《論　　説》

“Major food importer” Japan and global food trade: Role of the Japanese market

Atsushi KAWAKUBO

1. Introduction

Today, as economic globalisation is expanding at an accelerated rate, the move to reduce and even abolish non-tariff barriers to trade is gaining traction around the world resulting in the expansion of trade in agricultural products. In Japan, due to increased industrialisation and a shift towards a service economy after World War II, agriculture has lost much of its economic significance resulting in increased imports of agricultural products. Additionally, another factor underlying the increase in imported products is that domestic producers could not meet the demands of food industries（restaurants, food processors, etc.）that require stable supplies of low-priced foodstuffs throughout the year（Ito, 2001）. Consequently, Japan has now become the second largest net importer of agricultural products following China. By contrast, Japan’s export of agricultural products is extremely small. Any increase in imported products could further suppress the demand for domestic products, and as most agricultural producing areas in Japan lack price competitiveness with imported products, production in these areas has tended to decline（Takayanagi, 1998）. Therefore, the majority opinion about agricultural trade in Japan is that increased imports resulted in a decline of domestic agricultural productivity and concomitant food self-efficiency, which is a serious problem in terms of food security（Horiguchi et al, 1993）.

Figure 1 shows change in import quantities of main agricultural products in Japan. The figure shows imports of agricultural products increased rapidly by 1980 with the

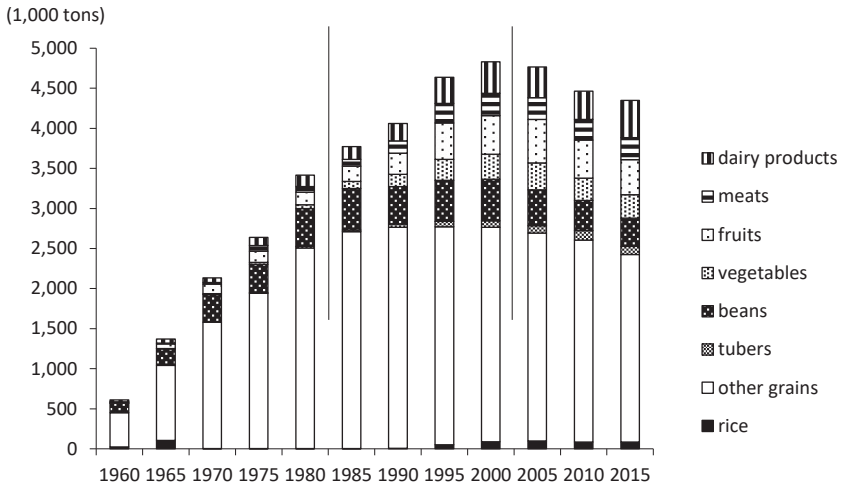

Figure 1　Change in import quantities of main agricultural products in Japan
Note: Dairy products include milk.
Source: Food Balance Sheet

bulk comprising grains（mainly wheat and corn）and beans（mainly soybean）. Afterwards, imports of fruit, vegetables, meats and dairy products had markedly increased by 2000. However, imports of most agricultural products except for meats and dairy products began to decline after 2000. The main factors underlying these changes are acceptance of requests from the US government to accept their surplus grain（-1970s）; expansion of domestic and foreign price differences due to the strong Japanese yen; acceptance of import liberalization through GATT（General Agreement on Tariffs and Trade）negotiations（1980s-1990s）; and contraction of demand in the domestic market due to a declining birthrate and aging population in Japan（2000s）. What can be said about Japan's enormous rise in imports of agricultural products over more than half a century and its position in global food trade?

Food regime theory is a framework that is used to research the evolution of global agricultural and food trade from the perspective of a geopolitical economy. In the research literature, trade with Japan in agricultural products has been attracting the

attention of the world due to its sheer scale. Friedmann（1993）reported that Japan invested in Brazil as a new source for imported soybeans in the early 1970s to diversify sourcing of grains, which led to growth of NACs（new agricultural countries）and collapse of the second food regime which was dominated by the US. McMichael（2000）reported that exports of meats, fruits, and vegetables by the Third World since the 1980s, have shifted from standard products to differentiated ones with higher added values, and that direct investment in agribusiness by Japanese companies in the Pacific Rim region has promoted this trend. Additionally, the status of the East Asian market, especially Japan, as a food import complex is forecast to increase, which may represent a new food regime.

On the other hand, Takayanagi（2006）reported that the most significant factors in the third food regime are the rapid expansion in trade of fruit and vegetables, and flow of products to Japan mainly from the Asia Pacific region. It also reported that some developing countries are increasing in importance as food importers due to their economic growth, and that global trade in fruit and vegetables is in the process of multipolarization. Araki（2007a）analysed the geographical pattern of imports of fresh vegetables to Japan and found two major changes since the 1990s, those were the increase in import volumes and associated reduction in prices, and the growth in more perishable products; and noted that the former was due to China taking a share of the market from the US and Australia, and the latter was due to lower food miles mainly from Southeast Asian countries and South Korea.

