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Foreign Trade Zones (FTZs): Effects of FTZ Policies and Practices on U.S. Firms Operating in U.S. FTZs and under Similar Programs in Canada and Mexico

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Abbreviations and Acronyms

Item	Definition
3PL	third-party logistics provider
AAFA	American Apparel & Footwear Association
AD/CVD	antidumping/countervailing duties
API	active pharmaceutical ingredient
CAD	Canadian dollar
CBP	U.S. Customs and Border Protection
CBSA	Canadian Border Services Agency
CBW	Customs Bonded Warehouse (Government of Canada program)
C.F.R.	Code of Federal Regulations
CUSFTA	Canada-U.S. Free Trade Agreement
COVID-19	coronavirus disease 2019, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)
CPA	Coalition for a Prosperous America
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
CROSS	Customs Ruling Online Search System
CSMS	Cargo Systems Messaging Service
Customs	U.S. Customs and Border Protection
d/b/a	doing business as
DDI	domestic direct investment
DDP	Duty Deferral Program (Government of Canada program)
DRP	Duties Relief Program (Government of Canada program)
EUA	Emergency Use Authorization
EDCP	Export Distribution Centre Program (Government of Canada program)
EOPS	Exports of Processing Services Program (Government of Canada program)
FDA	U.S. Food and Drug Administration
FDI	foreign direct investment
FMW	Flemish Master Weavers
FTA	free trade agreement
FTE	full-time equivalent
FTZ	foreign-trade zone
FY	fiscal year
GAO	U.S. Government Accountability Office
GDP	gross domestic product
GST	Goods and Services Tax (Government of Canada)
GTAS	S&P Global, Global Trade Analytics Suite (database)
HS	Harmonized Commodity Description and Coding System (Harmonized System)
HST	Harmonized Sales Tax (Government of Canada)
HTS	Harmonized Tariff Schedule of the United States
IEPS	Impuesto Especial sobre Producción y Servicios (Special Tax on Products and Services) (Government of Mexico)
IGI	Impuesto General de Importación (General Import Tax) (Government of Mexico)
IMMEX	Industria Manufacturera, Maquiladora y de Servicios de Exportación (The Program of Manufacturing Industry, Maquila and Export Services) (Government of Mexico Program)
INEGI	Instituto Nacional de Estadística, Geografía e Informática (National Institute of Statistics, Geography and Informatics) (Government of Mexico)
IVA	impuesto al valor agregado (value-added tax) (Government of Mexico)

Foreign Trade Zones

Item	Definition
LOOP	Louisiana Offshore Oil Port
MFN	most-favored nation (tariff rates)
MPF	merchandise processing fee
NAFTA	North American Free Trade Agreement
NAFTZ	National Association of Foreign-Trade Zones
NCTO	National Council of Textile Organizations
NPF	non-privileged foreign
NTR	normal trade relations (tariff rate)
OEA	Operador Económico Autorizado (Authorized Economic Operator)
OEM	original equipment manufacturer
PITEX	Programas de Importación Temporal para Producir Artículos de Exportación (Temporary Importation to Produce Goods for Export Program) (Government of Mexico Program)
PF	privileged foreign
PROSEC	Programas de Promoción Sectorial (Sectoral Promotion Programs) (Government of Mexico Program)
RFE	Recinto Fiscalizado Estratégico (Strategic Bonded Warehouse) (Government of Mexico Program)
ROO	rule of origin
Rule 8	regla octava (Government of Mexico Program)
TFTEA	Trade Facilitation and Trade Enforcement Act of 2015
URAA	Uruguay Round Agreements Act
U.S.C.	United States Code
USD	U.S. dollar
USITC	U.S. International Trade Commission
USMCA	United States-Mexico-Canada Agreement
USTR	Office of the U.S. Trade Representative
VAT	value-added tax
WTO	World Trade Organization
ZEC	Zone Economic Community

