

Impacts of Trade Agreements on U.S. Dairy Trade

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Abstract

The United States is the world's largest producer of cow's milk but it also represents one the biggest consumers of dairy products. Thus, the U.S. has sought to expand and enhance export opportunities for its dairy products while its trading partners have pushed to gain greater access to America's high-income consumers. Despite these movements to liberalize trade, history clearly shows that milk and dairy products have been one of the most politically sensitive agricultural sectors in many developed countries that have received price supports combined with trade restrictions through very complex domestic dairy programs and trade policies. These policies resulted in restricting imports and exports of dairy products where in 2003; only 12% of total world dairy production was traded, internationally.

The U.S. does not play a major role in world dairy product trade but since 1990 its importance in international dairy product markets has grown, significantly. During the past 15 years, the value of dairy product imports coming into the U.S. has grown from \$891.3 million in 1990 to \$2,423.7 million in 2004 while U.S. dairy product export values have increased from \$352.8 million in 1990 to \$1,503.2 million in 2004. While the values of both imports and exports have multiplied, a revealing fact coming from these data indicates that the U.S. continues to be a net importer of dairy products and this trade deficit has grown to almost \$1 billion dollars in recent years.

Assuming further trade liberalization does occur and it includes dairy products trade, the general consensus obtained from several trade investigations and reports provides compelling evidence that the U.S. will not suffer major disruptions and devastation, nor will it benefit greatly. In general, most studies indicate only small decreases in U.S. milk prices under a variety of trade liberalization advancement scenarios (including free trade).

Keywords: World dairy trade, Trade Agreements, WTO, NAFTA, AUSTA, CAFTA-DR

Introduction

The United States is the world's largest producer of cow's milk but it also represents one the biggest consumers of dairy products. Thus, the U.S. has sought to expand and enhance export opportunities for its dairy products while its trading partners have pushed to gain greater access to America's high-income consumers. The World Trade Organization (WTO) and its predecessor group have long supported liberalization of global agricultural trade through reductions in tariff and non-tariff barriers, decreases in export subsidies, and opening of markets closed to agricultural imports. Since the 1980s under the Reagan Administration, the United States has served as one the primary catalysts calling for the inclusion of agricultural products in multilateral international trade negotiations. These trade agreements have modestly increased world dairy product trade volumes and values while influencing the U.S. dairy industry's role in this market.

Despite these movements to liberalize trade, history clearly shows that milk and dairy products have been one of the most politically sensitive agricultural sectors in most developed countries that have received price supports combined with trade restrictions through very complex domestic dairy programs and trade policies. As the old joke goes, “It is difficult or even dangerous to pursue changes in domestic and/or trade policies in one of the four ‘white’ agricultural commodities listed as: milk, rice, cotton, and sugar” because of substantial political power wielded by these industries. In fact, various developed nations’ domestic dairy programs have prohibited and/or biased international trade flows of dairy products by way of import quotas, excessive import tariffs, or various health, sanitary, or labeling interventions. These policies resulted in restricting imports and exports of dairy products where in 2003; only 12% of total world dairy production was traded, internationally. However, the landscape continues to change slowly as the U.S., EU and other players in world dairy markets seek to enhance milk producer incomes through increasing dairy product exports targeted for developing nations in Asia and Latin America that have experienced rapid economic growth in recent years.

This paper seeks to describe the major milk producing and dairy product consuming countries across the globe and identify dairy trade patterns between exporting and importing nations. The focus of this descriptive analysis is to review the economic and political forces influencing international trade flows of dairy products with particular attention paid to the U.S. dairy sector and its trading patterns. Finally, a brief review will be provided of how specific trade agreements (WTO-URA, NAFTA, AUSTA, and CAFTA-DR) have or are expected to impact U.S. dairy trade.

