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International Agricultural Trade and Policy Center

A DESCRIPTIVE ANALYSIS OF HONG KONG, JAPAN, AND SOUTH KOREA WHO IMPORT UNITED STATES DAIRY PRODUCTS

By

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A DESCRIPTIVE ANALYSIS OF HONG KONG, JAPAN, AND SOUTH KOREA WHO IMPORT UNITED STATES DAIRY PRODUCTS

By

Xumin Zhang, Richard L. Kilmer and Andrew Muhammad[1]

INTRODUCTION

World dairy production and trade have experienced increases during the last decade. World trade liberalization, elimination of non-tariff trade barriers, and reduction in dairy export subsidies have increased the United States (US) interest in world dairy markets. The US is in a good position to gain greater access to international dairy markets.

Information by country, which is considered to be a potential importer of U.S. dairy products, and by individual dairy products in the international markets is needed. The information is useful to individuals interested in developing export dairy markets and direct foreign investment in dairy industries in those countries. In the study, 25 dairy import countries were selected from around the world (Table 1). Three countries in East Asia, Hong Kong, Japan, and South Korea, are covered in this paper.

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Table 1. Major importers of U.S. dairy products.

Canada Mexico	Central America	South America	Caribbean	European Union	East Asia	Southeast Asia	North Africa & Middle East
Canada	Guatemala	Chile	Bahamas	Netherlands	Hong Kong	Indonesia	Egypt
Mexico	Honduras	Colombia	Bermuda	United Kingdom	Japan	Malaysia	Saudi Arabia
	Panama	Venezuela	Dominican Republic		South Korea	Philippines	
			Jamaica			Thailand	
			Trinidad & Tobago			Vietnam	

The following paper covers a descriptive analysis for each individual country about the macroeconomic conditions, milk and dairy production, consumption, imports, the US share of the dairy imports, dairy trade policies, and how these factors have changed overtime. The information in this report can provide a starting point for individuals interested in exploring exports to and direct investment opportunities in Hong Kong, Japan, and South Korea.

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OVERVIEW

World Dairy Production

World production of cow milk increased in the period 1991 to 2001 at an average annual rate of 0.5 percent. In the period 1991 to 1993, world production of milk trended downward from 469,969,290 metric tons in 1991 to 460,185,174 metric tons in 1993 (Table 1). Since then, world production of fresh milk has experienced continuous increases through 2001. In 2001, the world production of cow milk totaled 494,074,772 metric tons, a 1.4 percent increase, compared to 2000 (487,216,313 metric tons) (Table 1). Milk production in Japan and South Korea totaled 10,639,860 metric tons in 2001 (Table 2), or 2.2 percent of the total world production (Table 1). There was no milk production in Hong Kong.

Overall, in the period 1991 to 2001, world butter production increased at an average annual rate of 0.6 percent. Significant decreases occurred in the period 1991 to 1994 when world butter production decreased from 7,230,211 metric tons in 1991 to 6,626,853 metric tons in 1994, for an average annual decrease of –2.9 percent. Since then, world butter production trended upward through 2001, increasing at an average annual rate of 2.1 percent. World butter production in 2001 was about 7,639,830 metric tons, which was up 3.8 percent from butter production in 2000 (7,361,928 metric tons) (Table 1). Butter production in Japan and South Korea totaled 136,561 metric tons in 2001 (Table 2), and accounted for 1.8 percent of the world butter production (Table 1). There was no butter production in Hong Kong.

Table 1. World milk and selected dairy products production, 1991 through 2001.

Year	Cow Milk, Whole, Fresh	Butter and Ghee	Cheese (All Kinds)	Whole Milk, Dry	Skim Milk, Dry	Dry Whey
			Metric Tons			
1991	469,969,290	7,230,211	14,273,176	2,278,421	3,790,059	1,591,469
1992	460,815,550	7,069,007	13,924,948	2,223,634	3,383,613	1,719,527
1993	460,185,174	6,949,108	14,092,319	2,190,812	3,435,523	1,704,052
1994	461,308,188	6,626,853	14,413,909	2,299,879	3,469,588	1,721,392
1995	463,742,780	6,654,099	14,534,298	2,297,568	3,471,565	1,808,545
1996	465,750,719	6,728,324	14,895,164	2,256,240	3,359,823	1,825,342
1997	468,198,514	6,824,872	15,182,338	2,347,216	3,390,716	1,797,683
1998	475,397,193	6,931,101	15,531,190	2,424,612	3,260,097	1,875,487
1999	480,762,511	7,140,653	15,874,743	2,425,512	3,400,623	1,876,269
2000	487,216,313	7,361,928	16,451,548	2,509,210	3,401,153	1,927,189
2001	494,074,772	7,639,830	16,821,541	2,633,776	3,374,176	1,960,928
Average Annual Growth (%)						
1991-2001	0.5	0.6	1.7	1.5	-1.1	2.2

Source: FAO Statistical Databases, 2002

In the period 1991 to 2001, world cheese production increased at an average annual rate of 1.7 percent (Table 1). Particularly in the period 1992 to 2001, world cheese production experienced a continuous increase through 2001, from 13,924,948 metric tons in 1992 to 16,821,541 metric tons in 2001, for an average annual increase rate of 2.1 percent (Table 1). Cheese production in Japan was 123,413 metric tons in 2001 (Table 2),

accounting for 0.7 percent of the world total cheese production in 2001. There was no cheese production in Hong Kong and South Korea.

Table 2. Hong Kong, Japan, and South Korea milk and dairy products production in 2001.

	Cow Milk, Whole, Fresh	Butter and Ghee	Cheese (All Kinds)	Whole Milk, Dry	Skim Milk, Dry	Dry Whey[a]
	Metric Tons					
EAST ASIA						
Hong Kong	---	---	---	---	---	---
Japan	8,301,000	79,496	123,413	51,248	175,071	---
South Korea	2,338,860	57,065	---	5,000	45,100	---
TOTAL	10,639,860	136,561	123,413	56,248	220,171	---

[a] Whey production in milk equivalent metric tons was not available.
Source: FAO Statistical Databases, 2002.

World production of dry whole milk increased in the period 1991 to 2001 at an average annual rate of 1.5 percent (Table 1). World dry whole milk production fluctuated in the period 1991 to 1996, ranging from a high of 2,299,879 metric tons in 1994 to a low of 2,190,812 metric tons in 1993 (Table 1). Since then, world dry whole milk production has trended upward through 2001. In the period 1996 to 2001, world dry whole milk production increased at an average annual rate of 3.2 percent. In 2001, world dry whole milk production totaled 2,633,776 metric tons, which was up 5.0 percent from 2000 (Table 1). Dry whole milk production in Japan and South Korea totaled 56,248 metric tons in 2001 (Table 2). This was 2.1 percent of the world total dry whole milk production (2,633,776 metric tons, Table 1). There was no dry whole milk production in Hong Kong.

World dry skim milk production (nonfat dry milk or skim milk powder) has exceeded dry whole milk production during the period 1991 through 2001 (Table 1). However, in the period 1991 to 2001, world dry skim milk production trended downward, for an average annual decrease rate of –1.1 percent (Table 1). World dry skim milk production experienced fluctuations in the period 1991 to 2001, ranging from a high of 3,790,059 metric tons in 1991 to a low of 3,260,097 metric tons in 1998 (Table 1). Overall, between 1991 and 2001, world dry skim milk production decreased 415,883 metric tons. In 2001, world dry skim milk production totaled 3,374,176 metric tons, which was down 0.8 percent from 2000 (Table 1). Japan and South Korea totally produced 220,171 metric tons of dry skim milk in 2001 (Table 2), accounting for less than 6.5 percent of the world total dry skim milk production (Table 1). There was no dry skim milk production in Hong Kong.

The most growth in the production of milk and its products has occurred in the dry whey market. From 1991 to 2001, the average annual growth in world dry whey production has been 2.2 percent, with periods of increases and decreases (Table 1). World dry whey production trended upward through 2001, from 1,591,469 metric tons in 1991 to 1,960,928 metric tons in 2001, for an overall increase of 369,459 metric tons (Table 1). However, there was no dry whey production in Hong Kong, Japan, and South Korea.

World Imports of Dairy Products

World imports of dairy products in milk equivalent metric tons increased at an average annual growth rate about 2.6 percent in the period 1991 to 2001. In the period 1991 to 1995, world imports of dairy products increased continuously from 52,405,310 metric tons in 1991 to 62,616,493 metric tons in 1995 (Table 3). Although decreases occurred in 1996, 1998, and 2001, world imports of dairy products trended upward through 2001, peaking at 68,138,509 metric tons in 2000 (Table 3). Between 1991 and 2001, world imports of dairy products increased 14,715,220 metric tons, from 52,405,310 metric tons in 1991 to 67,120,530 metric tons in 2001, for an overall increase of 28.1 percent. Total dairy imports (in milk equivalent metric tons) into Hong Kong, Japan, and South Korea were 2,956,328 metric tons (Table 4), which accounted for 4.4 percent of the world total dairy imports (67,120,530 metric tons, Table 3) in 2001.

In the period 1991 to 2001, world butter imports decreased at an average annual rate of -0.1 percent. Between 1991 and 2001, world butter imports decreased 52,311 metric tons, reaching a low in 1996 of 1,203,892 metric tons (Table 3). A significant decrease occurred in 1994 when world butter imports decreased from 1,454,129 metric tons in 1993 to 1,288,247 metric tons in 1994, for an annual decrease of –11.4 percent. Since then, world butter imports fluctuated through 2001, ranging from a high of 1,368,933 metric tons in 1995 to a low of 1,203,892 metric tons in 1996 (Table 3). World butter imports in 2001 were 1,280,750 metric tons, which was up 1.5 percent from total world butter imports in 2000 (1,261,586 metric tons) (Table 3). Butter imports into Hong

Kong, Japan, and South Korea totaled 16,399 metric tons in 2001 (Table 4), which was about 1.3 percent of the world butter imports (1,280,750 metric tons, Table 3) in 2001.

Table 3. World dairy imports, 1991 through 2001.

