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Japan's Agri-Food Sector and the Trans-Pacific Partnership

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Abstract

Japan's agriculture has been inward oriented, protected by trade barriers from foreign competition. Even though the share of Japan's food consumption provided by Japanese production has gradually fallen, Japan's farm sector remains the second-largest among the countries negotiating the Trans-Pacific Partnership (TPP). Japan's food industry is increasingly integrated with TPP economies, although the TPP share of Japan's agricultural imports has fallen over time. The proposed TPP agreement would lead to more agricultural exports to Japan from TPP partners, likely dominating the total agricultural trade impact of such an agreement. Despite potentially large import increases, especially in the rice, beef, and dairy sectors, the proposed agreement would only marginally reduce Japan's output. Intrinsic strengths of Japanese agricultural production and constraints to the growth of supply in the rest of the TPP countries may limit the impact of the agreement on Japan's agriculture. Nevertheless, U.S. exports would be well positioned to meet Japan's new import demand.

Keywords: Japan, trade, trade agreement, trade liberalization, Trans-Pacific Partnership, TPP, Pacific Rim, Japanese agriculture, Japanese agri-food sector, product differentiation

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Japan's Agri-Food Sector and the Trans-Pacific Partnership

John Dyck and Shawn S. Arita

What Is the Issue?

Japan is in negotiations to establish the Trans-Pacific Partnership (TPP) with the United States and 10 other countries. Within the TPP trade zone, Japan's agriculture and food market are second in size only to those of the United States. Japan's agriculture is inward oriented, although its large livestock and poultry sector depends on imports of feedstuffs. Japanese agricultural exports are relatively small. Japan's food industry, in contrast, is increasingly outward oriented, focused on global markets, and already an investor in the economies of the Pacific Rim. With its current high barriers to some agricultural imports, access to Japan's market is an important part of the proposed trade agreement for the U.S. agricultural sector.

What Did the Study Find?

Japan imposes a varied set of border measures (tariffs, safeguards, tariff-rate quotas (TRQs), state trading, markups, variable duties, sanitary and phytosanitary requirements, and other nontariff barriers) and maintain domestic agricultural support measures for major commodities. Producer support and welfare reduction indices suggest that Japan's policies make its agricultural market the most distorted among TPP countries. Japan's imports of agricultural products from the TPP negotiating partners have grown more slowly than its imports in general over the last two decades. In part, this has been because developing countries enjoy lower tariffs on some imports into Japan, and Japan has negotiated bilateral preferential trade agreements with a number of countries that give those countries lower tariffs on some imports into Japan.

The proposed TPP agreement (interpreted as an elimination of tariffs and TRQs on all agricultural products, only for TPP partners) would lead to larger agricultural imports by Japan from TPP partners, with the largest gains accruing to U.S. exporters. This increase in trade to Japan would likely dominate the increase in imports by all TPP countries.

Tariff reduction or elimination on imports from TPP partner countries will lower the prices of imported beef, oranges, rice, milk powder, and butter, leading to opportunities for TPP exporters to increase their share in Japan's market and, in some cases, to an increase in Japanese consumption. U.S. producers are well-suited to meet the needs of Japan's consumers. Both intrinsic strengths of Japanese agricultural production and constraints to supply growth in the rest of the TPP countries are likely to limit the impact of full tariff elimination on Japan's agriculture.

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Strengths of Japan's agriculture include its ability to provide some differentiated products favored by consumers, such as wagyu beef and short-grain rice, very fresh products, and products labeled as produced in Japan. Supply constraints among countries exporting to Japan are likely for products such as medium- and short-grain japonica rice and certain cuts of meat widely favored in Asian markets, and TPP could increase commodity prices of these and other products in exporting countries.

How Was the Study Conducted?

Drawing on various sources of trade, production, tariff, and policy data, the report describes Japan's agriculture and food sectors and compares these sectors across TPP partners. Japan's support and protection for agricultural production is summarized using commodity policy reviews from an existing series of U.S. Department of Agriculture reports from the Economic Research Service (ERS) and the Foreign Agricultural Service (FAS)/Tokyo, Japanese Government reports and data, World Trade Organization (WTO) reports and data, and other sources. The resulting profile of Japan's agri-food market is then used to examine the implications of the proposed agreement. The analysis uses quantitative results from a general equilibrium model published in the ERS report, *Agriculture in the Trans-Pacific Partnership*, but does not develop additional, new quantitative analysis of a potential agreement. These results are discussed and compared with Japanese Government estimates.

Japan's Agri-Food Sector and the Trans-Pacific Partnership

Introduction

Japan is in negotiations to establish the Trans-Pacific Partnership (TPP) with 11 other confirmed partners: Australia, Brunei, Canada, Chile, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States, and Vietnam. The TPP negotiations began in March 2010 and convened in successive rounds at locations throughout the Pacific Rim. They were scheduled to conclude in 2013 but continue as of 2014. The leaders of TPP member countries aspire to achieve a high-quality, “21st century” agreement that will serve as a model for addressing both traditional and emerging trade issues. Objectives include the elimination of tariffs and some nontariff measures among the members and the strengthening of ties among some of the world’s major agricultural importers, exporters, and producers.

Japan is a key agricultural market within the proposed TPP trade area. Its agricultural sector and food industry are second in size only to the United States within the TPP region. Most of Japan’s agriculture is inward oriented, and domestic agricultural products are expensive by world standards. Japan’s food industry, in contrast, is increasingly outward oriented, focused on global markets, and already active in the economies of TPP partner countries through investments in farming, distribution and storage, food manufacture, and retailing in those countries. The TPP negotiations deal in part with Japan’s web of protection for agriculture, including tariff-rate quotas with state trading and markups. TPP liberalization of trade barriers and a greater integration of TPP economies would affect Japan’s agricultural production and consumption and have a large impact on agricultural trade; according to the USDA/Economic Research Service’s computable general equilibrium (CGE) model, changes in Japan’s imports will dominate those in the rest of the TPP group (Burfisher et al., 2014).

This report surveys Japan’s agricultural and food sectors as well as its food consumption in the context of the TPP countries. A review of trade and domestic policies that currently support Japanese farming and constrain import access identifies various types of support by commodity category. The report provides an overview of the structure of Japan’s agricultural imports and looks at the sources of imports over time, focusing on imports from the TPP partners. Potential changes in future food demand and import demand are assessed under a possible comprehensive TPP scenario. Finally, two quantitative estimates of the effects of a complete liberalization of agricultural tariffs within the proposed TPP agreement are presented and discussed.

Japan's Agriculture and Food Industries in the Context of the TPP Partner Economies

Japan's agricultural sector represents a large share (15 percent) of the total agricultural value added within the TPP economies (table 1). This is in part because of high prices in some protected parts of Japan's agricultural sector. It also reflects the quality of agricultural outputs and the large share of output that comes from the high-value animal and horticultural product industries. Integration of Japan in the TPP zone, involving changes in the large agricultural sector and the even larger food sector, thus has the potential to bring substantial change to agricultural trade in the proposed TPP zone.

Japan's agricultural trade is significant. Japan's Government calculates that, on a calorie basis, 61 percent of Japan's food consumption is imported. Using the yen value of consumption, however, most of Japan's supply (67 percent) originates in Japan (Government of Japan/Ministry of Agriculture, Forestry and Fisheries, *Monthly Statistics*).

Japan's agricultural production is used to supply the domestic market—Japan's agricultural exports are less than 4 percent of the sales value of domestic agricultural products. Japanese agriculture uses both imported inputs—such as feedstuffs—and domestic inputs. However, agricultural imports supply a large share of Japan's food demand, in addition to domestic production.

Japan's land base for agriculture is small compared to that of some other TPP countries. Arable land in Japan accounts for just 1.4 percent of the TPP total (table 1). The mountainous terrain limits cropping to relatively small plains, which also are the sites for large cities. The mountains are forested, and there is relatively little grassland for animals to graze on.

For centuries, the Japanese ate a largely vegetarian diet, based on rice, other grains, soybeans, vegetables, and seafood. Over the last 60 years, rice consumption and production fell, production of other grains declined precipitously, and imported wheat became a large and stable part of the diet. At the same time, livestock and fruit production increased. Animal production has long been based on imported feedstuffs; Japan produces little or no feed corn and does not crush domestic soybeans for soymeal. Both Japan's production and consumption now include a large animal product component, including meat, eggs, and milk. In 2011, rice accounted for about 22 percent of agricultural output value, animal products for 31 percent, vegetables for another 26 percent, and fruits and all other products for the final 21 percent (Government of Japan/Ministry of Agriculture, Forestry and Fisheries, 2013 Yearbook).

Although Japan's arable land is divided into small farm holdings, usually less than 2 hectares (ha), or 5 acres, in size, Japan's agricultural marketing chain is highly concentrated and tightly organized in many respects (U.S. Department of Agriculture, Economic Research Service (USDA/ERS), topics page, Japan subtopic, 2014). Most farmers are members of a single cooperative federation (Japan Agriculture, or JA), which centralizes procurement of inputs and marketing of outputs (Government of Japan/Ministry of Agriculture, Forestry and Fisheries, 2013 Yearbook, 2013; Hayami, 1988). Large retail and wholesale corporations purchase and distribute much of Japan's agricultural output. The supply chain for food in Japan is technologically advanced, large scale, and in some respects very efficient. Thus, foreign competitors for Japan's food market actually interact with a small number of large Japanese firms rather than a large number of small farmers.

