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The Japanese cheese market after COVID-19 and relevant international trade agreements

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Introduction

1) According to the [a]European Commission's Milk Market Observatory, Japan ranks as the world's second-largest cheese importer, following only the United Kingdom (UK) (**Table 1**). Japan remained the largest cheese-importing country for 5 years from 2015 to 2019, when the UK's cheese "imports" were considered as EU internal deal and did not appear in import statistics. However, the UK joined the list of importers in 2020 after Brexit. Thanks to the early liberalization of natural cheese imports into Japan, although imports of other major dairy products (e.g., butter and skim milk powder) have been basically "closed" to protect the Japanese domestic industry and dairy farmers, cheese is the only major item whose consumption has been steadily growing in Japan among all dairy products.
2) However, the Japanese cheese industry has encountered difficulties in recent years; cheese consumption has begun to decline. Subsequently, the amount of cheese imported decreased by 13.6% during the [b]calendar year from 2020 to 2023 (**Figure 6**). Although the quantity of domestic natural cheese production is small, it increased by 14.7% during the [b]fiscal year from 2019 to 2022 (**Table 2**). These situations contradict the author's predictions 4 years ago: the author stated in previous writings that the Japanese cheese market would continue to grow steadily, mainly thanks to the favorable environment to be established through [c]international trade agreements. In addition, the author predicted a downward trend in the production of high-cost domestic natural cheese because it would fail in the face of intense competition against low-cost imported natural cheese, particularly in bulk products.
3) This study explores the reasons and background behind the gaps in the Japanese cheese market, which heavily depends on the different types of imported cheeses; more than 80% of the cheese consumed in Japan is imported. The author raised the following contributing factors:
   A. COVID-19 Pandemic
   B. Russia's Invasion of Ukraine
   C. Sharp Rise in International Cheese Prices
   D. Weakening of the Yen against the US Dollar and the Euro.

   These factors occurred over a relatively short period and severely damaged the Japanese cheese industry in the short term.
4) The author provides an updated estimate for future Japanese cheese market situations considering the latest difficult situations mentioned above. Accordingly, the author aims to offer advice and hints to people engaged in exporting and importing, domestic manufacturing, and sales and marketing businesses for future reference. In addition, this study examines the contribution of each trade agreement to the Japanese cheese market, where cheese manufacturers and suppliers

rely primarily on imported cheeses (raw material) with a limited supply of domestically manufactured natural cheese. Trade agreements provide improved market access for overseas cheese suppliers to Japan and much better conditions for users of imported cheese in Japan. This win–win situation would lead to increased imports at lower costs for Japanese cheese manufacturers, thereby increasing cheese consumption in Japan in the medium to long term.

5) Meanwhile, the demand for cheese has expanded in emerging countries. For example, the increase in per capita cheese consumption in China will significantly impact the supply and demand of the international cheese market. In such a case, Japanese cheese manufacturers would experience more difficulties in securing sufficient cheese supply from overseas suppliers for the local market. Therefore, Japanese cheese manufacturers should prepare for such challenges and take measures to procure sufficient cheese from the world market at stable prices based on long term strategies. This study focuses on the following two critical segments in the entire cheese supply chain (**Table 10**):
   - Overseas cheese manufacturers and exporters
   - Japanese importers and cheese users.
6) Through the examination of the diverse effects of economic partnership agreements (EPAs), this study provides some insights into market entry strategies for overseas cheese manufacturers and exporters, as well as procurement strategies for Japanese importers and cheese users, by maximizing the merits of EPAs. Moreover, EPAs will establish difficult situations for Japanese natural cheese manufacturers, particularly for bulk products. These products will face intense competition against imported cheese after the merits of [d]tariff quotas are completed. Therefore, this study intends to warn natural cheese manufacturers to prepare for competition and successfully cope with it through the positive development of new products in the alternative segment in the natural cheese category—table cheese. Their countermeasures are proposed to exploit new businesses to expand the Japanese cheese market rather than attempting to take shares from competitors through price cutting in a zero-sum game. According to this study, sharing the merits of EPAs among all stakeholders in the supply chain, including those in overseas countries, is essential to ensure the long term stable and sustainable growth of the Japanese cheese market.

Remarks:

[a] The European Commission is the European Union's executive arm and publishes Milk Market Observatory, which provides data about the leading importers of cheese in the world, as shown in **Table 1:**

Table 1 Top 5 Cheese Importers in 2023

Country	Quantity in *Metric Tonne
United Kingdom	433,403
Japan	251,913
Saudi Arabia	215,510
United States	193,532
****EU**	174,197

Source: Milk Market Observatory

Remarks: *Hereunder Metric tonne is abreviated as **MT**

** EU quantity includes trade with UK

[b] The Japanese fiscal year refers to the period from April to March of the following year. Calendar year: **CY**; fiscal year: **FY**.

[c] The author divided the international trade agreements regarding cheese into the following two categories in accordance with the volumes involved:

Four Major EPAs

- Japan–Australia Economic Partnership Agreement (**J–A EPA**), effective January 15, 2015.
- Comprehensive and Progressive Agreement for the Trans-Pacific Partnership (**CPTPP**), effective December 30, 2018.
- Japan–European Union Economic Partnership Agreement (**J–EU EPA**), effective February 1, 2019.
- Japan–US Trade Agreement (**J–US TA**), effective January 1, 2020.

Other EPAs

- Agreement on Free Trade and Economic Partnership between Japan and the Swiss Confederation (**J–Swiss EPA**), effective September 1, 2009.
- Japan–UK Comprehensive Economic Partnership Agreement (**J–UK CEPA**), effective January 1, 2021.

In this study, the above international trades agreements are sometimes combined and referred to as EPAs and the countries concerned are referred to as “EPA countries” for convenience.

[d] Tariff quota is abbreviated as T/Q (refer to Chapter 3, Section 3) regarding the T/Q system).

Chapter 1 Historical Background of Cheese in Japan and Recent Sweeping Changes in the Japanese Cheese Market

1) Historical Background of Cheese in Japan

Japan has a long history of producing cheese-like products. According to the *History of Cheese* by the Japan Dairy Industry Association (JDIA), a naturalized Japanese from the Korean peninsula brought milking technology around 560 AD. The first cheese-like product, called "So," was manufactured by boiling cow's milk, skimming the surface film, and coagulating it. "So" was later presented to the emperor by a naturalized Japanese descendant in 645 AD and became popular among aristocracies as a "perpetual youth and longevity medicine", as the old Japanese idiom goes. Moreover, it appeared in various imperial family ceremonies until around 1240. As power passed from aristocracies to warriors, "So" was losing its popularity. Moreover, JDIA mentioned in the same book that the subsequent cheese-like product was called "*Haku-gyu-raku*" meaning "nutritious and performance-enhancing food" in the 18th century, when the 8th Tokugawa Shogunate Yoshimune promoted dairying and imported three white cows (*Haku-gyu*) from India, whose number increased to 70 cows in 60 years. "*Haku-gyu-raku*" was manufactured by boiling white cow's milk, stirring it, adding sugar, drying it, and rounding it like dumplings. According to "Japanese Cheese History" by Megmilk Snow Brand Co., Ltd., the first "cheese" by current definition was manufactured in 1875 on an experimental basis in Hokkaido. Meanwhile, the first cheese was manufactured on a commercial scale in 1932 by a dairy cooperative, which is currently Megmilk Snow Brand Co., Ltd. Consumption of processed cheese, whose bland flavor, in contrast to the sharp and strong flavor of natural cheese, suited the Japanese palate, began to increase in the 1960s, particularly after the 1964 Tokyo Olympics. From around 1975, the consumption of natural cheese also began to grow, with pizza and cheesecake becoming popular. Pizza used various Gouda-type natural shredded or diced cheeses with good stretchability after melting, and cheesecake used natural cream cheese as the main raw material. According to statistics from the Ministry of Agriculture, Forestry and Fisheries (MAFF), the consumption of natural cheese exceeded that of processed cheese for the first time in history in 1988.

2) Recent Sweeping Changes in the Japanese Cheese Market

Although domestic natural cheese production had been declining for several years until FY 2019, this situation changed in FY 2020 when it started to increase as per below **Table 2**. Please refer to Chapter 2, Section 2 for the background of this reversed trend. The increasing trend of domestic natural cheese production can be a detriment to the imported natural cheese in the short term, especially when the total Japanese cheese consumption is decreasing.

Table 2 Domestic natural cheese production

Unit: MT

FY	2018	2019	2020	2021	2022
Total production quantity	40,776	40,257	42,364	45,336	46,162
of which for processed cheese manufacturing	20,851	19,402	21,107	21,585	23,281
of which for other purposes	19,925	20,855	21,257	23,751	22,881

Source: MAFF, Cheese supply-demand table

Negative factors hit the Japanese cheese industry one after another in a short period as follows:

A) COVID-19 Pandemic

Shortly after COVID-19 began to hit Japan in early 2020, a phenomenon known as "nesting demand" for home-use cheese products emerged, as people refrained from eating out and began to eat at home. **Figure 1** shows the sharp decline in household expenditure of two or more people on dining out and the conversely increased expenditure on cheese for home-use in March and April 2020 due to the COVID-19 outbreak. This graph, which covers 5 years from 2019 to 2023, was arranged by the Japan Imported Cheese Promotion Association (JICPA). Subsequently, the expenditure declined; however, it was higher than the prepandemic level, with regular monthly spikes in December. The total demand (volume) for cheese began to decline in FY 2021, as the decreased demand from institutional outlets (e.g., restaurants and hotels) exceeded the increased demand from retail outlets in Japan (**Figure 8**). Furthermore, COVID-19 disrupted the international supply chain (**Table 10**), primarily in the cheese-exporting countries, including milk collection from dairy farmers to factories, production at the factory, delivery to the ports, and shipments from the ports to Japan, because of cargo congestion and labor shortages as the workers had to stay home in fear of possible infection at each point. The delayed delivery put the Japanese cheese importers in a disadvantageous position. They had to purchase more quantities in a short period to ensure the constant arrival of cheese, which caused even further price hikes during a period of limited supply. The drastic increase in international cheese prices has led to reduced demand in the global market, including Japan. Consequently, international prices began to decline, following the usual pattern of price volatility. **Figure 2** shows a comparison of household monthly expenditures for cheese volume in grams and cheese unit price movement during the past 5 years, also arranged by JICPA, based on the research on household spending conducted by the Ministry of Internal Affairs and Communications. **Figure 2** shows a drastic increase in the unit price (yen/gram) and a sharp decrease in cheese volume (gram) consumers bought from CY 2022 onward. In other words, the Japanese cheese market is shrinking because of the increased retail price, although household spending is leveling off, as shown in **Figure 1**.

Figure 1 Monthly expenditure of cheese in comparison of eating out - household of 2 people or more

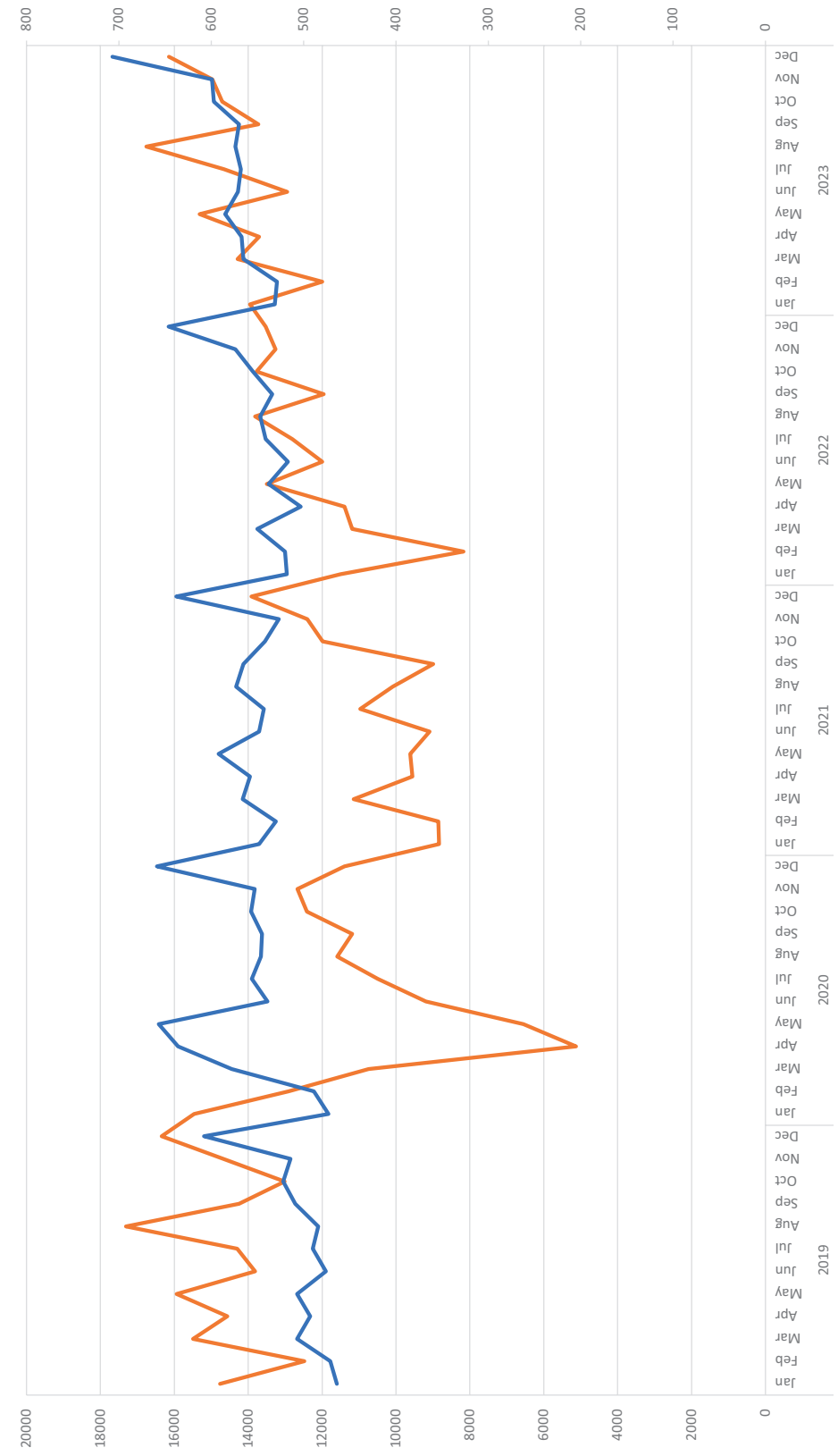


Figure 2 Monthly expenditure of cheese - unit price and volume, household of 2 people or more

Source: Japan Imported Cheese Promotion Association

B) Russia's Invasion of Ukraine

In addition to increasing grain prices for human consumption, the Russia–Ukraine war increased stock feed prices for dairy cows in cheese-exporting countries, which include grains. The cost increase for dairy farmers led to a hike in raw milk prices, which was passed on to cheese manufacturers as a cost increase factor, resulting in an increase in cheese export prices.

Referring to the situations discussed in A) and B), **Zoran Cekerevac and Milanka Bogavac (2023)** stated the following:

> *'The COVID-19 pandemic has caused a series of disruptions in production and transportation. After the reduction in mortality from COVID-19, trade, and tourism began to accelerate sharply, which resulted in increased demand, primarily for air transport. And then, there came a special intervention of Russia in Ukraine.'*
>
> *'The COVID-19 pandemic and the special military intervention of the Russian Federation in Ukraine have led to fundamental changes in world trade, and the circulation of goods and services. Considering the duration of the pandemic, we cannot say that the change occurred suddenly. And the special military operation was not a surprise but was anticipated much earlier.'*
>
> *'We will see drastic business and transport changes. Participants in trade and transport are forced to manage as best they know how to deal with the new situation. Further disruptions in supply chains can be expected.'*

Furthermore, **Ambrita Mishra et al. (2023)** tackled Russia's invasion of Ukraine from the viewpoint of food commodities and consumer price index (CPI) movement as follows:

> *The current geopolitical risk posed by the Russia–Ukraine war has significant implications on the stock markets and the commodities markets of several countries. Using monthly data from October 2020 to the present time period, we analyse the impact of Russia–Ukraine crisis on food inflation and stock market return volatility in the context of Asian countries, namely, India, China, Japan and Thailand with the help of regression analysis based on the OLS technique. Our main findings show us the impact of the Russia–Ukraine war on the food inflation to be visible in China and Japan whereas the war's effect on the stock markets of all the countries selected is shown to be insignificant.*
>
> *We suggest reducing food import dependency by strengthening domestic production and going for alternative food suppliers so as to not be affected by the international food prices that are subjected to the turmoil of war.*
>
> *Japan's food prices as shown in the CPI Food index were relatively low before the invasion took place. Food prices doubled from 2.4% in January 2022 to 4.04% in March 2022 with*

food inflation recorded at 3.31% in the month of the invasion (i.e., February 2022) and this trend of walking inflation continues till date. At present, Japan's food prices are at an all-time high i.e., at 7.96% in March 2023 while the lowest percentage of food inflation in Japan was recorded in April 2021 (−1.69%).

'OECD Trade Policy Papers' dated November 6th, 2023 discussed some aspects of Russian war that are applicable to the international cheese business as follows:

In the midst of the recovery from the COVID-19 pandemic, trade and economic growth face new challenges as the Russian Federation's large-scale war against Ukraine has increased uncertainty and tensions along supply chains and the People's Republic of China's trade performance has fallen short of expectations. Merchandise trade is recovering slowly and has been dampened by high and volatile commodity and energy prices, coupled with monetary tightening.

C) Sharp Rise in International Cheese Prices

Disruption to the international supply chain (Point A), cost increases on the part of dairy companies (Point B), global inflation, labor shortages, and the rising cost of sea freight have pushed international cheese prices to unprecedented levels. Below are excerpts from International Dairy Federation Bulletins 2021, 2022, and 2023 describing situations in A), B), and C) in chronological order:

*In **2020**, concerns over the COVID-19 pandemic highly affected markets, with significant fluctuations in commodity prices throughout the year. International prices of SMP, WMP, butter and cheese decreased between January and May 2020. Once lockdowns measures were eased in most parts of the world and demand partly recovered, prices continued to rise until the end of the year, ending close to the pre-COVID-19 levels.*

*In **2021**, prices of dairy commodities were still impacted by restrictive measures to fight COVID-19 in the first half of the year and were driven by the economic recovery, limited supply and overloaded supply chains in the second half of 2021. International prices of SMP, WMP and cheese all ended the year at the highest levels since 2014.*

At the beginning of 2022, the war in the Ukraine has disrupted trade and aggravated inflation for basic needs like energy, food and metals. Combined with a further decline of milk deliveries in the main exporting countries, it has led to a renewed increase in dairy commodity prices, reaching an all-time record level for many of them.

***2022** once again proved to be an unusual year: marking the third consecutive year of the COVID-19 pandemic and the start of the war between Ukraine and Russia. The supply situation in key exporting regions remained very challenging, primarily due to exorbitant*

cost levels at the beginning of 2022, which continued to escalate following the onset of the war in Ukraine. The outbreak of the Russia–Ukraine conflict led to record-high (cheese) price levels, resulting in decreased demand.