As discussed above, Japan's agricultural imports since the 1980s have been affected by an increase in the trade volumes of high-value foods（fresh fruit and vegetables, meats, dairy products and seafood）and the diversification of partner countries. However, the perspective of food regime theory has long been focused on Western agricultural export countries, and a geographical pattern of food chains was discussed through the global commodity chain approach which emerged in Europe in the 1990s that focuses on economic disparity among core regions（developed

countries）and periphery regions（developing countries）. In short, Japan's situation has not been the main focus of previous analyses（Araki, 2007b）.

Accordingly, this paper aims to clarify the role Japan is playing in global food trade in the third food regime by focusing on agricultural imports to Japan since the 1980s. The paper investigates three high-value foods（beef, oranges, and japonica rice(1)）that have driven Japan's increase in imports of agricultural products since the 1980s.

The author examines the impact of bulk imports of the three commodities on agricultural production and farm management in Australia and the US, the largest exporters to Japan. The significance of resulting changes that influenced trade strategies in exporting countries is assessed. Finally, the role that the Japanese market has played in global agricultural food trade is clarified.

2. Impact on agricultural production in export countries by Japan's agricultural imports: Beef, oranges, and rice

2. 1 Production trends of beef, oranges, and rice, in countries exporting to Japan

Japan was forced to open its markets for three sensitive commodities（beef, oranges, and rice(2)）in accordance with GATT Uruguay Round（1986-1994）agreements. In 1988 liberalization of trade in beef and oranges was decided, and import quotas were gradually increased over the three years until liberalization in 1991. In 1994, Japan accepted minimum access（MA）to rice, and from the following year 700,000 tons per annum of rice has been continuously imported. This begs the question, what changes resulted in the beef cattle farming areas in Australia, and the oranges and rice producing areas in California, USA(3)?

Figure 2 shows production trends for these three commodities in Australia（AUS）and California（CA）. There was significant stimulus to increase production. In beef cattle farming in AUS, although production was on a downward trend until the mid-

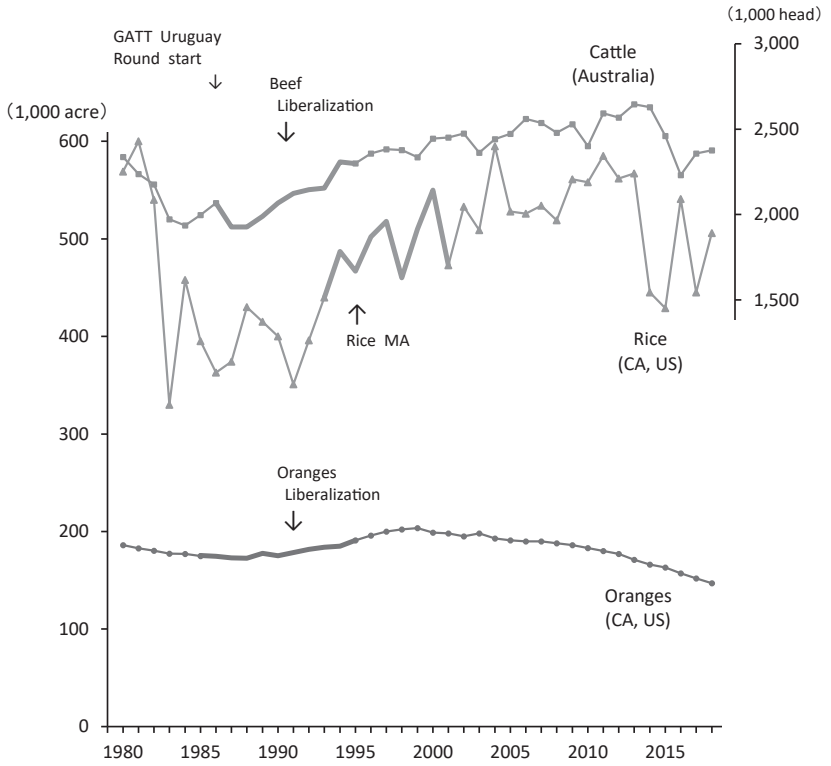

Figure 2　Changes in cattle breeding in Australia and orange & rice cultivation in California

Note: Thick parts of the lines indicate where each commodity's export to Japan was increasing rapidly.

Source: ABS "Agricultural Commodity Statistics", USDA "Rice Yearbook" "Citrus Fruits Summary"

1980s, the trend reversed rapidly by mid-1990s. During this period, Japan surpassed the US to become the largest foreign market for AUS beef. Additionally, beef exported to Japan shifted gradually to be sourced from grain-fed cattle, which was uncommon in AUS at that time, as Japanese consumers preferred tender marbled beef. Also, new beef cattle feedlots were constructed mainly in temperate zones in southeastern AUS, especially New South Wales（NSW）. One reason for this is that cattle varieties suited

to marbled beef are temperate animals of British origin. Another reason is that feed grain was mainly cultivated in temperate NSW. As a result, beef cattle farming in AUS gradually shifted from grazing in pastures in the arid northeast to feeding in lots in the temperate southeast region（Kawakubo, 2013）.

