



Economic Research Service
U.S. DEPARTMENT OF AGRICULTURE

Economic
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Economic
Research
Report
Number 318

June 2023

The Impact of Japan's Trade Agreements and Safeguard Renegotiation on U.S. Access to Japan's Beef Market

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Economic Research Service

www.ers.usda.gov

Recommended citation format for this publication:

Sabala, Ethan and Eric Davis. June 2023. *The Impact of Japan's Trade Agreements and Safeguard Renegotiation on U.S. Access to Japan's Beef Market*, ERR-318, U.S. Department of Agriculture, Economic Research Service.



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The Impact of Japan's Trade Agreements and Safeguard Renegotiation on U.S. Access to Japan's Beef Market

Ethan Sabala and Eric Davis

Abstract

From December 2018 to January 2021, Japan entered into four trade agreements (TAs) with regions that, collectively, have supplied more than 98.5 percent of Japan's beef imports every year for at least the last 10 years. These TAs include annual reductions in Japan's tariff rates to the respective trade partners for beef products and changes to Japan's beef safeguards, which may generate large changes in the composition of Japan's market for these products. This study utilizes a global economic model to estimate the impacts of these TAs on Japan's beef market 5 and 10 years in the future. After 10 years, the model estimates that Japan's production of beef products will have decreased by 17.2 percent, and imports will have increased by 26.6 percent. Most of the import increases are estimated to come from the United States and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) countries whose beef export values to Japan see an estimated increase of \$413.8 million and \$541.0 million, respectively. These impacts are dependent, however, on whether Japan's beef import safeguards are triggered.

Keywords: Japan, beef, beef offal, trade agreements, beef safeguard, production, imports, U.S.-Japan Trade Agreement (USJTA), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)

Acknowledgements

The authors thank Jayson Beckman and Russell Knight of the U.S. Department of Agriculture, Economic Research Service (ERS) and three anonymous reviewers for comments and assistance in revising the report. Thanks also to Michael Williams, ERS, for creating the report's maps, and to Casey Keel, Grant Wall, and Chris Sanguinett, ERS, for editorial and design assistance.

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The Impact of Japan's Trade Agreements and Safeguard Renegotiation on U.S. Access to Japan's Beef Market

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What Is the Issue?

Japan and its major beef trading partners recently entered into four trade agreements (TAs), including the U.S.-Japan Trade Agreement (USJTA), the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP),¹ the Japan-EU Economic Partnership Agreement (Japan-EU EPA), and the Japan-UK Comprehensive Economic Partnership Agreement (Japan-UK EPA). These agreements reduce, in annual steps, the tariff rates that Japan applies to beef and beef product imports and include safeguards, which are temporary import restrictions that apply an increased tariff rate to any volume of imports over a specified trigger level. Because of differences in the safeguard trigger levels in the CPTPP and USJTA, CPTPP countries were likely to gain some of Japan's market share at the expense of the United States. However, when U.S. exports reached the USJTA safeguard trigger level in March of 2021, a renegotiation of the safeguard mechanism began, as per the requirements of the USJTA. The USJTA safeguard was renegotiated to a triple trigger system that was finalized in November of 2022.



What Did the Study Find?

This study estimates the impact of these TAs on Japan's beef market when the tariff reduction process will be halfway and fully implemented—in Japanese fiscal year (JFY) 2028/29, which runs from April 1, 2028, to March 31, 2029, and JFY 2033/34—utilizing four scenarios with different assumptions for the safeguards (table 1). Scenario 1 analyzes the impact of the tariff reductions stipulated in TAs absent safeguard tariffs. In JFY 2028/29, this study estimates that Japanese beef production will be 11.7 percent lower and imports will be 17.2 percent higher than 2018 levels. For the same JFY, imports from the United States and CPTPP countries are estimated to increase by \$267.4 million and \$349.6 million, respectively, from the 2018 baseline. Results for the United States, however, suggest its exports will likely trigger over-safeguard duties in JFY 2028/29 under both the original and renegotiated USJTA safeguard systems, while CPTPP exports will not. These safeguard systems both include a

¹ The CPTPP signatories are Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam.

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30-day minimum duration requirement that can run into the next fiscal year, which will reduce the U.S. export gain by \$6.6 million to a \$260.8-million total gain (scenarios 2 and 3). Scenario 4 analyzed the renegotiated safeguard while excluding the 30-day minimum duration requirement, which reduced the length of time that over-safeguard tariffs would be applied to 12 days, thereby increasing the gain in U.S. exports by \$3.9 million to \$264.7 million.

By JFY 2033/34, Japan's beef production is estimated to decline by 17.2 percent, while imports are estimated to increase by 26.6 percent relative to 2018 levels, with exports from the United States and CPTPP countries increasing from 2018 baseline values by \$413.8 million and \$541.0 million, respectively. Results for scenarios 2 and 3 suggest U.S. exports would trigger over-safeguard tariffs under both safeguard systems. Tariffs would be in place for 34 days under the original system and for 30 days under the renegotiated system due to the 30-day minimum duration requirement. Scenario 4 further reduced the length of time over-safeguard tariffs would be applied to 25 days, which would benefit U.S. exporters more than either the original or renegotiated safeguard systems but would not fully remedy the U.S. disadvantage relative to CPTPP competitors since U.S. exports were estimated to increase by \$389.3 million, which is \$24.5 million lower than if safeguard tariffs were not triggered.

Table 1
Changes in Japan's beef imports from the United States and CPTPP countries from 2018 baseline to JFY 2028/29 and JFY 2033/34 (million U.S. dollars)

Scenario	Description	Exports			
		JFY 2028/29		JFY 2033/34	
		United States	CPTPP	United States	CPTPP
1	With tariff reductions in four TAs but without safeguards	267.4	349.6	413.8	541.0
2	With tariff reductions in four TAs and with original USJTA safeguard	260.8	353.1	375.7	562.7
3	With tariff reductions in four TAs and with renegotiated USJTA safeguard	260.8	353.1	380.8	559.8
4	With tariff reductions in four TAs and with renegotiated USJTA safeguard but without 30-day minimum duration	264.7	351.0	389.3	555.0

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership, which includes Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam. JFY = Japanese fiscal year, which begins April 1 of the first year and ends March 31 of the following year. USJTA = U.S.-Japan Trade Agreement.

Source: USDA, Economic Research Service calculations using the Global Trade Analysis Project (GTAP) model.

How Was the Study Conducted?

This report gathered data on production, consumption, bilateral trade, and demography using sources such as Trade Data Monitor (TDM), the Food and Agriculture Organization of the United Nations (FAO), and the Japanese Ministry of Agriculture, Forestry, and Fisheries (MAFF). The Global Trade and Analysis Project (GTAP) computable general equilibrium model was used to analyze the likely impact of the various TAs, using the year before Japan's first TA went into effect in 2018 as the baseline to reflect prevailing trade conditions before the TAs were implemented.

The Impact of Japan's Trade Agreements and Safeguard Renegotiation on U.S. Access to Japan's Beef Market

Introduction

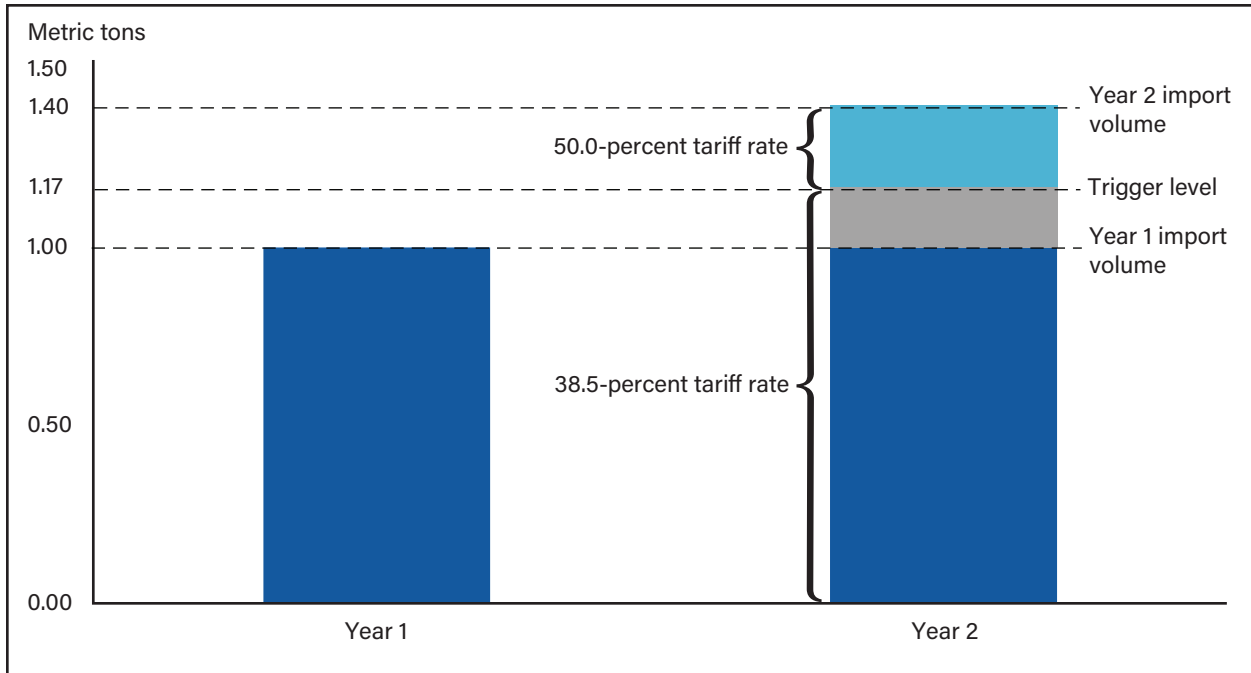
The International Monetary Fund in 2021 listed Japan as the world's third-largest economy, in terms of Gross Domestic Product (GDP), behind only the United States and China. Additionally, according to 2022 Trade Data Monitor (TDM) data, Japan was the world's fifth-largest importer of agricultural goods in 2021, with more than \$64 billion worth of imports. Japan is also one of the most important markets for United States agricultural exports. In 2021, Japan imported over \$15 billion worth of agricultural goods from the United States, making it the United States' fourth largest export market for agricultural goods. Corn and beef were the top two U.S. agricultural commodities exported to Japan in 2021, worth \$3.4 and \$2.3 billion, respectively.

Brief History of Japan's Treatment of Imported Beef and Beef Offal Products

Before the multilateral trade negotiations of the General Agreement on Tariffs and Trade (GATT) Uruguay Round in 1995, Japan's Most Favored Nation (MFN)² tariff rates for fresh/chilled and frozen beef imports were set at 50 percent to help shield domestic producers from foreign competition. The GATT negotiations led to an agreement in which Japan reduced its MFN tariff rates to 38.5 percent over a 6-year phase-in period. While agreeing to the 38.5-percent reduction, Japan also implemented a special safeguard that would, from the day it was triggered until the end of the Japanese fiscal year (JFY), which runs from April 1 to March 31, revert the tariff rate back to 50 percent. This safeguard trigger condition was observed on a cumulative quarterly basis and set at 117 percent of the import volume from the corresponding quarter in the previous year. In other words, the trigger condition would be assessed at the end of each quarter and include the combined year-to-date import volumes from that quarter and all previous quarters. If the year-to-date import volume exceeded 117 percent of the previous year's import volume in the corresponding quarter, then the tariff rate would increase to 50 percent for the remainder of the JFY. In total, this safeguard tariff, which was observed separately for imports of fresh/chilled and frozen beef, has been triggered four times (see box, "Japan's Most Favored Nation Safeguard Tariff History"). An illustration of Japan's safeguard mechanism is presented in figure 1.

² Note that Japan's MFN tariff rates are applied to all World Trade Organization member countries unless that country is part of a preferential trade agreement with Japan that stipulates a different rate.

Figure 1
Japan's Most Favored Nation beef safeguard



Note: For simplicity, Japan's total Year 1 beef imports are set at 1 metric ton. As a result, the Year 2 safeguard trigger level is 1.17 metric tons (117 percent of Year 1's total imports). Therefore, assuming a theoretical total import volume of 1.40 metric tons in Year 2, the first 1.17 metric tons of beef imported by Japan would face a tariff rate of 38.5 percent, while the final 0.23 ($1.40 - 1.17 = 0.23$) metric tons would face an over-safeguard tariff rate of 50 percent.

Source: USDA, Economic Research Service using information from Obara (2017).

Japan's Most Favored Nation Safeguard History

Japan's Most Favored Nation (MFN) beef safeguard has been triggered four times. The safeguard for frozen beef was triggered in the first quarter of Japan fiscal year (JFY) 1995/96, which increased the tariff from 48.1 to 50.0 percent for the remainder of that fiscal year, and it was triggered again in the first quarter of JFY 1996/97, which raised the tariff from 46.2 to 50.0 percent for the remainder of that fiscal year. The safeguard for fresh/chilled beef was triggered in the first quarter of JFY 2003/04, increasing the tariff rate from 38.5 to 50.0 percent. In the summer of 2006, Japan amended its beef special safeguard calculation to account for the sharp rise in imports of U.S. beef following the removal of a temporary import ban on U.S. beef. The new policy stipulated that over-safeguard rates would not be applied unless imports exceeded the average level of imports from JFY 2002/03-2003/04 or 117 percent of the previous year's imports, whichever was higher.

In JFY 2015/16, Japan amended its beef safeguard for a second time to account for a free trade agreement (FTA) it had signed with Australia. This second amendment created a "double trigger" system, in which two conditions had to be met before Japan would apply its safeguard measures. Specifically, one condition related to total imports, and another condition dealt only with imports from non-FTA countries. Like the initial trigger condition, this double trigger was observed on a quarterly, cumulative basis, and there were separate and unique triggers for chilled and frozen beef imports. For example, in JFY 2017/2018, the first quarter (Q1) trigger conditions for frozen beef were 89,140 metric tons for total imports and 35,468 metric tons for imports from FTA partner countries. For chilled beef, the Q1 trigger conditions were 74,339 metric tons for total imports and 33,019 metric tons for imports from FTA partner countries.

The double trigger safeguard was tripped for frozen beef in the first quarter of JFY 2017/2018, which raised Japan's beef tariff rate for non-FTA countries from 38.5 to 50.0 percent from August 1, 2017, until April 1, 2018 (Obara et al., 2017). This was the final time that Japan's MFN beef special safeguard was triggered. Part of this may be due to a reality that Obara et al. (2017) noted has happened in the past—U.S. beef producers working together to slow shipments of beef in order to avoid triggering the safeguard. This, however, comes with the risk of releasing extra product at the beginning of the next period and increasing the possibility of triggering the safeguard in that period.