Table 1
Trans-Pacific Partnership country indicators

	Population, 2011		Arable land, 2011		Agriculture value added, 2008 ¹		GDP/per- son, 2009- 11 average
	Millions	Percent of total TPP	Million hectares	Percent of total TPP	\$ billion U.S.	Percent of total TPP	\$ U.S., PPP ²
Australia	22.3	2.8	47.7	16.2	23.9	6.4	40,372
Brunei	0.4	0.05	<.01	0	0.09	0	50,613
Canada	34.5	4.4	43	14.6	27	7.3	39,098
Chile	17.3	2.2	1.3	0.4	6	1.6	16,183
Japan	127.8	16.3	4.3	1.4	55.1	14.8	33,013
Malaysia	28.9	3.7	1.8	0.6	23	6.2	15,177
Mexico	114.8	14.6	25.5	8.7	38.9	10.5	15,357
New Zealand	4.4	0.6	0.5	0.2	7.5 ³	2	30,401
Peru	29.4	3.7	3.7	1.2	8.4	2.3	9,485
Singapore	5.2	0.7	<.01	0	<.01	0	56,458
United States	311.6	39.7	160.2	54.4	161.5	43.4	46,676
Vietnam	87.8	11.2	6.5	2.2	20.2	5.4	3,196

GDP = gross domestic product; TPP = Trans-Pacific Partnership; 1 hectare = 2.47 acres.

¹2008 chosen because it provides the latest data available for Canada and New Zealand. Agriculture value added is the revenues from agricultural sales less input costs.

²PPP is purchasing power parity, a calculation that takes into account price differences among countries that affect how much a given income level buys.

³New Zealand agriculture value added in 2008 is from the Government of New Zealand, Ministry of Agriculture and Forestry, Situation and Outlook for New Zealand Agriculture and Forestry, 2011.

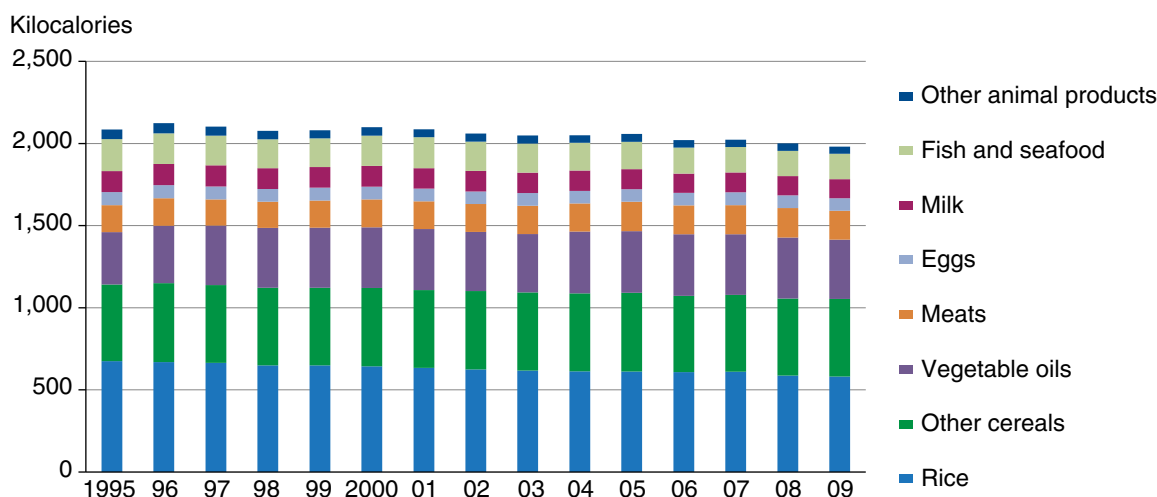
Source: USDA, Economic Research Service, using data from World Bank, World Development Indicators.

Japan's food consumption has shifted from home production toward food prepared outside the home, although the share of food prepared at home is still over 40 percent. Restaurants, cafeterias, and ready-to-eat meals available in supermarkets and convenience stores account for an increasing share of food expenditures. Restaurants include many small family businesses as well as very large chains, both for fast food and family dining. The high cost of Japanese agricultural products is offset by efficient use of other inputs and services so that the final cost to consumers, though still high, is closer to that for consumers in other TPP countries than farm prices would suggest. For example, Japanese producer rice prices were eight times higher than U.S. farmgate prices in 2012, while retail prices were four times U.S. prices.

Food prices in Japan have been basically flat for 20 years, both because farm prices have fallen as efficiency has increased and because yen-denominated prices of nonagricultural inputs to food production have generally fallen (Government of Japan/Ministry of Internal Affairs and Communication, 2014). However, food prices remain high compared to other countries, with Japanese households spending over 20 percent of their total expenditures on at-home consumption of food-related items (U.S. consumers spent 11 percent of disposable income on food at home in 2012) (USDA/ERS, Food Expenditures data product, 2013).

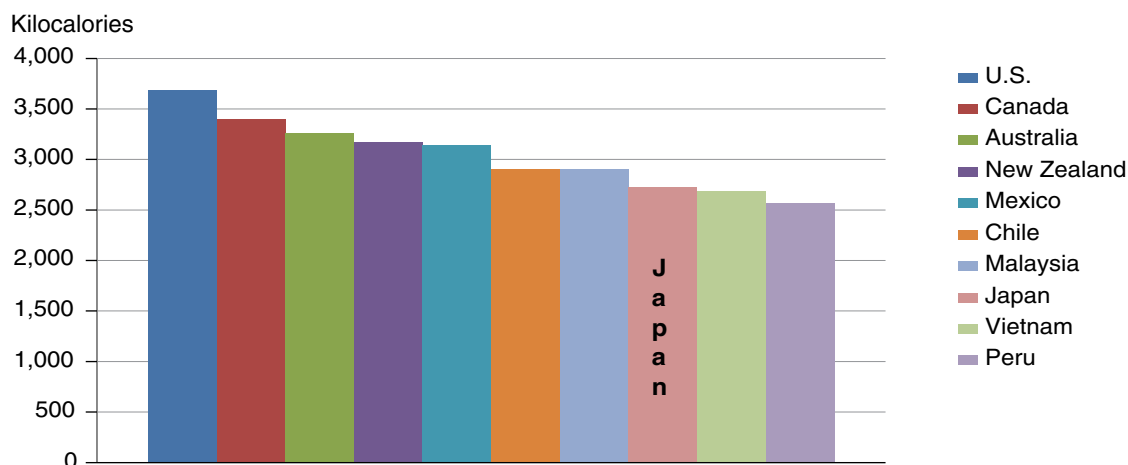
Japan's food consumption is stagnant in caloric terms, perhaps due to its aging population (fig. 1). Japan's average caloric intake is below that of the other high-income TPP countries, according to estimates (fig. 2) (United Nations, Food and Agriculture Organization, 2013). Declining rice consumption has contributed to lower caloric intake, and consumption per person of animal products has been steady for over a decade. Vegetable oil consumption, a major source of growth in caloric intake in the rest of the world, has also been static in Japan.

Figure 1
Caloric supply per person per day in Japan for selected categories, 1995-2009



Note: Not all foods are shown; 2009 data are the most recent available. Caloric supply is calculated as food available for direct human consumption after accounting for feed use, waste and loss, exports, and stock changes.
 Source: USDA, Economic Research Service using data from United Nations, Food and Agriculture Organization, FAOSTAT.

Figure 2
Caloric supply per person per day in the TPP countries, 2009



TPP = Trans-Pacific Partnership.
 Note: Data for Singapore are not available; Brunei is not included because of its small size; 2009 data are the most recent available. Caloric supply is calculated as food available for direct human consumption after accounting for feed use, waste and loss, exports, and stock changes.
 Source: USDA, Economic Research Service using data from United Nations, Food and Agriculture Organization, FAOSTAT.

Japan's Agricultural Support and Protection: Border Measures

At the border, food and agricultural exports to Japan confront a varied set of entry requirements. For many goods, passage through the border is relatively easy and inexpensive. Over 20 percent of tariff lines in Japan's tariff schedule have zero tariffs for almost all trade partners (Gibson et al., 2001). When tariffs are low or zero and regulatory systems that protect trademarks; human, animal, and plant safety; and environmental concerns are similar to those in the exporting country, Japan's market is quite open.

For other commodities, exports to Japan are more difficult. The desire to protect agricultural producers from foreign competition is the basis for an overlapping system of import barriers for some commodities produced in Japan (table 2):

- **Tariffs.** The highest tariffs, when there is no quota present, are usually 40 percent or less (Government of Japan/Japan Customs, 2014).
- **Safeguard tariffs.** These are temporary increases in tariffs, applied when trade within a specific tariff line increases beyond a certain threshold, or import unit values fall below a threshold level. Safeguard mechanisms exist for hundreds of items but not for most of Japan's agricultural import tariff lines (World Trade Organization, Schedules, 2014; WTO, Trade Policy Review, 2013; Obara et al., 2003; Obara et al., 2010).
- **Tariff-rate quotas (TRQs).** Within the quota, tariffs usually range from 0 to 40 percent. Out-of-quota tariff rates are generally set prohibitively high to discourage any trade beyond quota levels (WTO, Schedules, 2014; Government of Japan/Japan Customs, 2014). TRQs cover most grain and dairy imports, starch imports, and a variety of other commodities.
- **State trading.** The exclusive right to import quantities within a TRQ is often reserved to a government agency or a corporation owned by the Government (Government of Japan/Japan Customs, 2014).
- **Markups.** State trading enterprises are often allowed to charge a markup when they sell goods imported within a TRQ into the domestic market (WTO, Schedules, 2014; Fukuda et al., 2002). The markups cannot exceed a ceiling level, and, under that level, are calculated to be as high as the market will bear.
- **Variable duties (for pork, known as the gate price system).** For pork and onions, a duty is charged that is the difference between a specified price and the import unit value (Government of Japan/Japan Customs, 2014; Obara et al., 2003; Ito and Dyck, 2002). If the shipment's import unit value is above the specified price, no duty is charged, except for ad valorem tariffs.