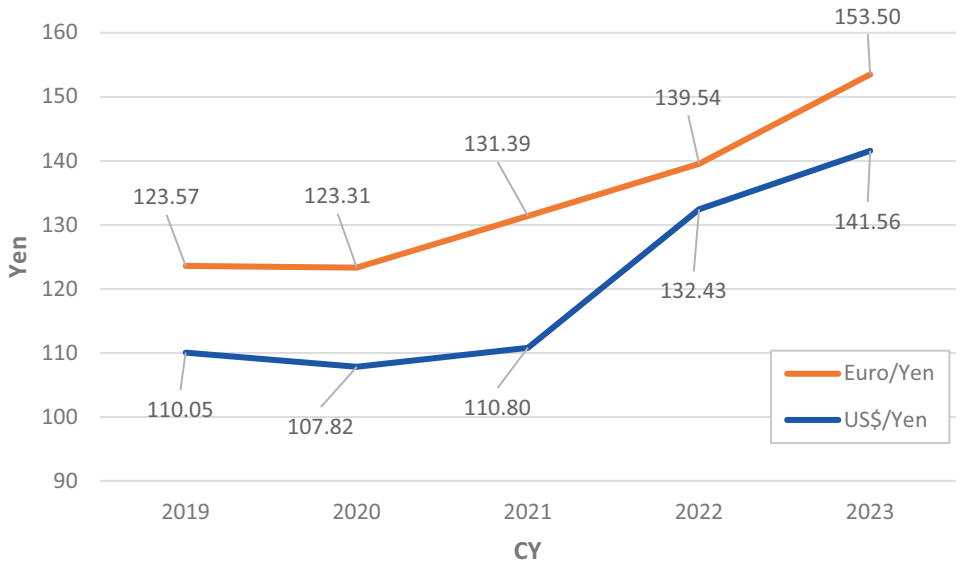
Despite significant fluctuations throughout 2022, dairy prices increased by 19.5%, marking the highest annual average on record since 1990.

D) Weakening of the Yen Against the US Dollar and the Euro

The author noted that the fourth factor that adversely affected the Japanese cheese market recently is the unfavorable movement of the yen's exchange rate against major foreign currencies. Factors A), B), and C) are global issues; however, factor D) is a Japan-specific issue.

Figure 3 shows the yearly average of telegraphic transfer selling (TTS): the benchmark exchange rate used to import foreign currency-denominated products. According to this study, interest rate differentials between the Japanese yen, the US dollar, and the euro were the primary factors contributing to the weakening of the yen. During this period, the yen depreciated by 31.3% and 24.5% against the US dollar and euro, respectively, from 2020 to 2023 on a yearly average basis. These unfavorable exchange rate movements raised costs and burdened the cheese manufacturers' business.

Figure 3 Yearly average of TTS movement



Source: Mitsubishi UFJ Research & Consulting Co., Ltd.

All these factors, occurring almost simultaneously, significantly impacted the Japanese cheese market. Japanese imported-cheese users were forced to raise the prices of their products in the

domestic market at least a few times, causing a downward trend in Japanese cheese consumption. In other words, the adverse effects of the above factors temporarily nullified the merits of the favorable environment created by international trade agreements during the past few years.

Chapter 2 Analysis of the Japanese Cheese Market

1) Position of Cheese Among Japanese Dairy Products

Cheese occupies a unique position among the major dairy products in Japan because, according to this study, the import of natural cheese was liberalized with a 35% import duty as early as 1951. However, all other major dairy products, such as butter and skim milk powder, have been heavily protected against imports. This situation remains unchanged even after tariffication resulting from the GATT Uruguay Round concluded in 1993 and CPTPP concluded in 2018, in which the average liberalization ratio of all member countries is more than 99%. As an automatic approval item, natural cheese imports grew mainly as a raw material for processed cheese manufacturing in the 1960s. Conversely, imports of other non-liberalized major dairy products were limited to the so-called "emergency imports" (or later called "additional imports") by (*)Agriculture and Livestock Industries Corporation (ALIC) when there were shortages of these items in the Japanese market.

Remarks: (*) ALIC is an incorporated administrative agency of MAFF.

As a result of the GATT Uruguay Round, Japan internationally promised to conduct Current Access imports of the "designated dairy products," milk equivalent to 137,000 tons per year. **Table 3** shows the items and quantities imported to Japan under the Current Access during the past 5 years, along with the coefficients for converting the quantities of these items into milk equivalent quantities. These items are also called national trading items. Japan has kept this promise every year since its inception in FY 1995, separately from the "additional imports." Cheese is not included in this scheme, partly because it is a "liberalized (non-ALIC) item" but mainly because ALIC can derive the "markups" from the imports of the "designated dairy products," which are used to promote Japanese domestic agriculture and livestock industries.

Table 3 Current Access Imports by ALIC

(Unit: MT)

FY	(*)SMP	Butter	Whey	Dairy spread	Butter oil
2018	15,306	—	4,962	96	193
2019	7,130	5,675	2,627	—	200
2020	750	8,810	3,121	—	152
2021	92	9,500	1,937	—	407
2022	321	9,788	1,577	—	236
Coefficient	6.48	12.34	6.84	12.34	15.05

Remarks: (*)Skimmed Milk Powder, hereunder abbreviated as SMP.

Source: ALIC.

The image of "markups" in the case of butter is shown in **Figure 4**. Even after 35% import duty, the domestic butter price level is higher than the imported butter, and ALIC obtains the difference between its sales price to domestic users and its costs after import duty.

Figure 4 Import of designated dairy products—markup.

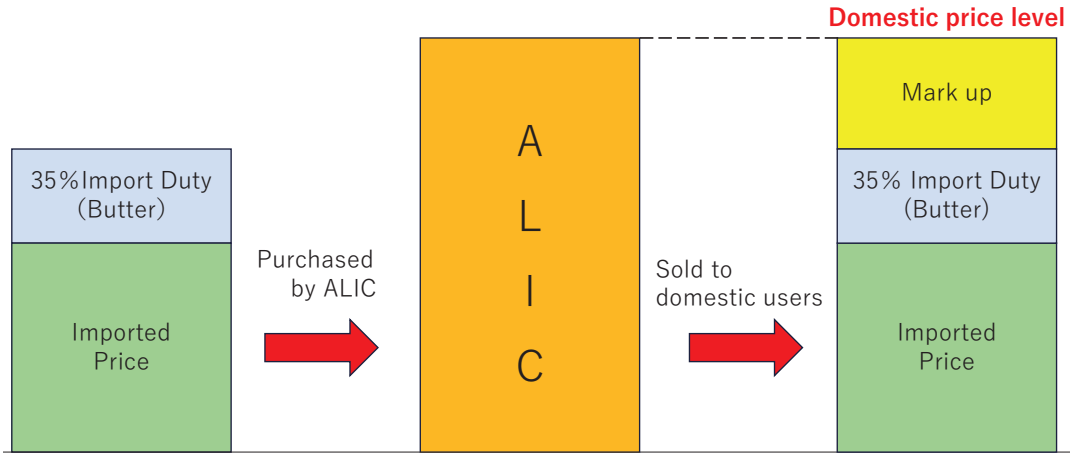


Figure 5 shows the breakdown of milk and dairy product consumption in Japan on a milk equivalent basis. Japan required approximately 12 million MT of milk and dairy products on a milk equivalent basis in FY 2022. Among imported dairy products, cheese held a 75.2% share, whereas only 6.0% of domestic milk was directed to cheese production. These situations indicate the following:

A) The Japanese cheese industry heavily depends on imported cheese.

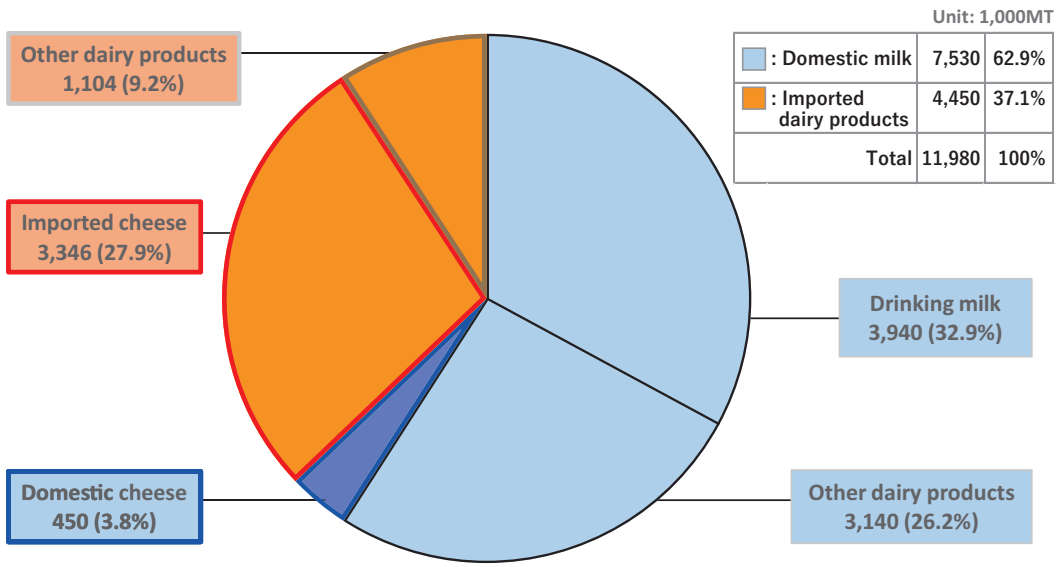
B) Other major dairy products, such as butter and SMP, are mainly manufactured domestically, and imports are limited. ALIC takes responsibility for the stable supply of these non-liberalized items

in Japan and conducts "additional imports" if and when necessary, as well as Current Access imports of "designated dairy products" (non-cheese items) every FY as promised internationally.

C) According to this study, the early liberalization of natural cheese imports in 1951 proved successful because of the following situations:

- Japan is now a large cheese importer, ranking second worldwide, as shown in **Table 1**. However, the domestic production of natural cheese is increasing. This is a win–win situation for overseas suppliers and Japanese cheese importers and users.
- With some fluctuations from time to time (**Figure 8**), Japanese cheese consumption has been increasing over the past 30 years.
- Imports of other major dairy products remain "closed," and consumption of these products has not grown as much as cheese.

Figure 5 Milk and dairy products consumption in Japan in FY 2022 on a milk equivalent basis.



2) Characteristics and Analysis of the Japanese Cheese Market

A) According to MAFF's cheese supply–demand table, one of the unique characteristics of the Japanese cheese market is the existence of a large share of processed cheese, which still represents approximately 40% of the total cheese consumption of 360,704 MT in FY 2022. Gouda and Cheddar flavors are popular in processed cheese, and Japan is witnessing intense competition to develop high-quality and tasty processed cheese. According to this study, this situation strikingly contrasts Western countries where natural cheese is a full-fledged real cheese. In such situations, the quality and specifications of raw material natural cheeses are critical for processed cheese

manufacturers. The president of a nondairy processed cheese company once stated that his company's vision was to develop processed cheese that is superior to and tastier than natural cheese.

B) **Table 4** shows the breakdown of home-use processed cheese by type in FY 2022.

Table 4 Home-use processed cheese consumption quantities by type (FY 2022)

Type	Quantity	Share
Slice	34,700 MT	46.9%
[a] Baby	18,900 MT	25.5%
[b] Portion	11,900 MT	16.1%
[c] Block	3,400 MT	4.6%
[d] Candy	2,000 MT	2.7%
Stick	500 MT	0.7%
[e] Others	2,600 MT	3.5%
Total	74,000 MT	100.0%

The above quantities were estimated by Teiin-Shokuryo-Shimbun, an industry paper, after a survey of processed cheese manufacturers.

Notes: [a] This is a small rectangular cheese (12–15 g/piece) usually eaten as a snack.

[b] Mainly six pieces in a round carton, named "6P cheese."

[c] A block of processed cheese in a carton, usually 148–400 g/block. Approximately 90% of this is a precut product from which small pieces can be easily removed by hand.

[d] A round candy shape wrapped individually.

[e] Animal-shaped fancy-type processed cheese for children, etc.

C) Processed cheese for institutional use (business use), which accounts for approximately 41% of the total processed cheese consumption according to JICPA data (**Table 8**), is manufactured in accordance with the specifications required by end users. For example, some end users in the bakery and snack segments require processed cheese that does not melt during production when certain levels of heat are applied. Some manufacturers have developed the so-called "non-melting type" of processed cheese in various shapes and sizes for institutional users. Another example is processed cheese with special functionality developed many years ago by a snack manufacturer to suit its product of "cheese sandwiched between fish (cod, etc.) sheets," which can be distributed at normal temperature without refrigeration.

D) Another characteristic of the Japanese cheese market is that manufacturers largely depend on imported natural cheese because of the limited supply and high prices of domestic natural cheese.

This situation has changed somewhat in recent years, as shown in **Table 2**. Although domestic natural cheese production is still small in total Japanese cheese consumption, it has increased for 3 consecutive FYs. Under the guidance of MAFF, Japanese dairy companies work to increase their production of natural cheese and lower prices as much as possible to compete with imported cheeses, particularly in terms of short shelf-life (fresh) products. Although a weak yen pushes farmers' cost of imported stock feed prices higher, it is in a sense a tailwind factor for domestic natural cheese manufacturers because it also increases imported cheese prices in yen. Cheese is considered one of the few items whose consumption is expected to grow steadily in Japan. Therefore, this study believes that domestic natural cheese manufacturers supported by MAFF will attempt to maintain natural cheese production for the time being. They prefer manufacturing natural cheese to other major dairy products, such as SMP and butter. One example of the commitment of domestic cheese manufacturers is that Tokachi cheese manufacturers in Hokkaido successfully obtained a geographical indication (GI) for Raclette cheese as a Japanese cheese. Although this GI protection is applicable only in Japan as of this writing, the author believes this is a remarkable achievement that spurs other domestic cheese manufacturers to develop their authentic natural cheeses.

E) In Japan, milk prices for natural cheese manufacturing are fixed for FY owing to negotiations between dairy farmers' organizations (10 designated regional dairy farmers' organizations exist in Japan) and cheese manufacturers in the same regions. Therefore, milk prices vary from region to region; however, Hokuren's milk price for cheese use, approximately ¥83/kg in Hokkaido, can serve as a benchmark price for other regions. Milk prices are set by usage; the highest price is for drinking, followed by fermented milk (e.g., yogurt), fresh cream, and dairy products other than cheese (e.g., SMP and butter). The lowest price is for cheese use. However, even when cheese receives the lowest milk price, it remains very high compared to milk prices in major dairy countries, which explains the high-cost of natural cheese manufactured in Japan. **Table 5** shows the international comparison of milk prices of major dairy countries in 2022.

Table 5 Milk prices of major dairy countries in 2022

Country	Milk price/100 Kgs in local currency	Equivalent to US$/100 Kgs
USA	US$55.87	55.87
EU-27 average	€ 50.21	52.87
Australia	A$70.12	48.64
NZ	NZ$77.44	49.10
Japan	¥10,420	79.24

Source: International Dairy Federation Bulletin 2023 Average producer milk prices

F) **Figure 6** shows the historical movement of the quantities of natural cheese and processed cheese imported to Japan. The total quantity of imported cheese increased 2.7 times from CY 1990 to CY 2020. However, it decreased by 13.6% from CY 2020 to CY 2023. **Figure 7** shows an international comparison of per capita cheese consumption. Although Japanese cheese consumption has grown in the long term, the difference in per capita consumption between Japan and major Western countries remains significant. According to this study, Japanese per capita cheese consumption still has significant potential for growth, and the difference will be narrowed to some extent in the future.

Figure 6 Natural cheese and Processed cheese imported quantities (CY basis, Unit: MT)

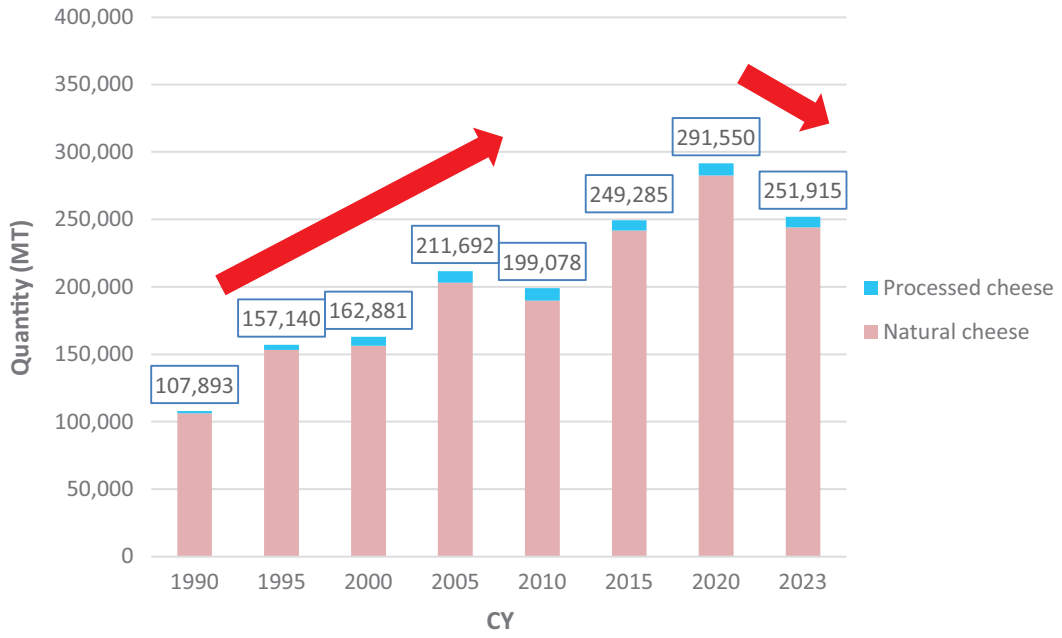
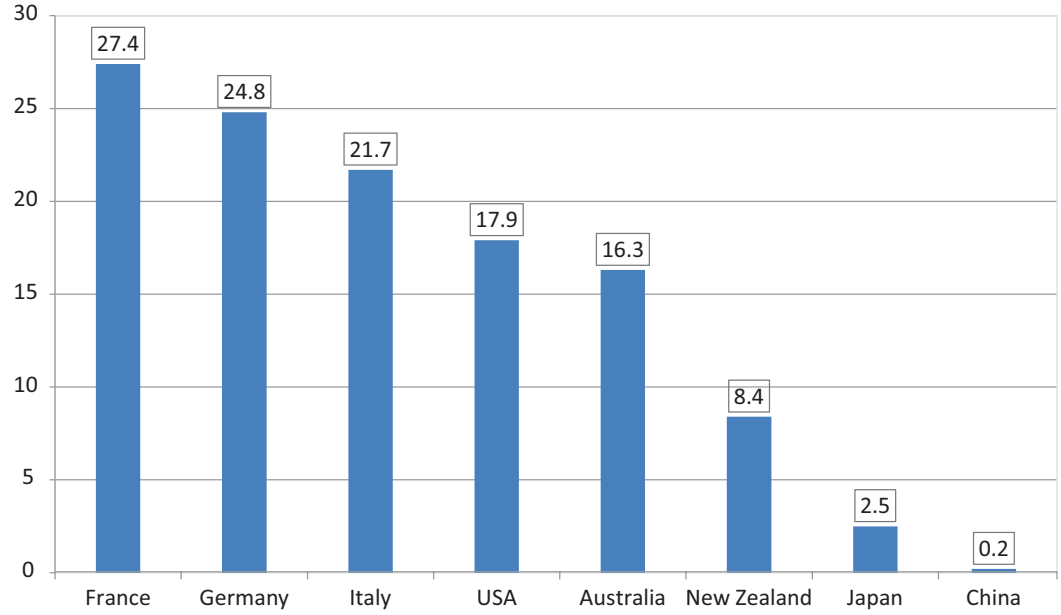


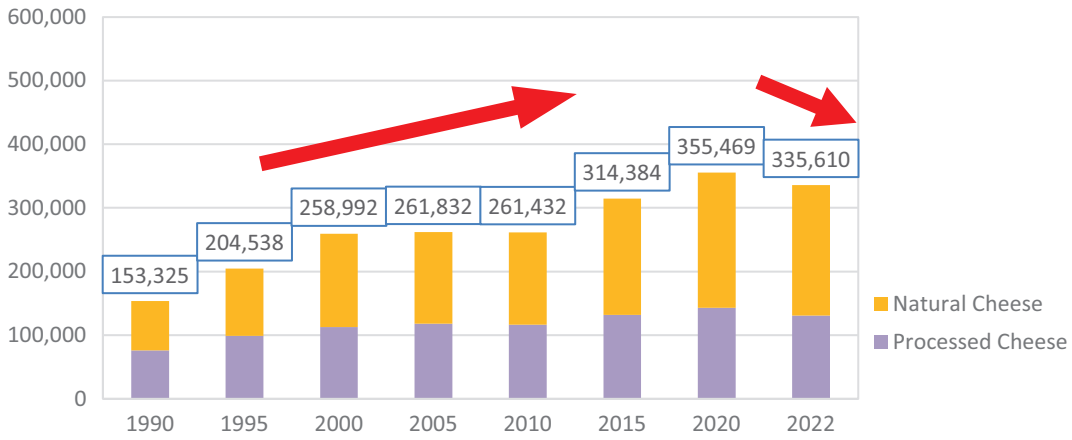
Figure 7 Per capita annual consumption of Cheese (Unit: kg)



Source: International Dairy Federation Bulletin 2023

G) **Figure 8** shows the total Japanese cheese consumption movement during the past 32 FYs. The upward trend of total Japanese cheese consumption was evident, and natural cheese consumption grew faster than processed cheese consumption until FY 2020. However, total cheese consumption decreased by 5.6% from FY 2020 to FY 2022 because of the reasons and background detailed in Chapter 1 (Section 2).