Japan's Trade Agreements

Between 2018 and 2021, Japan ratified four new trade agreements (TAs). The first of those to be concluded was the Trans-Pacific Partnership (TPP), which included 12 countries that together comprise around 40 percent of the global economy, but the United States withdrew from this agreement in January 2017. After that, the remaining 11 countries collectively decided to continue with the agreement, which was renamed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). It went into effect on December 30, 2018, for Canada, Australia, Japan, Mexico, New Zealand, and Singapore; January 14, 2019, for Vietnam; September 19, 2021, for Peru; and September 30, 2022, for Malaysia. Brunei and Chile have not yet finalized their respective ratifications, so the CPTPP will enter into force for them 60 days after they do so. The second TA between the 27 European Union (EU) countries and Japan is titled the Japan-EU Economic Partnership Agreement (Japan-EU EPA) and entered into force on February 1, 2019. The third TA was a bilateral agreement with the United States. It entered into force on January 1, 2020, 3 years after the United States withdrew from TPP and is known as the U.S.-Japan Trade Agreement (USJTA). The final TA was between the United Kingdom (UK) and Japan. It is named the Japan-UK Comprehensive Economic

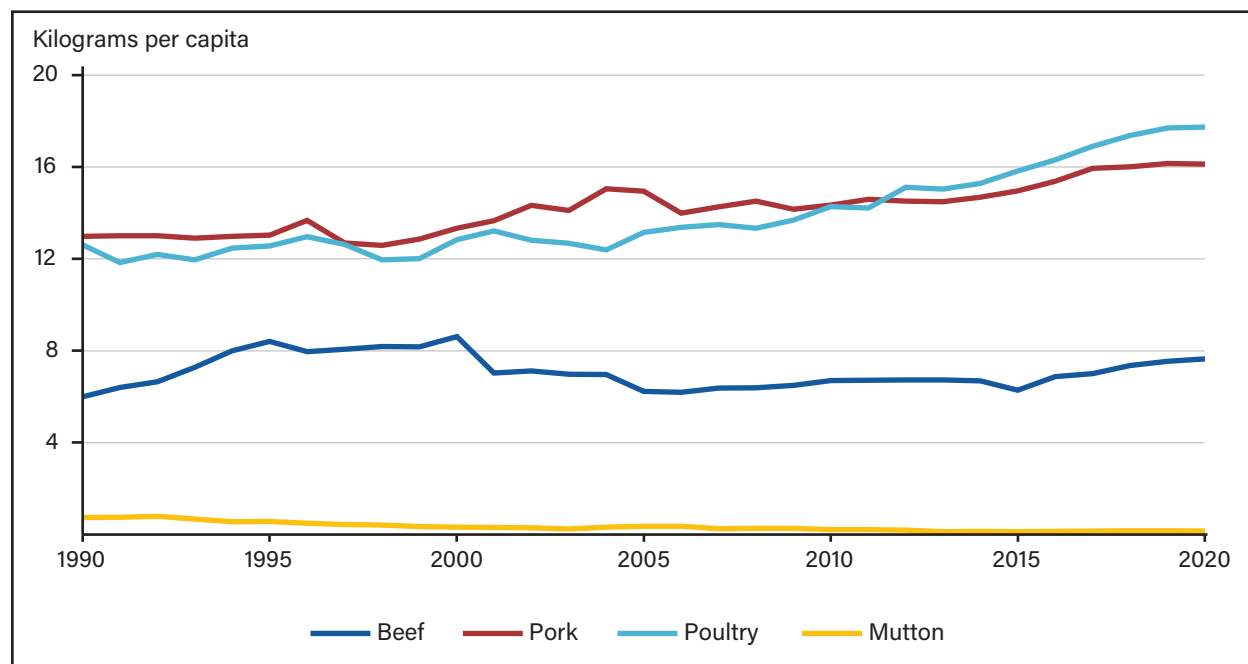
Partnership Agreement (Japan-UK EPA) and entered into force on January 1, 2021. Each of these agreements contains TA-specific safeguards on the import of beef products, and with the completion of these trade agreements, essentially all of Japan’s imports of beef and beef offal³ products now originate in TA partner countries. Thus, Japan’s Government determined it was unnecessary to maintain its World Trade Organization (WTO) special safeguard, and on April 1, 2020, it was eliminated (Imaizumi, 2019).

Japan’s Market for Beef and Beef Offal Products

To understand the significance of the changes outlined in Japan’s recent trade agreements, it is necessary to understand the Japanese market for beef and beef offal products. Among meats, beef is now an important commodity in Japan, but in the 1960s, its share of meat consumption was quite small (Dyck, 1988). As the cultivation of fields became mechanized, cattle, which had been primarily used as draft animals, were transformed into a meat source and consumption began to rise quickly (Dyck, 1988).

Over the last 30 years, however, the amount of beef consumed by the average Japanese consumer has remained relatively stable (figure 2). In 2020, consumption was less than half of that for either pork or poultry. It also far outpaces consumption of sheep products, whose consumption has declined to virtually zero. The level of beef consumed in Japan (figure 3) is roughly on par with the global average, which is about half the level of consumption across all Organization for Economic Cooperation and Development (OECD) countries and under a quarter of the amount eaten by the average U.S. consumer (OECD, 2022).

Figure 2
Japan’s meat consumption per person

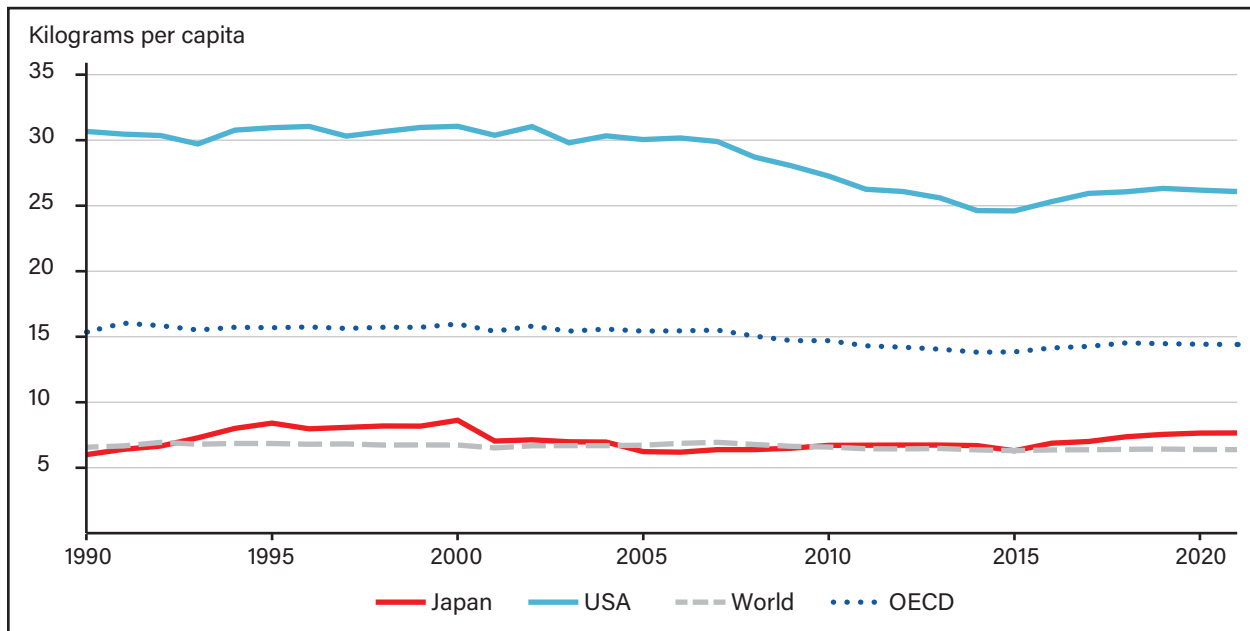


Source: USDA, Economic Research Service using Organization for Economic Cooperation and Development (OCED) data.

³ The USDA, Agricultural Marketing Service’s Livestock, Poultry and Grain Meat Terms defines offal as “In red meat species, the organs or parts from the thoracic and abdominal cavities and the tongue.”

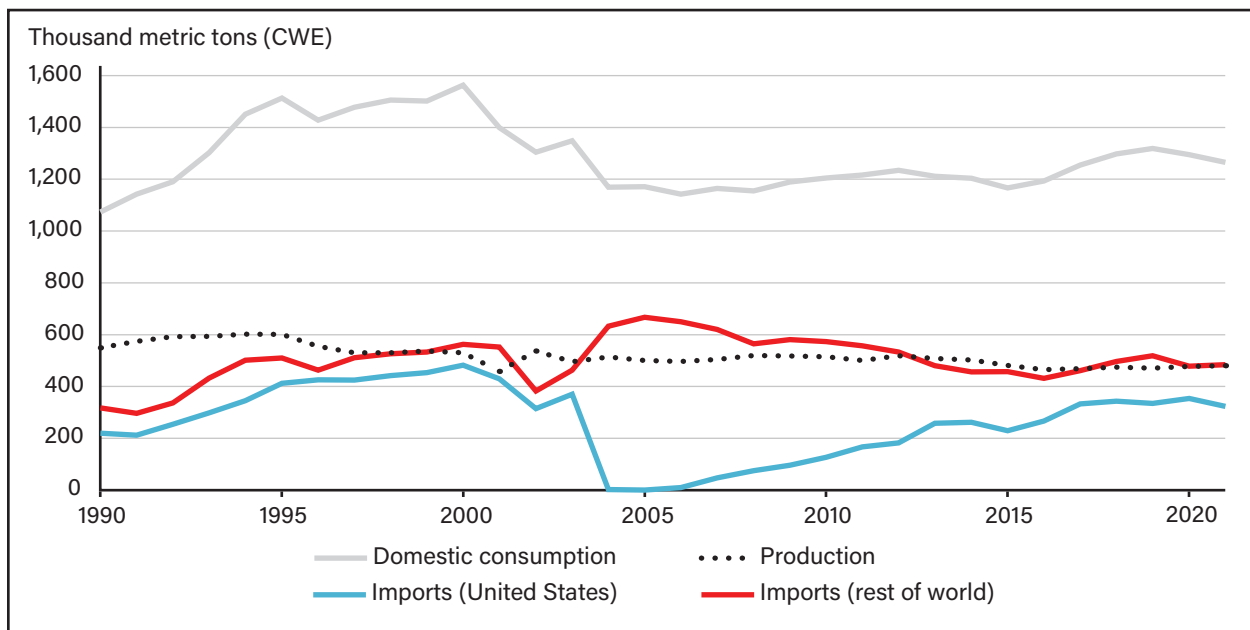
In 2021, according to the USDA, Foreign Agricultural Service's *Production, Supply and Distribution* (PSD) database, consumption of beef in Japan totaled 1,273,000 metric tons. This demand was satisfied through a combination of domestic production and imports (figure 4).

Figure 3
Beef consumption per person



Source: USDA, Economic Research Service using Organization for Economic Cooperation and Development (OECD) data.

Figure 4
Japanese market for beef



Note: USDA, Foreign Agricultural Service, Production, Supply and Distribution database's consumption, production, and import data reports volumes in terms of their carcass-weight equivalent (CWE). Data from Trade Data Monitor (TDM) is reported using product weights in metric tons. TDM data for Japan's imports from the United States was converted to CWE volume using USDA, Economic Research Service conversion factors for beef.

Source: USDA, Economic Research Service calculations using USDA, Foreign Agricultural Service, Production, Supply and Distribution database and Trade Data Monitor data.

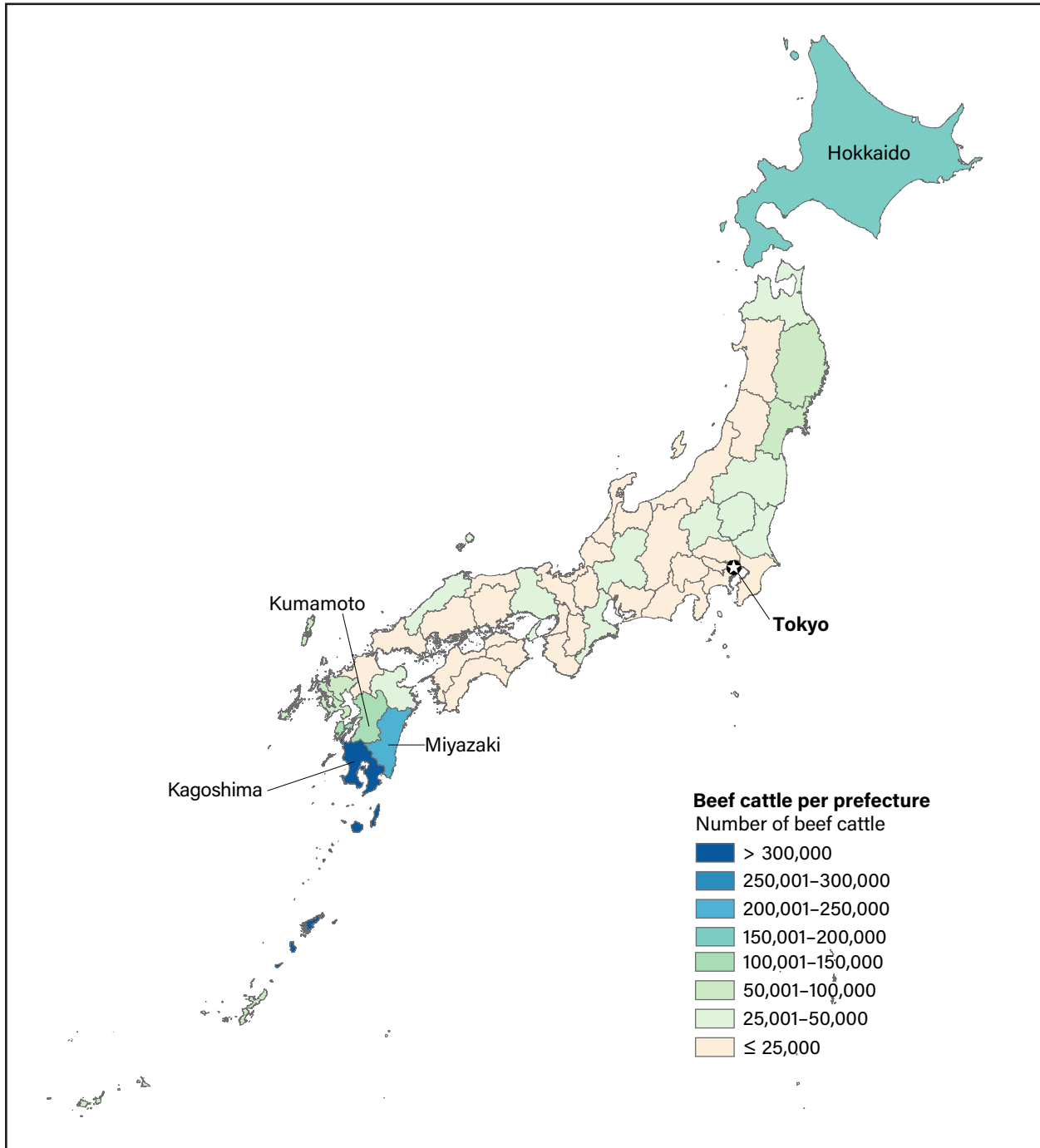
Japan's Domestic Production of Beef and Beef Offal Products

Japan has a large beef cattle sector, in part because of the tariffs and safeguard measures imposed on imports of beef products that help to shield domestic producers from foreign competition. This is reflected in Japan's 2021 domestic beef production, which totaled over 475,000 metric tons and was large enough to supply over 37 percent of the beef consumed domestically. Japan's beef production, however, has been gradually declining for most of the 21st century. In 2020, Japan's production was less than 80 percent of its production in 1995.

Japan's beef and beef offal is produced across the country (figure 5). According to the Japanese Ministry of Agriculture, Forestry, and Fisheries' (MAFF) Statistical Yearbook, the largest beef cattle stocks in 2020 were located on the southern island of Kyushu (908,980 head: 46.3 percent of Japan's total) with the prefectures⁴ of Kagoshima (325,700 head), Miyazaki (222,140 head), and Kumamoto (104,740 head) having the largest stocks. There is also a significant stock on the northern island of Hokkaido (196,000 head). According to MAFF, 51,900 households were involved in cattle production in 2016, but that number had decreased to 43,900 households by 2020. Among the remaining households still working in cattle production, 19,304 were located on the island of Kyushu (figure 6).