Other nontariff border measures also protect Japan's producers, consumers, corporations, or environment from injury that could result from imports. Often, these measures also apply to domestic market activity. Major categories include:

- **Trademark, copyright, and patent protection.** This also applies to domestic market activity.

Table 2

Protection and support for agricultural commodities in Japan

	Tariff (simple or in-quota)	TRQ (illustrative over-quota tariff)	Safeguard (Japan-specific) ¹	Mark-up ²	Special issue	Domestic support ³	Japan share of TPP supply quantity
	<i>Percent unless otherwise indicated</i>	<i>Percent unless otherwise indicated</i>					<i>Percent</i>
Beef	38.5		X			X	2.7
Butter	35	29.8 + 985 yen/kg		X		X	3.9
NFDM	0 - 35	21.3 + 396 yen/kg		X		X	8.3
WMP	30	25.5 + 612 yen/kg		X		X	1
Whey	0 - 35	29.8 + 425 yen/kg		X			n/a
Cheese	0 - 40	29.8				X	0.8
Yogurt	21.3 - 35	29.8 + 915 yen/kg		X			n/a
Pork	4.3		X		Gate price	X	7.3
Poultry meat	3 - 11.9						5.2
Eggs	17 percent to 51 yen/kg						20.3
Rice, short/medium	0	341 yen/kg		X		X	74.6
Wheat	0	55 yen/kg		X		X	0.6
Barley	0	39 yen/kg		X		X	0.8
Soybeans	0					X	0.2
Corn	0						0
Corn for starch	0	Greater of 50 percent or 12 yen/kg					0
Sugar, raw	0			X	State trader control	X	3.8
Sugar, refined	21.5 yen/kg				Surcharge (62.4 yen/kg)		n/a
HFCS	Greater of 50 percent or 25 yen/kg			X	State trader control		n/a
Starch	25	119 yen/kg		X			n/a
Potatoes, fresh	4.3					X	7.7
Onions	8.5				Variable levy	X	15.8
Cabbage	3					X	35.7
Lettuce	3					X	10.5
Carrots	3					X	19.3
Cucumbers	3					X	26.2
Oranges	16/32 ⁴					X	0
Apples	17					X	10.4
Grapes	7.8/17 ⁴					X	6.9
Cherries	8.5					X	4
Grapefruit	10						0

Kg = kilogram; n/a = not available; TRQ = tariff-rate quota; TPP = Trans-Pacific Partnership; NFDM = nonfat dried milk powder; WMP = whole milk powder; HFCS = high fructose corn syrup.

¹Safeguard agreed in a side agreement to the World Trade Organization, Uruguay Round Agreement, 1995. ²Markup is the maximum amount in yen that state trading enterprises may add to commodities purchased within a tariff-rate quota, according to Japan's schedule submitted as part of the Uruguay Round Agreement, except for raw sugar, for which the markup is determined by Japan's Law on Sugar Products. ³For domestic support descriptions, see text. ⁴Tariffs vary by season.

Sources: USDA, Economic Research Service, using Government of Japan, Japan Customs, 2014; USDA, Foreign Agricultural Service, Production, Supply, and Distribution Online database average for 2010-12 (for commodity supply except fruits); and United Nations, Food and Agriculture Organization, FAOSTAT average for 2009-11 (for fruit supply).

- **Labeling requirements.** These can include details about the content and origin of products. This also applies to domestic market activity.
- **Content and process requirements.** Such requirements can prevent or limit imports containing certain ingredients or properties or that are processed in certain ways. This also applies to domestic market activity.
- **Sanitary requirements.** Controls on imports that pose a risk of human or animal diseases. These do not apply to domestic market activities.
- **Phytosanitary requirements.** These measures are designed to minimize the risk of plant diseases entering on imported products. These do not apply to domestic market activity.

Such measures are subject to international and bilateral agreements with other nations in some cases. However, many are unique to Japan, and harmonizing them with the requirements and expectations of other TPP partners could be an outcome of a comprehensive agreement. Japan has faced complaints over some import requirements being unreasonable and/or improperly administered, or violating international agreements that Japan has endorsed. These complaints, including challenges made in the WTO dispute resolution system, accuse Japan of using the requirements as barriers to protect Japanese producers (WTO, Dispute settlements, 2014).

Over time, Japan's import barriers have been reduced. In negotiations under the General Agreement on Tariffs and Trade (GATT), such as those following the Tokyo Round (1973-79), Japan gave up its protective barriers erected under the so-called Balance of Payments provision. This culminated in 1989 with the agreement to end Japan's quotas on beef and citrus—an agreement followed by a surge in beef trade, likely the most important trade liberalization outcome for Japan to date (Dyck, 1998). In the Uruguay Round (UR, 1986-94), Japan agreed to eliminate many remaining nontariff barriers. This culminated with the change from an absolute quota on rice to a TRQ in 1999 (Dyck et al., 1999). Since then, Japan has negotiated lower bilateral tariffs for some of its products in economic partnership agreements (EPAs) with Chile, Mexico, Singapore, Peru, Vietnam, and other countries while still limiting access for sensitive sectors like food grains, beef, pork, dairy, sugar, and starch. In addition to these preferential agreements, Japan gives preferential tariff treatment to almost all least-developed and less developed countries for some tariff lines.

As part of the UR, Japan agreed to limit its sanitary and phytosanitary (SPS) requirements to those that could be justified by scientific analyses. Japan is a member of the OIE (World Organization for Animal Health), *Codex Alimentarius*, and CITES (Convention on International Trade in Endangered Species) groups, which influence trade measures based on consensus about science-based norms. Japan has agreed to abide by WTO dispute resolution when its SPS measures have been successfully challenged. Exporters to Japan have raised concerns about SPS requirements being excessive with respect to the actual levels of risk, as with fumigation requirements on cherry imports (to avoid codling moth risks) and the prohibition of beef imports from cattle older than 21 months (due to bovine spongiform encephalopathy (BSE) risks). While these two particular cases have been partially resolved through the implementation of more risk-based protocols, SPS measures for other imported agricultural products continue to be contentious.

Japan's Agricultural Support and Protection: Domestic Measures

Japan began to offer increasing levels of support to farmers in the 1960s, as the farm-derived income of rural households became inadequate to match the rising standard of living provided by the manufacturing and services sectors. Besides strictly controlling competition from imports through border measures, the Japanese Government used various measures to raise farm prices and thus to raise farm household income. The fact that almost all farms were part of the JA cooperative system aided this centralized control by channeling rice sales through one system. Over time, the high farm prices became increasingly onerous to consumers. To help consumers, the Government then bought rice from farmers at a high price and sold to consumers at a lower price. However, this meant shifting costs from consumers to taxpayers (Hayami, 1988).

In addition to the rising costs for subsidizing consumers by selling rice to them at a loss, the Government also faced the problem of shrinking rice demand. Government stocks bulged with rice that it could not sell. In the 1980s, the Government turned to supply controls, buying rice only from farmers who agreed to limit their output. Finally, in 1987 the Government stopped raising its purchase prices, letting inflation and occasional nominal price decreases bring down the real farm price of rice.¹ The Government also stopped purchasing rice and reselling it, so that farm production went directly into the market, where farmers had to face market prices and competition from other farmers. Over time, lower prices and the gradual abandonment of rice land by an aging farm population reduced production (USDA/ERS, topics page, Japan subtopic).

Japan's Government still intervenes heavily in the markets for rice and other field crops. Much of the domestic intervention ties farm production levels to the receipt of Government support. This is explicit for wheat, barley, and soybean production. Farmers receive payments per hectare when these crops are planted in place of rice production. In addition, farmers receive fixed payments from the Government based on historical planting levels. Finally, high prices for wheat and barley are paid by private processing companies in return for access to imported wheat and barley through the state trading monopoly. Thus, planting of wheat, barley, and food-use soybeans is encouraged, in place of rice production.

Another program makes payments to farmers when incomes from rice farming fall below a certain level, conditional on rice farmers' cooperation with JA in meeting Government rice production limits set at a prefectural level. Other direct payments to rice producers are allocated according to historical production levels and thus are decoupled from current production decisions and Government rice output goals (Fukuda et al., 2003; Fukuda et al., 2004).

Interventions in support of other agricultural activities are less pervasive than for grains and soybeans, with the exception of inputs for sweetener production, which are tightly managed by the Government. Sugar mills are effectively required to purchase domestic beet and cane output from farmers at prices that are high by world standards, in order for sweetener companies to be able to import raw sugar or corn for high-fructose corn syrup production (domestic output of feedstocks for

¹In 2012, farm prices of rice were about 8 percent lower than in 2004 and about 27 percent lower than in 1991, in nominal terms; however, changes in price series make these comparisons approximate at best (Government of Japan/Ministry of Agriculture, Forestry and Fisheries, *Monthly Statistics*, various issues).

sweetener production—sugarcane, sugar beets, potatoes, and sweet potatoes—does not meet Japan’s demand) (Fukuda et al., 2002).

Japan’s large livestock industries receive important domestic support. Japan’s Government ensures that the price for milk for manufacturing is kept high through supply management. Dairy farmers cooperatively operate a quota system for milk for the fluid market (Obara et al., 2005). The Government supports beef production by operating a deficiency payment system when calf prices fall below target levels (Obara et al., 2020; WTO, Trade Policy Review, 2013). A price policy (varying by prefecture) for swine aims to keep pig prices within a price band (Obara et al., 2003; WTO, Trade Policy Review, 2013).

Japan’s Government offers vegetable and fruit farmers protection against price declines through an income support program and, as it does for other farm commodities, subsidizes the premiums, the administration, and the reinsurance of hazard insurance for vegetables and fruits. Farmers’ organizations seek to keep total production at levels that will sustain relatively high prices in the market (Ito and Dyck, 2002; Ito and Dyck, 2010).