The bulk of the trade flow statistics summarized in this paper was obtained from the U.N. Food and Agriculture Organization (FAO) database described as FAOSTAT and the USDA Foreign Agricultural Trade for U.S. (FATUS) internet site called the U.S. Trade Internet System. Dairy trade analyses and other information were derived from several dairy trade-related, economic analysis publications. Three publications contained the vast majority of this data and were: (1) Cornell Program on Dairy Market & Policy Weblet Series article titled, “Trade Liberalization and the U.S. Dairy Industry” by Charles Nicholson; (2) Babcock Institute for International Dairy Research and Development Discussion Paper written by Ed Jesse titled, “World Trade in Dairy Products and the U.S. Role: A Illustrated Primer”; and, (3) USDA/Foreign Agriculture Service Circular Series Report FD 2-04 titled, “Dairy: World Market and Trade.” Additional data and trade investigations were reviewed and cited in the text of this report.

World Trade in Dairy Products

World trading patterns for dairy products have a unique oddity in that countries that are large milk producers are not necessarily major dairy product exporters. For example, the U.S. and India are among the largest producers of milk but neither of these nations is listed as one of the major dairy product exporters. Conversely, the combined milk output of both New Zealand and Australia amounts to less than a one-third of U.S. production but the value of New Zealand’s exports are more than 3.5 times greater while

Australia's exports are almost twice as large as U.S. overseas sales. The exception to this peculiarity is the European Union (EU-25) that dominates the global dairy industry by producing about 25% of the world's milk output while making up 75% of the value of total international dairy exports (FAOSTAT). Table 1 shows total milk (cow, buffalo, goat, etc.) production while Table 2 illustrates the value of dairy products exports for selected years and countries. India is the only country listed whose total milk production is made up of only 40% cow's milk with the remainder consisting of primarily buffalo's milk. The FAO statistics found in Tables 1 and 2 reveal that in 2004 the world's total milk production was 613.4 million metric tons (MMT), or 1,230 billion pounds, and only 77.8 MMT of milk equivalent was exported during 2003. The EU-25, India, U.S. and Russia were the leaders in global milk production while major dairy exporters are the EU-25, New Zealand and Australia. Our Western Hemisphere neighbors of Argentina, Brazil, Canada and Mexico were included for reference and have about the same milk output levels as Australia.

The world's largest dairy product importers on a milk equivalent basis in 2003 were the EU-25 (includes intra-EU trade), Mexico, China and the U.S. (Table 3). Algeria, Brazil, China, Indonesia, Japan, Malaysia, Mexico, the Philippines, Saudi Arabia, and Thailand are also major importers and have relatively low milk production per capita with moderate levels of per capita income, and have large populations. Whereas, Russia is a large milk producer who became a major butter importer because of significant decreases in milk production caused by its transition to a market-oriented economy. An interesting note is that all of these nations are generally classified as "developing countries" (with the exception of Japan) and most have 2005 populations greater than 100 million (except Algeria, Malaysia, the Philippines and Saudi Arabia). The EU and U.S. are major importers of specialty dairy products who have large populations of very affluent consumers that demand unique and/or ethnic dairy products produced in other countries. For instance, the U.S. is a major importer of dairy products purchased primarily from the EU in the form of specialty cheeses. Please note that the milk equivalent export and import totals found in Tables 2 and 3 are not equal for the selected years. This is just one of difficulties encountered where using these FAO statistics and makes working with these FAO data problematic thus; a word of caution when analyzing these records.

Major Exporters by Type of Dairy Products

The composition of world dairy exports consists of four main categories of dairy products and several minor types of dairy products. According to 2003 FAO statistics, cheese products accounted for almost 30% of total world dairy trade followed by dry whole milk powder with more than 25%, nonfat dry (skim) milk powder made up less than 20%, butter trade totaled almost 10%, and other dairy products making up nearly 20%. These other dairy products were condensed and evaporated milk, dry whey and lactose, cultured products, fresh milk and cream, frozen products, and dry buttermilk. According to USDA, FAS data, the EU-25 was the leading exporter of cheese and combined with New Zealand and Australia, these three nations account for more than

85% of world cheese trade during 2004. Butter trade is also dominated by these same countries making up about 90% of international butter shipments where New Zealand was the leading exporter followed by the EU-25 with Australia a distant third. In 2004, whole milk powder exports were dominated by New Zealand, EU-25, Australia and Argentina whose trade totaled almost 93% of world sales. Nonfat dry milk trade flows were lead by the EU-15, New Zealand, U.S., and Australia in 2004 accounting for nearly 85% of total world exports.