Year	Milk Equivalent	Butter	Cheese	Dry Whole Milk	Dry Skim Milk	Dry Whey
			Metric Tons			
1991	52,405,310	1,333,061	2,127,089	1,115,052	1,664,905	627,884
1992	55,385,703	1,376,590	2,230,616	1,073,993	1,821,565	657,822
1993	55,463,235	1,454,129	2,222,401	1,059,341	1,843,592	645,911
1994	57,759,324	1,288,247	2,461,275	1,161,280	1,773,160	713,385
1995	62,616,493	1,368,933	2,468,786	1,525,707	1,890,674	783,249
1996	59,844,367	1,203,892	2,688,552	1,281,604	1,716,935	838,526
1997	62,626,024	1,321,235	2,843,580	1,357,158	1,727,457	862,943
1998	62,478,356	1,213,138	2,786,286	1,401,542	1,607,154	915,807
1999	66,593,229	1,217,796	2,887,650	1,439,868	1,879,505	998,073
2000	68,138,509	1,261,586	3,093,644	1,418,968	1,805,896	1,067,210
2001	67,120,530	1,280,750	3,354,503	1,351,083	1,577,319	1,165,912
Average Annual Growth (%)						
1991-2001	2.6	-0.1	4.7	2.6	-0.2	6.5

Source: FAO Statistical Databases, 2002.

In the period 1991 to 2001, world cheese imports increased at an average annual rate of 4.7 percent (Table 3). Except for 1993 and 1998, world cheese imports experienced continuous increases, from 2,127,089 metric tons in 1991 to 3,354,503 metric tons in

2001 (Table 3), for an overall increase of 57.9 percent from 1991. In 2001, world cheese imports were up 8.4 percent from 2000 (Table 3). Hong Kong, Japan, and South Korea imported 245,981 metric tons of cheese in 2001 (Table 4), which was about 7.3 percent of the world total cheese imports in 2001 (3,354,503 metric tons, Table 3).

Table 4. Hong Kong, Japan, and South Korea dairy imports in 2001.

	Milk Equivalent	Butter	Cheese	Dry Whole Milk	Dry Skim Milk	Dry Whey
			Metric Tons			
EAST ASIA						
Hong Kong	749,157	14,885	9,452	35,468	12,651	10,153
Japan	1,683,286	420	202,076	67	52,706	43,778
South Korea	523,885	1,094	34,453	1,642	5,156	38,604
TOTAL	2,956,328	16,399	245,981	37,177	70,513	92,535

Source: FAO Statistical Databases, 2002.

World imports of dry whole milk increased in the period 1991 to 2001 at an average annual rate of 2.6 percent. World dry whole milk imports fluctuated in the period 1991 to 2001, ranging from a high of 1,525,707 metric tons in 1995 to a low of 1,059,341 metric tons in 1993 (Table 3). World dry whole milk imports trended downward in the period 1995 to 2001, for an average annual rate of –1.7 percent. In 2001, world dry whole milk imports totaled 1,351,083 metric tons, down from 1,418,968 metric tons in 2000 (Table 3). Dry whole milk imports into Hong Kong, Japan, and South Korea totaled 37,177 metric tons (Table 4), accounting for about 2.8 percent of the world total dry whole milk imports in 2001 (1,351,083 metric tons, Table 3).

World dry skim milk imports (nonfat dry milk or skim milk powder) have exceeded dry whole milk imports in the last decade (Table 3). However, in the period 1991 to 2001, world dry skim milk imports trended downward, for an average annual decrease rate of –0.2 percent (Table 3). World dry skim milk imports fluctuated, ranging from a high of 1,890,674 metric tons in 1995 to a low of 1,577,319 metric tons in 2001 (Table 3). Overall, between 1991 and 2001, world dry skim milk imports decreased 87,586 metric tons. In 2001, world dry skim milk imports totaled 1,577,319 metric tons, which was down 12.7 percent from 2000 (Table 3). Total dry skim milk imports into Hong Kong, Japan, and South Korea were 70,513 metric tons (Table 4), accounting for 4.5 percent of the world total dry skim milk imports (1,577,319 metric tons, Table 3) in 2001.

The most growth in world dairy imports has occurred in the dry whey market. From 1991 to 2001, average annual growth in world dry whey imports was 6.5 percent (Table 3). Except for 1993, world dry whey imports increased continuously from 627,884 metric tons in 1991 to 1,165,912 metric tons in 2001 (Table 3). Dry whey imported to Hong Kong, Japan, and South Korea totaled 92,535 metric tons in 2001, accounting for about 7.9 percent of the world total dry whey imports in 2001.

The rest of this paper covers the following information for Hong Kong, Japan, and South Korea: macroeconomic conditions, milk and dairy production, consumption, imports, the US share of the dairy imports, dairy trade policies, and how these factors have changed overtime.

HONG KONG

Overview of Hong Kong

Hong Kong is located on the southeastern coast of China, bounded by the Guangdong province of China to the north and the South China Sea to the south. The territory consists of Hong Kong Island, and a group of more than 200 other small islands. The total area of Hong Kong is 1,092 square kilometers, six times the size of Washington, DC. In 2001, the population in Hong Kong was 7.3 million people, and its growth rate was about 1.26 percent per year (CIA World Factbook, 2002).

Hong Kong became the Hong Kong Special Administrative Region (SAR) of China on 1 July 1997. China has promised not to impose its socialist economic system on Hong Kong, and Hong Kong will enjoy a high degree of autonomy for the next 50 years. Hong Kong has a bustling free market economy, highly dependent on international trade. Natural resources are limited, and food and raw materials must be imported. Before Hong Kong reverted to Chinese administration on 1 July 1997, annual gross domestic product (GDP) growth averaged a strong five percent from 1989 through 1997 (CIA World Factbook, 2002). Due to its dependency on trade with other Asian countries, the widespread Asian economic difficulties in 1998 hit Hong Kong quite hard, with annual GDP growth rate down to around one percent from 1998 through 1999. Recovering rapidly from the Asian financial crisis, Hong Kong grew at a rate of ten percent in 2000. In 2001, Hong Kong's GDP was approximately $180 billion (purchasing power parity),

with per-capita purchasing power parity of $25,000. Agriculture accounted for only 0.1 percent of the total GDP (CIA World Factbook, 2002).

The recent global downturn has hurt Hong Kong's exports. GDP growth was zero percent in 2001 (CIA World Factbook, 2002). Hong Kong's total exports in 2001 were $191 billion of which the US received 23 percent. Hong Kong's total imports in 2001 were $203 billion of which the US composed only seven percent. The main trading partners are China, the US, Japan, Singapore, and the UK (CIA World Factbook, 2002).

The Dairy Industry in Hong Kong

Production of Dairy Products

Due to its limited resources, food and raw material must be imported. Hong Kong does not produce milk. As a result, Hong Kong's self sufficiency in dairy products is near zero (Washington, 2000). Although Hong Kong continues to maintain separate economic policies from Mainland China after it reverted to Chinese administration on 1 July 1997, China's dairy production has to affect Hong Kong's dairy market somehow. Therefore, it is worth talking about China's dairy production.

China's dairy industry is experiencing major changes. In 2000, China produced 8.63 million metric tons of cow milk, somewhat less than Mexico produced that year, which was 9.31 million metric tons (FAO Statistics, 2002). In 2000, there were 2.35 million

dairy cows in China, with average milk production at about 3,629 kilograms per cow, which is approximately one third of the U.S. level (USDA-FAS, 2003).

The distribution of milk production in China is highly scattered and falls into three main categories. The categories are milk produced in regions inhabited by ethnic groups for local consumption, milk produced in rural areas for processing into powdered milk, and milk produced around cities for urban consumption as fresh milk.

Generally, milk production is concentrated in North China and in the ethnic regions of West China. The northeastern province of Heilongjiang is the largest producer of milk, accounting for 25 percent of China's milk production in 1997. Inner Mongolia and Xinjiang are the other two major milk-producing provinces with shares of about eight percent each. China's total production of processed dairy products in 1997 was almost two million metric tons. Powdered milk production consumed 80 percent of all of the raw milk used in processed dairy products (USDEC, 2000).

Although China 's dairy industry is expanding rapidly, production is still small compared with the size of the market. For example, in 2000, China's population was four times that of the United States; however, China's milk production was 8.6 million metric tons, only about one-eleventh of the US output which was 76 million metric tons. Demand for high-quality imported dairy products is increasing after China acceded to the WTO (FAO Statistics, 2002).

Demand for Dairy Products

The period of growth in the population of Hong Kong during the 1960s and 1970s has passed, but the numbers continue to increase slowly. The density levels of the current population of 7.3 million are high. Over 95 percent of Hong Kong's population is urban (FAO Statistics, 2002). This can be interpreted as most homes in Hong Kong are equipped for milk storage, and they have the ability to consume more dairy products than average Mainland Chinese households.

Hong Kong has become a cosmopolitan place to live and work with many Western and Eastern influences, with its roots as a British colony and an international financial center. There are 7.76 migrants in Hong Kong for every 1000 people (FAO Statistics, 2002). Among migrants, those from Western countries become one of the major sources of dairy demand. In addition, Hong Kong is one of the economies with a high living standard. In 2001, its per-capita real GDP compared with the level in the four big economies of Western Europe, which was $24,700 in the UK, $26,200 in Germany, $25,100 in France, and $24,300 in Italy (CIA World Factbook, 2002). The western influence on consumer preference and behavior, and the higher living standards cause Hong Kong to have higher milk and dairy product consumption than other Asian countries (Washington, 2000).

Table 1. Per-capita consumption of dairy products in Hong Kong, 1991 through 2000.

Year	All Milk[a]	Butter	Cheese	Dry Whole Milk[a]	Dry Skim Milk[a]	Whey[b]
			Kilograms			
1991	46.61	0.75	0.65	1.92	0.56	8.95
1992	55.33	0.98	0.70	2.39	0.75	2.48
1993	53.88	1.06	0.79	2.09	0.94	----
1994	62.22	1.36	0.84	2.83	1.16	----
1995	62.79	1.17	0.81	3.16	0.91	0.36
1996	67.30	1.14	0.89	3.47	1.36	----
1997	68.51	0.72	0.96	3.65	1.65	----
1998	65.35	1.04	0.91	3.05	1.57	----
1999	60.81	1.03	1.01	2.88	1.44	----
2000	68.41	1.28	1.15	3.54	1.34	----
Average Annual Growth (%) 1991-2000	5.1	6.3	6.2	8.3	11.0	----

[a] Included food and other uses, such as cattle feed.
[b] Most imports of whey are re-exported to China.
Source: FAO Statistical Databases, 2002.

One hundred percent of local dairy consumption by Hong Kong's population is supplied by imports. By contrast, more than 90 percent of Mainland China's dairy demand is met by domestic production (USDEC, 2000). Growth in per-capita consumption of milk and dairy products increased during the most recent decade. From 1965 to 2000, annual per-capita consumption of milk increased from 19.89 kilograms to 68.41 kilograms (FAO Statistics, 2002). In the 1990s, per-capita consumption increased by 5.1 percent annually on average, primarily driven by a growth concern for a healthy diet and a changing dietary preference (Table 1). Since 1991, growth in per-capita consumption on butter increased by 6.3 percent per year. However, growth in per-capita

cheese, dry whole milk, and dry skim milk consumption continued to be strong. The average annual per-capita increase in cheese, dry whole milk, and dry skim milk consumption was 6.2, 8.3, and 11.0 percent, respectively (Table 1).