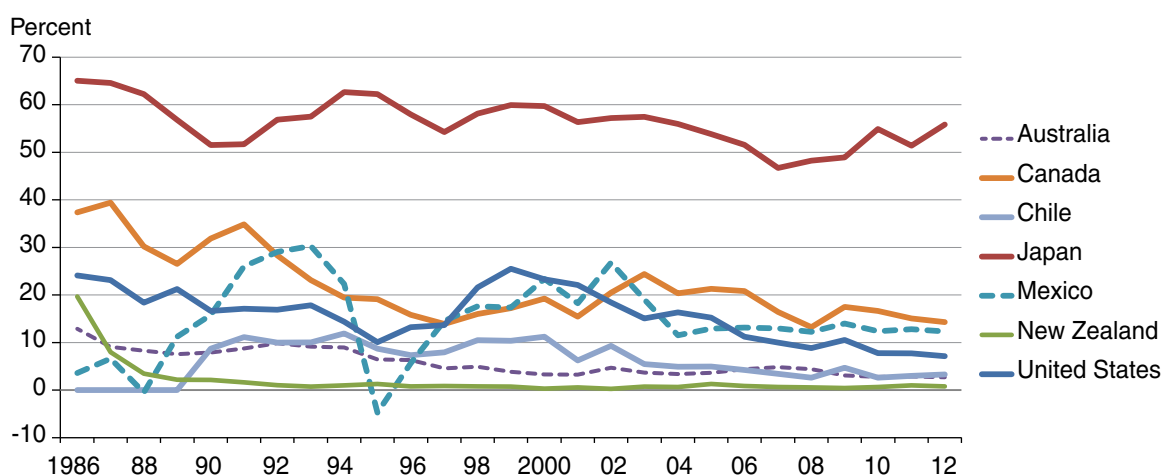
Aggregate Impact of Japan’s Agricultural Policies

Various measures attempt to quantify the aggregate impact of Japan’s policies on producers and consumers. Often, these measurements compare an internal Japanese price to prices at the border or to a reference world price. By doing so, they encapsulate the effects of tariffs, nontariff border measures, internal taxes and subsidies, and other Government interventions to obtain a net effect on market participants. The selection of the prices to use is limited by data availability, and often the internal and external prices do not correspond to exactly the same product. This introduces a significant possibility for error. Nevertheless, these indicators have value in approximating the distortions that Government policies can bring.

The producer support estimate (PSE) is calculated by the Organisation for Economic Cooperation and Development (OECD). It calculates the ratio of government support with respect to farm production to the total value of farm production. By this measure, Japan’s farmers are the most highly supported among the six other countries in the TPP for which the PSE is available, and they derive most of their farm income from Government support (fig. 3).

The welfare reduction index (WRI) calculates “the ad valorem tax rate which, if applied uniformly across all tradable agricultural commodities in a country, would generate the same ...economic welfare loss” as the actual incidence of tariffs and other policy instruments that affect the various commodities (Lloyd et al., 2009, p. 421). This measures the aggregate loss in well-being to a country as a result of government policies related to agricultural products. In contrast to the PSE, the WRI takes into account the price changes affecting consumers as well as those that affect producers as a result of tariffs, other border measures, and domestic policies. For the most recent year in which the WRI has been calculated, 2011, the index for Japan is 124. This suggests that the net effect of Japan’s policies is to tax agricultural goods as a group by more than 100 percent within Japan.

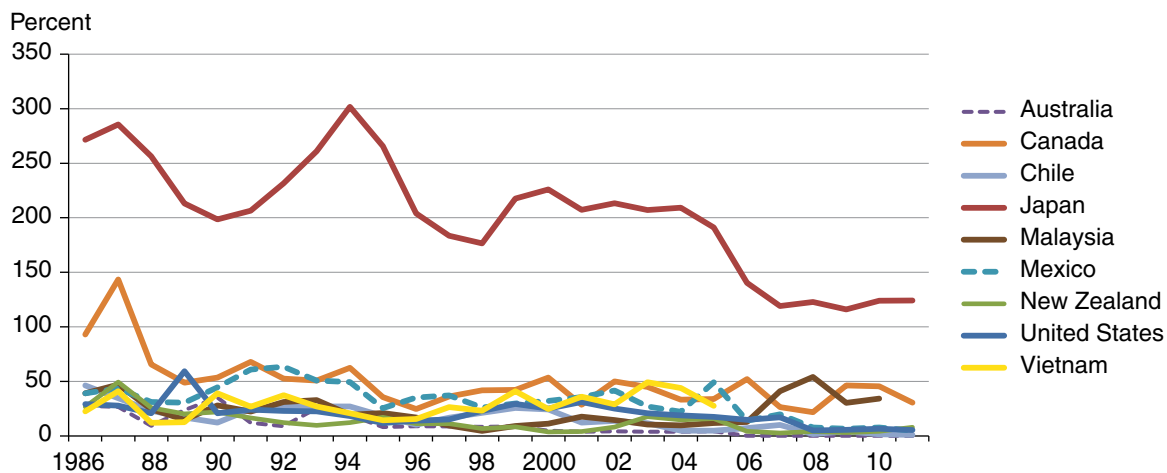
Figure 3
Producer support estimates (PSEs) for selected TPP markets, 1986-2012



TPP = Trans-Pacific Partnership.
 Note: PSE is the ratio of government support with respect to farm production to the total value of farm production. 2012 data are the most recent available.
 Source: USDA, Economic Research Service using data from Organisation for Economic Cooperation and Development, 2014.

Japan's WRI is higher than the same indicator in other TPP countries for which the index is available (fig. 4) (Anderson and Nelgen, 2013).

Figure 4
Welfare Reduction Index (WRI) for Japan and selected TPP markets



TPP = Trans-Pacific Partnership.
 Note: WRI is the percentage loss in economic welfare due to both border and domestic policy interventions; 2011 estimates are the most recent available.
 Source: USDA, Economic Research Service using estimates from *Updated National and Global Agricultural Trade and Welfare Reduction Indexes, 1955 to 2011*, Kym Anderson and Signe Nelson, 2013.

Japan's Trade in Agricultural Products: Structure

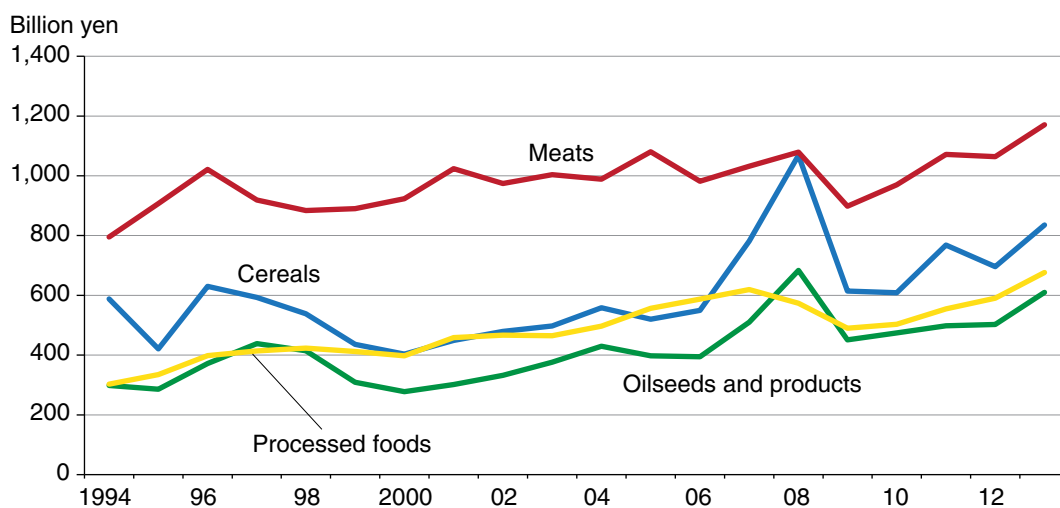
In the post-World War II period, Japan was a large importer of wheat for flour milling but mostly imported cotton, rubber, and hides for use in industry. The growth of animal production in the 1960s and 1970s was accompanied by a large surge in imports of corn and soybeans for animal feed. In the 1980s, the textile and leather industries declined as they lost competitiveness against industries in developing countries with lower wages, and cotton/hide imports declined accordingly. In the 1990s, imports of beef, pork, and poultry meat grew, ending the growth of Japan's own animal production and the growth in imports of feed inputs. Soybean imports for crushing declined as soymeal imports—which, unlike oil, face no tariff—increased, and the crushing industry turned increasingly to canola; canola is richer in vegetable oil and less oriented to meal use (USDA/ERS, using Japan's trade data).

As the imports of input commodities declined or stabilized, total import values were sustained by gradually increasing imports of commodities that were more consumer ready: meats and processed foods (fig. 5), frozen vegetables and fruits, cheese, wine, and pet food. With population gradually shrinking and steadily aging, consumption of agricultural products in Japan is generally stable, but likely to decline in the future.

Consumption of some products, however, remains sensitive to price declines. Beef and oranges, among others, appear to fall into this category, with lower prices leading to higher consumption. This offers opportunities for market growth that could be filled by imports—in addition to substitution for existing Japanese production (Obara et al., 2010; Mori et al., 2009; Thompson, 2004).

Parts of Japan's agriculture are less susceptible to substitution by imports than others. Japan's indigenous cattle bred for draft purposes in rice farming (called wagyu) have been transformed into a meat breed that produces beef highly marbled with fat. In part because the cattle need to be fed more

Figure 5
Commodity composition of Japan's imports, 1994-2013



Note: Meats include fresh, chilled, frozen, and processed meats and offal. Processed foods include all products in the Harmonized System chapters 19-21. Fresh and frozen vegetables and fruits, cheese, wine, and pet food are not included in this chart.