Major Importers by Type of Dairy Products

The composition of world dairy imports consisted of these same four main categories of dairy products. The USDA/FAS statistics indicate that the major importers of cheeses during 2004 were (in rank order) Japan, U.S., Russia, EU-25, and Mexico where these nations were in receipt of about 85% of total world cheese imports. The same USDA/FAS data source reports that almost 60% world butter imports were made to only two nations in 2004, Russia and the EU-25. Nearly 65% of total dry whole milk powder imports were shipped to Algeria, China, Venezuela, and Malaysia while about 62% of nonfat dry milk imports were purchased by Mexico, Indonesia, Philippines, Algeria, and Thailand during 2004.

U.S. Dairy Product Imports and Exports

The U.S. does not play a major role in world dairy product trade but since 1990 its importance in international dairy product markets has grown, significantly. During the past 15 years, the value of dairy product imports coming into the U.S. has grown from \$891.3 million in 1990 to \$2,423.7 million in 2004 (Table 4) while U.S. dairy product export values have increased from \$352.8 million in 1990 to \$1,503.2 million in 2004. While the values of both imports and exports have multiplied, a revealing fact coming from these data indicates that the U.S. continues to be a net importer of dairy products and this trade deficit has grown to almost \$1 billion dollars in recent years (Table 4).

Major Sources and Buyers of U.S. Dairy Imports and Exports

The countries of origin for U.S. dairy imports are listed in Table 4 and shows that the majority of these products come from the EU-25 and New Zealand, but this proportion has declined from more 82% in 1990 to about 63% in 2004. Canada has clearly become a prominent source of U.S. dairy imports, increasing its shipments more than 15-fold over the 1990 to 2004 time period. While the value of dairy imports from “Others” nation has grown, more than 80% of U.S. dairy product imports originate from the four countries listed in Table 4. The dispersion of U.S. dairy exports has been shipped to a much larger number of nations as compared our sources of U.S. imports, but exports have become more concentrated to several destinations. Mexico has and

continues to be the largest importer of U.S. dairy products, with nonfat dry milk being the most important product. The proportion of U.S. dairy exports going to Mexico and Canada has grown from about 28% in 1990 to almost 44% in 2004 while exports to “Others” has fallen from 52% to 36% over this same time span. While Japan remains a major customer, the significance of the Philippines and Central American nations grown tremendously as these developing nations have witnessed sharp increases in their per capita incomes.

The types of dairy products that the U.S. has imported and exported during the past 25 years, along with the respective import and export values, are listed in Table 5. While the value of dairy imports provides useful insights, it is important to note that these imports accounted for 2% to 3% of total domestic dairy product consumption since 1990. Dairy product imports have been grouped into five different categories: cheese, other dairy products, casein and mixtures, butter and buttermilk mix, and milk and cream. Cheese has been the most valuable product that has made up about 40% to 50% of total U.S. dairy imported between 1990 and 2004 (Table 5) with two-thirds of imported cheese coming in from the EU-25. Since 2002, other dairy products have been the category with the second highest import value but caseins and mixtures have traditionally been rated just behind cheese in imported value. However, New Zealand and Australia have been the major suppliers of both caseins and other dairy products providing about 30% of these product categories imported values. Finally, the types of dairy products imported into the U.S. are not produced in this country in large quantities and are not commercially generally available to American consumers.

Nonfat dry milk powder has been the most valuable dairy product exported by the U.S. and the importance of this product has grown to where nonfat dry milk exports accounted for about almost one-third of the total value of dairy exports in 2004. Mexico has historically been the largest imported of nonfat dry milk form the U.S. where major portions of the shipments received export subsidies through the Dairy Export Incentive Program (DEIP) administered through the USDA. Cheese and dried whey continue to represent the second and third ranked products in export value. Cheese exports have been sold primarily to Canada, EU-25, and Mexico (some cheese exports were also subsidized through DEIP). However, “other” dairy products have usually been the category of dairy products experiencing the largest export value over the selected years where this group of products included: food preparations, frozen goods, lactose, food donations, milk drinks and cultured products. Butter exports have declined significantly since 1990, which reflects the reduced amounts of surplus, government-owned supplies held by the USDA’s Commodity Credit Corporation (CCC). These CCC butter stocks were usually exported in the form of food donations.