Glossary of Key Foreign Trade Zone (FTZ) Terms

activation: Activation describes the process where a firm submits an application with the concurrence of the FTZ grantee, and receives the approval from U.S. Customs and Border Protection (CBP or Customs) port director for operations in a zone/subzone site under FTZ procedures, including the admission and handling of merchandise in zone status (see definition below) (19 C.F.R. § 146.1).

admission: Admission describes the activities of bringing merchandise into a zone with zone status (see definition below) as defined by CBP regulations (19 C.F.R. § 146.1).

alteration: Alteration refers to a change in the boundaries of an activated zone or subzone; activation of a separate site of an already-activated zone or subzone with the same operator at the same port; or relocation of an already-activated site with the same operator. The deactivation (see below) of only a part of a zone site is also an alteration (19 C.F.R. § 146.1).

Customs bonded warehouse: A U.S. Customs and Border Protection (Customs) bonded warehouse is a building or other secured area approved by Customs in which imported dutiable merchandise may be stored, manipulated, or undergo manufacturing operations without payment of duty for up to five years from the date of importation (19 U.S.C. § 1555; 19 C.F.R. § 19).

customs territory of the United States: U.S. customs territory refers to the territory of the United States in which the general tariff laws of the United States apply (19 C.F.R. § 146.1). It includes the 50 states, the District of Columbia, and Puerto Rico (19 C.F.R. § 101.1; USITC, *Harmonized Tariff Schedule of the United States*, General Note 2). The U.S. FTZs and customs bonded warehouses are generally considered outside of the U.S. customs territory.

deactivation: Deactivation describes the process that a grantee or operator uses to voluntarily discontinue the activation of an entire zone or subzone (19 C.F.R. § 146.1). The deactivated zone/subzone no longer has local CBP authorization for activity under FTZ procedures.

direct export shipments: Direct export shipments are outbound shipments that are exported from U.S. FTZs directly to foreign markets without first being entered into U.S. customs territory for consumption. Foreign-status goods (see definition below) in direct export shipments are eligible for duty exemption treatment.

domestic-status merchandise: Merchandise may be admitted into FTZs in domestic status if it has been (1) produced in the United States and not exported therefrom, or (2) previously imported into customs territory and properly released from CBP custody (19 C.F.R. § 146.1). Domestic-status merchandise includes (1) domestic-origin items, which are grown, produced, or manufactured in the United States, with all internal revenue taxes having been paid, and (2) foreign-origin items, which are previously imported and on which all applicable duty and tax have been paid, or (3) foreign-origin items, which previously entered free of duty and tax (19 C.F.R. § 146.43 (a)).

entry: Entry describes the general customs process of filing required documentation or data with CBP to secure the release of imported merchandise from CBP custody. Entry is also applied to the process of

filing the required documentation or data with CBP to withdraw merchandise from a duty deferral program in the United States for exportation to Canada or Mexico, or for entry into a duty deferral program in Canada or Mexico (19 C.F.R. § 141.0a).

entry for consumption: Entry for consumption describes the general customs process of filing required documentation or data with CBP that allows merchandise to be brought into U.S. customs territory. The required documentation includes an entry summary for consumption with duty assessment. Entry for consumption is also applied to the process of filing the necessary documentation with CBP to withdraw merchandise from a duty deferral program in the United States for exportation to Canada or Mexico, or for entry into a duty deferral program in Canada or Mexico (19 C.F.R. § 141.0a).

firms participating in FTZ operations: Firms participating in FTZ operations refer to those firms that engage in production or warehousing and distribution operations in FTZs, including FTZ operators and users (see their definitions below).

firms producing in FTZs (FTZ-producing firms): Firms producing in FTZs refer to those firms that were granted production authority before January 1, 2022, had production activities within a U.S. FTZ at any time during 2016 through 2021. Within this report, this term describes the population of the Commission's survey.

foreign-status merchandise: Imported merchandise must be admitted into FTZs in foreign status if it has not been properly released from CBP custody into customs territory (19 C.F.R. § 146.1). Foreign-status merchandise includes merchandise admitted to a zone that is of foreign origin, without being subject to formal customs entry procedures and duty payment, unless and until the foreign merchandise enters U.S. customs territory for consumption. CBP further categorizes foreign-status merchandise into privileged-foreign (PF) status, non-privileged foreign (NPF) status, and zone-restricted (ZR) status. See their definitions below.