Source: USDA, Economic Research Service calculations using Government of Japan trade data.

intensively and for a longer time than cattle in the U.S. system, Japan's domestic beef costs more than imported beef. Consumers are willing to pay more for wagyu beef, which has characteristics that beef from other breeds and fattening systems does not offer. The steers and unwanted heifers from the dairy herd are also grain fattened (Japan lacks pasture for grass feeding), but the quality of Holstein beef does not match that of wagyu. Another cattle group—the progeny of wagyu sires and Holstein cows—provides beef that falls between the wagyu and Holstein meat in quality (Obara et al., 2010).

Japan's dairy industry enjoys some natural protection since it is difficult to import fresh milk for drinking without incurring high transportation costs. However, about half of domestic milk output is used in the manufacturing of products like butter, powdered milk, and cheese (Obara et al., 2005).

Unlike wagyu beef, other Japanese animal products such as pork, poultry meat, and eggs are not strongly differentiated in quality from world market norms and must compete on price.² However, importing chilled poultry meat and intact eggs entails high transportation costs, which provide a natural price buffer for Japanese production.

Vegetable production has been one of the strongest segments of Japan's agriculture. Farmers focus on taste and appearance. Besides open-field production, Japan's farms produce vegetables in plastic-covered hoop houses and glass greenhouses. Like wagyu beef production, vegetables are often given special attention that results in produce that is differentiated in quality from most imports, and is usually fresher. Labeling ensures that consumers know where in Japan the vegetables are grown. Domestic prices are generally higher than for imported vegetables (Ito and Dyck, 2002). Japan's substantial fruit production is grown and differentiated similarly (Ito and Dyck, 2010). Japan is self-sufficient in most temperate fruits. Fruit production chiefly aims to fill the fresh market, along with exports of apples and pears and a limited amount of other fruits.

²There are some specialty products, like 'black' pork (kurobuta), but the volume of such production is small.

Japan's Trade in Agricultural Products: Sources

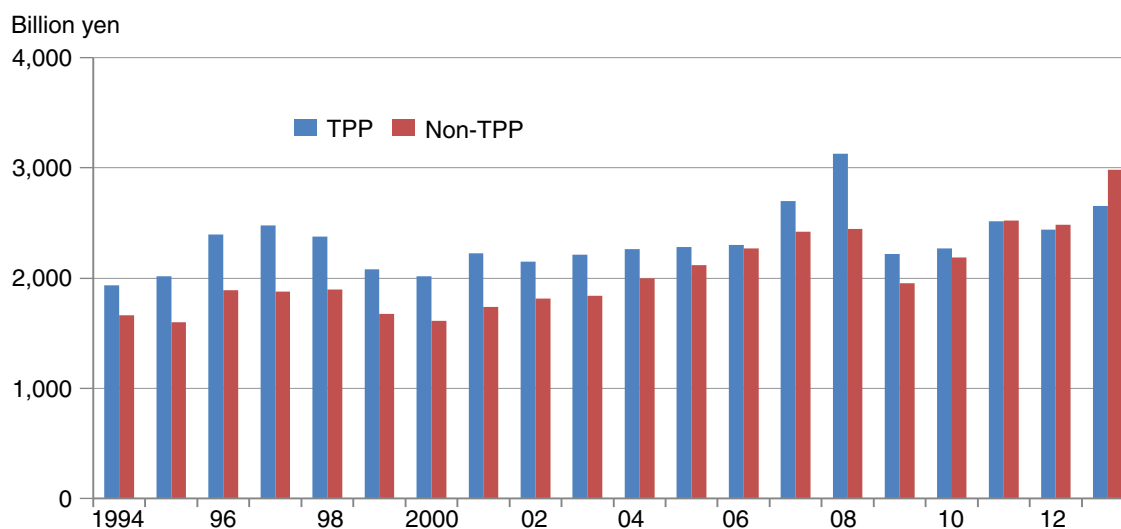
Japan's trade in agricultural products has been relatively stable. Import value peaked in 2008, because of high world prices for agricultural commodities, and then fell back as prices declined. The TPP share of Japan's imports has been declining; at 57 percent in 1997, it fell to 47 percent in 2013 (fig. 6). Within the TPP group, the United States, Australia, and Canada are the largest exporters to Japan (fig. 7 and fig. 8).

TPP exports to Japan are substantial in all product categories (table 3). The only major category in which the share of Japan's imports supplied by TPP countries has significantly risen since 1995 is dairy, in which the TPP share reached 70 percent in recent years. In most other major categories, the TPP share has been relatively steady. The TPP share of Japan's imports is highest in grains, between 80 and 97 percent over 1995-2013. The TPP share of oilseed imports (chiefly canola and soybeans) has always exceeded 70 percent. Other categories in which the TPP share exceeds 50 percent are vegetable oils, meats, and fruits/nuts.

Categories in which the TPP share has been falling include processed foods, one of the fastest growing categories in Japan's agricultural trade. The TPP share dropped from 36 percent in the 1990s to 31 percent in 2011-13 (29 percent in 2013). Imports from China rose greatly, and Korea and Thailand also increased their share.

In other categories, actual trade *values* for imports, in addition to shares, from the TPP have fallen. In the large pet food market, imports from Thailand and China have grown while imports from the United States and Australia have fallen. Imports of vegetables (fresh, frozen, and dried) from TPP countries also fell from the 1990s to 2011-13. Imports from Thailand and a number of smaller trading countries have risen, and China has increased its exports of onions, leeks, and dried beans.

Figure 6
Total Japanese agricultural imports, by origin

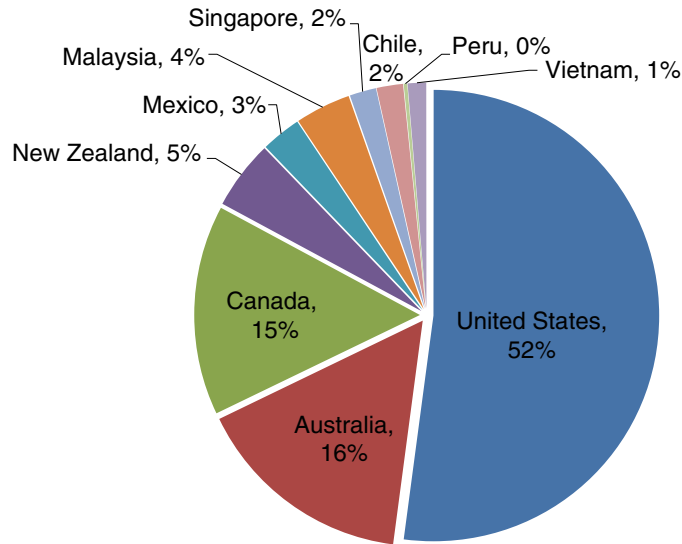


TPP = Trans-Pacific Partnership.

Source: USDA, Economic Research Service calculations using Government of Japan trade data.

Figure 7

Average share of Japan's total agricultural imports from TPP countries, 2011-13

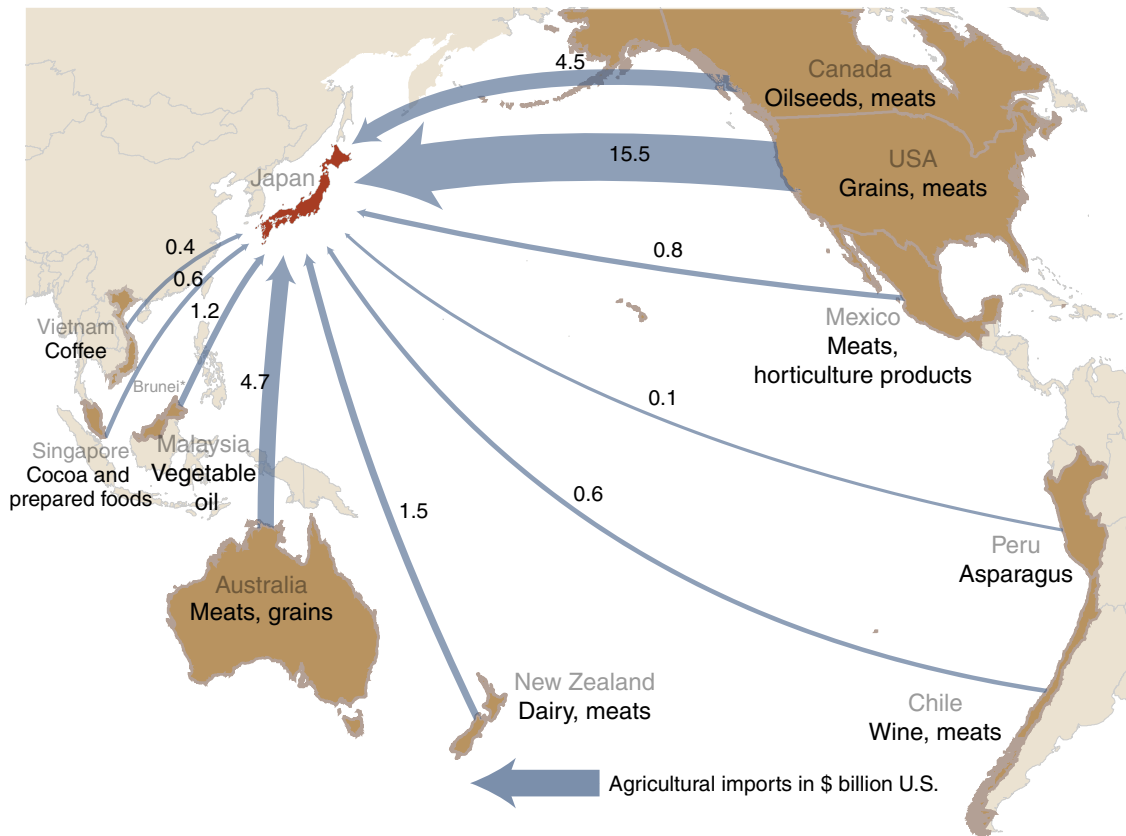


TPP = Trans-Pacific Partnership.

