of milk. These constraints may be alleviated, however, by the combination of continued genetic improvements, the future use by dairy farmers of hormonal milk production stimulants, commonly called bovine growth hormones (bGH),[1] generally low feed costs, and the higher level of dairy product prices that prevailed in the international dairy markets in late 1988 and 1989. However, according to the U.S. Department of Agriculture (USDA), the effects of bGH on the U.S. dairy industry will depend on the effectiveness of the

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[1] According to the USDA, the U.S. Food and Drug Administration may approve the sale of bGH to dairy farmers in the early 1990's. Sale of the hormone has not been approved in the EC; it is reportedly used on a somewhat limited basis in the U.S.S.R., Hungary, and South Africa.

technology, its rate of adoption, and the level of government dairy price support expenditures.

The cost of milk--the most significant cost in the production of dairy products--is relatively constant across countries in the northern hemisphere, and lower in the southern hemisphere. As will be seen later in this chapter, New Zealand is, by far, the lowest-cost milk producer; Australia and, to a lesser degree, Ireland are also low-cost producers. With their favorable climates, New Zealand and Australia enjoy long pasture grazing periods; hence, their feed costs (the most significant cost of milk production in most countries) are extremely low compared with competitors such as the United States and the EC. As a result of their cost advantage, these countries--particularly New Zealand--appear to provide less protection to their dairy farmers than other countries. Although New Zealand and Australia together produce only 3 percent of the world's output of milk, a large part of their dairy produce is exported.

Competitive Conditions in the U.S. Industry and Market

INDUSTRY STRUCTURE OF U.S. DAIRY FARMING

There were about 221,000 U.S. dairy farms in 1988, employing about 680,000 people. Although every State produces some milk, five States (Wisconsin, California, New York, Minnesota, and Pennsylvania) produced about half of the nation's total milk supply during 1986-88.

Diversification by dairy farms is limited. The USDA recently reported that more than 60 percent of U.S. dairy farms selling milk and dairy livestock received 90 percent or more of their gross farm income from the sales of such products; another 23 percent of such farms received 70 to 89 percent of their income from such sales. However, the cooperative system has allowed farmers to integrate vertically downstream into milk processing and marketing.

Over the past few decades, U.S. dairy farms have benefited from technological advances arising from extensive applications of Federal and State Government-sponsored research and development. For example, dairy farms have become highly automated in areas such as feed production and feeding, milking, and milk handling, including transportation. Computers have found application in accounting and determining optimal feed-uses. Genetic improvements have been vigorously applied.

Trends in the quantity and value of the U.S. production of milk during 1986-88 are shown in the following tabulation of USDA data:

Year	Quantity (Million pounds)	Value (Thousand dollars)
1986.....	143,381	18,058,057
1987.....	142,557	17,997,274
1988.....	145,527	17,947,096

About 60 percent of the total milk supply is used in manufactured dairy products; virtually all of the remainder is used in fluid products.

The factors affecting milk production include the number of cows being milked, output per cow, variable expenses such as the costs of feed, and prices received for milk, which are largely influenced by the support prices of the U.S. Department of Agriculture, particularly during periods of surplus supply. The average number of milk cows in the United States has declined slightly in recent years, to about 10.2 million head in 1988. However, annual milk output per cow increased to 14.2 thousand pounds in 1988, up from 13.2 thousand pounds in 1986, an 8-percent rise in productivity.

The United States exports little or no fluid milk, because shipping costs are high and because most countries have complex import restrictions and health and sanitary regulations which increase costs to the exporter.

The annual gross value of all milk produced in the United States averaged about $18 billion during 1986-88. On a unit-value basis, the gross value of production during this period, the total economic costs thereof, and the residual returns to management and risk, are shown in the following tabulation:

Item	1986	1987	1988
	--dollars per hundredweight---		
Gross value of production.....	$13.49	$13.69	$13.48
Total economic costs of production.....	11.99	11.79	13.16
Residual returns to management and risk.....	1.50	1.90	.32

Source: Economic Research Service, U.S. Department of Agriculture, Costs of Producing Milk, 1975-88.

Variable cash expenses (62 percent to 67 percent which consisted of feed costs) account for about two-thirds of the total economic costs of producing milk. Changes in the cost of feed are probably the major factor influencing

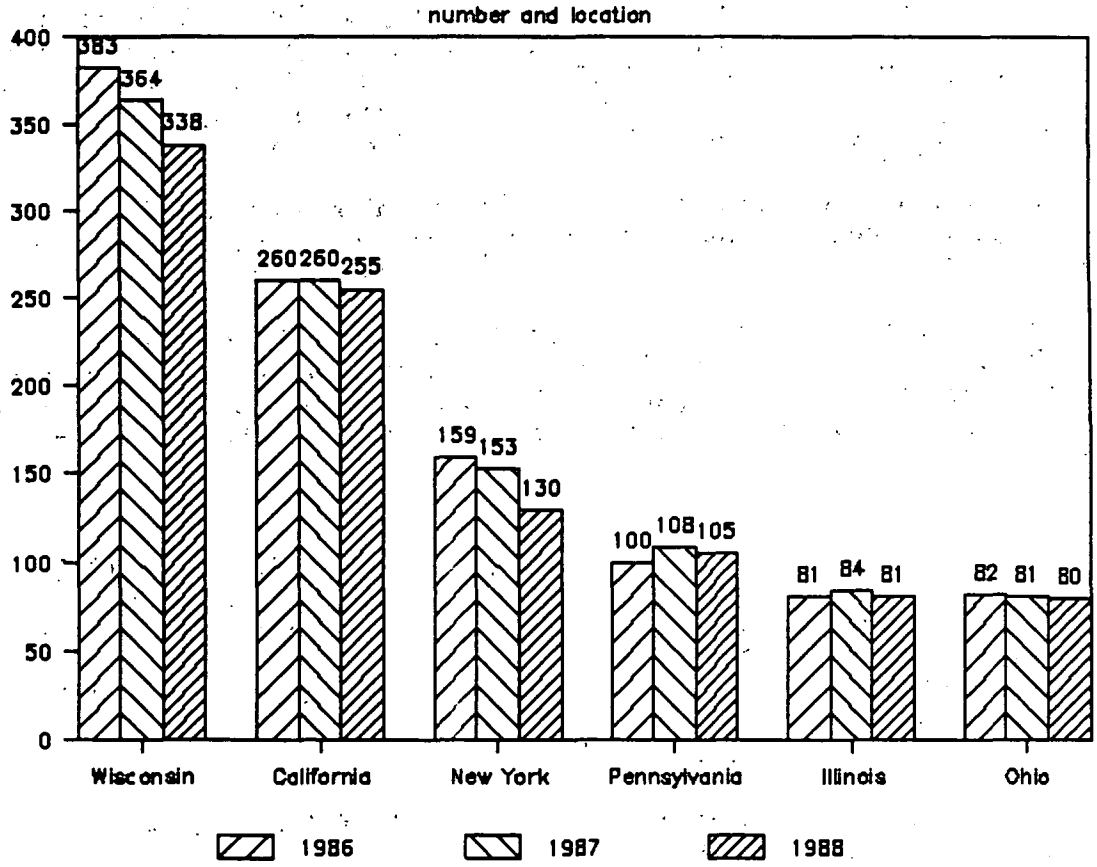
the returns to management and risk in milk production; output prices, as discussed below, are largely controlled by Federal and State Governments, and are therefore more stable than input costs.

INDUSTRY STRUCTURE OF U.S. DAIRY PRODUCT PROCESSING

Number and location of producers

There were about 1,850 dairy plants manufacturing one or more dairy products in 1988, employing about 140,000 persons. About 150 establishments have exited the industry in recent years, the result of mergers, acquisitions, and the closing of obsolete facilities. Figure 6-1 shows the number of producers in each of the principal milk-producing States during 1986-88:

Fig. 6-1. Dairy producers



A number of large U.S. dairy processors produce a wide array of food and nonfood products. Some of these firms are among the world's largest multinationals and, therefore, widely diversified. Some milk and dairy product processors (mainly farmer-owned cooperatives, such as Land O'Lakes)

are vertically integrated upstream into milk production, while others (such as Borden's and Carnation) are not involved with the production of raw milk.

Trends in production during 1986-88

The gross value of U.S. shipments of dairy products reached $40 billion in 1988. The more important U.S.-produced products are shown in the following tabulation:

Year	Butter		Cheese[1]		Condensed evaporated milk[2]	
	Million pounds	Million dollars	Million pounds	Million dollars	Million pounds	Million dollars
1986....	1,202	1,822	6,179	10,653	2,457	5,384
1987....	1,104	1,636	6,290	11,640	2,281	5,675
1988....	1,208	1,379	6,510	11,945	2,236	5,979

	Ice cream		Fluid milk	
	Million gallons	Million dollars	Million pounds	Million dollars
1986.....	924	3,922	52,636	16,209
1987.....	928	3,969	53,434	16,544
1988.....	882	3,898	54,450	16,662

[1]Includes creamed and lowfat cottage cheese.
[2]Includes nonfat dry milk.

Source: Production data compiled from official statistics of the U.S. Department of Agriculture; value data compiled from official statistics of the U.S. Department of Commerce.

Growing demand in recent years for cheese and low-fat products (including low-fat fluid milk and yogurt) was the main factor affecting the production levels shown above.

Exports

U.S. exports of dairy products exceeded $400 million in 1988. Exports have accounted for a small part of production (less than 4 percent) for many years, consisting mostly of donations or concessional sales of nonfat dry milk. (In late 1988, however, some commercial sales of nonfat dry milk were

made as world supplies of milk powder dwindled and prices rose to levels above the U.S. support price.)

THE U.S. MARKET FOR DAIRY PRODUCTS

The principal U.S. markets for dairy products include households, restaurants and other institutions, producers of foods such as pizzas, and the USDA's Commodity Credit Corporation (CCC) (for direct Government purchases of certain dairy products in order to maintain dairy support programs).

Apparent consumption of dairy products increased from $38 billion in 1986 to $40 billion in 1988, or about 5 percent. Most of the increase came from greater consumption of cheese and lowfat milk. Rising consumer incomes and declining prices for dairy products relative to other foods caused most of the increase in consumption. Advertising and promotion, concern about health and nutrition, changes in demographics, and government donations were smaller factors, according to the USDA, compared with the effects of changes in relative prices and incomes.

The value of U.S. imports of dairy products declined from $416 million in 1986 to $385 in 1988, or about 7 percent. This decline largely reflected a drop in the quantity and value of imports of cheese, the product that accounts for about 94 percent of the value of total imports. About half of the imports of cheese come from the EC. The USDA reported that as international prices for dairy products increased dramatically in 1988, U.S. interest in foreign manufactured dairy products declined.

Nearly half of the nation's milk supply is used to make butter and cheese. About 30 percent of the butter is consumed at home and 70 percent is consumed in away-from-home markets and in commercial food processing. About 40 percent of the U.S. cheese consumption is at home; 40 percent is consumed away-from-home and the remainder is used as an ingredient in processed foods.

Dairy products have faced increasing competition from non-dairy products in several uses. Notable shifts in demand for dairy products include the growing substitution of margarine for butter; by 1988, per-capita consumption of margarine (10.9 pounds) had more than doubled that of butter (4.6 pounds). Vegetable oil-based coffee whiteners and whipped toppings have increasingly replaced cream, while vegetable oil-based imitation milk has made only a slight inroad into the fluid milk market. Imported casein has increasingly been substituted for domestic dairy products, particularly nonfat dry milk, in a number of human foods (most importantly imitation cheese), and in a number of feed formulations. The use of casein has been of particular concern to the dairy sector. Casein has not been produced in the United States since the early 1950's. After the USDA price-support program was established for milk, U.S. butter and powder producers realized greater returns from drying their skimmed milk into nonfat dry milk and selling it to the CCC, than from

processing it into casein. Therefore, U.S. production of casein has ceased and domestic supplies have since been furnished from imports.

GOVERNMENT INVOLVEMENT IN THE U.S. DAIRY INDUSTRY

Milk is marketed in the United States under a complex of Federal, State, and local laws and regulations. The marketing of milk and dairy products also becomes involved with domestic and international food aid. The two major Federal programs affecting U.S. milk and dairy products marketing are the Federal Milk Marketing Orders, provided for under the Agriculture Marketing Agreement Act of 1937, as amended, and the dairy price-support program, established under the Agricultural Act of 1949, as amended.

Milk marketing

The Federal Milk Marketing Orders and the Dairy Price-Support Program are the primary price determination mechanisms in the dairy sector. Under the Federal Milk Marketing Orders Grade A milk for fluid consumption (beverage purposes) is designated as Class I, such milk, which has the first call on the nation's supply of milk, sells at a premium price. Grade A milk for semi-perishable products such as cream, ice cream, cottage cheese, and yogurt is designated as Class II milk and sells at a lower price than Class I milk, but higher than Class III milk. Class III milk is Grade A milk used for storable manufactured products (butter, cheese and nonfat dry milk); it is priced at levels near the Grade B price of milk in Minnesota and Wisconsin--known as the M-W price.

As required by law, the CCC sets purchase prices for butter, Cheddar cheese, and nonfat dry milk in order to support the price of milk. Most of the milk produced in the area where the M-W price series is set is used to manufacture those three products. Because the M-W price is used as a base for Grade A milk, the dairy price support program influences the price of all milk produced in the United States.

The basic provisions of the Agriculture Act of 1949 required that the price of milk to producers (farmers) be supported at such levels between 75 percent and 90 percent of parity[2] so as to ensure an adequate supply of milk, reflect changes in the costs of production, and ensure a level of farm income to maintain productive capacity sufficient to meet future needs. Since October 2, 1981, however, the support price has been established by the Congress at specific price levels, rather than at parity levels. The Food Security Act of 1985 amended the Agriculture Act of 1949 so as to support the price at $11.65 per cwt (the level established on July 1, 1985) for calendar

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[2] Parity, as defined in legislation adopted in the 1930s, are those prices which give farm products the same purchasing power with respect to articles farmers buy as they had in 1910-14.

year (CY) 1986, $11.35 per cwt for the period January - September 30, 1987, and $11.10 per cwt for the period October 1, 1987 through December 31, 1990.

The 1985 Act further required that on January 1 of 1988, 1989, and 1990, the Secretary of Agriculture shall reduce the support price 50 cents per cwt if net CY price-support purchases are projected to exceed 5.0 billion pounds of milk equivalent, or increase the support price 50 cents per cwt if such purchases are projected at not more than 2.5 billion pounds. On January 1, 1988, the support level was reduced to $10.60 per cwt, as it had been estimated that net purchases would exceed 5.0 billion pounds of milk equivalent during that year. The Disaster Assistance Act of 1988 (P.L. 100-387) further amended the 1949 Act by deleting the authority of the Secretary of Agriculture to reduce the price support level for milk on January 1, 1989. Rather, the Act provided for a temporary increase in the support price--50 cents per cwt, or to $11.10 per cwt--during April 1, 1988 through June 30, 1989. On July 1, 1989, the support price reverted to $10.60 per cwt.

The Food Security Act of 1985 contained a number of provisions for achieving a reduction in the U.S. production of milk and a reduced level of expenditures by the CCC in order to support the price of milk as required by law. For example, under the provision for a milk production termination program, about 14,000 dairy farmers who marketed 12.3 billion pounds of milk in CY 1985 entered into contracts with the CCC between April 1, 1986, and September 30, 1987, to dispose of their entire dairy herds and terminate any interest they had in the production of milk or dairy cattle for a period of 5 years. About 1.62 million dairy cattle were slaughtered or exported under this termination program. According to a report of the U.S. General Accounting Office (GAO), the dairy termination program will reduce U.S. production of milk from 1986 through 1990 by 39.4 billion pounds below that which would have occurred without the program. GAO also concluded that the reduction in purchases of surplus dairy products by the CCC will lead to an estimated net savings of $2.4 billion in Federal dairy price-support expenditures for fiscal years 1986 through 1990.

State regulations

In January 1986, 29 States had some form of milk marketing regulations. Most State regulations involve fixing milk prices at the producer, wholesale, or retail levels. A number of States license milk processors and distributors, regulate unfair trade practices, stipulate procedures for product dating, and identify standards for sanitation. About 14 States regulate producer milk prices. Noted among these are the California regulations. About 13 percent of the U.S. milk output is produced in California. That State, which has regulated its milk pricing since 1935, has the most significant State-regulated milk pricing and marketing system in the country. A State adopted formula determines fluid milk prices based on the cost of production, dairy product prices, and consumer expenditures. Each eligible Grade A milk producer has a production base and pool quota determined by the producer's historical share of the State's fluid milk market. The base

and quota can be bought and sold without arbitrary restrictions by a third party. New producers and those who expand production and are not covered by the quota receive a price which is running about 75 cents per cwt lower than the Minnesota-Wisconsin Grade B price.

Import duties, quotas, and restraints

The rates of duty on U.S. imports of dairy products range from free to 25 percent ad valorem. They average about 10 percent ad valorem, based on the average duty rate weighted by the value of 1987 imports.

U.S. imports of fluid milk products are prohibited unless they are accompanied by a valid permit issued by the Secretary of Health and Human Services under the provisions of the Federal Import Milk Act of 1927. The only permit in effect is one issued to New Zealand to ship frozen fluid cream to the United States. Also, imports of certain dairy products such as dried milk from countries or areas which have not been declared free of rinderpest and foot-and-mouth diseases by the U.S. Secretary of Agriculture are subject to regulations of the Animal and Plant Health Inspection Services (APHIS) of the USDA. Imports from countries or areas not declared free of the diseases, as well as products made from such imports, are not to be used in animal feed in the United States, except under limited circumstances provided for in APHIS regulations. However, imports from such countries may be used in human foods in the United States because the virus is not injurious to human health. Such imports may also be used for industrial purposes.

Since mid-1953, quotas have been imposed under the provisions of section 22 of the Agricultural Adjustment Act, as amended, on virtually all imports of articles derived from cow's milk, except casein and soft-ripened cows' milk cheese, that normally enter international trade. The quotas have been imposed in order to protect the USDA price-support programs for milk, as well as the products produced therefrom, from import interference or threat of such interference. These quotas, provided for in subchapter IV of chapter 99 of the HTS and shown in appendix D, limit imports of quota products to a quantity equal to about 1.7 percent of the U.S. production of milk. While the quantities of some individual dairy products permitted under the quotas are very small, compared with U.S. production of the respective products, the quantities permitted for certain others are large. The quantities specified in the existing quotas for butter and dried milk products, for example, are infinitesimal compared with the domestic production of these products; in contrast, the quota on blue-mold cheese is equivalent to about 16 percent of production, and the quota on Edam and Gouda cheeses is larger than domestic production.

In recent years, the import quotas have been substantially filled. In terms of milk equivalent, the maximum quantity of dairy products that currently can be imported under the quotas is 2.2 billion pounds. During 1986-88, the equivalent of imports of all dairy products declined from 1.9 to 1.6 percent of the production of milk.

Most of the section 22 quotas on dairy products are allocated country-by-country and are administered by the USDA through a system of import licenses. Imports of most dairy products under quota are subject to the licensing procedure. The quotas for the products not subject to licensing procedures are administered by the Customs Service on a first-come, first-serve basis. Imports of dairy products subject to quotas and licensed by the USDA may be entered only by, or for the account of, a licensed person or firm, and only in accordance with the terms of the license. Licenses usually authorize a particular firm to enter designated quantities of a dairy product from a designated country through a specified port of entry. [3]

Competitive Conditions In Foreign Dairy Industries

While milk and dairy products are produced in nearly every part of the world, the U.S.industry's major competitors are New Zealand, Australia, the European Community (EC), and Canada. Canada is important because of its proximity to the U.S. market rather than its size. These four producers account for about 30 percent of world milk production and about 75 percent of world exports of dairy products. On average, they account for an estimated 60 percent of U.S. imports of dairy products. This section provides a description of these industries and the reasons for their competitiveness in world markets.

NEW ZEALAND

Farming

Despite its relatively small size, New Zealand has historically been one of the most important producers of milk and milk products in the world. With its moderate year-round temperatures and high-quality pasture feeding, New Zealand has the lowest estimated average cost of milk production of any country. The remoteness of the grazing lands from population centers helps to reduce land, feed, and grazing costs. In addition, New Zealanders have been specializing in dairy production for many years and through much research have developed an efficient management and distribution system.

In 1986 (the latest available year), there were about 14,000 dairy farms in New Zealand, employing about 35,000 persons. Most (over 90 percent) of the farms produce "factory" milk for use in processed dairy products; the rest produce "town" or fluid milk.

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[3] The administrative regulations established by the USDA are published in 7 CFR 6.

Milk production in New Zealand is primarily pasture-based and therefore subject to unseasonal, adverse weather conditions. In 1987, a drought caused milk production to decline somewhat, although it rebounded in 1988. Wet spring conditions affected cow conception rates in parts of the North Island and forced the New Zealand Dairy Board to adjust its production estimates downward for 1989 by about 32,000 metric tons. The tabulation below summarizes the country's production data at the farm level during 1986-88:

	No. of dairy cows (1,000 animals)	Milk production		
		Manufacturing grade	Town milk	Total[1]
		(million liters)		
1986.....	2,160[2]	7,326	674	7,987
1987.....	2,270	6,440	629	7,073
1988.....	2,167	6,907	644[2]	7,551

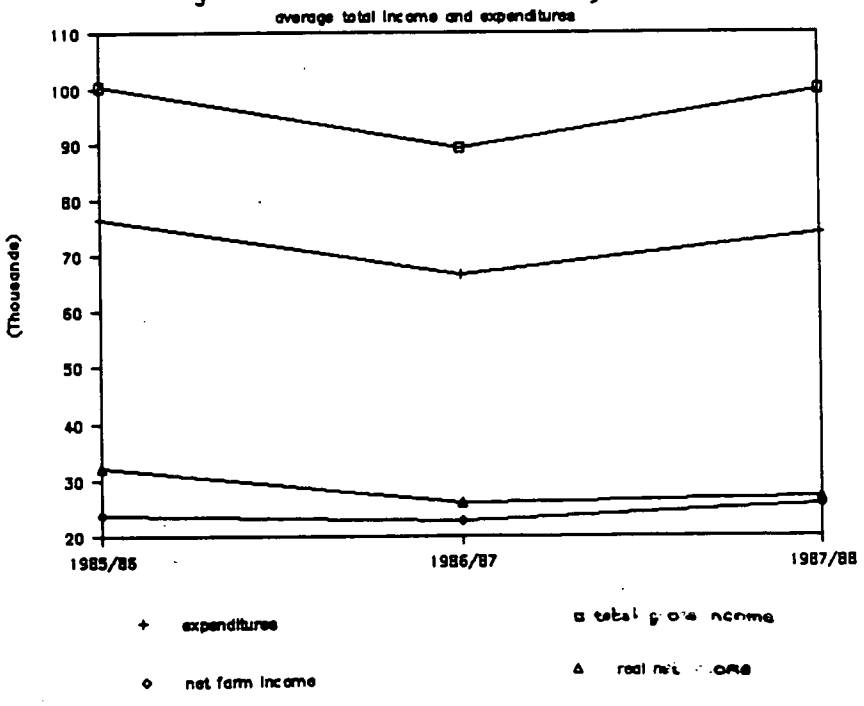
[1] Because of rounding, figures may not add to totals shown.
[2] Estimate.

Source: New Zealand Dairy Board, reported in Situation and Outlook for New Zealand Agriculture (1989), Wellington, New Zealand.

Most of New Zealand's milk production is processed into dairy products--mainly butter, cheese, nonfat dry milk, and casein--the bulk of which is exported.

Figure 6-2 illustrates total gross income, total expenditures, net farm income, and real net income for the average New Zealand factory supply dairy farm (including milk and cream suppliers) during 1986-88 (in New Zealand dollars):

Fig. 6-2. New Zealand dairy farm



Net income for New Zealand dairy farms rose by over NZ$2,000, or by 8 percent, during 1986-88. After adjusting for inflation, however, net income actually fell by NZ$5,246, or by 16 percent. Although an increase in world prices (as a result of reduced surpluses in the United States and the EC) has helped New Zealand dairy farmers to maintain total gross income, the drought, a wet spring, and poor cow conditions in 1988 are still causing some financial problems.

Processing

There are currently 24 co-operative dairy companies producing processed dairy products from around 50 different factories. On an annual basis, these factories convert around 7 million metric tons of milk into approximately 800,000 metric tons of dairy products. Most of these firms are located in the North Island, where over 90 percent of the country's supply of milkfat is processed.

There are 4 major product groupings manufactured from liquid whole milk by New Zealand's dairy factories: cheese; milk powders (made from skim and whole milk, and buttermilk); cream products (butter, anhydrous milkfat, and ghee); and protein products (lactose, casein, and caseinates). The following tabulation summarizes the country's production of these items during 1986-88 (in 1,000 metric tons):

		Milk powders		Cream products		Protein
	Cheese	Skim milk 1/	Other	Butter	Other	products
1986...	127,269	186,739	292,391	275,747	22,521	89,142
1987...	113,250	148,914	179,769	223,558	23,457	76,250
1988...	128,414	171,109	198,188	241,912	30,912	81,909

1/ Equivalent to nonfat dry milk.

Source: New Zealand Dairy Board, reported in Situation and Outlook for New Zealand Agriculture (1989), Wellington, New Zealand.

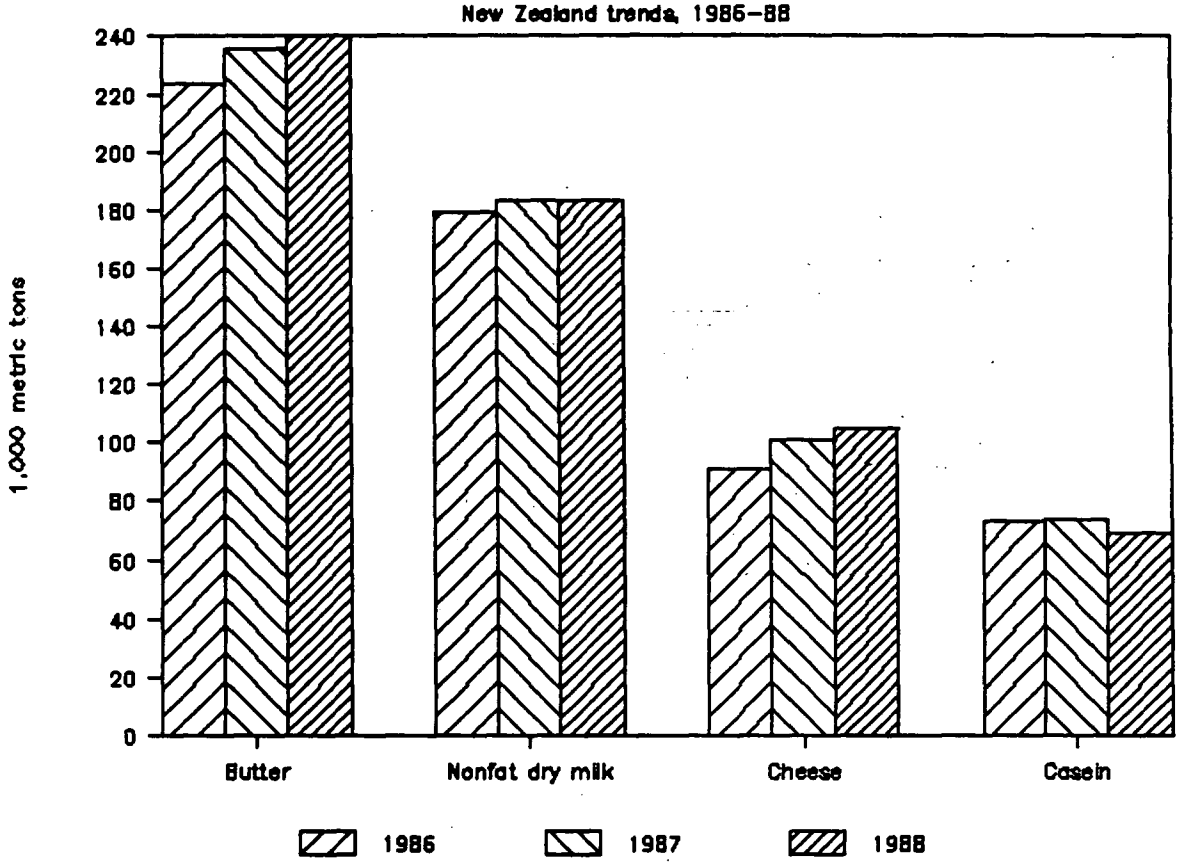
Production in almost all product groups declined during 1986-88, most likely owing to the drought in the primary dairy farming regions in 1987. Trade sources indicate that the country has fully recovered from the drop in output but that recent (November 1989) industry strikes have caused disruptions in production and overseas deliveries.

The New Zealand dairy industry is heavily dependent on the world market; exports are equivalent to nearly 90 percent, by value, of domestic output of

processed dairy products and about one quarter of total agricultural exports.[4] The combined effects of a heavy dependence on exports and a relative lack of public financial support make the dairy sector particularly susceptible to the farm policies of other countries and to sudden swings in world prices.

Figure 6-3, which is based on USDA data, shows the trends in New Zealand's exports of the major dairy products during 1986-88 (in 1,000 metric tons):

Fig. 6-3. Dairy product exports



[4] New Zealand Official Yearbook, 1988-89, 93'rd Annual Edition, Department of Statistics, Wellington, New Zealand.

Butter is New Zealand's principal dairy export, representing approximately 40 percent of all dairy exports in 1988. The major export markets are, for butter, the United Kingdom and the Soviet Union; for nonfat dry milk, Southeast Asia, and Central and South America; and, for cheese and casein products, the United States, Japan, and the EC. The New Zealand Dairy Board, which is charged with marketing the country's dairy exports, has reportedly been aiming at diversifying its export markets; however, this policy has been frustrated by the small number of international markets that are free of import restrictions for dairy products.

The following tabulation shows cost trends in New Zealand dollars in certain key areas (unit costs per kilogram of milkfat; indexed by base year 1976=100):

	1986	1987	1988
Milk tanker collection costs.....	NZ$2.691	NZ$3.187	NZ$3.298
Manufacturing costs			
Cheese.....	2.778	2.804	2.934
Butter.....	3.186	3.438	3.199
Freight on butter (from New Zealand to the United Kingdom).....	1.862	1.539	1.477

Source: New Zealand Dairy Board, Situation and Outlook for New Zealand Agriculture, 1989, Wellington, New Zealand.

The cost of manufacturing cheese increased by about 6 percent, and butter less than 1 percent, during 1986-88. Milk tanker collection costs per kilogram of milkfat rose by about 23 percent, possibly due to the fact that total production of milk and milkfat declined during the 1987/88 season, which raised the costs of collection per unit. Freight costs on butter decreased by about 21 percent.

Government programs and policies

New Zealand's milk policy is the responsibility of the New Zealand Dairy Board, which serves as a board of directors for the farmers' co-operatives. Although the Board was created by statutory act, it is not a Government body. The Board is, in effect, the single organization responsible for marketing and selling the country's processed dairy products overseas.

The Board purchases the dairy products from processors, then exports the products to some 55 companies located in various countries that assist the Board in marketing and distributing dairy products overseas. These companies then sell the goods and return the proceeds to the Board, which distributes the earnings, less marketing and administration costs, to the co-operative processors and the farmers.

Although New Zealand reportedly has the most deregulated dairy industry in the world, the trend appears to be towards even less Government involvement in milk policy. On April 1, 1988, the National Government abolished the New Zealand Milk Board, the function of which had been to regulate the town milk industry. The Government occasionally helps to fund research, but its contributions are reportedly much less than the Board's, which are derived from fees paid by the farmers themselves.

AUSTRALIA

Farming

In absolute size, Australia's dairy farming sector is comparable to that of New Zealand; however, it represents a much smaller percentage of the overall economy. The climatic conditions in Australia are among the most favorable in the world for dairy farming, because the moderate temperatures and rainfall in many regions allow for pasture feeding of cattle. Despite these advantages, dairy farming in Australia has been in a state of decline since the early 1970's, when the country's principal export market, the United Kingdom, joined the EC.

There are some 15,000-16,000 dairy farms in Australia, providing (full-time-equivalent) employment to 35,000 persons. Most dairy farms are located in the southeastern States of Victoria and New South Wales, and in Tasmania, where rainfall is ample and reliable. Dairy farming is predominantly coastal, but with the improvement of irrigation, it has tended to spread inland in recent years.

As in New Zealand, dairy operations in Australia are primarily pasture-based and output per cow is still rather low relative to that in other countries. The following tabulation summarizes the country's dairy farm production during 1986-88:

	1986-87	1987-88	1988-89
Total milk production (million liters).	6,176	6,127	6,250
Fluid milk.....	1,655	1,666	1,690
Manufacturing grade milk.....	4,521	4,461	4,560
Dairy cows (thousands).....	1,743	1,697	1,683
Milk yield per cow (liters/cow).....	3,543	3,610	3,714

Source: Australian Bureau of Statistics.

The number of dairy cows in production declined by about 60,000, or by about 3 percent, whereas milk yield per cow increased by nearly 5 percent.

Increases in milk yield per cow were therefore responsible for all of the 74-million-liter increase in total milk production.