A wide variety of critical economic and political variable have influence the world’s dairy trade flows. Economic factors influencing whether of countries are able to export dairy products are costs of milk production and dairy product processing, the ability to provide a consistent market presence through strategic market planning and a variety of farmer and government organizations, and the capability to produce additional milk supplies in excess of local population needs/demands. Clearly, trade policies

adopted by major producing and importing countries have had tremendous impacts and influence on existing patterns of trade. Many trade experts have often said that international dairy markets are “highly distorted”, that is, trade flows do not really reflect the basic underlying economic factors mentioned above. The relatively small volume of trade in dairy products demonstrates that these policies have had a relatively large impact on world market prices. This is particularly true for the U.S. which has caused this country to be a very inconsistent player in the dairy product markets (butter, nonfat dry milk, and cheese) because the Dairy Price Support Program (DPSP) and import restrictions maintain domestic prices somewhat higher than world prices. This inconsistency has been a product of the relationship between world and U.S. dairy product prices. When world prices increase and near U.S. levels, American dairy processors attempt to place U.S. products and pursue international sales. Conversely, U.S. dairy prices are usually somewhat higher than world prices and simple economic pressure force U.S. dairy manufacturers to ignore world markets. Export subsidy programs like DEIP were designed to assist the U.S. dairy industry in becoming a consistent supplier. Obviously, the dominance of the EU-25 in most dairy product markets has had great impact on the level of world prices and trade flows; thus, world prices have been a reflection of the policies of key dairy exporters such as the EU (although other nations policies also play a role).

Impacts of Selected Trade Agreements of the U.S. Dairy Industry

The remaining sections of this paper will review various trade agreements and their impacts or expected impacts on the U.S. industry. Specific attention will be paid to reviewing how U.S. milk production, farm-level milk prices, dairy product imports and exports, and world trade flows were or may be influenced under to provisions of the North American Free Trade Agreement (NAFTA), the WTO Uruguay Round Agreement (URA), Australia–U.S. Free Trade Agreement (AUSTA), and the Central American Free Trade Agreement (CAFTA-DR).

NAFTA Impacts

Trade liberalization was greatly enhanced as the result of NAFTA where some economists claim that NAFTA is the best example of a trade agreement approaching a “free trade” environment. It is useful to review how the provisions and trade concessions agreed to under NAFTA have liberalized dairy product trade between the U.S., Canada, and Mexico. Because of the highly sensitive nature of dairy production in Canada, most of dairy trade liberalization occurred between the U.S. and Mexico. A brief summary of these concessions were that the U.S. agreed to eliminate its Section 22 import quotas and replaced with Tariff Rate Quotas (TRQ) to allowed each country to have “market access.” Section 22 quotas allowed only specified quantities or dollar values of dairy product imports to enter the U.S. and any additional amounts were prohibited from entering. NAFTA established specific a TRQ for various products and both nations where the TRQ allowed progressively greater quantities of dairy products to be imported

without (zero) tariffs. Any export volumes or values in excess of the TRQ could be imported but would be assessed a tariff. Most of these TRQs and tariffs are scheduled to be phased out completely by 2009. Thus, all quantitative trade impediments in the form of tariffs would be eliminated on U.S. and Mexico dairy product trade.

The prospect of the broad “free trade” provision accomplished by NAFTA for U.S.-Mexico dairy trade caused concern about whether these provisions would disrupt of operation of Federal Milk Marketing Orders (FMMO). The FMMO system is the central mechanism used by the U.S. dairy industry to price farmer or raw milk used in dairy product manufacturing. The main concern was that NAFTA free trade would allow U.S. milk to move to Mexican or Canadian processing plants and, thus; would not to priced under FMMO and caused milk prices to fall in the U.S. An empirical study (Bishop, et al.) found that there were powerful incentives for processors to move U.S. milk to Canada and Mexico to avoid being forced to pay the higher FMMO milk prices. The most important findings of this study was that almost 18% less milk would be shipped to U.S. plants, thereby; resulting in the price received by farmers to decline by an average of \$0.14/cwt. Furthermore, FMMO regulation of foreign milk plants would reduce and ease most of these detrimental impacts on FMMO pricing.