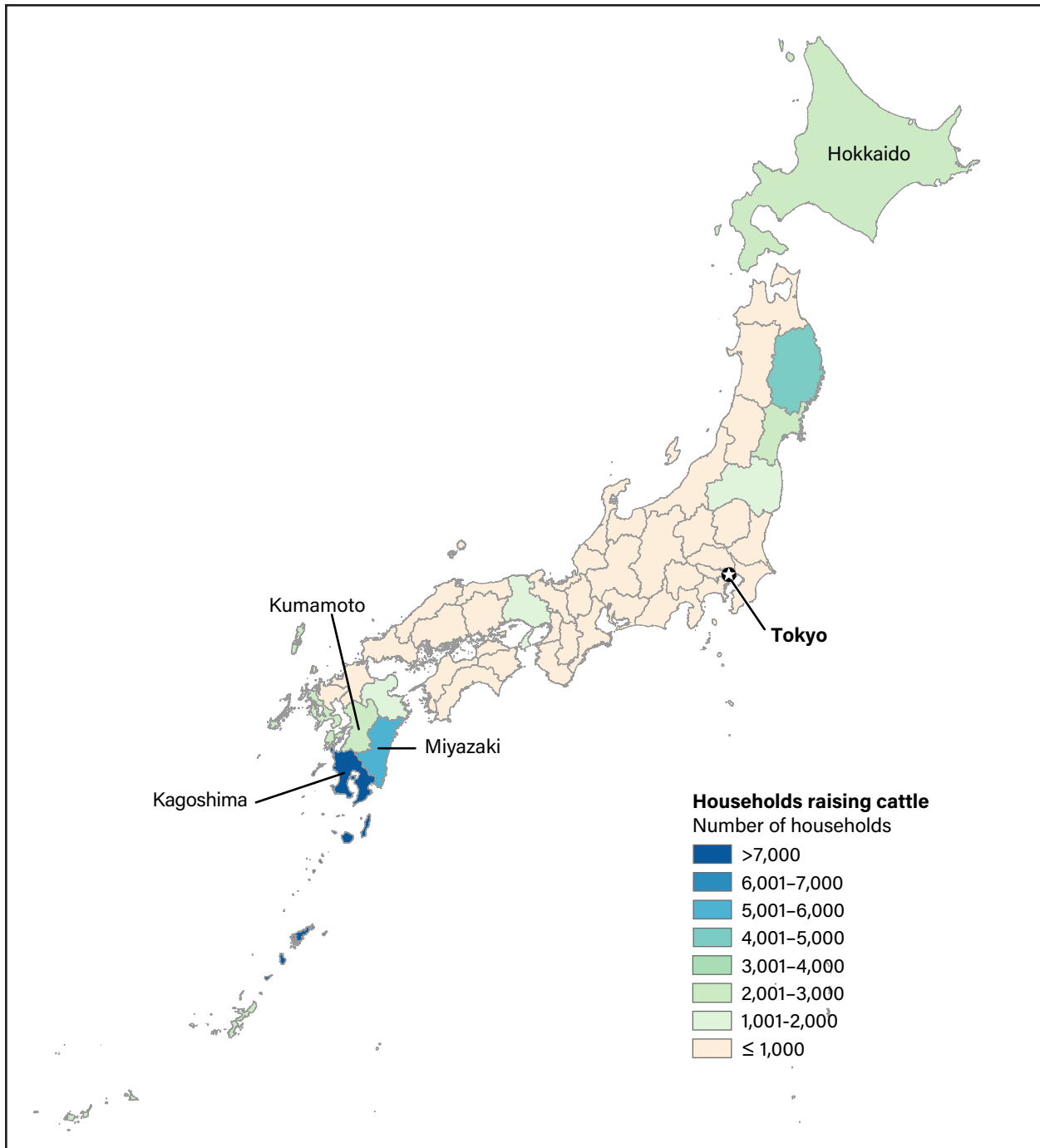
⁴ A prefecture is the Japanese equivalent of a State in the United States.

Figure 5
Number of beef cattle by prefecture, 2020



Source: USDA, Economic Research Service using Ministry of Agriculture, Forestry, and Fisheries, 2022 Statistical Yearbook data.

Figure 6
Number of households raising cattle by prefecture, 2020

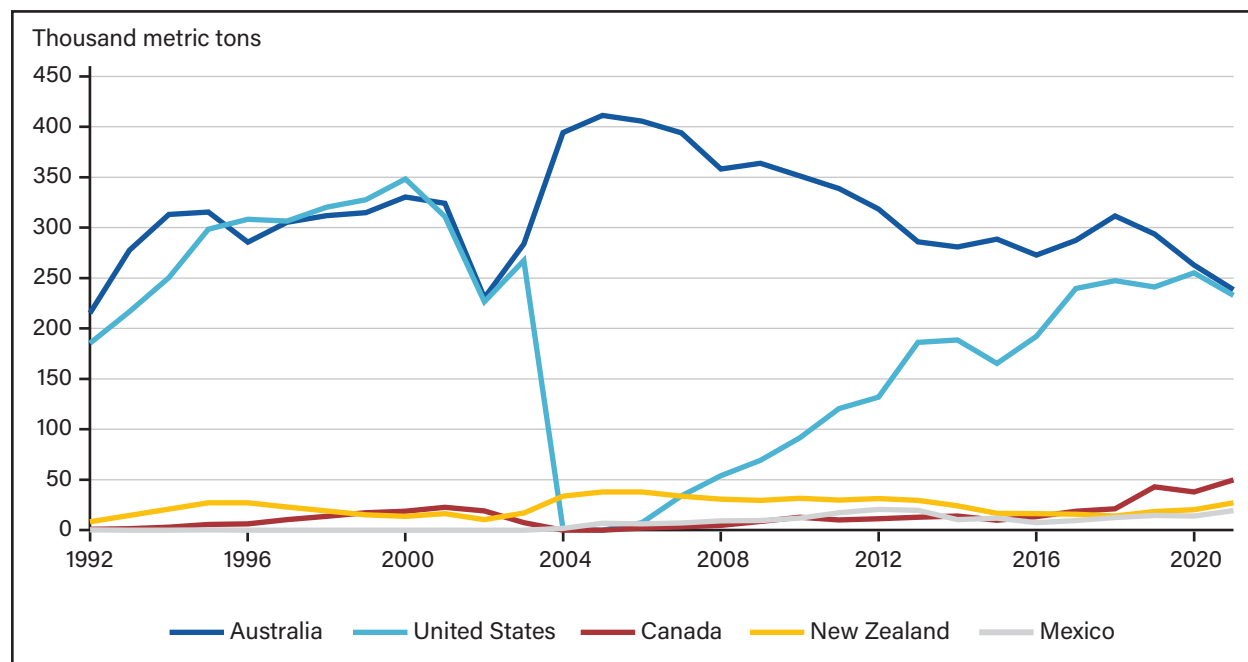


Source: USDA, Economic Research Service using Ministry of Agriculture, Forestry, and Fisheries, 2022 Statistical Yearbook data.

Japan's Beef and Beef Offal Product Imports

Australia and the United States are the two major suppliers of beef products to Japan (Trade Data Monitor). From 1992 to 2003, the U.S. export volume exceeded 290,000 metric tons in all years, but in December 2003 a single case of Bovine Spongiform Encephalopathy (BSE)—otherwise known as Mad Cow Disease—was reported in a cow imported from Canada to the U.S. State of Washington. In response, Japan placed an embargo on U.S. beef and beef offal products, which blocked essentially all imports from the United States. As a result, the U.S. market share of Japan's beef imports fell from 46.4 percent in 2003 to 0.03 percent in 2004 (figure 7). To replace its lost imports from the United States, Japan looked primarily to Australia, which did not have any reported cases of BSE.

Figure 7
Major sources of Japan's beef imports



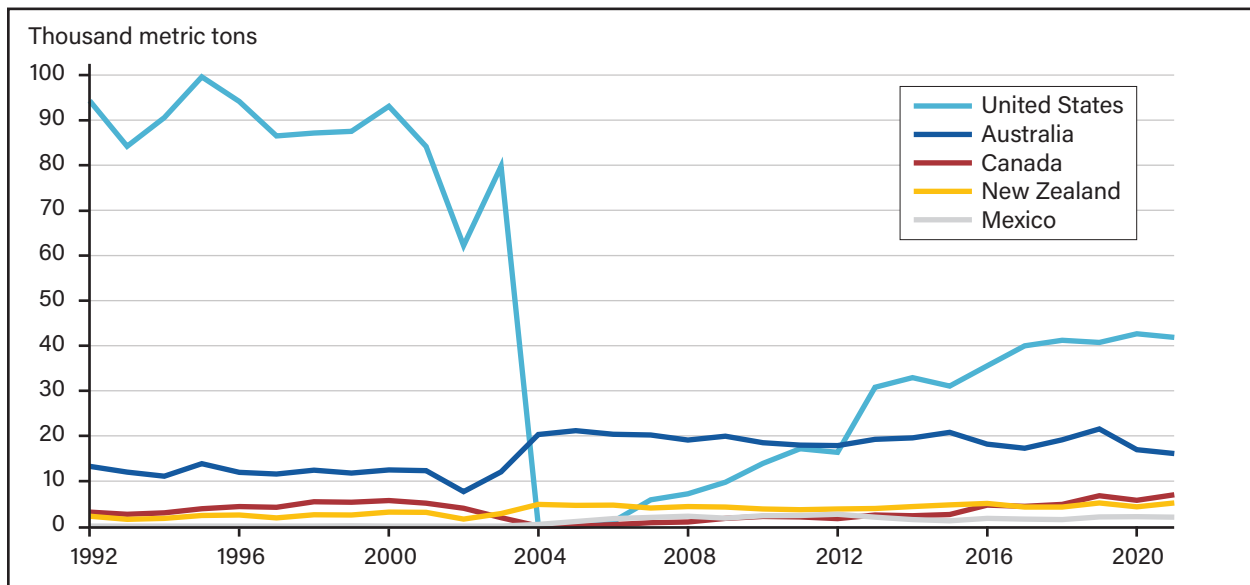
Source: USDA, Economic Research Service using Trade Data Monitor data.

In summer 2006, Japan began phasing out its import ban on U.S. beef and fully lifted the import ban by May 2019. Over this period, imports from the United States rebounded nearly to pre-ban levels. U.S. beef imports, though, have begun to plateau in recent years. This suggests the United States has lost some of its market share to competing exporters after the 2004 BSE import ban. In 2021, domestic beef accounted for 37.9 percent of Japan's total consumption, while imports from the United States accounted for 25.5 percent and imports from the rest of the world made up 36.6 percent. Figure 7 shows that Australia was the primary source of beef during the period that Japan prohibited beef importation from the United States. It also shows that the United States has gradually regained its market share of Japan's beef imports. In 2021, Australia accounted for 40.7 percent of all of Japan's beef imports while the United States accounted for 39.8 percent. Moreover, from 1992 to 2022, Australia and the United States averaged a combined share of 90.5 percent of Japan's beef import market.

However, the future trajectory for the United States may be less positive, partly because Australia may soon be bringing an increased number of cattle to market. According to U.S. Meat Export Federation (USMEF) President Dan Halstrom, Australia for the last 2 years has “been getting rain... They’ve been holding cattle... At some point, these cattle are going to start coming to market and we will see bigger production levels available out of Australia for Japan” (USMEF, 2022). At the same time, U.S. cattle numbers are expected to decline following drought-induced herd contraction (Knight et al., 2022). Moreover, the United States is a greater distance from Japan than Australia, which introduces an additional complication for U.S. beef exports. However, the United States does have its own advantages relative to Australia. For instance, Japan’s market favors grain-fed beef, which Australia has difficulty supplying, given its constrained grain production and relatively low levels of grain imports.

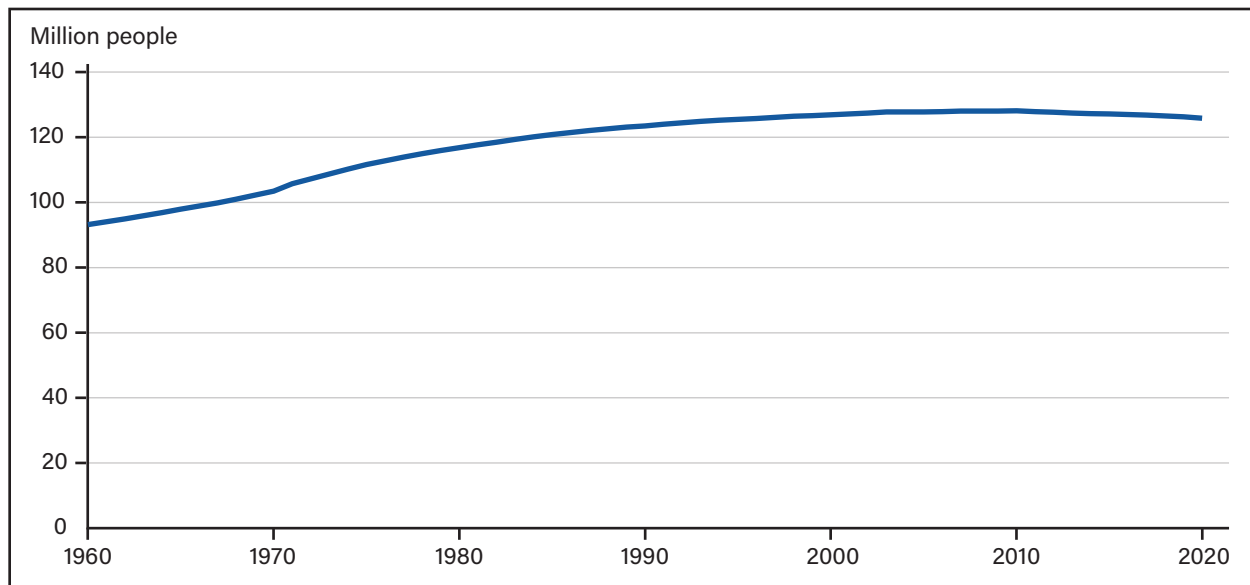
As for beef offal, the United States recovered the top position from Australia in 2013, and supplied 52.6 percent of such imports in 2021, while Australia supplied 20.2 percent (figure 8). Nevertheless, the United States is still supplying less than half the volume it did before the BSE-driven ban was implemented. Japan’s decline in demand for beef offal products may be driven, in part, by its declining population, which peaked in 2010 at 128.1 million and declined to 125.8 million in 2020 (figure 9).

Figure 8
Major sources of Japan’s beef offal imports



Source: USDA, Economic Research Service using Trade Data Monitor data.

Figure 9

Population of Japan, 1960–2020

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

Japan also imports beef and beef offal products from three other notable trading partners. In 2021, Canada supplied 7.3 percent of Japan's beef and beef offal imports, New Zealand supplied 4.6 percent, and Mexico supplied 2.6 percent. These countries, along with the United States and Australia, supply nearly all beef and beef offal product exports to Japan, supplying 96.7 percent in 2021. Moreover, Australia, Canada, Mexico, and New Zealand are all signatories to the CPTPP. In 2021, 49.7 percent of Japan's imports of beef and beef offal imports originated from CPTPP countries while 47.0 percent were from the United States and thus subject to the conditions of the USJTA.

The other regions that have recently signed TAs with Japan, the EU and the United Kingdom (UK), supply a relatively small volume of beef and beef offal products. In 2021, they supplied a combined 2.4 percent of the beef and beef offal products Japan imported. Therefore, discussion of the details of their TAs, which roughly mirror changes in the USJTA and CPTPP, along with modeled estimations of the market impacts for those regions, are presented in the appendix.

Japan's USJTA and CPTPP Policies Governing Trade in Beef Products

Japan's recent TAs have provided its major foreign beef suppliers uniform tariff rates. Table 2 outlines the annual tariff rate reductions, safeguard trigger conditions, and over-safeguard tariff rates for beef in the USJTA and CPTPP from JFY 2020/21 until JFY 2033/34, which is the final year of tariff rate reductions. Note the annual tariff rate reductions and safeguard tariff rates are the same for both agreements. The differences are in the safeguard trigger levels. Appendix tables A.1, A.2, and A.3 show the annual tariff reductions for Japan's major beef offal imports, which are all tariff free by JFY 2033/2034.