As expected, Australia exports very little fresh milk or other fresh milk products (e.g., yogurt); exports during the 1987-88 season fell short of 20,000 metric tons, or less than 1 percent of total production. The principal destinations of these products are neighboring States such as New Guinea and Malaysia. Most of the fluid milk production is consumed domestically in what is referred to as "market" milk. In Australia, the average person consumes over 100 liters of milk each year, or approximately 26 gallons.

The tabulation below summarizes the total costs and revenues of the average Australian dairy farm (in Australian dollars):

Cash receipts	1986-87	1987-88
Total dairy receipts	78,944	88,120
Livestock sales	16,983	17,980
Other livestock products	213	360
Crop receipts	1,486	1,590
Other cash incomes	1,634	1,780
Total cash receipts	99,260	109,830
Cash costs		
Livestock purchases	4,040	6,340
Hired labor	2,655	2,320
Materials	28,218	29,150
Services	15,417	15,890
All milk levy	5,748	6,740
Rent paid	1,216	1,550
Interest paid	8,483	7,170
Payment to sharefarmers	1,865	2,510
Total cash costs	67,642	71,670
Farm cash operating surplus	31,618	38,160

Source: Australian Farm Survey Report, 1989, p. 60.

The principal cost factors relating to dairy farming in Australia are materials (such as equipment and fertilizer), services (such as freight), interest paid on loans, the all milk levy, and livestock purchases. Labor costs are also significant because rapid economic development in Australia's nonagricultural sectors has bid the wage rate upward. The best dairy farm land in Australia is also more expensive than that in New Zealand, because it is located not far from the southeastern population centers of Sydney and Melbourne.

Processing

As noted, the dairy industry suffered a major setback in 1973 when its principal export market, the United Kingdom, joined the EC. Since 1980, milk output has rebounded considerably as the country has diversified its dairy product portfolio and found new foreign markets. Australia is second only to New Zealand as the world's lowest-cost producer and exporter of dairy products.

There are fewer than 50 dairy processing plants in Australia, although the exact number of dairy product companies and co-operatives is unknown because the industry has been rapidly consolidating during the 1980's. The number of factories producing butter, for example, has shrunk by half since the late 1970's. In New South Wales, the dairy co-operatives have been trying, so far unsuccessfully, to merge into a single co-operative. The inclination to merge into larger companies stems from the need to prepare for the increased competition from New Zealand in June 1990 when the two countries are expected to eliminate all trade restrictions under the Closer Economic Relations Agreement.

The loss of the United Kingdom as a principal export market for butter forced some significant changes in the mix of products of the Australian dairy industry. Production of butter and by-products such as skim milk powder and casein were cut back to allow greater output of cheese, whole milk powder, fluid milk, and limited-shelf-life products such as yogurt. In recent years, international price movements have stimulated renewed production of butter, skim milk powder, and casein, as shown in the following tabulation summarizing Australia's production of processed dairy products during 1986-88:

	1985-86	1986-87	1987-88	1988-89 1/
	thousand metric tons			
Butter	104.9	103.9	94.2	92.0
Cheese	170.2	177.5	176.3	186.0
Cheddar	123.5	123.3	122.7	128.5
Non-cheddar	46.7	54.2	53.6	57.5
Whole milk powder	52.1	65.3	63.7	70.0
Skim milk powder	124.8	128.5	120.0	125.0
Buttermilk powder	7.9	8.4	7.8	8.0
Casein	8.7	8.2	9.0	10.0
Condensed milk	64.1	60.4	63.4	60.0
Health beverages	29.3	29.5	28.3	27.0
Total	732.2	759.2	739.0	764.0

1/ Forecast.

Source: Australian Board of Statistics (ABS) (1988), Production Bulletin No. 3: Food, Drink, and Tobacco, Australia, Cat. No. 8359.0; Australian Dairy Corporation (1988), Dairystats, No. 105; and Australian Bureau of Agriculture and Resource Economics.

Australia's dairy exports have rebounded considerably from the severe downturn in the 1970's precipitated by low foreign prices and the UK entry into the EC. In the 1980's, after a difficult readjustment period, Australia reentered the international dairy market with a new portfolio of products. The industry has succeeded in recovering its pre-1973 export levels, although dairy products still only represent about 1 percent of Australia's overall exports and less than 5 percent of its agricultural exports.

The tabulation below summarizes Australia's exports of processed dairy products during 1986-88 by principal product (in thousands of metric tons):

	1985-86	1986-87	1987-88
Butter.....	25.0	8.5	14.2
Cheese.....	66.1	62.1	68.1
Whole milk powder...	31.7	42.0	36.6
Skim milk powder....	78.6	78.7	67.5
Casein.....	5.3	7.5	7.7
Other products 1/...	40.7	52.4	53.3

1/ Includes fresh milk, other fresh milk products, condensed milk, and other powders.

Source: Australian Board of Statistics (ABS), Foreign Trade, Australia, Exports, Canberra (various issues).

The principal export markets for Australia's dairy products vary depending on the product. Japan, Saudi Arabia, and to a lesser extent, Iraq and the United States are Australia's principal export markets for cheese; Saudi Arabia, Iran, and Algeria, for butter; Malaysia, Japan, the Philippines, and Thailand, for skim and whole milk powder; and the United States and Japan, for casein. Other milk products, which include primarily fresh products but also condensed milk, are generally destined for nearby markets such as New Guinea.

Government programs and policies

After the downturn in the Australian dairy industry during the 1970's, the Government implemented a series of domestic programs, the most important of which include the "underwriting" plan and the levy collection and disbursement scheme.

The Australian Government intervenes in the market to maintain some kind of minimum price support for the dairy industry. Since July 1, 1986, the Government has maintained a Market Support Fund which "underwrites" export prices when they fall below 85 percent of the long term price (determined by

the Bureau of Agricultural Economics). This arrangement results in increased support assistance in the event of a substantial collapse in world prices. The funds for this program are derived from a levy on milkfat production, which is not to exceed 45 cents per kilogram of milkfat.

The levy collection and disbursement scheme, in effect since 1977, attempts to equalize returns to producers from domestic and export sales. A levy is imposed on domestic sales, equal to the difference between the domestic wholesale price and the average export price. The levy thus makes domestic sales as remunerative as export sales. Funds raised by the levy are then distributed across all areas of production so that dairy processors receive an equalized return for the products regardless of the source of sale.

Australia also has an organization similar to the New Zealand Dairy Board called the Australian Dairy Corporation (ADC). The primary function of this body is the domestic and international marketing of Australian dairy products. The ADC also maintains some control over exports, such as issuing licenses, setting quality standards, and prohibiting the export of certain dairy items to certain markets according to law.

Finally, Australia has an overall program to assist dairy farmers in making the necessary adjustments to exit the industry. Known as the Rural Adjustment Scheme (RAS), the program helps farmers of all types make the transition to other means of employment by providing loans, job training, relocation assistance, and other forms of aid.

EUROPEAN COMMUNITY

Farming

There are an estimated 1.5 million dairy farms scattered throughout the European Community (EC). Every one of the 12 member States has a dairy sector, but the largest concentrations are found in France, West Germany, the United Kingdom, the Netherlands, and Italy, which together account for about 80 percent of EC milk production.

Information on dairy farm employment is available for certain of the member States: according to the Foreign Agricultural Service of the USDA, there are 50,000 dairy farm workers in France, 43,000 in Italy, 42,000 in West Germany, and 35,000 in Belgium.[5] These 4 countries together accounted for about 60 percent of total EC milk production in 1988. Sources indicate that dairy farm employment in the EC is declining, particularly in the more technologically advanced countries such as the United Kingdom and West Germany.

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[5] Various FAS telegrams.

Farm size and productivity vary greatly from one member State to another. In Italy, Greece, Spain, and Portugal, there are less than 10 cows in the average dairy herd, and milk yield per cow is around 3,500 kilograms. In contrast, the average dairy herd size in the United Kingdom and the Netherlands is about 58 and 41, respectively, and output per cow is over 5,000 kilograms.[6] Although there are EC Commission-level efforts to help modernize the less-developed dairy farms, the decentralized nature of dairy farming in some member states makes the transfer of technology rather difficult.

Differences in farm size and technology levels lead to other problems. For example, the question of permitting the use of bST in dairy cows has met with much controversy. Some of the smaller, less developed member states advocate use of the hormone to increase output per cow, and, eventually, their share of the EC market. Some of the more advanced dairy producers, in contrast, oppose use of the hormone because it could force more farmers out of business at a time when the industry is already consolidating rapidly. In any case, producers in all member states are concerned about the opposition to bST from the "Green" parties and consumer groups.

In recent years, the EC Council has aimed to curb milk production through a system of production quotas allocated to each member State. The following tabulation summarizes the EC's dairy production data at the farm level during 1986-88:

Year	Number of dairy cows	Cows' milk production output	deliveries	Milk yield per cow
	(millions)	(million metric tons)		(kg)
1986.....	26.0	116.6	107.1	4485
1987.....	24.7	111.4	101.7	4511
1988.....	23.3	108.5	98.2	4659

Source: USDA.

According to the tabulation, the number of dairy cows fell by about 2.7 million, or by 10 percent, during 1986-88, but this was partially offset by an increase in milk output per cow of about 4 percent. Over 90 percent of EC milk production is delivered to dairy processors. During 1986-88, the percentage of milk delivered to producers of fresh milk products (i.e., drinking milk, yogurt) increased from 26 to 29 percent, reflecting a growing consumer demand for such products. One effect of this decline in EC milk deliveries has been a reduction in excess supplies of such items as butter and nonfat dry milk that in turn helped to reduce surplus stocks of these products in EC inventory and on the world market.

Data on costs and revenues for the average EC dairy farm are available for West Germany, France, the Netherlands, and Ireland, which together account

[6]EEC Dairy Facts and Figures, 1987, EEC Milk Marketing Board, p.43.

for over 60 percent of EC milk production. The following tabulation summarizes the costs incurred by the average dairy farm for each of these member States in 1986:

Item of comparison	West Germany	France	Ireland	The Netherlands
Farm size				
Number of cows	28	20	33	55
Number of acres	84	79	102	65
Milk revenue	$35,032	$19,383	$17,087	$80,508
Price received by farmers (dollars per hundredweight)	$12.87	$10.25	$6.03	$12.00
Variable costs				
Feed	$15,403	$8,317	$3,014	$26,325
Labor	1,849	2,888	895	1,804
Other	21,672	15,579	6,933	30,813
Total variable	38,924	26,784	10,842	58,942
Total fixed costs	4,570	2,130	4,224	2,194
Subsidies less taxes	22,941	12,689	11,662	52,736
Depreciation	8,484	4,061	6,225	5,785
Returns to capital	1,985	950	1,457	1,354
Total costs	76,904	46,614	34,437	121,011

Source: M.C. Hallberg, et al., Estimates of the Cost of Producing Milk in Seven Major Milk Producing Countries, 1986, (draft) research paper, October 1989.

According to Hallberg et al., the costs of dairy farming are much higher in the Netherlands than in the other three member States; however, low fixed costs and high net subsidies help keep total costs per cow below that in either West Germany or France. In addition, Dutch milk yield per cow is exceptionally high (5,650 kg annually, compared to 4,843 kg in West Germany, 4,463 kg in France, and 3,880 in Ireland)[7], because dairy farming in the Netherlands is predominately feed-based, whereas elsewhere the cows are often pasture-fed. In all countries, total variable costs, which include not only labor and feed, but also fertilizer, fuel, interest on loans, and other items, account for the largest portion of total costs.

Processing

In the EC, there are an estimated 6,000 dairy processing establishments. The number of producers has declined over the years as firms have consolidated

[7]EEC Dairy Facts and Figures, 1987, EEC Milk Marketing Board, p.43

to achieve economies of scale. The size of the plants varies according to country; for example, in Italy, only 2 percent of the factories have the capacity to produce over 20,000 metric tons (approximately 44.1 million pounds) of milk each year. In the Netherlands, over 85 percent of the plants have this kind of capacity.[8] Therefore, in terms of the number of establishments, the greatest number of producers are in Italy, but in terms of the amount of milk processed, France and West Germany rank the highest, respectively.

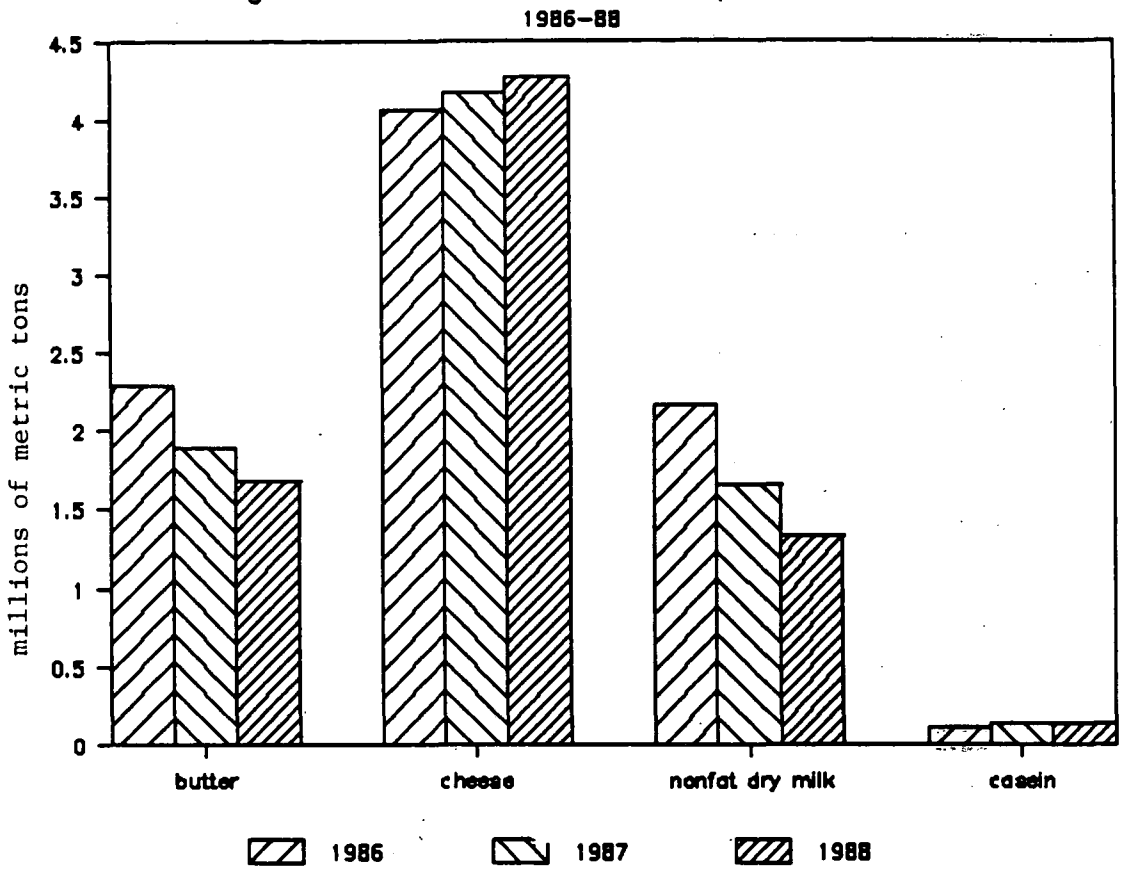
Data on the number of persons employed by the EC dairy processing industry are unavailable; however, it is expected that the number of workers are greatest in the EC countries where labor-saving technology is lagging behind, such as in Italy, Greece, and Portugal. In addition, employment in the dairy processing industry has more than likely declined along with the number of firms.

The level of technology in the EC dairy processing industry is well advanced. This can be shown by the fact that many EC member countries produce one or more specialty products that cannot be imitated in any other part of the world. In Denmark, for example, the dairy industry produces a cheese known as Bleu cheese and a new low-calorie butter called "Smore 40," (introduced in May 1989). France has recently added low-fat butter and a variety of flavored milks to its specialty product list, which already includes an array of well-known items such as Brie and Camembert cheeses. Other EC member countries also have specialty products which they market exclusively throughout the world.

As described above, the EC implemented more stringent milk production quotas during 1986-88 in an effort to reduce dairy product surpluses, which are costly to the EC budget. Figure 6-4 summarizes EC trends in production of butter, cheese, nonfat dry milk, and casein during the period (in thousands of metric tons):

[8]EEC Dairy Fact and Figures, 1987, EEC Milk Marketing Board, p.43.

Fig. 6—4. EC trends in production



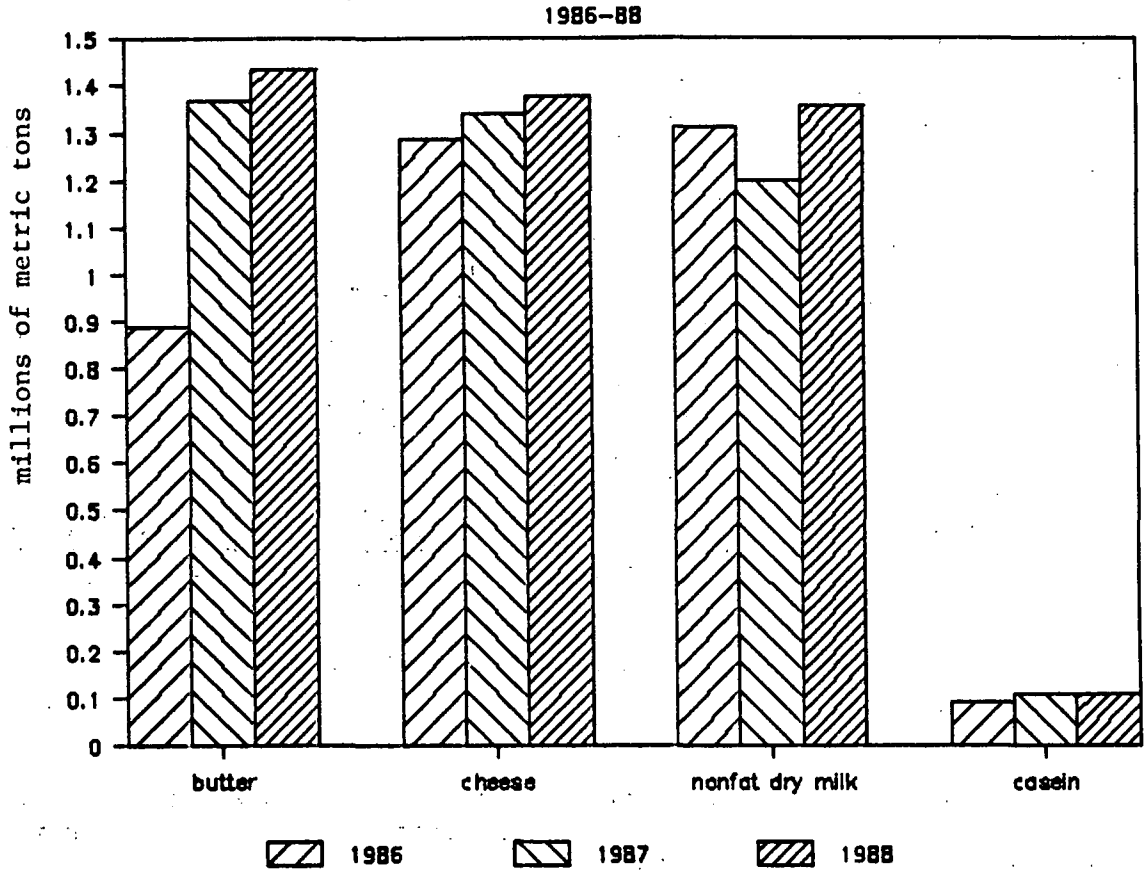
Production of butter declined by nearly 27 percent and nonfat dry milk by almost 39 percent during 1986-88, whereas production of cheese and casein increased by 5 and 19 percent, respectively.

Although the purpose of the 1986 milk quota reductions was to bring about these kinds of changes in EC dairy production, the Council nonetheless approved a 1-percent increase in the milk quotas for 1989. It is expected that this move will lead to increased production. In order to offset any additional costs to the EC budget, the Council voted to reduce the guaranteed price for butter and nonfat dry milk. As the largest dairy producing State which has encountered the most difficulty in meeting production quotas, France is expected to benefit the most from the Council's decision.

The years 1986-88 saw significant disposals of EC surpluses on the world market while waiting for the quota reductions to take effect. Thus, EC dairy exports increased during the period despite decreases in the production of

certain items. Figure 6-5 shows EC export trends for butter, cheese, nonfat dry milk, and casein during 1986-88 (in millions of metric tons):

Fig. 6-5. EC export trends



As figure 6-5 shows, EC dairy product exports increased during 1986-88, but generally at a slower rate towards the end of the period when surpluses were finally diminished.

Information on costs and revenues in the EC dairy processing sector are not available; however, industry sources believe that the cost of producing dairy products is higher in the EC than in most major producing countries, including the United States.

Government programs and policies

The agricultural policies of the several member states have for over 30 years been consolidated into one EC-wide policy administered by the Community

Council of Agricultural Ministers (the Council), and called the Common Agricultural Policy (CAP). Since 1968, the Council has carried out a dairy policy with the principal objective of ensuring a "fair standard of living" for EC dairy farmers. The following is a list of the primary tools used to accomplish this objective:

(1) Domestic market intervention--Intervention agencies are obliged to purchase all excess quantities of butter, nonfat dry milk, and certain cheeses on the market with the goal of achieving a target price for milk.

(2) Threshold price and import levies--Threshold prices are set at a level equal to where domestic products could compete with duty-free imports. An import levy is then imposed to raise the minimum offer price of imports to the threshold price. When EC supplies are short, imports are allowed to enter duty free until the threshold price is again achieved. During periods of EC surpluses, the import levy works to discourage imports all together. The threshold price is reviewed every 2 weeks.

(3) Domestic surplus disposal--A variety of methods are used to promote consumption of dairy surpluses, including school milk programs and subsidies to encourage manufacturers to increase their use of butter and nonfat dry milk as intermediate inputs.

(4) Export subsidies--These enable EC dairy processors to compete at the lower world price level.

(5) Production quotas--Since 1984, member States have been required to impose mandatory quotas on either the milk producer (farm) or the milk purchaser (dairy). A tax known as a super-levy is imposed on member States who produce beyond their quota. In December 1986, the Council reinforced the milk quotas by implementing a staged reduction of 9.5 percent on the delivery quota (known as the Guaranteed Quantity) for each member State.[9]

During 1987-88, the new milk quotas caused sharp declines in the production of butter and nonfat dry milk. Production of cheese, drinking milk, and fresh milk products, however, continued to increase in spite of the quotas. French producers were responsible for most of the surplus production and France was reported to owe anywhere between $50 million and $150 million in superlevy penalties in 1988.[10]

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[9]M.C. Hallberg and Woong-Je Cho, The World Dairy Market: Policies, Trade Patterns, and Prospects, Department of Agricultural Economics and Rural Sociology, Pennsylvania State University, p. 3.

[10]Western Europe, Agriculture and Trade Report, USDA, July 1989, p. 27.

CANADA

Farming

During the 1980's, the number of dairy farms in Canada has been steadily declining as many smaller, less efficient farms have been forced to exit the industry. As of the 1988/89 season, there were 36,445 dairy farms in Canada.[11] Of this total, 27,106 farms (or 74 percent) were located in Ontario and Quebec, which together account for almost 80 percent of the country's total milk production.

The Canadian dairy farming sector employs an average of about 65,000 full-time workers. Although precise figures are not available, it is assumed that employment has been declining along with the number of dairy farms.

In recent years, the Canadian dairy industry has made significant improvements in herd management and milk cow productivity. New management techniques such as artificial insemination and milk recording have been largely responsible for increases in productivity. During 1986-88, Canada ranked third in the world for milk yield per cow, after Japan and the United States.

Laboratory testing of bST continues; however, one chemical firm reportedly withdrew its CAN$500 million investment in the hormone because the Canadian Government would not allow the milk to be sold to consumers. Quebec is currently the only Province that will allow bST test herd milk to be sold locally, and only in small amounts.

In Canada, the number of dairy herds has been gradually declining over the years while milk production has continued to rise. The following tabulation summarizes the country's dairy statistics at the farm level during 1986-88:

	Number of dairy cows	Cow's milk production			Milk yield per cow
		Fluid use	Factory use	Total	
	(1,000 animals)	(1,000 metric tons)			(kg per cow)
1986...	1,524	2,774	5,151	7,925	5,200
1987...	1,495	2,795	5,191	7,986	5,342
1988...	1,467	2,821	5,008	8,217	5,602

Source: USDA, FAS.

[11] The Canadian Dairy Commission, Annual Report, 1988-89.

During the period, milk output per cow continued to rise at an increasing rate of 3 percent between 1986 and 1987, and 5 percent between 1987 and 1988. This led to an increase of 292,000 metric tons in total milk production, despite a 4 percent decline in the number of dairy cows. Milk produced for fluid or pasteurized use typically accounted for about 35 percent of total milk production.

There are no known Canadian exports of fresh milk products. Any exports would have to be destined for the U.S. market, owing to the bulk and perishability of the product. This is unlikely, however, because U.S. imports of fluid milk products are prohibited unless they are accompanied by a valid permit from the Secretary of Health and Human Services.

The following tabulation illustrates the typical cost structure for the average size Canadian dairy farm in 1986 (cost figures are given in U.S. dollars):

Item	Per farm
Average number of cows	45
Average number of acres.....	319
Labor units.....	2
Total variable costs.....	$ 69,175
Feed.....	24,613
Labor.....	7,909
Other.....	36,653
Total fixed costs.....	4,200
Subsidies less taxes[1].....	65,786
Depreciation.....	15,597
Returns to capital.....	3,650
Total costs.....	158,408

[1] The figure here shows a net subsidy of $65,786. Although a subsidy generally represents a net benefit to the farmer, it is still shown here as part of total costs because it represents a cost to the Canadian Government.

Source: M.C. Hallberg, et al, Estimates of the Cost of Producing Milk in Seven Major Milk Producing Countries, 1986, final draft of research paper, October 16, 1989.

In Canada, the net subsidy of $1,462 per cow is one of the highest in the world, compared to about $1,113 in the United States and $39 in New Zealand.[12] Feed represents about 36 percent of total variable costs, whereas labor only

[12] Source: M.C. Hallberg, et al, Estimates of the Cost of Producing Milk in Seven Major Milk Producing Countries, 1986, final draft of research paper, October 16, 1989.

represents about 11 percent since Canadian dairy farms are primarily capital intensive. Feed costs in Canada are among the highest in the world, because the lack of high quality grazing land limits opportunities for pasture feeding.

Processing

In 1986, there were 392 dairy processing establishments in Canada, down from 646 in 1973, reflecting an overall trend towards industry concentration. These establishments manufacture one of two different types of products. The first type produces primarily pasteurized milk and creams for immediate consumption and are generally located in or near population centers for quick delivery. The second type, using what is referred to as "industrial" grade milk, produces butter, cheese, milk powders, and other dairy products. These establishments are less concerned with product perishability and are therefore concentrated in rural areas where operating costs are lower.

In Canada approximately 50 percent of the dairy industry consists of farmer-owned co-operatives, 35 percent consists of large public corporations, and the remaining 15 percent are small, private firms. Co-operatives own most of the industrial milk plants, whereas corporations and small private firms account for the bulk of fluid milk processing.

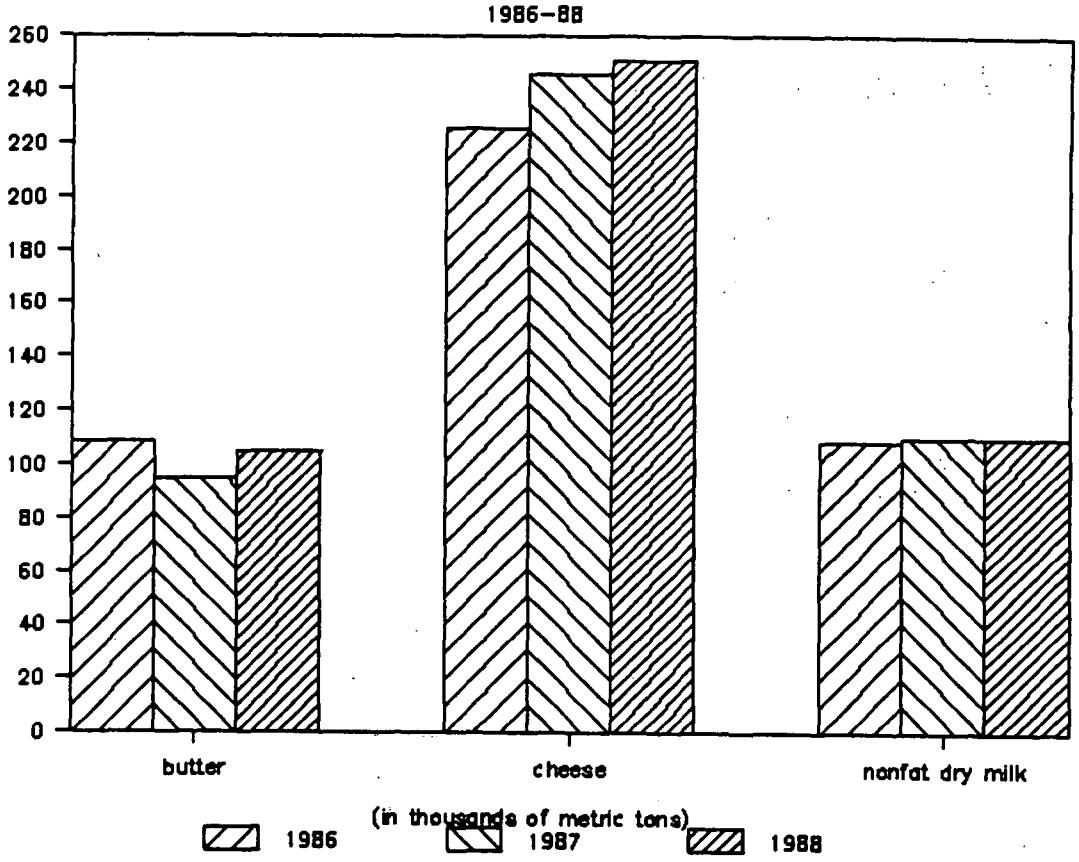
The number of workers employed by the dairy processing industry in Canada is approximately 25,500. This figure has actually remained steady, varying by only 1 or 2 percentage points throughout most of the 1980's.

Technological innovation and industry consolidation are the two primary reasons why the Canadian dairy processing industry has been able to remain internationally competitive. Many of the dairy processing establishments have merged into large, multi-product plants, which gives them the advantage of lower energy and transportation costs. Computers have been installed to monitor every stage of the production process. In some plants, a new, state-of-the-art, ultra-high temperature processing system has been employed to improve the shelf-life quality of fluid-milk products.

As in the case of the United States and the EC, the Canadian Government has been trying to curb domestic production of dairy products in order to

avoid costly subsidies. Figure 6-6 shows trends for Canadian production of processed dairy products during 1986-88 (in thousands of metric tons):

Fig.6-6. Canadian production trends

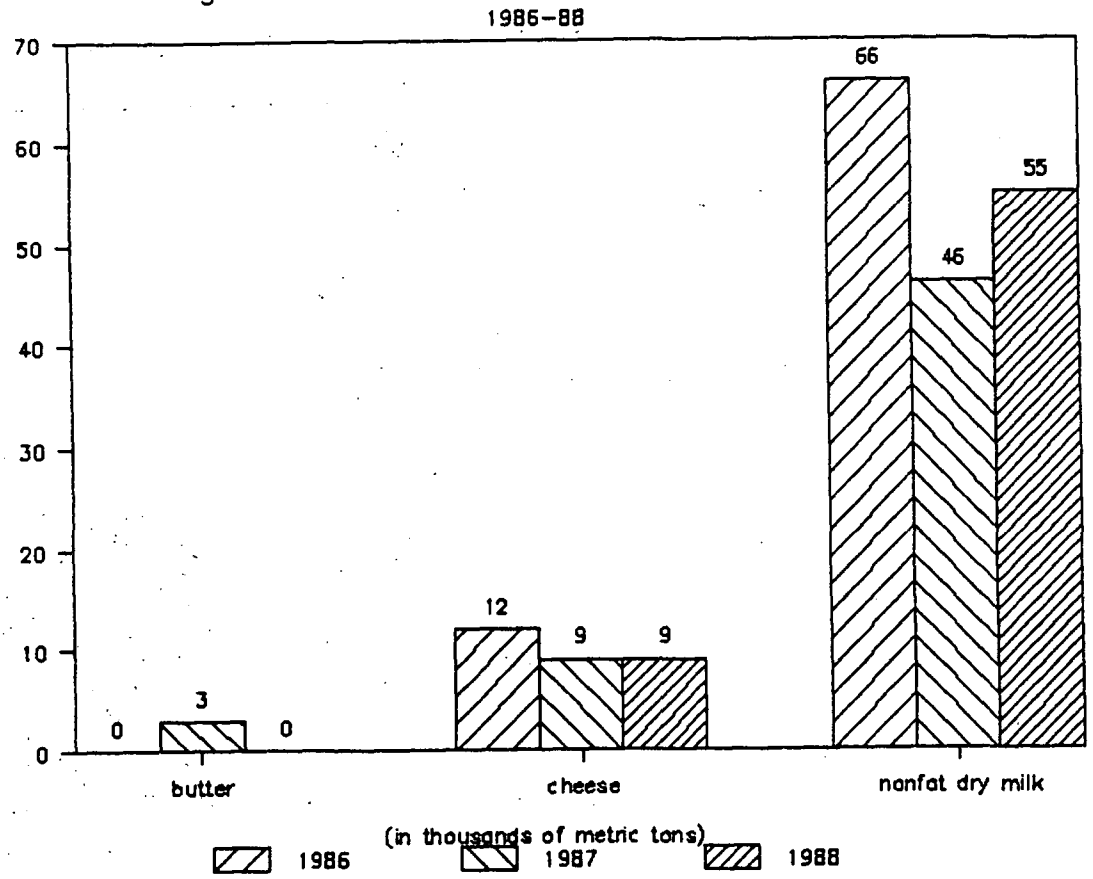


Canadian butter and nonfat dry milk production remained more or less the same during the period, while cheese production rose by almost about 11 percent. Sources indicate that domestic demand for cheese has been rising in recent years, and this has stimulated producers to increase output.