In orange farming in CA, a declining trend in cultivation towards the mid-1980s turned into an increasing trend continuing until the late 1990s. Japan grew to become one of the top two foreign markets for CA oranges along with Canada, but export quantities to Japan began to decrease in 1996（five years after liberalization）and the price dropped significantly as oranges became a mass commodity. Still, demand for navel oranges has increased gradually after liberalization. Thus, exports from the San Joaquin Valley, which is suitable for cultivating navel oranges, continued to increase. In contrast, in the southern CA region（around Los Angeles metropolitan area）that used to be the main Valencia orange producing area, orange exports to Japan declined sharply leading to a reduction in citrus farming acreage as a whole（Kawakubo, 2008）.

Rice farming in CA was stagnant during the 1980s due to a decline in exports and imposed planting restrictions due to a shortage of irrigation water. However, production recovered rapidly from the early 1990s with the acreage of rice farms approaching a historical high in the 2000s. During this period, exports to Japan grew making it the largest foreign market for CA rice. Most of Japan's import of MA rice（approximately 300,000 tons）was low grade medium grain non-staple rice for the processing industry(4). This led to the Sacramento Valley, the center of rice cultivation in CA, benefiting from increased exports throughout the region. However, cultivation of Japanese favorite staple rice, short grain varieties such as Koshihikari, did not increase due to import quotas by Japan and quality of CA short grain rice fell short of Japanese market demands（Kawakubo, 2017）.

2. 2 Management changes and involvement of Japanese companies promoting exports to Japan

As described above, the beef, oranges, and rice, producing sectors of AUS, and CA succeeded in expanding their export quantities through the liberalization and MA by Japan. This increase in exports was also due to various efforts made to meet the consumption preferences of the Japanese market.

Table 1 summarizes those efforts. In the beef cattle sector of AUS, the Angus breed was selected as a temperate variety suited to produce marbled beef for which it is now famous second only to Wagyu. The animals were raised in feedlots for a longer period than was traditional in AUS, then after processing in the abattoir the beef was exported in chilled conditions to maintain freshness. In the orange producing sector of CA, larger fruits of good appearance were carefully selected in the sorting process, and highly sweet fruits were occasionally exported in separate lots. Likewise, in the rice producing sector, contracts for cultivation of Japanese varieties increased, albeit to a limited extent. Additionally, the rice experiment station in CA developed new varieties of short-grain rice and sweet rice that could be produced at low prices with high yields, which continue to be exported to Japan at certain volumes.

Accordingly, in AUS and CA, various efforts in the production and distribution sectors（changes in production method, quality management, standardization of fruits, and development of varieties）were made in adaption for the Japanese market. The reason is that export countries cannot expect to force their own standards on import countries. If they want to maximize export quantities of high-value food, they have to adapt to the consumption preferences of import countries. In other words, the Japanese market was so large and attractive that it could not be ignored. Thus, a question arises. How were the preferences of the Japanese market, and the production methods required to meet these preferences, conveyed to the export countries? The answer is, by information and technology transfer from Japanese manufacturing and distribution companies. By far, the largest involvement of Japanese companies was by direct

Table 1 Changes in the production and distribution structure of beef, oranges and japonica rice in Australia and California as a result of the Japan market opening

Beef（Australia）	
Management change for Japanese market	The numbers of beef cattle raised in feedlots increased, especially in New South Wales. The grain-fed related sector（feedlot and feed grain）developed. Cattle farms introduced temperate varieties like Angus.
Direct investment of Japanese companies	Main target sectors were cattle farms, feedlots and abattoirs. Some companies ceased and withdrew in the 2000s.
Technology transfer of Japanese companies	Know-how to produce high marbled beef. Know-how of raising cattle over long time in feedlots.
Oranges（California）	
Management change for Japanese market	Navel orange cultivation increased, especially in San Joaquin Valley. Citrus packing houses promoted fruit standardization（size and appearance）. Citrus packing houses operated strict selection of high sweetness fruit.
Direct investment of Japanese companies	A joint venture purchased a big grove. But the company sold it 10 years later.
Technology transfer of Japanese companies	Introduced sorting machine with color grade sensor. Introduced sorting machine with sugar content sensor.
Rice（California）	
Management change for Japanese market	Medium grain cultivation increased all over Sacramento Valley. Rice millers contracted with farmers to handle Japanese varieties. Rice experiment station developed new varieties of short- grain and sweet rice.
Direct investment of Japanese companies	Main target sector was rice farm and milling company. Farm management withdrew in the 2000s.
Technology transfer of Japanese companies	Know-how of cultivation techniques for Japanese varieties. Know-how of storage method and quality management after milling

Source: Kawakubo（2008, 2013, 2017）

investment, but there were large differences in such investment by region and sector（Table 1）.