Source: USDA, Economic Research Service calculations using Government of Japan trade data.

Figure 8

Japan's imports from TPP countries, average values, 2011-13



*Imports too small to show on map.

TPP = Trans-Pacific Partnership.

Source: USDA, Economic Research Service using Government of Japan trade data.

The United States had been the leading country supplying Japan's agricultural imports for several decades (fig. 9). This is partly because of the size and diversity of U.S. agricultural output. However, there are other factors that underpin U.S. strength in Japan's market.

Japan was free of foot-and-mouth disease (FMD) from 1907 on, and, after significant outbreaks in the last 15 years, has sought to regain and keep that status. Thus, Japan accepts beef and pork imports only from North America, Oceania, Chile, and those parts of Europe that are FMD-free.

Table 3
Japan's imports from Trans-Pacific Partnership partners

	Value, average 2011-13	TPP share of Japan's imports, average 2011-13	Change in TPP share, average 2011-13 compared to average 1994-96
	<i>Billion yen</i>	<i>Percent</i>	<i>Percent</i>
All agricultural commodities	2,536	49	-6.3
Selected import categories:			
Meats and preparations	640	58	1.7
Grains, unprocessed	598	79	-8.3
Oilseeds and hay (HS ch. 12)	364	78	2.8
Processed foods (HS chs. 19, 20, 21)	185	31	-10.9
Fruits and nuts	140	53	-1.1
Dairy products	86	70	17.1
Vegetables	53	24	-9.9

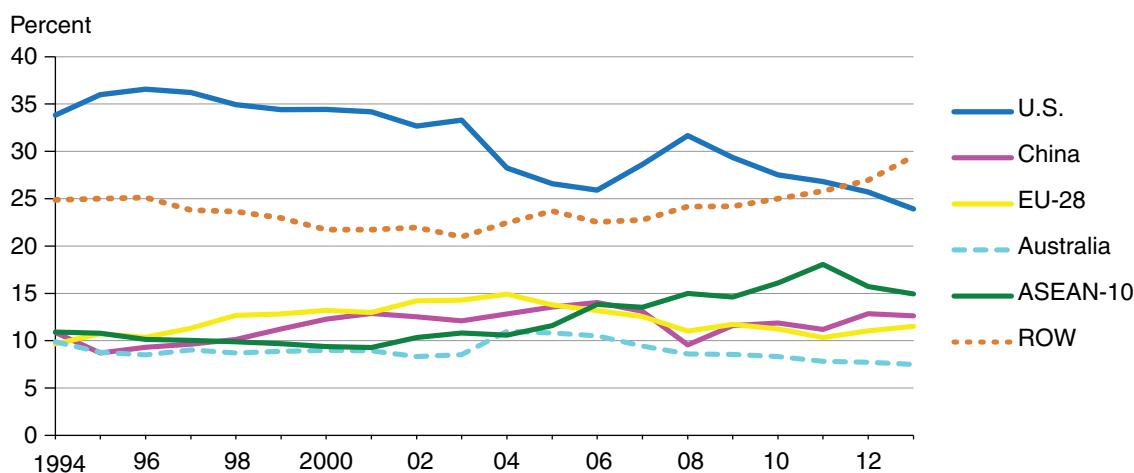
TPP = Trans-Pacific Partnership.

HS = Harmonized System, a system of numerical codes for traded goods.

Source: USDA, Economic Research Service, using Government of Japan trade data.

Figure 9

Country shares of Japan's agricultural imports, 1994-2013



ASEAN-10 = Association of Southeast Asian Nations, includes Brunei, Burma, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and Vietnam.

EU-28 = European Union.

ROW = Rest of world.

Source: USDA, Economic Research Service calculations using Japan trade data.

Imports of uncooked beef and pork from Brazil, Argentina, and other exporting regions are generally not allowed (Obara et al., 2010).

Japanese buyers recognize the quality and consistent availability of U.S. products. Japanese livestock and poultry producers have imported mostly U.S. corn for many years, and Japan has long been the largest international market for U.S. corn. Japanese flour millers maintain imports of U.S. wheat varieties at relatively constant levels, year after year, in part to ensure consistent flour quality.

Japanese buyers recognize U.S. standards for consumer-ready products (USDA, Foreign Agricultural Service, Food Processing Ingredients, 2014). Concepts such as HACCP (hazard analysis and critical control points) and GAPs (good agricultural practices) are widely understood and valued in Japan. As an early adopter and/or developer of such standards, U.S. agriculture is viewed with respect in Japan. U.S. organic standards appear to command similar respect, which opens a growing market for U.S. products in Japan. Japan recognizes the U.S. National Organic Program certification as equivalent to Japan's organic certification (Motomura, 2013).

U.S. transportation networks serve Japan well. Japanese and U.S. firms dedicate very large networks of U.S. elevators, rail and barge shipping, port facilities, and container/bulk shipping to supplying Japan. Refrigerated and atmosphere-controlled containers provide consistent delivery of products that have sufficient shelf-life for profitable sale in Japan. The Pacific U.S. ports are closer to Japan than ports in Europe or South America.

People-to-people interactions between U.S. and Japanese agriculture and food industries are long-standing and well developed. The United States is seen as a relatively familiar and friendly environment by Japanese farmers and their purchasing agents. Some Japanese farmers even arrange for their own shipments of U.S. corn and alfalfa to ensure the best quality.

Investment in Japan by U.S. firms and in the United States by Japanese firms is widespread. Investments span the food and agriculture market from the retail level to the farm level. Corporate names such as Cargill, Zennoh (a Japanese cooperative firm that trades in feed grains), 7-11, Coca Cola, and McDonald's are examples of the presence of food and agribusiness firms in both countries.

However, the U.S. share of the Japanese market has generally declined since the 1990s (see fig. 9). U.S. shipments are charged the most-favored-nation (MFN) tariff rate for all categories. Some competing exporting countries face lower tariffs for some items because Japan gives them developing country tariff status. China, Thailand, Brazil, and Argentina are among major exporting countries that benefit from such reduced tariffs as part of the Generalized System of Preferences (GSP). In some cases, Japan's EPAs offer still lower tariffs. Non-TPP countries that have EPAs with Japan include Thailand, the Philippines, Indonesia, Switzerland, and India. Japan is also negotiating an EPA with the European Union.

U.S. labor costs are high relative to some other leading agricultural exporting countries, such as Thailand. This affects fruit and vegetable trade, where labor is important in harvesting and packing. Deboning chicken cuts has been too expensive for U.S. boneless chicken meat exports to Japan to become significant, and boneless exports from Brazil and Thailand dominate Japan's imports.

Canadian, Australian, and New Zealand sales to Japan benefit from some of the same strengths listed earlier for the United States. Canada supplies most of Japan's canola. Canada and Australia supply most of the wheat imports not shipped from the United States. Australia's feedlot industry

has grown up largely in response to Japan's beef market, aided by Japanese and U.S. investment. Dairy products from Oceania are leading sources for Japan's imports. Canada is about as far as the United States from Japan, and Oceania is closer. The weaknesses listed above for the United States also apply to Canada, Australia, and New Zealand as they compete against non-TPP developing countries for the Japanese market.

As agricultural suppliers, Canada, Australia, and New Zealand have some weaknesses in comparison to the United States. Smaller populations dictate that the domestic agricultural industries either need to limit their size or target export markets heavily. U.S. industries are much larger because of the large U.S. population, and they can produce extra supplies for export more easily. Droughts in Australia have seriously limited its exports in several recent years. Internal bulk transport in Canada has been a bottleneck in supplying customers from Pacific ports. Empty (available) containers, and thus potentially lower freight rates, are more common in the busy U.S. Pacific ports than in the ports of Oceania, where there is less shipping from Asia to consumer markets in Australia, and, especially, New Zealand.

Japanese trade with Mexico, Peru, and Chile has been growing, aided by EPAs as well as the preferential tariffs that these countries receive as developing countries (Government of Japan/Japan Customs, 2014). Mexico and Chile have entered the pork market, buttressed by recognition of their FMD-free status and by slight tariff preferences given in the EPAs. Mexico has also exported beef to Japan, in part sharing existing U.S. transportation channels. Chile and Peru benefit from growing seasons that complement those of Japan. All three countries have labor costs that are lower than in Japan.

Malaysia and Singapore have a narrower agriculture and agribusiness focus than other TPP partners. Malaysia is a major supplier of rubber, palm oil, and palm kernel oil to Japan. Its EPA with Japan, along with developing-country status, means that tariffs of concern to Malaysia's limited suite of exports are often already zero. Singapore, partly active as an entrepot for Southeast Asian agricultural products and partly as a source of manufactured foods and beverage products, also has an EPA with Japan.

Vietnam is a major and growing exporter of a variety of agricultural products. Some of its exports are duty-free in Japan because Vietnam is classified as a developing country, and so faces lower tariffs for some commodities as part of the GSP. Vietnam is part of ASEAN, the Association of Southeast Asian Nations, which has a trade agreement with Japan that lowers some tariffs. In addition, Vietnam has had its own EPA with Japan since 2009. However, some of Vietnam's leading exports still face significant tariffs in Japan: rice, cassava starch, wheat flour, pasta, a variety of other processed foods, and mixed feeds remain subject to relatively high tariffs, even after the implementation of the EPA (Government of Japan/Japan Customs, 2014). If these tariffs were eliminated or lowered, Vietnam's exports to Japan could rise over time. In particular, Vietnam would have an opportunity to replace Thai rice exports to Japan, which have been 200,000-300,000 tons annually in recent years, because Thailand would not benefit from any potential TPP tariff reductions.³ Vietnam's cassava starch could also do well in Japan's high-priced starch market (Arita and Dyck, 2014).