Figure 8 Japanese Cheese Consumption Trend



Source: MAFF cheese supply–demand table.

Table 6 shows Japanese natural cheese imports during CY 2023. New Zealand, Australia, and the USA are the top three supplying countries. However, Australia, the largest supplier to Japan for many years, conceded the position to New Zealand in CY 2022 because of the decline in milk production caused by drought and other natural factors. In contrast, New Zealand and the USA are increasing their shares. The "EU-27 Total" (**in bold**) took a 36.4% share in the total imported natural cheese category, although it lost some share to New Zealand and the USA in CY 2023. Given the advantages of **J–EU EPA** over other EPAs, this study expects EU suppliers to increase their share in the imported cheese category in the long term. Nevertheless, price competition is sometimes very severe in the Japanese market. By country, Holland is the largest supplier among the EU countries, followed by Germany and Denmark. Ireland, the third EU supplier to Japan, lost some shares and became the fourth supplier in CY 2023. The UK provided 248 MT, which is classified as a part of "Other non-EU-27 countries Total 2,760 MT" after Brexit in **Table 6**. Finally, Argentina exported 1,429 MT to Japan, which is also classified as "Other non-EU-27 countries Total 2,760 MT." Argentina has been losing its share as the gap widens between WTO and EPA tariff rates owing to the current absence of EPA between Japan and Argentina.

H) **Table 7** shows Japanese processed cheese imports during CY 2023. Denmark is the biggest "Powdered processed cheese" supplier. France is by far the biggest "Other processed cheese" supplier, with cream cheese in consumer packages and some in institutional cartons accounting for the largest part of the quantity. These cream cheese products are imported from France to Japan as processed cheese by definition rather than natural cheese. The total quantity of imported processed cheese decreased by 7.0% from the previous year to 7,804 MT in CY 2023.

Table 6 Natural Cheese Imports in CY 2023

(Unit: MT, %: Comparison with CY 2022)

Country	T/Q (*1)	%	Fresh (*2)	%	Powder	%	Blue-veined	%	Others (*3)	%	Total	%
New Zealand	18,282	89.5	12,387	102.1	0	0	0	0	30,321	118.6	60,990	101.6
Australia	4,109	55.3	30,498	86.2	0	0	0	0	16,714	103.9	51,321	87.1
USA	4,241	128.1	10,173	80.3	1,909	105.1	0	0	23,912	1070.2	40,235	96.6
Holland	232	75.2	0	0	5	25.9	0	0	27,319	97.0	27,556	96.7
Germany	1,954	81.8	427	29.2	0	0	54	160.5	12,273	75.1	14,708	72.7
Denmark	1,096	249.6	1,973	73.6	624	107.1	178	104.2	9,928	100.4	13,799	92.0
Ireland	3,441	72.6	0	0	0	0	0	0	9,545	120.8	12,986	81.1
Italy	30	48.7	7,390	100.9	647	142.2	588	107.4	2,883	103.6	11,538	97.5
France	105	153.6	1,838	123.7	0	0	113	109.8	2,237	111.3	4,293	94.7
Belgium	0	0	157	80.8	0	0	0	0	3,294	76.4	3,451	76.6
Other EU-27	0	0	0	0	0	0	0	0	475	9.8	475	14.2
EU-27 Total	6,858	133.5	11,785	86.1	1,276	121.4	933	108.7	67,954	115	88,806	87.7
Other non-EU-27	0	0	985	132.4	0	0	15	78.9	1,760	81.9	2,760	70.3
Total	33,490	85.5	65,828	108.5	3,185	109.0	948	106.4	140,661	112.5	244,112	91.9

(Source: Japan Customs, Import statistics)

(*1) T/Q quantities are “Global Tariff Quota” (1:2.5) only & include 2,368 MT of “Fresh” cheese, while “EPA Tariff Quotas” (1:3.5) are included in the respective categories such as Others, Fresh etc.

(*2) “Fresh” includes IQF Mozzarella, Mozzarella cheese, Cream cheese etc.

(*3) “Others” includes cheese for shredding, processed cheese manufacturing, cutting and grating such as Cheddar, Gouda, Parmigiano Reggiano, etc.

Table 7 Processed cheese imports in CY 2023

(Unit: MT, %: Comparison with FY 2022)

Country	Powdered Processed Cheese	Other Processed Cheese	Total
Denmark	2,063 (122.0%)		2,063 (122.0%)
USA	72 (64.1%)	28 (28.0%)	100 (91.7%)
Australia	58 (96.6%)		58 (96.6%)
France		5,373 (84.9%)	5,373 (84.9%)
Holland		81 (75.0%)	81 (75.0%)
NZ		94 (671.4%)	94 (671.4%)
Others	6 (133.3%)	29 (86.0%)	35 (116.2%)
Total	2,199 (118.2%)	5,605 (85.9%)	7,804 (93.0%)

(Source: Japan Customs, Import statistics)

Table 8 shows an analysis of Japanese cheese consumption based on the information provided by JICPA. Total cheese consumption (imported and domestic cheese) is categorized into "Family consumption" and "Business use" and, subsequently, "natural cheese" and "processed cheese" before specific usages. The applied yield increase ratio in this table is 16%, caused by the addition of water and emulsifier in manufacturing processed cheese from natural cheese. Based on ALIC's comprehensive survey of cheese users, **Tables 9-1** and **9-2** estimate the quantities of natural cheese consumption by variety and outlet, excluding natural cheese for processed cheese manufacturing. In addition, the estimated breakdown by origin of cheese (imported or domestic) are included in the tables.

Table 10 shows the typical cheese supply chain of imported cheeses to Japan, starting from raw milk-producing dairy farmers in overseas cheese-supplying countries, the chain of which crosses with the Japanese domestic milk and cheese supply chain before arriving at consumers. As mentioned in the introduction, the main focus of this study is cheese manufacturers and exporters in overseas countries and importers and cheese manufacturers in Japan (i.e., users of imported cheese and domestic cheese in the whole supply chain).

Table 8 Japanese cheese consumption structure in FY 2022

The Japan Imported Cheese Promotion Association

Source: MAF, Teikoku Inshokuryo Shinbunsha
Please cite clearly Teikoku Inshokuryo Shinbunsha for reference.

Red Source: Estimation by Teikoku Inshokuryo Shinbunsha
Green Unknown
Grey Source: The Supply Demand Table by the Ministry of Agriculture and Fisherie
Yellow Source: Estimated by 'Teikoku Inshokuryo Shinbunsha'
Figures include imported NC from January to December excluding domestically manufactured NC
Total figures not match those from the Supply and Demand Table due to diffrent period used
Unit: metric ton, % year-on-year
NC:Natural Cheese, PC:Proceseed Cheese

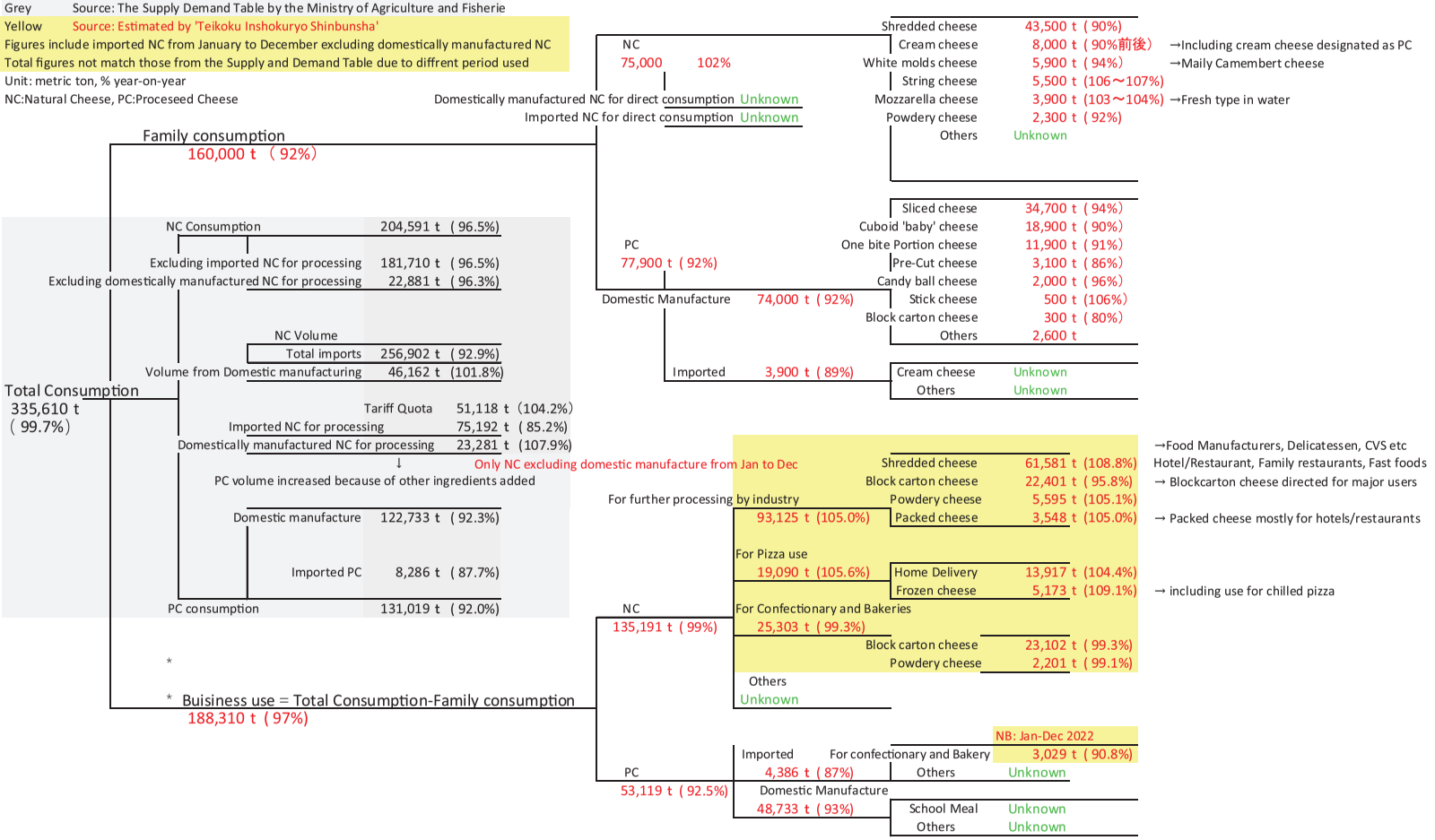


Table 9-1 Natural Cheese Consumption Quantities by item and outlet (Estimate)

Period: FY 2021

Quantities: Direct consumption only - i.e. excluding raw material natural cheese for processed cheese manufacturing

Source: ALIC

Varieties	User companies	Quantity (MT)	of which/imported	/domestic
Hard/semi-hard Cheeses for shredding 129,300 MT (*1)	Dairy manufacturers	24,500	19,300	5,200
	Bakeries	3,600	3,300	300
	Confectioneries	5,200	5,100	100
	Cooked foods	19,200	18,800	400
	Home-delivery pizza	23,200	23,100	100
	Restaurants/hotels	17,200	16,500	700
	Other institutional	1,300	1,300	0
	Home-use (retailers)	35,100	32,000	3,100
Subtotal		**129,300**	**119,400**	**9,900**
Other hard/semi-hard Cheeses 5,800 MT (*2)	Cooked foods	2,200	2,200	0
	Restaurants/hotels	1,400	1,300	100
	Other institutional	200	100	100
	Home-use (retailers)	2,000	1,700	300
Subtotal		**5,800**	**5,300**	**500**
Ultra-hard Cheeses 7,900 MT (*3)	Dairy manufacturers	500	500	0
	Bakeries	300	300	0
	Confectioneries	1,200	1,100	100
	Cooked foods	1,000	900	100
	Home-delivery pizza	100	100	0
	Restaurants/hotels	1,900	1,900	0
	Other institutional	1,000	1,000	0
	Home-use (retailers)	1,900	1,700	200
Subtotal		**7,900**	**7,500**	**400**
Camembert Cheese 5,700 MT	Dairy manufacturers	100	0	100
	Home-delivery pizza	200	100	100
	Restaurants/hotels	100	100	0
	Home-use (retailers)	5,300	500	4,800
Subtotal		**5,700**	**700**	**5,000**
Blue Cheese 900 MT	Cooked foods	200	200	0
	Other institutional	200	200	0
	Home-use (retailers)	500	500	0
Subtotal		**900**	**900**	**0**

Table 9-2 Natural Cheese Consumption Quantities by item and outlet (Estimate)

Varieties	User companies	Quantity (MT)	of which/imported	/domestic
Cream Cheese 56,200 MT	Dairy manufacturers	15,900	15,700	200
	Bakeries	3,400	3,100	300
	Confectioneries	12,700	11,500	1,200
	Cooked foods	10,300	9,800	500
	Home-delivery pizza	800	800	0
	Restaurants/hotels	3,500	2,400	1,100
	Other institutional	900	800	100
	Home-use (retailers)	8,700	7,600	1,100
Subtotal		**56,200**	**51,700**	**4,500**
Fresh · Mozzarella Cheese 5,600 MT (*4)	Dairy manufacturers	100	0	100
	Bakeries	100	0	100
	Confectioneries	800	0	800
	Cooked foods	100	0	100
	Home-delivery pizza	1,100	0	1,100
	Restaurants/hotels	1,500	200	1,300
	Other institutional	200	0	200
	Home-use (retailers)	1,700	200	1,500
Subtotal		**5,600**	**400**	**5,200**
Other Fresh Cheeses 10,600 MT (*5)	Dairy manufacturers	200	0	200
	Bakeries	200	0	200
	Confectioneries	800	200	600
	Cooked foods	200	100	100
	Home-delivery pizza	300	100	200
	Restaurants/hotels	800	0	800
	Home-use (retailers)	8,100	1,600	6,500
Subtotal		**10,600**	**2,000**	**8,600**
Others 400 MT (*6)	Home-use (retailers)	**400**	**400**	**0**
Total		**222,400**	**188,300**	**34,100**

Remarks: (*1) Gouda, Cheddar, Block type Mozzarella, etc.

(*2) Gouda, Cheddar for hors d'oeuvre etc.

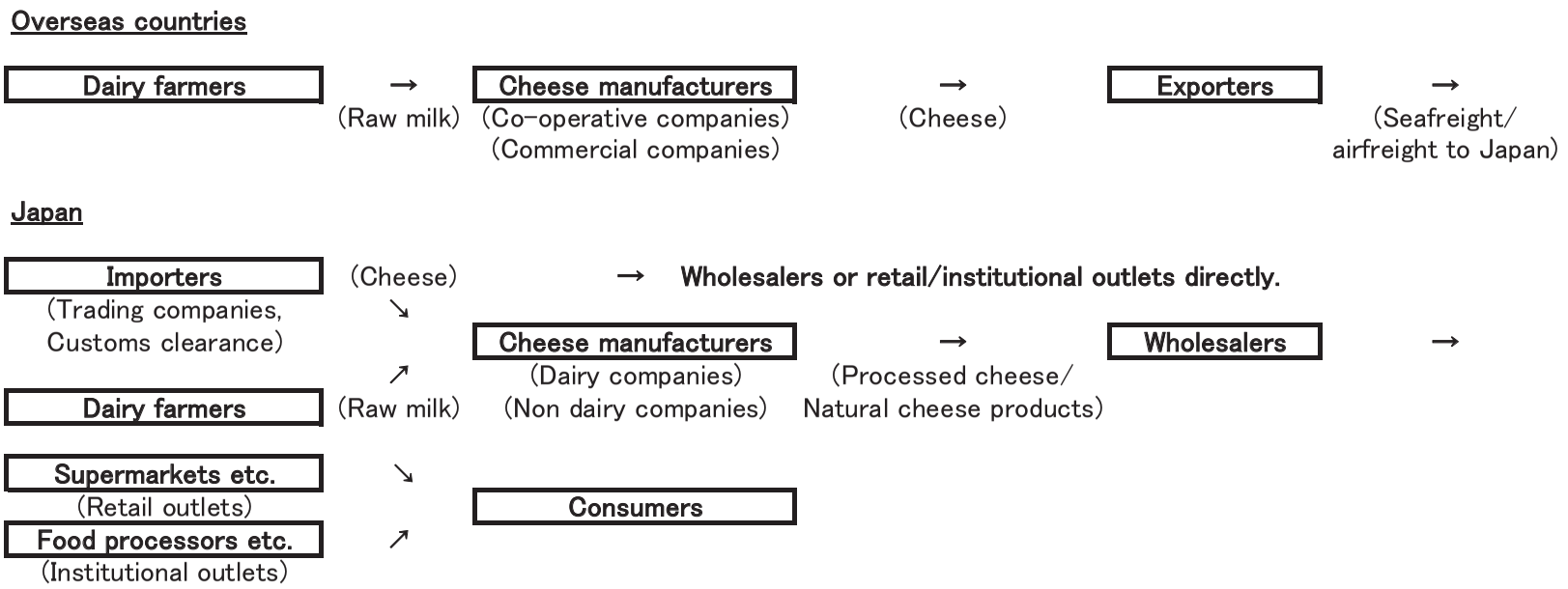
(*3) Parmesan etc.