Foreign-Trade Zone (FTZ): A U.S. FTZ is a designated location in the United States authorized by the Foreign Trade Zone Act and governed by regulations administered by the FTZ Board and CBP that allow companies to use special customs procedures for duty and tax benefits. U.S. FTZs are considered outside the U.S. customs territory. Firms operating in FTZs are allowed to defer indefinitely the payments of customs duties and federal excise tax on foreign status merchandise admitted into zones, until the merchandise or zone goods produced from it make entry for consumption. Other major characteristics of the U.S. FTZ program include duty exemption, duty reduction, and other cost-saving benefits.

Foreign-Trade Zones Board (FTZ Board or Board): Chaired by the U.S. Secretary of Commerce, with the U.S. Secretary of the Treasury also serving the Board, the FTZ Board has the authority on a broad set of FTZ matters, such as (1) prescribing rules and regulations concerning zones; (2) issuing grants of authority for zones, and approving subzones and modifications to the original zone; (3) authorizing certain manufacturing and processing activities in zones and subzones; (4) restricting or prohibiting zone operations; (5) revoking grants of authority for cause; (6) determining, as appropriate, whether zone activities are or would be in the public interest or detrimental to the public interest; (7) requiring zone grantees and operators to report on zone operations; and (8) reporting annually to the Congress on zone operations (15 C.F.R. §§ 400.1–400.63).

FTZ (zone) grantee: An FTZ grantee is an organization that has received a grant of authority from the FTZ Board to establish, operate, and maintain an FTZ in its region (19 U.S.C. § 81a(h)). Grantees may be either public entities (e.g., city, county, port authority) or private not-for-profit corporations organized for the purpose of establishing a zone project.

FTZ (zone) producer: An FTZ producer is a zone user that is granted production authority by the FTZ Board and conducts production operations under FTZ procedure in a zone.

FTZ (zone) operator: An FTZ operator is a corporation, partnership, or person that operates a zone or subzone under the terms of an agreement with the FTZ grantee (or third party on behalf of the grantee) with the concurrence of the CBP port director (15 C.F.R. § 400.2). The FTZ operator has a broad set of responsibilities, including maintaining the zone, supervising the handling and movement of merchandise in the zone, maintaining the inventory control and recordkeeping system, etc. (19 C.F.R. § 146.4).

FTZ (zone) user: A person or firm using a zone or subzone for storage, handling, or processing of merchandise under agreement with a zone operator is an FTZ user (19 C.F.R. § 146.1; 15 C.F.R. § 400.2). FTZ users include FTZ producers. FTZ users often own the merchandise handled by operators. A user may also be an operator that handles its own merchandise.

FTZ-type program: For the purposes of this report, “FTZ-type” programs refer to programs in Canada and Mexico that are similar to the U.S. FTZ program and have notable impacts on the cost-competitiveness of firms participating in these programs.

indirect export shipments: Indirect export shipments are outbound shipments from an FTZ that are first entered into the U.S. customs territory for consumption before subsequent exportation. Foreign-status goods in indirect export shipments are subject to applicable duties.

inverted tariff/tariff inversion: Tariff inversion occurs when the duty rate for a finished good is lower than the duty rates for foreign inputs used to produce the finished good. An inverted tariff refers to a tariff applied to a finished good that is lower than the tariffs applied to its foreign inputs.