URA Impacts

The Uruguay Round Agreement (URA) under the former General Agreement of Tariffs and Trade (GATT) pursued trade liberalization through three primary mechanisms: (1) minimum access; (2) reductions in domestic support; and, (3) reductions in export subsidies. Minimum access was achieved using a procedure very similar to NAFTA in that the U.S. eliminated its Section 22 import quotas (along with similar practices used by other nations) and replaced them with a series of TRQs for various dairy products. Typically, these TRQ quantities were also different for each of the member-countries of GATT and, once again, each TRQ was to be increased while the respective tariff rate decreased over the URA implementation period. Tariff reductions were targeted for an average of 36% decline for developed countries and the TRQ was set initially to allow 3% of domestic consumption to be imported and increased to 5% by 2001. This provision obtained minimum access by opening each country’s market for a specific amount of imports and prohibited the operation of total bans of imports.

URA implemented a series of green, blue, amber and red boxes to achieve reductions in domestic supports where various farm or trade programs were placed in one of the colored boxes. The dollar amounts of “amber box” domestic program support were estimated and summarized as a total “Aggregate Measure of Support” (AMS). Then, each country agreed to reduce their AMS total under the URA, where the U.S. must reduce domestic agricultural support programs by 20%. The third and final goal of the URA was to reduce export subsidies that promote agricultural exports or imports through the use of “bonuses” that lowers the export price of the commodity, which is sometimes below the domestic price. Countries were required to lower their export subsidy expenditures by 36% and simultaneously, achieving a 21% reduction in the volumes of subsidized export by 2001.

The hopes for the URA achieving liberalized trade for dairy products has been limited by a number of ways that led to the contention claiming the URA fails to attain its goal of free trade. For instance, certain nations have circumvented minimum access requirements through the use of import licenses and other tools to restrict the quantities of imports. The dairy sector is a prime example where failure to provide import licenses have resulted in dairy product imports for various nations to be well above the TRQ.

Several studies have analyzed the impact of the URA of the world dairy trade and the U.S. dairy industry. A 2002 USDA/FAS study found that the URA's export subsidy limitations have had a positive impact on nonfat dry milk and whole milk powder trade by increase whole for these products and increasing trade volumes. This study did not include any estimated impacts of U.S. milk prices but it did contend that the URA's reduced export subsidies have achieved trade liberalization and increased dairy prices. Several other studies did estimate the impacts of the URA on U.S. milk prices and all of these studies generally agreed in that the URA trade policies would have little or no impact on U.S. dairy farm revenues and income. Finally, an analysis by Shaw and Love found that doubling TRQ amounts combined with 50% reductions in over quota tariffs rates would lower U.S. dairy farm incomes by only 1%. The most interesting findings of these studies were that further liberalization of dairy product trade through these three URA mechanisms would have little impact on U.S. milk prices and farm-level incomes.

AUSTA Impacts

The governments of Australia and the U.S. negotiated a free trade agreement called the Australia-U.S. Free Trade Agreement (AUSTA) that was implemented on January 1, 2005. One of the most sensitive groups of products negotiated during the trade talks was dairy where some farm organizations claimed that AUSTA would lead to the demise of the U.S. dairy industry. These objections caused negotiations to move slowly and produced an agreement containing an 18-year phase-in period where TRQs for dairy products would be increased each year by an amount equal to about 0.17% of annual U.S. milk production. An additional concession was that the U.S. would maintain its current over-quota tariffs in exchange for greater in-quota access for Australian dairy products. This greater access amounts to 55 million pounds of dairy products spread across 11 product categories. The Australian government claims that their dairy exports to the U.S. would increase by more than of 350% with the value of these exports growing 260% compared to a 2003 base. These additional exports would amount to about 1% of U.S. farm milk value.