³Thailand and Vietnam export long-grain indica rice, which has specialty uses in Japan. Compared to Thailand, Vietnam produces lower value rice, but has the capacity to grow and mill higher quality rice if demand materializes. The bulk of Japanese consumption is and will remain short-grain japonica rice, which is not normally produced in Vietnam.

Future Changes in Japan’s Agricultural and Food Trade

The food market in Japan is not likely to grow much in the future. A gradually declining population that is aging and mindful of healthy eating is more likely to reduce caloric intake in the future than to increase it. Against this backdrop of sluggish growth in the volume of consumption, however, significant changes in Japan’s food consumption are possible, even if far-reaching trade agreements are not reached.

Population and associated consumption declines might be mitigated by the increased presence of workers from outside Japan. The service, manufacturing, and agricultural industries all employ some foreign workers, and there are calls to bring more in. In addition, tourism to Japan may show growth, especially as rural areas increasingly market themselves to foreign tourists.

The recent popularity of local food does not appear to be waning. Direct links between farmers and urban consumers (such as farmers’ markets, home delivery, and Internet arrangements) are favored in Japan. This offers a growing opportunity for Japanese farmers. Fell and MacLaren (2013) and Peterson and Yoshida (2004) found evidence supporting the existence of a “home-good” preference for rice grown in Japan.

Japanese consumers have concerns about food safety, quality, healthfulness, and production methods. Food produced using organic methods continues to grow in popularity. An increase in labeling, testing, and regulation of food ingredients has been occurring and is likely to continue. For suppliers, the bar is being raised, even though this entails extra costs to consumers and suppliers. Underlying this is consumer concern about food safety. Concern about metabolic syndrome (which includes concern about excessive weight and lack of exercise) is also high in Japan. Foods and beverages perceived as heart-healthy—including fruits, vegetables, seafood, wine, and tea—are likely to be more popular as a result. On the other hand, demand for rice, wheat products, some dairy products, and red meat may be reduced, at the margin, because of this concern.

Japan’s consumers have become more exposed to and familiar with other cultures in the last decades. This is likely to continue. Japan has always been interested in foods from other cultures, and this global affinity bodes well for more foreign foods being introduced to Japan.

Japan’s agricultural exports appear to have good prospects for growth. The Japanese are increasingly aware that Japanese foods and consumption habits are well regarded internationally. In 2013, the United Nations Educational and Social Committee selected Japanese cuisine, called Washoku, as a world heritage asset. There is potential for greater use of Japanese ingredients by Japanese firms and Japanese restaurants operating in other countries.

Changes in Japan's Agricultural Trade Possible With a TPP Agreement

The Trans-Pacific Partnership goal is to increase the integration of the economies of the partner countries. Major possibilities include eliminating duties and quantitative restrictions on imports from other TPP countries; allowing business firms greater freedom to operate in all TPP countries, such as through reduced barriers to investment and better ability to compete against state-owned enterprises; harmonizing many laws and rules, such as regulations on sanitary/phytosanitary standards, labeling, copyright, food standards, and other matters; and developing consultative and dispute-settlement bodies that address a variety of intercountry issues as they arise.

If a comprehensive agreement emerges, Japan's market for agricultural products will change further. A more open and competitive agricultural market in Japan under the proposed TPP agreement will lead to lower prices and more choices for consumers. Tariff reduction or elimination on imports from TPP partner countries could significantly lower the prices of imported beef, oranges, rice, cheese, milk powder (whole and skim), and butter.

Elimination of TRQs and state trading for imports from TPP countries would possibly alter the composition of rice imports, with more short-grain and organic rice imported, in response to consumer demand. Short-grain rice could replace medium-grain rice (both are called "japonica") and organic rice would replace nonorganic rice. The present system, in which much of the rice purchased through state trading never goes to Japanese consumers (it is used for foreign aid or feed), does not fully reflect the tastes and preferences of consumers.

Processed dairy product imports could increase in variety as well as in volume. The current state trading system imports basic commodities like nonfat dry milk and butter, while imports of more highly processed products, also covered by the same TRQ, do not occur. This is perhaps the reason that Japan has had to notify the WTO of numerous special safeguard actions for dairy products. Despite the very high over-quota tariffs, importers continue to try to bring in specialty dairy products, which Japan then taxes with even higher safeguard tariffs. Processed products containing significant amounts of wheat flour and sugar encounter the same problems with state trading within the TRQs and could also increase in variety and volume when TRQs are lifted.

In some cases, such as beef and oranges, where imports are a very high proportion of consumption and consumers are sensitive to price changes, lower prices may trigger higher overall consumption, not just increased import levels (Obara et al., 2010; Mori et al., 2009; Thompson, 2004). In other cases, lower priced imports will compete with Japanese production. This will be most noticeable for commodities in which the quality of Japan's production is inferior to, identical with, or close to that of imports. Japanese wheat is generally regarded as lower in quality than imported wheat. Sugar, milk powder, and butter are generally not distinguishable from imports. Japanese beef from dairy animals competes to some extent with beef imported from North America and Oceania on a quality basis, but has been significantly more expensive than imports (Obara et al., 2010). Reducing the tariff would make the price difference larger.

Conclusion

As the TPP negotiations proceed, Japan will be influenced by several related developments. In its previous EPAs, Japan has not agreed to comprehensive trade liberalization in agriculture, with lower liberalization ratios (overall percentage of tariff lines reduced or eliminated) than other countries' preferential trade agreements (Burfisher, et al., 2014). In particular, Japan has held back from bilateral liberalization of the rice, wheat, beef, pork, dairy, sweetener, and starch sectors. The trade protections Japan has erected for these commodities are relatively intact for all except the least developed countries. Japan has also retained the system of TRQs and state trading in negotiating previous trade liberalization pacts. Comprehensive liberalization under the proposed TPP agreement would break new ground.

The TPP offers a chance for Japan to forge a comprehensive agreement first with countries (the United States, Canada, Australia, and New Zealand) that generally have higher wages than nearby developing economies such as China (see box, "Other Regional Trade Efforts: China-Japan-Korea, Regional Comprehensive Economic Partnership, and Japan-Australia"). North America and Oceania are also farther away from Japan than Asian countries, giving Japan some natural advantages in terms of freshness, and, in the case of Oceania, in seasonal production of many crops. Competition with agricultural sectors in the TPP countries may be easier for Japan's sector than competition with China and other developing countries, particularly in horticulture. TPP membership may be a step in the transition of Japan's agriculture from full protection to full, global liberalization.

Vietnam, and to some extent Malaysia, have some of the characteristics that make China a formidable potential exporter of horticultural products and rice. However, Malaysia does not export a broad array of agricultural products, and Vietnam produces indica, rather than japonica, rice; indica is a market niche in Japan currently dominated by Thai imports. Furthermore, the tropical climate of Southeast Asia is not suited for some fruits and vegetables (notably apples, pears, and cold-weather

Other Regional Trade Efforts: China-Japan-Korea, Regional Comprehensive Economic Partnership, and Japan-Australia

Japan is negotiating with South Korea and China toward a trilateral trade pact. In nonagricultural industries, Korean and Japanese firms compete, and trade barriers on both sides are important subjects of negotiation. However, in agriculture, the greater concern in Japan is imports from China. Imports from China are problematic for Japan because farmers in northern China have similar products and growing seasons to Japan, and are geographically close enough to ship products to Japan that arrive almost as fresh as those produced in Japan. Most importantly, because of lower costs in China, they arrive at a lower price than Japanese farmers can generally match. In contrast to Trans-Pacific Partnership partners, China poses a greater challenge to Japan in rice, fresh and processed vegetables, and fruit. Japan is also engaged with China and Korea in the Regional Comprehensive Economic Partnership (RCEP) talks, in which the 3 Northeast Asia countries, the 10 Association of Southeast Asian Nations (ASEAN) countries, India, Australia, and New Zealand seek liberalization. Parallel with TPP, RCEP, and the China-Japan-Korea talks, Japan has negotiated a separate Economic Partnership Agreement with Australia. If ratified, this agreement could provide Australian goods preferential rates for certain product sectors, making Australia exports more competitive in Japan's markets compared with other countries in the TPP negotiations.

vegetables) that are extremely important to Japan's agriculture. Also, until now, tropical production of japonica rice has been very limited, again because of climate.

The TPP also is being negotiated at a point when political pressure on Japan's system of domestic support is strong. The Government of Shinzo Abe has declared its intention to end the production allocations and volume targets for rice, allowing individual farms greater freedom to expand their production (Government of Japan/Prime Minister of Japan, 2014). Partial liberalization of rice trade (i.e., just with the TPP countries) could be compatible with this intended change in domestic policies, which would encourage larger-scale rice farming in Japan, making rice from such farms more competitive with imports.

Japan's agricultural stakeholders may be gaining more confidence in their ability to compete for consumer demand over the long term. Japan's consumers express increasing interest in obtaining food locally and are often interested in visiting farms and contributing labor. Although consumers' concerns about food safety have put producers in Japan under a lot of scrutiny and pressure, with careful industry and Government attention to safety measures, Japan's farmers have the capacity to match or surpass the safety standards of exporting countries. Japan has a research and extension network that supports change and innovation. A great deal of technological experimentation and change occurs in Japan.

Centralized marketing through cooperatives, while often criticized as preventing structural change and adding to costs, may also be seen as the basis for strong, well-capitalized competition for large domestic and foreign corporations seeking to sell imported products into Japan. Japan's farmers have a long tradition of starting farms in North and South America. A tight TPP framework could encourage them to continue this tradition, providing them access to climate conditions, resources, and markets that could complement their operations in Japan. Access to cheaper imports through TPP could lower the cost of intermediate inputs for Japan's food manufacturing sector and boost production and export of high-value processed products.