(*4) Fresh Mozzarella type

(*5) Block type Mozzarella, Mascarpone, Cottage, Fromage blanc etc.

(*6) Wash type cheeses etc.

Table 10 Typical Cheese Supply Chain



Remarks: 1) Some cheese manufactures in overseas countries do not use exporters & export their cheese directly to the importers in Japan.

2) Some cheese manufacturers in Japan negotiate price/quantity/shipment etc. with overseas cheese manufacturers & either import directly from overseas manufacturers bypassing importers or ask importers to work as "agents" after all the terms of business are finalized.

3) Some wholesalers in Japan negotiate price/quantity/shipment etc. of cheese in consumer packs with overseas cheese manufacturers & import directly from overseas manufacturers bypassing importers/cheese manufacturers.

4) Some cheese manufacturers in Japan use their products for themselves and sell the remaining products to wholesalers and/or to retail/ institutional outlets directly.

Chapter 3 Japanese Cheese Import System

1) Tariff Rates for Cheese

Historically, the Japanese dairy farming and dairy products industries were highly protected by trade barriers. The domestic market was closed to the import of low-cost dairy products from abroad. However, cheese was an exception, and natural cheese imports were liberalized as early as 1951, with a 35% tariff rate. Processed cheese imports were liberalized in 1989 with a 40% tariff rate because of an agreement with the USA. The natural cheese tariff rate decreased gradually from FY 1995 to FY 2000 under the new WTO arrangements, and the current tariff rates for cheese are shown in **Table 11**.

Table 11 Natural cheese tariff rates

HS Code	Description	WTO Tariff rate
0406.10	Fresh [a] un-ripened or uncured cheese, including whey cheese & curd - 020 [b] Individual Quick Frozen Mozzarella cheese - 090 Mozzarella, Cagliata, Cream cheese etc.	 22.4% 29.8%
0406.20	- 200 Grated or powdered cheese (Parmesan etc.)	26.3%
0406.40	- 090 Blue-veined cheese & Other cheese containing veins produced by Penicillium roqueforti	29.8%
0406.90	- 090 Other cheese (Cheddar, Gouda, Camembert, etc.)	29.8%

Notes: [a] The definition of unripened or uncured cheese as "Fresh cheese" also refers to all ripening cheeses within the category of "Other cheese."

[b] Customs' defined IQF Mozzarella cheese as follows:

"A dry matter content, by weight, not exceeding 48%, chopped not exceeding 4 g per each, frozen, in immediate packings, of a content exceeding 5 kg."

Of the above items in the HS code line, a zero-tariff rate can be applied to natural cheese for processed cheese manufacturing under the T/Q System (1:2.5), as shown in **Table 12**.

Table 12 Natural cheese for processed cheese manufacturing under T/Q (1:2.5)

HS Code	Description	Temporary Tariff rate
0406.10	- 010 Fresh cheese (Mozzrella, Cream cheese, etc.)	Nil
0406.40	- 010 Blue-veined cheese	Nil
0406.90	- 010 Other cheese (Cheddar, Gouda, etc.)	Nil

The tariff rate applicable to processed cheese is shown in **Table 13**.

Table 13 Processed cheese tariff rate

HS Code	Description	WTO Tariff rate
0406.20	- 100 Powdered processed cheese	40.0%
0406.30	- 000 Othere processed cheese	40.0%

Source: Japan Customs Tariff Schedule.

Notes: The lower tariff rates and increased import ratio of 1:3.5 in tariff rate quota (TRQ) applicable under EPAs (discussed in Chapter 4) are separate from the above arrangements in **Tables 11–13**.

2) Roles of Japanese "Agents" (Distributors) in the Cheese Business

A) Some Japanese trading companies have dairy product "departments," "sections," "teams," or in-house "dairy companies" that deal with cheese as one of the main products. They play essential roles as "agents" and distributors of cheese, building bridges between overseas suppliers and Japanese users. In most cases, when bulk cheese purchase contracts are concluded with overseas suppliers, they have back-to-back contracts with Japanese users. Depending on the circumstances, agents can take risks, import some cheese without back-to-back contracts with users, and gradually sell the cheese to various users from their stocks. In addition, they maintain good relations with Japanese customers and overseas suppliers by providing the following services:

a. Negotiate and conclude cheese price negotiations with overseas suppliers on a spot or regular basis (e.g., every 3–6 months) based on users' requirements.
b. Provide information to users about overseas suppliers, including new products, milk intake situations, prospects for cheese supply-ability, and expected price movements.
c. Support communication between overseas suppliers and users, including interpreting work during suppliers' visits to customers and customers' visits to overseas suppliers.
d. As a part of customer services, agents sometimes take the initiative in developing new products through close communication with customers and overseas suppliers.

   Examples are as follows:

   - Middle-fat cream cheese (MFCC): fat content of 45% or more.
   - Cost-competitive cheese for shredding (usually Gouda types) with functionality such as good melting and stretchability after heat application.
   - Dry salted Gouda cheese that can be manufactured using a Cheddar cheese production line without brine salting.

e. Arrange and attend to users' inspections of the cheese upon arrival and provide feedback on the results to the overseas suppliers for future quality improvement.

f. Provide financing to users according to the following example:
   - Agents purchase cheese from overseas suppliers with 30-day usance from the time of shipment and remit the invoice amounts to overseas suppliers on due dates.
   - Following users' acceptance of the cheese quality after inspections on arrival, they start delivering cheese in small lots to users, which will be 60–120 days (average 90 days) after the time of shipment, and each time, they issue an invoice to the user with 60-day usance.
   - In other words, they pay invoice amounts to overseas suppliers within 30 days and receive payments from users at an average of 150 (90 + 60) days from the time of shipment, providing 120 (150 – 30) days of financing for users in the above case.

With such a system, agents usually receive their commissions from users, not from overseas suppliers. Therefore, agents are sometimes considered on the users' side rather than the suppliers' side, particularly during price negotiations.

The above case is mainly concerned with "commodity" bulk cheese. However, regarding table cheese, there are more cases of cheese manufacturers and wholesalers directly importing their own (retail-packed) products from overseas suppliers without engaging agents.

B) From the perspective of overseas suppliers, the merits of using Japanese trading companies are as follows:

g. Basically, overseas suppliers can receive some support and cooperation from agents; however, they do not have to pay any commissions to agents.

h. Selling a large quantity of cheese to a limited number of trading companies is more efficient than selling directly to various users in small lots.

i. Most trading companies are financially strong and stable; therefore, credit risks are minimal when selling large quantities (amounts) of cheese to trading companies at once.

j. Communicating with trading companies that are well-versed in international trade businesses is generally easier than communicating with users.

k. In the case of a quality claim of the commodity items, in which Japanese user A concluded that the received product is unusable for them because of their inspection, it may be possible for Japanese user B to use it with some discount, depending on the degree and contents of the quality problems. Trading companies that communicate with various users in day-to-day businesses can facilitate such resales if and when necessary.

l. Regarding technical matters, overseas suppliers tend to prefer direct communication between their technical staff and Japanese users' technical staff rather than through trading companies. In addition, users prefer direct communication on detailed technical issues with overseas suppliers rather than through trading companies.

3) Tariff Quota System

A) Global T/Q (1:2.5) and EPA T/Q (1:3.5) for processed cheese manufacturing: tie-in with domestic natural cheese

The T/Q system was introduced to protect and promote Japanese natural cheese production. According to this system, a processed cheese manufacturer can receive 2.5 duty-free T/Q for imported natural cheese against the use of 1 domestic natural cheese for manufacturing processed cheese. This T/Q is now called "global T/Q" against "EPA T/Q," which is available only in J–A EPA, with a unique ratio of 1 (domestic):3.5 (imported, duty-free) for processed cheese manufacturing.

From the viewpoint of Japanese processed cheese manufacturers, the issue is how long they can maintain the merit in using these T/Qs when the relevant tariff rates will decline to zero by 2033 under CPTPP, J–EU EPA, and J–US TA, which are outside T/Q arrangements. In this context, the author checked the following cases for cost comparison purposes, based on the hypothesis that the equilibrium point highly depends on the invoice price and exchange rate. For simplicity, all additional costs incurred in Japan (i.e., landing, delivery, storage, and interest) are excluded in the following calculations for domestic and imported natural cheeses:

Case A: "global T/Q" of 1:2.5 is used with no import duty; "global T/Q" can be used for any country's products.

Case B: J–A "EPA T/Q" of 1:3.5 is used with no import duty.

Case C: 100% imported cheese ex EPA countries with a 16.7% tariff rate in FY 2024 under CPTPP and J–US TA; (cf. 16.8% under J–EU EPA).

Case D: 100% imported cheese ex non-EPA countries with a 29.8% tariff rate.

Assumption 1

a. Imported natural cheese invoice price: US$4,700 per MT (hereunder PMT) CIF Japan main ports.
b. Exchange rate between US$ and yen (TTS): ¥150.
c. Domestic Cheddar cheese price: ¥900,000 PMT.

Note: The calculated cost comparison depends largely on the three variable factors mentioned above, and this study believes that the above figures relate to the average as of this writing. The cost comparison on the above assumptions is as follows:

Case A: (¥900,000 × 1 + US$4,700 × ¥150 × 2.5)/3.5 = ¥760,714 PMT.

Case B: (¥900,000 × 1 + US$4,700 × ¥150 × 3.5)/4.5 = ¥748,333 PMT.

Case C: US$4,700 × ¥150 × 1.167 (16.7% tariff rate) = ¥822,735 PMT.

Case D: US$4,700 × ¥150 × 1.298 (29.8% tariff rate) = ¥915,090 PMT.

The cost comparison shows that Case B (1:3.5 T/Q) is the most cost-competitive, followed by Case A (1:2.5 T/Q), Case C (EPA countries at a 16.7% tariff rate), and Case D (non-EPA countries at a 29.8% tariff rate).

Competitive order: B < A < C < D

In other words, processed cheese manufacturers have merits in using not only EPA T/Q under J–A EPA but also global T/Q under the above assumptions, compared to Cases C and D.

The cost comparison of processed cheese manufacturing based on Assumption 1 can be summarized as follows:

Table 14 Cost comparison of natural cheese for processed cheese manufacturing

	Domestic/Imported Cheese ratio	Relevant EPAs	Example of export country	Tariff rate	Cost comparison (Lowest 1, highest 4)
Case A	1/2.5 **(Global T/Q)**	[a]NA	Any country	Nil	2
Case B	1/3.5 **(EPA T/Q)**	J–A EPA	Australia	Nil	1
Case C	100% imported	J–US T/A	USA	16.7%	3
Case D	100% imported	[a]NA	Any country	29.8%	4

Note: [a]NA means not applicable or not available.

However, in the above **Assumption 1**, 'a. imported price' and 'b. exchange rate' are especially volatile. Therefore, **Assumption 2** is based on approximately 15% downward fluctuations applied to a. and b.:

Assumption 2

a. Imported natural cheese invoice price: US$4,000 PMT CIF Japan main ports.
b. Exchange rate between US$ and yen (TTS): ¥128.
c. Domestic Cheddar cheese price: ¥900,000 PMT.

The cost comparison is changed as follows:

Case A: (¥900,000 × 1 + US$4,000 × ¥128 × 2.5)/3.5 = ¥622,857 PMT.

Case B: (¥900,000 × 1 + US$4,000 × ¥128 × 3.5)/4.5 = ¥598,222 PMT.

Case C: US$4,000 × ¥128 × 1.167 (16.7% tariff rate) = ¥597,504 PMT.

Case D: US$4,000 × ¥128 × 1.298 (29.8% tariff rate) = ¥664,576 PMT.

Competitive order: C < B < A < D

The above results show that it is more cost-effective for processed cheese manufacturers to use 100% imported cheese (Case C) rather than 1:3.5 EPA T/Q under J–A EPA (Case B), not to mention the cases of 1:2.5 T/Q (Case A) and a 29.8% tariff rate (Case D).

B) EPA T/Q (1:3.5) for shredded cheese manufacturing: tie-in with domestic natural cheese

There is no "global T/Q" (1:2.5) for shredded cheese manufacturing. Therefore, the cost comparison under **Assumption 1** is only between "EPA T/Qs (1:3.5)" available under J–A EPA, TPP11 (Case E), and non-T/Q cases (Cases F and G) as follows:

Case E: "EPA T/Q (1:3.5)" is used with no import duty) under J–A EPA (Other cheese) and CPTPP (Mozzarella).

The cost is the same as in Case B under Assumption 1: ¥748,333 PMT.

Case F: 100% imported cheese ex EPA countries with a 16.7% tariff rate.

The cost is the same as in Case C under Assumption 1: ¥822,735 PMT.

Case G: 100% imported cheese ex non-EPA countries with a 29.8% tariff rate.

The cost is the same as in Case D under Assumption 1: ¥915,090 PMT.

The results proved that Case E (1:3.5 T/Q) is the most cost-competitive, followed by Cases F and G.

Competitive order: E < F < G

In other words, shred cheese manufacturers have merits in using EPA T/Q (1:3.5) under J–A EPA and CPTPP rather than Cases F and G.

The cost comparison for shredded cheese manufacturing based on Assumption 1 can be summarized as follows:

Table 15 Cost comparison of natural cheese for shred cheese manufacturing

	Domestic/Imported Cheese ratio	Relevant EPAs	Example of export country	Tariff rate	Cost comparison (lowest 1, highest 3)
Case E	1/3.5 **(EPA T/Q)**	TPP11	New Zealand	Nil	1
Case F	100% imported	J-EU EPA	Holland	16.7%	2
Case G	100% imported	NA	Any country	29.8%	3

Similar to processed cheese manufacturing, the competitive order changes under **Assumption 2** are as follows:

Case H: "EPA T/Q (1:3.5)" is used under J–A EPA (other cheese) and CPTPP (Mozzarella).

The cost is the same as in Case B under Assumption 2: ¥598,222 PMT.

Case I: 100% imported cheese from EPA countries with a 16.7% tariff rate.

The cost is the same as in Case C under Assumption 2: ¥597,504 PMT.

Case J: 100% imported cheese from non-EPA countries with a 29.8% tariff rate.

The cost is the same as in Case D under Assumption 2: ¥664,576 PMT.

The results prove that Case I is the most cost-competitive, followed by Cases H and J.

Competitive order: I < H < J

It is more advantageous for shredded cheese manufacturers under **Assumption 2** to use 100% imported cheese and pay 16.7% import duty than using domestic cheese and apply for duty-free 1:3.5 EPA T/Q under J–A EPA and CPTPP.

C) Inquiries into cost comparison results

An examination of the above cost comparisons yielded the following:

f. As of this writing, under Assumption 1, processed cheese manufacturers benefit from using "global T/Q" and "EPA T/Q." The merit of the latter is more significant than that of the former.

g. However, these merits diminish under the revised situations of Assumption 2, in which international cheese prices decrease and the yen strengthens against the US dollar. It becomes preferable for processed cheese manufacturers to use only imported cheese (no domestic cheese) and pay a preferential import duty of 16.7% under **CPTPP** and **J–US TA** (and 16.8% under **J–EU EPA**).

h. The same situation is noticed for shredded cheese manufacturers; there is an advantage in using "EPA T/Q" of J–A EPA and CPTPP under Assumption 1.

i. A scenario can arise under Assumption 2, in which international cheese prices decline and the yen strengthens against the US dollar. In such a case, the advantage diminishes, and it becomes more beneficial for shredded cheese manufacturers to use only imported cheese (no domestic cheese) and pay a preferential import duty of 16.7% under **CPTPP** and **J–US TA** (and 16.8% under **J–EU EPA**).

j. As the relevant preferential tariff rates continue to decrease under EPAs, there will be more cases in which processed cheese and shredded cheese manufacturers cannot find benefits in using high-cost domestic natural cheese under "global T/Q" and even "EPA T/Qs" for import duty exemption.

k. Although MAFF supports the Japanese dairy farmers and dairy products industry with some subsidies, Japanese raw materials natural cheese manufacturers must be as price-competitive as possible, as the relevant tariff rates decline further under EPAs.

l. In addition, these manufacturers should benefit from close communication with Japanese users in non-price areas such as quality improvement and development of user-specific new products. Accordingly, users can make more use of domestic natural cheeses for processed and shredded cheese manufacturing.

4) Preapproval system of Japan Customs for imported dairy products

There are some "delicate" items in dairy products, including cheese, with regard to its importation to Japan and tariff rate classifications. One example is MFCC, whose fat content is usually between

53% and 58%. The product is mainly used as a raw material for several purposes, such as ice cream, milk-based drinks, soup, and compound cream. The argument may arise about whether the product falls into the natural cheese category or not. Therfore, most importers of this product use the preapproval system to obtain some assurance from customs in advance that the product can be classified and cleared customs as natural cream cheese in the fresh cheese category. They inquire about the products in writing with the required data or documents and obtain the answers from customs in writing, effective for 3 years. Customs sometimes conduct tests on the arrival of the products to Japan without notice to check whether the products fall into the category of natural cream cheese.

Chapter 4 Contents of EPAs Regarding Cheese and Their Actual Utilizations

This chapter discusses the major EPAs' remaining tariff reduction schedules and Tariff Rate Quota (**TRQ**) movements. In addition, although this study examined the advantages for exporters and importers utilized in the past years, it checked the details of the import statistics based on customs clearance under the EPAs wherever possible. In particular, TRQs expire at the end of FY (i.e., March 31) and cannot be carried over to the following FY. Therefore, any remaining TRQ quantities will be null and void on March 31 every year. As all TRQs Japan negotiated and concluded regarding cheese are on an FY basis, this study checked the import statistics for each item by categorizing them into January to March and April to December periods. Accordingly, April to March quantities (i.e., quantities on a FY basis) could be obtained and compared with the TRQ quantities wherever applicable. This study aims to discuss the results of the actual utilization of EPAs in Chapter 5 (Section 2: Analysis of EPAs) in details.

EPA utilization can be divided into the following two cases:

- Cases with TRQs: as quota quantities are set, the utilized quantities and the utilization rates are calculated wherever possible.
- Cases without TRQs: these cases are just eliminations or reductions of tariff rates. There are no limits on imported quantities; only utilized quantities are presented where applicable.

Four major EPAs

1) "J–A EPA" (effective January 15, 2015)**.**

The close personal relationship between Australian Prime Minister Mr. Abbott and his Japanese counterpart Mr. Abe contributed to materializing J–A EPA as early as in 2015. In addition, J–A EPA primed the pump for the negotiations of other EPAs, such as TPP11 (later CPTPP), J–EU EPA, and J–US TA. The contents of J–A EPA regarding cheese are as follows:

A) (*)TRQ for raw material natural cheese for processed cheese manufacturing (1:3.5, tie-in with domestic natural cheese, in-quota duty-free)

The TRQ quantity increases from 4,000 MT in the first year to 20,000 MT in 20 years.

Table 16 shows the TRQ quantity increase schedule for the remaining years.

Applicable HS codes: 0406.10.090, 0406.40.090, and 0406.90.090 (WTO 29.8%).

Remarks: (*) EU–Japan EPA FACT SHEET mentioned below.

TRQs allow for a preference mentioned below within the limits of an annual import quantity (being the quota level) of the relevant goods:

- Immediate liberalization.
- Duty elimination spread over a period.
- Duty reduction spread over a period.