Among the major world producers, Canada is one of the highest cost producers of dairy products; as a result, the amount of subsidies that would be necessary to export the country's surplus production are almost

prohibitive. A summary of Canada's dairy product exports during 1986-88 are illustrated in figure 6-7 (in thousands of metric tons):

Fig. 6-7. Canadian export trends



Nonfat dry milk accounts for, by far, the largest percentage of Canadian dairy product exports, and for about half of total Canadian production. Canadian exports of nonfat dry milk nonetheless declined during 1986-88 by 17 percent and are expected to continue their downward trend through 1989. Despite recent world price increases which were caused by EC supply cuts, Canada has not been able to exploit opportunities in the nonfat dry milk market. On average, Canada accounts for about 8 percent of world trade in nonfat dry milk, but for only a negligible portion of world trade in cheese and butter.

Detailed information on the cost and revenue structure for the Canadian processing industry are not available; however, one source reports that investment in new plants and equipment was CAN$181 million in 1986 and after-tax profits were CAN$183 million in 1986. As a percentage of sales, profits

ranged from 2 to 3 percent during the 1980's.[1]

Government programs and policies

The dairy industry in Canada is subject to rather tight controls on production, imports, and prices. The principal components of Canada's dairy policy are:

(1) Production quotas--Canada has fluid and industrial milk quotas, the latter of which are known as "market share quotas" or MSQs. Each Province has jurisdiction over the allocation of quotas to the individual producers. Producers can sell their MSQ to producers of the same Province only.
(2) Overquota levy--Producers must pay a levy of about 50 percent of the target milk price if they produce over their MSQ. If total deliveries do not exceed the Province's quota, the levies are returned.
(3) Support prices--Subsidies are paid to producers to bring the market price up to a specified target return, which is calculated on the basis of consumer price trends and production costs. To help stabilize market prices, the Canadian Dairy Commission (CDC) purchases dairy products at a specified price. This price is often varied in order to control the amount of subsidy paid to producers.
(4) Coresponsibility levy--If the revenue from the sale of CDC-purchased cheese, butter, and nonfat dry milk is not sufficient to reimburse the Federal Treasury, the difference is made up with a coresponsibility levy assessed producers on their industrial milk production.
(5) Import quotas--Imports of butter and milk powders are prohibited. Imports of cheese are restricted to about 20,400 metric tons (1986).
(6) Export subsidies--Like the United States, Canada has large surpluses of nonfat dry milk, which are often subsidized in order to meet or beat the world price.

Competitive Conditions In Foreign Markets For Dairy Products

MARKET PROFILE

Principal markets for dairy products

Although milk and dairy products are consumed in virtually every part of the world, the United States and the EC are generally regarded as the more

[1]Canada Industry Profile: Dairy Products, 1986.

established markets, and the Soviet Union and Japan as the largest potential markets.

Among the more established markets for dairy products, the EC is by far the largest, both in terms of population size and in terms of traditionally strong consumer demand. Milk and dairy products constitute an important part of the European diet, and per capita consumption of some dairy items, such as cheese, is the highest in the world. With its population of approximately 320 million, the average person in the EC consumes approximately 90 kilograms of fluid milk (whole lowfat, skim, and buttermilk), 5 kilograms of butter, and 13 kilograms of cheese each year. These figures are roughly comparable to those in the United States, although U.S. consumers tend to consume more fluid milk (110 kilograms) and less butter (2 kilograms)[2].

With regard to the potential markets for dairy products, the Soviet Union, in some ways, is already an established market, but many industry experts believe that consumption could be much higher if more products were available. The Soviet Union is actually a large producer of milk, accounting for approximately 25 percent of total world output. Of this amount, only a very small portion ever enters international trade, so that the country is rarely considered a major world competitor. In spite of this large domestic supply, however, and in spite of the recent increases in production during 1986-88, the Soviet Union has still had to increase its imports of certain dairy items (notably butter and nonfat dry milk) in order to meet consumer demand. This is due to the fact that much of the country's milk supply continues to spoil on its way to market. Furthermore, the Government has recently made many public promises to provide the consumer with more meat and milk. As meat appears to have higher priority, the Government has had to order the slaughter of an increasing number of dairy cows for the meat market. Consequently, milk production is expected to go down in the very near future and the potential for foreign suppliers to expand exports is expected to increase.

In the case of Japan, dairy products are not a major part of the Japanese diet. Although Japan does have a dairy industry, high land costs and Government policies restricting land for other uses has afforded little opportunity for expansion. The industry therefore remains small relative to the population and is apparently in need of Government subsidies and protection from imports. In any case, in order for any third country to increase dairy exports to Japan, consumer tastes would have to be further cultivated through marketing and advertising.

In the case of all of the major foreign markets discussed in this section, various Government policies generally restrict the flow of imports so that the full potential of these markets is not yet known.

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[2]Estimated from USDA data.

Trends in apparent consumption during 1986-88

The demand side of the world dairy market over the last decade has been characterized by (1) structural change in consumption, and (2) slow-paced growth. In some countries, however, most notably in Japan, consumption has increased significantly. The following tabulation shows the consumption of dairy products by the major consuming countries during 1986-88 (in thousands of metric tons):

	Fluid Milk	Butter	Cheese	Nonfat dry milk	Casein
1986					
United States.....	26,035	506	2,541	322	107
EC.....	29,220	1,741	3,754	1,546	91
Soviet Union.....	25,858	1,878	855	280	0
Japan.....	4,324	80	105	270	0
Other.....	75,244	2,251	2,357	1,215	9
Total.....	156,357	6,376	9,507	3,363	207
1987					
United States.....	26,359	511	2,673	329	108
EC.....	28,782	1,767	3,867	1,577	91
Soviet Union.....	26,200	2,125	868	310	0
Japan.....	4,519	95	117	260	0
Other.....	76,086	2,273	2,453	1,139	7
Total.....	157,427	6,676	9,861	3,355	206
1988					
United States.....	26,515	499	2,654	312	74
EC.....	29,213	1,770	4,018	1,261	92
Soviet Union.....	27,930	2,124	898	350	0
Japan.....	4,763	95	135	265	0
Other.....	76,308	2,299	2,600	1,110	10
Total.....	159,966	6,692	10,170	3,033	176

As the tabulation shows, world consumption of milk and milk products made no significant gains during 1986-88 in any of the major product categories. Fluid milk consumption rose only by about 1 percentage point each year. In the EC and other parts of Western Europe, consumption actually declined as consumers continued to show preference for other beverages on the market. By contrast, milk consumption rose by 10 percent in Japan, which was the largest increase among the countries. In the case of butter, demand in the developed countries has reportedly been falling as consumers have become concerned about the level of saturated fats in their diet. The increase in the number of butter substitutes which are lower in saturated fats, calories, cholesterol, and price has fueled the decline. Nevertheless, world consumption of butter increased by about 5 percent during 1986-88, as the producing countries continued to use subsidies to find markets for their

excess butter supplies in the developing and centrally planned economies. In the market for cheese, the 6 percent rise in consumption was reportedly due to the positive effects of income and population growth, mostly in the developed countries. Japan, again, made the largest increase in consumption, from 105,000 to 135,000 metric tons, or 29 percent. The decline in overall world consumption of nonfat dry milk is due in large part to Government-induced declines in EC production, which caused world prices to rise in the second half of 1988. For casein, consumption fell as a result of declines in production, which were caused by overall declines in the rate of fluid milk production.

Price levels and trends

International dairy product prices have generally shown an upward trend during 1986-88, as major world producers--particularly the United States and the EC--have undertaken drastic measures to reduce milk output. As a result, world prices in almost all major product categories has increased, as the following tabulation shows, by season (in dollars per metric ton):

Period	Butter[1]	Cheese[1]	Nonfat dry milk[1]
1986			
Spring....	$1,100	$1,150	$ 700
Fall.....	950	1,050	700
1987			
Spring....	925	1,050	800
Fall.....	1,025	1,150	1,020
1988			
Spring....	1,250	1,375	1,350
Fall.....	1,425	1,925	1,900

[1] Prices shown here are the midpoint of the ranges reported by USDA. Prices are free-on-board (f.o.b.) North European and selected world ports.

Source: USDA.

As the tabulation shows, the prices paid for dairy products are generally higher during the fall when supplies are lower than in the spring. During 1986-88, prices rose sharply for all 3 dairy products, and particularly for nonfat dry milk, which rose by 171 percent. Although these price increases may be partly attributable to inflation, regional droughts in the United States and New Zealand, along with Government-induced supply cuts in the EC and again in the United States, are the factors mostly responsible. In the case of nonfat dry milk, Government-held stocks in the EC and the United States quickly diminished as Government incentives to reduce milk production took effect. In the United States, the domestic price of nonfat dry milk rose

above the CCC purchase price of $1,604 per metric ton in June 1988. The CCC has not had to purchase nonfat dry milk since that time, and all U.S. exports of nonfat dry milk were made on a commercial basis in 1989.

Imports

Imports of dairy products by the principal consuming countries have increased significantly during 1986-88. The following tabulation summarizes the trends in world imports of dairy products for each of the major product groups during the period (in thousands of metric tons):

	Butter	Cheese	Nonfat dry milk	Casein
1986				
United States.....	2	134	1	108
EC.....	82	106	46	18
Soviet Union.....	194	17	0	0
Japan.....	2	81	91	0
Other.....	92	158	381	0
Total.....	372	496	519	126
1987				
United States.....	2	120	1	108
EC.....	75	110	1	14
Soviet Union.....	403	13	0	0
Japan.....	2	94	95	0
Other.....	88	127	358	0
Total.....	570	464	455	122
1988				
United States.....	2	115	1	74
EC.....	76	111	10	20
Soviet Union.....	350	15	0	0
Japan.....	23	114	130	0
Other.....	95	121	288	1
Total.....	546	476	429	95

Butter was by far the most actively traded dairy product during 1986-88, with total world imports increasing by over 50 percent. This is in large part due to the decline in EC butter stocks, which led to an increase in EC imports of approximately 46 percent. In addition, the Soviet Union increased its imports by more than 80 percent. Imports of cheese made moderate gains worldwide, whereas in Japan they increased over 40 percent. Imports of nonfat dry milk and casein declined during the period, for the most part owing to Government-induced supply cuts which have caused international prices to spiral upward. The EC, the United States, and New Zealand continue to be the world's leading suppliers of nonfat dry milk, while New Zealand and the EC supply most of the world's casein.

Customs treatment

European Community.--In the EC, most dairy products are not covered by a tariff but by an import levy. The only exceptions are yogurt and certain other acidified milk and cream products when containing flavoring or added fruit or cocoa. The current rate on these items is 13 percent ad valorem, plus a "variable component" determined by trade regulating authorities concerned with processed agricultural products. This variable component, in effect, is an import tax assessed during periods when the Council deems it necessary to restrict imports.

All other dairy products in the EC are subject to an import levy. An import levy is more flexible than an established duty rate in that it can be changed periodically to achieve the desired flow of imports. The amount of the levy is set by first determining the lowest offer price of imports for each dairy product type. A threshold price is then established at a level equal to where domestic products can compete with duty-free imports. The lowest offer price for imports is subtracted from the threshold price and the difference is the import levy. When EC supplies are low, imports are allowed to enter duty free until prices approach the threshold level. During periods of EC surpluses, the levy prevents imports from underselling domestic dairy products. The threshold price is reviewed every two weeks.

Soviet Union.--In the Soviet Union, tariff rates are listed but are not meaningful because the State retains absolute control over all international trade. The duty rate on milk and milk products, excluding butter, is set at a minimum of free and a maximum of 20 percent. For butter, which is included with all other edible fats of animal origin, the minimum duty rate is 3 percent and the maximum is 15 percent.

In order to sell goods in the Soviet Union, a foreign supplier must negotiate with the State agency in charge of the particular commodity area. At this time, currency regulations are the major restraint facing any foreign producer interested in exporting goods to the Soviet Union. The Soviet ruble is nonconvertible on the foreign currency market and therefore has no value outside of the Soviet Union. State agencies can use only hard currency to purchases foreign goods, and its use is subject to State priorities. In the case of dairy products, the Soviet Union has a very a large dairy industry which is generally self-sufficient; however, during 1986-88, the industry has been slaughtering large numbers of dairy cows so that the Government can fulfill its promise to provide consumers with more meat. Consequently, the Government has had to allow more imports of dairy products.

Japan.--As is the case in the United States, dairy products in Japan are subject to ad valorem duty rates. The duty rates in the "General" column range from 30 to 45 percent, and in the "GATT" column, from 25 to 45 percent. In addition, Japan maintains a "Preferential" column with duty rates for countries with GSP or other special trade agreements, and a "Temporary" column, in which an adjusted or suspended duty rate can last for 1 year (generally from April 1 to March 31).

With the exception of natural cheese, dairy products in Japan are subject to import quotas and restrictions, which many foreign suppliers regard as almost prohibitive. In recent years, Japan has been conducting mostly bilateral negotiations with the affected countries in order to eliminate some of the restrictions. In April 1989, processed cheese imports were liberalized, and in April 1990, imports of ice cream and frozen yogurt will receive similar treatment. The United States is currently the sole supplier of frozen yogurt to Japan, and the product seems to be drawing considerable interest from Japanese consumers.

Factors influencing demand

European Community.--The demand for fresh milk and cheese in the EC are assumed to be relatively price inelastic. Although there are many alternatives for milk as a beverage, there are no alternatives for milk when used in the manufacture of ice cream and frozen yogurt. Cheese is also price inelastic; however, many of the lower-quality cheeses are more price sensitive at higher income levels. Butter is perhaps the most price elastic among the dairy products because of margarine and a growing number of other substitutes; however, it is probably less price elastic at moderate-to-high income levels than in the United States. Periodically, the EC has had to subsidize consumption of butter when the price approached certain levels, which indicates that the demand for butter is price sensitive.

Soviet Union.--Information regarding price and income elasticities for dairy products in the Soviet Union is unavailable. Prices are poor indicators of consumer spending patterns because they are not determined by market demand. Milk and milk products are a traditional part of the Soviet diet, and even with the recent increases in production, demand still exceeds supply. Although margarine is readily available in the Soviet Union, one source reports that the Soviet consumer strongly prefers butter.[3] Consequently, imports from the United States and the EC have been rising to compensate for short supplies.

Japan.--Compared to other developed countries, total demand for milk and milk products in Japan is price elastic. This is because dairy products are still a relatively insignificant part of the Japanese diet. Although consumer interest is reportedly spreading, large increases in household income are not expected to bring about correspondingly large increases in dairy product consumption. Thus far, most dairy products in Japan--particularly cheese, yogurt, and ice cream--have been regarded as high-income products. Demand at higher income levels is therefore more price inelastic, whereas demand at lower levels is more price elastic, as consumers are more likely to respond to changes in price.

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[3]F.A.S. telegram, October 10, 1989.

Marketing practices

European Community.--In the EC, prices are controlled by the EC Community Council of Agricultural Ministers (the Council). Much like the Commodity Credit Corporation in the United States, the EC has intervention agencies to purchase all excess supplies of butter, nonfat dry milk, and cheese with a goal of achieving a target price for milk. Once the target price for milk has been set, the Council protects that price by using a threshold pricing system and an import levy to prevent interference from lower-priced imports. (see discussion on EC customs treatment). During 1986-88, the target price for milk was maintained at 27.84 European Currency Units (ECUs) per 100 kilograms.

In addition to price setting mechanisms, the EC Council and the individual member States often take measures to encourage milk consumption. This is an important factor because many other EC Council practices have encouraged overproduction, which in turn has led to saturated internal markets. One example of a policy designed to generate more demand for milk is the school lunch program. In most EC member States, fresh drinking milk is usually available to primary and secondary school students at a subsidized price. This is also a common practice in the United States. In the case of processed dairy products, the EC Council occasionally authorizes the sale of butter at distressed prices to consumers or manufacturers to use as an input. Animal feed and casein producers also receive subsidies for increasing their use of nonfat dry milk and liquid skim milk in their products.

Soviet Union.--As stated earlier, the market has very little effect on the prices of most milk and milk products in the Soviet Union. The Government sets the prices on all dairy items in State-owned stores, which receive their supply from the collective farms. At the farmers' markets, however, milk and other dairy items can be found at market prices, which are always higher. These items are generally of a higher quality because they come from private family plots, where there appears to be more care given. These plots are generally less than 0.5 hectares in area, but they can account for as much as 25-35 percent of the output.

In the Soviet Union, there are no known programs to encourage dairy product consumption or foster market growth. As stated above, the Government maintains firm control over prices in the State-run stores, thus eliminating their role in balancing supply and demand. Unlike the United States, where prices for dairy products are artificially high as a subsidy to the farmer, in the Soviet Union prices are artificially low as a subsidy to the consumer. This subsidy, however, does not always materialize because of the constant shortages in supply.

Japan.--In Japan, market forces play only a small role in determining prices for milk and milk products; instead, a Government agency known as the Livestock Industry Promotion Council (LIPC) maintains price stability by buying and selling dairy products in the market, much the same way as the CCC in the United States. The LIPC will purchase butter, nonfat dry milk, and condensed milk when the price of each falls 90 percent or less of the

established support price ("stabilization indicative price." In contrast, when prices reach a level of 104 percent or more of the support price, the LIPC releases its stocks on the market. If domestic stocks are not available for sale on the market, the LIPC then purchases products on the world market.

With regard to methods of subsidizing consumption, the Government issues what is known as "deficiency payments" to manufacturing milk producers in order to help them make sales to milk product manufacturers. This subsidy, in effect, guarantees the manufacturing milk producers a certain minimum price for their milk, while at the same time encouraging user firms to increase their demand for milk as an input. In the long run, this kind of subsidy prevents the price of products containing milk from spiraling upward.

Factors Affecting Competition in U.S. and Foreign Markets

EFFECTS OF U.S. IMPORT BARRIERS ON THE ABILITY OF THE DAIRY INDUSTRY TO COMPETE IN DOMESTIC AND FOREIGN MARKETS

U.S. quotas on imports of many types of dairy products restrict import supply to an average of less than 2 percent of U.S. annual milk production, or about 3 percent of U.S. consumption of dairy products. Casein, lactose, and chocolate blocks are the principal milk-derived products not subject to import quotas; as such, they (along with specialty cheeses that are subject to quotas) comprise the bulk of U.S. dairy imports.

The Federal Government restricts imports of dairy products primarily to prevent them from interfering with the Federal dairy price support program. If imports were unlimited, the U.S. Federal Government, in an effort to maintain targeted price levels, would have to increase its purchases of dairy products through the CCC. For similar reasons, practically all major dairy-producing countries likewise restrict imports. Consequently, only about 5 percent of world production of dairy products actually enters international trade.

The impact of U.S. trade barriers on the ability of the U.S. dairy industry to compete in domestic and international markets has been the target of much debate in recent years. Those who oppose the elimination of the trade barriers (such as the National Milk Producers Federation (NMPF)) argue that the domestic industry could not survive the declines in revenues resulting from excess supply and lower prices. Those in favor of removing the barriers believe that not only would U.S. consumers benefit from lower prices, but that the United States could actually become a net exporter of certain manufactured dairy products, particularly nonfat dry milk, which is currently price competitive on the world market. Both sides agree, however, that the United States should not unilaterally remove all its dairy quotas without reciprocal action from other major producing and consuming countries. In addition, most experts agree that all forms of dairy market intervention--both domestic and across borders--would have to be dismantled in order for free market prices to

prevail worldwide.

A complex array of domestic controls on production and marketing prevents the U.S. dairy market from resembling anything like a free market. "Competition" in such a market does not exist, at least in the usual textbook sense, where an aggregation of numerous buyers and sellers sets prices and quantities. Of course, there are numerous milk producers (but much fewer suppliers, because most farmers belong to cooperatives) and numerous consumers. However, prices and quantities are set not by the market, but by Federal and State Government policy; as such, competitive forces per se are limited in the U.S. dairy market.

Given this structure of the dairy market, dairy import quotas have their effect not on dairy producers, but on the Federal and State treasuries; quotas reduce the Government expenditures necessary to operate an effective system of dairy support programs by limiting the supply, and raising the price, of dairy products on the domestic market. Dairy import quotas have no direct effect on the prices received by dairy farmers--the dairy sector the programs are designed to support; they merely benefit the taxpayer. This is consistent with the purpose of the quota program, which is not to provide another form of support to domestic producers, but to prevent the effects of domestic support programs from spilling over into foreign industries.

Quotas also alter the product mix available to consumers, in two ways. First, they restrict the availability of some imported products for which there are no domestic substitutes. Second, by limiting the import supply of some dairy products, quotas have probably stimulated increased imports of other, uncontrolled imports. Casein and chocolate blocks are two examples of items whose (unrestricted) importation is probably greater in the presence of import quotas on other dairy products[4] than would be the case without such quotas.[5]

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[4] Imports of chocolate blocks may also be encouraged by quotas on sugar and sugar-containing articles.

[5] Whether such increased imports materially interfere with dairy price-supports (and, therefore, with Government expenditures, not with dairy market competition), is a question within the scope not of this investigation but of a section 22 investigation. In an earlier section 22 investigation concerning alleged material interference by imports of casein and related products with the U.S. dairy price-support program, the U.S. International Trade Commission found that such imports were not being, and were not practically certain to be, imported into the United States under such conditions and in such quantities as to render ineffective, or materially interfere with, the USDA price support program for milk, or to reduce substantially the amount of any product processed in the United States from domestic milk. Casein, Mixtures in Chief Value of Casein, and Lactalbumin, Report to the President on Investigation No. 22-44 Under Section 22 of the Agricultural Adjustment Act, USITC Publication 1217, January 1982, p. 1.

Casein is produced from fluid skim milk; it is the principal protein in milk and is found only in milk. Its principal uses include raw material for such foods as imitation cheese, nondairy creamer and artificial whipped cream. Domestic production of casein is nil, most likely because the price support for nonfat dry milk makes the latter a more profitable product than casein (one can transform milk into casein or nonfat dry milk, but not both); were it not for the price-support program, casein would probably be imported in smaller quantities, and domestic casein production would grow at the expense of nonfat dry milk output. At the wholesale and retail levels, the demand for casein-based foods (and, therefore, the derived demand for imported casein) is probably made greater by the price-enhancing effects of dairy support programs. To the extent that Government price supports and dairy import quotas make casein less expensive relative to nonfat dry milk, consumer demand for casein-based foods may increase at the expense of foods containing dry milk. Therefore, the burden of dairy support programs (including import quotas) falls on consumers of fluid milk and milk-containing foods and on producers of those milk-containing foods whose prices are not supported by the Government.

Chocolate blocks are used for, among other purposes, coatings on candies. They typically contain about 20 percent by weight of dry milk, and their importation would affect the domestic milk industry to the extent that they are substituted for domestically produced chocolate manufactured from domestic milk. The Commission was requested by the American Dairy Products Institute to assess in this investigation several questions relating to the effects of imports of chocolate block on the economic condition of the domestic dairy industry and on the operation of the price support program, and the effects of extending import quotas to cover chocolate blocks.[6] These questions are beyond the scope of a section 332 investigation; they are addressed generally in a recent study by the General Accounting Office, to which the interested reader is referred.[7]

COSTS OF PRODUCTION

With the exception of the policies employed by most of the major milk-producing countries of the world in order to protect their local dairy industries, the cost of the production of milk is perhaps the most important

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[6] "Comments of the American Dairy Products Institute Before the United States International Trade Commission, Investigation #332-281," December 29, 1989, pp. 2-3. Similar requests were filed with the Commission by Senator Jesse Helms (North Carolina), Senator Charles E. Grassley (Iowa), Senator Charles S. Robb (Virginia), Senator Paul Simon (Illinois), and Representative Obey (Wisconsin).

[7] Dairy Imports: Issues Relating to Chocolate Products, Briefing Report to Congressional Requesters, United States General Accounting Office, GAO/RCED-89-159BR, July 1989.

factor affecting competition in the U.S. and foreign dairy markets. Technology is believed to be sufficiently disseminated in dairy-product processing, that it is not a significant factor in affecting competition in world dairy markets, except in a few possible selective product areas such as specialty cheese.

The cost of producing milk in the United States and the major dairy-product exporting countries, as most recently reported by the U.S. Department of Agriculture (USDA) (in 1978), is shown in the following tabulation:

Country	U.S. dollars per hundredweight
The Netherlands.....	9.78
United States.....	8.92
West Germany.....	8.51
France.....	7.75
Argentina.....	7.68
Ireland.....	6.73
Australia.....	5.68
New Zealand.....	4.27
Canada.....	[1]

[1] Not available.

As shown above, New Zealand is, by far, the lowest cost milk-producing country, although Australia and, to a lesser degree, Ireland are at the lower end of the spectrum. There does not appear to have been any significant change in the relative cost position of the individual countries showing above during the past two decades. For example, estimates of 1986 milk production costs in major producing countries were presented in a recent draft study that essentially mirror the relative cost positions shown above.[8] These estimates for the seven selected countries are shown in the following tabulation (in U.S. dollars per hundredweight):

[8] "Estimates of the Cost of Producing Milk in Seven Major Milk Producing Countries, 1986," draft paper dated Oct. 16, 1989; available from Carolyn Betts Liebrand, Economic Research Service, USDA.

Items	Canada	West Germany	France	Ireland	The Netherlands	New Zealand	United States
Subsidies less taxes...	$11.42	$8.43	$6.71	$3.95	$7.87	$0.57	$7.47
Variable costs:							
Feed.....	4.27	5.66	4.40	1.03	3.92	0.41	4.35
Labor.....	1.37	.68	1.53	.30	.27	.33	.89
Other.....	6.36	7.96	8.23	2.35	4.59	2.81	1.92
Total.....	12.00	14.30	14.16	3.68	8.78	3.55	7.16
Fixed costs.....	.73	1.68	1.13	1.43	.33	.34	2.02
Depreciation.....	2.71	3.12	2.15	2.11	.86	.45	1.09
Returns to capital.....	.63	.73	.50	.49	.20	.07	.25
Total costs....	27.49	28.26	24.65	11.66	18.04	4.98	18.00

"Subsidies less taxes" are reported to capture those costs of milk production levied against the taxpayers. As shown, these costs are fairly significant for all of the countries shown above, except New Zealand. Indeed, the data suggest that the most significant cost of milk production in these countries is Government support. Of the countries examined, feed costs are significantly lower in New Zealand and, to a lesser degree, Ireland, reflecting long grazing periods induced by generally favorable grass-growing climates.

The authors of the study suggested that little can be concluded from the data obtained on labor costs largely because of the failure to distinguish between paid and unpaid labor. Transportation costs were negligible for all countries except the United States. Of note, however, is the significantly higher "other" variable costs reported for virtually all countries compared with those of the United States. The costs of fertilizer, energy, interest, and repairs generally account for most of this difference. Overall, the cost per hundredweight of milk production is higher in Canada, West Germany, and France than in the United States or in the Netherlands, and lower in New Zealand and to a lesser degree, Ireland.

INDUSTRY STRUCTURE

In virtually all countries of the world, milk is produced on a large number of dairy farms (mostly family owned) that are relatively near the population centers. Usually the milk is sold to independently owned plants or processors located near the areas of production. A large number of farmers generally sell milk to a few plants (buyers of the milk). It is not uncommon, therefore, for milk marketing to be regulated via some form of governmental action. The plants that buy the raw milk process it into milk for local fluid consumption or into dairy products, most of which can be transported for long distances. Sometimes, however, the milk is processed and marketed by plants owned and operated by farmer-owned cooperatives, dairy boards, or

associations. Although the production and processing of milk is rather labor intensive, both dairy farms and processing plants have become more automated in recent years and technological developments continue to occur throughout the industry. For the most part, farms and farmer-owned cooperatives operate in the domestic market only. However, some processing and marketing operations are owned by some of the world's largest multinational enterprises. Normally these firms limit their marketing of dairy products to the countries, or areas, in which the products are produced.

Similar products are inherently made from milk in both U.S. and foreign industries and, for most processed products, except fluid milk and semi-fluid products (e.g. ice cream and yogurt), market segments are not limited other than by various nontariff measures. Sometimes, however, the sale of certain dairy products is limited to those produced in specified areas. For example, the only cheese that may be sold in France as "Roquefort" is that made from sheep's milk, produced in and certified by the community of Roquefort, France. In 1953, the community registered the certification mark "Roquefort" with the U.S. Patent Office. In 1962, a U.S. Federal court reaffirmed the right of the community of Roquefort to the exclusive use in the United States of the "Roquefort" certification mark. In a similar fashion, the blue-veined cheese known as Stilton is produced exclusively in the United Kingdom and the marketing of Stilton is limited to the cheese produced in that area.

Certain dairy products are not produced in some countries largely because of economic considerations; hence, imports supply all of the market segments. For example, casein is not produced from milk in the United States because butter/powder plants find it more profitable to make nonfat dry milk from their fluid skim milk than to produce casein. However, the United States is the world's largest importer of casein. The U.S. market segment is supplied largely by New Zealand and the EC.

Estimates of Tariff Equivalents For U.S. Dairy Quotas

This section presents estimates of tariff equivalents for U.S. quotas on dairy products. The tariff equivalents are estimated by the price-gap method, which, as noted in ch. 1, requires the assumption that domestic and imported products are perfect substitutes. This assumption may be acceptable for some dairy products such as dry whole milk and nonfat dry milk, but for some products, such as cheese, there are likely to be significant differences in quality between U.S. and imported products. Consequently, in such cases the price-gap method is unlikely to capture the actual price effect of the quota. The world prices used for the price-gap estimates are the f.o.b. foreign port prices plus freight and handling charges to eastern U.S. ports.[9]

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[9] Many of the U.S. domestic prices used for the price-gap estimates are f.o.b. prices for midwestern points. Dairy experts at the U.S. Department of

(continued...)

Conversations with staff of the Foreign Agricultural Service (FAS) of the U.S. Department of Agriculture (USDA) revealed that data on world prices do not exist for dairy products at the Harmonized Tariff Schedule (HTS) eight-digit level. However, FAS maintains world-price series for dry whole milk, nonfat dry milk, butter, butteroil, and cheese.[10] These five price series will serve as a basis for the estimates of the tariff equivalents of the U.S. dairy quotas.

Table 6-1 presents the tariff equivalents for dry whole milk (DWM) for the years 1986, 1987, and 1988. The U.S. domestic price ranged from $1.137 per pound in 1986 to $1.172 per pound in 1988 and world prices ranged from $0.419 per pound in 1986 to $0.685 per pound in 1988.[11] Using these price gaps the ad valorem tariff equivalent estimates for the quotas on DWM range from 160.6 percent in 1986 to 64.5 percent in 1988. Specific tariff equivalent estimates range from 67.3 cents per pound in 1986 to 44.2 cents per pound in 1988.

Table 6-2 presents the tariff equivalents for nonfat dry milk (NFDM). The U.S. domestic price ranged from $0.816 per pound in 1986 to $0.824 per pound in 1988 and world prices ranged from $0.318 per pound in 1986 to $0.737 per pound in 1988. The ad valorem tariff equivalent estimates for the quotas on NFDM range from 142.5 percent in 1986 to 5.7 percent in 1988. This dramatic decrease was a result of the large rise in NFDM prices on world markets. The specific tariff equivalent is estimated to range from 45.3 cents per pound in 1986 to 4.2 cents per pound in 1988.

Tables 6-3 and 6-4 report the tariff equivalent estimates for butter and butteroil. The U.S. domestic price for butter ranged from $1.445 per pound in 1986 to $1.325 per pound in 1988 and world prices ranged from $0.459 per pound in 1986 to $0.607 per pound in 1988. The U.S. domestic price for butteroil ranged from $2.037 per pound in 1986 to $1.886 per pound in 1988 and world

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[9](...continued)
Agriculture considered the difference in price between midwestern points and eastern points to be negligible. Accordingly, the U.S. domestic price data are not adjusted in these estimates.

[10] Dairy experts at FAS point out that this category is comprised primarily of cheddar cheese. Therefore, the data in this series are assumed to represent the world price of cheddar cheese.