Hong Kong's resources are limited and food and raw material must be imported. As a result, the supply to satisfy local dairy consumption by Hong Kong's population was one hundred percent imported from other countries. In addition, Hong Kong re-exports a large part of its imported dairy products. For example, in 1998 Hong Kong re-exported 77,114 metric tons of dairy imports, which accounted for 36 percent of its dairy imports that year. Mainland China is the major destination for Hong Kong's dairy re-exports. Most of Hong Kong's whey imports were re-exported to Mainland China (USDEC, 2000).

Imports of Dairy Products

Hong Kong is one of the major importers of dairy products. It ranked 21st among all importing countries in total dairy products imported (in milk equivalent pounds) (Table 2). Hong Kong ranked 19th, 35th, 11th, 27th, and 31st in imports of butter, cheese, dry whole milk, dry skim milk, and whey respectively in 2000 (Tables 3, 4, 5, 6, and 7).

In 2000, Hong Kong's share of world imports of dairy products was about 1.2 percent. For individual dairy products, Hong Kong's butter imports accounted for 1.1 percent of the world butter imports. Hong Kong's share of world imports in dry whole milk, dry skim milk, and whey was about 0.8 percent, 3.2 percent, and 0.4 percent,

respectively (FAO Statistics, 2002). However, imports of cheese were only 9,160 metric tons in 2000, well under one percent of world imports of cheese (Table 4).

Table 2. Selected countries' total dairy imports (in milk equivalent) and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Belgium	3,709,566	4	3,661,389	4	3,936,039	5	4,054,076	5	4,434,830	5
China	1,285,203	13	1,584,260	10	1,531,064	14	1,909,979	10	2,243,373	8
France	3,158,352	5	3,582,977	5	3,966,796	4	4,313,597	4	4,685,094	4
Germany	4,673,712	3	4,796,523	3	4,669,373	3	4,554,466	3	5,024,699	3
Hong Kong	986,358	19	1,021,373	18	892,546	19	789,957	22	778,970	21
Italy	5,210,317	2	5,430,128	2	5,543,997	2	5,509,023	2	5,467,815	2
Mexico	1,912,993	8	2,121,080	8	2,021,171	7	2,217,376	7	2,310,820	7
Netherlands	6,385,562	1	6,061,069	1	5,633,207	1	7,113,321	1	6,297,773	1
Spain	1,450,968	11	1,583,212	11	1,652,153	11	1,661,739	12	1,918,970	10
UK	2,393,522	6	2,476,914	7	2,537,039	6	2,667,275	6	2,710,840	6
USA	1,380,531	12	1,466,204	12	1,873,207	8	1,953,107	9	1,953,940	9
Total	32,547,084	----	33,785,129	----	34,256,592	----	36,743,916	----	37,827,124	----
World	59,844,367	----	62,626,024	----	62,478,356	----	66,593,229	----	68,138,509	----

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Table 3. Selected countries' total butter imports and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Belgium	100,015	5	103,759	5	101,137	4	100,491	4	112,073	4
Egypt	50,225	7	37,759	8	35,253	9	43,115	8	44,141	7
France	109,919	4	137,381	3	133,670	2	129,819	1	148,302	1
Germany	132,955	1	156,822	2	134,930	1	123,476	2	131,121	2
Hong Kong	15,239	16	11,423	23	12,223	21	12,705	20	14,077	19
Italy	48,315	8	52,087	7	60,124	7	46,864	7	41,167	8
Mexico	18,529	14	24,793	9	27,325	10	34,047	9	34,078	9
Morocco	28,050	9	16,457	15	22,104	12	19,818	12	27,357	10
Netherlands	68,782	6	94,022	6	69,879	6	96,933	5	86,887	5
Russian	125,810	2	169,698	1	83,053	5	53,200	6	53,857	6
UK	111,619	3	101,210	4	109,287	3	122,076	3	122,922	3
Total	809,458	----	905,411	----	788,985	----	764,714	----	815,982	----
World	1,203,892	----	1,321,235	----	1,213,138	----	1,217,796	----	1,261,586	----

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Table 4. Selected countries' total cheese imports and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Belgium	176,745	4	186,681	5	197,185	4	199,602	5	208,949	5
France	151,238	7	153,718	7	167,326	7	188,472	6	213,138	4
Germany	458,261	1	476,361	1	441,518	1	417,503	1	424,721	1
Greece	50,747	12	68,059	11	94,838	9	67,341	11	76,944	10
Hong Kong	6,789	35	7,718	33	7,498	34	7,860	36	9,160	35
Italy	294,875	2	305,861	2	305,419	2	318,681	2	347,233	5
Japan	164,164	5	171,407	6	183,448	5	186,905	7	205,123	6
Netherlands	92,067	9	84,895	9	100,869	8	116,845	8	122,438	8
Spain	81,511	10	81,046	10	86,363	10	94,223	9	104,688	9
UK	258,704	3	261,775	3	249,191	3	272,312	3	268,613	3
USA	154,764	6	142,793	8	170,557	6	203,042	4	192,342	7
Total	1,889,865	----	1,940,314	----	2,004,212	----	2,072,786	----	2,173,349	----
World	2,688,552	----	2,843,580	----	2,786,286	----	2,887,650	----	3,093,644	----

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Table 5. Selected countries' total dry whole milk imports and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Algeria	67,865	3	88,882	2	103,724	2	105,507	2	96,340	2
Belgium	66,029	5	53,781	9	54,362	7	46,786	10	57,289	7
Brazil	115,586	1	101,169	1	133,742	1	145,983	1	108,609	1
China	58,981	7	68,234	5	62,598	5	83,985	4	83,011	4
Hong Kong	55,611	8	56,418	8	49,992	9	46,708	11	45,993	11
Malaysia	53,152	9	66,000	6	44,857	12	54,203	6	57,696	6
Netherlands	94,413	2	77,736	3	71,376	4	101,713	3	89,672	3
Philippines	36,476	11	39,656	12	40,511	13	36,958	12	56,072	8
Sri Lanka	35,027	12	37,364	13	48,788	10	48,308	9	49,070	9
Thailand	50,430	10	69,180	4	50,237	8	49,791	8	48,249	10
Venezuela	66,321	4	51,842	10	84,115	3	52,042	7	64,759	5
Total	699,891	---	710,262	---	744,302	---	771,984	---	756,760	---
World	1,281,604	---	1,357,158	---	1,401,542	---	1,439,868	---	1,418,968	---

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Table 6. Selected countries' total dry skim milk imports and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Algeria	58,468	9	78,893	5	87,040	4	71,272	8	91,339	5
Belgium	51,781	12	43,521	11	43,155	13	45,150	15	71,900	9
China	37,975	15	40,945	13	44,813	12	51,150	13	56,862	10
France	33,446	18	28,453	20	42,636	14	63,791	9	84,735	6
Hong Kong	12,982	28	14,942	26	14,006	28	13,656	29	13,581	27
Indonesia	45,916	14	41,034	12	33,133	18	98,348	5	82,574	7
Italy	126,614	3	127,504	3	126,494	2	121,779	3	109,008	4
Malaysia	78,151	5	75,000	6	59,596	6	71,879	7	74,721	8
Mexico	126,700	2	132,849	2	102,600	3	125,137	2	129,078	2
Netherlands	216,085	1	224,214	1	162,459	1	230,438	1	205,379	1
Philippines	83,704	4	98,050	4	77,637	5	86,729	6	111,455	3
Total	871,822	----	905,405	----	793,569	----	979,329	----	1,030,632	----
World	1,716,935	----	1,727,457	----	1,607,154	----	1,879,505	----	1,805,896	----

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Table 7. Selected countries' total whey imports and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Belgium	52,959	4	55,759	3	58,099	3	54,842	4	56,299	5
Canada	43,224	6	36,554	10	37,996	9	48,375	6	62,441	3
China	72,882	2	89,359	2	78,819	2	97,717	2	140,057	2
France	29,238	10	40,931	7	50,588	5	49,463	5	59,048	4
Germany	66,975	3	45,070	5	48,759	6	46,114	7	40,077	9
Hong Kong	21,997	12	26,042	11	16,662	15	6,363	24	3,846	31
Italy	40,845	7	37,598	8	42,637	8	37,584	10	42,029	8
Japan	32,343	9	37,481	9	37,351	10	41,157	9	39,522	10
Mexico	48,636	5	49,174	4	56,642	4	55,947	3	55,031	6
Netherlands	251,310	1	217,543	1	248,474	1	292,637	1	252,099	1
Spain	37,147	8	43,362	6	44,869	7	44,225	8	49,109	7
Total	697,556	----	678,873	----	720,896	----	774,424	----	799,558	----
World	886,132	----	902,409	----	973,881	----	1,054,173	----	1,124,090	----

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Growth in dairy imports into Hong Kong has been remarkable. For the period 1991 to 2000, total imports of milk and dairy products in milk equivalent pounds increased on average 10.1 percent per year (Table 8). The growth rate is twice the annually growth rate in the three preceding decades. Butter consumption had been increasing by 6.3 percent during the 1990s (Table 1), and butter imports reached record levels. In 2000, butter imports into Hong Kong were 14,077 metric tons, accounting for 1.1 percent of total butter imports of the world (Table 3). Butter imports have been increase by 9.7 percent per year on average. Imports of cheese into Hong Kong have been growing almost nine percent annually this decade (Table 8). Cheese imports have been growing at this rate for nearly 40 years (Washington, 2000).

The growth of dry whole milk imports was 14.1 percent on average in the 1990s (Table 8). Between 1991 and 2000, dry whole milk imports increased 25,141 metric tons, for an overall increase of 120.6 percent, reaching a high of 59,307 metric tons in 1994 and a low of 20,852 metric tons in 1991 (Table 8).

The growth of dry skim milk imports was the most impressive among dairy product imports. The growth rate has been 17.7 percent for dry skim milk on average in the 1990s (Table 8). However, whey imports experienced growth in the 1990s, followed by a decrease starting in 1998. The peak of whey imports was in 1997 when Hong Kong imported 26,042 metric tons. The decrease in Hong Kong's whey imports was due to a decrease in whey re-exports to China. China reduced its demand for dry whey starting in

1998. On average, Hong Kong's whey imports still increased 15.4 percent annually in the 1990s (FAO Statistics, 2002).

Table 8. Hong Kong dairy imports, 1991 through 2000.