At first, in the beef cattle sector of AUS, trading companies, meat processors, and major retailers invested directly on a large scale. Their target was the main sectors of the beef industry（breeding ranches, feedlots, abattoirs）. The share of Japanese companies in feedlot capacity in AUS was approximately 30% in the early 1990s. This was because before liberalization AUS companies did not have the know-how of long-term cattle fattening required to produce marbled beef, nor did they have the capital to build many large-scale feedlots in a short time.

In contrast, in the oranges sector of CA, direct investment by Japanese companies was absent apart from a venture company that purchased a large grove. Consequently, production of commodities adapted to the Japanese market was induced indirectly by Japanese trading companies responding to the needs of major retailers. For instance, at first, sorting machines with color grade sensors were introduced for standardization（size and appearance）of fruits in citrus packing houses. Then, sorting machines with sugar content sensors were introduced for quality control as sweetness became important for consumers. One reason for the absence of direct investment by Japanese companies in the oranges sector was that citrus cultivation is largely influenced by climate in contrast to beef cattle farming, making fruit production unstable in terms of both quantity and quality. Another reason is that CA had mature citrus companies like Sunkist Growers before liberalization, thus they had sufficient skill and capital to meet the needs of the Japanese market. In addition, an important factor is that export quantities of oranges to Japan began to decline five years after liberalization and the value of the foreign market share of CA citrus exports to Japan was low compared to that of AUS beef.

In the rice sector of CA, direct investment by Japanese companies was also absent, except for one philanthropist who purchased a rice farm and established a rice mill company in the late 1980s. Some of the reasons for the lack of investment in CA

rice are similar to those for the citrus sector（local mature companies, and unstable production）. In addition, a particular reason why CA could not expand its acreage of rice farms was a restriction on development of irrigation water resources. However, since Japanese people had cultivated Japanese varies of rice in CA and Japanese milling companies had set an example of quality control, a local production and distribution system for premium short-grain rice was established in CA. Therefore, if the MA system were revised allowing for more imports of staple rice to Japan, the cultivation of Japanese rice varieties in CA could increase in the future.

3. Significance of adapting to the Japanese market in exporting countries: The case of Australia and California

3. 1 Value-adding of products and development of new markets

As discussed above, the expansion of beef, oranges and rice exports to Japan in response to trade liberalization and MA policies resulted in changes in agricultural management policies and revitalized agricultural producing areas in AUS and CA. Put simply, this involved "improving and upgrading product quality to adapt to the consumption preferences of the Japanese market". Involvement of the Japanese companies was fundamental in the facilitation of this process. However, the Japanese market has been shrinking recently(5) and Japanese companies have been withdrawing from AUS and CA since the beginning of the 2000s（Table 1）.

What has been the significance of management changes in AUS and CA to adapt to the Japanese market? One significant effect was "diversification of commodities with high added-value" that has resulted in excellent marbled beef, consistent highly sweet oranges, and premium short-grain rice, that did not exist in AUS or CA prior to Japan's involvement. These commodities have played an important role in the development of new foreign markets for AUS and CA. Since AUS and the US are relatively high-wage economies, they cannot easily compete with exporting countries in markets for low-cost agricultural products. To compete, both countries had to

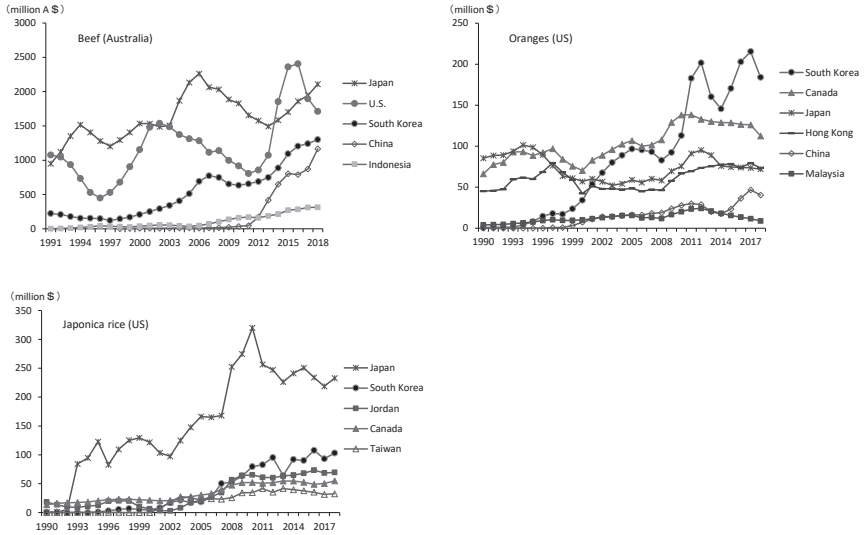

Figure 3　Changes in export values of beef, oranges and japonica rice by each destination countries in Australia and the US

Notes: Graphs show 3-year moving averages.
The quantity of japonica rice among rice imported by Canada is estimated as 30% and that by Jordan is 90%.