Several analyses of the impacts of AUSTA on the U.S. dairy industry have been conducted and these studies were in agreement that this trade accord would not be positive for U.S. milk producers, but they did not suggest that this sector would be **not** destroyed or suffer major disruptions. An Australian study found that additional AUSTA exports would cause U.S. milk prices to fall \$0.02/cwt. (0.1%), milk production is expected to decline 300 million pounds (0.2%), and U.S. dairy product prices to deteriorate 0.1%. Another research investigation by Cornell University dairy economists

found that U.S. milk prices would drop \$0.19/cwt (1.2%), milk production falls by 800 million pounds (0.5%), and butter prices would decline \$0.13/lb (Australian dairy imports were expected to be primarily butter under the assumptions used in the trade model). Furthermore, the Cornell study suggests that their findings were “unlikely” to be as large because of the gradual phase-in of AUSTA would allow adjustments to occur across all world dairy product markets.

CAFTA-DR Impacts

U.S. Trade Representative Rob Portman is currently promoting a trade accord negotiated with Panama, Honduras, El Salvador, Nicaragua, Costa Rica and the Dominican Republic called the Central American Free Trade Agreement, or CAFTA-DR. This series of bilateral agreements was signed in August 2004 and is awaiting consideration for ratification by the U.S. Congress. Import duties for U.S. dairy products ranged from 15% to 80% in these nations and CAFTA-DR calls for the expansion of TRQs and the immediate elimination of in-quota tariffs. At the conclusion of a 20-year phase-in, all TRQs would be eliminated and U.S. dairy products would have unlimited, duty-free access to these markets.

The American Farm Bureau Federation contends that the value of U.S. dairy product exports to these CAFTA-DR countries has the potential to increase from the 2004 level of \$80 million to as much as \$300 million at the end of the 20-year phase-in. Since all of these neighboring countries currently have virtually tariff-free access to the U.S. market, CAFTA-DR is expected to have a positive influence on the U.S. dairy sectors and result in higher U.S. milk prices and farmer incomes, increase U.S. milk production, and raise U.S. dairy product prices. Bottom line, CAFTA-DR is forecast to be beneficial to U.S. dairy farmers and processors.

Summary and Conclusions

The U.S. and its trading partners continue to pursue trade liberalization following the belief that it will result in greater worldwide economic growth and democratization. However, the path to trade liberalization and the attainment of the ultimate goal of “free trade” contains numerous, formidable obstacles, including those special interest groups opposed to globalization and various industries and sectors facing losses in sales or income when trade restrictions and other barriers might be reduced in their countries. The prospects for significant (or minor) progress on agricultural trade liberalization during the Doha Round of the WTO and other trade negotiations are uncertain, despite persistent and strong support from the U.S., the Cairns Group, and others.

Assuming further trade liberalization does occur and it includes dairy products trade, the general consensus obtained from several trade investigations and reports provides compelling evidence that the U.S. will not suffer major disruptions and devastation, nor will it benefit greatly. In general, most studies indicate only small decreases in U.S. milk prices under a variety of trade liberalization advancement

scenarios (including free trade). Of course, this single finding could and probably may be sufficient to dampen the eagerness in some segments of the U.S. dairy industry for pursuing further reductions in trade intervention policies. However, dairy processors and traders might consider the lowering of trade restrictions enough of an incentive to aggressively search for greater opportunities for trade. Despite objections from potential losers under liberalized trade, it is likely that if there is progress in future agricultural trade negotiations that these new agreements will include dairy. So, the final conclusion is that the U.S. industry should be preparing to provide its views, desires and opinions to the USTR as trade negotiations proceed to shape the provisions of the agreement to achieve the best possible terms for the industry. Ultimately, the U.S. dairy industry must plan a viable strategy and be prepared to compete with dairy producers, processors, and others from abroad as global dairy markets become less protected and more competitive.