[11] The U.S. domestic prices for dairy products are from Dairy Market Statistics published by USDA except for the butteroil prices which are derived from the following formula:

(price of Grade A butter $/lb x 1.25) + 0.23 $/lb = price of butteroil $/lb

This formula was provided by dairy experts at USDA. The world price data for dairy products are from World Dairy Situation published by USDA except for the dry whole milk prices which are from unpublished documents of FAS.

prices ranged from $0.533 per pound in 1986 to $0.612 per pound in 1988. The ad valorem equivalents for the quotas on butter ranged from 190.2 percent in 1986 to 95.9 percent in 1988. For butteroil the tariff equivalents ranged from 273.7 percent in 1986 to 200.8 percent in 1988. In specific terms, the price gap for butter ranged from 87.3 cents per pound in 1986 to 58.2 cents per pound in 1988, and for butteroil it ranged from 145.9 cents per pound in 1986 to 122.9 cents per pound in 1988.

Table 6-5 presents the tariff equivalents for cheddar cheese. The U.S. domestic price for cheddar cheese ranged from $1.273 per pound in 1986 to $1.238 per pound in 1988 and world prices ranged from $0.499 per pound in 1986 to $0.748 per pound in 1988. The ad valorem equivalents of the quotas on this cheese ranged from 123.5 percent in 1986 to 47.3 percent in 1988. The estimates for the specific tariff equivalents for the quotas range from 66.1 cents per pound in 1986 to 35.4 cents per pound in 1988.

The above estimated tariff equivalents are also used to approximate tariff equivalents for quotas on other eight-digit HTS items specified in Chapter 99. These approximations are necessary since the data required for direct price comparison at the eight-digit HTS level are unavailable. As an alternative to the price-gap method, tariff equivalents for these other items are also estimated using the percent of butterfat and milk solids contained in the product. For example, if a product contains 33 percent butterfat and 10 percent milk solids then one-third of the butter specific tariff estimate is added to one-tenth of the nonfat dry milk specific tariff estimate to obtain a specific tariff estimate for the product.[12] This content method is also used for those products where world price data exist in order to compare the content estimates with the price-gap estimates.

Table 6-6 presents the tariff equivalents by eight-digit chapter 99 quota line. The tariff equivalents for the fluid milk products (HTS quota lines 9904.10.03 and 9904.10.06) are estimated solely by the contents method because world price data on fluid dairy products are unavailable.[13] The estimations for the dried milk products (HTS quota lines 9904.10.09 through 9904.10.18) are taken from tables 1 and 2.[14] The tariff equivalents for butter

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[12] The butter estimate was chosen over the butteroil estimate because actual domestic and world price data were available for butter. However, since butter is approximately 80 percent butterfat, the butter tariff estimate that is used in the contents method estimation is scaled to represent a tariff equivalent of butter that is 100 percent butterfat.

[13] The tariff equivalent estimates for HTS line 9904.10.03 are based on the contents of the imports of New Zealand cream imports which are approximately 45 percent butterfat and 8.3 percent nonfat milk solids. The tariff equivalent estimates for HTS line 9904.10.06 are based on the contents of whole milk which is approximately 3.7 percent butterfat and 8.3 percent nonfat milk solids.

[14] Because world price data are unavailable for other dried milk products (ODMP) (HTS line 9904.10.15) and dried whey (DW) (HTS line 9904.10.18), the

(continued...)

(9904.10.21) and butteroil (9904.10.24) are taken from tables 3 and 4, respectively. The tariff equivalents for the various cheeses (HTS quota lines 9904.10.27 through 9904.10.57) are based on the cheddar cheese price gap calculated in table 5.[15] Caution must be exercised when using the cheddar gap for the other cheeses owing to the great differences between cheddar and other cheeses. Moreover, the estimates based on the butterfat and milk solids content of a particular cheese should also be interpreted with care since this calculation does not account for quality differences among the various

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[14](...continued)
specific tariff equivalent (TE) estimates for DWM are used as proxies for the specific TEs for ODMP and the specific TE estimates for NFDM are used as proxies for the specific TEs for DW. Ad valorem TEs for ODMP and DW cannot be accurately computed from specific TEs and import unit values because unit values are likely to overstate the world price. Unit values overstate the world price because of quality upgrading that often occurs with quota-restrained imports and the possibility that a portion of quota rents may go to exporters. Therefore, to obtain the ad valorem TEs for ODMP and DW, the following calculation is performed based on the assumption that the ratio of unit values for the products is approximately equal to the ratio of the prices of the products. The ad valorem TE of DWM is multiplied by the ratio of the unit values (unit value of DWM/unit value of ODMP), and similarly, the ad valorem TE for NFDM is multiplied by the ratio of unit values (unit value of NFDM/unit value of DW). Based on the above assumptions, it can be shown that the former calculation results in an ad valorem TE for ODMP and the latter an ad valorem TE for DW. For example, since the unit value ratio (UV_{DWM}/UV_{ODMP}) is 0.458 in 1986, then the ad valorem tariff equivalent estimate for ODMP in 1986 is 0.458 times the ad valorem estimate for DWM (or 0.458 x 160.6 percent = 73.5 percent). Similarly, since the unit value ratio (UV_{NFDM}/UV_{DW}) is 1.256 in 1986, then the ad valorem tariff equivalent estimate for ODMP in 1986 is 1.256 times the ad valorem estimates for DWM (or 1.256 x 142.5 percent = 179.0 percent).

[15] When world price data are unavailable, the ad valorem TE estimates for the various cheeses are calculated using the same method used for "other dried milk products" and "dried whey." That is, the specific TE for cheddar cheese is used as a proxy for the specific TE for the other cheeses. The ad valorem TE for each other cheese is then calculated by multiplying the ad valorem TE for cheddar cheese by the ratio of the unit value of cheddar cheese to the unit value of the other cheeses. For example, since the ratio of the unit value of cheddar cheese to the unit value of blue cheese (UV_{CC}/UV_{BC}) is 0.794 in 1986, then the ad valorem tariff equivalent estimate for blue cheese in 1986 is 0.794 times the ad valorem estimate for cheddar cheese (or 0.794 x 132.5 percent = 105.2 percent). In all but one case, the other cheeses have higher prices than cheddar cheese, and consequently, the ad valorem tariff equivalent estimates for these other cheeses are less than the cheddar cheese ad valorem estimates.

cheeses.[16] The tariff equivalents for the chocolate HTS lines (9904.10.63 and 9904.10.66) are estimated solely by the content method because of a lack of data.[17] The estimations for the remainder of the tariff schedule (HTS quota lines 9904.10.60 and 9904.10.69 through 9904.10.81) are taken from the above tables where appropriate or approximated by the content method.[18]

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[16] The butterfat content and milk solids content used for the various cheeses are as follows:

Cheese	Butterfat	Solids
	-----percent-----	
Blue cheese.....	30.5	25.0
Cheddar/American.....	32.0	25.0
Edam/Gouda.....	30.0	27.5
Italian.....	35.0	-
Swiss.....	27.5	27.4

[17] The estimates for the chocolate HTS lines (9904.10.63 and 9904.10.66) are based on a content of 22.7 percent dry whole milk.

[18] Tariff equivalents for HTS quota lines 9904.10.69 and 9904.10.75 are approximated by the dry whole milk estimations. As before, the ad valorem tariff equivalent estimates for 9904.10.69 are scaled by the relative price of 9904.10.69 to 9904.10.12. Tariff equivalents for HTS line 9904.10.78 are approximated by the butter estimations. Tariff equivalents for HTS line 9904.10.60 are approximated based on the contents of cream. Tariff equivalents for HTS line 9904.10.72 are approximated based on the contents of ice cream which is 20 percent butterfat and 15 percent nonfat milk solids. Tariff equivalents for HTS line 9904.10.81 are approximated based on a content of 45 percent butterfat.

Table 6-1
Tariff equivalents for dry whole milk, 1986-88

Year	Average world price[1]	Average freight & handling charges	Average world price gross of freight & handling	Average U.S. price[2]	Tariff equivalent	
					Specific (Price gap)	Ad valorem[3]
	Cents per kg					Percent
1986	92.4	9.9	102.3	250.7	148.4	160.6
1987	92.2	9.9	107.1	258.4	151.3	164.1
1988	151.0	9.9	172.0	258.4	97.5	64.5

[1] F.o.b., foreign port.
[2] F.o.b., eastern points.
[3] As a percent of the average world price.

Source: World price data supplied by the United States Department of Agriculture (USDA), Foreign Agricultural Service (FAS), Dairy, Livestock and Poultry division; freight and handling charges provided by the USDA, FAS, Dairy, Livestock and Poultry division; U.S. price data are from USDA, Agricultural Marketing Service, Dairy Market Statistics; specific and ad valorem tariff equivalents computed by the staff of the U.S. International Trade Commission.

Table 6-2
Tariff equivalents for nonfat dry milk, 1986-88

Year	Average world price[1]	Average freight & handling charges	Average world price gross of freight & handling	Average U.S. price[2]	Tariff equivalent	
					Specific (Price gap)	Ad valorem[3]
	Cents per kg					Percent
1986	70.1	9.9	80.0	179.9	99.9	142.5
1987	101.0	9.9	110.9	179.2	68.3	67.6
1988	162.5	9.9	172.4	181.7	9.3	5.7

[1] F.o.b., foreign port.
[2] Grade A nonfat dry milk, f.o.b. central points.
[3] As a percent of the average world price.

Source: World price data are from the United States Department of Agriculture (USDA), Foreign Agricultural Service (FAS), World Dairy Situation; freight and handling charges provided by the USDA, FAS, Dairy, Livestock and Poultry division; U.S. price data are from USDA, Agricultural Marketing Service, Dairy Market Statistics; specific and ad valorem tariff equivalents computed by the staff of the U.S. International Trade Commission.

Table 6-3
Tariff equivalents for butter, 1986-88

Year	Average world price[1]	Average freight & handling charges	Average world price gross of freight & handling	Average U.S. price[2]	Tariff equivalent	
					Specific (Price gap)	Ad valorem[3]
	Cents per kg					Percent
1986	101.2	24.9	126.1	318.6	192.5	190.2
1987	97.5	27.6	131.6	309.1	177.5	182.1
1988	133.8	30.0	163.8	292.1	128.3	95.9

[1] F.o.b., foreign port.
[2] Grade A butter, delivered Chicago metropolitan area.
[3] As a percent of the average world price.

Source: World price data are from the United States Department of Agriculture (USDA), Foreign Agricultural Service (FAS), World Dairy Situation; freight and handling charges provided by the USDA, FAS, Dairy, Livestock and Poultry division; U.S. price data are from USDA, Agricultural Marketing Service, Dairy Market Statistics; specific and ad valorem tariff equivalents computed by the staff of the U.S. International Trade Commission.

Table 6-4
Tariff equivalents for butteroil, 1986-88

Year	Average world price[1]	Average freight & handling charges	Average world price gross of freight & handling	Average U.S. price[2]	Tariff equivalent	
					Specific (Price gap)	Ad valorem[3]
	Cents per kg					Percent
1986	117.5	9.9	127.4	449.1	321.7	273.8
1987	115.1	9.9	125.0	437.2	312.2	271.2
1988	134.9	9.9	144.8	415.8	271.0	200.9

[1] F.o.b., foreign port.
[2] Based on the Grade A butter price, see fn. 3 in text.
[3] As a percent of the average world price.

Source: World price data are from the United States Department of Agriculture (USDA), Foreign Agricultural Service (FAS), World Dairy Situation; freight and handling charges provided by the USDA, FAS, Dairy, Livestock and Poultry division; U.S. price data are from USDA, Agricultural Marketing Service, Dairy Market Statistics; specific and ad valorem tariff equivalents computed by the staff of the U.S. International Trade Commission.

Table 6-5
Tariff equivalents for cheddar cheese, 1986-88

Year	Average world price[1]	Average freight & handling charges	Average world price gross of freight & handling	Average U.S. price[2]	Tariff equivalent	
					Specific (Price gap)	Ad valorem[3]
	Cents per kg					Percent
1986	110.0	24.9	134.9	280.7	145.8	132.5
1987	110.0	27.6	137.6	271.6	134.0	121.8
1988	164.9	30.0	194.9	272.9	78.0	47.3

[1] F.o.b., foreign port.
[2] 40-pound blocks, f.o.b., Wisconsin.
[3] As a percent of the average world price.

Source: World price data are from the United States Department of Agriculture (USDA), Foreign Agricultural Service (FAS), World Dairy Situation; freight and handling charges provided by the USDA, FAS, Dairy, Livestock and Poultry division; U.S. price data are from USDA, Agricultural Marketing Service, Dairy Market Statistics; specific and ad valorem tariff equivalents computed by the staff of the U.S. International Trade Commission.

Table 6-6
Tariff equivalents for the dairy sector by Harmonized Tariff Schedule classification, 1986-88

HTS Item No.	Tariff equivalent based on FAS world price data						Tariff equivalent based on butterfat and solids content		
	Ad Valorem			Specific			Specific		
	1986	1987	1988	1986	1987	1988	1986	1987	1988
	----Percent-----			----------Cents per kg----------					
Fluid milk products									
9904.10.03.....	(1)	(1)	(1)	(1)	(1)	(1)	116.6	109.4	73.0
9904.10.06.....	(1)	(1)	(1)	(1)	(1)	(1)	17.2	14.1	6.6
Dried milk products									
9904.10.09.....	142.5	67.7	5.7	99.9	68.3	9.3	(1)	(1)	(1)
9904.10.12.....	160.6	155.6	64.5	148.4	151.2	97.5	(1)	(1)	(1)
9904.10.15.....	73.5	(1)	(1)	148.4	151.2	97.5	(1)	(1)	(1)
9904.10.18.....	179.0	88.0	5.5	99.9	68.3	9.3	(1)	(1)	(1)
Butter									
9904.10.21.....	190.2	188.9	95.9	192.5	184.1	128.3	(1)	(1)	(1)
Butteroil									
9904.10.24.....	273.7	271.3	200.8	321.7	312.2	271.0	(1)	(1)	(1)
Cheese									
9904.10.27.....	105.2	88.9	34.7	145.7	134.0	78.0	98.3	87.3	51.4
9904.10.30.....	132.5	121.8	47.3	145.7	134.0	78.0	101.9	90.8	53.6
9904.10.33.....	172.5	(1)	(1)	145.7	134.0	78.0	101.9	90.8	53.6
9904.10.36.....	92.4	72.1	27.2	145.7	134.0	78.0	99.7	87.7	50.7
9904.10.39.....	115.0	112.6	42.8	145.7	134.0	78.0	99.7	87.7	50.7
9904.10.42.....	74.7	67.0	27.5	145.7	134.0	78.0	84.2	80.5	56.2
9904.10.45.....	96.6	91.5	40.3	145.7	134.0	78.0	84.2	50.5	56.2
9904.10.48.....	83.5	78.9	30.8	145.7	134.0	78.0	93.5	82.0	46.7

Table 6-6--Continued
Tariff equivalents for the dairy sector by Harmonized Tariff Schedule classification, 1986-88

HTS Item No.	Tariff equivalent based on FAS world price data						Tariff equivalent based on butterfat and solids content		
	Ad Valorem			Specific			Specific		
	1986	1987	1988	1986	1987	1988	1986	1987	1988
	----Percent-----			----------Cents per kg----------					
Cheese, continued									
9904.10.51.....	115.9	106.4	38.9	145.7	134.0	78.0	93.5	82.0	46.7
9904.10.54.....	(1)	(1)	(1)	145.7	134.0	78.0	(1)	(1)	(1)
9904.10.57.....	(1)	(1)	(1)	145.7	134.0	78.0	(1)	(1)	(1)
Chocolate									
9904.10.63.....	(1)	(1)	(1)	(1)	(1)	(1)	33.7	34.4	22.0
9904.10.66.....	(1)	(1)	(1)	(1)	(1)	(1)	33.7	34.4	22.0
Other									
9904.10.60.....	(1)	(1)	(1)	(1)	(1)	(1)	116.6	109.4	72.9
9904.10.69.....	150.3	140.7	69.6	148.4	151.2	97.5	(1)	(1)	(1)
9904.10.72.....	(1)	(1)	(1)	(1)	(1)	(1)	63.1	56.2	35.1
9904.10.75.....	(1)	(1)	(1)	148.4	151.2	97.5	(1)	(1)	(1)
9904.10.78.....	(1)	(1)	(1)	192.5	184.1	128.3	(1)	(1)	(1)
9904.10.81.....	(1)	(1)	(1)	(1)	(1)	(1)	108.3	103.6	71.9

[1] Not applicable.

Source: Estimated by the staff of the U.S. International Trade Commission.

APPENDIX A
LETTER OF REQUEST FROM THE
UNITED STATES TRADE REPRESENTATIVE

THE UNITED STATES TRADE REPRESENTATIVE
Executive Office of the President
Washington, D.C. 20506

SEP 20 1989

The Honorable Anne Brunsdale
Chairman
U.S. International Trade Commission
500 E Street, S.W.
Washington, D.C. 20436

Dear Madam Chairman:

To assist in our work in the Uruguay Round negotiations on agriculture I request, under authority delegated by the President and pursuant to section 332 (g) of the Tariff Act of 1930, that the Commission institute an investigation for the purpose of providing me with the following reports:

1. A calculation of the tariff equivalents of U.S. import quotas on dairy products, peanuts, cotton and sugar and sugar containing products for the individual years 1986-1988. The U.S. proposal for tariffication calls for a tariff equivalent to be established for each item falling under a non-tariff import barrier. Hence, the calculations should be done for each product falling under U.S. import quotas during 1986-1988.

2. A calculation of the tariff equivalent of the voluntary export restraint agreements the U.S. negotiated on meat imports in 1987 and 1988.

3. All competitive and economic factors affecting the performance of the dairy, peanut, cotton, sugar and beef industries in the domestic market and in foreign markets.

We recognize that the calculation of specific tariff equivalents may be problematical but identifying the problems and attempting to deal with them will be an important part of this exercise.

The information on tariffication that the Commission provided in Investigation No. 332-258 was helpful in submitting our proposal on tariffication to the GATT Negotiating Group on Agriculture in July of this year. However, the tariffication provided in that investigation was of a general nature, and this request is for specificity. The tariff equivalents provided in response to this request should be at the 8-digit tariff line level of the Harmonized Tariff Schedule of the United States, or at a more detailed product level if appropriate.

In analyzing the competitive and economic factors affecting the performance of the dairy, peanut, cotton, sugar and beef industries we are particularly interested in the effect of the import barrier or foreign export restraint, as the case may be,

on the ability of the industry to compete in the domestic market and in foreign markets.

The Uruguay Round will end in December 1990. In order for the information requested to be of the most help to us we would like to have the tariffication information at the earliest possible date but not later than February 28, 1990.

In accordance with USTR policy, I direct you to mark as "confidential" such portions of the Commission's report and its working papers as my Office will identify in a classification guide. Information Security Oversight Office Directive No. 1, section 2001.21 (implementing Executive Order 12356, sections 2.1 and 2.2) requires that classification guides identify or categorize the elements of information which require protection. Accordingly, I request that you provide my Office with an outline of this report as soon as possible. Based on this outline and my Office's knowledge of the information to be covered in the report, a USTR official with original classification authority will provide detailed instructions.

The Commission's assistance in this project is greatly appreciated.

Sincerely,

Carla A. Hills

OFFICE OF THE UNITED STATES
TRADE REPRESENTATIVE
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON
20506

September 22, 1989

MEMORANDUM

TO: WILLIAM THOMAS HART
DIRECTOR, OFFICE OF EXECUTIVE
AND INTERNATIONAL LIAISON
U.S. INTERNATIONAL TRADE COMMISSION

FROM: LEONARD W. CONDON
DEPUTY ASSISTANT U.S. TRADE REPRESENTATIVE
FOR AGRICULTURAL AFFAIRS

SUBJECT: Due Date for USITC Report on Tariffication and Competitive Factors for Agricultural Products Subject to Quotas

On September 20 Ambassador Carla Hills requested the Commission to institute an investigation for the purpose of providing USTR with a calculation of tariff equivalents of U.S. import quotas on dairy products, peanuts, cotton and sugar and sugar-containing products, and of the voluntary export restraint agreements on U.S. meat imports.

In the final preparation of Ambassador Hills' letter of request to the Commission, there was an omission in the statement of the due date for reporting the requested information to USTR.

It was our intention to indicate that the tariffication information and the competitiveness analysis should both be submitted as soon as possible, but not later than February 28, 1990. Therefore, the sentence in the letter dealing with this point is hereby revised to read as follows: "In order for the information requested to be of the most help to us we would like to have the tariffication information and the competitiveness analyses at the earliest possible date but not later than February 28, 1990."

APPENDIX B
FEDERAL REGISTER NOTICE OF THE INVESTIGATION

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

(Investigation No. 332-281)

ESTIMATED TARIFF EQUIVALENTS OF U.S. QUOTAS ON AGRICULTURAL IMPORTS AND ANALYSIS OF COMPETITIVE CONDITIONS IN U.S. AND FOREIGN MARKETS FOR SUGAR, MEAT, PEANUTS, COTTON, AND DAIRY PRODUCTS

AGENCY: United States International Trade Commission.

ACTION: Institution of investigation.

SUMMARY: Following receipt on September 21, 1989, of a request from the U.S. Trade Representative pursuant to authority delegated by the President, the Commission instituted investigation No. 332-281 under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) for the purpose of providing the following:

(1) A calculation of the tariff equivalents of U.S. import quotas on dairy products, peanuts, cotton and sugar and sugar-containing products for the individual years 1986, 1987, and 1988;

(2) A calculation of the tariff equivalent of the voluntary export restraint agreements the United States negotiated on meat imports in 1987 and 1988; and

(3) An analysis of competitive and economic factors affecting the performance of the sugar, meat, peanut, cotton, and dairy industries in the domestic market and in foreign markets.

The USTR requested that the Commission furnish such advice not later than February 28, 1990.

EFFECTIVE DATE: October 25, 1989.

FOR FURTHER INFORMATION CONTACT: For information on other than the legal aspects of the study, contact Roger Corey (202-252-1327) or David Ingersoll (202-252-1309), Agriculture Division, Office of Industries, U.S. International Trade Commission. For information on the study's legal aspects, contact William Gearhart (202-252-1091), Office of the General Counsel, U.S. International Trade Commission. Hearing-impaired persons can obtain information on this study by contacting our TDD terminal on (202) 252-1810.

WRITTEN SUBMISSIONS: Interested persons may submit written statements concerning the investigation. To be assured of consideration, written

statements must be received by the close of business on December 29, 1989. Commercial or financial information that a submitter desires the Commission to treat as confidential must be submitted on separate sheets of paper, each clearly marked "Confidential Business Information" at the top. All submissions requesting confidential treatment must conform to the requirements of section 201.6 of the Commission's Rules of Practice and Procedure (19 CFR 201.6). All written submissions, except for confidential business information, will be made available for inspection by interested persons. All submissions should be addressed to the Secretary at the Commission's office in Washington, DC.

By order of the Commission.

Kenneth R. Mason
Secretary

Issued: October 26, 1989

APPENDIX C
SECTION 22 IMPORT QUOTAS

SUBCHAPTER IV

ADDITIONAL IMPORT RESTRICTIONS ESTABLISHED PURSUANT TO SECTION 22 OF THE AGRICULTURAL ADJUSTMENT ACT, AS AMENDED

U.S. Notes

1. This subchapter covers the provisions established pursuant to section 22 of the Agricultural Adjustment Act, as amended (7 U.S.C. 624), imposing import fees, herein referred to as duties, and quantitative limitations on articles imported into the United States. The duties provided for in this subchapter are cumulative duties which apply in addition to the duties, if any, otherwise imposed on the articles involved. Unless otherwise stated, the duties and quantitative limitations provided for in this subchapter apply until suspended or terminated.

2. Exclusions.--The import restrictions provided for in this subchapter do not apply with respect to:

   (a) Articles imported by or for the account of any agency of the United States;

   (b) Commercial samples of cotton or cotton waste of any origin in uncompressed packages each weighing not more than 22.65 kilograms gross weight; and articles (except cotton and cotton waste) with an aggregate value not over $25 in any shipment, if imported as samples for taking orders, for the personal use of the importer or for research;

   (c) Articles entered for exhibition, display or sampling at a trade fair or for research, but only if written approval of the Secretary of Agriculture or his designated representative is presented at the time of entry or bond is furnished in a form prescribed by the Commissioner of Customs in an amount equal to the value of the merchandise as set forth in the entry plus the estimated duty as determined at the time of entry, conditioned upon the production of such written approval within 6 months from the date of entry; and

   (d) Cotton produced in the United States with respect to which the Secretary of Agriculture shall have certified that there has been exported without benefit of subsidy, as an offset to the proposed reentry, an equal or greater number of kilograms of cotton produced in the United States, of any grade or staple.

   (e) Blended syrups of heading 9904.50.20, if entered by a foreign trade zone user, to the extent that the annual quantity entered into the customs territory does not contain an amount of sugar of nondomestic origin greater than that authorized by the Foreign Trade Zones Board for processing by such user during calendar year 1985.

3. (a) Dairy products.--

   (i) Imported articles subject to the import quotas provided for in subheadings 9904.10.09 through 9904.10.60, except 9904.10.24, may be entered only by or for the account of a person or firm to which a license has been issued by or under the authority of the Secretary of Agriculture, and only in accordance with the terms of such license; except that no such license shall be required for up to 833,417 kilograms per quota year of natural Cheddar cheese, the product of Canada, made from unpasteurized milk and aged not less than 9 months, which prior to exportation has been certified to meet such requirements by an official of the Canadian Government. Such licenses shall be issued under regulations of the Secretary of Agriculture which he determines will, to the fullest extent practicable, result in the equitable distribution of the respective quotas for such articles among importers or users and facilitate the utilization of the quotas by the supplying countries, taking due account of any special factors which may have affected or may be affecting the trade in the articles concerned.

   (ii) Under subheading 9904.10.30 not more than 4,702,889 kilograms of the annual quota quantity shall be products other than natural Cheddar cheese made from unpasteurized milk and aged not less than 9 months.

   (iii) Notwithstanding any other provision of this subchapter, if the Secretary of Agriculture determines that a quantity specified in the column entitled "Quota Quantity" opposite the name of any country is not likely to be entered from such country within any calendar year, he may provide with respect to such article for the adjustment for that calendar year, within the aggregate quantity of such article permitted to be entered from all countries during such calendar year, of the quantities of such article which may be entered during such year from the countries specified as countries of origin for such article. The Secretary of Agriculture shall notify the Secretary of the Treasury of such adjustment and, with respect to country of origin adjustments for any article for which a license is not required, file notice thereof with the Federal Register. With respect to articles for which a license is not required, such adjustment shall become effective 3 days after the date of publication in the Federal Register.

   (iv) For the purposes of this subchapter, the term "soft ripened cow's milk cheese" means cheese which:

      (A) Has a prominent crust formed on the exterior surface as a result of curing or ripening by biological curing agents such as molds, yeasts or other microorganisms;

      (B) Visibly cures or ripens from the surface toward the center;

      (C) Has a fat content by weight (on a moisture-free basis) of not less than 50 percent; and

      (D) Has a moisture content (calculated by weight of the non-fatty matter) of not less than 65 percent, but does not include cheese with mold distributed throughout its interior.

(b) Cotton Waste.--For the purposes of subheading 9904.30.50, the minimum quota in column (A) is that part of the total quota in column (C) which must be reserved for comber waste made from cotton 30.1625 mm (1-3/16 inches) or more in staple length, and the unreserved quota in column (B) is that part of the total quota available for any quota-type waste, including comber waste made from cotton 30.1625 mm (1-3/16 inches) or more in staple length.

(c) Suspension.--Notwithstanding any other provision of this subchapter, the quantitative limitations for the articles provided for in heading 9904.20.10 are suspended beginning January 26, 1974.

4. Sugars and syrups.--

(a) Licenses may be issued by the Secretary of Agriculture or his designee authorizing the entry of articles exempt from the fees provided for in subheadings 9904.40.20, 9904.40.40 and 9904.40.60 of this subchapter on the condition that such articles will be used only for the production (other than by distillation) of polyhydric alcohols, except polyhydric alcohols for use as a substitute for sugar in human food consumption. Such licenses shall be issued under regulations of the Secretary of Agriculture which he determines are necessary to insure the use of such articles only for such purposes.

(b) "Not to be further refined or improved in quality" as used in subheading 9904.40.20 means not to be further refined or improved in quality by being subjected substantially to the processes of (1) affination or defecation, (2) clarification or (3) further purification by absorption or crystallization.

(c) (i) The quarterly adjusted fee provided for in subheadings 9904.40.20 and 9904.40.60 shall be the amount of the fee for subheading 9904.40.40 plus 2.2 cents per kilogram.

(ii) The quarterly adjusted fee provided for in subheading 9904.40.40 shall be the amount by which the average of the adjusted daily spot (domestic) price quotations for raw sugar for the 20 consecutive market days immediately preceding the 20th day of the month preceding the calendar quarter during which the fee shall be applicable (as reported by the New York Coffee, Sugar and Cocoa Exchange) expressed in United States cents per kilogram, in bulk, is less than the applicable market stabilization price: Provided, That whenever the average of such daily spot (domestic) price quotations for 10 consecutive market days within any calendar quarter, (1) exceeds the market stabilization price by more than 2.2 cents, the fee then in effect shall be decreased by 2.2 cents per kilogram, or (2) is less than the market stabilization price by more than 2.2 cents, the fee then in effect shall be increased by 2.2 cents per kilogram. The adjusted daily spot (domestic) price quotation for any market day shall be the daily spot (domestic) price quotation for such market day less the amount of the fee for subheading 9904.40.40 that is in effect on that day. For any market day for which the New York Coffee, Sugar and Cocoa Exchange does not report a daily spot (domestic) price for raw sugar, then the Secretary Agriculture (the Secretary) shall use such other price as he determines appropriate.

(iii) The market stabilization price that shall be applicable to each fiscal year (October 1-September 30) shall be determined and announced by the Secretary in accordance with this note no later than 30 days prior to the beginning of the fiscal year for which such market stabilization price shall be applicable. The market stabilization price shall be equal to the sum of: (1) the price support level for the applicable fiscal year, expressed in cents per kilogram of raw cane sugar; (2) adjusted average transportation costs; (3) interest costs, if applicable; and (4) 0.44 cents. The adjusted average transportation costs shall be the weighted average cost of handling and transporting domestically produced raw cane sugar from Hawaii to Gulf and Atlantic Coast ports, as determined by the Secretary. Interest costs shall be the amount of interest, as determined, or estimated by the Secretary, that would be required to be paid by a recipient of a price support loan for raw cane sugar upon repayment of the loan at full maturity. Interest costs shall only be applicable if a price support loan recipient is not required to pay interest upon forfeiture of the loan collateral.

(iv) Notwithstanding the provisions of paragraph (iii) hereof, if the Secretary determines that there is a significant change in any one or more of the elements comprising the market stabilization price during the fiscal year, the Secretary shall adjust the market stabilization price within the fiscal year to reflect such change. The Secretary shall announce any such adjusted market stabilization price and file notice thereof with the Federal Register. This adjusted market stabilization price will become effective the first calendar quarter following its announcement or, if the Secretary announced it less than 30 days before the beginning of a new calendar quarter, then it will become effective the second calendar quarter following its announcement. Any adjusted market stabilization price, once effective, shall remain in effect through the remainder of the fiscal year unless it is adjusted further in accordance with this paragraph.

Note: The shaded area indicates that these U.S. notes have been suspended.

(v) The Secretary shall determine the amount of the quarterly fees in accordance with this note and shall announce such fees not later than the 25th day of the month preceding the calendar quarter during which the fees shall be applicable. The Secretary shall certify the amount of such fees to the Commissioner of Customs and file notice thereof with the Federal Register prior to the beginning of the calendar quarter during which the fees shall be applicable. The Secretary shall determine and announce any adjustment in the fees made within a calendar quarter in accordance with the proviso of paragraph (ii) hereof, shall certify such adjusted fees to the Commissioner of Customs, and shall file notice thereof with the Federal Register within 3 market days of the fulfillment of that proviso.

(vi) If an adjustment is made in the fee in accordance with the proviso of paragraph (ii) hereof, any subsequent adjustment made within that quarter shall only be made on the basis of the average spot price for any 10 consecutive market day period following the effective date of the immediately preceding fee adjustment. No adjustment shall be made in any fee in accordance with the proviso of paragraph (ii) hereof during the last fifteen market days of a calendar quarter.

(vii) Any adjustment made in a fee during a quarter in accordance with the proviso of paragraph (ii) hereof shall be effective only with respect to sugar entered or withdrawn from warehouse for consumption after 12:01 a.m. (local time at point of entry) on the day following the filing of notice thereof with the Federal Register. Provided, That such adjustment in the fee shall not apply to sugar exported (as defined by Customs in accordance with 19 C.F.R. 152.1) on a through bill of lading to the United States from the country of origin before such time. The exemption contained in the preceding proviso shall apply regardless of whether the adjustment in the fee is upward or downward.

(d) The following provisions have been suspended pursuant to executive action: subparagraphs (c)(ii) through (c)(vii), inclusive, of this note and subheading 9904.40.40.

Note: The shaded area indicates that these U.S. notes have been suspended.