Table 2

Japan's USJTA and CPTPP beef duties, safeguard trigger conditions, and over-safeguard duties

Japanese Fiscal Year	USJTA			CPTPP		
	Trade agreement duty	Safeguard trigger*	Over-safeguard duty	Trade agreement duty	Safeguard trigger	Over-safeguard duty
	Percent	Metric tons	Percent	Percent	Metric tons	Percent
2020/2021	25.8	242,000	38.5	25.8	613,600	38.5
2021/2022	25.0	246,840	30.0	25.0	625,400	30.0
2022/2023	24.1	251,680	30.0	24.1	637,200	30.0
2023/2024	23.3	256,520	30.0	23.3	649,000	30.0
2024/2025	22.5	261,360	30.0	22.5	660,800	30.0
2025/2026	21.6	266,200	30.0	21.6	672,600	30.0
2026/2027	20.8	271,040	30.0	20.8	684,400	30.0
2027/2028	20.0	275,880	30.0	20.0	696,200	30.0
2028/2029	18.1	278,300	20.0	18.1	702,100	20.0
2029/2030	16.3	280,720	20.0	16.3	708,000	20.0
2030/2031	14.5	283,140	20.0	14.5	713,900	20.0
2031/2032	12.6	285,560	20.0	12.6	719,800	20.0
2032/2033	10.8	287,980	18.0	10.8	725,700	18.0
2033/2034	9.0	292,820	**	9.0	737,500	**

USJTA = U.S.-Japan Trade Agreement. CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: Starting in JFY 2034/2035 the safeguard trigger will increase each year by a specified amount: by 4,840 metric tons for the USJTA and by 11,800 metric tons for the CPTPP.

*U.S. beef exports now face a triple trigger condition after renegotiation in early 2022. The safeguard trigger levels presented here are only one of the three trigger conditions.

**Reduce by 1 percent each year (or maintain at previous year's level if safeguard triggered in previous year). If not applied during any 4 consecutive years after JFY 2033/2034, safeguard will be eliminated.

Source: USDA, Economic Research Service using USDA, Foreign Agricultural Service, Agricultural Tariff Tracker database.

CPTPP Versus USJTA Trigger Conditions

The CPTPP safeguard trigger levels outlined in table 2 were established when the CPTPP was still the TPP and included the United States. Therefore, these safeguard volumes were based on the combined imports of Japan's CPTPP partner countries and the United States. Furthermore, because U.S. exports were roughly 40 percent of Japan's total beef imports at the time the safeguard levels were established (TDM, 2022), the aggregate volume of CPTPP beef exports to Japan are far from triggering the safeguard. For perspective, the JFY 2020/21 safeguard trigger volume for CPTPP countries was 613,600 metric tons (table 2), and the aggregate volume of beef that Japan imported from CPTPP partner countries in JFY 2020/21 was 328,080 metric tons. This means Japan's beef imports from CPTPP countries were under 54 percent of the level that would trigger the safeguard mechanism in JFY 2020/21. Thus, CPTPP exporters have ample room to expand exports before triggering increased tariff rates. This is potentially problematic for Japan's domestic producers, as they are less protected from foreign competition than they would have been under the TPP, given the CPTPP agreement has effectively removed Japan's ability to employ its safeguard on exports from CPTPP countries.

Conversely, for the United States, the USJTA trigger level was set at 242,000 metric tons in JFY 2020/2021, a level less than the average annual volume of beef the United States exported to Japan between JFY 2017/18 and JFY 2020/21.⁵ Thus, the United States is far more likely to trigger its safeguard and face higher tariffs than CPTPP competitors. This confers an advantage to exporters from CPTPP countries over the United States and—with nearly all of Japan’s beef imports originating in either the United States or CPTPP countries—this competitive disadvantage may have significant implications for the U.S. beef sector. However, the USJTA stipulates that consultations to revise the trigger condition must occur if the safeguard is triggered.

The impacts of the distorted CPTPP trigger levels are reflected in TDM trade data in the years following the ratification of the CPTPP and USJTA. For instance, in 2019, after Canada, Australia, Japan, Mexico, New Zealand, and Singapore ratified the CPTPP, the share of Japan’s beef import market held by CPTPP beef exporters increased by 0.6 percentage points, marking the first increase since 2015. In fact, from 2016 to 2019, Canada’s and Mexico’s share of Japan’s beef import market rose from 3.2 and 1.5 percent to 7.3 and 2.5 percent, respectively. This gain in market share came at the expense of U.S. beef producers, whose share of Japan’s beef import market fell by 1.7 percentage points over the same period.

Ratification of the USJTA improved the outlook for U.S. beef producers, who were able to increase their market share by 3.2 percentage points in 2020. However, on March 17, 2021, imports of beef from the United States reached the safeguard trigger level of 242,000 metric tons, and consequently, the tariffs imposed on imports of U.S. beef increased from 25.8 to 38.5 percent through April 16, 2021, which was 16 days into the new fiscal year. This was due to the USJTA stipulation that once the safeguard is triggered, it must remain in effect for a minimum of 30 days, even if those 30 days spill over into the next fiscal year. Japan’s beef imports from CPTPP countries were far from reaching the JFY 2020/21 CPTPP trigger condition of 613,600 metric tons, and imports from these countries maintained a tariff rate of 25.8 percent. Thus, beef imports from the United States faced a tariff rate that was 12.7 percentage points higher than CPTPP competitors from March 17 to April 16, 2021. This disadvantage was particularly costly to U.S. producers, given that it occurred in the weeks leading up to Japan’s “Golden Week” holidays, which is a period of high beef consumption (USMEF, 2022). This same issue can be expected in the future as the safeguard is most likely to trigger towards the end of the JFY, which ends on March 31. The likely impact of this situation will be analyzed later using a computable general equilibrium (CGE) model.

Following the ratification of the CPTPP and USJTA, several news and academic articles were released discussing the implications of the beef safeguards within these agreements. For example, USMEF (2022) discussed the threat of Australia, the United States’ primary competitor in Japan’s beef market, increasing its production and exports of beef, stating, “[t]here’s a lot of reasons we [the United States] really need to make progress on the beef safeguard.” Furthermore, Muhammad et al. (2021) highlighted the importance of Japan as a foreign market for U.S. beef and estimated the implications of triggering the USJTA safeguard for U.S. producers and the monthly impacts of the increased safeguard tariff rate on U.S. beef. Their results suggested the average monthly U.S. exports of chilled beef would decrease by 14.1 percent (\$10.8 million), and frozen beef would decrease by 16.2 percent (\$5.6 million) (Muhammad et al., 2021).

Renegotiation of the USJTA Trigger Condition

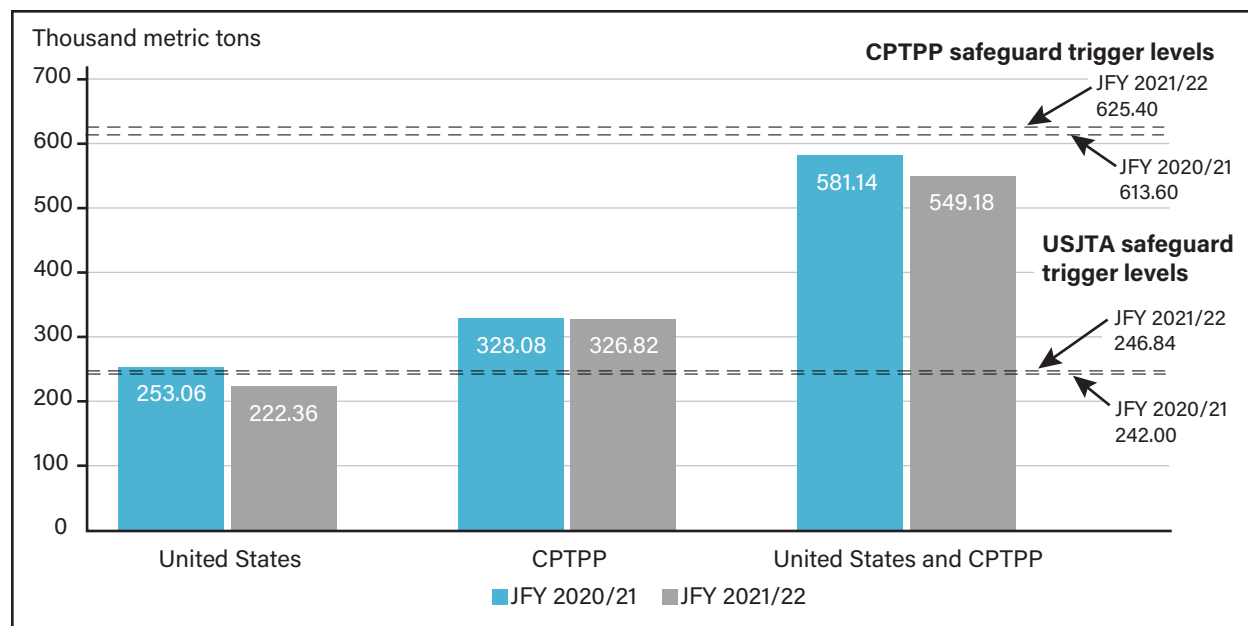
The trigger condition for Japan’s beef safeguard for U.S. beef imports was renegotiated to a triple-trigger system in March 2022, following the original USJTA safeguard mechanism being triggered in March 2021. In the renegotiated system, all three of the following trigger conditions must be met before the tariff rate would be increased for U.S. exports:

⁵ The safeguard can be triggered by the combined imports of muscle cuts and fresh or frozen cheek and head meat, the latter of which are beef offal products. This study, however, examines safeguard impacts without considering imports of cheek and head meat, which is a relatively small sector of Japan’s import market.

1. Imports from the United States must exceed the trigger level outlined in the USJTA for that fiscal year;
2. Imports of U.S. beef must exceed imports from the previous year; and
3. Japan's combined imports from the United States and CPTPP signatories must exceed the CPTPP trigger level for that fiscal year.

The first trigger condition is the same as originally outlined in the USJTA, and according to USMEF (2022) and Muhammad et al. (2021), this safeguard condition is likely to be met in the coming years. Furthermore, if Japan's imports of U.S. beef continue to increase at the rate they have since 2004 (figure 4), the second condition is likely to trigger in most years. However, U.S. exports did decrease from JFY 2020/21 to JFY 2021/22. Since the CPTPP trigger level was carried over from the TPP, the third trigger condition essentially brings the United States back to the original TPP trigger, with one major exception. The major exception is that CPTPP countries will not face increased tariffs when aggregate beef exports from the United States and CPTPP countries exceed the safeguard trigger condition unless the CPTPP countries' export volume alone is sufficient to trigger increased tariffs, and that is unlikely given that Japan's current imports from CPTPP countries are less than 54 percent of the CPTPP safeguard trigger level. Consequently, this renegotiation will likely benefit U.S. beef producers, but CPTPP signatories are still likely to maintain some degree of competitive advantage over the United States relative to the original TPP agreement. Figure 10 shows the United States' and CPTPP countries' beef imports to Japan in JFY 2020/21 and 2021/22, along with the JFY 2020/21 and 2021/22 USJTA and CPTPP safeguard trigger conditions. The figure illustrates the disparity between the safeguard-induced export constraints of the United States and CPTPP countries.

Figure 10
Japan's beef imports and safeguard trigger conditions



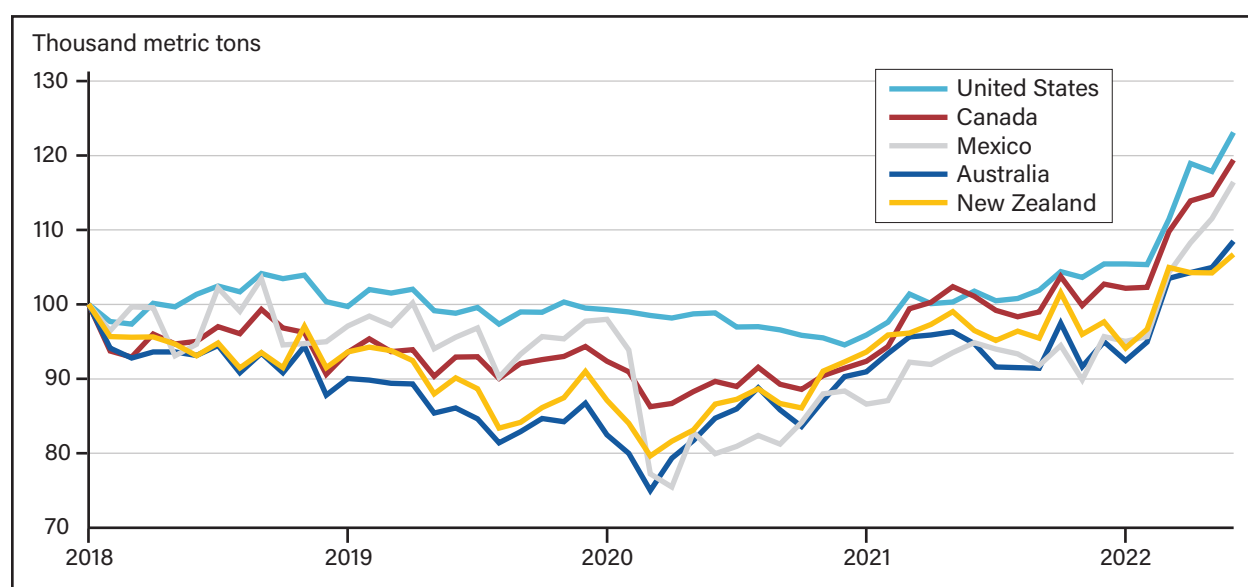
JFY = Japanese Fiscal Year. CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership. USJTA = U.S.-Japan Trade Agreement.

Source: USDA, Economic Research Service using Trade Data Monitor data for Japan's imports of fresh and frozen beef products (Harmonized System codes 0201 and 0202).

Exchange Rates

The relative exchange rate is the other major factor that can play a role in determining import volumes from the United States and CPTPP countries. When all other factors are equal, Japan will likely favor imports sourced from countries where they gain a price advantage, and the exchange rates of major beef suppliers show clear differences (figure 11). Over the January 2018–June 2022 period, the currencies of the four major CPTPP beef product suppliers (Australia, Canada, Mexico, and New Zealand) had all weakened relative to the U.S. dollar, which could confer an enduring trade advantage to CPTPP exporters, especially as the U.S. dollar was continuing to strengthen at the time this report was written. For example, in March 2020, an Australian dollar would have yielded 75 percent of the Japanese yen the Australian dollar could have purchased in January 2018. At that same point in time, a U.S. dollar would have yielded 98 percent of the amount the U.S. dollar could have purchased in January 2018.

Figure 11
Changes in purchasing power of various currencies relative to Japanese yen from 2018 baseline



Source: USDA, Economic Research Service using 2022 Monthly Nominal Exchange Rates.