Source: Australian Commodity Statistics, Global Trade Atlas

become exporters of “a variety of agricultural products including high-value food” at reasonable prices. Figure 3 shows change in export values of AUS beef, and CA oranges and japonica rice since the 1990s. Exports of these commodities to Japan increased rapidly following the introduction of trade liberalization and MA policies, and then stagnated or gradually decreased. Meanwhile exports of those commodities to developing East Asian markets increased.

Regarding exports of beef by AUS, the most important foreign market shifted to Japan from the US in the 1990s, then the South Korea（Korea）market emerged in the 2000s, the China market in the 2010s, followed by a gradual rise in the presence of the Indonesia market in recent years. Regarding exports of oranges by CA, the Japan market grew rapidly around 1990 to become one of the largest foreign markets along

with Canada and Hong Kong（HK）. The Korea market emerged in the late 1990s and the presence of the China market rose gradually in the 2000s. As for japonica rice[6] exports by CA, the Japan market was dominant in the mid-1990s, then Korea and Taiwan markets emerged in the 2000s. In addition, the US exported to Jordan in the Middle East region, which has been a stable market for CA since 2005.

One of the factors involved in the expansion of export destinations by AUS and CA from Japan to other East Asian countries was political pressure and long-term strategy of the US government to improve their trade imbalances. Their first task was to make Japan as a mature economic superpower accept liberalization. Then, as the export effect to Japan gradually reduces with time, to open new markets by using political power if required. However, the following factors may have been more important in expansion of exports. One is that economic growth has resulted in the development of an affluent class in East Asian countries that have a demand for high-value food and can purchase it at higher prices. Another is that AUS and CA had developed their commodities to meet such demands in their process of adaptation to the Japanese market. In this sense, the Japanese market promoted value adding（quality improvement and upgrading）to agricultural products in AUS and CA and played a role as "the gateway" in terms of penetration of those commodities into the growing East Asian market.

Another significant outcome that arose from management changes in adaptation to the Japanese market was diversification of domestic diets in each country. AUS and the US, as high-wage countries, have populations that demand high-value food. Although grass-fed beef was traditionally eaten in AUS, grain-fed beef came to be distributed domestically when exports to Japan stagnated in the mid-1990s. Then, due to an economic boom in the 2000s, demands for luxury foods increased rapidly, thus grain-fed beef became one of the indispensable foodstuffs of the affluent class.

In CA, standardization and quality improvement of oranges was promoted, which resulted in establishment in the 2000s of a certification system（The California

Standard for Navel Oranges）based on sweetness. Demand for fresh oranges, especially navel oranges, increased as people in the US became more health conscious and considered oranges more than just a mass-produced commodity. As for rice, cultivation of short-grain rice, especially Japanese varieties, was not prolific. However, short-grain rice intended for export to Japan had to be distributed domestically in the 2000s due to poor bidding in auctions under the MA system(7), which led to domestic recognition and consumption of it as premium rice. This was especially significant in that essential ingredients were available in the country when restaurants in the US started to serve authentic Japanese food in the midst of a global Japanese food boom.

3. 2 The expansion of exports to Japan and development of East Asian markets

The history of exports to Japan of beef, oranges, and rice, from AUS and the US suggests that the impact of the Japanese market was qualitative in that “it promoted change in the management of commodities in those countries”, which was important in the long-term. If that is true, can experience gained in the AUS and CA beef, oranges, and rice sectors, namely the process of adding value to products（i.e. improving and upgrading quality）and using this as a strategy to develop new markets（e.g. the East Asia region）that are experiencing economic growth, be applied to other high-value foods and markets?

To approach this question, the author investigated Pacific Rim countries to determine whether expansion of their exports to Japan of large quantities of high-value foods（beef, cheeses, high-grade fruits, cultured shrimps, and poultry products）has led to development of new markets. Three developed countries（the US, AUS, and New Zealand（NZ））and four developing countries（Chile, Philippines, Vietnam, and Thailand）were chosen as case studies.

Table 2 depicts market trends. In the developed countries, the Japanese market for US beef was dominant in the early 1990s, then Korea emerged as a major foreign

market in the early 2000s. Despite a short-term slump in exports due to a serious incident of bovine spongiform encephalopathy（BSE at the end of 2003）, HK and Taiwan emerged as major markets in the 2010s, showing a similar trend to those of oranges, and rice（Figure 2）. As for AUS, in the 1990s, the main export destination for oranges were the US and Southeast Asian countries, subsequently exports to HK and Japan increased in the 2000s, then in the late 2010s exports to China rapidly increased. Regarding cheeses, exports to Japan increased in the 2000s, and exports to Korea and China increased largely in the 2010s. As for NZ, although its main export destinations for beef were North America and Japan in the 1990s, exports to Korea and Taiwan increased in the 2000s, and to China exports increased rapidly in the 2010s. The trend in exports of kiwi fruit were similar, with main destinations being European countries（EU）and Japan in the 1990s, and then Korea and Taiwan in the 2000s, and China in the 2010s. NZ cheeses export quantities to Japan began to grow mainly in the 2000s, and they increased rapidly to Korea and China in the 2010s.