Table 16 J–A EPA TRQ quantity for processed cheese manufacturing

FY		Duty-free TRQ quantity
2024	11th year	12,100 MT
2025	12th year	12,900 MT
2026	13th year	13,700 MT
2027	14th year	14,500 MT
2028	15th year	15,300 MT
2029	16th year	16,100 MT
2030	17th year	16,800 MT
2031	18th year	17,600 MT
2032	19th year	18,400 MT
2033	20th year	19,200 MT
2034	21st year	20,000 MT

The duty-free TRQ quantity of 20,000 MT will be maintained from FY 2035 onward.

B) TRQ for shredded cheese manufacturing (1:3.5)

The TRQ quantity increases from 1,000 MT in the first year to 5,000 MT over 10 years. FY 2024 is the last year for this category, as shown in **Table 17**.

Applicable HS code: 0406.90.090 (Other cheese, WTO 29.8%).

Table 17 J–A EPA TRQ quantity for shred cheese manufacturing

FY		Duty-free TRQ quantity
2024	11th year	5,000 MT

The duty-free quantity of 5,000 MT will be maintained from FY 2025 onward.

Unfortunately, regarding the import statistics, obtaining the breakdown of A) and B) in terms of the TRQ quantity was not possible because there was one common HS code of 0406.90.090, which was not separable between the two. However, the total TRQ quantities of A) plus B) until FY 2024 and the utilized quantities under J–A EPA preferential tariff rates (available as of this writing) since its inception in **Table 18** will hopefully provide some images of the respective utilization situations. The utilization rate had been high until FY 2019; however, it declined in FY 2020 when COVID-19 hit the Japanese cheese market and recovered slightly in FY 2022.

Table 18 J–A EPA TRQ Utilization Rate - Total of processed cheese and shred cheese manufacturing

FY	[a]Total TRQ quantity	of which utilized	Utilization rate
2014	[b]836 MT	804 MT	96.2%
2015	6,400 MT	6,196 MT	96.8%
2016	7,600 MT	7,349 MT	96.7%
2017	8,800 MT	9,364 MT	[c]106.4%
2018	10,000 MT	10,489 MT	[c]104.9%
2019	11,200 MT	11,069 MT	98.8%
2020	12,300 MT	10,594 MT	86.1%
2021	13,500 MT	9,006 MT	66.7%
2022	14,700 MT	11,346 MT	77.2%
2023	15,900 MT	[d]N.A.	[d]N.A.
2024	17,100 MT	N.A.	N.A.

Notes: [a] The total TRQ quantities of A) and B) of the following HS codes (i.e., for processed cheese and shredded cheese manufacturing):
0406.10.090, 0406.40.090, and 0406.90.090

[b] Since J–A EPA started on January 15, 2015, the initial FY's TRQ quantity was calculated on a pro-rata basis. The same pro-rata basis applies to all FY 2014 quantities in the below Tables.

[c] There were statistical discrepancies in FYs 2017 and 2018 when the "utilized quantities" exceeded "TRQ quantities" in statistics.

[d] The import statistics for FYs 2023 and 2024 were unavailable as of this writing. The same situation applies to all FY 2023 onward quantities, below marked N.A.

C) TRQ for processed cheese, not grated or powdered

The TRQ quantity increases from 50 MT in the first year to 100 MT. The tariff rate is halved over

10 years. FY 2024 is the last year, as shown in **Table 19**, which also shows the customs-cleared quantity for each FY. However, to the best of our knowledge, there has been no customs-cleared quantity under the preferential tariff rate of J–A EPA in this category since its inception.

Applicable HS code: 0406.30.000 (WTO 40.0%).

Table 19 J–A EPA TRQ Utilization Rate - for processed cheese

FY	TRQ quantity	In quota tariff rate	of which Utilized	Utilization rate
2014	8 MT	38.2%	Nil	0%
2015	55 MT	36.4%	Nil	0%
2016	60 MT	34.5%	Nil	0%
2017	65 MT	32.7%	Nil	0%
2018	70 MT	30.9%	Nil	0%
2019	75 MT	29.1%	Nil	0%
2020	80 MT	27.3%	Nil	0%
2021	85 MT	25.5%	Nil	0%
2022	90 MT	23.6%	Nil	0%
2023	95 MT	21.8%	N.A.	N.A.
2024	100 MT	20.0%	N.A.	N.A.

The quantity of 100 MT and a tariff rate of 20.0% will be maintained from FY 2025 onward.

D) TRQ for grated or powdered cheese

The TRQ quantity increases from 200 MT in the first year to 1,000 MT, and the tariff rate is halved to 13.2% over 10 years. FY 2024 is the last year for this category. **Table 20** shows the customs-cleared quantities until FY 2022, which are the total quantities of the following HS codes.

Applicable HS code: 0406.20.100 (processed cheese, WTO 40.0%) and
0406.20.200 (natural cheese, WTO 26.3%)

Table 20 J–A EPA TRQ Utilization Rate - grated or powdered cheese

FY	TRQ quantity	In quota tariff rate	of which Utilized	Utilization rate
2014	33 MT	25.1%	31.8 MT	96.4%
2015	280 MT	23.9%	91.7 MT	32.8%
2016	360 MT	22.7%	92.9 MT	25.8%
2017	440 MT	21.5%	59.9 MT	13.6%
2018	520 MT	20.3%	101.6 MT	19.5%
2019	600 MT	19.2%	60.1 MT	10.0%
2020	680 MT	18.0%	55.8 MT	8.2%
2021	760 MT	16.8%	52.7 MT	6.9%
2022	840 MT	15.6%	65.8 MT	7.8%
2023	920 MT	14.4%	N.A.	N.A.
2024	1,000 MT	13.2%	N.A.	N.A.

The quantity of 1,000 MT and a tariff rate of 13.2% will be maintained from FY 2025 onward.

E) Reduction of tariff rate for Blue-veined cheese (the same as Blue cheese)

The tariff rate is reduced by 20% from 29.8% to 23.8% over 10 years. This reduction applies only to Blue-veined cheese, and no quantity restrictions are attached. However, to the best of our knowledge, there has been no quantity of customs clearance under the preferential tariff rate of J–A EPA in this category since its inception. FY 2024 is the last year for this category, as shown in **Table 21**.

Applicable HS code: 0406.40.090 (WTO 29.8%).

Table 21 J–A EPA Tariff rate reduction and utilization rate - Blue-veined cheese

FY	Tariff rate	Utilized quantity
2014	29.3%	Nil
2015	28.7%	Nil
2016	28.2%	Nil
2017	27.6%	Nil
2018	27.1%	Nil
2019	26.5%	Nil
2020	26.0%	Nil
2021	25.4%	Nil
2022	24.9%	Nil
2023	24.3%	N.A.
2024	23.8%	N.A.

The tariff rate of 23.8% will be maintained from FY 2025 onward.

2) "CPTPP" (Effective December 30, 2018)

The original agreement of the TPP was reached by the P4 countries in 2005: Brunei, Chile, Singapore, and New Zealand. Subsequently, other countries joined, including the USA and Japan. The expanded TPP was signed by 12 countries in 2016. However, after the USA withdrew from TPP in 2017, Japan took the initiative in subsequent negotiations among the remaining 11 countries, and CPTPP entered into force on December 30, 2018.

The latter part of the history is summarized in the following quote:

> *During the Obama administration, which needed Japan's participation to expand the TPP in the face of China's growing global and regional economic influence, Japan incorporated the TPP into its growth strategy and committed itself to sustaining US leadership during TPP negotiations by making necessary concessions on both the international and domestic fronts. By contrast, the Trump administration, with its strong propensity for bilateral deals to counter China's bid for global economic hegemony with the TPP withdrawal urged Japan to change its reactive stance and take a proactive role in TPP11 negotiations. (**Terada, 2019**)*

Australia and New Zealand are the major cheese-exporting countries of CPTPP to Japan (**Table 6**).

The UK applied to join CPTPP in early 2021. Following the negotiations and discussions among the member countries, the UK's application was formally approved in the ministerial meeting held in July 2023. CPTPP currently comprises 12 countries.

The contents of CPTPP regarding cheese are as follows:

A) Cream cheese (fat content of less than 45%)

29.8% import duty will be eliminated over 15 years.

Table 22 shows the tariff rate elimination schedule for the remaining years.

Applicable HS code: 0406-10-090 (WTO 29.8%).

Unfortunately, regarding the import statistics, the same HS code of 0406-10-090 applies to items in **E)** and **G)** below. Therefore, it was not possible to reach a breakdown of the customs-cleared quantity of this HS code by item, and no utilized quantities are available for **A)**, **E)**, and **G)**.

Table 22 CPTPP Tariff rate elimination - Cream cheese (fat content less than 45%)

FY		Tariff rate
2018	1st year	27.9%
2019	2nd year	26.0%
2020	3rd year	24.2%
2021	4th year	22.3%
2022	5th year	20.4%
2023	6th year	18.6%
2024	7th year	16.7%
2025	8th year	14.9%
2026	9th year	13.0%
2027	10th year	11.1%
2028	11th year	9.3%
2029	12th year	7.4%
2030	13th year	5.5%
2031	14th year	3.7%
2032	15th year	1.8%
2033	16th year	0.0%

The tariff rate of 0.0% will be maintained from FY 2034 onward.

B) "Other cheese," including Cheddar and Gouda and excluding Soft cheese (e.g., Camembert)

The tariff rate of 29.8% will be eliminated within 15 years.

Table 23 shows the tariff rate elimination schedule from the inception and the customs-cleared quantities under CPTPP preferential tariff rates available as of this writing.

Applicable HS code: 0406-90-090 (WTO 29.8%).

Table 23 CPTPP Tariff rate elimination and utilized quantity - "Other cheese."

FY		Tariff rate	Utilized quantity
2018	1st year	27.9%	8,998 MT
2019	2nd year	26.0%	45,641 MT
2020	3rd year	24.2%	38,767 MT
2021	4th year	22.3%	36,062 MT
2022	5th year	20.4%	32,342 MT
2023	6th year	18.6%	N.A.
2024	7th year	16.7%	
2025	8th year	14.9%	
2026	9th year	13.0%	
2027	10th year	11.1%	
2028	11th year	9.3%	
2029	12th year	7.4%	
2030	13th year	5.5%	
2031	14th year	3.7%	
2032	15th year	1.8%	
2033	16th year	0.0%	

The tariff rate of 0.0% will be maintained from FY 2034 onward.

C) Individual Quick Frozen (IQF) Mozzarella Cheese

The tariff rate of 22.4% will be eliminated within 15 years.

Table 24 shows the tariff rate elimination schedule for the remaining FYs.

Applicable HS code: 0406-10-020 (WTO 22.4%).

Table 24 CPTPP Tariff rate elimination - IQF Mozzarella

FY		Tariff rate	Utilized quantity
2018	1st year	21.0%	0
2019	2nd year	19.6%	1 MT
2020	3rd year	18.2%	69 MT
2021	4th year	16.8%	212 MT
2022	5th year	15.4%	488 MT
2023	6th year	14.0%	N.A.
2024	7th year	12.6%	
2025	8th year	11.2%	
2026	9th year	9.8%	
2027	10th year	8.4%	
2028	11th year	7.0%	
2029	12th year	5.6%	
2030	13th year	4.2%	
2031	14th year	2.8%	
2032	15th year	1.4%	
2033	16th year	0.0%	

The tariff rate of 0.0% will be maintained from FY 2034 onward.

D) Grated or Powdered Cheese

Tariff rates of 40.0% and 26.3% will be eliminated within 15 years respectively.

Tables 25 and **26** show the tariff rate elimination schedules with the customs-cleared quantity under the preferential tariff rate of CPTPP for each FY. However, to the best of our knowledge, there have been no customs-cleared quantities in these categories since their inception.

Applicable HS code for **Table 25**: 0406-20-100 (processed cheese, WTO 40.0%).

Table 25 CPTPP Tariff rate elimination and utilized quantity - Grated (processed cheese)

FY		Tariff rate	Utilized quantity
2018	1st year	37.5%	Nil
2019	2nd year	35.0%	Nil
2020	3rd year	32.5%	Nil
2021	4th year	30.0%	Nil
2022	5th year	27.5%	Nil
2023	6th year	25.0%	N.A.
2024	7th year	22.5%	
2025	8th year	20.0%	
2026	9th year	17.5%	
2027	10th year	15.0%	
2028	11th year	12.5%	
2029	12th year	10.0%	
2030	13th year	7.5%	
2031	14th year	5.0%	
2032	15th year	2.5%	
2033	16th year	0.0%	

The tariff rate of 0.0% will be maintained from FY 2034 onward.

Applicable HS code for **Table 26**: 0406-20-200 (natural cheese, WTO 26.3%).

Table 26 CPTPP Tariff rate elimination and utilized quantity - Grated (natural cheese)

FY		Tariff rate	Utilized quantity
2018	1st year	24.3%	Nil
2019	2nd year	23.0%	Nil
2020	3rd year	21.3%	Nil
2021	4th year	19.7%	Nil
2022	5th year	18.0%	Nil
2023	6th year	16.4%	N.A.
2024	7th year	14.7%	
2025	8th year	13.1%	
2026	9th year	11.5%	
2027	10th year	9.8%	
2028	11th year	8.2%	
2029	12th year	6.5%	
2030	13th year	4.9%	
2031	14th year	3.2%	
2032	15th year	1.6%	
2033	16th year	0.0%	

The tariff rate of 0.0% will be maintained from FY 2034 onward.

E) Cream Cheese (fat content of 45% or more)

The tariff rate of 29.8% is reduced by 10% immediately to 26.8% on a one-off basis and subsequently maintained from FY 2019 onward, as shown in **Table 27**.

Applicable HS code: 0406-10-090 (WTO 29.8%).

Table 27 CPTPP Tariff rate reduction - Cream cheese (fat content 45% or more)

FY	Tariff rate
Dec 2018 onwards	26.8%

F) Blue-veined Cheese (the same as Blue cheese)

The tariff rate of 29.8% will be halved within 10 years, and FY 2028 will be the last year.

Table 28 shows the tariff rate reduction schedule with the customs-cleared quantity under the preferential tariff rate of CPTPP for each FY. However, to the best of our knowledge, there has been no customs-cleared quantity in this category since its inception.

Applicable HS code: 0406-40-090 (WTO 29.8%).

Table 28 CPTPP Tariff rate reduction and utilized quantity - Blue veined cheese

FY		Tariff rate	Utilized quantity
2018	1st year	28,3%	Nil
2019	2nd year	27.0%	Nil
2020	3rd year	25.7%	Nil
2021	4th year	24.3%	Nil
2022	5th year	23.0%	Nil
2023	6th year	21.6%	N.A.
2024	7th year	20.3%	
2025	8th year	18.9%	
2026	9th year	17.6%	
2027	10th year	16.2%	
2028	11th year	14.9%	

The tariff rate of 14.9% will be maintained from FY 2029 onward.

G) Introduction of TRQ for raw material natural cheese for shredded cheese manufacturing (1:3.5, tie-in with domestic natural cheese, in-quota duty-free)

Applicable HS code: 0406-10-090 (Mozzarella Cheese, WTO 29.8%)

A shredded cheese manufacturer can receive 3.5 duty-free TRQ for imported fresh cheese (e.g., Mozzarella and Cagliata) for using 1 domestic natural cheese to manufacture shredded cheese. The maximum quantity of this TRQ is announced by MAFF for each FY, considering the supply–demand situation of natural cheese for shredded cheese manufacturing in Japan.

Table 29 shows the maximum quantities declared by MAFF and the customs-cleared quantities duty-free under CPTPP available to date.

Table 29 CPTPP TRQ for natural cheese for shredded cheese manufacturing (1:3.5)

FY		MAFF's announced TRQ quantity	(*) Utilized quantity	Utilization rate
2018	1st year	(**)	397 MT	(**)
2019	2nd year	2,380 MT	1,375 MT	57.8%
2020	3rd year	2,780 MT	2,717 MT	97.7%
2021	4th year	7,700 MT	3,512 MT	45.6%
2022	5th year	7,700 MT	4,953 MT	64.3%
2023	6th year	8,000 MT	N. A.	N. A.
2024	7th year			
2025	8th year			
2026	9th year			
2027	10th year			
2028	11th year			

Remarks: (*) According to import statistics, these quantities are customs-cleared as CPTPP fresh cheese TRQ quantities, the only TRQ in the fresh cheese category. According to this study, all these quantities are allocated for shredded cheese manufacturing (1:3.5).

Australia has supplied most of the quantities used, and New Zealand supplied the remaining small quantities.

(**) The duty-free quantity for the initial year was not announced.

H) Introduction of TRQ for processed cheese: Country-Specific Quota (CSQ) for Australia and New Zealand, respectively

A tariff rate of 40% will be eliminated over 10 years within the CSQ quantity.

Table 30 shows the tariff rate elimination schedule with increasing CSQ quantity. The customs-cleared quantity under the preferential tariff rate of CPTPP has been attached for each FY. However, to the best of our knowledge, there has been no customs-cleared quantity in this category except for 14 MT by New Zealand in FY 2022.

Applicable HS code: 0406-30-000 (WTO 40.0%).

Table 30 CPTPP CSQ and utilized quantity - processed cheese

FY	Year	Quantity	In-quota tariff rate	Utilized quantity
2018	1st year	100 MT	36.4%	Nil
2019	2nd year	105 MT	32.7%	Nil
2020	3rd year	110 MT	29.0%	Nil
2021	4th year	115 MT	25.4%	Nil
2022	5th year	120 MT	21.8%	14 MT (NZ)
2023	6th year	125 MT	18.1%	N.A.
2024	7th year	130 MT	14.5%	
2025	8th year	135 MT	10.9%	
2026	9th year	140 MT	7.2%	
2027	10th year	145 MT	3.6%	
2028	11th year	150 MT	0.0%	

Notes: the above quantities represent Australia and New Zealand, respectively. The TRQ quantity of 150 MT and in-quota tariff rate of 0.0% will be maintained from FY 2029 onward.

3) J–EU EPA (Effective February 1, 2019)

Economy and Trade (Economy) reported the outline of J–EU EPA as follows:

> *The EU–Japan Economic Partnership Agreement (EPA) entered into force on February 1st, 2019. The free trade agreement between the two powerful economic regions, which represent approximately 640 million inhabitants and almost 30% of the global economic output, regulates the exchange of goods, services, investments, and new intellectual property. Both Japan and the EU have a collection of regulations whose harmonization – additionally to the reduction of tariffs – is meant to facilitate trade.* (Jonas Rudsinske, March 30, 2019)

The contents of J–EU EPA regarding cheese are presented below.

A) Introduction of TRQ for the following seven items:

- MFCC (cream cheese fat content ≥ 45% 0406-10-090).
- [a]Mozzarella cheese (e.g., Cagliata, 0406-10-090).
- Blue-veined cheese (0406-40-090).
- Soft cheese (e.g., Camembert and Brie 0406-90-090).
- IQF Mozzarella cheese (0406-10-020).
- Powdered processed cheese (0406-20-100).
- Other processed cheese (0406-30-000).

The TRQ quantity for these seven items will increase from 20,000 MT in FY 2018 to 31,000 MT in FY 2033. Additionally, tariff rates within the TRQ quantity will be gradually reduced to zero

over the same period.