Reference Tables

Table 1. Total Milk Production for Selected Countries and Years, in Million Metric Tons

Milk Production (in MMT)	1990	1995	2000	2003	2004
World Total	542.6	539.8	578.7	613.6	613.4
EU-25	NA ^{1/}	NA ^{1/}	149.0	147.6	146.5
United States	67.0	70.4	76.0	77.3	77.6
India	53.7	65.2	80.1	91.1	90.4
New Zealand	7.5	9.3	12.2	14.4	14.8
Australia	6.5	8.5	11.2	10.6	10.4
China	7.0	9.5	12.4	21.8	22.9
Russia	NA ^{1/}	39.3	32.3	33.3	31.1
Canada	8.0	7.9	8.1	7.9	8.0
Mexico	6.5	7.8	9.4	10.0	10.1
Brazil	6.5	8.5	11.2	10.6	10.4
Argentina	6.3	8.8	10.1	8.2	8.1

NA^{1/} - Not Available

Source: FAOSTAT located on the worldwide web at: <http://faostat.fao.org/>

Table 2. Total Milk Equivalent Exports for Selected Major Exporting Countries and Years, in Million Metric Tons

Milk Equivalent Exports (in MMT)	1990	1995	2000	2003
World Total Dairy Exports	47.4	63.2	72.9	77.8
EU-25	NA ^{1/}	NA ^{1/}	44.5	49.9
New Zealand	5.5	6.5	8.7	11.4
Australia	2.0	3.7	5.6	4.5
United States	1.0	2.3	2.9	2.8
Canada	0.7	0.7	0.7	0.8
Argentina	0.4	0.7	1.1	1.0

NA^{1/} - Not Available

Source: FAOSTAT located on the worldwide web at: <http://faostat.fao.org/>

Table 3. Total Milk Equivalent Imports for Selected Major Exporting Countries and Years, in Million Metric Tons

Milk Equivalent Imports (in MMT)	1990	1995	2000	2003
World Total Dairy Imports	50.1	62.7	69.0	75.6
EU-25	NA ^{1/}	NA ^{1/}	35.2	38.1
United States	1.2	1.3	2.0	2.1
Algeria	1.6	1.6	1.6	1.9
Brazil	0.7	2.7	1.6	3.0
China	1.0	1.3	2.2	3.0
Indonesia	0.3	0.7	1.1	1.2
Japan	1.4	1.8	1.7	1.6
Malaysia	0.8	1.3	1.3	1.3
Mexico	2.7	1.7	2.3	2.7
Philippines	1.1	1.4	1.7	1.8
Russia	NA ^{1/}	2.4	1.0	2.0
Saudi Arabia	1.2	.8	1.1	1.6
Thailand	0.7	1.1	1.1	1.3

NA^{1/} - Not Available

Source: FAOSTAT located on the worldwide web at: <http://faostat.fao.org/>

Table 4. Total Value of U.S. Dairy Product Imports and Exports for Selected Countries and Selected Years, in Millions of U.S. Dollars

Value of U.S. Dairy Imports and Exports (in Million of U.S. Dollars)	1990	1995	2000	2003	2004
Value of Imports	891.3	1,118.0	1,670.8	1,978.4	2,423.7
Value of Exports	352.8	795.1	1,018.2	1,047.8	1,503.2
Trade Balance (Deficit)	(538.5)	(322.9)	(652.6)	(930.6)	(920.5)
Major Sources of U.S. Imports					
EU-25	550.7	689.9	830.0	963.1	1,076.1
New Zealand	181.6	175.4	357.0	408.5	453.7
Canada	25.1	68.2	182.2	218.8	390.7
Australia	31.4	29.5	72.1	91.9	96.3
Others	102.5	155.0	229.5	296.1	406.9
Major Buyers of U.S. Exports					
Mexico	62.4	124.5	167.8	258.9	386.7
Canada	38.1	84.1	216.7	243.3	274.1
Japan	34.9	98.9	105.9	83.5	100.9
Philippines	4.3	13.7	48.8	39.0	68.8
Central America	4.7	14.8	36.0	32.6	68.5
EU-25	25.1	35.2	49.5	46.1	56.0
Others	183.3	423.9	393.5	344.4	548.2