As described above, export destinations of high-value foods from the US, AUS and NZ have changed significantly since exports to Japan increased in earnest. Simply put, in the 1990s Japan was added to the traditional export destinations of these three countries, namely North America which was the traditional export destination for the US, and neighboring or developed countries such as Southeast Asia, North America and the EU which were the traditional export destinations for AUS and NZ. Subsequently the export destinations of those three countries have expanded to East Asian countries since the 2000s. That means the Japanese market played a major role as the gateway for the penetration of high-value food from the US, AUS, and NZ, into the East Asian market.

This leads one to ponder upon the high-value food of developing countries. Table 2 shows that lemon exports by Chile began to grow in the 2000s, mainly to Japan and the US, and then to the EU and Korea in the 2010s. Mangoes from the Philippines were mostly exported to HK and Japan for a long time, but then North America and

Table 2　Changes in export values of high-value foods by each destination countries in main food exporting countries

Beef (US)　(million US dollars)

	1997	2002	2007	2012	2017
Japan	1,365	831	230	903	1,528
South Korea	291	608	117	539	1,147
Hong Kong	35	58	35	331	801
Mexico	297	593	713	609	742
Canada	275	218	486	990	605
Taiwan	47	49	107	128	408
EU 12	21	8	45	220	251
Others	99	124	162	908	688

Beef (New Zealand)　(thousand US dollars)

	1997	2002	2007	2012	2017
U.S.	342,208	464,167	503,643	736,130	887,973
Canada	69,298	94,354	76,304	80,740	85,125
Japan	68,066	32,844	125,648	158,367	97,911
South Korea	22,774	37,015	135,958	97,263	80,755
Taiwan	42,217	41,948	86,197	107,790	119,339
China	214	1,808	218	41,756	397,671
Others	152,868	108,160	223,464	458,607	366,800

Kiwi fruits (New Zealand)　(thousand US dollars)

	1997	2002	2007	2012	2017
EU	121,002	121,822	238,554	232,264	298,990
Japan	63,762	79,538	158,155	254,359	278,639
South Korea	6,352	11,710	55,499	50,826	56,116
Taiwan	16,308	17,429	31,900	75,415	97,850
China	1,385	2,233	11,777	93,020	271,924
Australia	9,915	11,642	27,379	36,421	27,543
U.S.	758	14,073	20,800	18,969	43,785
Others	19,882	11,065	37,270	73,003	107,308

Lemons (Chile)　(thousand US dollars)

	1997	2002	2007	2012	2017
Japan	n.d.	13,931	18,334	12,501	20,514
U.S.	n.d.	5,182	17,192	10,106	46,667
EU 12	n.d.	1	96	4,935	16,747
South Korea	n.d.	0	349	1,159	6,242
Others	n.d.	43	83	622	2,160

Shrimps (Vietnam)　(thousand US dollars)

	1997	2002	2007	2012	2017
Japan	n.d.	252,433	416,485	407,111	437,000
U.S.	n.d.	333,055	441,975	299,238	247,432
South Korea	n.d.	9,277	72,542	110,662	254,298
EU 12	n.d.	13,711	145,155	178,893	468,755
China	n.d.	4,024	11,102	181,477	377,838
Canada	n.d.	8,583	63,856	50,471	82,629
Others	n.d.	60,008	226,391	277,982	336,652

Oranges (Australia)　(thousand US dollars)

	1997	2002	2007	2012	2017
Japan	7,879	7,080	15,907	34,536	42,264
Hong Kong	6,617	15,603	22,352	24,796	23,339
China	0	63	250	2,746	69,735
Malaysia	17,037	13,576	9,831	10,203	11,878
Singapore	10,065	6,875	6,256	9,888	9,082
U.S.	16,890	24,467	41,057	16,695	6,840
South Korea	0	1,953	1,098	2,104	3,269
Others	13,391	13,066	31,089	34,704	47,781

Cheeses (Australia)　(thousand US dollars)

	1997	2002	2007	2012	2017
Japan	3,392	65,867	126,445	214,404	178,874
South Korea	5,162	848	7,238	14,186	21,174
China	9	174	1,957	16,410	45,618
Malaysia	165	1,453	2,729	11,743	14,733
Indonesia	5,672	7,090	1,458	2,639	9,473
Taiwan	46	2,219	6,385	9,173	8,458
Others	5,778	4,577	17,719	30,155	29,420

Cheeses (New Zealand)　(thousand US dollars)

	1997	2002	2007	2012	2017
Japan	6,691	15,038	35,511	49,873	59,888
South Korea	210	6,834	24,872	58,308	8,726
China	21	144	8,032	44,897	119,813
Australia	1,320	479	8,685	4,090	38,799
Indonesia	289	465	1,797	2,912	9,593
Others	5,320	7,927	26,124	22,586	33,501

Mangoes (Philippines)　(thousand US dollars)

	1997	2002	2007	2012	2017
Hong Kong	27,336	12,257	8,949	11,070	14,414
Japan	14,783	12,782	15,749	15,129	12,975
U.S.	1,025	2,030	6,883	21,440	21,049
Canada	261	72	794	3,950	6,811
South Korea	0	1,622	2,084	6,851	4,895
EU 12	484	480	1,308	2,527	4,030
China	0	408	482	3,806	1,567
Others	1,129	1,565	2,521	6,124	2,183