Modeling Japan's Future Production and Imports of Beef Products

This study used a CGE model, specifically the Global Trade Analysis Project (GTAP) model, to estimate the effects of the tariff rate and safeguard changes outlined in the four TAs on Japan's beef and beef offal products (Aguilar et al., 2019). In the GTAP model, producers are assumed to be perfectly competitive cost-minimizers, and their demand for intermediate inputs is subject to a Leontief production function.⁶ The model uses a constant difference of elasticity system to depict consumer demand. Factors of production are assumed to be fixed and fully employed. Capital and labor are assumed to be mobile and able to switch between

⁶ A Leontief production function is a function where inputs, such as capital and labor, are used in fixed proportions.

sectors. As for import demand, it is depicted using Armington functions that first allocate demand between domestic and imported goods and then allocate based on the import source.⁷

The focus of this study is on beef products. The GTAP sector that contains beef products, however, also contains other products not included in this research, such as sheep and horse meats. Because of this, the GTAP sector was disaggregated into three sub-sectors: (1) beef, (2) beef offal, and (3) nonbovine meat products using the program SplitCom (Horridge, 2008). The trade and tariff data were disaggregated using the Tariff Analytical and Simulation Tool for Economists (TASTE) (Horridge and Laborde, 2008), TDM data, and Food and Agricultural Organization of the United Nations (FAO) data. In the model analysis, the researchers used a medium-run setup with an 8- to 12-year timeframe to assess the likely situation first in JFY 2028/29—the halfway point from the time of the study to the year that tariff rate reductions are fully implemented—and then in JFY 2033/34 when tariff reductions will have been fully implemented. The most recent GTAP database uses 2014 as a base year. The base year for this analysis was set at 2018, which was the final year before the first TA (CPTPP) was enacted, to most accurately reflect the state of the global beef market absent any TA impact.⁸ Thus, the model's data were updated to 2018. Population change is also a salient issue, as Japan's population has been declining since 2010 and is expected to decrease by 6.3 million between 2018 and 2028 and by 9.9 million between 2018 and 2033 (United Nations, 2022). The United Nations medium variant population projections, therefore, were used as inputs into the model. Results for the hypothetical scenario where Japan's population is held fixed at its 2018 levels are presented for curious readers in the appendix. This study also included pork tariff changes to create a more robust model and better assess the likelihood and magnitude of any substitution in demand between pork and beef products. There are other products outside of pork and beef that also will have tariff rates impacted by these TAs, but those changes were not considered in this analysis. This means, however, that by not accounting for all possible substitutions or complementary effects, the results presented here may not reflect the full impact of these TAs on the beef and beef offal product market.

JFY 2028/29 Scenario

This study first made estimations forward to JFY 2028/29 by utilizing the tariff situation in that year for beef and beef offal products (see table 2, and appendix tables A.1, A.2, A.3, and A.4) and pork products (see Davis et al., 2023). The report estimated the impacts of Japan's TAs on its domestic production and imports by first accounting for the projected 6.3-million-person decrease in Japan's population over this period. Next, the study addressed the significant reductions in beef and beef offal product tariffs and the full implementation of tariff reductions for pork products that will have occurred by JFY 2028/29.

Results indicated that—if no safeguards are triggered—Japan's beef production will decrease by 11.7 percent, and Japan's beef offal production will decrease by 9.9 percent (table 3). FAO reported that Japan produced 475,336 metric tons of beef and 48,398 metric tons of beef offal in 2018. Together, this implies that by JFY 2028/2029, beef production will have declined by 55,424 metric tons to 419,912 metric tons, and beef offal production will have fallen by 4,777 metric tons to 43,621 metric tons. Conversely, Japan's imports are estimated to increase by 17.2 percent for beef and 9.0 percent for beef offal products. In addition, we estimated the impact on pork production and found modeling results consistent with those found in Davis et al. (2023),

⁷ The Armington parameter, as others have noted (Plevin et al., 2015), is very important. This parameter, which governs the substitutability among domestic and imported products, is set to 4.4 for the other meats nest. However, research (Kee et al., 2004; Yang et al., 1994) suggests there is a smaller import elasticity for beef and pork relative to other products like poultry, so the value of 2.0 was used in this work. Using the larger 4.4 value would have led to larger production loss and import gain estimates for Japan. For example, the Japanese domestic production estimate using 4.4 is -27.6 percent, using 2.0 is -11.2 percent for beef, and for processed pork products it is -30.6 percent using 4.4 and -12.7 percent using 2.0.

⁸ CPTPP was ratified on December 30, 2018, which means it was in force for 2 days in 2018. The distortionary impact of these 2 days was assumed to be negligible, and thus 2018 was favored over 2017 as the choice for the base year.

which examined the impact of the pork tariff reductions detailed in the four TAs. Those results are presented in the appendix.

Table 3

Impact of trade agreements on Japan's production and imports from 2018 to Japanese Fiscal Year 2028/29 with no safeguards triggered

	Production	Imports
Beef Products	-11.7	17.2
Beef Offal Products	-9.9	9.0

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Food and Agriculture Organization of the United Nations data and USDA, Economic Research Service report data.

Although each TA is expected to elevate Japan's imports from each partner region, supplies from the United States and CPTPP countries are estimated to see the largest increases.⁹ U.S. beef exports to Japan are estimated to increase by 17.4 percent from 2018 to JFY 2028/29 (table 4), which would be an additional \$267.4 million (44,361 metric tons) in exports. In JFY 2028/29, Japan is estimated to import \$1.8 billion (299,163 metric tons) of U.S. beef (table 5). Beef imports from CPTPP countries would also increase by \$349.6 million (63,368 metric tons) to a total of \$2.4 billion (427,340 metric tons).

Table 4

Change in Japan's import volumes and values, from 2018 to Japanese fiscal year 2028/29

		U.S. exports	CPTPP exports
Beef products	U.S. dollars	267,351,635	349,597,591
	Metric tons	44,361	63,368
Beef offal products	U.S. dollars	51,915,008	26,138,905
	Metric tons	4,001	3,162

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

Table 5

Estimate of Japan's total import volumes and values in Japanese fiscal year 2028/29

		U.S. exports	CPTPP exports
Beef products	U.S. dollars	1,802,972,745	2,357,625,108
	Metric tons	299,163	427,340
Beef offal products	U.S. dollars	604,790,496	284,173,503
	Metric tons	46,614	34,375

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

⁹ See the appendix for results for the EU and UK.

However, the above beef import estimates do not consider the potential impacts of the safeguard mechanisms in the USJTA and CPTPP. For CPTPP countries, the safeguard mechanisms are likely of little concern as their export volume is estimated to be far below the JFY 2028/29 trigger level of 702,100 metric tons. Thus, the tariff rate for CPTPP countries appears likely to remain unchanged at 18.1 percent. To determine whether the United States would face over-safeguard tariffs, the study examined both the original language of the USJTA and the renegotiated triple-trigger system.

Calculating the Impact of the U.S.-Japan Trade Agreement (USJTA) Safeguard

The description of the steps the study followed is explained using only Japan's fiscal year (JFY) 2028/29, but the same process was used for the JFY 2033/34 estimates as well.

The first step was to determine whether U.S. exports would trigger the safeguard at some point during Japan's fiscal year. To do so, the researchers examined the estimated volume from the no-safeguard run, which is shown for JFY 2028/29 in table 5. Then, for the original USJTA estimations, this volume was compared with the USJTA safeguard threshold for JFY 2028/29, depicted in table 2. If the estimated volume exceeded the table 2 value detailed in the USJTA for JFY 2028/29, this was taken to mean the safeguard would be applied at some point during the year. For the renegotiated triple-trigger USJTA scenario, the estimated volume for JFY 2028/29 was compared with both the USJTA safeguard threshold and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) safeguard threshold for the year. If the estimated volume exceeded the threshold value for both the USJTA and CPTPP agreements—when combined with the estimated output for CPTPP countries—for JFY 2028/29 (table 2), this was taken to mean the safeguard would be applied at some point during the year.

The next question that needed to be answered was the estimated duration of the safeguard tariff. In this analysis, it is assumed that exports arrive at a constant pace throughout the year. This allowed the day on which the safeguard would be triggered to be identified by examining the ratio between threshold volume and total estimated volume using the formula:

$$(\text{Threshold volume} \div \text{Total volume}) \times 365 \text{ days}$$

Thus, for the original USJTA, the threshold was 278,300 metric tons (table 2), and the total estimated volume was 300,615 metric tons (table 5). That would have the threshold being reached at some point on day 338 of Japan's fiscal year. Thus, it would be expected to be in force for 27 days in JFY 2028/29, but as the minimum duration of the tariff is 30 days, it would continue to impact U.S. exports for the first 3 days of JFY 2029/30. For simplicity, results assumed that the safeguard tariffs were in effect for 30 days in JFY 2028/29. The renegotiated triple-trigger USJTA scenario was handled using the same approach.

The final task was to determine the safeguard's impact for the period in which it was enacted. This was achieved by rerunning the Global Trade Analysis Project (GTAP) model using the tariff rates for the no-safeguard scenario for all countries except the United States. For the United States, the higher safeguard tariffs were inputted, and the yearly impact on imports from each country was assessed. Finally, the yearly change in dollars and metric tons was applied to the portion of the year the safeguard would be in effect.

Under the original language, the JFY 2028/29 trigger level for the United States was set at 278,300 metric tons. Since the GTAP model estimates Japan’s imports of U.S. beef in JFY 2028/29 would equal 299,163 metric tons (table 5), the United States would face the over-safeguard tariff of 20 percent on roughly 20,863 metric tons of exports. That means that once the safeguard is triggered at some point in JFY 2028/29, the United States would face a rate that would be 1.9 percent higher than the rate on imports from CPTPP countries for the rest of JFY 2028/29 or 30 days, whichever was longer.

As previously discussed, Japan’s imports of U.S. beef reached the safeguard trigger level at the end of JFY 2020/21, and thus the safeguard was in place for about 1 month. Assuming a constant rate of imports throughout the year, the trigger level in JFY 2028/29 would be reached at approximately the same time and thus be in place for 1 month.¹⁰ In this scenario, Japan’s imports of U.S. beef would fall by \$6.6 million (1,095 metric tons) in value relative to the no-safeguard scenario to a total of \$1.8 billion in JFY 2028/29 (table 6). Conversely, imports from CPTPP countries would increase by a collective \$3.5 million (643 metric tons) in value.

Table 6
Japan’s beef import volumes and values in Japanese Fiscal Year (JFY) 2028/29 when original U.S.-Japan Trade Agreement beef safeguard is triggered

		Pre-trigger	Post-trigger	Total
U.S. exports	U.S. dollars	1,654,783,205	141,588,474	1,796,371,678
	Metric tons	274,574	23,493	298,068
CPTPP exports	U.S. dollars	2,163,847,702	197,325,838	2,361,173,540
	Metric tons	392,216	35,767	427,983

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Notes: The Global Trade Analysis Project (GTAP) model was used to create these estimates. Calculations indicate the trigger level will be reached 340 days into JFY 2028/29, leaving the trigger tariff in place for the minimum tariff duration of 30 days.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

Under the renegotiated triple-trigger safeguard system, U.S. beef imports would have to meet three conditions for tariffs to increase. The first is exceeding the trigger level outlined in the USJTA, which was just shown as a likely scenario in JFY 2028/29. The second is exceeding the previous year’s import volume. It is probable this condition will also be met given that tariff rates will have declined from 20.0 percent in JFY 2027/28 to 18.1 percent in JFY 2028/29, and Japan’s domestic beef production will be 11.7 percent lower in JFY 2028/29 compared with 2018. Thus, the third condition will likely determine whether the United States will face higher tariffs. The third condition states that Japan’s combined imports from the United States—JFY 2028/29 estimated volume of 299,163 metric tons—and CPTPP signatories—JFY 2028/29 estimated volume of 427,340 metric tons—must exceed the CPTPP trigger level for JFY 2028/29 of 702,100 metric tons. The combined estimates of beef imports total 726,503 metric tons, which would exceed the CPTPP trigger level by 24,403 metric tons. Consequently, the United States will likely face over-safeguard tariff rates in JFY 2028/29, even under the renegotiated triple-trigger system.

¹⁰ The trigger level for imports of U.S. beef is 93.0 percent of total estimated imports from the United States for JFY 2028/29. Making the simplifying assumption that imports would arrive at a constant pace throughout the year, the trigger level would be reached on day 340 of JFY 2028/29, leaving the safeguard in place for the minimum tariff duration of 30 days. While that means the safeguard would continue to impact U.S. beef exports to Japan for the first 5 days of JFY 2029/30, these results assumed the safeguard tariffs were in effect for 30 days in JFY 2028/29. In other words, in JFY 2028/29, U.S. beef exports would not face a safeguard tariff for the first 335 days of the fiscal year but would face over-safeguard tariff rates for the final 30 days.

One of the keys to understanding the magnitude of the safeguard's impact on U.S. exports is determining how early or late in the year the safeguard would be triggered. Once again, if imports arrive at a constant pace throughout the year, the renegotiated triple-trigger safeguard level would be reached 353 days into the year, leaving the over-safeguard tariff in place for 12 days in JFY 2028/29. However, the minimum duration of the tariff is 30 days, so the over-threshold safeguard would continue to impact imports from the United States for the first 18 days of JFY 2029/30. Therefore, the triple-trigger system does not appear to provide substantial benefits to U.S. exporters according to conditions in JFY 2028/29 because the safeguard would likely be in force for the same duration (30 days) under both the original language and triple-trigger language. Consequently, the results under the triple-trigger system would be the same as those under the original safeguard system (table 6).

However, if the triple-trigger safeguard system were renegotiated and the 30-day minimum provision was dropped, the triple-trigger system could be better for U.S. exporters. Relative to the current triple-trigger system, U.S. exports would increase by an additional \$3.9 million (647 metric tons) to a total of \$1.8 billion (298,715 metric tons), whereas exports from CPTPP countries would drop by \$2.1 million (381 metric tons) to a total of \$2.4 billion (427,602 metric tons) (table 7).

Table 7

Japan's beef import volumes and values in Japanese fiscal year (JFY) 2028/29 when the triple-trigger U.S.-Japan Trade Agreement (USJTA) beef safeguard is triggered and the 30-day minimum provision is dropped

		Pre-trigger	Post-trigger	Total
U.S. exports	U.S. dollars	1,742,412,547	57,862,559	1,800,275,106
	Metric tons	289,114	9,601	298,715
CPTPP exports	U.S. dollars	2,278,434,646	80,640,589	2,359,075,235
	Metric tons	412,986	14,617	427,602

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates. Calculations indicate the trigger level will be reached 353 days into JFY 2028/29, leaving the trigger tariff in place for 12 days.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

In general, if the safeguard is not in force in JFY 2028/29, equivalent changes in the TAs drive an equivalent (17.4 percent) change in imports from both the United States and the CPTPP countries relative to 2018 (table 8). However, if the safeguard is triggered on imports from the United States and remains in force for 30 days, then U.S. trade growth from 2018 to JFY 2028/29 is estimated to be 0.4 percent less than it would have been without the over-safeguard tariffs (table 8) for either the original USJTA safeguard or the renegotiated, triple-trigger USJTA safeguard. Conversely, under this same scenario, growth in imports from the CPTPP countries is estimated to increase an additional 0.2 percent relative to the change expected without the over-safeguard tariffs on Japan's imports from the United States.

Table 8

Percent change in beef imports from 2018 to Japanese fiscal year 2028/29

	U.S. exports <i>Percent change</i>	CPTPP exports <i>Percent change</i>
With no safeguard tariffs	17.4	17.4
With safeguard tariffs on U.S. imports for 30 days	17.0	17.6

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates. The “with safeguard tariffs on U.S. imports for 30 days” row is a calculation of the average growth in exports over 1) the period before the USJTA safeguard is triggered and 2) the 30-day safeguard period.

Source USDA, Economic Research Service calculations using the Global Trade Analysis Project (GTAP) model.

JFY 2033/34 Scenario

In this section, the analysis is extended further into the future (JFY 2033/34) when the TA-induced changes will be almost fully implemented. Japan’s population is expected to have decreased by an additional 3.5 million by JFY 2033/34 compared with its population in JFY 2028/29, and those estimates are incorporated into the model (United Nations, 2022).

Japan’s beef offal production is estimated to be 0.9 percent lower in JFY 2033/34 than in JFY 2028/29, decreasing in total by 10.8 percent from the 2018 baseline year. In addition, beef production is estimated to decrease even more, further falling from the 11.7-percent change in JFY 2028/29 to a 17.2-percent decrease by JFY 2033/34 (table 9). Conversely, Japan’s imports are estimated to see an increase from 2018 of roughly 26.6 percent for beef, which is 9.5 percent higher than the change for JFY 2028/29. Beef offal product imports are estimated to increase a further 0.3 percent for a total increase of 9.3 percent from 2018.