Note:[a] Block Mozzarella can be included in the same category as Cheddar and Gouda (HS code 0406-90-090, outside the TRQ quantity) instead of fresh cheese under 0406-10-090 (Chapter 5, Section 1, A). The exclusion of block Mozzarella from the TRQ quantity of up to 31,000 MT will be beneficial for EU suppliers, leaving more room for the remaining six items (**Table 31**). EU suppliers have a significant advantage in the tariff rate elimination schedule compared with competitor suppliers of other EPAs regarding "Fresh Mozzarella packed in water," the item of which has been excluded from other EPAs.

B) The tariff rates for the following three items will be eliminated within 15 years:

a. Cream cheese (fat content of less than 45%).
   Applicable HS code: 0406-10-090 (WTO 29.8%).
b. Other cheese (e.g., Cheddar and Gouda)
   Applicable HS code: 0406-90-090 (WTO 29.8%).
c. Grated or powdered cheese (WTO 26.3%).
   Applicable HS code: 0406-20-200 (natural cheese).

Table 31 covers above A) and B) with the tariff rate elimination schedules until FY 2033 when J–EU EPA schedules will be complete.

Note: There is a difference of 0.1% among EPAs in some years owing to the following agreed arrangements in their tariff rate calculations:

- CPTPP and J–US TA: dropping fractions to one decimal place.
- J–EU EPA: rounding off to one decimal place.

The above arrangements make J–EU EPA tariff rates the same as or 0.1% higher than those of CPTPP and J–US TA in some FYs.

Table 31 J–EU EPA - TRQ quantities and tariff rate elimination schedules for major items

Item	FY	2024 (7th)	2025 (8th)	2026 (9th)	2027 (10th)	2028 (11th)
	TRQ quantity	23,900 MT	24,600 MT	25,300 MT	26,100 MT	26,900 MT
	WTO					
***IQF Mozzarella (0406-10-020)**	22.4%	**12.6%**	**11.2%**	**9.8%**	**8.4%**	**7.0%**
***Mozzarella, *Cream cheese (fat≧45%), (0406-10-090)** ***Soft cheese (Camembert etc.) (0406-90-090)** ***Blue-veined cheese (0406-40-090)** Cream cheese (fat content‹45%) (0406-10-090) Other cheese (Cheddar, Gouda etc.) (0406-90-090)	29.8%	**16.8%**	**14.9%**	**13.0%**	**11.2%**	**9.3%**
Powdered natural cheese (0406-20-200)	26.3%	**14.8%**	**13.2%**	**11.5%**	**9.9%**	**8.2%**
***Powdered processed cheese (0406-20-100)** ***Other processed cheese (0406-30-000)**	40.0%	**22.5%**	**20.0%**	**17.5%**	**15.0%**	**12.5%**

Item	FY	2029 (12th)	2030 (13th)	2031 (14th)	2032 (15th)	2033 (16th)
	TRQ quantity	27,700 MT	28,500 MT	29,300 MT	30,200 MT	31,000 MT
	WTO					
***IQF Mozzarella (0406-10-020)**	22.4%	**5.6%**	**4.2%**	**2.8%**	**1.4%**	**0.0%**
***Mozzarella, *Cream cheese (fat≧45%), (0406-10-090)** ***Soft cheese (Camembert etc.) (0406-90-090)** ***Blue-veined cheese (0406-40-090)** Cream cheese (fat ‹45%) (0406-10-090) Other cheese (Cheddar, Gouda etc.) (0406-90-090)	29.8%	**7.5%**	**5.6%**	**3.7%**	**1.9%**	**0%**
Powdered natural cheese (0406-20-200)	26.3%	**6.6%**	**4.9%**	**3.3%**	**1.6%**	**0%**
***Powdered processed cheese (0406-20-100)** ***Other processed cheese (0406-30-000)**	40.0%	**10.0%**	**7.5%**	**5.0%**	**2.5%**	**0%**

Remarks: The 7 items (6 tariff lines) in bold letters marked * are subject to TRQ quantities.

*Mozzarella includes Cagliata.

Nos. in the brackets in FY lines show the years after the effectuation of the J–EU EPA.

Table 32 shows the TRQ utilization rate movement of J–EU EPA since its inception. J–EU EPA has a higher utilization rate than other EPAs.

Table 32 J–EU EPA TRQ Utilization Rate

FY	TRQ Quantity	of which utilized	Utilization rate
2018	3,333 MT	1,229 MT	36.9%
2019	20,600 MT	9,763 MT	47.4%
2020	21,200 MT	12,622MT	59.5%
2021	21,800 MT	18,477 MT	84.8%
2022	22,500 MT	18,262 MT	81.2%
2023	23,200 MT	N.A.	N.A.

Notes: It was agreed under **J–UK CEPA** after Brexit that UK cheese importers can apply for import certificates at preferential tariff rates, the same as those provided under J–EU EPA, for any TRQ quantity left over by J–EU EPA in each previous FY (Chapter 4, Section 6; J–UK CEPA).

C) Geographical Indication (GI)

The EU insisted on introducing GI protection during the J–EU EPA negotiations, and GI was agreed upon between the governments of the EU and Japan. Since their inception in 2019, negotiations between both governments have been held every year on additional items. However, UK items were delisted because of Brexit in 2020. **Table 33** shows 39 EU cheese items subject to GI protection in Japan as of February 29, 2024.

Table 33 EU Cheese items protected by GI

Country	GI Cheese item
Austria (1)	Vorarlberger Bergkase
Denmark (1)	Danablu
France (12)	Brie de Meaux, Camembert de Normandie, *Comte*, Emmental de Savoie, Reblochon/Reblochon de Savoie, *Roquefort*, Laguiole, *Abondance*, Pont-l'Eveque, Epoisses, Mont d'Or/Vacherin du Haut-Doubs, Raclette de Savoie
Greece (3)	Feta, Kasseri, Kefalograviera
Holland (2)	Edam *Holland*, Gouda *Holland*
Italy (11)	*Asiago, Fontina*, Gorgonzola, *Grana Padano*, *Mozzarella di Bufala Campana, Parmigiano Reggiano*, Pecorino Romano, *Pecorino Toscano*, Provolone Valpadana, *Taleggio*, Pecorino Sardo,
Portugal (1)	Queijo S. Jorge
Romania (1)	Telemea de Ibranessti
Spain (7)	Idiazabal, Mahon-Menorca, *Queso Manchego*, Arzua-Ulloa, Queso de Valdeon, Queso de Murcia al vino, San Simon da Costa
Total (39)	

Remarks: 1. A total of 13 items in italics can be cut or sliced, etc. under these names for consumption in Japan until January 31, 2026.

2. Regarding the underlined 10 names and "Parmesan" in relation to "Parmigiano Reggiano," there is no problem with the use of these total 11 single names in Japan so far as they do not cause misapprehension or mix-ups with authentic products.

3. Some cheese items have GI specifications that stipulate that the processing and packaging of the cheese must be performed at the place of production.

4) J–US TA (Effective January 1, 2020)

J–US TA was negotiated and agreed upon in a relatively short period based on the contents of the old TPP (currently CPTPP) before the withdrawal of the USA. The following quote describes the background of this agreement:

> *Over the time that has passed since the United States exited the TPP, the countries remaining in the free trade zone received significant advantages. For example, access to the Japanese market has become much easier for major agricultural exporters such as Australia, Canada and New Zealand. The Economic Partnership Agreement (EPA) between Japan and the EU entered into force in February 2019. This led to the situation when American manufacturers are already at a disadvantage, and it will not be easy for them to withstand the competition for the Japanese market, even if the new trade agreement enters into force in 2020.* (Chudinova, 2020)

The contents of J–US TA with respect to cheese are the same as those of CPTPP, except that there is no EPA T/Q for natural cheese for shredded cheese manufacturing (1:3.5) in J–US TA (Chapter 4, 2-G in CPTPP). Although J–US TA began in January 2020 (FY 2019, compared with CPTPP from December 2018, FY 2018), the same tariff rate as in CPTPP applies to each item/year under J–US TA. Hence, the tariff rate elimination/reduction schedules of the following items are the same as those of CPTPP. Therefore, the same table numbers found in CPTPP with "A" attached at the end of the numbers will apply to the corresponding items in J–US TA.

A) Tariff rates will be eliminated for the following items:

a. Cream cheese (fat content of less than 45%).

   Applicable HS code: 0406-10-090 (WTO 29.8%).

   Table 22A shows the tariff rate elimination schedule.

   Unfortunately, regarding import statistics, because the same HS code of 0406-10-090 applies in **B)-**e., it was not possible to reach the breakdown of the customs-cleared quantity of this HS code by item. Therefore, no quantities are available for cleared customs under the preferential tariff rates of J–US TA for **Tables 22A** and **27A**.

Table 22A J–US TA Tariff rate elimination: cream cheese (fat content of less than 45%)

FY		Tariff rate
2019	1st year	26.0%
2020	2nd year	24.2%
2021	3rd year	22.3%
2022	4th year	20.4%
2023	5th year	18.6%
2024	6th year	16.7%
2025	7th year	14.9%
2026	8th year	13.0%
2027	9th year	11.1%
2028	10th year	9.3%
2029	11th year	7.4%
2030	12th year	5.5%
2031	13th year	3.7%
2032	14th year	1.8%
2033	15th year	0.0%

   The tariff rate of 0.0% will be maintained from FY 2034 onward.

b. Other cheese: Cheddar, Gouda, and so forth, excluding soft cheese (e.g., Camembert)

Table 23A shows the tariff rate elimination schedule and the customs-cleared quantity under the preferential tariff rate of J–US TA for each FY available as of this writing.

Applicable HS code: 0406-90-090 (WTO 29.8%).

Table 23A J–US TA tariff rate elimination and utilized quantity: "Other cheese"

FY		Tariff rate	Utilized quantity
2019	1st year	26.0%	3,073 MT
2020	2nd year	24.2%	19,776 MT
2021	3rd year	22.3%	19,707 MT
2022	4th year	20.4%	24,062 MT
2023	5th year	18.6%	N.A.
2024	6th year	16.7%	
2025	7th year	14.9%	
2026	8th year	13.0%	
2027	9th year	11.1%	
2028	10th year	9.3%	
2029	11th year	7.4%	
2030	12th year	5.5%	
2031	13th year	3.7%	
2032	14th year	1.8%	
2033	15th year	0.0%	

The tariff rate of 0.0% will be maintained from FY 2034 onward.

c. IQF Mozzarella cheese

Table 24A shows the tariff rate elimination schedule and the customs-cleared quantity under the preferential tariff rate of CPTPP for each FY available as of this writing.

Applicable HS code: 0406-10-020 (WTO 22.4%).

Table 24A J–US TA Tariff rate elimination and utilized quantity - IQF Mozzarella cheese

FY		Tariff rate	Utilized quantity
2019	1st year	19.6%	1,459 MT
2020	2nd year	18.2%	8,671 MT
2021	3rd year	16.8%	8,634 MT
2022	4th year	15.4%	9,025 MT
2023	5th year	14.0%	N.A.
2024	6th year	12.6%	
2025	7th year	11.2%	
2026	8th year	9.8%	
2027	9th year	8.4%	
2028	10th year	7.0%	
2029	11th year	5.6%	
2030	12th year	4.2%	
2031	13th year	2.8%	
2032	14th year	1.4%	
2033	15th year	0.0%	

The tariff rate of 0.0% will be maintained from FY 2034 onward.

d. Grated or powdered cheese

Table 25A shows the tariff rate elimination schedule and the customs-cleared quantity under the preferential tariff rate of CPTPP for each FY available as of this writing.

Applicable HS code: 0406-20-100 (processed cheese, WTO 40.0%)

Table 25A J–US TA tariff rate elimination and utilized quantity: grated (processed cheese)

FY		Tariff rate	Utilized quantity
2019	1st year	35.0%	Nil
2020	2nd year	32.5%	38 MT
2021	3rd year	30.0%	37 MT
2022	4th year	27.5%	28 MT
2023	5th year	25.0%	N.A.
2024	6th year	22.5%	
2025	7th year	20.0%	
2026	8th year	17.5%	
2027	9th year	15.0%	
2028	10th year	12.5%	
2029	11th year	10.0%	
2030	12th year	7.5%	
2031	13th year	5.0%	
2032	14th year	2.5%	
2033	15th year	0.0%	

Table 26A shows the tariff rate elimination schedule and the customs-cleared quantity under the preferential tariff rate of J–US TA for each FY available as of this writing.

Applicable HS code: 0406-20-200 (natural cheese, WTO 26.3%).

Table 26A J–US TA tariff rate elimination and utilized quantity: grated (natural cheese)

FY		Tariff rate	Utilized quantity
2019	1st year	23.0%	407 MT
2020	2nd year	21.3%	2,143 MT
2021	3rd year	19.7%	2,085 MT
2022	4th year	18.0%	1,784 MT
2023	5th year	16.4%	N.A.
2024	6th year	14.7%	
2025	7th year	13.1%	
2026	8th year	11.5%	
2027	9th year	9.8%	
2028	10th year	8.2%	
2029	11th year	6.5%	
2030	12th year	4.9%	
2031	13th year	3.2%	
2032	14th year	1.6%	
2033	15th year	0.0%	

B) Tariff rates will be reduced for the following items:

e. Cream cheese (fat content of 45% or more).

10% immediate reduction; subsequently, the rate will be maintained, as shown in **Table 27A**.

Applicable HS code: 0406-10-090 (WTO 29.8%).

Table 27A J–US TA tariff rate reduction: cream cheese (fat content of 45% or more)

FY	Tariff rate
Dec 2019 onwards	26.8%

f. Blue-veined Cheese

Applicable HS code: 0406-40-090 (WTO 29.8%).

50% reduction in 10 years; subsequently, the rate will be maintained.

Table 28A J–US TA tariff rate reduction and utilized quantity: Blue-veined cheese

FY		Tariff rate	Utilized quantity
2019	1st year	27.0%	Nil
2020	2nd year	25.7%	Nil
2021	3rd year	24.3%	Nil
2022	4th year	23.0%	Nil
2023	5th year	21.6%	N.A.
2024	6th year	20.3%	
2025	7th year	18.9%	
2026	8th year	17.5%	
2027	9th year	16.2%	
2028	10th year	14.9%	

Note: **Table 29A** is skipped because there is no "TRQ for natural cheese for shredded cheese for manufacturing (1:3.5)" in J–US TA.

C) The introduction of TRQ for Processed Cheese: CSQ for the USA

Applicable HS code: 0406-30-000 (WTO 40.0%).

The same CSQ as in CPTPP for Australia and New Zealand will apply to the USA under J–US TA as per **Table 30A**.

Table 30A J–US TA tariff rate elimination and utilized quantity: processed cheese

FY	Year	Quantity	In-quota tariff rate	Utilized quantity
2019	1st year	105 MT	32.7%	Nil
2020	2nd year	110 MT	29.0%	Nil
2021	3rd year	115 MT	25.4%	Nil
2022	4th year	120 MT	21.8%	Nil
2023	5th year	125 MT	18.1%	N.A.
2024	6th year	130 MT	14.5%	
2025	7th year	135 MT	10.9%	
2026	8th year	140 MT	7.2%	
2027	9th year	145 MT	3.6%	
2028	10th year	150 MT	0.0%	

The quantity of 150 MT and in-quota rate of 0.0% will be maintained from FY 2029 onward.

Other EPAs:

5) "J–Swiss EPA" (Effective September 1, 2009)

The TRQ quantity for Emmenthal and other Swiss-type cheeses increased from 600 MT in FY 2009 to 1,000 MT in FY 2019. The quantity of 1,000 MT has been maintained from FY 2020 onward. **Table 34** shows the quantities imported to Japan under the "J–Swiss EPA" during the past 5 FYs. Applicable HS code: 0406-90-090 (WTO 29.8%).

Table 34 J–Swiss EPA Utilization rate - Swiss type cheeses

FY	TRQ quantity	In quota tariff rate	of which utilized	Utilization rate
2018	960 MT	14.9%	476 MT	49.6%
2019	1,000 MT	14.9%	403 MT	40.3%
2020	1,000 MT	14.9%	323 MT	32.3%
2021	1,000 MT	14.9%	348 MT	34.8%
2022	1,000 MT	14.9%	376 MT	37.6%

6) "J–UK CEPA" (Effective January 1, 2021)

The J–UK CEPA was signed in October 2020 and became effective in January 2021 after Brexit. The details of this EPA regarding cheese are as follows:

- The UK will continue to have the same preferential tariff rates as EU countries for all items except for the seven items subject to the TRQ quantity, which includes cream cheese fat content of less than 45%, "Other cheese" (i.e., Cheddar and Gouda), and powdered natural cheese.
- No new TRQs have been introduced for the UK. However, if there are unused allocations for TRQs under the J–EU EPA, the J–UK CEPA will establish a mechanism that can utilize these allocations. In other words, the UK will continue to have the same tariff rates as EU countries after Brexit, only if EU countries leave any unused TRQ quantity in each FY. Stilton cheese is included in the Blue-veined cheese category (**Table 31**).

Table 35 presents the utilized quantity under the J–UK CEPA.

Table 35 J–UK CEPA Utilized quantity

FY	[a]Maximum TRQ	TRQ Utilized	Non-TRQ under J–UK CEPA	Total TRQ
2020	8,541 MT	0	6 MT	6 MT
2021	3,206 MT	4 MT	79 MT	83 MT
2022	4,262 MT	5 MT	103 MT	108 MT

Remarks: [a] TRQ leftover quantity from J–EU EPA in previoous FY.

The following UK cheese items are subject to GI protection in Japan as of February 29, 2024.

Table 36 J–UK CEPA - UK Cheese items protected by GI

United Kingdom (8)	West Country farmhouse Cheddar cheese, White Stilton cheese/Blue Stilton cheese, Orkney Scottish Island Cheddar, Single Gloucester, Staffordshire Cheese, Traditional Ayshire Dunlop, Traditional Welsh Caerphilly/Traditional Welsh Caertfili, Yorkshire Wensleydale

Chapter 5 Major Cheese Items and Analysis of EPAs

1) Major Cheese Items

A) Mozzarella Cheese

The Mozzarella cheese market in Japan, which traditionally belongs to the fresh type (**Table 11**), was assumed to be dominated by EU countries because J–EU EPA covered this category, unlike other EPAs. However, a strong argument has arisen from non-EU countries and their Japanese importers that their block type Mozzarella of 15 – 20 Kgs per carton with a 1-year shelf-life "matures" at least to some extent, which means it is not fresh type. Accordingly, it should be categorized as "Other cheese," same as Cheddar and Gouda, etc. under CPTPP and J–US TA (**Tables 23** and **23A**). This argument was successful and importers from the CPTPP and J–US TA countries can now clear customs of block Mozzarella at the same tariff rate as those under J–EU EPA. Meanwhile, "fresh Mozzarella packed in water" remains "fresh cheese," and only products from EU countries attract preferential tariff rates within TRQ quantities under J–EU EPA.

B) Cream Cheese Fat Content of Less Than 45%

This is the standard cream cheese. The merit of the tariff rate for this item to be reduced to zero under CPTPP, J–EU EPA, and J–US TA is also significant for Japanese users, as cream cheese is popular not only as a raw material for cheesecake making but also for bakery, confectionery, and manufacturing of other foods, as well as spreading with or without dried fruits on bread. Lower costs on the part of importers and users will contribute to the future expansion of the market by lowering the prices of finished products and increasing investments for further improvement of quality and R&D of the new products. Meanwhile, since this category was established, the author has heard about the lower fat version of MFCC (reference below C) and Chapter 3-4))-say 44% fat (cf. standard cream cheese fat content of around 33%–35%), which falls into this category.