Prepared Chicken (Thailand)　(thousand US dollars)

	1997	2002	2007	2012	2017
EU 12	n.d.	172,688	517,251	752,711	723,898
Japan	n.d.	109,399	372,396	1,057,644	1,260,931
Hong Kong	n.d.	9,459	44,525	18,694	48,567
Singapore	n.d.	7,810	24,740	57,806	70,753
South Korea	n.d.	2,673	13,711	47,166	87,455
Others	n.d.	3,938	26,573	58,625	55,947

Note：EU12 was a founding member of the EU in 1993.　n.d. means no data available.
Source: USDA Data Products Global Agricultural Trade System Online, Global Trade Atlas.

Korea emerged as destinations in the 2010s. Shrimp exports by Vietnam were almost all to Japan and the US, until the EU and Korea emerged as major destinations in the 2000s, followed by China in the 2010s. Similarly, chicken exports from Thailand were mostly to Japan and the EU, then exports to HK increased in the 2000s, and to Korea in the 2010s. Therefore, it can be confirmed that Japan became the most important foreign market along with the US and the EU for high-value food in the developing countries at first, and thereafter Japan played a role in developing the East Asian market.

3. 3 The new role of the Japanese market in global food trade

As mentioned above, this paper shows that exports to Japan of high-value food from Pacific Rim countries led to the expansion of exports to East Asian countries. Figure 4 shows this process for 13 commodities listed in Figure 3 and Table 2. It can be seen that the main export destinations were originally only Japan（9 items）and HK（2 items）. This is because, at that time, there was not a large affluent class of people who could purchase large quantities of high-value food in East Asian countries apart from Japan. However, exports to Korea and Taiwan increased in the 2000s, especially to Korea which imported eight items second only to Japan which imported 13. Exports to China increased in the 2010s making it the next promising market after Japan and Korea.

It is unlikely that Japanese consumers purchase these 13 imported items because they cost less than domestic products. These commodities are promoted by value-adding（quality improvement and upgrading）through adaptation to the Japanese market, which has high significance for developing countries planning to leverage agricultural exports for economic development. This is because the profitability of high value-added food is higher and the success of their export to Japan raises their brand value. If the economic disparity between developed and developing countries does not narrow, the number of countries that can import agricultural commodities may be limited to the number of wealthy countries. In this sense, the attempt by developing

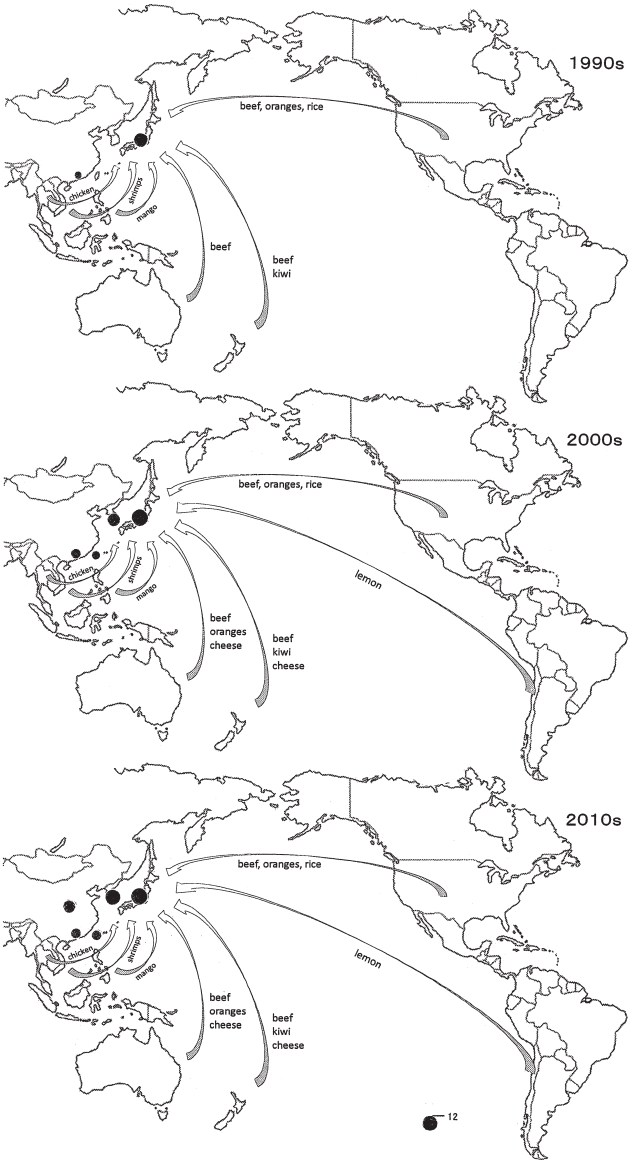

Figure 4　Changes in spatial flow of high-value foods to Japan and East Asian countries in the Pacific Rim region

Source: Author's survey

countries to promote the export of high-value food in addition to standard foods is significant. Additionally, if exports to Japan of high-value food results in the expansion of exports to East Asian countries, Pacific Rim countries, mainly in Southeast Asia, will have a geographical advantage.