HARMONIZED TARIFF SCHEDULE of the United States (1990)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Quota Quantity			
		Whenever, in any 12-month period beginning January 1 in any year, the respective aggregate quantity specified below for one of the numbered classes of articles has been entered, no article in such class may be entered during the remainder of such period:					
9904.10.03	1/	Milk and cream, fluid or frozen, fresh or sour, containing over 6 percent but not over 45 percent by weight of butterfat:					
		New Zealand	1/	5,678,117 liters			
		Other	1/	None			
				Evaporated		Condensed	
				In air-tight containers (in kilograms)	Other (in kilograms)	In air-tight containers (in kilograms)	Other (in kilograms)
9904.10.06	1/	Milk and cream, condensed or evaporated, classifiable for tariff purposes under subheadings 0402.91.20, 0402.91.40, 0402.99.20 and 0402.99.40:					
		Netherlands	1/	548,393	None	153,314	None
		Canada	1/	31,751	None	994,274	2,267
		Denmark	1/	4,989	None	605,092	None
		West Germany	1/	9,979	None	None	None
		Australia	1/	None	None	91,625	None
		Other	1/	None	None	3,628	None
				Quota Quantity (in kilograms)			
		Dried milk, dried cream and dried whey provided for in chapter 4:					
9904.10.09	1/	Described in subheadings 0402.10 and 0402.21.20	1/	819,641			
9904.10.12	1/	Described in subheadings 0402.21.40 and 0403.90.50	1/	3,175			
9904.10.15	1/	Described in subheadings 0402.21.60 and 0403.90.60	1/	226			
9904.10.18	1/	Described in subheadings 0403.90.40 and 0404.10.40	1/	224,981			
9904.10.21	1/	Butter, and fresh or sour cream containing over 45 percent by weight of butterfat, provided for in chapter 4	1/	320,689			
9904.10.24	1/	Butter substitutes containing over 45 percent by weight of butterfat provided for in subheading 0405.00.80 or 2106.90.15 and butter oil however provided for in the tariff schedule	1/	544,310			
		Cheeses and substitutes for cheese provided for in chapter 4:					
9904.10.27	1/	Blue-mold cheese (except Stilton produced in the United Kingdom) and cheese and substitutes for cheese containing, or processed from, blue-mold cheese (provided for in subheading 0406.10, 0406.20.20, 0406.20.60, 0406.30.10, 0406.30.60, 0406.40.60, 0406.40.80 or 0406.90.80:					
		European Economic Community	1/	2,479,000			
		Argentina	1/	2,000			
		Other	1/	1			

1/ See chapter 99 statistical note 2.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Quota Quantity (in kilograms)
		Whenever, in any 12-month period beginning January 1 in any year, the respective aggregate quantity specified below for one of the numbered classes of articles has been entered, no article in such class may be entered during the remainder of such period (con.):		
		Cheeses and substitutes for cheese provided for in chapter 4 (con.):		
9904.10.30	1/	Cheddar cheese, and cheese and substitutes for cheese containing, or processed from, Cheddar cheese (provided for in subheading 0406.10, 0406.20.30, 0406.20.60, 0406.30.20, 0406.30.60, 0406.90.10 or 0406.90.80:		
		European Economic Community.....	1/	263,000
		Australia..	1/	1,200,000
		New Zealand.....	1/	3,100,000
		Canada.....	1/	833,417
		Other.....	1/	139,889
9904.10.33	1/	American-type cheese, including Colby, washed curd and granular cheese (but not including Cheddar) and cheese and substitutes for cheese containing, or processed from, such American-type cheese (provided for in subheading 0406.10, 0406.20.35, 0406.20.60, 0406.30.30, 0406.30.60, 0406.90.65 or 0406.90.80:		
		European Economic Community.....	1/	254,000
		Australia..	1/	1,000,000
		New Zealand.....	1/	2,000,000
		Other.....	1/	168,556
9904.10.36	1/	Edam and Gouda cheeses (provided for in subheading 0406.10, 0406.20.40 or 0406.90.15):		
		European Economic Community.....	1/	4,011,000
		Sweden.....	1/	41,000
		Argentina.....	1/	125,000
		Other.....	1/	1
9904.10.39	1/	Cheese and substitutes for cheese containing, or processed from, Edam and Gouda cheese (provided for in subheading 0406.10, 0406.20.40, 0406.20.60, 0406.30.40, 0406.30.60 or 0406.90.80):		
		European Economic Community.....	1/	1,237,000
		Norway.....	1/	167,000
		Other.....	1/	25,401
9904.10.42	1/	Italian-type cheeses, made from cow's milk, in original loaves (Romano made from cow's milk, Reggiano, Parmesan, Provolone, Provoletti and Sbrinz) (provided for in subheading 0406.10, 0406.90.35 or 0406.90.40):		
		European Economic Community.....	1/	3,335,000
		Argentina.....	1/	3,850,000
		Uruguay.....	1/	428,000
		Other.....	1/	1
9904.10.45	1/	Italian-type cheeses, made from cow's milk, not in original loaves (Romano made from cow's milk, Reggiano, Parmesan, Provolone, Provoletti, Sbrinz and Goya) and cheese and substitutes for cheese containing, or processed from, such Italian-type cheeses, whether or not in original loaves (provided for in subheading 0406.10, 0406.20.50, 0406.20.60, 0406.30.60, 0406.90.30, 0406.90.35, 0406.90.40, 0406.90.70 or 0406.90.80):		
		European Economic Community.....	1/	47,000
		Argentina.....	1/	643,000
		Other.....	1/	13,063

1/ See chapter 99 statistical note 2.

HARMONIZED TARIFF SCHEDULE of the United States (1990)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Quota Quantity (in kilograms)
		Whenever, in any 12-month period beginning January 1 in any year, the respective aggregate quantity specified below for one of the numbered classes of articles has been entered, no article in such class may be entered during the remainder of such period (con.):		
		Cheese and substitutes for cheese provided for in chapter 4 (con.):		
9904.10.48	1/	Swiss or Emmentaler cheese with eye formation (provided for in subheading 0406.90.45):		
		European Economic Community	1/	6,000,000
		Austria	1/	6,280,000
		Finland	1/	8,200,000
		Norway	1/	6,883,000
		Switzerland	1/	3,430,000
		Israel	1/	27,000
		Australia	1/	500,000
		Canada	1/	70,000
		Iceland	1/	300,000
		Argentina	1/	80,000
		Other	1/	85,276
9904.10.51	1/	Swiss or Emmentaler cheese other than with eye formation, Gruyere-process cheese and cheese and substitutes for cheese containing, or processed from, such cheeses (provided for in subheading 0406.10, 0406.20.60, 0406.30.50, 0406.30.60 or 0406.90.80):		
		European Economic Community	1/	3,625,000
		Austria	1/	920,000
		Finland	1/	1,000,000
		Switzerland	1/	1,850,000
		Other	1/	79,833
9904.10.54	1/	Cheeses and substitutes for cheese provided for in subheading 0406.10, 0406.20.60, 0406.30.60 or 0406.90.80 (except cheese not containing cow's milk and soft ripened cow's milk cheese, cheese (except cottage cheese) containing 0.5 percent or less by weight of butterfat and articles within the scope of other import quotas provided for in this subchapter):		
		European Economic Community	1/	20,456,000 (of which 353,000 are reserved for Portugal)
		Finland	1/	1,300,000
		Iceland	1/	323,000
		Norway	1/	150,000
		Poland	1/	936,224
		Sweden	1/	1,059,000
		Switzerland	1/	1,220,000
		New Zealand	1/	11,322,000
		Canada	1/	1,141,000
		Austria	1/	650,000
		Israel	1/	673,000 (no more than 160,000 of which shall contain more than 3 percent by weight of butterfat)
		Argentina	1/	100,000
		Australia	1/	1,050,000
		Other	1/	201,635
9904.10.57	1/	Cheese, and substitutes for cheese, containing 0.5 percent or less by weight of butterfat, provided for in subheading 0406.10, 0406.20.60, 0406.30.60 or 0406.90.80 (except articles within the scope of other import quotas provided for in this subchapter):		
		European Economic Community	1/	4,000,000
		Poland	1/	174,807
		Australia	1/	250,000
		New Zealand	1/	1,000,000
		Sweden	1/	250,000
		Israel	1/	50,000
		Other	1/	1

1/ See chapter 99 statistical note 2.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Quota Quantity (in kilograms)
		Whenever, in any 12-month period beginning January 1 in any year, the respective aggregate quantity specified below for one of the numbered classes of articles has been entered, no article in such class may be entered during the remainder of such period (con.):		
9904.10.60	1/	Malted milk, and articles of milk or cream (provided for in subheading 0402.29, 0402.99.60, 0404.90.20, 1704.90.40, 1901.10, 1901.90.30, or 2202.90.20).....	1/	2,721
9904.10.63	1/	Chocolate provided for in subheading 1806.20.40, 1806.20.80, 1806.32.20, or 1806.90 containing over 5.5 percent by weight of butterfat (except articles for consumption at retail as candy or confection):		
		Ireland.....	1/	4,286,491
		United Kingdom.....	1/	3,379,287
		Netherlands.....	1/	45,359
		Australia.....	1/	2,000,000
		New Zealand.....	1/	1
		Other.....	1/	None
9904.10.66	1/	Chocolate provided for in subheadings 1806.20.40, 1806.20.80, and 1806.32.20, and articles containing chocolate provided for in subheadings 1806.20.80, 1806.90.00 and 1901.90.80 and heading 2105.00.00, containing 5.5 percent or less by weight of butterfat (except articles for consumption at retail as candy or confection):		
		United Kingdom.....	1/	421,845
		Ireland.....	1/	1,700,988
		New Zealand.....	1/	1
		Other.....	1/	None
9904.10.69	1/	Animal feeds containing milk or milk derivatives, classified under subheading 2309.90.30:		
		Ireland.....	1/	5,470,323
		United Kingdom.....	1/	83,914
		New Zealand.....	1/	1,782,618
		Australia.....	1/	56,699
		Other.....	1/	None
				Quota Quantity (in liters)
9904.10.72	1/	Ice cream, as provided for in heading 2105.00:		
		Belgium.....	1/	922,315
		New Zealand.....	1/	589,312
		Denmark.....	1/	13,059
		Netherlands.....	1/	104,477
		Jamaica.....	1/	3,596
		Other.....	1/	None
9904.10.75	1/	Dried milk, whey and buttermilk (described in subheading 0402.10, 0402.21.20, 0402.21.40, 0403.90.40 or 0404.10.40) which contains not over 5.5 percent by weight of butterfat and which is mixed with other ingredients, including but not limited to sugar, if such mixtures contain over 16 percent milk solids by weight, are capable of being further processed or mixed with similar or other ingredients and are not prepared for marketing to the retail consumers in the identical form and package in which imported; all the foregoing mixtures provided for in subheadings 0404.90.60, 1517.90.40, 1704.90.60, 1806.20.80, 1806.32.40, 1806.90, 1901.20, 1901.90.80 and 2106.90.50, except articles within the scope of other import restrictions provided for in this subchapter.....	1/	None

1/ See chapter 99 statistical note 2.

HARMONIZED TARIFF SCHEDULE of the United States (1990)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Quota Quantity (in kilograms)	
		Whenever, in any 12-month period beginning January 1 in any year, the respective aggregate quantity specified below for one of the numbered classes of articles has been entered, no article in such class may be entered during the remainder of such period (con.):			
		Articles containing over 5.5 percent by weight of butterfat, the butterfat of which is commercially extractable, or which are capable of being used for any edible purpose (except articles provided for in heading 0401, 0402, 0405 or 0406, or subheading 1517.90.40, 1704.90.60, 1806.20.80, 1806.32.40, 1806.90, 1901.10,1901.20 or 1901.90.30 and except articles which are not suitable for use as ingredients in the commercial production of edible articles):			
9904.10.78	1/	Over 45 percent by weight of butterfat...	1/	None	
9904.10.81	1/	Over 5.5 percent but not over 45 percent by weight of butterfat and classifiable for tariff purposes under subheading 0404.90.40, 0404.90.60, 1704.90.60, 1806.20.80, 1806.32.40, 1806.90, 1901.90.40, 1901.90.80, 2105.00, 2106.90.40 or 2106.90.50:			
		Australia	1/	1,016,046	
		Belgium and Denmark (aggregate)	1/	154,221	
		Other	1/	None	
9904.20.10	1/	Whenever, in any 12-month period beginning May 29 in any year, the respective quantity specified below of wheat fit for human consumption (provided for in heading 1001) or of milled wheat products fit for human consumption (provided for in heading 1101, 1103 or 1104) the product of a specified foreign country or area has been entered, no such wheat or milled wheat products, respectively, the product of such country or area may be entered during the remainder of such period:		Quota Quantity	
				Wheat (in kilograms)	Milled Wheat Products (in kilograms)
		Canada	1/	21,636,352	1,730,454
		China	1/	None	10,886
		Hungary	1/	None	5,896
		Hong Kong	1/	None	5,896
		Japan	1/	None	3,628
		United Kingdom	1/	2,721	34,019
		Australia	1/	None	453
		Germany	1/	2,721	2,267
		Syria	1/	2,721	2,267
		New Zealand	1/	None	453
		Chile	1/	None	453
		Netherlands	1/	2,721	453
		Argentina	1/	54,431	6,350
		Italy	1/	2,721	907
		Cuba	1/	None	5,443
		France	1/	27,215	453
		Greece	1/	None	453
		Mexico	1/	2,721	453
		Panama	1/	None	453
		Uruguay	1/	None	453
		Poland and Danzig	1/	None	453
		Sweden	1/	None	453
		Yugoslavia	1/	None	453
		Norway	1/	None	453
		Canary Islands	1/	None	453
		Rumania	1/	27,215	None
		Guatemala	1/	2,721	None
		Brazil	1/	2,721	None
		Union of Soviet Socialist Republics	1/	2,721	None
		Belgium	1/	2,721	None
		Other foreign countries or areas	1/	None	None

1/ See chapter 99 statistical note 2.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Quota Quantity (in kilograms)
9904.20.20	1/	Whenever, in any 12-month period beginning August 1 in any year, the aggregate quantity specified below of peanuts (ground nuts), shelled or not shelled, blanched or otherwise prepared or preserved (except peanut butter) provided for in subheadings 1202.10, 1202.20 and 2008.11, has been entered, no such products may be entered during the remainder of such period	1/	775,189: Provided, That peanuts in the shell shall be charged against this quota on the basis of 75 kilograms for each 100 kilograms of peanuts in the shell
		Whenever, in the respective 12-month period specified below, the aggregate quantity specified below for one of the numbered classes of articles or for the product of a specified country or area within such numbered class has been entered, no article in such class or the product of such country or area may be entered during the remainder of such period:		
		Cotton, not carded, not combed and not otherwise processed, the product of any country or area including the United States:		
9904.30.10	1/	Having a staple length under 28.575 mm (1-1/8 inches) (except harsh or rough cotton having a staple length under 19.05 mm (3/4 inch)), entered during the 12-month period beginning September 20 in any year:		
		Egypt and Sudan (aggregate)	1/	355,532
		Peru	1/	112,469
		India and Pakistan (aggregate)	1/	908,764
		China	1/	621,780
		Mexico	1/	4,029,378
		Brazil	1/	280,648
		Union of Soviet Socialist Republics	1/	215,512
		Argentina	1/	2,360
		Haiti	1/	107
		Ecuador	1/	4,233
		Honduras	1/	341
		Paraguay	1/	395
		Colombia	1/	56
		Iraq	1/	88
		British East Africa	1/	1,016
		Indonesia and Netherlands New Guinea (aggregate)	1/	32,381
		British West Indies (except Barbados, Bermuda, Jamaica, Trinidad, Tobago)	1/	9,671
		Nigeria	1/	2,438
		British West Africa (except Nigeria and Ghana)	1/	7,259
		Other, including the United States	1/	None
		Having a staple length 28.575 mm (1-1/8 inches) or more but under 34.925 mm (1-3/8 inches), entered during the 12-month period beginning August 1 in any year:		
9904.30.20	1/	Harsh or rough cotton (except cotton of perished staple, grabbots and cotton pickings), white in color and having a staple length of 29.36875 mm (1-5/32 inches) or more	1/	680,388
9904.30.30	1/	Other	1/	2,070,940
9904.30.40	1/	Having a staple length 34.925 mm (1-3/8 inches) or more, entered during the 12-month period beginning August 1 in any year	1/	17,958,074

1/ See chapter 99 statistical note 2.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Quota Quantity (in kilograms)		
		Whenever, in the respective 12-month period specified below, the aggregate quantity specified below for one of the numbered classes of articles or for the product of a specified country or area within such numbered class has been entered, no article in such class or the product of such country or area may be entered during the remainder of such period (con.):		See U.S. note 3(b) of this subchapter		
				(A) Minimum Quota for certain comber wastes	(B) Unreserved Quota	(C) Total Quota
9904.30.50	1/	Card strips made from cotton having a staple length under 30.1625 mm (1-3/16 inches), and cotton comber waste, lap waste, sliver waste and roving waste, all the foregoing, the product of any country or area including the United States, entered during the 12-month period beginning September 20 in any year:				
		United Kingdom	1/	1,307,392	653,695	1,961,087
		Canada	1/	None	108,721	108,721
		France	1/	68,770	34,385	103,155
		India and Pakistan (aggregate)	1/	None	31,582	31,582
		Netherlands	1/	20,636	10,317	30,953
		Switzerland	1/	13,423	6,711	20,134
		Belgium	1/	11,660	5,830	17,490
		Japan	1/	None	154,917	154,917
		China	1/	None	7,857	7,857
		Egypt	1/	None	3,689	3,689
		Cuba	1/	None	2,968	2,968
		Germany	1/	23,082	11,540	34,622
		Italy	1/	6,429	3,215	9,644
		Other, including the United States	1/	None	None	None
				Quota Quantity (in kilograms)		
9904.30.60	1/	Fibers of cotton processed but not spun, entered during the 12-month period beginning September 11 in any year	1/	453		
		Sugars, syrups and molasses derived from sugar cane or sugar beets, except those entered pursuant to a license issued by the Secretary of Agriculture in accordance with U.S. note 4(a) of this subchapter:		Rates of Duty (Section 22 fees)		
		Principally of crystalline structure or in dry amorphous form, provided for in heading 1702 or in subheading 1701.11, 1701.12, 1701.91.20 or 1701.99:				
9904.40.20	2/	Not to be further refined or improved in quality	2/	2.2¢/kg, but not in excess of 50%		
9904.40.40	2/	To be further refined or improved in quality	2/	An amount determined and adjusted in accordance with U.S. note 4(c) of this subchapter, but not in excess of 50%		
9904.40.60	2/	Not principally of crystalline structure and not in dry amorphous form, containing soluble non-sugar solids (excluding any foreign substance that may have been added or developed in the product) equal to 6 percent or less by weight of the total soluble solids, provided for in heading 1702 or in subheading 2106.90.10	2/	2.2¢/kg of total sugars, but not in excess of 50%		

1/ See chapter 99 statistical note 2.
2/ See chapter 99 statistical note 1.

Note: The shaded area indicates that the provision has been suspended.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Quota Quantity (in metric tons)
9904.50.20	1/	Blended syrups provided for in subheading 1702.20.20, 1702.30.20, 1702.40, 1702.60, 1702.90.50, 1806.20.80, 1806.90, 2101.10.40, 2101.20.40 or 2106.90.50, containing sugars derived from sugar cane or sugar beets, capable of being further processed or mixed with similar or other ingredients and not prepared for marketing to the retail consumers in the identical form and package in which imported.....	1/	None
9904.50.40	1/	Articles containing over 65 percent by dry weight of sugars derived from sugar cane or sugar beets, whether or not mixed with other ingredients, capable of being further processed or mixed with similar or other ingredients, and not prepared for marketing to the retail consumers in the identical form and package in which imported; all the foregoing articles provided for in subheading 1701.91.40, 1702.90.50, 1704.90.60, 1806.10.30, 1806.20.70, 1806.31, 1806.90, 1901.20, 1901.90.80, 1905.40, 2008.92.90, 2101.10.40, 2101.20.40, 2103.90.60 or 2106.90.50, except articles within the scope of other import restrictions provided for in subchapter IV of this chapter.....	1/	None
		Whenever, in any 12-month period beginning October 1 in any year, the respective aggregate quantity specified below for one of the numbered classes of articles has been entered, no article in such class may be entered during the remainder of such period:		
		Articles containing over 10 percent by dry weight of sugars derived from sugar cane or sugar beets, whether or not mixed with other ingredients, except (a) articles not principally of crystalline structure or not in dry amorphous form that are prepared for marketing to the retail consumer in the identical form and package in which imported, or (b) articles within the scope of headings 9904.50.20, 9904.50.40 or other import restrictions provided for in this subchapter:		
9904.60.20	1/	Provided for in subheading 1806.10.20 or 1806.10.30.....	1/	2,721
9904.60.40	1/	Provided for in subheading 1901.20.....	1/	6,350
9904.60.60	1/	Provided for in subheading 1704.90.60, 1806.20.70, 1806.20.80, 1806.90, 1901.90.80, 2101.10.40, 2101.20.40, 2103.90.60 or 2106.90.50, except cake decorations and similar products to be used in the same condition as imported without any further processing other than the direct application to individual pastries or confections; finely ground or masticated coconut meat or juice thereof mixed with those sugars; and minced seafood preparations within the scope of subheading 1604.20.05, 1605.10.05 or 1605.90.05 containing 20 percent or less by dry weight of those sugars.....	1/	76,203

1/ See chapter 99 statistical note 2.

APPENDIX D
EXCERPTS FROM THE HARMONIZED TARIFF SCHEDULE OF THE UNITED STATES

CHAPTER 2

MEAT AND EDIBLE MEAT OFFAL

Note

1. This chapter does not cover:

   (a) Products of the kinds described in headings 0201 to 0208 or 0210, unfit or unsuitable for human consumption;

   (b) Guts, bladders, or stomachs of animals (heading 0504) or animal blood (heading 0511 or 3002); or

   (c) Animal fat, other than products of heading 0209 (chapter 15)

Additional U.S. Notes

1. For the purposes of this chapter--

   (a) The term "processed" covers meats which have been ground or comminuted, diced or cut into sizes for stew meat or similar uses, rolled and skewered, or specially processed into fancy cuts, special shapes, or otherwise made ready for particular uses by the retail consumer.

   (b) The term "high-quality beef cuts" means beef specially processed into fancy cuts, special shapes, or otherwise made ready for particular uses by the retail consumer (but not ground or comminuted, diced or cut into sizes for stew meat or similar uses, or rolled or skewered), which meets the specifications in regulations issued by the U.S. Department of Agriculture for Prime or Choice beef, and which has been so certified prior to exportation by an official of the government of the exporting country, in accordance with regulations issued by the Secretary of the Treasury after consultation with the Secretary of Agriculture.

2. In assessing the duty on meats, no allowance shall be made for normal components thereof such as bones, fat, and hide or skin. The dutiable weight of meats in airtight containers subject to specific rates includes the entire contents of the containers.

HARMONIZED TARIFF SCHEDULE of the United States (1990)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
0201	1/	Meat of bovine animals, fresh or chilled:				
0201.10.00		Carcasses and half-carcasses	.....	4.4¢/kg	Free (E*,IL) 3.5¢/kg (CA)	13.2¢/kg
	10 3	Veal	kg			
	90 6	Other	kg			
0201.20		Other cuts with bone in:				
		Processed:				
0201.20.20	00 9	High-quality beef cuts	kg.....	4%	Free (E*,IL) 3.2% (CA)	20%
0201.20.40	00 5	Other	kg.....	10%	Free (E*,IL) 8% (CA)	20%
0201.20.60	00 0	Other	kg.....	4.4¢/kg	Free (E*,IL) 3.5¢/kg (CA)	13.2¢/kg
0201.30		Boneless:				
		Processed:				
0201.30.20	00 7	High-quality beef cuts	kg.....	4%	Free (E*,IL) 3.2% (CA)	20%
0201.30.40	00 3	Other	kg.....	10%	Free (E*,IL) 8% (CA)	20%
0201.30.60	00 8	Other	kg.....	4.4¢/kg 2/	Free (E*,IL) 3.5¢/kg (CA)	13.2¢/kg
0202		Meat of bovine animals, frozen:				
0202.10.00		Carcasses and half-carcasses	.....	4.4¢/kg	Free (E*,IL) 3.5¢/kg (CA)	13.2¢/kg
	10 2	Veal	kg			
	90 5	Other	kg			
0202.20		Other cuts with bone in:				
		Processed:				
0202.20.20	00 8	High-quality beef cuts	kg.....	4%	Free (E*,IL) 3.2% (CA)	20%
0202.20.40	00 4	Other	kg.....	10%	Free (E*,IL) 8% (CA)	20%
0202.20.60	00 9	Other	kg.....	4.4¢/kg	Free (E*,IL) 3.5¢/kg (CA)	13.2¢/kg
0202.30		Boneless:				
		Processed:				
0202.30.20	00 6	High-quality beef cuts	kg.....	4%	Free (E*,IL) 3.2% (CA)	20%
0202.30.40	00 2	Other	kg.....	10%	Free (E*,IL) 8% (CA)	20%
0202.30.60	00 7	Other	kg.....	4.4¢/kg 2/	Free (E*,IL) 3.5¢/kg (CA)	13.2¢/kg
0203		Meat of swine, fresh, chilled, or frozen:				
		Fresh or chilled:				
0203.11.00	00 2	Carcasses and half-carcasses	kg.....	Free		5.5¢/kg
0203.12		Hams, shoulders and cuts thereof, with bone in:				
0203.12.10		Processed	.....	2.2¢/kg	Free (E,IL) 1.3¢/kg (CA)	7.2¢/kg
	10 7	Hams and cuts thereof	kg			
	20 5	Shoulders and cuts thereof	kg			
0203.12.90		Other	.....	Free		5.5¢/kg
	10 0	Hams and cuts thereof	kg			
	20 8	Shoulders and cuts thereof	kg			
0203.19		Other:				
0203.19.20		Processed	.....	2.2¢/kg	Free (E,IL) 1.3¢/kg (CA)	7.2¢/kg
	10 8	Spare ribs	kg			
	90 1	Other	kg			
0203.19.40		Other	.....	Free		5.5¢/kg
	10 4	Bellies	kg			
	90 7	Other	kg			
		Frozen:				
0203.21.00	00 0	Carcasses and half-carcasses	kg.....	Free		5.5¢/kg
0203.22		Hams, shoulders and cuts thereof, with bone in:				
0203.22.10	00 7	Processed	kg.....	2.2¢/kg	Free (E,IL) 1.3¢/kg (CA)	7.2¢/kg
0203.22.90	00 0	Other	kg.....	Free		5.5¢/kg
0203.29		Other:				
0203.29.20	00 8	Processed	kg.....	2.2¢/kg	Free (E,IL) 1.3¢/kg (CA)	7.2¢/kg
0203.29.40	00 4	Other	kg.....	Free		5.5¢/kg

1/ P.L. 88-482, as amended, provides that certain meats may be made subject to an absolute quota by Presidential Proclamation.

2/ See subheading 9903.23.00.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
0204	1/	Meat of sheep or goats, fresh, chilled or frozen:				
0204.10.00	00 2	Carcasses and half-carcasses of lamb, fresh or chilled	kg	1.1¢/kg	Free (E,IL) 0.6¢/kg (CA)	15.4¢/kg
		Other meat of sheep, fresh or chilled:				
0204.21.00	00 9	Carcasses and half-carcasses	kg	3.3¢/kg	Free (E,IL) 2.6¢/kg (CA)	11¢/kg
0204.22		Other cuts with bone in:				
0204.22.20	00 4	Lamb	kg	1.1¢/kg	Free (E,IL) 0.6¢/kg (CA)	15.4¢/kg
0204.22.40	00 0	Other	kg	3.3¢/kg	Free (E,IL) 2.6¢/kg (CA)	11¢/kg
0204.23		Boneless:				
0204.23.20	00 3	Lamb	kg	1.1¢/kg	Free (E,IL) 0.6¢/kg (CA)	15.4¢/kg
0204.23.40	00 9	Other	kg	3.3¢/kg	Free (E,IL) 2.6¢/kg (CA)	11¢/kg
0204.30.00	00 8	Carcasses and half-carcasses of lamb, frozen	kg	1.1¢/kg	Free (E,IL) 0.6¢/kg (CA)	15.4¢/kg
		Other meat of sheep, frozen:				
0204.41.00	00 5	Carcasses and half-carcasses	kg	3.3¢/kg	Free (E,IL) 2.6¢/kg (CA)	11¢/kg
0204.42		Other cuts with bone in:				
0204.42.20	00 0	Lamb	kg	1.1¢/kg	Free (E,IL) 0.6¢/kg (CA)	15.4¢/kg
0204.42.40	00 6	Other	kg	3.3¢/kg	Free (E,IL) 2.6¢/kg (CA)	11¢/kg
0204.43		Boneless:				
0204.43.20	00 9	Lamb	kg	1.1¢/kg	Free (E,IL) 0.6¢/kg (CA)	15.4¢/kg
0204.43.40	00 5	Other	kg	3.3¢/kg	Free (E,IL) 2.6¢/kg (CA)	11¢/kg
0204.50.00	00 3	Meat of goats	kg	Free		11¢/kg
0205.00.00	00 3	Meat of horses, asses, mules or hinnies, fresh, chilled or frozen	kg	Free		Free
0206		Edible offal of bovine animals, swine, sheep, goats, horses, asses, mules or hinnies, fresh, chilled or frozen:				
0206.10.00	00 0	Of bovine animals, fresh or chilled	kg	Free		30%
		Of bovine animals, frozen:				
0206.21.00	00 7	Tongues	kg	Free		30%
0206.22.00	00 6	Livers	kg	Free		30%
0206.29.00	00 9	Other	kg	Free		30%
0206.30.00	00 6	Of swine, fresh or chilled	kg	Free		30%
		Of swine, frozen:				
0206.41.00	00 3	Livers	kg	Free		30%
0206.49.00	00 5	Other	kg	Free		30%
0206.80.00	00 5	Other, fresh or chilled	kg	Free		30%
0206.90.00		Other, frozen		Free		30%
	20 9	Of sheep (including lamb)	kg			
	40 5	Of goats, horses, asses, mules or hinnies	kg			

1/ P.L. 88-482, as amended, provides that certain meats may be made subject to an absolute quota by Presidential Proclamation.

CHAPTER 4

DAIRY PRODUCE; BIRDS' EGGS; NATURAL HONEY; EDIBLE PRODUCTS OF ANIMAL ORIGIN, NOT ELSEWHERE SPECIFIED OR INCLUDED

Notes

1. The expression "milk" means full cream milk or partially or completely skimmed milk.

2. Products obtained by the concentration of whey and with the addition of milk or milkfat are to be classified as cheese in heading 0406 provided that they have the three following characteristics:

   (a) A milkfat content, by weight of the dry matter, of 5 percent or more;

   (b) A dry matter content, by weight, of at least 70 percent but not exceeding 85 percent; and

   (c) They are molded or capable of being molded.

Additional U.S. Notes

1. (a) The rates of duty set forth in subheadings 0401.30.10 and 0403.90.10 apply to the first 5,678,118 liters of fluid milk and sweet or sour cream, of a fat content by weight exceeding 6 percent but not exceeding 45 percent, entered under both subheadings combined in any calendar year.

   (b) The rates of duty set forth in subheadings 0403.90.70 and 0405.00.70 apply to the following quantities of butter or sour cream containing over 45 percent by weight of butterfat:

      (i) The first 22,679,618 kg entered under both subheadings combined during the period from November 1 in any year to the following March 31, inclusive;

      (ii) The first 2,267,962 kg entered under both subheadings combined during the period from April 1 to July 31, inclusive, in any year;

      (iii) The first 2,267,962 kg entered under both subheadings combined during the period from August 1 to October 31, inclusive, in any year.

2. For purposes of subheading 0404.90.10, the term "milk protein concentrates" means any complete milk protein (casein plus lactalbumin) concentrate that is 40 percent or more protein by weight.

3. The importation of eggs of wild birds is prohibited, except eggs of game birds imported for propagating purposes under regulations prescribed by the Secretary of the Interior and specimens imported for scientific collections.