C) Cream Cheese Fat Content of 45% or More

This product is also called Middle fat cream cheese (hereunder **MFCC**). EU countries have an advantage with MFCC, as the tariff rate under J–EU EPA will gradually reduce to zero within TRQ quantity in FY 2033 (**Table 31**). However, after the one-off immediate reduction, the tariff rate under CPTPP and J–US TA will remain at 26.8% (**Tables 27** and **27A**). Meanwhile, being a high-fat cheese item, MFCC competes with butter, the price of which will reduce slightly in Japan because of the lowering tariff rate under J–EU EPA and CPTPP. Therefore, this study expects that the EU suppliers' merit for MFCC, in terms of prices, will diminish to some extent due to the following situations:

a. The tariff rate for butter within the TRQ quantity will be reduced from "35% plus ¥290 per kg" in the first year to just "35%" in 2028 under J–EU EPA and CPTPP.
b. Under CPTPP, the TRQ quantity for butter will be increased from 39,341 MT ([a]3,188 MT) in the first year to 45,898 MT ([a]3,719 MT) in 2023 on a milk equivalent basis.
c. Under J–EU EPA, the TRQ quantity for butter (e.g., skimmed milk powder, whole milk powder, buttermilk powder, and sugared condensed milk) will be increased from 12,857 MT ([a]1,042 MT) in the first year to 15,000 MT ([a]1,216 MT) in 2023 on a milk equivalent basis.

   Note: [a] The quantities in brackets in b. and c. are calculated on a butter equivalent basis. The coefficient for converting milk to butter is 12.34.
d. As the butter price in Japan decreases slightly because of the above situations, MFCC prices are expected to meet butter prices on a fat equivalent basis. Consequently, the merit of importing MFCC to Japan is expected to be smaller than its current value. However, this study believes that although fat prices in Japan will be lowered to some extent, they will remain comparatively higher than those in the major dairy countries. Therefore, the advantages of exporting (EU suppliers) and importing (Japanese users) sides for "cream cheese fat content of 45% or more" will remain even after 2028.

D) Individual Quick Frozen (IQF) Mozzarella Cheese

a. IQF Mozzarella is a special frozen cheese whose moisture content is a minimum of 52.0% (vs. the standard block type Mozzarella of approximately 44.0%–47.0%). There are other requirements for the weight of the shredded/diced piece (4 g or less) and packaging (more than 5 kg) (**Table 11**). In addition to the lowering tariff rate, which will gradually reduce to zero in FY 2033 under CPTPP, J–EU EPA, and J–US TA, some users, such as large pizza chain shops, including home-delivery chains, can enjoy the merit of purchasing directly from the import agent. They bypass the channel of shredders (i.e. cheese manufacturers) and wholesalers who otherwise add their costs of shredding and margins, thus cutting the intermediary costs in the

supply chain (**Table 10**).

b. Other advantages for the users are as follows:
   - The delivered price of IQF Mozzarella to pizza manufacturers is usually lower than the normal shredded cheese in chilled conditions manufactured from 10 to 20 kg block cheeses in Japan.
   - From a quality management viewpoint, the frozen form of the product is easier for some users than the chilled product before and during their pizza production.

c. Meanwhile, the demerits are as follows:
   - Given the high moisture content of 52% or more, the flavor of this product is not strong enough for some users, and the addition of normal shredded cheese or grated Parmesan is sometimes required for flavoring in their pizza manufacturing.
   - The texture of IQF Mozzarella becomes "gummy" relatively quickly as the cheese cools down after melting by heat application.
   - The large package size of "more than 5 kg" is unsuitable for some small/medium institutional users and home usage. However, the author understands that large users have know-how in handling this product and can manage these issues in their production processes.

d. **Table 37** shows the recent upward trend in this product, mainly after J–US TA started in January 2020. However, New Zealand, which once lost its market share, is reviving in this category under CPTPP.

Table 37 IQF Mozzarella cheese imported quantity under EPAs

FY	Tariff rate	CPTPP	J–EU EPA	J–US TA	Total
2018	21.0%	0	4 MT	0	4 MT
2019	19.6%	1 MT	2 MT	1,459 MT	1,462 MT
2020	18.2%	69 MT	2 MT	8,671 MT	8,742 MT
2021	16.8%	212 MT	2 MT	8,634 MT	8,848 MT
2022	15.4%	488 MT	0	9,025 MT	9,513 MT

Source: Japan customs, import statistics, FY basis

This category of IQF Mozzarella cheese was established as a result of the USA's request, which has dominated the market, as discussed above. The market is in a state of oligopoly, and whether any new suppliers other than the suppliers will launch into this category on a large scale remains unknown, as the tariff rate will decline to zero in 2033 under TPP11, J–EU EPA, and J–US TA. However, this study states that this is a very price-competitive item because of the following situations:

e. In comparison with the "Other cheese" category (tariff rate 16.7% under CPTPP and J–US TA, and 16.8% under J–EU EPA in FY 2024) which is the main source of cheese for shredding, the tariff rate advantage for IQF Mozzarella (12.6% under CPTPP, J–EU EPA and J–US TA in FY 2024) will remain until March 2033.

f. In addition, the invoice price of IQF Mozzarella before the tariff is lower than that of "Other cheese" to be shredded in Japan according to the following comparison:
   - Average imported price of IQF Mozzarella during January–December 2023: ¥705.34/kg.
   - Average imported price of "Other cheese" during January–December 2023: ¥772.23/kg
   (Source: Japan customs, import statistics).

g. In addition to the above advantages, IQF Mozzarella is already shredded when imported, unlike "Other cheese.", that are in the form of 10 – 20 Kgs blocks. Therefore, adding the cost of shredding in Japan and shredders' margins to "Other cheese" is necessary, which makes IQF Mozzarella even more competitive against "Other cheese."

h. From April 2033 onward, the merit discussed in above e) will disappear because the tariff rate for both items will be zero under CPTPP, J–EU EPA and J–US TA; however, the merits in f. and g. will remain.

i. One advantage of EU suppliers is that Mozzarella cheese, in addition to IQF Mozzarella, is included in **J–EU EPA** which means even if the IQF Mozzarella do not exactly meet the 3 conditions in above a), the product can still be cleared customs at a favorable tariff rate as "Mozzarella cheese" (16.8% in FY 2024), compared with CPTPP suppliers' same products, not meeting the required conditions (29.8% in FY 2024).

j. The Japanese shredders of "Other cheese" and block type Mozzarella cheese have to minimize their shredding costs as much as possible to compete against the imported IQF Mozzarella.

E) Soft Cheese and Fresh Table Cheese

Soft cheese includes ripening cheese, such as Camembert and Brie, whereas Fresh table cheese includes Cream cheese, Fresh Mozzarella packed in water, Mascarpone, Ricotta, Feta, Cottage, etc. Except for cream cheese with a fat content of less than 45%, which is also covered by CPTPP and J–US TA, EU countries will retain advantages over other EPA and non-EPA countries in terms of tariff rates for these items, which will be gradually reduced to zero in 2033. However, EU suppliers will face competition from Japanese manufacturers of Soft and Fresh table cheese (Chapter 6, Section 2, D & E).

F) "Other Cheese" Category **(e.g., Cheddar and Gouda, Excluding Soft Cheese)**

The merit of the tariff rate elimination for the above items ex EPA countries is enormous, particularly for large users (i.e., processed cheese and shredded cheese manufacturers). Therefore,

this study expects that the import quantity of the above items will continue to grow steadily. Meanwhile, manufacturers of nondairy processed cheese and shredded cheese, who currently do not have sufficient access to domestic natural cheese to receive the merit of "Global T/Q (1:2.5)" and "EPA T/Qs (1:3.5)," will be on an equal footing with the big dairy companies that manufacture domestic natural cheese for their own usage to use "Global T/Q" and "EPA T/Qs." The merits of these T/Qs will disappear as the tariff rate for "Other cheese" will decline to zero under CPTPP, J–EU EPA, and J–US TA in FY 2033.

2) Analysis of EPAs

A) The following examples indicate that the merits of EPAs for exporters and importers have not been adequately utilized or even not utilized at all (at least until FY 2022, **in bold**) since its inception. Please refer to **Chapter 4** regarding the below Table numbers.

J–A EPA: **Tables 19**, **20**, and **21**.

CPTPP: **Tables 25**, **26**, **28**, and **30**.

J–US TA: **Tables 25A**, **28A**, and **30A**.

Note: The author excluded the J–EU EPA items above because, unlike other EPAs, TRQ quantities in J–EU EPA are for the total of seven items and not for each item.

According to this study, these "mismatches" in EPAs occurred because of the distance between the negotiating teams for EPAs and businesspersons directly involved in the cheese business of the countries concerned. In international negotiations such as EPAs, where bureaucrats negotiate for their own national interests, extracting more concessions from the other party with fewer concessions is generally considered a success. However, this study questions, regardless of any political tactics, whether it is in any party's interest to reach agreements in such impractical areas of business. The author believes that all parties— exporters and importers—can reach win–win situations in EPAs by reducing the trade barriers as much as possible. The practical interests and benefits in the long term are vital for all parties involved in the cheese business. Therefore, more user-friendly content is desperately needed. Hopefully, "mismatches" can be rectified in future scheduled renegotiations of EPAs between the governments of relevant countries and Japan.

B) A comparison of all EPAs reveals that J–EU EPA is most efficiently utilized in the cheese business. **Table 38** shows the quantities of natural cheese imported to Japan under EPAs and the overall imported quantities from the relevant countries in CY 2023, including items/quantities that are not subject to EPA arrangements. The utilization rate of J–EU EPA is the highest among all EPAs.

Table 38 Natural cheese imports under EPAs in CY 2023

EPA	Total imports	of which EPA utilized	Utilization rate
J–A EPA	51,321	13,944	27.2%
CPTPP	112,534	75,437	67.0%
J–EU EPA	**88,806**	**87,796**	**98.9%**
J–US TA	40,235	32,411	80.6%
J–Swiss EPA	526	281	53.4%
J–UK CEPA	248	230	92.7%
Total	293,670	210,099	71.5%

(Source: Japan Customs, Import statistics, Unit: MT)

J–A EPA has a very low utilization rate, and Australia is a member of CPTPP, which generally provides more merits for exporters and importers. According to this study, Australian suppliers are getting the best of CPTPP and J–A EPA, including TRQs for processed and shredded cheese manufacturing.

C) While checking the import statistics, this study observed the following points:

- During the past 3 years, when the total cheese imported quantity was declining, the reduction rate of imported quantities from EPA countries was smaller than that from non-EPA countries, and the dominance of EPA countries heightened in the Japanese cheese market.
- An examination of the monthly movement of customs-cleared quantities revealed that the quantity in April each year exceeds the quantity of the previous month. This indicates the importers attempt to minimize the quantities before April and to maximize them at the lowered tariff rates as much as possible in April at the beginning of the new FY.

Chapter 6 Outlook and Tasks for the Future Japanese Market

1) Outlook for the Imported Cheese Category

A) According to this study, suppliers of EPA countries will focus more strategically on cheese items that offer them advantages over non-EPA countries' suppliers. In particular, suppliers concentrate their efforts on items marked "◯" and "△" in **Table 39**, which demonstrates the merits of each EPA by item. The merits here mean advantages for overseas suppliers or exporters in the form of improved access to the Japanese cheese market and for Japanese importers or cheese manufacturers in the form of reduced tariff rates leading to lower costs.

Table 39 shows the summary of the merits of the **Four Major EPAs**' major items.

Table 39 Summary of EPAs' merits by item

EPA	[a] TRQ for processing	[a] EPA T/Q for shredding	Mozzarella	Soft cheese
J–A EPA	○	○	×	×
CPTPP	×	○	[b] △	×
J–EU EPA	×	×	○	○
J–US TA	×	×	[b] △	×

	Cream cheese (fat ＜ 45%)	Cream cheese (fat ≧ 45%)	IQF Mozzarella	Cheddar /Gouda, etc.
J–A EPA	×	×	×	×
CPTPP	○	△	○	○
J–EU EPA	○	○	○	○
J–US TA	○	△	○	○

	Processed cheese	Grated/powdered cheese	Blue-veined cheese
J–A EPA	△	△	△
CPTPP	[c] ○	○	△
J–EU EPA	○	○	○
J–US TA	[c] ○	○	△

Notes: ○ Big merit

△ Medium or small merit.

× No merit.

[a] TRQ of 1 (domestic):3.5 (imported, duty-free).

[b] See Chapter 5 (Section 1) for "block type Mozzarella". EU countries have advantages over other EPA countries regarding Mozzarella of all other types, including "fresh Mozzarella" packed in water and "IQF Mozzarella" not meeting the requirements.

[c] Country-specific quotas for Australia, New Zealand, and USA.

In regard to **Other EPAs**, the merit of **J–Swiss EPA** is in Swiss type cheese only, and the merits of **J–UK CEPA** are the same as those of J–EU EPA.

B) Another category of suppliers' focus would be their advantages among the EPA countries. For example, J–EU EPA has "○" in the following items in **Table 39**; however, other suppliers do not have the same under J–A EPA, CPTPP, and J–US TA.

a. Fresh Mozzarella packed in water.

b. Cream cheese (fat ≧ 45%).

c. Soft cheese (e.g., Camembert and Brie.)

d. Blue-veined cheese.

The above items are all within the TRQ quantity of J–EU EPA, which will increase to 31,000 MT in April 2033. As block type Mozzarella is excluded from the TRQ quantity, EU suppliers may have significant advantages over other suppliers of EPA countries because of the large TRQ quantity left for the above items.

C) The tariff rate reduction schedules for Cheddar, Gouda, and block Mozzarella cheese are approximately the same for all suppliers of EPA countries. These items have huge requirements as raw materials for processed cheese manufacturing, shredded cheese manufacturing, and other purposes. According to this study, the requirements for these items will be the main driving force for the steady growth of overall imported cheese in the future.

D) The situation of IQF Mozzarella is discussed in Chapter 5 (Section 1, D). USA suppliers' dominance is expected to remain unchanged for the time being. However, it is possible that any new competitors from CPTPP and J–EU EPA countries may appear in this category in the future.

E) Australian suppliers, who are members of J–A EPA and CPTPP, will gradually weigh more on the latter, which has more merits than the former. However, J–A EPA will be reviewed soon in accordance with the agreement between the two governments, considering past changes. This study aims to focus on how the contents of J–A EPA will be reviewed and changed in the future.

F) From a comprehensive viewpoint, considering all the points mentioned above, suppliers ex EU countries have the greatest potential to expand their cheese exports to Japan among all EPA countries. Historically, Australia and New Zealand have been the major suppliers to Japan, and the USA has recently increased its share as the third-largest supplier. However, the total EU countries, which supplied more than 38% of all the natural and processed cheeses in CY 2023 (see **Table 6** and **Table 7**), will likely expand their shares. This study sincerely hopes that a win–win situation for both EU suppliers and Japanese manufacturers/consumers can be materialized in due course.

G) Non-EPA countries (**Table 6**) are expected to continue losing their shares in the imported cheese category as the tariff rates for EPA countries will be further reduced. Non-EPA countries will face difficulty competing against EPA countries in terms of net duty-paid prices in the Japanese market. However, as of this writing, Japanese processed cheese manufacturers can still use "global T/Q" for customs clearance of natural cheese from non-EPA countries for processed cheese manufacturing, rather than 100% imports under EPAs (**Table 14**, Case A), mainly due to the levels of imported price and exchange rate.

2) Outlook for the Future Japanese Cheese Industry

A) Although Japanese cheese consumption has recently declined (**Figure 8**), this study believes that

this downward trend will stop and begin to recover soon because of the following factors:

a. The main reason for the reduced consumption is the sharp increase in imported cheese prices.
b. However, there are already signs of change, including the following points:
   - In the international market, the usual pattern of skyrocketing prices has been observed, causing reduced demand worldwide, which led to the oversupply of cheese. Subsequently, international cheese prices began to decline.
   - Import statistics announced by Japan customs exhibited a decline in the average imported cheese prices in yen (after exchanging from foreign currencies) for November 2023 compared with the previous month for the first time in 2 years. Consequently, immediately after the peak, lower-priced cheese arrived in Japan and started to clear customs.
   - In the short term, although average Japanese cheese users still have high-priced stocks, which will need more time before being consumed, the declining trend of the weighted average price of their stock will enable cheese users to address the pricing issue to recover their sales in Japan.
   - The most recent quarterly reports of the major Japanese dairy companies show that their cheese business is recovering, indicating that consumers have begun to accept the increased cheese prices.
c. This study was concerned with the recent declining trend of Japanese cheese consumption. However, given the above situations, there is cautious optimism as the scale of the "usual pattern" of international price volatility this time was only bigger and longer than the previous ones. Coupled with other factors (Chapter 1, Section 2), the damage to the Japanese cheese market was enormous. However, this study believes the Japanese cheese market will soon show its resiliency for recovery and return to the pattern of steady growth before Covid-19 soon.

B) In the category of bulk cheese for processed and shredded cheese manufacturing, the competitiveness of domestic cheese hinges on the price of imported cheese and exchange rate movement for the time being (Chapter 3, Section 3). However, the tariff rate of the relevant imported cheese will be eliminated in 2033 and the merits of even EPA T/Qs (1:3.5, refer to Chapter 4) will be phased out, and domestic cheese manufacturers in this category will face complicated situations.

C) Among the imported block cheeses weighing 10–20 kg per carton, the author expects an increase in applications such as natural slice and natural cut cheeses. These products can be manufactured from block cheese relatively easily. Consumers can eat the former with bread and the latter using, for example, toothpicks after cutting it into small cubes. Although the current market sizes of

these products remain small, the growing trend is expected to gain momentum in the future as heavy Japanese users are now more accustomed to the strong flavors of natural cheese.

D) In addition, Japanese natural cheese manufacturers are expected to focus more strategically on higher-priced table cheeses, including Camembert, Brie, and Fresh Mozzarella packed in water. These types will be preferred over lower-priced bulk raw material cheeses used in processed cheese and shredded cheese manufacturing because the merits of EPA T/Qs (1 domestic: 3.5 imported; see Chapter 3, Section 2) will be phased out within a few to several years' time.

E) Value-added table cheeses are expected to compete with the same category of cheese imported mainly from EU countries under the following situations:

- Although EU suppliers can enjoy the merits of tariff rates declining to zero in 2033, Japanese manufacturers are better positioned than EU suppliers in developing new products. These products will tickle the Japanese palate in terms of flavor and texture and will be presented in more suitable packages and serving sizes for Japanese consumers.
- Japanese manufacturers can benefit from a shorter delivery time for products with a short shelf-life after production compared with imported cheeses, which require airfreight to Japan with additional costs.
- According to a survey conducted by a large e-commerce company, Rakuten, more than 80% of Japanese consumers prefer domestic cheese to imported cheese. Consumers feel more familiar with cheese, with the "place of origin" being physically closer to them (Source: ALIC's "Livestock Information," December 2019 Edition).

F) After discussing all points in E), the author believes that Japanese manufacturers of natural cheese of all varieties will certainly face keener competition in prices against imported cheese of the same or similar varieties compared to the current situation.

G) Even if Japanese table cheese manufacturers successfully expanded their sales quantities in the above situations in E), manufacturers of raw material cheese for processing and shredding will face difficulty in the absence of T/Qs, which means the total domestic natural cheese production will not significantly grow in the future.