Table 9

Impact of trade agreements on Japan’s production and imports from 2018 to JFY 2033/34, no safeguards triggered

	Production	Imports
Beef Products	-17.2	26.6
Beef Offal Products	-10.8	9.3

JFY = Japanese fiscal year.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using the Global Trade Analysis Project (GTAP) model.

In JFY 2033/34, with no safeguard tariffs triggered, U.S. beef offal product imports are estimated to increase by \$3.8 million (294 metric tons) compared with the same conditions in JFY 2028/29. In addition, U.S. beef imports are estimated to increase by \$146.5 million (24,308 metric tons) in JFY 2033/34 compared with the scenario with no safeguard tariffs in JFY 2028/29. When comparing the JFY 2033/34 change with 2018, U.S. beef imports to Japan are estimated to increase by 27.0 percent, which equates to an additional \$413.8 million in imports (table 10). Therefore, Japan is estimated to import 68,669 metric tons more from the United States, yielding a total of 323,471 metric tons of U.S. imports in JFY 2033/34 (table 11). Imports from CPTPP countries are also estimated to increase by an additional 98,054 metric tons with a value of \$541.0

million. These increased import levels for CPTPP countries in JFY 2033/34 would still not be enough to trigger the safeguard tariff since the 462,026 metric ton total would still be 275,474 metric tons below the 737,500 metric ton trigger level for JFY 2033/34.

Table 10

Change in Japan’s import volumes and values, from 2018 to Japanese fiscal year 2033/34

		U.S. exports	CPTPP exports
Beef products	U.S. dollars	413,849,889	540,962,613
	Metric tons	68,669	98,054
Beef offal products	U.S. dollars	55,729,849	26,009,887
	Metric tons	4,295	3,146

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

Table 11

Japan’s total estimated import volumes and values in Japanese fiscal year 2033/34

		U.S. exports	CPTPP exports
Beef products	U.S. dollars	1,949,470,999	2,548,990,130
	Metric tons	323,471	462,026
Beef offal products	U.S. dollars	608,605,337	284,044,485
	Metric tons	46,908	34,359

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

To determine whether the United States would face over-safeguard tariffs, this study examined both the original language of the USJTA and the renegotiated triple-trigger system. Under the original language, the trigger level for the United States in JFY 2033/34 was set at 292,820 metric tons. For JFY 2033/34, Japan’s imports of U.S. beef are estimated to total 323,471 metric tons or 30,651 metric tons over that threshold. Under the original USJTA language, those 30,651 metric tons would be subjected to the over-safeguard tariff of 18 percent,¹¹ a rate that would be 9 percent higher than the rate on exports from CPTPP countries.

In JFY 2033/34—given the estimated import volume for the United States (323,471 metric tons), the assumption of a constant rate of imports, and the threshold level of 292,820 metric tons—the study found the trigger level would be reached more than a month before the end of JFY 2033/34 so the safeguard tariffs would be in place for 34 days.¹² In this case, Japan’s imports of U.S. beef in JFY 2033/34 would decline by \$38.1 million (6,328 metric tons) to \$1.9 billion compared with the scenario in which safeguard tariffs were not triggered (table 12). Conversely, Japan’s imports from CPTPP countries would increase by \$21.7 million

¹¹ As the United States appears likely to exceed the safeguard threshold every year, here it is assumed that the threshold was exceeded in JFY 2032/33, so the over-safeguard tariff would not decrease to 17 percent, but it would remain at the JFY 2032/33 level of 18 percent.

¹² The trigger level for beef imports from the United States is 90.5 percent of the estimated imports for JFY 2033/34. Under the assumption that imports would arrive at a constant pace throughout the year, the trigger level would be reached 331 days into the year, leaving the trigger tariff in place for 34 days.

(3,935 metric tons) to \$2.6 billion compared with the scenario where safeguard tariffs were not triggered. The GTAP model estimated the remaining decrease in U.S. beef exports would be offset largely by increases in exports from other partner countries and shifts in domestic consumption.

Table 12

Japan's beef import volumes and values in Japanese fiscal year (JFY) 2033/34 when original U.S.-Japan Trade Agreement (USJTA) beef safeguard is triggered

		Pre-trigger	Post-trigger	Total
U.S. exports	U.S. dollars	1,764,745,070	146,587,555	1,911,332,625
	Metric tons	292,820	24,323	317,143
CPTPP exports	U.S. dollars	2,307,455,596	263,244,862	2,570,700,458
	Metric tons	418,246	47,715	465,961

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: Calculations indicate the trigger level will be reached 331 days into JFY 2033/34, leaving the trigger tariff in place for 34 days.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

To determine whether the renegotiated triple-trigger safeguard system will mitigate some of the negative effects of the original USJTA safeguard mechanism, this study examined the third condition, which states that Japan's combined imports from the United States in JFY 2033/34 (an estimated 323,471 metric tons) and CPTPP signatories (an estimated 462,026 metric tons) must exceed the 737,500-metric-ton CPTPP trigger level for JFY 2033/34. Once more, it appears the trigger level will be exceeded by 47,997 metric tons, making it likely the United States will face the over-safeguard tariff in JFY 2033/34, even under the renegotiated triple-trigger safeguard system.

Imports were once again assumed to arrive at a constant pace throughout the year, which would have them reaching the trigger level 343 days into the year and would keep the over-safeguard tariff in place for 1 month.¹³ Table 13 shows the impacts of the increased tariff period for JFY 2033/34. Under the triple safeguard trigger structure, in JFY 2033/34, U.S. beef exports to Japan are estimated to decrease by \$33.1 million (5,489 metric tons) to \$1.9 billion (317,982 metric tons) compared with the scenario where over-safeguard duties were not triggered. The renegotiated triple-trigger system is shown as likely to provide some relief to U.S. exporters, increasing estimated JFY 2033/34 U.S. beef exports by \$5.1 million (839 metric tons) compared with the original USJTA safeguard system. These improved export volume estimates, it should be noted, are the result of the over-safeguard tariff rate being applied for fewer days through the renegotiated triple-trigger system.

¹³ The trigger level for beef imports from the United States and CPTPP countries is 93.9 percent of the estimated total for combined imports for JFY 2033/34. Under the simplifying assumption that imports would arrive at a constant pace throughout the year, the trigger level would be reached 343 days into the year, leaving the safeguard in place for the minimum tariff duration of 30 days. While that means it would continue to impact imports from the United States for the first 8 days of JFY 2034/35, these results assume the safeguard tariffs were in effect for 30 days in JFY 2033/34.

Table 13

Japan's import volumes and values in Japanese fiscal year (JFY) 2033/34 when renegotiated triple-trigger U.S.-Japan Trade Agreement beef safeguard is triggered

		Pre-trigger	Post-trigger	Total
U.S. exports	U.S. dollars	1,789,240,506	127,149,428	1,916,389,934
	Metric tons	296,884	21,098	317,982
CPTPP exports	U.S. dollars	2,339,484,092	228,337,485	2,567,821,577
	Metric tons	424,051	41,388	465,439

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates. The trigger level is assumed to have been reached 343 days into JFY 2033/34, leaving the trigger tariff in place for the minimum tariff duration of 30 days.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

Next, the implications of dropping the 30-day-minimum enforcement period requirement of the over-safeguard tariffs within the amended triple-trigger safeguard system were once again considered. Estimates suggest this would produce better results for U.S. exporters. Compared with the current triple-trigger system, U.S. beef exports would increase by an additional \$8.5 million (1,408 metric tons) to \$1.9 billion (319,390 metric tons) in JFY 2033/34, while beef exports from CPTPP countries would decrease by \$4.8 million (876 metric tons) to \$2.6 billion (464,564 metric tons) (table 14).

Table 14

Japan's beef import volumes and values in Japanese fiscal year (JFY) 2033/34 when renegotiated triple-trigger U.S.-Japan Trade Agreement beef safeguard is triggered and 30-day minimum provision is dropped

		Pre-trigger	Post-trigger	Total
U.S. exports	U.S. dollars	1,830,350,089	94,527,298	1,924,877,387
	Metric tons	303,706	15,685	319,390
CPTPP exports	U.S. dollars	2,393,236,069	169,754,013	2,562,990,082
	Metric tons	433,794	30,769	464,564

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates. The trigger level is assumed to have been reached 343 days into JFY 2028/29, leaving the trigger tariff in place for 22 days.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

If the safeguard is triggered on U.S. beef imports but not on imports from CPTPP countries, then there will be a significant impact on how Japan sources imports. For simplicity, assuming the over-safeguard tariffs are in force for 30 days of JFY 2033/34, model results suggested the growth in Japan's imports from the United States (from 2018 to JFY 2033/34) will decrease by 2.2 percent compared with the scenario where no safeguard tariffs are in force (table 15). However, if U.S. beef imports face over-safeguard tariff rates for 30 days in JFY 2033/34, growth in imports from the CPTPP countries is estimated to increase by 0.9 percentage points more than if the United States faced no safeguard tariffs for the year.

Table 15

Percent change in Japan's beef imports from 2018 to Japanese fiscal year 2033/34

	United States Percent change	CPTPP Percent change
With no safeguard	27.0	27.0
With safeguard tariffs on U.S. imports for 30 days	24.8	27.9

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates. The "with safeguard tariffs on U.S. imports for 30 days" row is a calculation of the average growth in exports over 1) the period before the USJTA safeguard is triggered and 2) the 30-day safeguard period.

Source: USDA, Economic Research Service calculations using the Global Trade Analysis Project (GTAP) model.

Impacts on Consumer Well-Being

This study also estimated the overall impact on consumer well-being or societal welfare. That is, the results that follow can be taken as evidence of whether each trade-agreement partner was helped or harmed by the changes in the trade agreements. A more detailed explanation of how to interpret this measure is provided in the box, "Measuring Consumer Well-Being Using the GTAP Model."

Measuring Consumer Well-Being Using the GTAP Model

Consumer well-being (also known as societal welfare) is a measurement of equivalent variation, which in this study is a measure of how much income would have to change to equal the benefit/harm consumers experience as a result of the price changes driven by tariff reductions. It can be broken down into changes in four activities, which together sum to the total change in societal welfare.

- (1) **Allocative efficiency** examines how resources are distributed. Consumer well-being will increase if resources move from inefficient uses to more efficient ones.
- (2) **Terms of trade** examines the price of imports into a region relative to the price of exports from that region. If the price of exports increases (or the price of imports decreases), then societal welfare increases for that region.
- (3) **Endowments** is a measure of total factor productivity. That is, if fewer aggregate inputs are needed to create the same level of aggregate outputs, then consumer well-being is increased.
- (4) **Other** examines a region's ability to attract foreign investment. If changes improve the ability to attract such investment, societal welfare is increased.

Note: Equivalent variation and its four components should not be confused with Gross Domestic Product (GDP), which is a measure of production and investment (Dynan and Sheiner, 2018).

By JFY 2028/29, the study estimates a positive impact on consumer well-being relative to 2018 of \$69.5 million for the United States and \$70.1 million for the CPTPP countries if safeguard tariffs are not triggered (table 16). By JFY 2033/34, a slightly smaller positive change is estimated for the United States of \$68.6 million and an increased impact of \$86.0 million for the CPTPP countries. As for Japan, its consumer well-being relative to 2018 is estimated to increase by \$41.7 million by JFY 2028/29 but then decrease by \$74.7 million by JFY 2033/34.

Table 16

Combined effects of trade agreements and Japan's population changes on consumer well-being with no safeguards

	JFY 2028/29 <i>Million U.S. dollars</i>	JFY 2033/34 <i>Million U.S. dollars</i>
Japan	41.7	-74.7
United States	69.5	68.6
CPTPP	70.1	86.0

JFY = Japanese fiscal year. CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using the Global Trade Analysis Project (GTAP) model.

The gains for the United States and CPTPP countries are largely the result of terms-of-trade changes with Japan, which generate increased export volumes. For Japan, the societal welfare changes are driven in part by the reduction in distortive tariff impacts and, thus, the reduction in deadweight loss, which should make its markets more efficient and allow its producers to specialize in products with which Japan holds a comparative advantage in producing relative to its trading partners. Japanese consumers also are expected to accrue benefits from lower market prices (table 17).

Table 17

Combined effect of trade agreements and Japan's population changes on Japan's market prices with no safeguards

	JFY 2028/29 <i>Percent</i>	JFY 2033/34 <i>Percent</i>
Beef	-1.0	-1.5
Beef offal	-1.2	-1.4
Nonprocessed meat cuts	-1.4	-1.5
Processed pork products	-1.5	-1.5

JFY = Japanese fiscal year.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using the Global Trade Analysis Project (GTAP) model.

Japan's societal welfare will also be impacted by its significant decrease in population, which will reduce its labor endowment and the size of its market. To understand how the projected population decline will impact Japan and its trading partners, this study calculated the societal welfare results while holding Japan's population constant at 2018 levels (table 18). In this scenario, Japan's societal welfare was estimated to increase by \$359.5 million by JFY 2033/34. The gains in consumer well-being were also estimated to be larger for the United States (\$120.3 million) and the CPTPP countries (\$121.6 million) by JFY 2033/34.

Table 18

Societal welfare effect of trade agreements with no change in Japan's population

	JFY 2028/29 <i>Million U.S. dollars</i>	JFY 2033/34 <i>Million U.S. dollars</i>
Japan	316.5	359.5
United States	102.2	120.3
CPTPP	92.5	121.6

JFY = Japanese fiscal year. CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using the Global Trade Analysis Project (GTAP) model.

Returning to the scenario where Japan's population declines over the period being studied and considering the scenarios in which the United States will trigger its USJTA and triple-trigger safeguards, the societal welfare outlook changes somewhat compared with what was presented in table 16. With either the original or renegotiated triple-trigger safeguard tariff in force, societal welfare in both the United States and Japan is estimated to be reduced, while societal welfare increases for the CPTPP countries. For example, under the original USJTA safeguard, the United States was estimated to have lost \$6.1 million in societal welfare relative to what it would have had without the safeguard in JFY 2033/34 (table 19). The renegotiated safeguard appears likely to mitigate \$700,000 of that loss, and if the 30-day minimum safeguard requirement was dropped, U.S. societal welfare is estimated to see a decrease relative to the no-safeguard scenario of only \$4.0 million. Japan also appears likely to benefit from the renegotiation of the original safeguard, as its societal welfare is further improved by \$1.2 million under the renegotiated triple-trigger system. Modeling results suggest Japan could further improve its societal welfare by an additional \$500,000 were it and the United States to amend the USJTA and drop the 30-day minimum tariff requirement. Without this change, the CPTPP countries are estimated to benefit at the expense of both Japan and the United States. That is, when societal welfare is lowest for Japan and the United States, it is highest for the CPTPP countries.

Table 19

Combined societal welfare effect of trade agreements and Japan's population changes in JFY 2033/34

	Japan <i>Million U.S. dollars</i>	United States <i>Million U.S. dollars</i>	CPTPP <i>Million U.S. dollars</i>
No safeguard	-74.7	68.6	86.0
Original safeguard	-77.8	62.5	90.8
Renegotiated safeguard	-76.6	63.2	89.3
Safeguard with no 30-day minimum	-76.1	64.6	88.4

JFY = Japanese fiscal year. CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Source: USDA, Economic Research Service calculations using the Global Trade Analysis Project (GTAP) model.

Conclusions

For the last several decades, Japan's production of beef has remained relatively stable, in part due to Japanese consumers' preference for high quality domestic beef. However, it can also be attributed to Japan's policies affecting imported beef, including tariffs, safeguards, and BSE-related bans. Japan has maintained relatively high tariffs on beef imports, with a WTO MFN tariff rate of 38.5 percent since 1995. However, Japan recently ratified four TAs with regions encompassing all of its major beef suppliers, effectively rendering the WTO MFN tariffs obsolete. As a result, Japan formally ended its WTO safeguard policy on April 1, 2020.