4. No allowance in weight shall be made for inedible, not readily removable, protective coverings of cheese.

I
4-2

Statistical Note

1. Certain articles in this chapter and other chapters may be subject to quantitative restrictions or import fees established pursuant to section 22 of the Agricultural Adjustment Act (7 U.S.C. 624). The section 22 provisions are set forth in chapter 99, subchapter IV. In order to assist users in understanding the relationship between relevant provisions in chapter 4 and those in chapter 99, the following table is provided:

Chapter 4	Chapter 99	Chapter 4	Chapter 99
0401.30.1000	9904.10.03	0406.20.6060	9904.10.54
0401.30.4000	9904.10.21	0406.30.1040	9904.10.27
0402.10.0000	9904.10.09	0406.30.2000	9904.10.30
0402.21.2000	9904.10.09	0406.30.3000	9904.10.33
0402.21.4000	9904.10.12	0406.30.4000	9904.10.39
0402.21.6000	9904.10.15	0406.30.5000	9904.10.51
0402.29.0000	9904.10.60	0406.30.6010	9904.10.27
0402.91.2000	9904.10.06	0406.30.6015	9904.10.30
0402.91.4000	9904.10.06	0406.30.6025	9904.10.33
0402.99.2000	9904.10.06	0406.30.6030	9904.10.39
0402.99.4000	9904.10.06	0406.30.6040	9904.10.45
0402.99.6000	9904.10.60	0406.30.6045	9904.10.51
0403.90.1000	9904.10.03	0406.30.6050	9904.10.57
0403.90.4000	9904.10.18	0406.30.6060	9904.10.54
0403.90.5000	9904.10.12	0406.40.6040	9904.10.27
0403.90.6000	9904.10.15	0406.40.8040	9904.10.27
0403.90.7000	9904.10.21	0406.90.1020	9904.10.30
0403.90.7500	9904.10.21	0406.90.1040	9904.10.30
0404.10.4000	9904.10.18	0406.90.1500	9904.10.36
0404.90.2000	9904.10.60	0406.90.3020	9904.10.45
0404.90.6020	9904.10.75	0406.90.3520	9904.10.42
0404.90.6040	9904.10.81	0406.90.3540	9904.10.45
0405.00.7000	9904.10.21	0406.90.4010	9904.10.42
0405.00.8000	9904.10.24	0406.90.4020	9904.10.45
0406.20.2040	9904.10.27	0406.90.4030	9904.10.42
0406.20.3020	9904.10.30	0406.90.4040	9904.10.45
0406.20.3040	9904.10.30	0406.90.4060	9904.10.42
0406.20.3500	9904.10.33	0406.90.4070	9904.10.45
0406.20.4020	9904.10.39	0406.90.4520	9904.10.48
0406.20.4040	9904.10.36	0406.90.6500	9904.10.33
0406.20.5020	9904.10.45	0406.90.7000	9904.10.45
0406.20.5040	9904.10.45	0406.90.8010	9904.10.27
0406.20.6010	9904.10.27	0406.90.8015	9904.10.30
0406.20.6015	9904.10.30	0406.90.8025	9904.10.33
0406.20.6025	9904.10.33	0406.90.8030	9904.10.39
0406.20.6030	9904.10.39	0406.90.8045	9904.10.51
0406.20.6040	9904.10.45	0406.90.8050	9904.10.57
0406.20.6045	9904.10.51	0406.90.8060	9904.10.45
0406.20.6050	9904.10.57		9904.10.54

Heading/ Subheading	Stat. Suf. & cd		Article Description	Units of Quantity	Rates of Duty		
					General	Special	2
0401			Milk and cream, not concentrated nor containing added sugar or other sweetening matter:				
0401.10.00	00	3	Of a fat content, by weight, not exceeding 1 percent	liters..	0.4¢/liter	Free (E,IL) 0.3¢/liter (CA)	0.5¢/liter
0401.20			Of a fat content, by weight, exceeding 1 percent but not exceeding 6 percent:				
0401.20.20	00	7	For not over 11,356,236 liters entered in any calendar year	liters..	0.5¢/liter	Free (E,IL) 0.4¢/liter (CA)	1.7¢/liter
0401.20.40	00	3	Other	liters..	1.7¢/liter	Free (E,IL) 1.3¢/liter (CA)	1.7¢/liter
0401.30			Of a fat content, by weight, exceeding 6 percent:				
			Of a fat content, by weight, not exceeding 45 percent:				
0401.30.10	00	7	Described in additional U.S. note 1(a) to this chapter 1/	liters..	3.2¢/liter	Free (E,IL) 2.5¢/liter (CA)	15¢/liter
0401.30.30	00	3	Other	liters..	15¢/liter	Free (E,IL) 12¢/liter (CA)	15¢/liter
0401.30.40	00	1	Other 1/	liters.or kg	12.3¢/kg	Free (E,IL) 9.8¢/kg (CA)	31¢/kg
0402			Milk and cream, concentrated or containing added sugar or other sweetening matter:				
0402.10.00	00	2	In powder, granules or other solid forms, of a fat content, by weight, not exceeding 1.5 percent 1/	kg.....	3.3¢/kg	Free (E,IL) 2.6¢/kg (CA)	6.6¢/kg
			In powder, granules or other solid forms, of a fat content, by weight, exceeding 1.5 percent:				
0402.21			Not containing added sugar or other sweetening matter:				
0402.21.20	00	5	Of a fat content, by weight, not exceeding 3 percent 1/	kg.....	3.3¢/kg	Free (E,IL) 2.6¢/kg (CA)	6.6¢/kg
0402.21.40	00	1	Of a fat content, by weight, exceeding 3 percent but not exceeding 35 percent 1/	kg.....	6.8¢/kg	Free (E,IL) 5.4¢/kg (CA)	13.7¢/kg
0402.21.60	00	6	Other 1/	kg.....	13.7¢/kg	Free (E,IL) 10.9¢/kg (CA)	27.3¢/kg
0402.29.00	00	1	Other 1/	kg.....	17.5%	Free (E,IL) 14% (CA)	35%
0402.91			Other:				
			Not containing added sugar or other sweetening matter:				
0402.91.20	00	0	In airtight containers 1/	kg.....	2.2¢/kg	Free (E,IL) 1.7¢/kg (CA)	4¢/kg
0402.91.40	00	6	Other 1/	kg.....	3.3¢/kg	Free (E,IL) 2.6¢/kg (CA)	5.6¢/kg
0402.99			Other:				
			Condensed milk:				
0402.99.20	00	2	In airtight containers 1/	kg.....	3.9¢/kg	Free (E,IL) 3.1¢/kg (CA)	6¢/kg
0402.99.40	00	8	Other 1/	kg.....	3.3¢/kg	Free (E,IL) 2.6¢/kg (CA)	5.6¢/kg
0402.99.60	00	3	Other 1/	kg.....	17.5%	Free (E,IL) 14% (CA)	35%

1/ See chapter 99 and statistical note 1 to this chapter.

Heading/ Subheading	Stat. Suf. & cd		Article Description	Units of Quantity	Rates of Duty		
					1 General	Special	2
0403			Buttermilk, curdled milk and cream, yogurt, kephir and other fermented or acidified milk and cream, whether or not concentrated or containing added sugar or other sweetening matter or flavored or containing added fruit, nuts or cocoa:				
0403.10.00	00	1	Yogurt	kg	20%	Free (E,IL) 16% (CA)	20%
0403.90			Other:				
			Sour cream containing not over 45 percent by weight of butterfat; buttermilk:				
			Fluid:				
			Sour cream:				
0403.90.10	00	2	Described in additional U.S. note 1(a) to this chapter 1/	liters	3.2¢/liter	Free (E,IL) 2.5¢/liter (CA)	15¢/liter
0403.90.15	00	7	Other	liters	15¢/liter	Free (E,IL) 12¢/liter (CA)	15¢/liter
0403.90.20	00	0	Buttermilk	liters	0.4¢/liter	Free (E,IL) 0.3¢/liter (CA)	0.5¢/liter
			Dried:				
0403.90.40	00	6	Containing not over 6 percent by weight of butterfat 1/	kg	3.3¢/kg	Free (E,IL) 2.6¢/kg (CA)	6.6¢/kg
			Other:				
0403.90.50	00	3	Containing not over 35 percent by weight of butterfat 1/	kg	6.8¢/kg	Free (E,IL) 5.4¢/kg (CA)	13.7¢/kg
0403.90.60	00	1	Other 1/	kg	13.7¢/kg	Free (E,IL) 10.9¢/kg (CA)	27.3¢/kg
			Sour cream containing over 45 percent by weight of butterfat:				
0403.90.70	00	9	Described in additional U.S. note 1(b) to this chapter 1/	kg	12.3¢/kg	Free (E,IL) 9.8¢/kg (CA)	30.9¢/kg
0403.90.75	00	4	Other 1/	kg	30.9¢/kg	Free (E,IL) 24.7¢/kg (CA)	30.9¢/kg
0403.90.80			Other		20%	Free (E,IL) 16% (CA)	20%
	20	3	Dried	kg			
	40	9	Other	kg			

1/ See chapter 99 and statistical note 1 to this chapter.

Heading/ Subheading	Stat. Suf. & cd		Article Description	Units of Quantity	Rates of Duty		
					General	Special	2
0404			Whey, whether or not concentrated or containing added sugar or other sweetening matter; products consisting of natural milk constituents, whether or not containing added sugar or other sweetening matter, not elsewhere specified or included:				
0404.10			Whey, whether or not concentrated or containing added sugar or other sweetening matter:				
0404.10.20	00	6	Fluid	liters..	0.4¢/liter	Free (E,IL) 0.3¢/liter (CA)	0.5¢/liter
0404.10.40	00	2	Dried 1/	kg.....	3.3¢/kg	Free (E,IL) 2.8¢/kg (CA)	6.6¢/kg
0404.90			Other:				
0404.90.05	00	8	Whey protein concentrates	kg.....	10%	Free (A,E,IL) 8% (CA)	20%
0404.90.10	00	1	Milk protein concentrates	kg.....	0.44¢/kg	Free (A,E,IL) 0.3¢/kg (CA)	12¢/kg
0404.90.20	00	9	Articles of milk or cream 1/	kg.....	17.5%	Free (E,IL) 14% (CA)	35%
			Other:				
0404.90.40			Containing over 5.5 percent by weight of butterfat and not packaged for retail sale	.....	16%	Free (E,IL) 12.8% (CA)	20%
	30	9	Provided for in subheading 9904.10.78	kg			
	60	2	Provided for in subheading 9904.10.81	kg			
	90	6	Other	kg			
0404.90.60			Other	.....	10%	Free (E,IL) 8% (CA)	20%
			Subject to quotas established pursuant to section 22 of the Agricultural Adjustment Act, as amended:				
	20	6	Provided for in subheading 9904.10.75	kg			
	40	2	Provided for in subheading 9904.10.81	kg			
	60	7	Other	kg			
0405			Butter and other fats and oils derived from milk:				
			Butter:				
0405.00.70	00	6	Described in additional U.S. note 1(b) to this chapter 1/	kg.....	12.3¢/kg	Free (E,IL) 9.8¢/kg (CA)	30.9¢/kg
0405.00.75	00	1	Other	kg.....	30.9¢/kg	Free (E,IL) 24.7¢/kg (CA)	30.9¢/kg
0405.00.80			Other 1/	.....	10%	Free (E,IL) 8% (CA)	20%
	20	0	Anhydrous milk fat	kg			
	40	6	Other	kg			

1/ See chapter 99 and statistical note 1 to this chapter.

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Heading/ Subheading	Stat. Suf. & cd		Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
0406			Cheese and curd:				
0406.10.00			Fresh cheese (including whey cheese), not fermented, and curd.....	.....	10%	Free (E,IL) 8% (CA)	35%
	10	6	Provided for in subheading 9904.10.27....	kg			
	15	1	Provided for in subheading 9904.10.30....	kg			
	20	4	Provided for in subheading 9904.10.33....	kg			
	25	9	Provided for in subheading 9904.10.36....	kg			
	30	2	Provided for in subheading 9904.10.39....	kg			
	35	7	Provided for in subheading 9904.10.42....	kg			
	40	0	Provided for in subheading 9904.10.45....	kg			
	45	5	Provided for in subheading 9904.10.51....	kg			
	50	7	Provided for in subheading 9904.10.54....	kg			
	55	2	Provided for in subheading 9904.10.57....	kg			
	60	5	Other.....	kg			
0406.20			Grated or powdered cheese, of all kinds:				
			Blue-veined cheese:				
0406.20.10	00	4	Roquefort cheese.....	kg.....	10%	Free (E,IL) 8% (CA)	35%
0406.20.20			Other 1/.....	.....	20%	Free (E,IL) 16% (CA)	35%
	20	8	Stilton produced in the United Kingdom.....	kg			
	40	4	Other.....	kg			
0406.20.30			Cheddar cheese 1/.....	.....	16%	Free (E,IL) 12.8% (CA)	35%
	20	6	Produced in Canada and not subject to licensing requirements 2/.....	kg			
	40	2	Other.....	kg			
0406.20.35	00	5	Colby 1/.....	kg.....	20%	Free (E,IL) 16% (CA)	35%
0406.20.40			Edam and Gouda cheeses 1/.....	.....	15%	Free (E,IL) 12% (CA)	35%
	20	4	Process cheese.....	kg			
	40	0	Other.....	kg			
0406.20.50			Romano made from cow's milk, Reggiano, Parmesan, Provolone, Provoletti, Sbrinz and Goya cheeses 1/.....	.....	15%	Free (E,IL) 12% (CA)	35%
			Made from cow's milk:				
	20	1	Parmesan.....	kg			
	40	7	Other.....	kg			
	60	2	Other.....	kg			
			Other, including mixtures of the above:				
0406.20.55	00	0	Cheeses made from sheep's milk.....	kg.....	15%	Free (E,IL) 12% (CA)	35%
0406.20.60			Other 1/.....	.....	10%	Free (E,IL) 8% (CA)	35%
	10	1	Containing, or processed from, blue-veined cheese (except Stilton produced in the United Kingdom and Roquefort).....	kg			
	15	6	Containing, or processed from, Cheddar cheese.....	kg			
	25	4	Containing, or processed from, American-type cheese (including Colby, washed curd and granular cheese but not including Cheddar).....	kg			
	30	7	Containing, or processed from, Edam or Gouda cheeses.....	kg			
	40	5	Containing, or processed from, Italian-type cheeses (Romano, Reggiano, Parmesan, Provolone, Provoletti, Sbrinz and Goya) made from cow's milk.....	kg			

1/ See chapter 99 and statistical note 1 to this chapter.
2/ See legal note 3(a)(i) to subchapter IV of chapter 99.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
0406 (con.)		Cheese and curd (con.):				
0406.20 (con.)		Grated or powdered cheese, of all kinds (con.):				
		Other, including mixtures of the above (con.):				
0406.20.60 (con.)		Other 1/(con.):				
	45 0	Containing, or processed from, Swiss, Emmentaler or Gruyere-process cheeses.....	kg			
	47 8	Containing, or processed from, Bryndza, Gjetost, Gammelost, Nokkelost or Roquefort cheeses.....	kg			
		Other:				
	50 2	Containing not over 0.5 percent by weight of butterfat.....	kg			
		Other:				
	60 0	Containing cow's milk.....	kg			
	75 3	Other.....	kg			
0406.30		Processed (process) cheese, not grated or powdered:				
0406.30.10		Blue-veined cheese other than Roquefort cheese 1/.....	.....	20%	Free (E,IL) 16% (CA)	35%
	20 8	Stilton produced in the United Kingdom.....	kg			
	40 4	Other.....	kg			
0406.30.20	00 0	Cheddar cheese 1/.....	kg.....	16%	Free (E,IL) 12.8% (CA)	35%
0406.30.30	00 8	Colby cheese 1/.....	kg.....	20%	Free (E,IL) 16% (CA)	35%
0406.30.40	00 6	Edam and Gouda cheeses 1/.....	kg.....	15%	Free (E,IL) 12% (CA)	35%
0406.30.50	00 3	Gruyere-process cheese 1/.....	kg.....	6.4%	Free (E,IL) 5.1% (CA)	35%
		Other, including mixtures of the above:				
0406.30.55	00 8	Cheeses made from sheep's milk.....	kg.....	15%	Free (E,IL) 12% (CA)	35%
0406.30.60		Other 1/.....	.....	10%	Free (E,IL) 8% (CA)	35%
	10 9	Containing, or processed from, blue-veined cheese (except Stilton produced in the United Kingdom and Roquefort).....	kg			
	15 4	Containing, or processed from, Cheddar cheese.....	kg			
	25 2	Containing, or processed from, American-type cheese (including Colby, washed curd and granular cheese, but not including Cheddar).....	kg			
	30 5	Containing, or processed from, Edam or Gouda cheeses.....	kg			

1/ See chapter 99 and statistical note 1 to this chapter.

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Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
0406 (con.)		Cheese and curd (con.):				
0406.30 (con.)		Processed (process) cheese, not grated or powdered (con.):				
		Other, including mixtures of the above (con.):				
0406.30.60 (con.)		Other 1/(con.):				
		Containing, or processed from, Italian-type cheeses (Romano, made from cow's milk, Reggiano, Parmesan, Provolone, Provoletti, Sbrinz and Goya):				
	40 3	Made from cow's milk.....	kg			
	42 1	Other.....	kg			
	45 8	Containing, or processed from, Swiss, Emmentaler or Gruyere-process cheeses.....	kg			
	47 6	Containing, or processed from, Bryndza, Gjetost, Gammelost, Nokkelost or Roquefort.....	kg			
		Other:				
	50 0	Containing not over 0.5 percent by weight of butterfat.....	kg			
		Other:				
	60 8	Containing cow's milk.....	kg			
	75 1	Other.....	kg			
0406.40		Blue-veined cheese:				
		Roquefort:				
0406.40.20	00 8	In original loaves.....	kg.....	6%	Free (E,IL) 4.8% (CA)	35%
0406.40.40	00 4	Other.....	kg.....	10%	Free (E,IL) 8% (CA)	35%
		Other:				
0406.40.60		In original loaves 1/.....	.....	15%	Free (E,IL) 12% (CA)	35%
	20 5	Stilton produced in the United Kingdom.....	kg			
	40 1	Other.....	kg			
0406.40.80		Other 1/.....	.....	20%	Free (E,IL) 16% (CA)	35%
	20 1	Stilton produced in the United Kingdom.....	kg			
	40 7	Other.....	kg			

1/ See chapter 99 and statistical note 1 to this chapter.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
0406 (con.)		Cheese and curd (con.):				
0406.90		Other cheese:				
0406.90.05	00 6	Bryndza cheese	kg	8.5%	Free (E,IL) 6.8% (CA)	35%
0406.90.10		Cheddar cheese 1/		12%	Free (E,IL) 9.6% (CA)	35%
	20 5	Produced in Canada and not subject to licensing requirements 2/	kg			
	40 1	Other	kg			
0406.90.15	00 4	Edam and Gouda cheeses 1/	kg	15%	Free (E,IL) 12% (CA)	35%
		Gjetost cheeses:				
0406.90.20	00 7	Made from goat's milk whey or from whey obtained from a mixture of goat's milk and not more than 20 percent by weight of cow's milk	kg	6.5%	Free (E,IL) 5.2% (CA)	35%
0406.90.25	00 2	Other	kg	10%	Free (E,IL) 8% (CA)	35%
0406.90.30		Goya cheese 1/		25%	Free (E,IL) 20% (CA)	35%
	20 1	Made from cow's milk and not in original loaves	kg			
	40 7	Other	kg			
0406.90.35		Sbrinz cheese 1/		19%	Free (E,IL) 15.2% (CA)	35%
	20 6	Made from cow's milk in original loaves	kg			
	40 2	Other	kg			
0406.90.40		Romano made from cow's milk, Reggiano, Parmesan, Provolone and Provoletti cheeses 1/		15%	Free (E,IL) 12% (CA)	35%
		Romano made from cow's milk:				
	10 1	In original loaves	kg			
	20 9	Other	kg			
		Parmesan and Reggiano:				
		Made from cow's milk:				
	30 7	In original loaves	kg			
	40 5	Other	kg			
	50 2	Other	kg			
		Provolone and Provoletti:				
		Made from cow's milk:				
	60 0	In original loaves	kg			
	70 8	Other	kg			
	80 6	Other	kg			

1/ See chapter 99 and statistical note 1 to this chapter.
2/ See legal note 3(a)(i) to subchapter IV of chapter 99.

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Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
0406 (con.)		Cheese and curd (con.):				
0406.90 (con.)		Other cheese (con.):				
0406.90.45		Swiss or Emmentaler cheese with eye formation, Gammelost and Nokkelost cheeses 1/.....	.....	6.4%	Free (E,IL) 5.1% (CA)	35%
	20 4	Swiss or Emmenthaler cheese.....	kg			
	40 0	Gammelost and Nokkelost cheeses.....	kg			
		Other cheeses, and substitutes for cheese, including mixtures of the above:				
		Cheeses made from sheep's milk:				
0406.90.50	00 0	In original loaves and suitable for grating.....	kg.....	Free		35%
0406.90.55	00 5	Pecorino, in original loaves, not suitable for grating.....	kg.....	Free		35%
0406.90.60	00 8	Other.....	kg.....	15%	Free (E,IL) 12% (CA)	35%
0406.90.65	00 3	Colby cheese 1/.....	kg.....	20%	Free (E,IL) 16% (CA)	35%
		Other, including mixtures of the above:				
0406.90.70	00 6	Containing Romano, Reggiano, Parmesan, Provolone, Provoletti, Sbrinz or Goya, all the foregoing made from cow's milk 1/.....	kg.....	7.5%	Free (E,IL) 6% (CA)	35%
0406.90.80		Other 1/.....	.....	10%	Free (E,IL) 8% (CA)	35%
	10 2	Containing, or processed from, blue-mold cheese (except Stilton produced in the United Kingdom)....	kg			
	15 7	Containing, or processed from, Cheddar cheese.....	kg			
	25 5	Containing, or processed from, American-type cheese (including Colby, washed curd and granular cheese, but not including Cheddar).....	kg			
	30 8	Containing, or processed from, Edam or Gouda cheese.....	kg			
	45 1	Containing, or processed from, Swiss, Emmentaler or Gruyere-process cheese.....	kg			
		Other:				
	50 3	Containing not over 0.5 percent by weight of butterfat.....	kg			
		Other:				
	60 1	Containing cow's milk (except soft-ripened cow's milk cheese).....	kg			
	75 4	Other.....	kg			

1/ See chapter 99 and the statistical note to this chapter.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty		
				General	Special	2
1201.00.00		Soybeans, whether or not broken	.....	Free		4.4¢/kg
	20 1	Seeds of a kind used for sowing	kg			
	30 9	Seeds of a kind used as oil stock	kg			
	90 6	Other	kg			
1202		Peanuts (ground-nuts), not roasted or otherwise cooked, whether or not shelled or broken:				
1202.10.00	00 2	In shell 1/	kg.....	9.35¢/kg	Free (E,IL) 7.4¢/kg (CA)	9.35¢/kg
1202.20.00		Shelled, whether or not broken 1/	.....	6.6¢/kg	Free (E,IL) 5.2¢/kg (CA)	15.4¢/kg
	20 6	For use as oil stock	kg			
	40 2	Other	kg			
1203.00.00	00 3	Copra	kg.....	Free		Free
1204.00.00		Flaxseed (linseed), whether or not broken	.....	0.88¢/kg	Free (E,IL) 0.8¢/kg (CA)	2.55¢/kg
	10 0	For sowing	kg			
	20 8	For use as oil stock	kg			
	90 3	Other	kg			
1205.00.00		Rape or colza seeds, whether or not broken	.....	0.9¢/kg	Free (E,IL) 0.7¢/kg (CA)	4.4¢/kg
	10 9	For sowing	kg			
	20 7	For use as oil stock	kg			
	90 2	Other	kg			
1206.00.00		Sunflower seeds, whether or not broken	.....	Free		4.4¢/kg
	20 6	For use as oil stock	kg			
	30 4	For planting	kg			
	50 9	Other	kg			
1207		Other oil seeds and oleaginous fruits, whether or not broken:				
1207.10.00	00 7	Palm nuts and kernels	kg.....	Free		Free
1207.20.00	00 5	Cotton seeds	kg.....	0.73¢/kg	Free (E,IL) 0.4¢/kg (CA)	0.73¢/kg
1207.30.00	00 3	Castor beans	kg.....	Free		1.1¢/kg
1207.40.00	00 1	Sesame seeds	kg.....	Free		2.6¢/kg
1207.50.00	00 8	Mustard seeds	kg.....	Free		4.4¢/kg
1207.60.00	00 6	Safflower seeds	kg.....	Free		Free
		Other:				
1207.91.00	00 9	Poppy seeds	kg.....	0.13¢/kg	Free (A,CA,E,IL)	0.7¢/kg
1207.92.00	00 8	Shea nuts (karite nuts)	kg.....	Free		Free
1207.99.00	00 1	Other	kg.....	Free		Free
1208		Flours and meals of oil seeds or oleaginous fruits, other than those of mustard:				
1208.10.00	00 6	Of soybeans	kg.....	3%	Free (E,IL) 2.4% (CA)	20%
1208.90.00	00 9	Other	kg.....	3%	Free (E,IL) 2.4% (CA)	20%

1/ See heading 9904.20.20.

Heading/ Subheading	Stat. Suf. & cd		Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
1517			Margarine; edible mixtures or preparations of animal or vegetable fats or oils or of fractions of different fats or oils of this chapter, other than edible fats or oils or their fractions of heading 1516:				
1517.10.00	00	2	Margarine, excluding liquid margarine.....	kg.....	15.4¢/kg	Free (E,IL) 12.3¢/kg (CA)	31¢/kg
1517.90			Other:				
			Artificial mixtures of two or more of the products provided for in headings 1501 to 1515, inclusive:				
1517.90.10			Containing 5 percent or more by weight of soybean oil or any fraction thereof.....	.....	22.5%	Free (A,E,IL) 18% (CA)	45%
	20	9	Salad and cooking oils.....	kg			
			Baking or frying fats:				
	40	5	Wholly of vegetable oils..	kg			
	60	0	Other.....	kg			
	80	6	Other.....	kg			
1517.90.20			Other.....	.....	10%	Free (A,E,IL) 8% (CA)	25%
	20	7	Salad and cooking oils.....	kg			
			Baking or frying fats:				
	40	3	Wholly of vegetable oils..	kg			
	60	8	Other.....	kg			
	80	4	Other.....	kg			
1517.90.40			Other.....	.....	11¢/kg	Free (E,IL) 8.8¢/kg (CA)	11¢/kg
			Partially hydrogenated salad and cooking oil:				
	10	5	Provided for in subheading 9904.10.81.....	kg			
	20	3	Other 1/.....	kg			
			Soybean oil, wholly hydrogenated:				
	30	1	Provided for in subheading 9904.10.81.....	kg			
	40	9	Other 1/.....	kg			
			Cottonseed oil, wholly hydrogenated:				
	50	6	Provided for in subheading 9904.10.81.....	kg			
	60	4	Other 1/.....	kg			
			Other:				
	70	2	Provided for in subheading 9904.10.81.....	kg			
	80	0	Other 1/.....	kg			
1518.00			Animal or vegetable fats and oils and their fractions, boiled, oxidized, dehydrated, sulfurized, blown, polymerized by heat in vacuum or in inert gas or otherwise chemically modified, excluding those of heading 1516; inedible mixtures or preparations of animal or vegetable fats or oils or of fractions of different fats or oils of this chapter, not elsewhere specified or included:				
1518.00.20	00	9	Of linseed or flaxseed oil.....	kg.....	9.9¢/kg	Free (E,IL) 7.9¢/kg (CA)	9.9¢/kg
1518.00.40	00	5	Other.....	kg.....	10%	Free (A,E,IL) 8% (CA)	25%

1/ See subheading 9904.10.75.

CHAPTER 17

SUGARS AND SUGAR CONFECTIONERY

Note

1. This chapter does not cover:

   (a) Sugar confectionery containing cocoa (heading 1806);

   (b) Chemically pure sugars (other than sucrose, lactose, maltose, glucose and fructose) or other products of heading 2940; or

   (c) Medicaments or other products of chapter 30.

Subheadings Note

1. For the purposes of subheadings 1701.11 and 1701.12, "raw sugar" means sugar whose content of sucrose by weight, in the dry state, corresponds to a polarimeter reading of less than 99.5 degrees.

Additional U.S. Notes

1. The term "degree" as used in the "Rates of Duty" columns of this chapter means International Sugar Degree as determined by polarimetric test performed in accordance with procedures recognized by the International Commission for Uniform Methods of Sugar Analysis (ICUMSA).

2. The rates in column numbered 1 in subheadings 1701.11, 1701.12, 1701.91.20, 1701.99, 1702.90.30, 1702.90.40, 1806.10.40 and 2106.90.10, on January 1, 1968, shall be effective only during such time as title II of the Sugar Act of 1948 or substantially equivalent legislation is in effect in the United States, whether or not the quotas, or any of them, authorized by such legislation, are being applied or are suspended: Provided,

   (a) That, if the President finds that a particular rate not lower than such January 1, 1968 rate, limited by a particular quota, may be established for any articles provided for in the above-mentioned subheadings, which will give due consideration to the interests in the U.S. sugar market of domestic producers and materially affected contracting parties to the General Agreement on Tariffs and Trade, he shall proclaim such particular rate and such quota limitation, to be effective not later than the 90th day following the termination of the effectiveness of such legislation;

   (b) That any rate and quota limitation so established shall be modified if the President finds and proclaims that such modification is required or appropriate to give effect to the above considerations; and

   (c) That the January 1, 1968 rates shall resume full effectiveness, subject to the provisions of this note, if legislation substantially equivalent to title II of the Sugar Act of 1948 should subsequently become effective.

3. (a)(i) The total amount of sugars, syrups and molasses described in subheadings 1701.11, 1701.12, 1701.91.20, 1701.99, 1702.90.30, 1702.90.40, 1806.10.40 and 2106.90.10, the products of all foreign countries, entered, or withdrawn from warehouse for consumption, during the period January 1, 1989 through December 31, 1989, shall not exceed in the aggregate 1,061,279 metric tons, raw value. Of this amount, the total amount permitted to be imported for purposes of paragraph (c)(i) of this note (the total base quota amount) shall be 1,053,000 metric tons, raw value; 1,815 metric tons, raw value, may only be used for the importation of "specialty sugars" as defined by the United States Trade Representative in accordance with paragraph (c)(ii) of this note; and the remaining 6,464 metric tons, raw value, may only be imported for the purposes specified in paragraph (c)(v) of this note (the quota adjustment amount).

   (ii) Sugar entering the United States during a quota period may be charged to the previous quota period with the approval of the Secretary of Agriculture. The Secretary may only grant such approval if (A) the sugar was shipped in time to enter the United States during the previous quota period and (B) the sugar would have successfully entered the United States during the previous quota period but for forces beyond the control of the importer, including but not limited to engine failure of the transporting ocean carrier, unexpectedly severe weather conditions, and acts of God.

   (b) Beginning with the third calendar quarter of 1982, the Secretary of Agriculture (hereinafter the Secretary) shall establish for each calendar quarter the total amount (expressed in terms of raw value) of sugars, syrups and molasses described in the above-mentioned subheadings, the products of all foreign countries, which may be entered, or withdrawn from warehouse for consumption, during such calendar quarter. The Secretary shall determine such amount, inform the Secretary of the Treasury of his determination, and file notice thereof with the Federal Register no later than the 15th day of the month immediately preceding the calendar quarter during which such determination shall be in effect. In determining such amounts the Secretary shall give due consideration to the interests in the U.S. sugar market of domestic producers and materially affected contracting parties to the General Agreement on Tariffs and Trade.

(c) (i) The total amounts of sugars, syrups and molasses permitted to be imported under paragraphs (a) and (b) of this note shall be allocated as follows (in percent) to the supplying countries or areas listed below:

	Country	Percentage distribution		Country	Percentage distribution
1.	Canada	1.1	16.	Thailand	1.4
2.	Guatemala	4.8	17.	Philippines	15.8
3.	Belize	1.1	18.	Taiwan	1.2
4.	El Salvador	2.6	19.	Australia	8.3
5.	Honduras	1.0	20.	Mauritius	1.1
6.	Nicaragua	2.1	21.	Mozambique	1.3
7.	Costa Rica	1.5	22.	Swaziland	1.6
8.	Jamaica	1.1	23.	Barbados	0.7
9.	Dominican Republic	17.6	24.	Trinided-Tobago	0.7
10.	Colombia	2.4	25.	Bolivia	0.8
11.	Guyana	1.2	26.	India	0.8
12.	Ecuador	1.1	27.	Fiji	0.7
13.	Peru	4.1	28.	Malawi	0.7
14.	Brazil	14.5	29.	Zimbabwe	1.2
15.	Argentina	4.3	30.	Other specified countries and areas	0.3

NOTE 1: The category "Other specified countries and areas" shall consist of the following: Mexico, Haiti, Paraguay, Saint Christopher-Nevis, Malagasy Republic, the Ivory Coast, Congo and Uruguay.

NOTE 2: Beginning with the quota year beginning September 26, 1983, the quota allocations for Nicaragua, Costa Rica, El Salvador and Honduras shall be as follows:

Nicaragua----------5,443 metric tons, raw value.

El Salvador----------2.6 percent of the total base quota amount permitted to be imported under paragraphs (a) and (b) of this legal note plus 18 percent of the difference between 2.1 percent of the total base quota amount and 5,443 metric tons, raw value.

Honduras----------1 percent of the total base quota amount plus 52 percent of the difference between 2.1 percent of the total base quota amount and 5,443 metric tons, raw value.

Costa Rica----------1.5 percent of the total base quota amount plus 30 percent of the difference between 2.1 percent of the total base quota amount and 5,443 metric tons, raw value.

Notwithstanding the allocation provisions set forth above, the Secretary may, after consultation with the United States Trade Representative, the Department of State and the Department of the Treasury, issue regulations modifying the allocation provisions governing "Other specified countries and areas" if the Secretary determines that such modifications are appropriate to provide such countries and areas reasonable access to the U.S. sugar market. Such regulations may, among other things, provide for the establishment of minimum quota amounts, the establishment of quota periods other than quarterly periods, and the carrying forward of unused quota amounts into subsequent quota periods.