On the other hand, Japanese agriculture is famous for being a stumbling block to trade liberalization. Japan's electoral system still gives rural constituencies a strong voice in parliamentary elections. Population declines in most rural areas have been sharp, leading to a sense of vulnerability (Government of Japan/Ministry of Agriculture, Forestry and Fisheries, 2010 Annual Report). The central union of cooperatives has often protested and lobbied against trade pacts. Part-time farmer and family membership in the cooperatives significantly expands their political representation,⁴ and they are loath to forfeit income or security as a result of trade liberalization. Japanese Government representatives frequently mention five sensitive areas in TPP negotiations: rice, wheat and barley, sugar, dairy, and beef and pork. The intention of Japan's Government is to protect these five areas from liberalization as much as possible.

Japanese Government estimates (Government of Japan, Cabinet Secretariat of Japan, 2013) predicted that a comprehensive TPP agreement would reduce agricultural output by 2.66 trillion yen (\$25 billion), or about 42 percent of Japan's total output of agricultural, forestry, and fishery products. The estimates range from a 17-percent decline in egg production to a 100-percent decline in sugar and starch materials.

⁴While the agricultural sector makes up less than 2 percent of economic output, members of the JA group (Japan Agriculture, the main cooperative federation) include 8 percent of Japan's population (Government of Japan, Ministry of Agriculture, Forestry and Fisheries, Yearbook of Agriculture, 2013).

The Japanese Government estimates are severe in that they disregard supply constraints that would likely preclude TPP partners from supplying so much additional trade to Japan. Japan produces more rice than either the United States or Australia. Japan's rice is almost entirely short-grain japonica rice. Even if all U.S. japonica-type rice (medium-grain and short-grain rice) is considered, the amount produced is much less than what is produced in Japan (table 2). Water, soil, and climatic factors constrain medium- and short-grain rice production in the United States and Australia. If a TPP agreement offered free access of such rice to Japan, the conditions for expanded production in the United States and Australia do not appear to be favorable. Prices in the United States and Australia would likely rise, narrowing the gap with Japanese prices. The assumption used by the Japanese Government in its estimates of losses from a TPP appears to be that all medium- and short-grain rice produced in other TPP countries will be purchased by Japan after an agreement. This is unrealistic; japonica-type rices from the United States and Australia now go to several markets, including to U.S.-specific TRQs in Korea and Taiwan, which Japan would need to bid against in order to get all the TPP japonica rice. Japan will continue to produce most of the rice it consumes, even with an end to all barriers to rice from TPP countries.

Supply constraints are also likely to emerge in the markets for meat. World trade in meats is done mostly on the basis of cuts (Dyck and Nelson, 2003). To consider raising more cattle, farmers need to find markets for *all* the parts that come from a slaughtered animal, at prices sufficient to make a profit on the animal. Beef, pork, and poultry meat trade between TPP exporters and Japan's importers has flourished until now largely because Japanese consumers are willing to pay more for certain cuts than consumers in the exporting countries (Obara et al., 2010). Most of the cuts coming from animals in the exporting countries, however, do not find a market in Japan. Expanding production of the few cuts demanded in Japan leaves producers in the exporting countries with the need to market the rest of the animal carcass. While higher prices for a subset of the cuts will raise carcass prices and lead to expanded cattle and beef supply, the expansion will be less than if all cuts garnered a higher price. By eliminating its meat tariffs, Japan might be able to bid away some of the exports of the favored cuts now being sent to other Asian markets, which tend to prefer the same cuts. However, Japan is already a large buyer of most of the cuts in question, and there are likely limits to additional supply.

Japan's tariff on beef (38.5 percent) is high, but tariffs on pork (4.3 percent) and frozen cuts of poultry (11.9 percent or less) are not. Wagyu beef is a large share of the total value of Japan's beef consumption and is quite differentiated from other beef. It is likely to preserve its market, although cattle producers in other TPP countries may try to raise more wagyu-type cattle, partly to satisfy demand for high-quality meat in their own domestic markets. Other beef produced in Japan is also from cattle fattened using more grain per animal than in exporting countries, and that beef may also have characteristics that consumers prefer. The elimination of the tariff might not be enough to weaken demand for Japanese beef to the extent predicted by Japan's Government.

Japan's pork trade is subject to the gate price system, which induces all import shipments to come into Japan's market at or above a minimum price that is constant over time. Imported shipments can contain a variety of cuts and multiple container loads. Importers balance the cuts to achieve the gate price. Elimination of the gate price would give importers more flexibility in choosing which cuts to import. As with beef, Japan's importers appear to prefer certain cuts, not the full spectrum of cuts from a slaughtered hog. These cuts (for example, single-ribbed bellies) are the same ones imported by other Asian countries from the United States and other TPP countries, which means that Japanese buyers have to compete with bids from other importers. Pork in Japan is costly. The OECD calcu-

lated that 67 percent of total producer gross receipts for pork were attributable to government measures in 2012, including the 4.3 percent ad valorem tariff, the gate price system, special safeguards, and domestic subsidies (Organisation for Economic Cooperation and Development, 2014). Reducing or eliminating barriers to less expensive imports would increase trade.

Some animal disease controls would remain in place after the proposed TPP agreement. In particular, FMD and avian influenza restrictions are likely to preclude uncooked meat exports from Vietnam to Japan. Phytosanitary restrictions will continue to limit some potential trade in plant-based materials.

Recent modeling at USDA/ERS examined a scenario in which TPP partners eliminate tariffs and TRQs on imports from other TPP countries (Burfisher et al., 2014). The scenario allows for a phased elimination of tariffs over 2015-2025. Under the tariff elimination scenario, the model finds that the pact will have very small positive effects on members' real GDP.⁵ For Japan, agricultural imports are expected to rise as a result of tariff elimination; selected commodity changes are presented in table 4, using percentage changes from the scenario and base values from the recent past to illustrate expected changes.

The scenario results did not include elimination of other important barriers to trade, such as country standards that might be harmonized within a comprehensive TPP agreement or policies such as the gate price system for pork or certain Government interventions in the sweetener sector. The singular importance of Japan to agricultural trade within the proposed TPP zone is demonstrated by the scenario result that 68 percent of agricultural import growth across the TPP countries occurs in Japan. However, unlike the Japanese Government estimates, the scenario results do not reflect a huge drop in Japanese agricultural activity, and they suggest that most of Japan's agricultural sector could become competitive within a TPP zone, even with intra-TPP tariffs eliminated (table 5).

Japan's large agricultural sector will change if a comprehensive TPP agreement is reached, but the overall effect would likely be modest. Japanese production of high-quality, high-value goods, including rice, should continue to supply most of the markets presently served in Japan. Japan's consumers should benefit from lower prices for imported goods as tariffs on TPP imports disappear. In some cases, consumption may increase in response to lower prices. Exporters to Japan should see relatively large gains in those areas where protection is currently high (e.g., rice, beef, and dairy products). However, gains depend on the type of agreement reached. Domestic policies and SPS rules could preclude some trade. Japan is a large market, and its import demands tend to be for quite specific products. An important constraint to import growth from the proposed TPP agreement will be supply limitations for those products in the rest of the TPP countries.

⁵Using a computable general equilibrium (CGE) model with heterogeneous firms, Petri et al. (2011) estimate that TPP would provide Japan a welfare gain of over 0.5 percent of baseline GDP by 2025 under a scenario of tariff elimination and reduction in nontariff measures.

Table 4

ERS estimates of the effects of tariff elimination on Japan's imports

	Change in value of imports due to TPP	Import value, 2011-13 average	Additional trade, based on average value, 2011-13	
	<i>Percent</i>	<i>¥ billion</i>	<i>¥ billion</i>	<i>\$ million U.S.</i>
Bovine products	31	296	92	1,071
Rice	111	44	49	568
Wheat	14	203	29	339
Fruits, vegetables, nuts	4	354	14	157
Dairy products				
Butter	52	4	2	25
Skim milk powder	41	9	4	42
Cheese	5	97	5	57
Other dairy products ¹	20	11	2	26
Pork ²	3	471	12	137
Poultry meat	2	304	7	85
Sugar	9	70	6	74
Other foods	0.3	907	3	32

¥ = yen; TPP = Trans-Pacific Partnership.

Notes: Product categories are as defined in Burfisher et al., 2014. Changes due to TPP are modeling results with respect to a 2025 projected baseline. Import values are calculated from Japan trade statistics, presented in the World Trade Atlas. Additional trade is converted to million U.S. dollars using the average exchange rate for 2011-13.

¹Other dairy products include whole milk powder, yogurt, whey, etc.

²The estimate for pork is based on elimination of the 4.3-percent tariff and does not consider changes to the Gate Price system, which imposes a minimum import price.

Source: USDA, Economic Research Service calculations using results in Burfisher et al., 2014, and calculations using Government of Japan trade data.

Table 5

Effects of TPP tariff elimination on Japanese output quantity

Commodity	Government of Japan estimates	ERS estimates
	<i>Percent decline in Japanese production (output)</i>	
Rice	-32	-3
Wheat	-99	-32
Poultry	-20	-1
Beef	-68	-15
Pork	-70	-1
Sugar	-100	-2
Dairy products	-45	-3 to -35 *
Fruits/vegetables	n/a	-1
Citrus	-8	n/a
Apples	-8	n/a
Eggs	-17	n/a
Starch materials	-100	n/a
Barley	-79	n/a

TPP = Trans-Pacific Partnership.

* Cheese, other dairy, and whey decline by 3 percent to 4 percent; powdered milk by 13 percent, and butter by 35 percent.

n/a = not available.

Source: USDA, Economic Research Service, using estimates from Government of Japan (Cabinet Secretariat of Japan, 2013) and USDA/ERS (Burfisher et al., 2014).

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