Year	Milk Equivalent	Butter	Cheese	Dry Whole Milk	Dry Skim Milk	Whey
			Metric Tons			
1991	453,592	7,064	4,139	20,852	4,774	8,559
1992	502,275	9,148	4,591	26,202	5,182	5,273
1993	524,761	10,388	5,306	26,435	6,315	4,842
1994	910,730	16,771	6,061	59,307	13,077	8,816
1995	891,158	15,798	5,946	54,730	8,462	14,885
1996	986,358	15,239	6,789	55,611	12,982	21,997
1997	1,021,373	11,423	7,718	56,418	14,942	26,042
1998	892,546	12,223	7,498	49,992	14,006	16,662
1999	789,957	12,705	7,860	46,708	13,656	6,363
2000	778,970	14,077	9,160	45,993	13,581	3,846
Average Annual Growth (%) 1991-2000	10.1	9.7	8.9	14.1	17.7	15.4

Source: FAO Statistical Databases, 2002.

Exports of Dairy Products from the U.S.

In 2000, the US butter exports to Hong Kong accounted for 0.3 percent of total Hong Kong butter imports (Table 9). The US cheese exports to Hong Kong have ranged from 2.9 to 12.4 percent in the 1990s. In 2000, the US exported 461 metric tons of cheese into Hong Kong.

The US exports of non-fat dry milk fluctuated in the 1990s because of the fluctuation in Mainland China's demand for non-fat dry milk and the competition from Oceania countries. In 2000, the US exported 24 metric tons of non-fat dry milk to Hong Kong and it was the lowest amount in the decade. In terms of whey, the US dominated the whey market in the 1990s (Table 9).

Additionally, the US also exported dry whole milk to Hong Kong. However, the market share of US dry whole milk has never been high (Table 9). For example, during the 1990s, the market share of US dry whole milk reached a peak in 1997 of 1.4 percent, with 775.7 metric tons (Table 9). In 2000, Hong Kong imported 61 metric tons of dry whole milk from the US, and the market share of US products was only 0.1 percent (Table 9).

Table 9. Selected dairy products exported from the US to Hong Kong, 1991 through 2000.

Year	Butter[a]	% of All Butter Imports[b]	Cheese[a]	% of All Cheese Imports[b]	Whole Dry Milk[a]	% of All WDM Imports[b]	Non-Fat Dry Milk[a]	% of All NFDM Imports[b]	Whey[a]	% of All Whey Imports[b]
	Mt	%	Mt	%	Mt	%	Mt	%	Mt	%
1991	107	1.5	185	4.5	0	0.0	1,338	28.0	6,186	72.3
1992	32	0.3	149	3.2	366	1.4	1,555	30.0	5,327	101.0[c]
1993	70	0.7	156	2.9	125	0.5	569	9.0	2,466	50.9
1994	0	0.0	430	7.1	178	0.3	204	1.6	3804	43.1
1995	46	0.3	366	6.2	360	0.7	786	9.3	6897	46.3
1996	25	0.2	310	4.6	137	0.2	83	0.6	7802	35.5
1997	10	0.2	473	6.1	776	1.4	191	1.3	7632	29.3
1998	37	0.3	506	6.7	46	0.1	156	1.1	4397	26.4
1999	9	0.1	977	12.4	100	0.2	1,103	8.1	4476	70.3
2000	39	0.3	461	5.0	61	0.1	24	0.2	6113	158.9[c]

[a] Source: United States Department of Agriculture Foreign Agricultural Service, 2003.

[b] Data from Table 8.

[c] The reason for this discrepancy is unknown and needs further analysis.

Trade Policy and Tariff

After Hong Kong reverted to Chinese administration in 1997, Hong Kong continues to maintain separate economic policies from Mainland China. Hong Kong is continuing to practice its free trade policies. Hong Kong can remain a separate member of the World Trade Organization (WTO) and the Asia-Pacific Economic Cooperation (APEC) forum (USDEC, 2000).

Very little can be said about Hong Kong's trade policy. Since Hong Kong remains as a separate custom zone within its own border, Hong Kong continues to pursue a policy of noninterference in customs practices. Hong Kong's ports are duty free with very few trade barriers on goods and services. Dairy imports into Hong Kong are only subject to import licensing for sanitary conditions and record keeping purpose. The U.S. meat, poultry, dairy and frozen confectionary products entering Hong Kong must be accompanied by documents certifying USDA inspection and standards (WTO, 1998).

JAPAN

Overview of Japan

Japan is an island state comprising a group of four principal islands and several smaller ones, off the east coast of Asia. The total area of Japan is 377,835 square kilometers, slightly smaller than California. In 2001 the population was 126,974,628, with a 0.15 percent growth rate (CIA World Factbook, 2002).

Government-industry cooperation, a strong work ethic, mastery of high technology, and a comparatively small defense allocation (1 percent of GDP) have helped Japan advance with extraordinary rapidity to the rank of second most technologically powerful economy in the world after the US and third largest economy in the world after the US and China. In 2001, Japan's gross domestic product (GDP) was approximately $3.45 trillion (purchasing power parity), with a per-capita purchasing power parity of $27,200 and agriculture accounted for only two percent of the total GDP (CIA World Factbook, 2002). Total Japan exports in 2001 were $404.6 billion, of which the US received 29.7 percent. Total Japan imports in 2001 were $331.6 billion, of which the US composed 19 percent. The main trade partners are the US, China, South Korea, and Hong Kong (CIA World Factbook, 2002).

Dairy Industry in Japan

Production of Dairy Products

The small agricultural sector is highly subsidized and protected, with crop yields among the highest in the world. Usually self-sufficient in rice, Japan relies heavily on imports for many other agricultural products (CIA World Factbook, 2002). Dairy farming is a key sector for Japanese agriculture with raw milk production being the second largest commodity, with rice being the first. To stabilize the supply of raw milk, the dairy industry follows the production guidelines set by the government, and a subsidy system for dairy producers was established back to 1965. Consequently, the dairy industry is the most highly assisted livestock activity in Japan. The high degree of self-sufficiency in its milk production is thus primarily due to this substantial amount of government subsidies (GATT, 1992). In 2001, there were 32,200 domestic dairy farms with 0.966 million dairy cows, producing over 8,000 kilograms per cow, which was the second highest productivity rate in the world. The production per cow in Japan was near that of the US (8,430 kilograms), and was twice the rate of New Zealand and exceeds all of the European Union nations (USDA-FAS, 2003). Like the US, the number of dairy farms has decreased in the last 30 years, down from 381,000 farms in 1965 to 32,200 farms in 2001 (Japan Dairy Council, 2003). Among all of the milk production, 59 percent was processed into fluid milk for drinking, while the remainder was processed into other dairy products including cheese, butter, skim dry milk, ice cream, and yogurt (USDA-FAS,

2003). In 2000, Japan's fresh milk production was 8.5 million metric tons (Table 1), accounting for only 1.7 percent of the world production of fresh milk (490,357,888 metric tons). Japan's butter and ghee production in 2000 was 87,578 metric tons (Table 1), accounting for 1.2 percent of the world butter production (7,313,159 metric tons). Cheese production in 2000 was 126,249 metric tons (Table 1), accounting for 0.77 percent of the world cheese production (16,416,935 metric tons), and dry skim milk production in 2000 was 194,000 (Table 1), accounting for 5.7 percent of the world production (3,418,204 metric tons) (FAO Statistics, 2002).

Table 1. Japan milk and selected dairy products production, 1991 through 2000.

Year	Cow Milk, Whole, Fresh	Butter and Ghee	Cheese (All Kinds)	Dry Skim Milk	Whey[a]
			Metric Tons		
1991	8,259,134	75,922	88,540	181,278	237,000
1992	8,576,442	95,114	92,218	206,705	247,200
1993	8,625,700	107,996	100,442	222,439	268,800
1994	8,389,000	79,688	101,825	184,065	273,000
1995	8,382,000	80,340	105,389	190,405	287,400
1996	8,657,000	86,331	108,954	200,335	291,600
1997	8,645,455	87,190	114,040	199,853	310,800
1998	8,572,421	88,931	123,815	201,770	337,200
1999	8,459,694	85,504	123,659	191,311	337,200
2000	8,497,000	87,578	126,249	194,000	344,400

[a] Whey production in milk equivalent pounds.
Source: FAO Statistical Databases, 2002.

The distribution channels for milk changed following World War II. School lunches were introduced in elementary schools and children began drinking milk (Japan Dairy Council, 2003). Consequently, per-capita consumption in all milk products increased

from 40.47 kilograms in 1965 to 84.96 kilograms in 2000 (FAO Statistics, 2002). The home distribution was done mainly through home delivery. Starting from 1965, the number of supermarkets in urban areas started to grow and the volume of milk sales from such outlets increased. Starting from 1975, convenience stores began handling milk and the volume of milk sold through home delivery services decreased. By 1983, supermarkets and convenience stores handled 52 percent of total milk sales, while milk wholesalers handled 33 percent, of which home delivery accounted only for 13 percent. Supermarkets and convenience stores continued to grow and by 1999 accounted for 70.2 percent of total milk sales. Schools accounted for nine percent, and small stores accounted for two percent by 1999 (Japan Dairy Council, 2003).

Demand for Dairy Products

The dairy industry is relatively new in Japan. Milk and dairy did not enter into the consumers' diet until 1920s and not to any great extent until after World War II (Simpson, 1993). However, milk is now a regular staple food that is consumed by 87 percent of all Japanese households, and is consumed by persons of all ages and genders (Japan Dairy Council, 2003).

Before WWII, Japan had a rice-dominated diet. After WWII, meat and dairy consumption increased. The changes were due to the more westernized diet in Japan and the increasing awareness of the health benefits of milk consumption (Japan Dairy Council, 2003). When compared to European countries and the US, per-capita

consumption is still low, although daily per-capita consumption has grown faster than any other staple food. In 2000, annual per-capita consumption of all milk was about 85 kilograms, which is roughly one third of the per-capita consumption in the US and Australia (FAO Statistics, 2002).

The largest growth in milk consumption occurred in the 1960s when per-capita consumption increased by 8.56 percent per year on average, primarily driven by a 50 percent average annual increase in skim milk consumption from 1.27 kilograms per-capita in 1961 to 8.89 kilograms per-capita in 1970 (Washington, 2000). Per-capita consumption in all milk and dairy product consumed annually has increased from 40.47 kilograms in 1965 (FAO Statistics, 2002) to 84.96 kilograms in 2000 (Table 2). Since 1991, growth in per-capita consumption of all milk products decreased by 0.26 percent per year. However, growth in per-capita cheese and whey consumption continue to be relatively strong (Table 2).