H) Some cheese companies attempt to export Japanese cheese along the lines of the MAFF policy to expand food exports. Although the quantity remains very small, cheese exports mainly to Asian countries will increase in the future. **Table 40** shows Japan's cheese exports during the past 5 years.

Table 40 Japan's cheese export during the past 5 years

Item/CY	2019	2020	2021	2022	2023
Cream cheese etc. (0406.10-000)	58 MT	76 MT	104 MT	102 MT	121 MT
Powdered cheese (0406.20-000)	6 MT	14 MT	14 MT	6 MT	4 MT
Processed cheese (0406.30-000)	479 MT	657 MT	946 MT	649 MT	594 MT
Cheddar, Gouda, etc. (0406.90-000)	200 MT	240 MT	334 MT	370 MT	391 MT
Total	743 MT 89.0%	987 MT 132.8%	1,398 MT 141.6%	1,127 MT 80.6%	1,110 MT 98.5%

Source: Japan customs, import statistics

Remarks: - The nine-digit figures in brackets below the cheese items demonstrate the relevant HS codes for export.
- The percentage figures show the comparison with the same period of the previous year.

The Regional Comprehensive Economic Partnership, which was agreed upon and signed in November 2020 and entered into force in 2022, will pave the way for further increased cheese exports to Asian countries. Increased cheese exports mean increased cheese production in Japan, which will reduce the cost of production through economies of scale, even if the raw materials of natural cheese are imported. Hence, increased exports will contribute to strengthening the Japanese cheese industry.

I) The tailwind factors should be considered for the future growth of Japanese cheese consumption and production as follows:

- In addition to the Westernization of Japanese dietary habits, the collaboration of cheese with traditional Japanese foods is increasing, such as cheese with fish paste (surimi), which boosts Japanese cheese consumption.
- Japanese consumption of wine has been expanding due to its lower prices resulting from the following bottled wine situations, which will increase cheese consumption as hors d'oeuvre and snacks with wine.

a. The tariff rate was reduced to zero immediately under J–EU EPA in 2019.
b. The tariff rate decreased to zero in April 2021 under J–A EPA.
c. The tariff rate will decrease to zero in April 2025 under TPP11 and J–US TA.
d. The tariff rate of Chile wine was eliminated under the Japan–Chile EPA.

- All the above situations indicate an even increased demand for imported and domestic cheeses in the future, boosted by improved market access through EPAs.

J) The future steady growth of the Japanese cheese market is estimated by considering the above factors.

Table 41 shows the author's best estimate of Japanese cheese market situations over 10 years.

Table 41 Estimated Japanese cheese consumption in 10 years' time

	FY 2022	FY 2032 (Estimate)
a. Total cheese consumption **of which natural cheese** **of which processed cheese**	335,610 MT 204,591 MT 131,019 MT	446,544 MT (133.1%) 293,383 MT (143.4%) 153,161 MT (116.9%)
b. Domestic natural cheese production	46,162 MT	47,547 MT (103.0%)
c. Per capita consumption	2.69 kgs	3.76 kgs (130.1%)
d. Self-sufficiency rate on natural cheese basis	14.9%	11.2%

Remarks: The percentages in brackets in FY 2032 are compared with those of FY 2022.
The figures in the column of FY 2022 are from the MAFF cheese supply-demand table.

The grounds for the above estimates are as follows:

a. Total cheese consumption

- Japanese natural cheese consumption grew by 23.4% over the past decade (source: MAFF cheese supply–demand table). This trend of steady growth is expected to continue, while EPAs and other tailwind factors will boost additional growth by 20%, reaching a total natural cheese growth of 43.4% over 10 years.
- Japanese processed cheese consumption grew by 6.9% over the past decade (source: MAFF cheese supply–demand table). This trend of slow and steady growth is expected to continue, while EPAs and other tailwind factors will boost the additional growth by 10%, reaching a total processed cheese growth of 16.9% over 10 years.
- Consequently, natural and processed cheese consumption is expected to be 293,383 MT and 153,161 MT, respectively, reaching a total cheese consumption of 446,544 MT in FY 2032. Approximately 375,000 MT of cheese (mainly natural cheese and some processed cheese) will be imported to Japan to meet the requirements in FY 2032 after considering the yield increase for manufacturing processed cheese from natural cheese.

b. Domestic natural cheese production

Japanese domestic natural cheese production has increased by 14.0% over the past decade (source: MAFF cheese supply–demand table). Although domestic cheese production had been

almost leveling off during the first 7 years and increased in the last 3 years, it is expected to continue to grow at a low rate of 3% over 10 years, reaching a total quantity of 47,547 MT in FY 2032. This growth is low because bulk cheese used in processed and shredded cheese manufacturing will directly compete with imported cheese of the same type without T/Q over 10 years.

c. Per capita consumption

This study used the following Japanese populations in "Population Projections for Japan 2021–2070, Medium Birth and Death Rates" by the National Institute of Population and Social Security Research:

2022: 124,978 thousand

2032: 118,766 thousand

Consequently, the calculations are as follows:

FY 2022: 335,610 MT (**Table 41 a.**)/124,978 thousand = 2.69 kg.

FY 2032: 446,544 MT (**Table 41 a.**)/118,766 thousand = 3.76 kg.

d. Self-sufficiency rate on a natural cheese basis

FY 2022: 14.9% – MAFF cheese supply–demand table.

FY 2032: 11.2% – 153,161 MT, processed cheese consumption in FY 2032/1.16 (yield increase for processed cheese) = 132,035 MT (natural cheese basis)

293,383 MT (natural cheese consumption in FY 2032) plus 132,035 MT (processed cheese consumption quantity on a natural cheese basis) = 425,418 MT

47,547 MT (domestic natural cheese production quantity in FY 2032)/425,418 MT (total cheese consumption in 2032 on a natural cheese basis) = 11.2%.

K) This study proposes further utilization of the following e-commerce to expand cheese markets. The initiative must be taken by each cheese manufacturer. In addition, government policy support will be required to materialize the scheme.

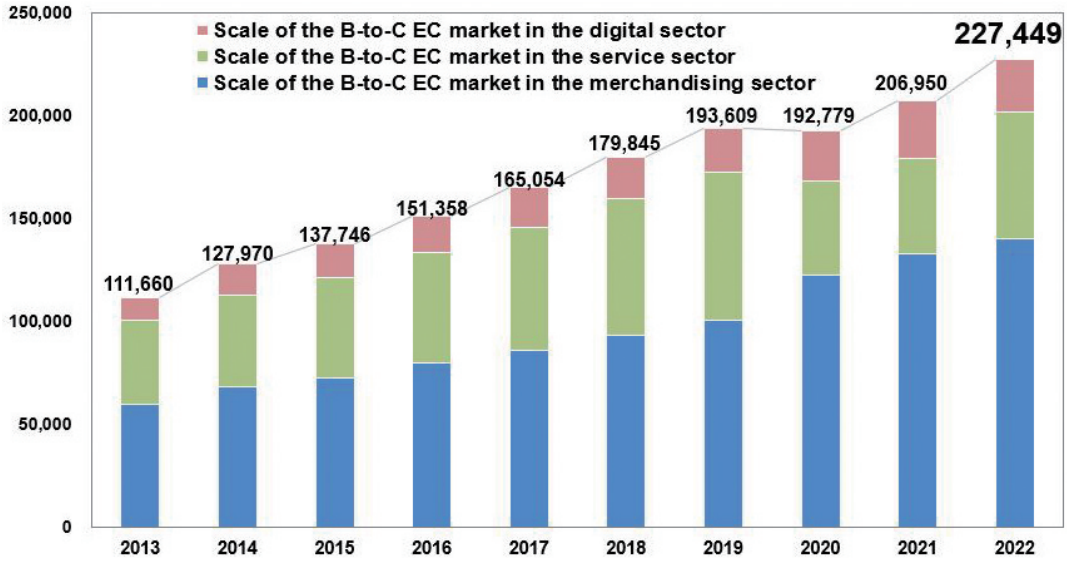
a. Domestic e-commerce (B to C and B to B)

According to the data released by the Ministry of Economy, Trade and Industry (METI) in August 2023, the total domestic e-commerce amount was ¥22.7 trillion, of which "Food, drinks and liquor" was ¥2.7505 trillion (approximately US$18.3 billion at an exchange rate of ¥150/US$) in 2022. The "e-commerce ratio" (the ratio of e-commerce market scale to the total amount for all commercial transactions) of "Food, drinks, and liquor" is only 4.16%. Although the amount and rate of cheese consumption have grown recently, they are still very low compared with those in major advanced countries, and cheese occupies only a very small part in the "Food" category. However, this situation indicates that Japanese cheese sales through the

e-commerce channel have great potential to grow further. Medium and small cheese manufacturers should study the merits of domestic e-commerce because this category has room for growth.

Figure 9 shows the steady growth of the domestic B-to-C e-commerce market during the past 10 years. E-commerce sales may cannibalize the sales of traditional lines at the initial stage. However, it will help increase cheese sales in the medium–long term by providing additional options to consumers in their purchasing patterns.

Figure 9 Domestic B-to-C e-commerce market scale movement (unit: ¥0.1 billion).



Source: Ministry of Economy, Trade, and Industry

b. Cross-border e-commerce (B to C and B to B)

In addition to normal cheese exports (**Table 40**), sales through e-commerce sites in overseas countries will help Japanese cheese companies increase their proceeds. Cheese manufacturers can benefit from the following tailwinds:

a) The recent weakening of the yen against major currencies promotes cheese exports.

b) Following the nomination of traditional Japanese cuisine (*washoku*) as an intangible cultural heritage by the United Nations Educational, Scientific, and Cultural Organization in 2013, "*washoku boom*" has continued in several overseas countries, and Japanese food has been maintaining its popularity.

c) The growing number of inbound tourists in Japan will increase cross-border e-commerce. Some studies have observed the tendency of these tourists to find their favorite goods in

Japan and purchase them using e-commerce after returning to their home countries.

China is a huge purchaser through cross-border e-commerce, according to the following quote from the market survey report conducted by METI:

Market scale of cross-border e-commerce between Japan, the US, and China

In 2022, the market scale of cross-border e-commerce between Japan, the US, and China increased in all three countries. In particular, the amount purchased through cross-border EC by Chinese consumers was 2.2569 trillion yen from Japanese business operators (up by 5.6% from the previous year) and 2.7499 trillion yen from US business operators (up by 6.7% from the previous year), continuing the previous year's increasing trends.

Scale of cross-border e-commerce between Japan, the US, and China

Country	Amount purchased through cross-border EC	Growth rate
Japan	395.4 billion yen	6.1%
U.S.	2.2111 trillion yen	8.3%
China	5.0068 trillion yen	6.2%

For newcomers to cross-border e-commerce, any sales will be "additional" to the existing domestic business. There will be no cannibalization of sales.

Although the risk of cross-border e-commerce is higher than that of domestic e-commerce, it is worth studying and challenging, and it is crucial to identify a reliable partner for this business.

3) Tasks for the Future Global Dairy Industry Affecting the Cheese Supply Chain

A) This study raises the issue of animal welfare (AW) as one of the future tasks of the livestock industry from the ethical viewpoint for animals and as a cost-increasing factor for overseas and domestic dairy farmers, which will affect international and domestic cheese businesses. From an ethical point of view, animals should be kept free from mental and ethical suffering. In addition, this view has an economic side; it is believed that stress-free dairy cows produce a greater quantity of lower cell count milk (higher quality, more suitable for processing) than stressed dairy cows. According to some studies, although consumers are interested in AW, they are not willing to pay for its extra costs. In this regard, **Luuk S. M. Vissers et al. (2023)** proposed a method for calculating AW costs. They argued that these costs are not fully included in production costs and that consumers will consume too much of the good from an aggregate utilitarian perspective. This study agrees that, from a dairy sustainability viewpoint, the increased costs associated with AW should be included in production costs, which would be passed on to consumers:

In past decades, there has been increasing societal concern about the welfare of farmed

animals, particularly in Western countries such as in Europe. According to the latest Eurobarometer (2016) on animal welfare (AW), around 94% of European citizens find it important to protect the welfare of farmed animals, and 82% believe that welfare of farmed animals should be better protected than it is now. To address such societal concerns about AW, public and private initiatives have been introduced in the European Union. In 1998, the European Commission (EC) implemented Council Directive 98/58/EC, which sets welfare standards for all farmed animals. There are specific Council Directives that cover individual animal categories such as calves (2008/119/EC), pigs (2008/120/EC), laying hens (1999/74/EC) and chickens kept for meat production (2007/43/EC). In various European countries, AW labeling schemes have been introduced by the private sector, such as Better Life in Netherlands, Initative Tierwohl in Germany and RSPCA assured in the United Kingdom. These initiatives show that AW is an important topic in Western societies. Studies show that citizens are also becoming increasingly aware and sensitive to AW issues in economically developing countries such as China (**Lu et al., 2013; Parlasca et al., 2023**).

The production of food from animals poses societal concern about the welfare of these animals in Western countries and increasingly also in economically developing countries. Animals and people may experience disutility from animal suffering, which can be seen as an external cost that is not (fully) included in the cost of production. Thus, consumers will consume too much of the good from an aggregate utilitarian perspective. A potential way to solve this issue is by including these external costs in the production costs. The aim of this paper was to provide a method that can be used to estimate the external costs of animal welfare (AW) of animals kept at farm level. The external costs were calculated by means of a cost function. This cost function shows the relationship between the AW score and costs of AW measures at farm level. The AW scores were calculated from principle scores of the Welfare Quality® Protocol. The method was applied to three case studies, namely dairy cattle production in Germany, pig production in the Netherlands, and broiler production in the Netherlands. The results indicate that the external costs of AW of dairy cattle systems ranged from 0.02 to 0.10 euro/kg milk, those of pig production systems from 1.00 to 1.36 euro/kg live weight and those of broiler production systems from 3.67 to 4.52 euro/kg live weight. The empirical application showed that the method was effective in estimating external animal costs. The insights obtained from the application of our method can support decision making in the development and adoption of more AW friendly production systems.

The quotes below (**Enoch Owusu-Sekyere et al., 2023**) discuss the UN Environment Assembly's resolution, "AW at the heart of sustainability," flooring as an example to improve AW and a policy

perspective to support enhanced AW. The findings include the soft rubber covering for concrete floors as a method of AW will increase profitability per cow. Enhancing the well-being of cows will increase the productivity of dairy farmers.

With increasing consumer awareness and demand for better animal welfare and improved sustainability across the livestock sector, new innovations are emerging that enable farmers to monitor and improve herd animal health, improve productivity and sustain livestock production (**Verkuijl et al., 2022**). *The UN Environment Assembly has tabled a resolution that focuses on animal welfare, the environment and the sustainable development nexus* (**Stockholm Environment Institute, 2023; Verkuijl et al., 2022**).

Farm animal welfare influences livestock producers' decision, the entire food production and supply chain (Buller et al., 2018; Cox and Bridgers, 2019; Keeling et al., 2019).

The UN Environment acknowledges that animal welfare should be "at the heart of sustainability (**Cox and Bridgers, 2019**). *Hence, practices that promote animal welfare should be the focus of the production process.*

*European dairy farmers are increasingly investing in farm facilities that improve animal welfare (**Barkema et al., 2015; Turan et al., 2019**), which is supported by various policy incentives (e.g., **Swedish Rural Development Program, 2014–2021**). Flooring is an aspect of farm facilities that receives particular attention from dairy producers (**Magrin et al., 2019; Murphy et al., 2018**). Flooring is directly linked to animal welfare because it affects animal behavior and claw and leg health (**Murphy et al., 2018**). The farmer chooses the floor design in alleys and waiting areas (**Owusu-Sekyere et al., 2021**). The farmer's decision to select a particular type of floor likely depends not only on the installation cost (**Ortega and Wolf, 2018**) but also on several factors related to the function of the floors, such as the ability to reduce claw and leg disorders (Rushen and de Passillé, 2006), lameness (Alvåsen et al., 2014), impaired reproduction (**Hogeveen et al., 2017; Palmer et al., 2012**), and traumatic injuries (**Hogeveen et al., 2017; Palmer et al., 2012**). Although these factors may be indirectly associated with increased costs, the use of inappropriate floors has more direct economic consequences. For example, inappropriate floors are associated with reduced milk output (Huxley, 2013). In addition, they can be linked to premature culling. The cattle mortality rate is approximately 5% (**Växa Sverige, 2020a**). Several mortality cases can be linked to claw and leg disorders (**Alvåsen et al., 2014**). From a policy perspective, it is highly relevant to determine whether investments that support enhanced animal welfare are profitable at the farm level, whether farmers can make these investments, and whether policy support is necessary to stimulate uptake.*

To support above discussion, the author would like to add following point:

- It has been pointed out that stressed dairy cows produce less quantity of higher somatic cell count milk than the stress-free cows who produce more quantity of lower somatic cell count milk.
- Following excerpts from "Relationships Between Somatic Cell Counts and Milk Production" (**G.M. Jones et al., 1984**) refer to above point:

  The relationship between Dairy Herd Improvement program test-day milk yield and somatic cell counts in milk was analyzed in 34 dairy herds over 3yr. Decrease of milk yield was linear with increasing somatic cell counts.
- The lower somatic cell count milk is regarded as higher quality, suitable for processing and it can be sold at premium price over higher somatic cell count milk.
- In this regard, enhanced AW is very important and profitable at farm level.

B) In addition, this study discusses the issue of climate change or global warming as another task for the future dairy industry. More "restrictions" related to this issue will likely be introduced worldwide, resulting in reduced milk production quantities and increased costs for dairy farming and dairy products manufacturing and subsequently, resulting in the increased international cheese prices. **Arunasalam Singaravadivelan et al. (2023)** discussed this issue from the viewpoint of food-based life cycle assessment (LCA) as follows:

Climate change is altering ecological systems and poses a serious threat to human life. Climate change also seriously influences on livestock production by interfering with growth, reproduction, and production. Livestock, on the other hand, is blamed for being a significant contributor to climate change, emitting 8.1 gigatonnes of CO_2-eq per year and accounting for two-thirds of global ammonia emissions. Methane (CH_4), nitrous oxide (N_2O), and carbon dioxide (CO_2) are three major greenhouse gases (GHG) that are primarily produced by enteric fermentation, feed production, diet management, and total product output. Ruminants account for three-quarters of total CO_2-equivalent (CO_2-eq) emissions from the livestock sector. The global dairy sector alone emits 4.0% of global anthropogenic GHG emissions. Hence, dairy farming needs to engage in environmental impact assessment. Public concern for a sustainable and environmentally friendly farming system is growing, resulting in the significant importance of food-based life cycle assessment (LCA). Over the last decade, LCA has been used in agriculture to assess total GHG emissions associated with products such as milk and manure. It includes the production of farm inputs, farm emissions, milk processing, transportation, consumer use, and waste. LCA studies on milk production would assist us in identifying the specific production processes/areas that

contribute to excessive greenhouse gas emissions when producing milk and recommending appropriate mitigation strategies to be implemented for a clean, green, and resilient environment.

The increased costs derived from the two aforementioned tasks have to be absorbed somewhere in the supply chain. The author would like to encourage the Japanese cheese manufacturers and importers to take the initiative in addressing these global issues through close communications and discussions with overseas manufacturers and exporters to establish a sustainable supply chain, based on the long-term procurement strategies for the healthy expansion of the Japanese cheese market in the future.

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