This study estimated the impact of the new TAs on Japan's beef and beef offal product markets using the GTAP modeling framework and found that tariff reductions and safeguard policy modifications could reshape Japan's market for beef and beef offal products in the coming years. In the first modeling scenario, which assumed no safeguards are triggered, Japan's beef imports are estimated to increase 17.2 percent by JFY 2028/29 and 26.6 percent by JFY 2033/34. Additionally, beef offal imports are estimated to increase 9.0 percent by JFY 2028/29 and 9.3 percent by JFY 2033/34. As imports increase, Japan's domestic beef production is estimated to decline, falling 11.7 percent by JFY 2028/29 and 17.2 percent by JFY 2033/34. In addition, beef offal production is estimated to decrease 9.9 percent by JFY 2028/29 and 10.8 percent by JFY 2033/34. The United States and CPTPP countries are seen as the main beneficiaries of these changes, with imports from each region increasing 17.4 percent from 2018 levels by JFY 2028/29 and 27.0 percent by JFY 2033/34. Again, these estimates assume no safeguard tariffs are applied to imports.

However, the study finds that under both the original USJTA and the renegotiated triple-trigger safeguard systems, Japan's imports of U.S. beef are expected to surpass the safeguard threshold level in JFY 2028/29 and JFY 2033/34. Consequently, under both safeguard systems, the United States is seen as likely to face over-safeguard tariff rates for at least the 30-day minimum in both of those fiscal years. While some of the 30 days could technically be in the following fiscal year, this study estimated the impacts of these increased tariff rates as if they were enforced for the final 30 days of the same fiscal year. Using this approach, Japan's imports of U.S. beef were estimated to be at most 17.0 percent higher than 2018 levels in JFY 2028/29 and at most 24.8 percent higher in JFY 2033/34. In JFY 2028/29, it is expected that Japan's imports of U.S. beef will surpass both the original USJTA and renegotiated triple-trigger safeguard thresholds within the last 30 days of the fiscal year. Consequently, U.S. beef exports likely will face over-safeguard tariff rates for 30 days under either safeguard system. However, in JFY 2033/34, the study found that Japan's imports of U.S. beef will surpass the original USJTA safeguard threshold with 34 days left in the fiscal year while they would surpass the renegotiated triple-trigger threshold with only 22 days left. Therefore, the renegotiated triple-trigger system may benefit U.S. beef producers, but the 30-day minimum provision for over-safeguard tariff rates minimizes this estimated gain.

In the coming years, even with the renegotiated USJTA safeguard, the United States is estimated to face higher tariff rates than CPTPP countries' beef product tariffs for at least 30 days each year. This will effectively place an upward bound on the volume of U.S. beef exports to Japan. In addition, when combined with a U.S. dollar that is strengthening relative to the currencies of the CPTPP countries, these competitors may be able to exploit this price wedge and expand their beef product exports to Japan at the expense of the United States.

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Appendix A

Tariff Schedule for Beef Offal Products

Similar to the changes shown in table 2, tariff rates on beef offal products are also affected by the trade agreements (TA) Japan has recently signed (tables A.1–A.3). Rate changes are common across the TAs except as highlighted in green in the tables.

Table A.1
Japan's beef tongue (chilled/frozen) trade agreement duties

	USJTA Percent	CPTPP Percent	JEUEPA Percent	Japan-UK EPA Percent
Base year (2018)	12.8	12.8	12.8	12.8
JFY 2020/21	5.1	5.1	5.1	5.1
JFY 2021/22	4.4	4.4	4.5	4.5
JFY 2022/23	3.8	3.8	3.8	3.8
JFY 2023/24	3.2	3.2	3.2	3.2
JFY 2024/25	2.5	2.5	2.6	2.6
JFY 2025/26	1.9	1.9	1.9	1.9
JFY 2026/27	1.2	1.2	1.3	1.3
JFY 2027/28	0.6	0.6	0.6	0.6
JFY 2028/29	Free	Free	Free	Free
JFY 2029/30	Free	Free	Free	Free
JFY 2030/31	Free	Free	Free	Free
JFY 2031/32	Free	Free	Free	Free
JFY 2032/33	Free	Free	Free	Free
JFY 2033/34	Free	Free	Free	Free

JFY = Japanese fiscal year. USJTA = U.S.-Japan Trade Agreement. CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership. JEUEPA = Japan-European Union Economic Partnership Agreement. Japan-UK EPA = Japan-United Kingdom Economic Partnership Agreement.

Note: Rates are for Harmonized System Codes 020610011/020621000 and are identical across the trade agreements except for those highlighted in green.

Source: USDA, Economic Research Service calculations using USDA, Foreign Agricultural Service, Agricultural Tariff Tracker data.

Table A.2

Japan's internal beef organs (chilled/frozen, including skirts) trade agreements duties

	USJTA Percent	CPTPP Percent	JEUEPA Percent	Japan-UK EPA Percent
Base year (2018)	12.8	12.8	12.8	12.8
JFY 2020/21	5.3	5.3	5.3	5.3
JFY 2021/22	4.8	4.8	4.8	4.8
JFY 2022/23	4.2	4.2	4.3	4.3
JFY 2023/24	3.7	3.7	3.7	3.7
JFY 2024/25	3.2	3.2	3.2	3.2
JFY 2025/26	2.6	2.6	2.7	2.7
JFY 2026/27	2.1	2.1	2.1	2.1
JFY 2027/28	1.6	1.6	1.6	1.6
JFY 2028/29	1.0	1.0	1.1	1.1
JFY 2029/30	0.5	0.5	0.5	0.5
JFY 2030/31	Free	Free	Free	Free
JFY 2031/32	Free	Free	Free	Free
JFY 2032/33	Free	Free	Free	Free
JFY 2033/34	Free	Free	Free	Free

JFY = Japanese fiscal year. USJTA = U.S.-Japan Trade Agreement. CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership. JEUEPA = Japan-European Union Economic Partnership Agreement. Japan-UK EPA = Japan-United Kingdom Economic Partnership Agreement.

Note: Rates are for Harmonized System Codes 020610019/020629010 and are identical across trade agreements except for those highlighted in green.

Source: USDA, Economic Research Service calculations using USDA, Foreign Agricultural Service, Agricultural Tariff Tracker data.

Table A.3

Japan's frozen beef liver trade agreement duties

	USJTA <i>Percent</i>	CPTPP <i>Percent</i>	JEUEPA <i>Percent</i>	Japan-UK EPA <i>Percent</i>
Base year (2018)	12.8	12.8	12.8	12.8
JFY 2020/21	10.4	10.4	10.4	10.4
JFY 2021/22	9.6	9.6	9.6	9.6
JFY 2022/23	8.8	8.8	8.8	8.8
JFY 2023/24	8.0	8.0	8.0	8.0
JFY 2024/25	7.2	7.2	7.2	7.2
JFY 2025/26	6.4	6.4	6.4	6.4
JFY 2026/27	5.6	5.6	5.6	5.6
JFY 2027/28	4.8	4.8	4.8	4.8
JFY 2028/29	4.0	4.0	4.0	4.0
JFY 2029/30	3.2	3.2	3.2	3.2
JFY 2030/31	2.4	2.4	2.4	2.4
JFY 2031/32	1.6	1.6	1.6	1.6
JFY 2032/33	0.8	0.8	0.8	0.8
JFY 2033/34	Free	Free	Free	Free

JFY = Japanese fiscal year. USJTA = U.S.-Japan Trade Agreement. CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership. JEUEPA = Japan-European Union Economic Partnership Agreement. Japan-UK EPA = Japan-United Kingdom Economic Partnership Agreement.

Source: USDA, Economic Research Service calculations using USDA, Foreign Agricultural Service, Agricultural Tariff Tracker data.

The Japan-European Union Economic Partnership Agreement and the Japan-United Kingdom Economic Partnership Agreement

Table A.4 outlines the annual tariff rate reductions, safeguard trigger conditions, and over-safeguard tariff rates for beef in the Japan-European Union Economic Partnership Agreement (JEUEPA) and Japan-United Kingdom Economic Partnership Agreement (Japan-UK EPA) from Japanese fiscal year (JFY) 2020/21 to JFY 2033/34, the final year of tariff rate reductions. These annual tariff rate reductions are the same for the U.S.-Japan Trade Agreement (USJTA) and Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) agreements with only a few minor exceptions, which are highlighted in green (table A.4). Specifically, in JFYs 2022/23, 2025/26, 2028/29, and 2031/32, the tariff rates for the European Union (EU) and United Kingdom (UK) will be 0.1 percent higher than the United States' and CPTPP countries' rates. However, the safeguard tariff rates are identical across agreements for all years.

Table A.4

Tariff schedule for beef products for JEUEPA and Japan-UK EPA

JFY	JEUEPA and Japan-UK EPA		
	TA Duty	Safeguard trigger**	Over-safeguard duty
	Percent	Metric tons	Percent
2020/21	25.8†	45,056†	38.5†
2021/22	25.0	45,833	30.0
2022/23	24.2	46,611	30.0
2023/24	23.3	47,389	30.0
2024/25	22.5	48,167	30.0
2025/26	21.7	48,944	30.0
2026/27	20.8	49,722	30.0
2027/28	20.0	50,500	30.0
2028/29	18.2	50,885	20.0
2029/30	16.3	51,270	20.0
2030/31	14.5	51,655	20.0
2031/32	12.7	52,040	20.0
2032/33	10.8	52,425	18.0
2033/34	9.0	53,195	***

JEUEPA = Japan-European Union Economic Partnership Agreement. Japan-UK EPA = Japan-United Kingdom Economic Partnership Agreement.

Note: From JFY 2034/35 onward, the safeguard trigger will increase each year by 770 metric tons.

**This trigger volume is based on the combined imports from United Kingdom and European Union countries.

***Reduce by 1 percent each year (or maintain at previous year's level if safeguard triggered in previous year). If not applied during any 4 consecutive years after JFY 2033/2034, the safeguard will be eliminated.

†The Japan-UK EPA was not enacted throughout the entirety of Japanese fiscal year (JFY) 2020/21. It was only enacted January 1-March 31, 2021.

Source: USDA, Economic Research Service calculations using USDA, Foreign Agricultural Service, Agricultural Tariff Tracker data.

GTAP Modeling Scenarios: European Union and United Kingdom

JFY 2028/29 Scenario

While exports from both the UK and EU amount to less than 2.5 percent of Japan's total beef imports in JFY 2021/22, it is important to understand how the four trade agreements will impact these two regions. To do so, this study analyzed the same scenario for JFY 2028/29 that was detailed in the main text. That is, estimations were made utilizing the tariff situation in that year for beef and beef offal products (see table 2, and appendix tables A.1, A.2, A.3, and A.4) and pork products (see Davis et al., 2023) and accounting for the projected 6.3-million-person decrease in Japan's population over this period.

Beef imports from both regions are estimated to increase by 17.0 percent, and beef offal imports are estimated to increase by 12.3 percent for the EU and 10.9 percent for the UK (table A.5). To assess the magnitude of these changes for UK exporters, the researchers used values acquired from Trade Data Monitor (TDM) for 2019, which is 1 year after the data used for the other three regions (2018). The UK's available data begins later because imports from the UK were banned by Japan from 1996 until 2019, so if 2018 data had been used, any magnitude of change would have resulted in no apparent change in exports. For example, a 10-percent increase on a zero U.S. dollar base is still zero ($\$0 \times 10 \text{ percent} = \0). Since the Japan-UK EPA

had not yet been enacted in 2019, this seemed a reasonable choice given that the 2019 baseline numbers did not include any impacts from tariff reductions related to the Japan-UK EPA. For beef, the UK's beef exports were estimated to see gains of \$896,700 (219 metric tons) from 2019 levels. In addition, beef offal exports to Japan were estimated to gain \$125,100 (18 metric tons) (table A.6). In total, 1,502 metric tons of beef would be exported to Japan in JFY 2028/29, which is below the Japan-UK EPA safeguard trigger amount for JFY 2028/29 of 50,885 metric tons. Thus, UK exporters are unlikely to face safeguard issues.

Table A.5

Percent change in beef imports from baseline year to Japanese fiscal year (JFY) 2028/2029

	European Union	United Kingdom
	Percent	Percent
Beef products	17.0	17.0
Beef offal products	12.3	10.9

Note: The baseline year of data is 2018 for the European Union and 2019 for the United Kingdom. The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using results from the Global Trade Analysis Project (GTAP) model.

Table A.6

Japan's beef product imports from United Kingdom, 2019 to Japanese fiscal year (JFY) 2028/29

		Imports in 2019	Change in Imports	Imports in JFY 2028/29
Beef products	U.S. dollars	5,262,129	896,667	6,158,796
	Metric tons	1,283	219	1,502
Beef offal products	U.S. dollars	1,148,898	125,115	1,274,013
	Metric tons	166	18	184

Note: The data used in this table was analyzed using the Global Trade Analysis Project (GTAP) model.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

For the EU, using 2018 as the base year, the EU gain in beef offal exports is estimated to be \$2.1 million, an increase of 315 metric tons (table A.6). For beef products, the gain is approximately \$954,800 (126 metric tons), which indicates that the EU would export 868 metric tons of beef to Japan in JFY 2028/29. Given this, EU exporters would be unlikely to face safeguard issues since the amount is far below the Japan-EU EPA safeguard trigger level of 50,885 metric tons.

Table A.7

Japan's beef product imports from the European Union, 2018 to Japanese fiscal year (JFY) 2028/29

		JFY 2018	Change	JFY 2028
Beef products	U.S. dollars	5,606,575	954,800	6,561,375
	Metric tons	738	126	864
Beef offal products	U.S. dollars	16,801,687	2,073,328	18,875,015
	Metric tons	2,553	315	2,868

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

However, trade data from TDM shows that EU exports increased by more than \$12.5 million between JFY 2018/2019 and JFY 2019/2020 and by around \$55.2 million between JFY 2018/19 and JFY 2021/22. These results overshadow the \$954,800 increase that our model estimates. This highlights the difficulties in properly estimating future values for EU exports. The results for the EU should, therefore, be used with caution.

Moreover, this discrepancy suggests the EU-Japan trade relationship is being reshaped, likely for reasons beyond those detailed in the TA. For example, Japan’s imports from Poland are changing significantly, with around \$41 million more in imports in JFY 2021/22 than in JFY 2018/19. Imports from Ireland have also increased, with \$10.9 million of exports to Japan in JFY 2021/22 versus \$514,000 in JFY 2018/19. It is possible Japan’s recent surge in beef imports from EU countries is a lagged effect of lifting its 2016 ban on beef imports from several of these countries, including France, Ireland, Italy, the Netherlands, Poland, Denmark, and Sweden. These imports will likely level off soon if they have not already by the time of this report’s publication. Although these changes merit further study, a full examination is beyond the scope of this current study.

JFY 2033/34 Scenario

In JFY 2033/34, exports from both the EU and UK are estimated to increase further (table 8a). Beef exports are estimated to increase for both regions by 27.0 percent while beef offal exports are estimated to increase by nearly 10.1 percent.

Table A.8

Percent change in Japan’s beef imports from baseline year to Japanese fiscal year (JFY) 2033/34

	European Union <i>Percent</i>	United Kingdom <i>Percent</i>
Beef products	27.0	27.0
Beef offal products	10.1	10.1

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using results from the Global Trade Analysis Project (GTAP) model.

Impacts of the CPTPP and USJTA Given a Constant Japanese Population

The analyses conducted in the main text are re-run here while holding Japan’s population constant at 2018 levels. Estimations are made forward to JFY 2028/29 and JFY 2033/34 by utilizing the tariff situation in the respective year for beef and beef offal products (see table 2, and appendix tables A.1, A.2, A.3, and A.4) and pork products (see Davis et al., 2023). In the main text, the analyses accounted for the projected declines in Japan’s population over this period, but here the population is assumed to be unchanging.