Table 2. Per-capita consumption of dairy products in Japan, 1991 through 2000.

Year	All Milk[a]	Butter	Cheese	Skim Milk[a]	Whole Milk[a]	Whey[a]
			Kilograms			
1991	87.13	0.78	1.71	25.32	68.35	3.79
1992	88.29	0.79	1.77	28.79	69.44	4.06
1993	86.92	0.88	1.90	29.63	69.21	4.57
1994	85.61	0.66	1.96	23.82	68.20	4.88
1995	87.46	0.66	2.09	24.78	68.37	5.67
1996	86.87	0.69	2.17	23.65	69.75	5.79
1997	86.65	0.70	2.26	23.53	69.46	6.48
1998	85.00	0.71	2.42	22.53	68.53	6.65
1999	84.11	0.68	2.44	21.97	67.42	7.04
2000	84.96	0.69	2.60	22.17	67.48	6.91
Average Annual Growth (%) 1991-2000	-0.26	-.09	4.79	-1.09	-0.14	7.04

[a] Included food and other uses, such as cattle feed.
Source: FAO Statistical Databases, 2002.

Japan's per-capita cheese consumption in 1998 was about one sixth of that in England and about one fourteenth of that in France. Also, milk is consumed only as a beverage, butter is used only as a spread for bread, and cheese is eaten only with sake or on pizza. In Japan, unlike in Europe, the US and other western countries, milk and other dairy products are not widely used in cooking. There are potentials in this area for more dairy consumption (Japan Dairy Council, 2003).

Japan produced roughly 80 percent of its total dairy consumption throughout the 1980s and the 1990s. In 2000, Japan's self-sufficient rate in milk and dairy products (in milk equivalent pounds) was 79 percent (FAO Statistics, 2002). Its self-sufficiency in cheese was 38 percent in 2000, which was down from 43 percent in 1991. Its self-

sufficiency in skim milk was 75 percent in 2000. Self-sufficiency in whey was 39 percent in 2000, down from 49 percent in 1991. In addition, butter and whole milk were highly self-sufficient in the 1990s, about 99 percent (FAO Statistics, 2002). Products were imported from other countries in order to satisfy the consumers' needs that were not met by domestic production.

Imports of Dairy Products

Japan is one of the largest importers of dairy products in the world. It ranked 12th among all importing countries in total dairy products imported (in milk equivalent pounds) (Table 3), and ranked 6th, 13th, and 10th in imports of cheese, dry skim milk, and whey respectively in 2000 (Tables 4, 5, and 6). In 2000, Japan's share of world imports of dairy products is about 2.5 percent. For individual dairy products, Japan's share of world imports in cheese, skim milk, and whey are about seven, three, and four percent respectively. Due to the high degree of self-sufficiency in butter, imports of this product were only 391 metric tons in 2000, well under one percent of world imports of butter (1,261,586 Metric tons) (FAO Statistics, 2002)

Table 3. Selected countries' total dairy imports (in milk equivalent) and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Belgium	3,709,566	4	3,661,389	4	3,936,039	5	4,054,076	5	4,434,830	5
China	1,285,203	13	1,584,260	10	1,531,064	14	1,909,979	10	2,243,373	8
France	3,158,352	5	3,582,977	5	3,966,796	4	4,313,597	4	4,685,094	4
Germany	4,673,712	3	4,796,523	3	4,669,373	3	4,554,466	3	5,024,699	3
Italy	5,210,317	2	5,430,128	2	5,543,997	2	5,509,023	2	5,467,815	2
Japan	1,631,380	10	1,682,568	9	1,594,981	12	1,642,366	13	1,676,743	12
Mexico	1,912,993	8	2,121,080	8	2,021,171	7	2,217,376	7	2,310,820	7
Netherlands	6,385,562	1	6,061,069	1	5,633,207	1	7,113,321	1	6,297,773	1
Spain	1,450,968	11	1,583,212	11	1,652,153	11	1,661,739	12	1,918,970	10
UK	2,393,522	6	2,476,914	7	2,537,039	6	2,667,275	6	2,710,840	6
USA	1,380,531	12	1,466,204	12	1,873,207	8	1,953,107	9	1,953,940	9
Total	33,192,106	----	34,446,324	----	34,959,027	----	37,596,325	----	38,724,897	----
World	59,844,367	----	62,626,024	----	62,478,356	----	66,593,229	----	68,138,509	----

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Table 4. Selected countries' total cheese imports and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Belgium	176,745	4	186,681	5	197,185	4	199,602	5	208,949	5
France	151,238	7	153,718	7	167,326	7	188,472	6	213,138	4
Germany	458,261	1	476,361	1	441,518	1	417,503	1	424,721	1
Greece	50,747	12	68,059	11	94,838	9	67,341	11	76,944	10
Italy	294,875	2	305,861	2	305,419	2	318,681	2	347,233	2
Japan	164,164	5	171,407	6	183,448	5	186,905	7	205,123	6
Netherlands	92,067	9	84,895	9	100,869	8	116,845	8	122,438	8
Spain	81,511	10	81,046	10	86,363	10	94,223	9	104,688	9
UK	258,704	3	261,775	3	249,191	3	272,312	3	268,613	3
USA	154,764	6	142,793	8	170,557	6	203,042	4	192,342	7
Total	1,883,076	----	1,932,596	----	1,996,714	----	2,064,926	----	2,164,189	----
World	2,688,552	----	2,843,580	----	2,786,286	----	2,887,650	----	3,093,644	----

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Table 5. Selected countries' total dry skim milk imports and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Algeria	58,468	9	78,893	5	87,040	4	71,272	8	91,339	5
Belgium	51,781	12	43,521	11	43,155	13	45,150	15	71,900	9
China	37,975	15	40,945	13	44,813	12	51,150	13	56,862	10
France	33,446	18	28,453	20	42,636	14	63,791	9	84,735	6
Indonesia	45,916	14	41,034	12	33,133	18	98,348	5	82,574	7
Italy	126,614	3	127,504	3	126,494	2	121,779	3	109,008	4
Japan	75,117	6	73,383	7	57,082	7	56,466	10	52,327	13
Malaysia	78,151	5	75,000	6	59,596	6	71,879	7	74,721	8
Mexico	126,700	2	132,849	2	102,600	3	125,137	2	129,078	2
Netherlands	216,085	1	224,214	1	162,459	1	230,438	1	205,379	1
Philippines	83,704	4	98,050	4	77,637	5	86,729	6	111,455	3
Total	933,957	----	963,846	----	836,645	----	1,022,139	----	1,069,378	----
World	1,716,935	----	1,727,457	----	1,607,154	----	1,879,505	----	1,805,896	----

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Table 6. Selected countries' total all dry whey imports and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Belgium	52,959	4	55,759	3	58,099	3	54,842	4	56,299	5
Canada	43,224	6	36,554	10	37,996	9	48,375	6	62,441	3
China	72,882	2	89,359	2	78,819	2	97,717	2	140,057	2
France	29,238	10	40,931	7	50,588	5	49,463	5	59,048	4
Germany	66,975	3	45,070	5	48,759	6	46,114	7	40,077	9
Italy	40,845	7	37,598	8	42,637	8	37,584	10	42,029	8
Japan	32,343	9	37,481	9	37,351	10	41,157	9	39,522	10
Mexico	48,636	5	49,174	4	56,642	4	55,947	3	55,031	6
Netherlands	251,310	1	217,543	1	248,474	1	292,637	1	252,099	1
Spain	37,147	8	43,362	6	44,869	7	44,225	8	49,109	7
Total	675,559	----	652,831	----	704,234	----	768,061	----	795,712	----
World	886,132	----	902,409	----	973,881	----	1,054,173	----	1,124,090	----

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Japan is one of the world's largest importers of agricultural products and is consistently among the top ten importers of dairy products. Only recently, Japan has reduced its imports of dairy products slightly. However, growth in imports of all dairy products has increased this decade by nearly three percent per year on average. The strongest growth occurred in the cheese and whey import markets, where growth on average was 6.7 and 9.2 percent respectively (Table 7).

In 1995, a tight domestic supply of nonfat dry milk (NFDM) caused a significant increase of NFDM imports. Due to a high 16 percent growth of domestic NFDM production in 1996, Japan's total dry skim milk imports decreased in 1996, which was down from 103,000 metric tons in 1995 to 75,117 metric tons, an annual decrease of 27.1 percent (USDA-FAS, 1996). Since 1991, imports of dry skim milk have been decreasing by two percent per year (Table 7), and for the period 1981 through 1990, imports decreased also by two percent per year (Washington, 2000). With the exception of dry skim milk, dairy imports into Japan have been strong (Table 7). However, Japan's imports of butter are relatively insignificant due to high degree of self-sufficiency.

Table 7. Japan dairy imports, 1990 through 2000.

Year	Milk Equivalent	Cheese	Dry Skim Milk	Whey
		Metric Tons		
1990	1,385,821	107,893	80,721	16,995
1991	1,823,009	124,051	116,864	17,275
1992	1,585,744	128,298	95,923	19,082
1993	1,462,781	136,272	73,117	22,344
1994	1,600,191	143,077	85,884	24,943
1995	1,840,869	157,142	103,000	31,389
1996	1,631,380	164,161	75,117	32,343
1997	1,682,568	171,407	73,383	37,481
1998	1,594,981	183,448	57,082	37,351
1999	1,642,366	186,905	56,466	41,157
2000	1,676,743	205,123	52,327	39,522
Average Annual Growth (%)				
1990-2000	2.68	6.70	-1.95	9.15

Source: FAO Statistical Databases, 2002.

In 2001, the tight supply and demand situation for butter was a result of both reduced domestic production and strong demand for domestic butter as a substitute for Australian high fat cream. The tight butter supply situation will likely continue into 2002, which is projected at 27,000 metric tons. Japan maintains that it has met its UR obligations over the past six years by using the current access to exclusively import NFDM. However, it now appears that importing butter under the current access will likely be seriously considered in light of the tight butter supply situation forecast for 2002. However, the US opportunities remain limited due to strong competition from New Zealand and Australia (USDA-FAS 2003).

In 2002, Japan's cheese imports were expected to rebound, a five percent increase over the 2001 level (202,076 metric tons) (USDA-FAS, 2003; FAO Statistics, 2002). Cheese imports from the US, Australia, Germany, Netherlands and Italy were up during the first quarter of 2002, offsetting declines from New Zealand and some EU countries. Imports from the US were up by 51 percent, owing to the growing popularity of American natural cheese in Japan (USDA-FAS, 2003).