(ii) The total amount of specialty sugars permitted to be imported under paragraphs (a) and (b) of this note shall be allocated by providing each of the following countries an annual quota of 72 metric tons, raw value, for the importation of specialty sugars:

Belgium	Indonesia	South Korea
Burma	Ireland	Surinam
Cameroon	Italy	Sweden
China, People's Republic of	Japan	Switzerland
Denmark	Kenya	United Kingdom
France	Luxembourg	Venezuela
Germany, Federal Republic of	Netherlands	Yemen
Hong Kong	Netherlands Antilles	

(iii) Notwithstanding any authority given to the United States Trade Representative under paragraphs (e) and (g) of this note, in allocating any limitation imposed under any paragraph of this note on the quantity of sugars, syrups, and molasses described in the subheadings cited under paragraph (a) of this note which may be entered --

(A) the percentage allocation made to the Phillipines under this paragraph may not be reduced, and
(B) no allocation may be made to the Republic of South Africa.

(d) The Secretary, after consultation with the United States Trade Representative and the Department of State, may suspend the allocation provisions of paragraph (c), or may establish quantitative limitations for periods of time other than calendar quarters as provided in paragraph (b), if the Secretary determines that such action or actions are appropriate to give due consideration to the interests in the U.S. sugar market of domestic producers and materially affected contracting parties to the General Agreement on Tariffs and Trade. The Secretary may reinstate the allocation provisions of paragraph (c), or may amend any quantitative limitations (including the time period for which such limitations are applicable) which have previously been established under this paragraph or paragraph (b), if the Secretary determines that the considerations set forth in the previous sentence so warrent. The Secretary shall inform the Secretary of the Treasury of any determination made under this paragraph. Notice of such determinations shall be filed with the Federal Register, and such determinations shall not become effective until the day following the date of filing of such notice or such later date as may be specified by the Secretary.

(e) The United States Trade Representative or his designee, after consultation with the Department of Agriculture and the Department of State, may modify the allocation provisions of paragraph (c) (including the deletion or addition of any country or area), and may prescribe further rules, limitations or prohibitions on the entry of sugar if he finds that such actions are appropriate to carry out the obligations of the United States under the International Sugar Agreement, 1977, or any successor agreement thereto, and that such actions give due consideration to the interests in the U.S. sugar market of domestic producers and materially affected contracting parties to the General Agreement on Tariffs and Trade. If the United States Trade Representative takes any such action, he shall so inform the Secretary of Agriculture and shall publish notice thereof in the FederalRegister. Such action shall not become effective until the day following the date of filing of such notice or such later date as may be specified by the United States Trade Representative.

(f) The Secretary shall, in consultation with the United States Trade Representative, the Department of State and other concerned agencies, review the operation of this note prior to September 1 of each year. In making such review, the Secretary shall determine whether the continued operation of paragraphs (b), (c), (d) and (e) of this note gives due consideration to the interests in the U.S. sugar market of domestic producers and materially affected contracting parties to the General Agreement on Tariffs and Trade, and whether the operation of paragraph (g) of this note would give due consideration to such interests. The Secretary shall file a notice of such determinations in the Federal Register no later than September 1 of each year. If the Secretary determines that the continued operation of paragraphs (b), (c), (d) and (e) of this note would not give due consideration to the interests in the U.S. sugar market of domestic producers and materially affected contracting parties to the General Agreements on Tariffs and Trade, and that the provisions of paragraph (g) of this note would give due considerations to such interests, paragraphs (b), (c), (d) and (e) of this note shall terminate as of the first day of October following such determination.

(g) If paragraphs (b), (c), (d) and (e) of this note are terminated under the provisions of paragraph (f) of this note, the total amount of sugars, syrups and molasses described in the above-mentioned subheadings, the products of all foreign countries, entered, or withdrawn from warehouse for consumption, in any fiscal (October 1-September 30) year shall not exceed, in the aggregate, 6,259,576 metric tons, raw value. The United States Trade Representative or his designee may allocate this quantity among supplying countries or areas, and may prescribe further rules, regulations, limitations or prohibitions on the entry of sugar in accordance with the International Sugar Agreement, 1977, and Public Law 96-236. The United States Trade Representative or his designee shall inform the Commissioner of Customs of any such action regarding the importation of sugar, and shall publish notice thereof in the Federal Register.

(h) For the purposes of this note, the term "raw value" means the equivalent of such articles in terms of ordinary commercial raw sugar testing 96 degrees by the polariscope as determined in accordance with regulations issued by the Secretary of the Treasury. Such regulations may, among other things, provide: (1) for the entry of such articles pending a final determinaton of polarity; and (2) that positive or negative adjustments for differences in preliminary and final raw values be made in the same or succeeding quota periods. The principal grades and types of sugar shall be translated into terms of raw value in the following manner --

(i) For articles described in subheadings 1701.11, 1701.12, 1701.91.20, 1701.99, 1702.90.40, 1806.10.40 and 2106.90.10, by multiplying the number of kilograms thereof by the greater of 0.93, or 1.07 less 0.0175 for each degree of polarization under 100 degrees (and fractions of a degree in proportion).

(ii) For articles described in subheading 1702.90.30, by multiplying the number of kilograms of the total sugars thereof (the sum of the sucrose and reducing or invert sugars) by 1.07.

(iii) The Secretary of the Treasury shall establish methods for translating sugar into terms of raw value for any special grade or type of sugar for which he determines that the raw value cannot be measured adequately under the above provisions.

(ij) The Secretary may exempt the entry of articles described in subheadings 1701.11, 1701.12, 1701.91.20, 1701.99, 1702.90.30, 1702.90.40, 1806.10.40 and 2106.90.10 from the requirements or limitations established pursuant to this note on the condition that such articles: (a) be used only for the production (other than by distillation) of polyhydric alcohols, except polyhydric alcohols for use as a substitute for sugar in human food consumption; or (2) be re-exported in refined form or in sugar-containing products. Such articles shall be entered under licenses issued pursuant to regulations promulgated by the Secretary. In promulgating such regulations, the Secretary shall give due consideration to the interests in the U.S. sugar market of domestic producers and materially affected contracting parties to the General Agreement on Tariffs and Trade. Such regulations may contain any terms, conditions, bonds or other limitations as the Secretary determines are appropriate to ensure that articles imported under license are used only for the purposes specified in this paragraph. This paragraph shall terminate whenever paragraphs (b), (c), (d) and (e) of this note are terminated under paragraph (f) of this note.

For such period as there is in effect a proclamation issued by the President pursuant to the authority vested in him by section 22 of the Agricultural Adjustment Act (7 U.S.C. 624) to protect a price-support program for sugar beets and sugar cane, the importation and duty-free treatment of sugars, syrups, and molasses, provided for in subheadings 1701.11, 1701.12, 1701.91.20, 1701.99, 1702.90.30, 1702.90.40, 1806.10.40 and 2106.90.10, in accordance with general note 3(c)(vi) shall be governed in the following manner:

(a) (i) For all beneficiary countries, except those subject to subparagraph (ii) and paragraph (b), duty-free treatment shall be provided in the same manner as it is provided pursuant to title V of the Trade Act of 1974 (19 U.S.C. 2461 et seq.), at the time of the effective date of the Caribbean Basin Economic Recovery Act; except that the President, upon the recommendation of the Secretary of Agriculture, may suspend or adjust upward the value limitation provided for in section 504(c)(1) of the Trade Act of 1974 on the duty-free treatment afforded to beneficiary countries under general note 3(c)(vi) if he finds that such adjustment will not interfere with the price support program for sugar beets and sugar cane and is appropriate in light of market conditions.

(ii) As an alternative to subparagraph (i), the President may, at the request of a beneficiary country not subject to paragraph (b) and upon the recommendation of the Secretary of Agriculture, elect to permit sugar, syrups, and molasses from that country to enter duty-free during a calendar year subject to quantitative limitations to be established by the President on the quantity of sugar, syrups, and molasses entered from that country.

(b) For the following countries whose exports of sugar, syrups, and molasses in 1981 were not eligible for duty-free treatment because of the operation of section 504(c)of the Trade Act of 1974, the quantity of sugar, syrups, and molasses which may be entered in any calendar year shall be limited to no more than the quantity specified below:

Dominican Republic	780,000 metric tons
Guatemala	210,000 metric tons
Panama	160,000 metric tons

(c) The President, upon the recommendation of the Secretary of Agriculture, may suspend or adjust upward the quantitative limitations imposed under paragraph (a)(ii) or (b) if he determines such action will not interfere with the price-support program for sugar beets and sugar cane and is appropriate in light of market conditions. The President, upon the recommendation of the Secretary of Agriculture, may suspend the duty-free treatment for all or part of the quantity of sugar, syrups, and molasses permitted to be entered by paragraphs (a)(ii) and (b) if such action is necessary to protect the price-support program for sugar beets and sugar cane.

(d) Any quantitative limitation imposed on a beneficiary country under paragraphs (a)(ii) and (b) shall apply only to the extent that such limitation permits a lesser quantity of sugar, syrups, and molasses to be entered from that country than the quantity that would be permitted to be entered under any other provision of law.

Heading 1703 does not include products derived from sugar cane or sugar beet and containing soluble non-sugar solids (excluding any foreign substance that may have been added or developed in the product) equal to 6 percent or less by weight of the total soluble solids.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
1701		Cane or beet sugar and chemically pure sucrose, in solid form:				
		Raw sugar not containing added flavoring or coloring matter:				
1701.11.00		Cane sugar 1/	.....	1.4606¢/ kg less 0.020688¢/ kg for each degree under 100 degrees (and fractions of a degree in proportion) but not less than 0.943854¢ /kg 2/	Free (A*,E*,IL) 2/ 1.1684¢/kg less 0.016534¢/kg for each degree under 100 degrees (and fractions of a degree in proortion) but not less than 0.755083¢/kg (CA) 2/	4.3817¢/ kg less 0.062005¢ /kg for each degree under 100 degrees (and fractions of a degree in proportion) but not less than 2.831562¢ /kg 2/
	25 8	Not to be further refined or improved in quality	kg			
	45 4	Other	t raw value v kg			
1701.12.00		Beet sugar 1/	.....	1.4606¢/ kg less 0.020688¢/ kg for each degree under 100 degrees (and fractions of a degree in proportion) but not less than 0.943854¢/ kg 2/	Free (A*,E*,IL) 2/ 1.1684¢/kg less 0.016534¢/kg for each degree under 100 degrees (and fractions of a degree in proportion) but not less than 0.755083¢/kg (CA) 2/	4.3817¢ /kg less 0.062005¢ /kg for each degree under 100 degrees (and fractions of a degree in proportion) but not less than 2.831562¢ /kg 2/
	25 7	Not to be further refined or improved in quality	kg			
	45 3	Other	t raw value v kg			

1/ See Additional U.S. Note 3.
2/ See subheading 9904.40.20.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
1701 (con.)		Cane or beet sugar and chemically pure sucrose, in solid form (con.):				
		Other:				
1701.91		Containing added flavoring or coloring matter:				
1701.91.20		Containing added coloring but not added flavoring matter 1/.....	.....	1.4606¢/ kg less 0.020668¢/ kg for each degree under 100 degrees (and fractions of a degree in proportion) but not less than 0.943854¢/ kg 2/	Free (A*,E*,IL) 2/ 1.1684¢/kg less 0.016534¢/kg for each degree under 100 degrees (and fractions of a degree in proportion (but not less than 0.755083¢/kg (CA) 2/	4.3817¢/ kg less 0.062005¢ /kg for each degree under 100 degrees (and fractions of a degree in proportion) but not less than 2.831562¢ /kg 2/
	25 7	Not to be further refined or improved in quality.....	kg			
	45 3	Other.....	t raw value v kg			
1701.91.40	00 2	Containing added flavoring matter whether or not containing added coloring 3/.....	kg.....	8%	Free (A,E,IL) 4.8% (CA)	20%
1701.99.00	00 2	Other 1/.....	t raw value..v kg	1.4606¢/ kg less 0.020668¢/ kg for each degree under 100 degrees (and fractions of a degree in proportion) but not less than 0.943854¢/ kg 2/	Free (A*,E*,IL) 2/ 1.1684/kg less 0.016534/kg for each degree under 100 degrees (and fractions of a degree in proportion) but not less than 0.755083/kg (CA) 2/	4.3817¢/ kg less 0.062005¢ /kg for each degree under 100 degrees (and fractions of a degree in proportion) but not less than 2.831562¢ /kg 2/

1/ See Additional U.S. Note 3.
2/ See subheading 9904.40.20.
3/ See subheading 9904.50.40.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty		
				General	Special	2
1702		Other sugars, including chemically pure lactose, maltose, glucose and fructose, in solid form; sugar syrups not containing added flavoring or coloring matter; artificial honey, whether or not mixed with natural honey; caramel:				
1702.10.00	00 7	Lactose and lactose syrup	kg	10%	Free (E,IL) 8% (CA)	50%
1702.20		Maple sugar and maple syrup:				
1702.20.20		Blended with other sugars of this chapter 1/		6%	Free (A,E,IL) 4.8% (CA)	20%
	10 9	Maple sugar	kg			
	20 7	Maple syrup	kg			
1702.20.40		Other		Free		9¢/kg
	10 5	Maple sugar	kg			
	20 3	Maple syrup	kg			
1702.30		Glucose and glucose syrup, not containing fructose or containing in the dry state less than 20 percent by weight of fructose:				
1702.30.20	00 9	Blended with other sugars of this chapter 1/	kg	6%	Free (A,E,IL) 4.8% (CA)	20%
1702.30.40	00 5	Other	kg	3.5¢/kg	Free (E,IL) 2.8¢/kg (CA)	4.4¢/kg
1702.40.00		Glucose and glucose syrup, containing in the dry state at least 20 percent but less than 50 percent by weight of fructose 1/2/		6%	Free (A,E,IL) 4.8% (CA)	20%
	20 7	Derived solely from starches	kg			
	40 3	Other	kg			
1702.50.00	00 8	Chemically pure fructose	kg	15%	Free (E,IL) 12% (CA)	50%
1702.60.00		Other fructose and fructose syrup, containing in the dry state more than 50 percent by weight of fructose 1/		6%	Free (A,E,IL) 4.8% (CA)	20%
	20 2	Derived solely from starches	kg			
		Other:				
	40 8	Syrup	kg			
	60 3	Other	kg			
1702.90		Other, including invert sugar:				
		Derived from sugar cane or sugar beets:				
1702.90.30	00 4	Containing soluble non-sugar solids (excluding any foreign substance that may have been added or developed in the product) equal to 6 percent or less by weight of the total soluble solids 2/	kg	Dutiable on total sugars at the rate per kg applicable under heading 1701 to sugar testing 100 degrees 3/	Free (A,E*,IL) 3/ Dutiable on total sugars at the rate per kg applicable under heading 1701 to sugar testing 100 degrees (CA) 3/	Dutiable on total sugars at the rate per kg applicable under heading 1701 to sugar testing 100 degrees 3/
		Other:				
1702.90.35	00 9	Invert molasses	liters.v kg	0.77¢/liter	Free (A,E,IL) 0.6¢/liter (CA)	1.8¢/liter
1702.90.40	00 2	Other 2/	liters.v kg	0.77¢/liter 3/	Free (A,E,IL) 3/ 0.6¢/liter (CA) 3/	1.8¢/liter 3/
1702.90.50	00 9	Other 4/	kg	6%	Free (A,E,IL) 4.8% (CA)	20%

1/ See heading 9904.50.20.
2/ See Additional U.S. Note 3.
3/ See subheadings 9904.40.20 and 9904.40.60.
4/ See headings 9904.50.20 and 9904.50.40.

HARMONIZED TARIFF SCHEDULE of the United States (1990)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
1703		Molasses resulting from the extraction or refining of sugar:				
1703.10		Cane molasses:				
1703.10.30	00 0	Imported for (a) the commercial extraction of sugar or (b) human consumption	liters 1/	0.77¢/liter	Free (A,E,IL) 0.6¢/liter (CA)	1.8¢/liter
1703.10.50	00 5	Other	liters 1/ .....v kg total sugars	0.026¢/kg of total sugars	Free (A,E,IL) 0.020¢/kg of total sugars (CA)	0.07¢/kg of total sugars
1703.90		Other:				
1703.90.30	00 3	Imported for (a) the commercial extraction of sugar or (b) human consumption	liters 1/	0.77¢/liter	Free (A,E,IL) 0.6¢/liter (CA)	1.8¢/liter
1703.90.50	00 8	Other	liters 1/ .....v kg total sugars	0.026¢/kg of total sugars	Free (A,E,IL) 0.020¢/kg of total sugars (CA)	0.07¢/kg of total sugars
1704		Sugar confectionery (including white chocolate), not containing cocoa:				
1704.10.00	00 5	Chewing gum, whether or not sugar-coated	kg	5%	Free (A,E,IL) 4% (CA)	20%
1704.90		Other:				
		Confections or sweetmeats ready for consumption:				
1704.90.10	00 6	Candied nuts	kg	7%	Free (E,IL) 4.8% (CA)	40%
1704.90.20		Other 2/		7%	Free (A,E,IL) 5.8% (CA)	40%
	05 9	Put up for retail sale	kg			
	10 2	Other	kg			
		Other:				
1704.90.40	00 0	Articles of milk or cream 3/	kg	17.5%	Free (E,IL) 14% (CA)	35%
1704.90.60		Other		12.2%	Free (E,IL) 9.7% (CA)	12.2%
	10 3	Provided for in subheading 9904.10.75	kg			
	20 1	Provided for in subheading 9904.10.81	kg			
	30 9	Provided for in heading 9904.50.40	kg			
	40 7	Provided for in subheading 9904.60.60	kg			
	50 4	Other	kg			

1/ Report liters of dried molasses on the basis of 0.72 kg/liter.
2/ See subheading 9903.17.05.
3/ See subheading 9904.10.60.

CHAPTER 18

COCOA AND COCOA PREPARATIONS

Notes

1. This chapter does not cover the preparations of heading 04 1901, 1904, 1905, 2105, 2202, 2208, 3003 or 3004.

2. Heading 1806 includes sugar confectionery containing cocoa, and, subject to note 1 to this chapter, other food preparations containing cocoa.

HARMONIZED TARIFF SCHEDULE of the United States (1990)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
1801.00.00	00 9	Cocoa beans, whole or broken, raw or roasted.....	kg.....	Free		Free
1802.00.00	00 8	Cocoa shells, husks, skins and other cocoa waste.....	kg.....	Free		10%
1803		Cocoa paste, whether or not defatted:				
1803.10.00	00 5	Not defatted.....	kg.....	Free		6.6¢/kg
1803.20.00	00 3	Wholly or partly defatted.....	kg.....	0.82¢/kg 1/	Free (A,CA,E,IL)	6.6¢/kg
1804.00.00	00 6	Cocoa butter, fat and oil.....	kg.....	Free		25%
1805.00.00	00 5	Cocoa powder, not containing added sugar or other sweetening matter.....	kg.....	0.82¢/kg 2/	Free (A,E,IL) 0.6¢/kg (CA)	6.6¢/kg
1806		Chocolate and other food preparations containing cocoa:				
1806.10		Cocoa powder, containing added sugar or other sweetening matter:				
1806.10.20		Containing less than 65 percent by weight of sugar 3/.....	.....	Free		40%
	30 2	Put up for retail sale.....	kg			
	90 9	Other.....	kg			
1806.10.30		Containing 65 percent or more but less than 90 percent by weight of sugar.....	.....	10%	Free (A,E,IL) 8% (CA)	20%
	05 1	Provided for in heading 9904.50.40.....	kg			
	10 4	Provided for in subheading 9904.60.20.....	kg			
	30 0	Other.....	kg			
1806.10.40	00 4	Other 4/.....	kg.....	Dutiable on total sugars at the rate applicable under heading 1701	Free (A*,E*,IL) Dutiable on total sugars at the rate applicable under heading 1701 (CA)	Dutiable on total sugars at the rate applicable under heading 1701

1/ See heading 9903.10.23.
2/ See heading 9903.10.24.
3/ See subheading 9904.60.20.
4/ See chapter 17 Additional U.S. Note 3.

Heading/ Subheading	Stat. Suf. & cd		Article Description	Units of Quantity	Rates of Duty		
					General	Special	2/
1806 (con.)			Chocolate and other food preparations containing cocoa (con.):				
1806.20			Other preparations in blocks or slabs weighing more than 2 kg or in liquid, paste, powder, granular or other bulk form in containers or immediate packings, of a content exceeding 2 kg:				
			Preparations consisting wholly of ground cocoa beans, with or without added cocoa fat, flavoring or emulsifying agents, and containing not more than 32 percent by weight of butterfat or other milk solids and not more than 60 percent by weight of sugar :				
1806.20.20	00	8	In blocks or slabs weighing 4.5 kg or more each 1/.....	kg.....	Free		8.8¢/kg
1806.20.40			Other.....	.....	5%	Free (A,E,IL) 4% (CA)	40%
	20	8	Not containing butterfat or other milk solids	kg			
			Other:				
	40	4	Containing over 5.5 percent by weight of butterfat 2/.....	kg			
	60	9	Containing not over 5.5 percent by weight of butterfat or containing other milk solids 3/.....	kg			

1/ See subheading 9903.17.10.
2/ See subheading 9904.10.63.
3/ See subheading 9904.10.66.

Heading/ Subheading	Stat. Suf. & cd		Article Description	Units of Quantity	Rates of Duty		
					General	Special	2
1806 (con.) 1806.20 (con.)			Chocolate and other food preparations containing cocoa (con.): Other preparations in blocks or slabs weighing more than 2 kg or in liquid, paste, powder, granular or other bulk form in containers or immediate packings, of a content exceeding 2 kg (con.):				
1806.20.60	00	7	Confectioners' coatings and other products (except confectionery) containing by weight not less than 6.8 percent non-fat solids of the cocoa bean nib and not less than 15 percent of vegetable fats other than cocoa butter.....	kg.....	2.5%	Free (A,E,IL) 2% (CA)	35%
			Other:				
1806.20.70			Containing more than 65 percent by weight of sugar.....	.....	10%	Free (A,E,IL) 8% (CA)	20%
	05	0	Provided for in heading 9904.50.40.....	kg			
	10	3	Provided for in subheading 9904.60.60.....	kg			
	30	9	Other.....	kg			
1806.20.80			Other.....	.....	10%	Free (E,IL) 8% (CA)	20%
			Subject to quotas established pursuant to section 22 of the Agricultural Adjustment Act, as amended:				
	10	1	Provided for in subheading 9904.10.63.....	kg			
	20	9	Provided for in subheading 9904.10.66.....	kg			
	30	7	Provided for in subheading 9904.10.75.....	kg			
	40	5	Provided for in subheading 9904.10.81.....	kg			
	50	2	Provided for in heading 9904.50.20.....	kg			
	60	0	Provided for in subheading 9904.60.60.....	kg			
			Other:				
	70	8	Provided for in subheading 9903.17.05.....	kg			
	80	6	Other.....	kg			

Heading/ Subheading	Stat. Suf. & cd		Article Description	Units of Quantity	Rates of Duty		
					General	Special	2
1806 (con.)			Chocolate and other food preparations containing cocoa (con.):				
			Other, in blocks, slabs or bars:				
1806.31.00			Filled	.....	7%	Free (A,E,IL) 5.6% (CA)	40%
	30	1	Provided for in heading 9904.50.40	kg			
			Other:				
	60	4	Provided for in subheading 9903.17.05	kg			
	90	8	Other	kg			
1806.32			Not filled:				
1806.32.20			Preparations consisting wholly of ground cocoa beans, with or without added cocoa fat, flavoring or emulsifying agents, and containing not more than 32 percent by weight of butterfat or other milk solids and not more than 60 percent by weight of sugar	.....	5%	Free (A,E,IL) 4% (CA)	40%
	30	6	Provided for in subheading 9904.10.63	kg			
	60	9	Provided for in subheading 9904.10.66	kg			
	90	3	Other	kg			
1806.32.40			Other	.....	7%	Free (A,E,IL) 5.6% (CA)	40%
			Subject to quotas established pursuant to section 22 of the Agricultural Adjustment Act, as amended:				
	20	4	Provided for in subheading 9904.10.75	kg			
	40	0	Provided for in subheading 9904.10.81	kg			
			Other:				
	60	5	Provided for in subheading 9903.17.05	kg			
	80	1	Other	kg			

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
1806 (con.)		Chocolate and other food preparations containing cocoa (con.):				
1806.90.00		Other	.....	7%	Free (A,E,IL) 5.6% (CA)	40%
		Subject to quotas established pursuant to section 22 of the Agricultural Adjustment Act, as amended:				
	10 3	Provided for in subheading 9904.10.63	kg			
	20 1	Provided for in subheading 9904.10.66	kg			
	30 9	Provided for in subheading 9904.10.75	kg			
	40 7	Provided for in subheading 9904.10.81	kg			
	50 4	Provided for in heading 9904.50.20	kg			
	55 9	Provided for in heading 9904.50.40	kg			
	60 2	Provided for in subheading 9904.60.60	kg			
		Other:				
	70 0	Provided for in subheading 9903.17.05	kg			
		Other:				
		Put up for retail sale:				
	75 5	Chocolate confectionery	kg			
	78 2	Other	kg			
		Other:				
	85 3	Chocolate confectionery	kg			
	90 6	Other	kg			

CHAPTER 19

PREPARATIONS OF CEREALS, FLOUR, STARCH OR MILK; BAKERS' WARES

Notes

1. This chapter does not cover:

   (a) Except in the case of stuffed products of heading 1902, food preparations containing more than 20 percent by weight of sausage, meat, meat offal, blood, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof (chapter 16);

   (b) Biscuits or other articles made from flour or from starch, specially prepared for use in animal feeding (heading 2309); or

   (c) Medicaments or other products of chapter 30.

2. In this chapter the expressions "flour" and "meal" mean cereal flour and meal of chapter 11 and other flour, meal and powder of vegetable origin of any chapter.

3. Heading 1904 does not cover preparations containing more than 6 percent by weight of cocoa powder or coated with chocolate or other food preparations containing cocoa of heading 1806 (heading 1806).

4. For the purposes of heading 1904 the expression "otherwise prepared" means prepared or processed to an extent beyond that provided for in the headings of or notes to chapter 10 or 11.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
1901		Malt extract; food preparations of flour, meal, starch or malt extract, not containing cocoa powder or containing cocoa powder in a proportion by weight of less than 50 percent, not elsewhere specified or included; food preparations of goods of headings 0401 to 0404, not containing cocoa powder or containing cocoa powder ir a proportion by weight of less than 10 percent, not elsewhere specified or included:				
1901.10.00	00 6	Preparations for infant use, put up for retail sale 1/	kg	17.5%	Free (E,IL) 14% (CA)	35%
1901.20.00		Mixes and doughs for the preparation of bakers' wares of heading 1905		10%	Free (A,E,IL) 8% (CA)	20%
		Provided for in subheading 9904.10.75:				
	13 9	In dry form	kg			
	16 6	Other	kg			
		Provided for in subheading 9904.10.78:				
	23 7	In dry form	kg			
	28 4	Other	kg			
		Provided for in heading 9904.50.40:				
	33 5	In dry form	kg			
	38 2	Other	kg			
		Provided for in subheading 9904.60.40:				
	43 3	In dry form	kg			
	46 0	Other	kg			
		Other:				
	80 7	In dry form	kg			
	90 5	Other	kg			
1901.90		Other:				
		Malt extract:				
1901.90.10	00 7	Fluid	liters	5¢/liter	Free (E,IL) 4¢/liter (CA)	26¢/liter
1901.90.20	00 5	Solid or condensed	kg	15%	Free (E,IL) 12% (CA)	60%
1901.90.25	00 0	Puddings ready for immediate consumption without further preparation	kg	Free		30%
1901.90.30		Malted milk; articles of milk or cream not specially provided for 1/		17.5%	Free (E,IL) 14% (CA)	35%
	20 9	Malted milk	kg			
	40 5	Other	kg			
		Other:				
1901.90.40		Containing over 5.5 percent by weight of butterfat and not packaged for retail sale		16%	Free (E,IL) 12.8% (CA)	20%
	05 8	Provided for in subheading 9904.10.78	kg			
	10 9	Provided for in subheading 9904.10.81	kg			
	50 0	Other	kg			

1/ See subheading 9904.10.60.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty		
				General	Special	2
1901 (con.)		Malt extract; food preparations of flour, meal, starch or malt extract, not containing cocoa powder or containing cocoa powder in a proportion by weight of less than 50 percent, not elsewhere specified or included; food preparations of goods of headings 0401 to 0404, not containing cocoa powder or containing cocoa powder in a proportion by weight of less than 10 percent, not elsewhere specified or included (con.):				
1901.90 (con.)		Other (con.):				
		Other (con.):				
1901.90.80		Other:				
		Subject to quotas established pursuant to section 22 of the Agricultural Adjustment Act, as amended	.....	10%	Free (E,IL) 8% (CA)	20%
	20 8	Provided for in subheading 9904.10.66	kg			
	40 4	Provided for in subheading 9904.10.75	kg			
	60 9	Provided for in subheading 9904.10.81	kg			
	70 7	Provided for in subheading 9904.60.60	kg			
	80 5	Provided for in heading 9904.50.40	kg			
	90 3	Other	kg			
1901.90.90		Other	.....	10%	Free (A,E,IL) 8% (CA)	20%
	60 7	Put up for retail sale	kg			
		Other:				
	82 1	Corn-soya milk blends	kg			
	85 8	Wheat-flour-soya blends	kg			
	95 6	Other	kg			

CHAPTER 21

MISCELLANEOUS EDIBLE PREPARATIONS

Notes

1. This chapter does not cover:

   (a) Mixed vegetables of heading 0712;

   (b) Roasted coffee substitutes containing coffee in any proportion (heading 0901);

   (c) Spices or other products of headings 0904 to 0910;

   (d) Food preparations, other than the products described in heading 2103 or 2104, containing more than 20 percent by weight of sausage, meat, meat offal, blood, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof (chapter 16);

   (e) Compound alcoholic preparations of a kind used for the manufacture of beverages, of an alcoholic strength by volume (see note 2 to chapter 22) exceeding 0.5 percent vol. (heading 2208);

   (f) Yeast put up as a medicament or other products of heading 3003 or 3004; or

   (g) Prepared enzymes of heading 3507.

2. Extracts of the substitutes referred to in note 1 (b) above are to be classified in heading 2101.

3. For the purposes of heading 2104, the expression "homogenized composite food preparations" means preparations consisting of a finely homogenized mixture of two or more basic ingredients such as meat, fish, vegetables or fruit, put up for retail sale as infant food or for dietetic purposes, in containers of a net weight content not exceeding 250 g. For the application of this definition, no account is to be taken of small quantities of any ingredients which may be added to the mixture for seasoning, preservation or other purposes. Such preparations may contain a small quantity of visible pieces of ingredients.