merchandise processing fee (MPF): It is a fee imposed by CBP to help process merchandise entering the United States and to monitor customs and trade compliance.

non-privileged foreign (NPF) status merchandise: Merchandise in NPF status includes foreign-status merchandise in a zone, which is admitted into the zone without privileged foreign (PF) status or zone restricted (ZR) status (see definitions below), or waste recovered from any manipulation or manufacture of PF-status merchandise in a zone (19 C.F.R. § 146.42). NPF-status merchandise is evaluated by CBP based on its condition at the time it is shipped from the zone to the U.S. market and entered for consumption by CBP. Such merchandise is classified and appraised, with duty and tax determined when it is entered for consumption (19 C.F.R. §146.65(a)).

operator: See FTZ operator.

privileged foreign (PF) status merchandise: PF-status merchandise is evaluated by CBP based on the condition of the merchandise at the time-of-admission, even if the merchandise has undergone a transformation in the zone. Such merchandise is usually classified and appraised, with duty and tax determined at the time it is admitted to the zone and the status is selected (19 C.F.R. §146.65(a)). In addition, foreign merchandise subject to tariffs under trade actions such as section 201, 232, and 301 is

Foreign Trade Zones

required to be brought in FTZs under PF status to preclude an advantage to any firm and discourage circumvention of these measures. PF status cannot be abandoned and remains applicable to the merchandise even if the merchandise has been changed by manipulation or manufacture, except in the case of recoverable waste of such merchandise (19 C.F.R. § 146.41(e)).

reactivation: Reactivation refers to the process of resuming the activated status of an entire area that was previously deactivated without any change in the operator or the area boundaries. By contrast, if the boundaries are different, it is an alteration. If the operator is different, it is an activation (19 C.F.R. § 146.1).

subzone: A subzone is a special-purpose zone established for a specific use that cannot be accommodated within an existing zone. The term “zone” also applies to a subzone, unless specified otherwise (19 C.F.R. § 146.1).

transfer: Transfer describes the process of removing merchandise with zone status from a zone for consumption, transportation, exportation, warehousing, cartage or lighterage, to supply or equip a vessel, for admission to another zone, and like purposes (19 C.F.R. § 146.1).

zone grantee: See FTZ grantee.

zone lot: Zone lot means a collection of merchandise under an inventory control method based on the specific identification of merchandise admitted to a zone by lot (19 C.F.R. § 146.1). A zone lot number is used to identify and trace merchandise in a zone (19 C.F.R. § 146.23).

zone merchandise: Zone merchandise is merchandise that has been admitted into a zone with a designated zone status. It can be raw materials, components and parts, as well as final goods.

zone operator: See FTZ operator.

zone participant: See FTZ participant.

zone producer: See FTZ producer.

zone product(s): Zone products are goods that have gone through a production process in a zone; these products are also referred to as “goods produced within FTZs.”

zone restricted (ZR) status merchandise: Merchandise in ZR status is merchandise that has been brought into a zone for the sole purpose of exportation, destruction (except destruction of distilled spirits, wines, and fermented malt liquors), or storage. This status cannot be abandoned once granted. ZR-status merchandise may not be entered into customs territory for domestic consumption except where the FTZ Board finds that entry would be in the public interest (19 C.F.R. § 146.44).

zone site: The physical location of a zone or subzone is a zone site. It is composed of one or more generally contiguous parcels of land organized and functioning as an integrated unit, such as all or part of an industrial park or airport facility (19 C.F.R. § 146.1; 15 C.F.R. § 400.2).

zone status: Merchandise admitted to a zone must be designated a zone status at the time of admission. It can be either domestic or one of the three foreign-status categories—privileged foreign status, non-privileged foreign, or zone restricted (19 C.F.R. § 146.1). Zone status allows CBP to trace and determine duty treatment when merchandise is entered for consumption or is exported.

zone-to-zone transfer: Zone-to-zone transfer refers to the process of removing merchandise with zone status from one zone and admitting it directly into another zone. Under zone-to-zone transfer, merchandise may be transferred between different zones with the same or different operators in the same or different port without making entry and being subject to duty payment (19 C.F.R. § 146.66).

zone user: See FTZ zone user.