Demand for non-fat dry milk remained weak in 2001 where imports were only 52,706 metric tons. Domestic non-fat dry milk production in 2001 was 17,500 metric tons, down nine percent from the 2000 level (194,000 Metric tons) (Table 1), due mainly to the reduced availability of fluid milk for processing use. Japan has purchased 10,500 metric tons of non-fat dry milk in the first quarter of 2002, with the majority supplied by Oceania and EU countries. For the first time, 200 metric tons of US non-fat dry milk was purchased through the current access system for edible use (USDA-FAS, 2003)

Exports of Dairy Products from the U.S.

In 2000, the US cheese exports to Japan accounted for 3.7 percent of total Japan cheese imports (Table 8). Moreover, the US dominated the whey market in the early 1990s, where the US market share of whey imports into Japan has been as much as 60 percent; however, this declined to 38.1 percent in 2000 (Table 8). Butter is not a major imported dairy product for Japan and due to its high self-sufficiency and was not reported here.

Table 8. Selected dairy products the US exported to Japan, 1991 through 2000.

Year	Cheese[a]	% of All Cheese Imports[b]	Non-Fat Dry Milk[a]	% of All NFDM Imports[b]	Whey[a]	% of All Whey Imports[b]
	Mt	%	Mt	%	Mt	%
1991	2,367	1.9	0	0.0	10,377	60.1
1992	1,378	1.1	0	0.0	9,457	49.6
1993	1,278	0.9	0	0.0	12,528	56.1
1994	2,125	1.5	12.4	0.0	9,798	39.3
1995	5,045	3.2	55.6	0.1	18,424	58.7
1996	6,797	4.1	32.4	0.0	18,745	58.0
1997	5,990	3.5	29.5	0.0	15,666	41.8
1998	7,161	3.9	428.3	0.8	16,829	45.1
1999	8,710	4.7	48.3	0.1	14,094	34.2
2000	7,528	3.7	0.2	0.0	15,051	38.1

[a] Source: United States Department of Agriculture Foreign Agricultural Service, 2003
[b] Data from Table 7.

Trade Policy and Tariff

The high self-sufficient rate in Japan's milk production is primarily due to the substantial amount of government subsidies used to support domestic production. Consequently, the dairy industry was the most highly assisted livestock activity in Japan (GATT, 1992). In the past years, Japan's producer subsidy equivalence measure has been as high as 97 percent and on average about 85 percent over the last decade, which is nearly twice the support of the US (Meilke and Lariviere, 1999). In accordance with the WTO commitment on domestic support, Japan has agreed to abolish it's domestic support for the dairy industry (USDA-FAS, 2003).

Imports of dairy products into Japan have been regulated since the 1960s. Butter, milk powders, and whey powder have been subject to state trading by the Livestock Industry Promotion Corporation (LIPC) and import quotas since 1966. Cheese has been subject to import quotas as well. In 1989, all import quotas on cheese were converted to tariff rate quotas, and with the UR GATT agreement in 1994, all dairy import quotas were converted to tariff rate quotas as well. However, state trading in dairy products still remains in the non-fat dry milk and butter import markets (GATT, 1992, 1995; WTO, 1998). Japan does not belong to any bilateral or regional trade agreements. All tariff rates are applied equally to all countries. Prior to the UR GATT, all import quotas were applied globally. As part of its commitment to the WTO, Japan has established a TRQ limit of 3,000 tons for whey that will increase to 4,500 tons by the year 2,000. Also tariff rates on pizza cheese will be reduced by 35 percent and tariff rates on grated cheese will be reduced by 25 percent (USDA-FAS, 2003).

The average tariff peak levied on dairy products in Japan is 158 percent. Tariff peaks range from 370 percent for yogurt to 30 percent for cheese. Milk tariffs in Japan are one of the highest in the world, second only to Canada.

SOUTH KOREA

Overview of South Korea

South Korea is located in Eastern Asia. It is a republic country set up in the southern half of the Korean Peninsula, bordering North Korea to the north, the Sea of Japan to the east, and the Yellow Sea to the west. The total area of South Korea is 98,480 square kilometers, slightly larger than the size of Indiana. In 2001, the population was estimated to be 48.324 million, with a 0.85 percent annual growth rate (CIA World Factbook, 2002).

South Korea is one of the wealthy countries in Asia. The South Korean economy has grown rapidly since it joined GATT in 1967. Prior to the Asian economic crisis in 1997, the Korean economy experienced high growth, low unemployment, and relatively moderate inflation (WTO, 2000). The growth of South Korea's economy was achieved by a system of close government and business ties in the late 1980s (CIA World Factbook, 2002). In addition, the government promoted the importation of raw materials and technology at the expense of consumer goods and encouraged saving and investment over consumption. As a result, one of the most serious problems of South Korea was its trade deficit. The trade deficit peaked at more than $20 billion in 1996 (CIA World Factbook, 2002).

The Asian crisis of 1997 to 1998 hit South Korea hard. The real gross domestic product (GDP) fell by 6.6 percent in 1998. Consequently, external trade volumes dramatically decreased. However, the economy recovered rapidly in the 1999 to 2000

period, with a growth rate approximately ten percent (CIA World Factbook, 2002). Due to the global economic slowdown, South Korea's economic growth fell back to 3.3 percent in 2001. In 2001, its real gross domestic product (GDP) was $865 billion (purchasing power parity), with per-capita purchasing power parity of $18,000. The per-capita GDP was seven times India's and 17 times North Korea's. Agriculture accounted for five percent of its total GDP (CIA World Factbook, 2002).

South Korea has continued to implement its commitments under the WTO agreements. In fact, the Asian crisis prompted Korea to accelerate liberalization and market opening. The government has drawn the conclusion that continued reform and liberalization in trade would lead to greater prosperity and economic growth (WTO, 2000). South Korea's total exports in 2001 were $168.3 billion, of which the US received 21.8 percent. South Korea's total imports in 2001 were $152.3 billion, of which the US accounted for 18.2 percent. The main trading partners are China, Japan, and the US (CIA World Factbook, 2002).

The Dairy Industry in South Korea

Production of Dairy Products

The dairy industry is relatively new to South Korea. However, it has developed rapidly in its some 30-year history. The Korean dairy farming began in 1902, when 20 milk cows were introduced from France (USDA-FAS, 1996). However, the commercial

dairy industry began in the 1960s, when the government implemented a series of programs and laws to promote livestock and dairy farming. In 1967, the Korean government launched the Dairy Promotion Law (DPL), which provided authority for minimum reference prices for raw milk above its production cost. Also, the government has carried out a policy of promoting dairy farming by introducing high yield milk cows from other countries (Kim, 1995).

Dairy Farms were mostly small in the early stage. From 1971 to the middle 1980s, the South Korean dairy industry grew at an annual average rate of 20 percent in production. The government supported the dairy production and consumption through school milk programs and military meal programs. In addition to those programs, the government implemented an Integrated Dairy Development Project. This ten-year project sought to expand production by providing financial support to dairy farmers and establishing dairy processing facilities (USDA-FAS, 1996).

Milk production in Korea has increased significantly during the last 30 years, supported by extensive government programs. Larger farms, modern equipment, and improved management have enhanced productivity and improved returns to farmers since 1990 (USDA-FAS, 1996). The number of milk cows and the average amount of milk production per cow increased. The number of milk cows increased from 12,067 head in 1970 to 286,320 head in 1995 (Korea Ministry of Agriculture and Forestry, 2003). The number of milk cows has not grown since 1995. In 2000, the number of milk cows was 285,607 head (Korea Ministry of Agriculture and Forestry, 2003). The average milk

production per milk cow almost doubled over the last 30 years. The average amount of milk produced increased from 3,593 kilograms per cow in 1970 to 6,763 kilograms per cow in 2001 (Korea Ministry of Agriculture and Forestry, 2003).

Like the US and Japan, the number of dairy farms has decreased as the dairy industry develops. The number of dairy farms peaked in 1985 as 43,760 and then decreased to 12,800 in 2001 (Korea Ministry of Agriculture and Forestry, 2003). This decrease in total farm numbers and the growth in farm size were common phenomenon in Korean agriculture (Song and Sumner, 1999).

Among all of the milk production, more than 70 percent was consumed as fluid milk, while the remainder was further processed (USDA-FAS, 1999). In 2000, Korea's fresh milk production was 2,252,804 metric tons (Table 1). The slow growth of milk production in the 1990s was due to the decreased incentives to the dairy farms because of lower government reference prices in real value and more strict environmental regulations for livestock farms (Song and Sumner, 1999).

Korea's butter and ghee production in 2000 was 54,926 metric tons (Table 1), accounting for less than one percent of the world butter production (7,313,159 Mt) (FAO Statistics, 2002). Bulk cheese is imported by local cheese manufacturers, re-packed and distributed to retailers and restaurants. Most of the cheese processed domestically is actually comprised of imported natural cheese (USDA-FAS, 2002). Korea also produces dry skim milk because fluid milk is highly perishable and costly to transport, and seasonal differences in production and consumption also require dairy processors to

process surplus milk into powder (Song and Sumner, 1999). Dry skim milk production in 2000 was 46,271 metric tons (Table 1).

Table 1. South Korea milk and selected dairy products production, 1991 through 2000.

Year	Cow Milk, Whole, Fresh	Butter and Ghee	Cheese (All Kinds)	Skim Milk, Dry	Whey
			Metric Tons		
1991	1,740,995	44,733	----	39,180	----
1992	1,816,120	47,152	----	38,717	----
1993	1,857,873	47,442	----	40,946	----
1994	1,917,398	51,001	----	36,149	----
1995	1,998,445	53,830	----	40,850	----
1996	2,033,738	51,695	----	45,435	----
1997	1,984,023	53,550	----	40,589	----
1998	2,027,000	49,035	----	43,796	----
1999	2,243,941	53,240	----	40,266	----
2000	2,252,804	54,926	----	46,271	----

Source: FAO Statistical Databases, 2002.

Despite the rapid development of its dairy industry, there are difficulties facing Korea's dairy industry in recent years, such as financial burdens due to supply and demand discrepancies that result in seasonal price fluctuations (Austrade, 2002). While raw milk production is high from winter to spring, market demand peaks in spring and autumn. Due to the limited domestic production of dairy products and the lack of price competitiveness, imports of dairy products experienced steady growth, as Korea's domestic demand increased over the past decades (Austrade, 2002).