Source: USDA/FAS, Foreign Agricultural Trade in U.S. (FATUS) database at the U.S. Trade Internet System located on the worldwide web at: <http://www.fas.usda.gov/ustrade/>

Table 5. Types and Values of U.S. Dairy Product Imports and Exports for Selected Years, in Millions of U.S. Dollars

Type & Value of US Dairy Imports & Exports (Millions of US Dollars)	1990	1995	2000	2003	2004
Total Value of Imports	891.3	1,118.0	1,670.8	1,978.4	2,423.7
Cheese	439.3	549.2	685.3	882.2	982.3
Casein and Mixtures	381.4	436.3	499.4	472.9	541.4
Butter and Buttermilk Mix	4.3	1.5	30.4	42.3	90.9
Milk and Cream, Fresh/Dried	16.0	8.8	34.7	43.4	49.7
Other Dairy Products	50.3	122.2	421.0	537.7	759.4
Total Value of Exports	352.8	795.1	1,018.2	1,047.8	1,503.2
Nonfat Dry Milk	18.3	140.5	167.2	201.9	484.7
Cheese	38.7	89.6	141.3	152.1	197.8
Whey, Dried/Fluid	39.2	97.6	155.8	133.9	161.7
Evaporated/Condensed Milk	3.6	21.8	4.3	17.8	32.8
Butter and Milkfat	88.6	58.4	3.5	9.2	13.5
Other Dairy Products	164.4	387.3	546.3	532.8	612.6

Source: USDA/FAS, Foreign Agricultural Trade in U.S. (FATUS) database at the U.S. Trade Internet System located on the worldwide web at: <http://www.fas.usda.gov/ustrade/>

References

- Bailey, K. W. 2004. Dairy Trade: A Quarterly Newsletter. Department of Agricultural Economics and Rural Sociology, The Pennsylvania State University, University Park, PA, Fall 2004
- Bishop, P. M. and A. M. Novakovic. 1996. The Implications of NAFTA for Milk Marketing Orders. Paper presented at the Tri-National Research Symposium "NAFTA and Agriculture: Is the Experiment Working?" San Antonio, TX, November 1-2, 1996.
- Cox, T., J. R. Coleman, J.-P. Chavas, and Y. Zhu. 1999. An Economic Analysis of the Effects on the World Dairy Sector of Extending Uruguay Round Agreement to 2005. *Canadian Journal of Agricultural Economics*, 47:169-183.
- de Gorter, H. and D. S. Boughner. 1999. U.S. Dairy Policy and Agreement on Agriculture in the WTO. *Canadian Journal of Agricultural Economics*, 47:31-42.
- Jesse, Ed. 2003. World Trade in Dairy Products and the U.S. Role: An Illustrated Primer. Babcock Institute Discussion Paper No. 2003-2. University of Wisconsin.
- Matte, K. L. 1997. Repercussions Down Dairy Lane...The NAFTA/WTO Factor. *Journal of Dairy Science*, 80:3083-3091.
- Nicholson, Charles. 2003. Trade Liberalization and the U.S. Dairy Industry. Cornell Program on Dairy Markets and Policy, The Dairy Weblet Series. Cornell University.
- Shaw, I., and G. Love. 2001. Impacts of Liberalizing World Trade in Dairy Products. Australian Bureau of Agricultural and Resource Economics, Canberra, Australia. [ABARE Research Report 01.4]
- Timpko, Charles. 2004. World Dairy Trade Trends. U.S. Dairy Export Council. Report to Members and for Congress. National Milk Producers Federation. Washington, D.C.
- USDA. Foreign Agricultural Service. 2004. Dairy: World Market and Trade. Dairy Production and Trade Developments. Circular Series FD 2-04.
- U.S. General Accounting Office. 2001. Dairy Products: Imports, Domestic Production, and Regulation of Ultra-filtered Milk. Report to Congressional Requesters, March. [GAO-01-326]
- U.S. Dairy Export Council. 2000. Balanced Trade, Not Unilateral Disarmament: U.S. Dairy Industry Principles of Trade. National Milk Producers Federation. Washington, D.C., May 2000.