Additional sources: USDOC, ITA, “About FTZs,” accessed December 12, 2022; CBP, “User Fee: Merchandise Processing Fees,” January 24, 2022; CBP, “Section 301 Trade Remedies: Frequently Asked Questions (FAQs),” 301, accessed February 9, 2023; CBP, “USCBP Bonded Warehouse,” accessed April 19, 2022.

Executive Summary

This report provides information and analysis on the operation of the U.S. Foreign-Trade Zones (FTZ) program and similar programs (FTZ-type programs) in Canada and Mexico, as well as the impacts of these programs on employment and the cost-competitiveness of products of firms operating in U.S. FTZs.

The U.S. Trade Representative (Trade Representative) requested an investigation and a report in a letter to the U.S. International Trade Commission (Commission) dated December 14, 2021, to gather information and provide analysis on U.S. FTZs as well as similar programs in Canada and Mexico. Specifically, the Trade Representative requested that this report include information, to the extent practicable, on the following

1. An overview of economic activity in FTZs operating in the United States, Canada, and Mexico since 2016, such as the number of firms operating in FTZs, FTZ employment, leading sectors and industries participating in FTZs, shipments into FTZs and exports from FTZs, and foreign direct investment in FTZs.
2. An overview of the current FTZ policies and practices in the United States, Canada, and Mexico, describing FTZ tariff treatment, and other relevant policies and practices that affect the cost-competitiveness of products of U.S. firms operating in FTZs.
3. An analysis of the effects of current FTZ policies and practices in the United States, Canada, and Mexico, including a review of recent literature, and descriptions of the effects on relative production costs of U.S. firms operating in FTZs in the United States, Canada, and Mexico, U.S. employment, and selected U.S. sectors/industries operating in FTZs in the United States, Canada, and Mexico, including through the use of case studies.

Information Sources and Approach

As requested by USTR, in preparing this report, the Commission gathered information from a variety of sources, including a review of recent literature; desk research on relevant laws, regulations, and official reports; extensive outreach including onsite visits to various FTZs, as well as interviews with FTZ users and grantees, trade associations, legal experts, and government officials in the United States, Canada, and Mexico. The Commission held a public hearing on May 17, 2022, to gather information and views of interested parties on relevant topics. The Commission also received written submissions from interested parties.

The Commission developed a questionnaire, conducted a census survey of firms producing in U.S. FTZs, and received an overall response rate of 71.9 percent. Questionnaire recipients were firms in U.S. FTZs that were granted production authority before January 1, 2022, and had production activities within a U.S. FTZ at any time during 2016 through 2021. This report uses the survey results as the primary source of information for the quantitative and qualitative analyses of the U.S. FTZ program. The data and information extracted from the survey are referenced throughout the report as information pertaining to “firms producing in FTZs.”