Demand for Dairy Products

Koreans did not consume dairy products in their diets by tradition, but the growing younger generation and preference for western style food has increased consumption of dairy products. In recent years, younger people in Korea prefer to go to a pizza place than to a traditional Korean restaurant (USDA-FAS, 2002).

Over the last 30 years, increasing income and living standard have increased the demand for milk, and increasing domestic production of milk and dairy products also have led to an increase in dairy consumption (USDA-FAS, 2002). To increase milk consumption, the Korean government initiated financial support for schools in 1980 and the military in 1982. The school milk program accounted for 13 percent of total fluid milk consumption annually, and this source of demand played an important role in milk production and consumption over the past two decades (USDA-FAS, 2002).

To deal with a decrease in fluid milk consumption in the late 1990s, action was taken through a milk consumption promotion scheme, which included milk sales at reduced prices, increased milk supply at schools and for the military, and TV commercials. In January 1999, the Dairy Promotion Act entered into force. The Dairy Production Act (a) established the Dairy Promotion Association, (b) reinforced the private sector's involvement in dairy marketing, (c) introduced voluntary demand and supply stabilization arrangements among farmers, consumers and others, and (d) centralized

collection of and the public-management of the inspection system for raw milk (WTO, 2000).

Per-capita milk consumption increased from 3.8 kilograms in 1970 to 54.68 kilograms in 2000, showing an average annual growth rate of about 22 percent in the 1970's and about 15 percent in the 1980's (FAO Statistics, 2002). In the 1990s, the average annual growth rate of milk consumption was 2.1 percent (Table 2). Decreasing birthrates and development of other functional and healthy beverages were the main reasons for the slowdown in milk consumption (USDA-FAS, 2002).

Table 2. Per-capita consumption of dairy products in South Korea, 1991 through 2000.

Year	All Milk[a]	Butter	Cheese	Skim Milk[a]	Whole Milk[a]	Whey[a]
			Kilograms			
1991	45.69	1.09	0.00	32.41	41.08	5.40
1992	44.86	1.09	0.00	32.13	41.84	5.52
1993	47.12	1.09	0.00	33.41	42.59	5.45
1994	47.51	1.16	0.07	34.56	43.38	5.59
1995	49.18	1.21	0.24	35.32	44.62	6.79
1996	48.86	1.15	0.32	32.57	45.01	6.67
1997	48.12	1.20	0.41	33.51	43.58	6.87
1998	47.66	1.08	0.28	30.53	44.06	7.04
1999	53.67	1.17	0.45	33.28	48.43	8.92
2000	54.68	1.20	0.63	33.97	48.32	11.24
Average Annual Growth (%) 1991-2000	2.1	1.2	62.2[b]	0.7	1.9	9.1

[a] Included food and other uses, such as cattle feed.
[b] Average annual growth rate (%) 1994 through 2000
Source: FAO Statistical Databases, 2002.

In Korea, butter is purely a by-product of skim milk powder production. In the 1990s, growth in per-capita consumption on butter increased by 1.2 percent per year (Table 2). The consumption of butter peaked in 1995 and decreased thereafter, due to the widespread concerns about health consequences of animal fat (Song and Sumner, 1999).

Cheese consumption increased very rapidly during the 1990s, with a growth rate of 62.2 percent per year. Since the Olympic-year of 1988, cheese sales have increased by an annual average of 20 percent. In the 1990s, the growth in cheese consumption was strong, probably due to the popularity of western style fast food (USDA-FAS, 1996). The rapid growth in fast food and family style restaurants, especially those serving western food, such as pizza and cheeseburgers, contributed to the increase in demand for a wide variety of cheese products. Before 1994, the cheese market was insignificant, andcheese consumption was less than ten grams, but it grew to be 630 grams in 2000 (Table 2). Cheese consumption decreased slightly in 1998, mainly due to the Asian financial crisis of 1997 to 1998.

In the 1990s, the growth of milk powder consumption slowed, compared with other dairy products. That was because the birth rate had decreased and the growing preference for mother's milk (Song and Sumner, 1999). Among the milk powder, dry skim milk was used largely as an ingredient in confectionery and bakery products for re-export to Japan (USDA-FAS, 2002).

Korea doesn't produce whey. As a result, all whey consumption relies on imports. Per-capita whey consumption increased by 9.1 percent annually (Table 2). Most of whey powder is processed for animal feed (USDA-FAS, 2002).

The Korean government has focused its efforts on increasing domestic dairy production. In 2000, Korea achieved a self-sufficient rate of about 88 percent (FAO Statistics, 2002), with the remaining 12 percent filled by imports. However, recent trends show that domestic milk manufacturers are turning to imported raw materials in an effort to lower costs (USDA-FAS, 2002).

Imports of Dairy Products

South Korea is a net importer of dairy products. Although it had self-sufficiency over 80 percent in the 1990s, the growing living standards and the preference for western style food in the young generation caused the importation of dairy products to increase. In 2000, Korea ranked 31st among all importing countries in total dairy product imports (in milk equivalent pounds) (Table 3). In 2000, its share of world imports of dairy products was about 0.6 percent. For individual dairy products, Korea ranked 20th and 11th in total imports of cheese and whey in 2000 (Tables 4 and 5). Korea's cheese imports accounted for one percent of the world cheese imports. Korea's share of whey imports was 3.5 percent (FAO Statistics, 2002). In Korea, dry skim milk and butter are the main by-products of milk processing. Seasonal differences in production and consumption require dairy producers to process surplus milk into powder (Song and Sumner, 1999). As a

result, Korea imported a relatively small amount of butter and dry skim milk every year in the 1990s. In 2000, Korea imported 947 metric tons of butter and 3,004 metric tons of dry skim milk, well under 0.5 percent of world imports (FAO Statistics, 2002).

Table 3. Selected countries' total dairy imports (in milk equivalent) and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Belgium	3,709,566	4	3,661,389	4	3,936,039	5	4,054,076	5	4,434,830	5
China	1,285,203	13	1,584,260	10	1,531,064	14	1,909,979	10	2,243,373	8
France	3,158,352	5	3,582,977	5	3,966,796	4	4,313,597	4	4,685,094	4
Germany	4,673,712	3	4,796,523	3	4,669,373	3	4,554,466	3	5,024,699	3
Italy	5,210,317	2	5,430,128	2	5,543,997	2	5,509,023	2	5,467,815	2
Mexico	1,912,993	8	2,121,080	8	2,021,171	7	2,217,376	7	2,310,820	7
Netherlands	6,385,562	1	6,061,069	1	5,633,207	1	7,113,321	1	6,297,773	1
South Korea	309,625	32	343,470	32	293,908	36	499,964	28	402,429	31
Spain	1,450,968	11	1,583,212	11	1,652,153	11	1,661,739	12	1,918,970	10
UK	2,393,522	6	2,476,914	7	2,537,039	6	2,667,275	6	2,710,840	6
USA	1,380,531	12	1,466,204	12	1,873,207	8	1,953,107	9	1,953,940	9
Total	31,870,351	----	33,107,226	----	33,657,954	----	36,453,923	----	37,450,583	----
World	59,844,367	----	62,626,024	----	62,478,356	----	66,593,229	----	68,138,509	----

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Table 4. Selected countries' total cheese imports and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Belgium	176,745	4	186,681	5	197,185	4	199,602	5	208,949	5
France	151,238	7	153,718	7	167,326	7	188,472	6	213,138	4
Germany	458,261	1	476,361	1	441,518	1	417,503	1	424,721	1
Greece	50,747	12	68,059	11	94,838	9	67,341	11	76,944	10
Italy	294,875	2	305,861	2	305,419	2	318,681	2	347,233	5
Japan	164,164	5	171,407	6	183,448	5	186,905	7	205,123	6
Netherlands	92,067	9	84,895	9	100,869	8	116,845	8	122,438	8
South Korea	15,023	25	19,199	22	13,263	29	21,285	20	30,535	20
Spain	81,511	10	81,046	10	86,363	10	94,223	9	104,688	9
UK	258,704	3	261,775	3	249,191	3	272,312	3	268,613	3
USA	154,764	6	142,793	8	170,557	6	203,042	4	192,342	7
Total	1,898,099	---	1,951,795	---	2,009,977	---	2,086,211	---	2,194,724	---
World	2,688,552	---	2,843,580	---	2,786,286	---	2,887,650	---	3,093,644	---

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Table 5. Selected countries' total whey imports and ranking, 1996 through 2000.

	1996		1997		1998		1999		2000	
	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank	Mt	Rank
Belgium	52,959	4	55,759	3	58,099	3	54,842	4	56,299	5
Canada	43,224	6	36,554	10	37,996	9	48,375	6	62,441	3
China	72,882	2	89,359	2	78,819	2	97,717	2	140,057	2
France	29,238	10	40,931	7	50,588	5	49,463	5	59,048	4
Germany	66,975	3	45,070	5	48,759	6	46,114	7	40,077	9
Italy	40,845	7	37,598	8	42,637	8	37,584	10	42,029	8
Japan	32,343	9	37,481	9	37,351	10	41,157	9	39,522	10
Mexico	48,636	5	49,174	4	56,642	4	55,947	3	55,031	6
Netherlands	251,310	1	217,543	1	248,474	1	292,637	1	252,099	1
South Korea	22,616	11	23,224	14	24,015	13	30,619	11	38,877	11
Spain	37,147	8	43,362	6	44,869	7	44,225	8	49,109	7
Total	698,175	----	676,055	----	728,249	----	798,680	----	834,589	----
World	886,132	----	902,409	----	973,881	----	1,054,173	----	1,124,090	----

Source: Food and Agricultural Organization of the United Nations Statistical Databases, 2002.

Korea liberalized importation of dairy products in the 1990's, especially since the signing of the Uruguay Round agreement in 1993 (USDA-FAS, 2002). Growth in dairy imports into South Korea has been remarkable. For the period 1991 to 2000, total imports of milk and dairy products (in milk equivalent pounds) increased on average 8.2 percent per year (Table 6). The Asian crisis caused dairy imports to decrease in 1998, when imports decreased from 343,470 metric tons in 1997 to 293,908 metric tons in 1998, an annual decrease of 15 percent. However, Korea's total dairy imports recovered rapidly in the 1999 to 2000 period. In 2000, Korea imported 499,964 metric tons of dairy products (Table 6).

Korea usually did not import raw milk due to its seasonal surplus production. However, limited production facilities and unreliable supplies in recent years have encouraged raw milk importation (USDA-FAS, 2002). In South Korea, the main dairy imports are cheese, whey, and concentrated milk. Korea imported about $150 million of dairy products in 2001 (USDA-FAS, 2002). Cheese products accounted for a little more than one-half of all imports, whey accounted for 35 percent, and concentrated milk and cream accounted for ten percent on an annual basis (USDA-FAS, 2002).