Various high-value foods are exported to Japan from all over the world after promotion of quality improvement and upgrading. Afterwards, as those products acquire brand value, they penetrate the new markets (East Asia region) where economic growth has increased purchasing power. In other words, the Japanese market is positioned as "the training place of value-adding" and "the gateway to the East Asian market". This is a feature of Japan based global food trade, and a new role for the Japanese market.

4. Conclusion

This paper investigated the role in world food trade played by Japan, which is one of the top countries that import the most food, focusing on imports of high-value foods since the 1980s. The analysis focused on the trade of beef, oranges, and rice, with AUS and CA, and examined the changes that Japanese high import quantities have brought about in these producing areas from the perspective of production trends, management changes and trade strategies. As a result, the following points are evident.

First of all, in AUS and CA, export quantities of the above three commodities increased rapidly from the late 1980s as the Japanese market opened (liberalization and MA), and their production trends reversed from downward to upward. Additionally, during this period various management changes occurred to maximize quantities of exports to Japan including value-adding (quality improvement and upgrading) of commodities to adapt to the consumption demands of the Japanese market. Specifically, expansion of grain-fed beef production in AUS, production and sorting of highly sweet and standardized (size and appearance) oranges in CA, and cultivation and development of premium short-grain rice including Japanese varieties

in CA. However, AUS and CA lacked experience to produce such commodities in the late 1980s, thus Japanese food related companies invested directly and transferred their techniques and skills.

Those management changes resulted in development of foreign markets in addition to Japan. Specifically, development of the East Asian market（Korea, China, Taiwan, HK）as a growing economic region, which became of comparable scale to the Japanese market in the 2000s. The reason is that value-added commodities designed for the Japanese market suited the demands of a growing affluent class in this region, demonstrating that the Japanese market played the role of "gateway to the East Asian market".

This phenomenon, i.e., the development of the East Asian market after success in Japan as a large wealthy market, was confirmed by exports of high-value food products（lemons, kiwi fruits, mangoes, cheeses, chicken, and shrimps）from Pacific Rim countries（Chile, NZ, Philippines, Vietnam, and Thailand）. This means that realization of acquiring access to the Japanese market was not the end goal but a stepping stone towards further success. In other words, the Japanese market is "the training place of commodity value adding" that leads to new foreign markets.

With a declining birthrate and aging population the Japanese market has been on a downward trend, so its quantitative influence on the global food trade may decrease. However, its qualitative influence will remain because of a peculiarity of the Japanese market, namely the propensity of consumers to demand high quality safe products and a willingness to pay higher prices in return.

High-value food products will be exported to Japan from all over the world, and after quality improvement, upgrading, and increase in brand value, they will flow into new emerging markets（East Asian economy growing countries with an increasingly large affluent class）. This is one of the key features of Japan-based global food trade in the third food regime. These two roles that Japan plays in the transfer of agricultural products, "the gateway" and "the training place", may attract more interest in the future.

Notes

（1） Most of the global rice trade is inexpensive indica rice (long grain). However, japonica rice (short/medium grain), which Japanese eat as a staple food, is positioned as a premium commodity with brand value. Additionally, its cultivation needs skilled techniques and good quality management. Thus, the author deemed japonica rice to be a high-value food.

（2） In Japan, cattle farming is very important agricultural sector related to dairy farming, and citrus farming has been the largest sector in the fruits and nuts sector. Rice is the staple Japanese food cultivated all over Japan. Thus, decline of rice prices tended to be a political problem.

（3） To Japan, AUS exports the largest quantities of beef and the US exports the largest quantities of oranges and rice. In this paper, the analysis of US oranges and rice was limited to CA because its proportion of Japan's imported US oranges and rice is almost 100%.

（4） Japanese government allots 100,000 tons and 600,000 tons of 700,000 tons of imported rice to staple food and non-staple food in the MA system management, respectively, to avoid a decline in domestic rice prices due to cheaper imported rice for staple-food. In addition, although Japan can purchase MA rice from any country, over 300,000 tons is from the US every year out of consideration for the US.

（5） Japan's import quantities of AUS beef changed to downward after 2005, and imports of CA oranges began to decrease in 1996. In contrast, the quantity of imported CA rice has remained at 300,000 tons, and the possibility of an increase is unlikely unless the MA system changes.

（6） Data for "japonica rice" is absent from US trade statistics. Thus, quantities imported from Canada and Jordan were estimated based on the statistics of CA, which accounts for the majority of japonica rice production in the US.

（7） The breakdown of staple and non-staple food uses of rice in the MA system is only a rough guide. Thus, simultaneous buy and sell transactions of rice for staple-food may not be determined when world market prices are high.

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―かわくぼ　あつし・東洋大学法学部教授―