HARMONIZED TARIFF SCHEDULE of the United States (1990)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
2101		Extracts, essences and concentrates, of coffee, tea or maté and preparations with a basis of these products or with a basis of coffee, tea or maté; roasted chicory and other roasted coffee substitutes, and extracts, essences and concentrates thereof:				
2101.10		Extracts, essences and concentrates, of coffee, and preparations with a basis of these extracts, essences or concentrates or with a basis of coffee:				
2101.10.20		Extracts, essences and concentrates.....	.....	Free 1/		Free
		Soluble or instant coffee (containing no admixture of sugar, cereal or other additive):				
	25 9	Not decaffeinated.....	kg			
	30 2	Decaffeinated.....	kg			
	40 0	Other.....	kg			
2101.10.40		Other.....	.....	10%	Free (A,E,IL) 8% (CA)	20%
	20 0	Provided for in heading 9904.50.20.....	kg			
	40 6	Provided for in heading 9904.50.40.....	kg			
	60 1	Provided for in subheading 9904.60.60.....	kg			
	80 7	Other.....	kg			
2101.20		Extracts, essences and concentrates, of tea or maté, and preparations with a basis of these extracts, essences or concentrates or with a basis of tea or maté:				
2101.20.20	00 6	Extracts, essences and concentrates.....	kg.....	Free		10%
2101.20.40		Other.....	.....	10%	Free (A,E,IL) 6% (CA)	20%
	20 8	Provided for in heading 9904.50.20 or 9904.50.40.....	kg			
		Other:				
	40 4	Put up for retail sale.....	kg			
		Other:				
	60 9	Containing over 10 percent by weight of sugar 2/	kg			
	80 5	Other.....	kg			
2101.30.00	00 8	Roasted chicory and other roasted coffee substitutes and extracts, essences and concentrates thereof.....	kg.....	3.3¢/kg	Free (E,IL) 1.9¢/kg (CA)	6.6¢/kg
2102		Yeasts (active or inactive); other single-cell microorganisms, dead (but not including vaccines of heading 3002); prepared baking powders:				
2102.10.00	00 1	Active yeasts.....	kg.....	10%	Free (A,CA,E,IL)	20%
2102.20		Inactive yeasts; other single-cell microorganisms, dead:				
2102.20.20	00 5	Yeasts (except dried brewers' yeast).....	kg.....	10%	Free (A,CA,E,IL)	20%
2102.20.40	00 1	Dried brewers' yeast, crude.....	kg.....	Free		Free
2102.20.60	00 6	Other.....	kg.....	5%	Free (A,CA,E,IL)	25%
2102.30.00	00 7	Prepared baking powders.....	kg.....	Free		25%

1/ See subheading 9903.23.20.
2/ See headings or subheadings 9904.50.20, 9904.50.40 and 9904.60.60.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Special	2
2103		Sauces and preparations therefor; mixed condiments and mixed seasonings; mustard flour and meal and prepared mustard:				
2103.10.00	00 0	Soy sauce	kg	3%	Free (A,E,IL) 2.4% (CA)	35%
2103.20		Tomato ketchup and other tomato sauces:				
2103.20.20	00 4	Tomato ketchup	kg	7.5%	Free (A,E,IL) 6% (CA)	35%
2103.20.40		Other		13.6% 1/	Free (E) 10.8% (CA)	50%
	20 6	In containers holding less than 1.4 kg	kg			
	40 2	Other	kg			
2103.30		Mustard flour and meal and prepared mustard:				
2103.30.20	00 2	Mustard flour and meal	kg	Free		22¢/kg
2103.30.40	00 8	Prepared mustard	kg	4.4¢/kg	Free (A,E,IL) 3.5¢/kg (CA)	22¢/kg
2103.90		Other:				
2103.90.20	00 9	Sauces derived or prepared from fish	kg	Free		30%
2103.90.40	00 5	Nonalcoholic preparations of yeast extract (other than sauces)	kg	5%	Free (A,E,IL) 4% (CA)	20%
2103.90.60		Other		7.5%	Free (A,E,IL) 6% (CA)	35%
	20 6	Mayonnaise	kg			
	40 2	Other salad dressings	kg			
		Mixed condiments and mixed seasonings:				
	61 6	Provided for in heading 9904.50.40	kg			
	62 5	Provided for in subheading 9904.60.60	kg			
	63 4	Other	kg			
		Other:				
	70 5	Containing cane and/or beet sugar	kg			
	90 1	Other	kg			
2104		Soups and broths and preparations therefor; homogenized composite food preparations:				
2104.10.00		Soups and broths and preparations therefor		7%	Free (A,E,IL) 5.6% (CA)	35%
	20 5	Dried	kg			
		Other:				
	40 1	Based on fish or other seafood	kg			
	60 6	Other	kg			
2104.20.00	00 7	Homogenized composite food preparations	kg	10%	Free (A,E,IL) 8% (CA)	20%
2105.00.00		Ice cream and other edible ice, whether or not containing cocoa 2/		20%	Free (E,IL) 16% (CA)	20%
	10 8	Ice cream	kg			
		Other:				
		Subject to quotas established pursuant to section 22 of the Agricultural Adjustment Act, as amended:				
	20 6	Provided for in subheading 9904.10.66	kg			
	30 4	Provided for in subheading 9904.10.78	kg			
	40 2	Provided for in subheading 9904.10.81	kg			
	50 9	Other	kg			

1/ See subheading 9903.23.15.
2/ See subheadings 9904.10.66, 9904.10.72, 9904.10.78 and 9904.10.81.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty		
				General	Special	2
2106		Food preparations not elsewhere specified or included:				
2106.10.00	00 7	Protein concentrates and textured protein substances	kg	10%	Free (A,E,IL) 8% (CA)	20%
2106.90		Other:				
2106.90.05	00 5	Products derived from the dried milk, dried buttermilk or dried whey of subheadings 0402.10, 0402.21.20, 0402.21.40, 0403.90.40 or 0404.10.40, which contain not over 5.5 percent by weight of butterfat and which are mixed with other ingredients including, but not limited to sugar, if such mixtures contain over 18 percent milk solids by weight, are capable of being further processed or mixed with similar ingredients and are not prepared for marketing to the retail consumers in the identical form and package in which imported 1/	kg	2.9¢/kg	Free (A,E,IL) 2.3¢/kg (CA)	12.1¢/kg
2106.90.10	00 8	Syrups derived from cane or beet sugar, containing added coloring but not added flavoring matter 2/	kg	Dutiable on total sugars at the rate per kg applicable under heading 1701 to sugar testing 100 degrees 3/	Free (A,E*,IL) 3/ Dutiable on total sugars at the rate per kg applicable under heading 1701 to sugar testing 100 degrees (CA) 3/	Dutiable on total sugars at the rate per kg applicable under heading 1701 to sugar testing 100 degrees 3/
2106.90.15		Butter substitutes, whether in liquid or solid state, containing over 15 percent by weight of butter or other fats or oils derived from milk	.....	15.4¢/kg	Free (E,IL) 12.3¢/kg (CA)	31¢/kg
	10 1	Containing over 45 percent butterfat 4/	kg			
	40 5	Other	kg			
		Other:				
2106.90.20		Of gelatin	.....	6%	Free (A,E,IL) 4.8% (CA)	25%
	20 2	Containing sugar derived from sugar cane or sugar beets	kg			
	40 8	Other	kg			
		Other:				
2106.90.40		Containing over 5.5 percent by weight of butterfat and not packaged for retail sale	.....	16%	Free (E,IL) 12.8% (CA)	20%
	05 7	Provided for in subheading 9904.10.78	kg			
	10 0	Provided for in subheading 9904.10.81	kg			
	50 1	Other	kg			

1/ For dried milk mixtures, see subheading 9904.10.75.
2/ See chapter 17 additional U.S. note 3.
3/ See subheading 9904.40.60.
4/ See subheading 9904.10.24.

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
2106 (con.)		Food preparations not elsewhere specified or included (con.):				
2106.90 (con.)		Other (con.):				
		Other (con.):				
		Other (con.):				
		Other:				
2106.90.50		Subject to quotas established pursuant to Section 22 of the Agricultural Adjustment Act, as amended.....	.....	10%	Free (E,IL) 8% (CA)	20%
	20 5	Provided for in subheading 9904.10.81...	kg			
	30 3	Provided for in heading 9904.50.20...	kg			
	40 1	Provided for in heading 9904.50.40...	kg			
	50 8	Provided for in subheading 9904.60.60...	kg			
2106.90.60		Other.....	.....	10%	Free (A,E,IL) 8% (CA)	20%
		Preparations for the manufacture of beverages:				
	72 0	Containing sugar derived from sugar cane and/or sugar beets.....	kg			
	74 8	Other.....	kg			
	75 7	Non-dairy coffee whiteners.....	kg			
	80 0	Other cream or milk substitutes.....	kg			
	85 5	Confectionery (including gum) containing synthetic sweetening agents (e.g., saccharin) instead of sugar.....	kg			
	87 3	Herbal teas and herbal infusions comprising mixed herbs.....	kg			
		Other:				
	90 8	Canned.....	kg			
		Other:				
	95 3	Frozen.....	kg			
		Other:				
	97 1	Containing sugar derived from sugar cane and/or sugar beets...	kg			
	99 9	Other....	kg			

Heading/ Subheading	Stat. Suf. & cd		Article Description	Units of Quantity	Rates of Duty		
					General	Special	2
2308			Vegetable materials and vegetable waste, vegetable residues and byproducts, whether or not in the form of pellets, of a kind used in animal feeding, not elsewhere specified or included:				
2308.10.00	00	3	Acorns and horse-chestnuts	kg	3%	Free (CA,E,IL)	20%
2308.90			Other:				
2308.90.30	00	0	Screenings, scalpings, chaff or scourings, ground, or not ground, of flaxseed (linseed)	kg	Free		10%
2308.90.60			Other		3%	Free (CA,E,IL)	20%
	20	9	Citrus pulp pellets	t			
	40	5	Alfalfa hay pellets (cubes)	t			
	80	6	Other	kg			
2309			Preparations of a kind used in animal feeding:				
2309.10.00			Dog or cat food, put up for retail sale		Free		10%
	10	0	In airtight containers	kg			
	90	3	Other	kg			
2309.90			Other:				
2309.90.10			Mixed feeds or mixed feed ingredients		Free		10%
	05	8	Bird seed	kg			
	15	6	Other pet food, put up for retail sale	kg			
	20	9	Poultry feeds, prepared	t			
	30	7	Dairy cattle feed, prepared	t			
	32	5	Other cattle feed, prepared	t			
	35	2	Swine feed, prepared	t			
	45	0	Other livestock feed, prepared	t			
	50	2	Other	t			
			Other:				
2309.90.30	00	9	Animal feeds containing milk or milk derivatives 1/	kg	7.5%	Free (CA,E,IL)	20%
			Other:				
2309.90.60	00	2	Animal feeds containing egg	kg	3%	Free (E,IL) 2.4% (CA)	20%
2309.90.90	00	6	Other	kg	3%	Free (CA,E,IL)	20%

1/ See subheading 9904.10.69.

Heading/ Subheading	Stat. Suf. & cd		Article Description	Units of Quantity	Rates of Duty 1 General	1 Special	2
5201.00			Cotton, not carded or combed: 1/				
5201.00.10			Having a staple length under 28.575 mm (1-1/8 inches).....	.....	Free		Free
	10	2	Harsh or rough, under 19.05 mm (3/4 inch).....	kg			
	20	0	Other.....	kg			
5201.00.20			Having a staple length of 28.575 mm (1-1/8 inches) or more but under 42.8625 mm (1-11/16 inches).....	.....	4.4¢/kg	Free (E,IL) 3.5¢/kg (CA)	15.4¢/kg
	10	0	Harsh or rough, having a staple length of 29.36875 mm (1-5/32 inches) or more and white in color (except cotton of perished staple, grabbots and cotton pickings).....	kg			
			Other:				
	20	8	Having a staple length under 34.925 mm (1-3/8 inches).....	kg			
	50	1	Other.....	kg			
5201.00.50	00	5	Having a staple length of 42.8625 mm (1-11/16 inches) or more.....	kg.....	1.5¢/kg	Free (E,IL) 1.2¢/kg (CA)	15.4¢/kg
5202			Cotton waste (including yarn waste and garnetted stock): 1/				
5202.10.00	00	3	Yarn waste (including thread waste).....	kg.....	Free		Free
			Other:				
5202.91.00	00	5	Garnetted stock.....	kg.....	5%	Free (E,IL) 4% (CA)	5%
5202.99.00	00	7	Other.....	kg.....	Free		Free
5203.00.00	00	4	Cotton, carded or combed 1/.....	kg.....	5%	Free (E,IL) 4% (CA)	5%
5204			Cotton sewing thread, whether or not put up for retail sale:				
			Not put up for retail sale:				
5204.11.00	00	0	Containing 85 percent or more by weight of cotton.....(200)	kg.....	5%	1.5% (IL) 4% (CA)	25.5%
5204.19.00	00	2	Other.....(200)	kg.....	5%	1.5% (IL) 4% (CA)	25.5%
5204.20.00	00	9	Put up for retail sale.....(200)	kg.....	5%	1.5% (IL) 4% (CA)	25.5%

1/ Certain cotton, whether or not carded or combed, and cotton waste are subject to additional import restrictions. See subheadings 9904.30.10 through 9904.30.60.

APPENDIX E
ACTIONS UNDER THE MEAT IMPORT ACT, 1969-89

Actions under the Meat Import Act, 1964-89

Year	Adjusted base prescribed under section 2(a)	Trigger level (adjusted base plus 10% sec. 2(c)	Import level estimated under sec. 2(b)(2)		Actual imports	Action taken by President
	Million pounds					
1969.....	988.0	1,086.8	1st. qtr.	1,035.0	1,084.1	Voluntary restraint agreements negotiated under section 204 with Australia, Mexico, Guatemala, Honduras, Costa Rica, El Salvador, Dominican Republic, Panama, and Belize; no quotas.
			2nd. qtr.	1,035.0		
			3rd. qtr.	1,035.0		
			4th. qtr.	1,035.0		
1970.....	998.8	1,098.7	1st. qtr.	1,061.5	1,170.6	Voluntary restraint agreements negotiated under section 204 with Haiti, Panama, Australia, Ireland, New Zealand, Dominican Republic, Honduras, Guatemala, Nicaragua, Costa Rica, and Mexico. Executive proclamation issued establishing and simultaneously suspending quotas. Section 204 action to limit transshipments through Canada.
			2nd. qtr.	1,061.5		
			3rd. qtr.	1,140.0		
			4th. qtr.	1,160.0		
1971....	1,025.0	1,127.5	1st. qtr.	1,160.0	1,132.6	Voluntary restraint agreements negotiated under section 204 with Panama, Costa Rica, Guatemala, Australia, Ireland, New Zealand, Haiti, Dominican Republic, Mexico, Nicaragua, and Honduras. Executive proclamation issued establishing and simultaneously suspending quotas.
			2nd. qtr.	1,160.0		
			3rd. qtr.	1,160.0		
			4th qtr.	1,160.0		

Actions under the Meat Import Act, 1964-89

Year	Adjusted base prescribed under section 2(a)	Trigger level (adjusted base plus 10% sec. 2(c)	Import level estimated under sec. 2(b)(2)		Actual imports	Action taken by President
	Million pounds					
1972.....	1,042.4	1,146.6	1st. qtr.	1,240.0	1,355.5	Voluntary restraint agreements negotiated under section 204 with El Salvador, Honduras, Australia, Nicaragua, Dominican Republic, Ireland, New Zealand, Guatemala, Haiti, Mexico, and Costa Rica. Executive proclamation issued establishing and simultaneously suspending quotas.
			2nd. qtr.	1,240.0		
			3rd. qtr.	1,240.0		
			4th. qtr.	1,275.0		
1973.....	1,046.8	1,151.5	1st. qtr.	1,450.0	1,355.6	No voluntary restraint agreements negotiated. Executive proclamation issued establishing and simultaneously suspending quotas.
			2nd. qtr.	1,450.0		
			3rd. qtr.	1,450.0		
			4th. qtr.	-		
1974.....	1,027.9	1,130.7	1st. qtr.	1,575.0	1,079.1	No voluntary restraint agreements. Executive proclamation issued establishing and simultaneously suspending quotas.
			2nd. qtr.	1,575.0		
			3rd. qtr.	1,210.0		
			4th. qtr.	1,115.0		
1975.....	1,074.3	1,181.7	1st. qtr.	1,150.0	1,208.9	Voluntary restraint agreements negotiated under section 204 with Haiti, Panama, New Zealand, Dominican Republic, and Costa Rica; no quotas.
			2nd. qtr.	1,180.0		
			3rd. qtr.	1,180.0		
			4th. qtr.	1,180.0		

Actions under the Meat Import Act, 1964-89

Year	Adjusted base prescribed under section 2(a)	Trigger level (adjusted base plus 10% sec. 2(c)	Import level estimated under sec. 2(b)(2)		Actual imports	Action taken by President
	Million pounds					
1976.....	1,120.9	1,232.9	1st. qtr.	-	1,231.7	Voluntary restraint agreements negotiated under section 204 with Australia, El Salvador, Nicaragua, Guatemala, Haiti, Honduras, New Zealand, Panama, Dominican Republic, Mexico, and Costa Rica. Executive proclamation issued establishing and simultaneously suspending quotas.
			2nd. qtr.	1,223.0		
			3rd. qtr.	1,223.0		
			4th. qtr.	1,250.0		
1977.....	1,165.4	1,281.9	1st. qtr.	1,271.9	1,250.2	Voluntary restraint agreements negotiated under section 204 with Australia, New Zealand, Mexico, Costa Rica, Nicaragua, Honduras, Guatemala, Dominican Republic, El Salvador, Panama, Haiti, and Belize; letters of understanding exchanged with Canada; no quotas.
			2nd. qtr.	1,271.9		
			3rd. qtr.	1,271.9		
			4th. qtr.	1,271.9		

Actions under the Meat Import Act, 1964-89

Year	Adjusted base prescribed under section 2(a)	Trigger level (adjusted base plus 10% sec. 2(c)	Import level estimated under sec. 2(b)(2)		Actual imports	Action taken by President
	Million pounds					
1978.....	1,183.9	1,302.3	1st. qtr.	1,292.3	1,485.5	Voluntary restraint agreements negotiated under section 204 with Australia, New Zealand, Canada, Mexico, Costa Rica, Nicaragua, Honduras, Guatemala, Dominican Republic, El Salvador, Panama, Haiti, and Belize. Executive proclamation issued establishing and simultaneously suspending quotas.
			2nd. qtr.	1,292.3		
			3rd. qtr.	1,492.3		
			4th. qtr.	1,492.3		
1979.....	1,131.6	1,244.8	1st. qtr.	1,570.0	1,533.9	Voluntary restraint agreements negotiated under section 204 with Australia, New Zealand, Canada, Mexico, Costa Rica, Nicaragua, Honduras, Guatemala, Dominican Republic, El Salvador, Panama, Haiti, and Belize. Executive proclamation issued establishing and simultaneously suspending quotas.
			2nd. qtr.	1,570.0		
			3rd. qtr.	1,570.0		
			4th. qtr.	1,570.0		
1980.....	1,516.0	1,667.6	1st. qtr.	1,650	1,431.2	No voluntary restraint agreements; no quotas.
			2nd. qtr.	1,571		
			3rd. qtr.	1,420		
			4th. qtr.	1,420		
1981.....	1,316.0	1,447.0	1st. qtr.	1,458	1,235.7	No voluntary restraint agreements; no quotas.
			2nd. qtr.	1,402		
			3rd. qtr.	1,322		
			4th. qtr.	1,235		

Actions under the Meat Import Act, 1964-89

	Adjusted base pre-	Trigger level (ad-

Year	scribed under section 2(a)	justed base plus 10% sec. 2(c)	Import level estimated under sec. 2(b)(2)		Actual imports	Action taken by President
	Million pounds					
1982.....	1,181.8	1,300.0	1st. qtr.	1,210	1,319.6	Voluntary restraint agreements negotiated under section 204 with Australia and New Zealand, letters of understanding exchanged with Canada; no quotas.
			2nd. qtr.	1,175		
			3rd. qtr.	1,225		
			4th. qtr.	1,294		
1983.....	1,119.0	1,231.0	1st. qtr.	1,224	1,240.1	Voluntary restraint agreements negotiated under section 204 with Australia and New Zealand, letters of understanding exchanged with Canada; no quotas.
			2nd. qtr.	1,224		
			3rd. qtr.	1,224		
			4th. qtr.	1,230		
1984.....	1,117.0	1,228.7	1st. qtr.	1,190	1,141.1	No voluntary restraint agreements; no quotas.
			2nd. qtr.	1,190		
			3rd. qtr.	1,190		
			4th. qtr.	1,190		
1985.....	1,199.0	1,319.0	1st. qtr.	1,215	1,318.6	No voluntary restraint agreements; no quotas.
			2nd. qtr.	1,200		
			3rd. qtr.	1,180		
			4th. qtr.	1,210		
1986.....	1,309.0	1,440.0	1st. qtr.	1,300	1,339.3	No voluntary restraint agreements; no quotas.
			2nd. qtr.	1,390		
			3rd. qtr.	1,395		
			4th. qtr.	1,395		
1987.....	1,309.0	1,440.0	1st. qtr.	1,400	1,459.7	Voluntary restraint agreements negotiated under section 204 with Australia and New Zealand; no quotas.
			2nd. qtr.	1,405		
			3rd. qtr.	1,420		
			4th. qtr.	1,439		

Actions under the Meat Import Act, 1964-89

Year	Adjusted base prescribed under section 2(a)	Trigger level (adjusted base plus 10% sec. 2(c)	Import level estimated under sec. 2(b)(2)		Actual imports	Action taken by President
	Million pounds					
1988.....	1,386.8	1,525.5	1st. qtr.	1,475	1,521.2	Voluntary restraint agreements negotiated under section 204 with Australia and New Zealand[2]; no quotas.
			2nd. qtr.	1,480		
			3rd. qtr.	1,520		
			4th. qtr.	1,525		
1989.....	1,307.1	1,437.8	1st. qtr.	1,425 [3]		As of October 1989, no voluntary restraint agreements; no quotas.
	1,245.3	1,369.8	2nd. qtr.	1,315 [3]		
			3rd. qtr.	1,250		
			4th. qtr.	1,160		

[1] In 1987, the United States signed VRA's with Australia and New Zealand to limit those countries exports of the subject meats to the United States for the rest of 1987. The restraint levels for 1987 are shown in the following tabulation:

	Restraint levels in 1987 (million pounds)
Australia.....	722.0
New Zealand...	438.0

[2] In 1988, the United States signed VRA's with Australia and New Zealand to limit those countries exports of the subject meats to the United States for the rest of 1988. The restraint levels for 1988 are shown in the following tabulation:

	Restraint levels in 1988 (million pounds)
Australia.....	811.6
New Zealand...	451.4

[3] The first quarterly estimate included Canada; thereafter Canada was excluded inasmuch as U.S. imports of the subject meats from Canada are excluded from quantitative limitations as a result of the United States-Canada Free-Trade Agreement Implementation Act of 1988, P.L. 100-449.

Source: Compiled from U.S. treaties and Other International Agreements (TIAS).

APPENDIX F
SUMMARIES OF WRITTEN SUBMISSIONS BY INTERESTED PARTIES

SUMMARIES OF WRITTEN SUBMISSIONS BY INTERESTED PARTIES

SUGAR

Chocolate Manufacturers Association

The Chocolate Manufacturers Association comments that converting non-tariff barriers to tariff equivalents would improve agricultural trade and enhance the competitiveness of the confectionery industry. The Chocolate Manufacturers Association notes that converting quotas for refined sugar, peanuts, and milk products into tariffs presents unique calculation problems. The Association offers suggestions for domestic prices and world reference prices that might be used to determine tariff equivalents for these commodities. The price used in any tariff equivalent evaluation should not incorporate the distortions caused by quotas and price support programs. The base period should be years in which there was no significant price volatility. For sugar, the Chocolate Manufacturers favor a variable tariff to account for changing price conditions. (Attachments: "Economic Consequences of Ending the U.S. Import Quota on Peanuts" and "Peanut Product Price Impact Models").

Corn Refiners Association, Inc.

The Corn Refiners Association supports the eventual elimination of world agricultural trade barriers and subsidies. In light of the comparative advantage in refining technology the U.S. industry enjoys, the Association believes that the elimination of trade subsidies and barriers will lead to an increase in exports. However, though the corn refiners are not included in the U.S. sugar program, the program has protected the industry through its domestic insulation from excessively low world spot sugar prices. Therefore, the Corn Refiners Association shares the sugar industry's concerns over the calculation and implementation of sugar tariffs, as well as the impact of tariffication on sugar-import quota holders.

Hawaiian Sugar Planters' Association

The Association's comments were included with those of the U.S. Sugar, Peanut, and Dairy Industries.

Louisiana Farm Bureau Federation, Inc.

The sugar industry is an important factor in the economy of the state of Louisiana. While the Louisiana Farm Bureau Federation expresses support for the elimination of all trade disrupting subsidies, it is unable to support the tariffication approach until several concerns are addressed. These concerns include the choice of the appropriate world price for the determination of tariffs, protection from currency manipulation, and the ability of the poorest countries to compete in a free market. Furthermore, LFBF questions how "welfare costs," which are higher for farmers in the U.S. than in many countries, can be factored into the tariffication proposal. Finally, LFBF

brings up the possible cost of tariffication to the U.S. Treasury (the current sugar program is operated at no cost), and the effect of tariffication on the allotment of jurisdiction to Congress with regard to farm policy.

Marigold Commodities Corporation

Philippine-based Marigold Commodities Corporation, an exporter of sugar-containing products, states that in the past it has been adversely affected by the current U.S. quotas on sugar-containing products. Consequently, the corporation supports the conversion from quotas to more visible tariffs. Quotas on sugar containing products have limited the ability of Marigold to export a full line of their products, many of which need to be used together. Since the adoption of HTS, though, under which Canadian sugar/dextrose blends were reassigned to a different quota category than the Marigold products, the corporation has had little trouble exporting its products to the United States. Marigold does not anticipate a rapid growth in demand for its products in the U.S., and therefore feels that the effective tariffs equivalent of the quotas on its products at the current time is minimal.

Sweetener Users Association

The Sweetener Users Association states that tariffication may have a positive impact on the domestic market if the tariffs meet several conditions. These conditions include the ability for viable commercial transactions to occur, the reduction of the current difference between U.S. and world sugar prices, and the authority of the government to step in if there is a domestic shortfall. According to the Sweetener Users Association, the sugar market is the most transparent and subsequently contains the best data from which to derive tariff equivalencies. With regard to the transitional approach using tariff-rate quotas, the Association lacks specifics, but believes that such an approach can be acceptable.

U.S. Beet Sugar Association

The United States Beet Sugar Association commented that while the tariffication concept has "superficial appeal", it may not be suitable for the sugar industry. According to the Beet Sugar Association, the current U.S. Sugar Program has served the U.S. interests well, and therefore any changes should be cautious. Sugar beets, unlike many commodities, cannot be stored long or shipped far. Therefore, the sugar beet industry is very vulnerable to the volatility of the market. The Association fears that tariffication may exacerbate the domestic volatility of sugar prices. In particular, the ad valorem tariff, as understood by the Association, would increase the volatility of domestic sugar prices. If tariffication is adopted, however, the Association feels that it should be applied broadly to avoid market distortions. Furthermore, tariffication should be applied to all practices, including foreign sugar subsidies, and to all countries, including those not belonging to the GATT. Another consideration which the U.S. Beet Sugar Association mentions is the possibility of adverse impact on other crops caused by the tariffication of sugar. Many beet farmers also produce additional crops. If the need for domestically produced sugar dropped due to

the increase in imported sugar from tariffication, the resulting increase in acreage planted in wheat or potatoes, for example, could be "devastating."

U.S. Sugar Industry

The U.S. Sugar Industry supports the eventual U.S. goal of elimination of agricultural trade barriers and subsidies, and believes in its own competitiveness on the world market. However, the industry does express concern about the tariffication process proposed to lead to the elimination of trade barriers. The Sugar Industry questions the ability to calculate tariff equivalents of U.S. sugar import quotas due to the fluctuations in exchange rates, the volatility of the world prices, and the difficulty in establishing a true representative period for calculation purposes. Furthermore, the industry is concerned about specification of the differences between raw and refined sugar prices, sugar content in products, relative social-welfare costs, and industry efficiency. In addition to calculation problems, the U.S. Sugar Industry foresees difficulties in the implementation of tariff equivalents. The difficulties involve consideration of non-GATT exporters and importers, exporting developing countries, GSP or CBI-group countries, and current trade sanctions.

U.S. Sugar, Dairy, and Peanut Producers

The United States Sugar, Dairy, and Peanut Producers categorically state in their commentary that "tariffication cannot provide the same protections to domestic producers and consumers as the current quotas do." Furthermore, due to the economic threats stemming from highly subsidized exports from other nations, the producers feel that the quotas contained in the current U.S. agricultural policies are fundamental to stabilize domestic prices. Consequently, the producers' main concern about tariffication at this time is that the methodology used to develop tariff equivalents, the criteria, and the implementation process are still vague. The producers question how tariff equivalents of U.S. quotas (TEQ) are to be applied, under what conditions they are to be calculated, and how they will be adjusted in response to changing world conditions. More specifically, the questions of quality substitutability, the participation of non-GATT members, and the true representativeness of the benchmark years used for calculations trouble the producers.

MEAT

Australian Meat and Live-stock Corporation

The Australian Meat and Live-stock Corporation supports the concept of changing trade barriers composed of quotas and related voluntary restraint agreements into more visible tariff restriction with a view towards a future free market. However, the AMLC does not believe that the Meat Import Act, under which current imports of Australian meat are regulated, lends itself to tariffication. One of the fundamental problems the AMLC finds with converting the MIA and its related Voluntary Restraint Agreements into appropriate

tariffs is the qualitative difference between imported and U.S. meat. Lean Australian meat generally does not compete with or substitute for U.S. meat, but is instead complementary. Even if the qualitative difference between the two products was to be taken into account, the AMLC expressed its concern that the methodology used to convert the VRAs into tariffs could not achieve the full effect of the MIA. The AMLC fears that because of the inexactitude of the calculations, there is a substantial probability that the calculation of the tariff equivalent of the Meat Import Act would be inappropriately high. The Australian Meat and Live-stock Corporation concluded that the imposition of a tariff in place of the MIA could seriously disrupt the industry. Rather than the imposition of tariff equivalents, the AMLC would like to see a repeal of the MIA.

Meat Importers Council of America

The Meat Importers Council of America is opposed to calculation of tariff equivalents. Importers have faced enough trade restrictions, both from US quotas and from government interventions in major supplying countries. These trade restrictions are too complex to be converted into an accurate tariff equivalent. Voluntary restraint agreements now in effect would throw off any effort to calculate tariff equivalents. The Council estimates the value of the quota on meat products between 1987 and 1989 at 1 cent or less per pound f.o.b. Meat imports did not reach the quota amount during recent years, which means that the equivalent tariff would be zero.

PEANUTS

National Peanut Growers Group

Converting quotas to tariff equivalents (TEQ) could sharply raise USDA costs and destroy the peanut program, harming peanut producers. China especially would ship large amounts of peanuts to the US if quotas were lifted. It is impossible to provide protection through TEQs that would be equivalent to tariffs, the growers argue. TEQs would be static estimates based on a short time period and would not represent actual conditions of the 1990s. Prices and production would become more volatile if quotas were removed. Accurate and equitable TEQs would be extremely difficult to calculate because of the many differences in quality of product, transportation, and any subsidies given by other countries.

Procter & Gamble

As a major manufacturer of peanut products, Procter & Gamble is concerned that tariffication of current peanut import quotas will create great disparity between the prices paid by U.S. peanut product manufacturers and foreign manufacturers. Currently, processed peanut products are subject to a minimal tariff, from which several potential producers are exempt. Meanwhile, quotas limit the import of raw peanuts. Procter & Gamble fears that unless consideration is quickly extended to the reduction/removal of peanut tariffs, U.S. manufacturers will face a disadvantage from higher production costs

stemming from the domestic price of peanuts. In order to minimize the risk of a shift to imported peanut products, Proctor & Gamble suggests the following: the calculation of tariff equivalents of U.S. peanut import quotas should include "additionals" in order to avoid overstating the actual U.S. price; and the tariff on imported peanuts should be reduced as rapidly as possible to minimize the competitive advantage enjoyed by foreign manufacturers due to lower world peanut prices.

Southeastern Peanut Association

The Southeastern Peanut Association "generally" opposes the replacement of peanut quotas with tariffs. The Association expresses concern about the inability of tariff calculations to take into account differences in quality, freight costs, and exchange rates. In addition, Southeastern Peanut worries about chemical or other contamination of peanuts of foreign origin.

COTTON

National Cotton Council of America

The National Cotton Council stresses that cotton quotas are structured differently for different products, such as various staple lengths of raw cotton, cotton waste products, upland cotton, and processed items containing cotton. It may be necessary to develop an equally complex tariff system to account for all the differences in cotton products. Base years 1986-88 may be unrepresentative for cotton, because the 1985 farm act removed the price floor and cotton prices ranged from 26.81 cents per pound to 73.07 cents per pound. Discovery of a world price for cotton to use in the calculations will also be difficult. The investigation should also consider that the response of non-market economies to a tariff may not be the same as the response of other countries. China and the Soviet Union are important cotton producers, and they may ship large amounts of cotton to the US under a tariff.

DAIRY

American Dairy Products Institute

The American Dairy Products Institute recommends that USITC study the effects of chocolate block imports on the dairy quota and the dry milk processing industry. This study could be completed as part of the investigation of tariff equivalents. Chocolate block imports are not under quota and have mushroomed between 1978 and 1988, the Institute reports. Up to one-third of chocolate block volume by weight can be dry whole milk. Imports of the chocolate block effectively circumvent the dairy quota, according to the dairy processors. (See related GAO report, attached.) The Dairy Products Institute is also concerned with the quality of statistics gathered at the US-Canada border. Tariff calculations made by the USITC should account for policy issues relating to the source of the ingredients in the chocolate block, such as whether the dry whole milk contained in the chocolate benefited

from other countries' price support systems. USDA costs from purchasing dry whole milk displaced by the imported product and the harm to domestic industry from lower-priced imports also should be considered in the tariff investigation.

Senator Charles E. Grassley

Senator Grassley requested that the USITC include imports of bulk chocolate block in its analysis of competitive conditions affecting the U.S. dairy industry.

Senator Jesse Helms

Senator Helms requested that the USITC include imports of bulk chocolate block in its analysis of competitive conditions affecting the U.S. dairy industry.

Congressman David Obey

Congressman Obey requested that the USITC study the effects of chocolate block imports on the dairy quota and the dairy industry in the investigation of tariff equivalents.

Senator Charles S. Robb

Senator Robb, on behalf of the Virginia Milk Producers, requested that the USITC include imports of bulk chocolate block in its analysis of competitive conditions affecting the U.S. dairy industry.

Senator Paul Simon

Senator Simon, on behalf of the American Dairy Products Institute, requested that the USITC include imports of bulk chocolate block in its analysis of competitive conditions affecting the U.S. dairy industry.

National Milk Producers Federation

The National Milk Producers Federation finds conceptual, identification, and data problems inherent in the calculation of tariff equivalents. In the conversion to tariff-rate quotas, the Federation states that the equivalent degree of import limitation supplied by the current quotas would require "an infinite, or very large" tariff level. The National Milk Producers also believe that tariff equivalents derived through the price-gap method would not extend the same level of limitation on dairy products currently created by the quotas. Identification problems in the calculations are feared due to fluctuations in the exchange rate and export subsidies such as those of the EC. The data problems that concern the National Milk Producers Federation stem from the difficulty in taking into consideration differing grades and standards of products.