Butter is purely a by-product of nonfat dry milk production in Korea. Korea imported very small amounts of butter in the 1990s. In 2000, Korea's butter imports were 947 metric tons (Table 6). Korea's cheese imports increased in the 1990s, mainly due to the lack of domestic production facilities and the increase in consumer demand for cheese products. Cheese imports increased at 156.6 percent during the period 1991 to 2000

(Table 6). In compliance with the Uruguay Round Agreement, Korea liberalized importation of dairy products. The liberalization had a big impact on cheese imports in the early 1990s. Cheese imports increased from merely 121 metric tons in 1991 to 11,074 metric tons in 1995 (Table 6). Cheese imports are expected to increase due to the increasing demand for a variety of cheese products.

Table 6. South Korea dairy imports, 1991 through 2000.

Year	Milk Equivalent	Butter	Cheese	Dry Skim Milk	Whey
		Metric Tons			
1991	289,771	2,508	121	12,944	17,290
1992	214,031	371	200	7,950	18,540
1993	268,589	514	265	12,660	18,648
1994	298,286	515	3,121	10,254	18,454
1995	344,911	498	11,074	7,044	22,776
1996	309,625	535	15,023	1,397	22,616
1997	343,470	1,153	19,199	1,927	23,224
1998	293,908	499	13,263	2,648	24,015
1999	402,429	896	21,285	2,842	30,619
2000	499,964	947	30,535	3,004	38,877
Average Annual Growth (%)					
1991-2000	8.2	11.3	156.6	-2.4	11.2

Source: FAO Statistical Databases, 2002.

Due to the seasonal surplus of raw milk, domestic processors increased nonfat dry milk production, and therefore caused a surplus of nonfat dry milk in recent years. Dry skim milk imports decreased in the 1990s, at an average -2.4 percent decrease per year. In 2000, Korea imported 3,004 metric tons nonfat dry milk (Table 6). In 2002, the price decreased to about $2 per kilogram. However, even the production cost was about $5.80

per kilogram, dairy farmers had no interests in reducing production of nonfat dry milk because of the government compensation (USDA-FAS, 2002). Korean food processors import nonfat dry milk and process it into infant formula to re-export to other countries, including Saudi Arabia, Taiwan, China and Bangladesh. Most of nonfat dry milk is imported from the EU, Australia and New Zealand (USDA-FAS, 2002).

Korea produces a very small amount of whey, and domestic producers could not satisfy the whey demand. The whey imports increased in the 1990s. The growth rate was about 11.2 percent every year. In 2000, Korea imported 38,877 metric tons of whey (Table 6). Due to the low price of whey powder, total whey imports are expected to increase further in the near future. Most of imported whey is used to produce animal feed (USDA-FAS, 2002).

Exports of Dairy Products from the U.S.

Korea did not import much butter in the 1990s. The US share of butter imports fluctuated, ranging from 4.6 to 82 percent in the 1990s (Table 7). Although imports of US cheese were benefiting from the increased consumption of cheese, the US share of cheese imports decreased in the1990s. The US dominated the Korean cheese market in the early 1990s. However, due to competition from Australia and New Zealand, the US share of cheese imports decreased to 8.7 percent in 2000 (Table 7). Despite the fact that the average price of imported US cheese was higher than Oceania countries, US cheese has a

good reputation and is likely to increase its market share slightly in the future (USDA-FAS, 2002).

Table 7. Selected dairy products the US exported to South Korea, 1991 through 2000.

Year	Butter[a]	% of All Butter Imports[b]	Cheese[a]	% of All Cheese Imports[b]	Non-Fat Dry Milk[a]	% of All NFDM Imports[b]	Whey[a]	% of Whey Imports[b]
	Mt	%	Mt	%	Mt	%	Mt	%
1991	116.4	4.6	227.0	187.6[c]	16.6	0.1	7,219.5	41.8
1992	167.5	45.1	139.5	69.8	199.7	2.5	3,671.1	19.8
1993	130.0	25.3	310.3	117.1[c]	16.6	0.1	3,797.9	20.4
1994	41.4	8.0	774.3	24.8	5.2	0.1	3,721.3	20.2
1995	93.3	18.7	3,034.6	27.4	171.4	2.4	5,761.1	25.3
1996	438.6	82.0	4,069.3	27.1	682.5	48.9	6,878.4	30.4
1997	86.3	7.5	4,818.6	25.1	308.8	16.0	10,369.2	44.6
1998	44.9	9.0	1,274.7	9.6	233.8	8.8	12,222.3	50.9
1999	76.3	8.5	1,605.3	7.5	37.0	1.3	11,755.7	38.4
2000	169.1	17.9	2,649.3	8.7	33.2	1.1	15,037.5	38.7

[a] Source: United States Department of Agriculture Foreign Agricultural Service, 2003.
[b] Data from Table 6.
[c] The reason for this discrepancy is unknown and needs further analysis.

The US share of nonfat dry milk imports was very small in the 1990s. Most nonfat dry milk was imported from the EU, Australia and New Zealand (USDA-FAS, 2002). There were no imports of nonfat dry milk from the US in 2001, due to the higher price of US products (USDA-FAS, 2002).

In terms of whey, South Korea imported whey mainly in the form of whey powder. Due to the price advantages of the US whey, the US dominated the whey market in the 1990s (Table 7). In 2000, the US exported 15,037.5 metric tons of whey to Korea, with

the market share of 38.7 percent (Table 7). However, in recent years, the competition has risen and the US share decreased slightly due to lower prices from Oceania countries.

Trade Policy and Tariff

South Korea strongly supports the continued development of the open multilateral trading system. Its economy has grown rapidly since Korea joined GATT in 1967. Since its accession into GATT, Korea has been fully committed to complying with multilateral rules and obligations, and maintaining a free and open market. Since it entered the WTO in 1995, the Korean Government has actively participated in discussions on the new round negotiations, and believes that an early launch of the new round is essential to the multilateral trading system (WTO, 2000).

Before 1994, South Korea maintained strict and arbitrary control of milk and dairy product imports. Under the Uruguay Round agreement signed in 1993, a majority of dairy products were liberalized in 1995. Despite liberalization, many dairy products are still restricted by tariff rate quotas (TRQ) and high tariff rates. Depending on whether the products are produced domestically or not, the restrictions are varied (USDA-FAS, 2002). As a result, the out of quota tariff rates were maintained at a high level for dry skim milk, whole milk powder, and butter. Since the freer trade in cheese and whey has little impact on the domestic dairy industry, there are fewer restrictions by the government (Song and Sumner, 1999).

According to the Uruguay Round agreement, the import quotas for dairy products will exist until 2004. Korea established a 23,000 metric ton quota for whey in 1995 that has increased by ten percent annually, with an in quota tariff of 20 percent and an over quota tariff of 99 percent that would be reduced to 49.5 percent in 2004. In 2002, the import quota for whey powder was 47,292.3 metric tons (20 percent tariff within quota and 59.4 percent tariff out of quota). The import quota for butter was 382.3 metric tons (40 percent tariff within quota and 91 per cent tariff out of quota). In 2002, the import quota for skim milk powder was 942.3 metric tons (20 percent tariff within quota and 184.8 percent tariff out of quota). The import quota for whole milk powder was 522.1 metric tons (40 percent tariff within quota and 184.8 percent tariff out of quota). In addition, South Korea fully liberalized imports of all types of cheese, infant formula, and other dairy food preparations in 1995, at a tariff of 40 percent, which will be reduced to 36 percent in 2004 (USDA-FAS, 2002).

SUMMARY

Over the last decade, the world total dairy imports increased. Since the establishment of the UR GATT in 1995, the share of EU dairy exports has declined, due in part to the impact of export subsidy limitations. As trade barriers and export subsidy levels are further phased down and world demand increases, the US is in a good position to gain greater access to the international markets. Although Australia and New Zealand are expected to be the primary gainers from the new trade environment, the US has the production capacity to be a major world supplier (Washington, 2000).

Hong Kong is an important trade partner of the US, even after returning to Chinese rule. Hong Kong's rapid economic growth and its growth in per-capita consumption of dairy products are evidences that dairy imports will be even greater in the future. Moreover, Hong Kong re-exports dairy products to other Asian countries, particularly China. Therefore, Hong Kong, together with China represents a big market for dairy imports.

Hong Kong, together with China is the fourth largest market for US dairy products. Increased trade with Hong Kong can further open the emerging market of China (Washington, 2000). The EU was the main supplier of dairy products to Hong Kong in the past. However, as the removal of the export subsidies in the EU countries, the price of exporting dairy products in those countries would become less competitive, and the Hong Kong dairy market will be open to potential suppliers as a result. Australia and New Zealand are expected to be the primary beneficiaries. However, the demand for

differentiated dairy products is increasing in Hong Kong. The US dairy products are perceived as high quality and received a premium as a result (Washington, 2000). If the US does take advantage of this unique opportunity, the US dairy exporters will be among the major beneficiaries together with Australia and New Zealand. In the future, the US dairy industry can ill afford not to have a major presence in Hong Kong, which will result in a major presence in Mainland China, the most populous nation in the world (USDEC, 2000).

Japan will likely become an even larger importer of dairy products if the growth in consumption and the decrease in self-sufficiency continue, Although Australia and New Zealand will likely to be the primary gainers of freer trade in Japan, there are growing opportunities for the US as well. The younger generation of Japanese consumer has a taste preference for the US high quality dairy products. This indicates that in Japan dairy markets, opportunities to increase exports lie primarily in differentiated dairy products such as cheese, ice cream and yoghurt. In terms of bulk commodities, there are opportunities for the US in the whey market because the US has dominated this market for a long time.

In South Korea, the growing popularity of western style food has increased the demand for dairy products. The per-capita consumption of dairy products has increased steadily and is expected to continue increasing. Local dairy processors shifted sources to imported dairy products as a result of the market liberalization under the Uruguay Round. Given market access, imported products are very competitive, compared to the high

production and distribution costs of domestically produced products. Cheese and milk powder have become less price competitive than imported products, so the South Korean dairy manufacturers have tended to focus on drinking milk, leaving more opportunities for the importation of dairy products (Austrade, 2002). The major opportunities for US exporters will be in ice cream, cheese, and whey powder.

US dairy products enjoy a good reputation; however, there are some difficulties that US exporters have to overcome. US Cheese prices are higher than those of Australia and New Zealand. In addition, South Korean consumers are very sensitive to food safety issues. Once a “food scare” rumor surfaces, the market for that food can be destroyed quickly (USDA-FAS, 1999).

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