JFY 2028/29 Scenario

First, the impacts of Japan’s trade agreements on its domestic production and imports are estimated by modeling the significant reductions in beef and beef product tariffs and the full implementation of the tariff reductions for pork products that will have occurred by JFY 2028/29. Results indicate that if no safeguards are triggered, Japan’s production of beef will decrease by 11.2 percent, and beef offal production will decline by 9.4 percent (table A.9). Using the numbers reported by the Food and Agricultural Organization of the United Nations (FAO), beef production is estimated to decline to 421,908 metric tons (a 53,428-metric-ton reduction), and beef offal production is estimated to decline to 43,829 metric tons (a 4,569-metric-ton reduction) by JFY 2028/29.

Table A.9

Impact of trade agreements on Japan's production and imports from 2018 to Japanese fiscal year 2028/29, no safeguards triggered

	Production	Imports
Beef products	-11.2	17.7
Beef offal products	-9.4	9.6

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Food and Agricultural Organization of the United Nations data.

Imports of beef from the United States are estimated to increase by 18.0 percent from 2018 to JFY 2028/29, which would equate to an additional \$276.1 million (45,813 metric tons) in exports (table A.10). Japan is estimated to import \$1.8 billion of U.S. beef in JFY 2028/29 (table A.11). Imports from CPTPP countries increase \$361.0 million (65,442 metric tons) to a total of \$2.4 billion (429,414 metric tons).

Table A.10

Change in Japan's import volumes and values, 2018 to Japanese fiscal year 2028/29

		U.S. exports	CPTPP exports
Beef products	U.S. dollars	276,104,676	361,043,348
	Metric tons	45,813	65,442
Beef offal products	U.S. dollars	54,845,248	27,506,488
	Metric tons	4,227	3,327

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

Table A.11

Japan's total estimated import volumes and values in Japanese fiscal year 2028/29

		U.S. exports	CPTPP exports
Beef products	U.S. dollars	1,811,725,786	2,369,070,865
	Metric tons	300,615	429,414
Beef offal products	U.S. dollars	607,720,736	285,541,086
	Metric tons	46,840	34,540

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

The potential impacts of the CPTPP safeguard mechanism were not a concern as their estimated export volume would still be below the JFY 2028/29 trigger level of 702,100 metric tons, so its tariff rate would remain unchanged at 18.1 percent. Under the original USJTA language, the JFY 2028/29 trigger level for the United States was set at 278,300 metric tons. Since the Global Trade Analysis Project model estimated Japan's imports of U.S. beef in JFY 2028/29 would total 300,615 metric tons (table A.11), the United States would face the over-safeguard tariff of 20 percent on roughly 22,315 metric tons of exports. That means that once the safeguard is triggered at some point in JFY 2028/29, the United States would face a rate that would be 1.9 percent higher than the rate on exports from CPTPP countries for the rest of the JFY or 30 days, whichever is longer.

Assuming a constant rate of exports throughout the year, the trigger level would be reached late in JFY 2028/29 and would be in place for roughly 1 month.¹⁴ As a result, Japan's imports of U.S. beef are estimated to fall \$6.7 million in value to a total of \$1.8 billion in JFY 2028/29 compared with the no-safeguard scenario (table A.12). Conversely, imports from CPTPP countries increase by \$3.6 million (655 metric tons).

Table A.12

Japan's beef import volumes and values in Japanese fiscal year (JFY) 2028/29 when original U.S.-Japan Trade Agreement beef safeguard is triggered

		Pre-trigger	Post-trigger	Total
U.S. exports	U.S. dollars	1,660,748,637	144,258,806	1,805,007,443
	Metric tons	275,564	23,937	299,501
CPTPP exports	U.S. dollars	2,171,648,293	201,037,022	2,372,685,314
	Metric tons	393,630	36,440	430,069

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

The trigger level is assumed to have been reached 338 days into JFY 2028/29, leaving the trigger tariff in place for the minimum tariff duration of 30 days.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

Under the renegotiated triple-trigger safeguard system, U.S. beef imports would need to meet three conditions for tariffs to increase. The third condition, which states Japan's combined imports from the United States (estimated JFY 2028/29 volume of 300,615 metric tons) and CPTPP signatories (estimated JFY 2028/29 volume of 429,414 metric tons) must exceed the CPTPP trigger level of 702,100 metric tons for JFY 2028/29, will likely determine if the United States will face higher tariffs. In JFY 2028/29, the combined exports are estimated to exceed that trigger level by 27,930 metric tons. Therefore, the United States is expected to face the over-safeguard tariff rates in JFY 2028/29. Again assuming U.S. beef imports arrive at a constant pace throughout the year, the renegotiated triple-trigger safeguard level would be reached 352 days into the year, leaving the over-safeguard tariff in place for 13 days in JFY 2028/29. Therefore, the triple-trigger system does not appear to benefit U.S. exporters because, under both the original language and triple-trigger language, the safeguard would be in force for 30 days.

JFY 2033/34 Scenario

The study next estimated Japan's beef imports from CPTPP partners and the United States to JFY 2033/34 using the tariff situation for beef, beef offal, and pork products (see table 2; appendix tables A.1, A.2, A.3, and A.4; and Davis et al., 2023) and holding Japan's population constant at 2018 levels. Japan's beef offal production is estimated to decrease 0.7 percent more in JFY 2033/34 than in JFY 2028/29, decreasing in total 10.1 percent from the baseline. In addition, beef production is estimated to further decrease from the 11.2-percent change in JFY 2028/29 to a 16.6-percent decrease (table A.13). Japan's beef imports are estimated to increase from 2018 levels by roughly 27.6 percent for beef, which is 9.9 percent higher than the JFY 2028/29 percent change. Beef offal product imports are estimated to increase by 0.6 percent relative to JFY 2028/29, to a total increase of 10.2 percent from 2018.

¹⁴ The trigger level for U.S. beef exports is 92.6 percent of estimated exports for JFY 2028/29. Making the simplifying assumption that exports would arrive at a constant pace throughout the year, the trigger level would have been reached 338 days into the year, leaving the safeguard in place for the minimum tariff duration of 30 days. While the safeguard tariffs would continue to impact U.S. exports for the first 3 days of JFY 2029/30, these results assume that the safeguard tariffs were in effect for 30 days in JFY 2028/29.

Table A.13

Impact of trade agreements on Japan's production and imports from 2018 to Japanese fiscal year 2033/34, no safeguards triggered

	Production	Imports
Beef products	-16.6	27.6
Beef offal products	-10.1	10.2

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using the Global Trade Analysis Project (GTAP) model.

In JFY 2033/34, beef import volumes are estimated to increase significantly. The United States is estimated to increase beef exports to Japan by an additional \$429.1 million (table A.14). In terms of volume, Japan would import 71,192 metric tons more from the United States for a total of 325,994 metric tons in JFY 2033/34 (table A.15). Imports from CPTPP countries are also estimated to increase, an additional 101,657 metric tons of exports valued at \$560.8 million. That increase would not be sufficient to trigger safeguard tariffs for CPTPP countries as the 465,629-metric-ton total would still be 271,871 metric tons below the JFY 2033/34 trigger level of 737,500 metric tons.

Table A.14

Change in Japan's import volumes and values, 2018 baseline–Japanese fiscal year 2033/34

		U.S. exports	CPTPP exports
Beef products	U.S. dollars	429,052,538	560,842,085
	Metric tons	71,192	101,657
Beef offal products	U.S. dollars	60,374,003	28,177,378
	Metric tons	4,653	3,408

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

Table A.15

Japan's total estimated Japan's import volumes and values, Japanese fiscal year 2033/34

		U.S. exports	CPTPP exports
Beef products	U.S. dollars	1,964,673,648	2,568,869,602
	Metric tons	325,994	465,629
Beef offal products	U.S. dollars	613,249,491	286,211,976
	Metric tons	47,266	34,621

CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

This study determined that the United States is likely to face over-safeguard tariffs under the original USJTA language since the trigger level is set at 292,820 metric tons and Japan's imports of U.S. beef are estimated to be 325,994 metric tons (33,174 metric tons over the trigger threshold). Given the estimated import volume from the United States in JFY 2033/34 (325,994 metric tons), using the assumption of a constant rate of imports and the threshold level of 292,820 metric tons, the trigger level would be in place for 37 days in JFY

2033/34.¹⁵ In this scenario, Japan's imports of U.S. beef in JFY 2033/34 would decline by \$41.3 million (6,850 metric tons) to \$1.9 billion compared with the scenario in which safeguard tariffs were not triggered (table A.16). Conversely, Japan's imports from CPTPP countries would increase \$23.5 million (4,256 metric tons).

Table A.16

Japan's beef import volumes and values in Japanese fiscal year (JFY) 2033/34 when original U.S.-Japan Trade Agreement beef safeguard is triggered

		Pre-trigger	Post-trigger	Total
U.S. exports	U.S. dollars	1,764,745,070	158,642,717	1,923,387,787
	Metric tons	292,820	26,323	319,143
CPTPP exports	U.S. dollars	2,307,457,003	284,891,305	2,592,348,308
	Metric tons	418,246	51,639	469,885

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates. Based on calculations that the trigger level is reached 328 days into JFY 2033/34, and the trigger tariff is in place for 37 days.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

Under the renegotiated triple-trigger safeguard system, Japan's combined imports from the United States and CPTPP signatories are estimated to exceed the CPTPP trigger level for JFY 2033/34 by 54,123 metric tons. Once again, assuming that imports will arrive at a constant pace throughout the year, the trigger level would be reached 341 days into the year, which would leave the over-safeguard tariff in place for 1 month.¹⁶ As a result, JFY 2033/34 exports of U.S. beef are estimated to decrease \$33.8 million to a total of \$1.9 billion compared with the scenario in which over-safeguard duties were not triggered (table A.17). Therefore, the renegotiated triple-trigger system does appear to provide some relief to U.S. exporters, increasing estimated JFY 2033/34 U.S. exports by 1,241 metric tons (\$7.5 million) compared with the original USJTA safeguard system.

Table A.17

Japan's import volumes and values in Japanese fiscal year (JFY) 2033/34 when renegotiated triple-trigger U.S.-Japan Trade Agreement beef safeguard is triggered

		Pre-trigger	Post-trigger	Total
U.S. exports	U.S. dollars	1,800,950,844	129,913,546	1,930,864,390
	Metric tons	298,828	21,556	320,384
CPTPP exports	U.S. dollars	2,354,797,136	233,299,330	2,588,096,466
	Metric tons	426,827	42,287	469,114

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates. The trigger level is assumed to have been reached 341 days into JFY 2033/34, leaving the trigger tariff in place for the minimum tariff duration of 30 days.

Source: USDA, Economic Research Service calculations using Trade Data Monitor data.

¹⁵ The trigger level for U.S. beef exports is 89.8 percent of estimated exports for 2033/34. Making the simplifying assumption that exports would arrive at a constant pace throughout the year, the trigger level would have been reached 328 days into the year, leaving the trigger tariff in place for 37 days.

¹⁶ The trigger level for U.S. and CPTPP beef exports is 93.2 percent of estimated exports for JFY 2033/34. Making the simplifying assumption that exports would arrive at a constant pace throughout the year, the trigger level would be reached 341 days into the year, leaving the safeguard in place for the minimum tariff duration of 30 days. While that means it would continue to impact U.S. exports for the first 6 days of JFY 2034/34, these results assume that the safeguard tariffs were in effect for 30 days in JFY 2033/34.

Impacts on Japan's Production and Imports of Pork Products

JFY 2028/29 Scenario

This study estimated the impact on Japan's production and imports of beef (table 3) given the tariff situation that will prevail in JFY 2028/2029 (for beef: see table 2, and appendix tables A.1, A.2, A.3, and A.4 and for pork products: see Davis et al., 2023). The values reported take into account the impact of the projected 6.3-million-person decrease in Japan's population over this period. Here, the study presents the estimated impact on pork. Japan's pork production is estimated to decline by 12.4 percent for nonprocessed products and 13.0 percent for processed products (table A.18), which is consistent with the modeling results found in Davis et al. (2023) that examined the impact of the pork tariff reductions detailed in the four TAs.

Table A.18

Impact of trade agreements on Japan's production and imports from 2018 to Japanese fiscal year 2028/29 with no safeguards triggered

	Production	Imports
Nonprocessed pork products	-12.4	11.1
Processed pork products	-13.0	13.1

Note: The Global Trade Analysis Project (GTAP) model was used to create these estimates. Information about pork-product tariff reductions can be found in Davis et al., 2023.

Source: USDA, Economic Research Service calculations using Food and Agriculture Organization of the United Nations data and USDA, Economic Research Service report data.

The analysis (table A.18) was next repeated while holding Japan's population constant at 2018 levels (table A.19). Doing so allowed the relative impact of the population changes and the TAs to be ascertained by comparing the two sets of results. In this situation, nonprocessed pork product production decreases by 0.4 percentage points less than in the case of a declining population, and processed pork products decrease by 0.3 percentage points less. Even with more domestic production, the larger population appears to drive increased imports of nonprocessed pork products, which increase by 0.5 percentage points more than in the case of a declining population, and imports of processed pork products, which increase by 0.3 percentage points more.

Table A.19

Impact of trade agreements on Japan's production and imports from 2018 to Japanese fiscal year 2028/29 with no safeguards triggered and Japan's population held constant at 2018 level

	Production	Imports
Nonprocessed pork products	-12.0	11.6
Processed pork products	-12.7	13.6

Note: Information about pork-product tariff reductions can be found in Davis et al., 2023. The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Food and Agriculture Organization of the United Nations data and USDA, Economic Research Service report data.

JFY 2033/34 Scenario

In this section, the analysis that was conducted for beef (table 9), where the estimations extend further into the future (JFY 2033/34) when the TA-induced changes will be almost fully implemented, are shown for Japan's production and imports of pork products. By this time, Japan's population is expected to have decreased by 9.9 million compared with its population in 2018, and those estimates are incorporated into the model (United Nations, 2022). Pork production declines relative to JFY 2028/2029 are modest, declining by an additional 0.1 percentage points for nonprocessed pork products and an additional 0.2 percentage points for processed pork products (table A.20). Conversely, Japan's imports of pork products are estimated to increase by 0.3 percentage points from JFY 2028/2029 levels. This is expected as the TA tariff-rate changes for pork products will be fully implemented by JFY 2028/29.

Table A.20

Impact of trade agreements on Japan's product production and imports from 2018 to Japanese fiscal year (JFY) 2033/34, no safeguards triggered

	Production	Imports
Nonprocessed pork products	-12.5	10.8
Processed pork products	-13.2	12.8

Note: Information about pork-product tariff reductions can be found in Davis et al., 2023. The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using the Global Trade Analysis Project (GTAP) model.

The analysis (table A.20) was again repeated while holding Japan's population constant at 2018 levels (table A.21) to isolate the relative impact of the population and TA changes. With a nondeclining population, nonprocessed and processed pork product production decreases by 0.5 percentage points less than in the case of a declining population. Despite the increased domestic production, the larger population again seems to drive increased imports of nonprocessed and processed pork, with both increasing by 0.8 percentage points more than in the case of a declining population.

Table A.21

Impact of trade agreements on Japan's production and imports from 2018 to Japanese fiscal year (JFY) 2033/34 with no safeguards triggered and Japan's population held constant at 2018 level

	Production	Imports
Nonprocessed pork products	-12.0	11.6
Processed pork products	-12.7	13.6

Note: Information about pork-product tariff reductions can be found in Davis et al., 2023. The Global Trade Analysis Project (GTAP) model was used to create these estimates.

Source: USDA, Economic Research Service calculations using Food and Agriculture Organization of the United Nations data and USDA, Economic Research Service report data.