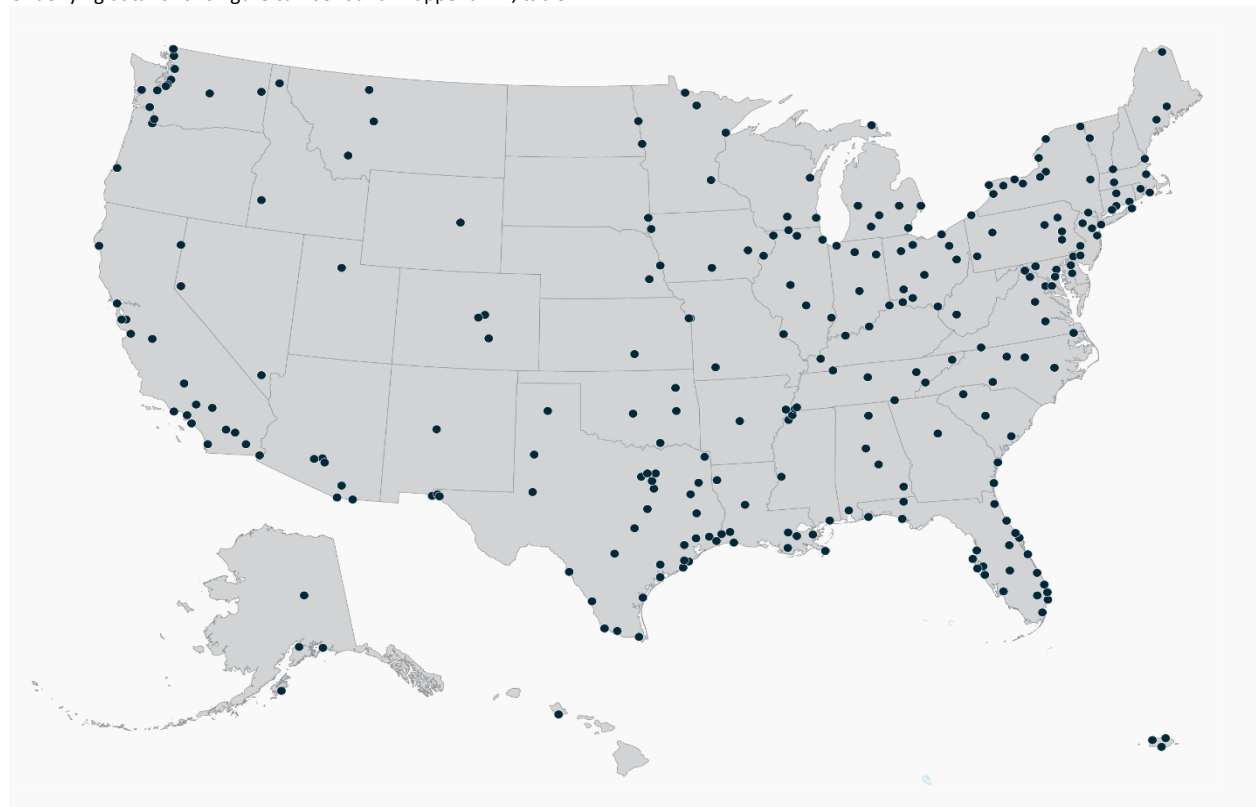
In addition, this report presents case studies that provide sector-specific analyses of the effects of FTZ policies and practices. The case studies cover four industries with production operations in U.S. FTZs: automotive industry, upholstered furniture manufacturing, petroleum refining, and pharmaceutical manufacturing. In addition, a fifth case study covers warehousing and distribution, a non-production operation that is a significant user of the U.S. FTZ program.

Overview

U.S. FTZ program: Established in 1934 under the Foreign Trade Zones Act (the FTZ Act), U.S. FTZs are designated locations in the United States where companies can use special customs procedures for special tariff treatment and duty benefits as well as tax, logistical, and other cost savings. In 2021, there were 258 approved FTZs, 197 active FTZs (or zones), and 1,200 active FTZ operations, employing over 480,000 people. Every state has at least one zone. Texas, Florida, California, and New York were the states with the most zones (figure ES.1). Texas, California, and Louisiana admitted the largest amount of merchandise into FTZs by value; Texas, Louisiana, and South Carolina exported the largest amount of merchandise from FTZs by value.

Figure ES.1 The approximate location of U.S. foreign trade zones (FTZs), 2023

Underlying data for this figure can be found in appendix H, table H.1.



Source: ITA, OFIS database, accessed February 14, 2023.

FTZ-type programs¹ in Canada: Among FTZ-type programs in Canada, the duty deferral program—consisting of the duties relief program, the duty drawback program, and the customs bonded warehouse program—offers firms special tariff treatments and various duty benefits. Two other programs, the Export Distribution Centre Program (EDCP) and the Exporters of Processing Services Program (EOPS), can be used for additional tax relief. These programs may be used separately or together.

FTZ-type programs in Mexico: The primary FTZ-type programs in Mexico include the Industria Manufacturera, Maquiladora y de Servicios de Exportación (the Program of Manufacturing Industry, Maquila and Export Services, also known by the Spanish acronym IMMEX), Los Programas de Promoción Sectorial (the Sectoral Promotion Programs, also known by the Spanish acronym PROSEC), and regla octava (Rule 8). These programs offer various duty benefits, and may be used separately or together. The comprehensive certification scheme is available for additional tax relief, an important benefit for firms in Mexico. Other trade promotion programs are available in Mexico, such as several special customs regimes and the drawback program. Although the programs may be important for certain users, in general, they are not as impactful as other programs mentioned in this paragraph.

Key FTZ Policies and Practices

Special Tariff Treatments

The central features of U.S. FTZ and FTZ-type programs in Canada and Mexico are the special tariff treatments, principally duty deferral, duty exemption, duty reduction, and duty drawback.² They are subject to specific regulations governing FTZ and FTZ-type operations in each of these three countries.

Duty deferral: The U.S. FTZ program offers deferral of duty payments. U.S. FTZs are considered as operating outside of U.S. customs territory and, as such, firms are allowed to import merchandise into U.S. FTZs without completing the U.S. customs clearance process (hereafter referred to as “foreign-status merchandise”) and paying import duties. Firms can defer the clearance process and duty payment until the merchandise or the products made from it are entered into the customs territory of the United States for consumption (hereafter referred to as “entered/entry for consumption”). Duty payment on foreign-status merchandise can be deferred in U.S. FTZs without time restrictions.

Unlike the U.S. FTZ program, Canada and Mexico do not consider their FTZ-type programs as operating outside of their customs territories. Imports under Canadian and Mexican FTZ-type programs are required to go through each country’s respective customs clearance process. Firms participating in the primary duty deferral programs in Canada (the duties relief program) and Mexico (IMMEX) can defer duty payments on these imports, provided that the imports or the goods made from these imports will

¹ This report identifies FTZ-type programs in Canada and Mexico based on two criteria. One criterion is whether these programs, policies, or practices offer comparable duty and other benefits as the U.S. FTZ program. The second criterion is whether industry, government, and trade experts report notable impacts of these programs on cost-competitiveness of participating firms.

² Duty drawback is not a feature of the U.S. FTZ program; however, using our criteria for identifying FTZ-type programs, we have included drawback as a feature of FTZ-type programs in Canada and Mexico and discuss U.S. duty drawback throughout this report, which can work in conjunction with the U.S. FTZ program.

be exported within a specified period. In general, firms can defer duties for up to four years (or five years in the case of imported spirits used to manufacture distilled spirits) under the duties relief program and 18 months under IMMEX. Duties become payable if this condition is no longer met, such as when the imports or the goods made from these imports enter domestic commerce or are not exported within the allowed timeframe.

The customs bonded warehouse programs in the three countries also offer duty deferral treatment, though with a time limit. The U.S. customs bonded warehouse program, administered separately from the U.S. FTZ program, has a time limit of five years from the date of importation. The Canadian customs bonded warehouse program allows duty deferral for up to four years, and in the case of goods such as beer and wine, for up to five years. Mexico has several special customs regimes that resemble the customs bonded warehouse programs in the other two countries, with varied time limits.

Duty exemption: The U.S. FTZ program allows for an exemption from duty payment if foreign-status merchandise or the products made from it are exported from U.S. FTZs directly to foreign markets (hereafter referred to as “direct export shipment”). If foreign-status merchandise is destroyed in U.S. FTZs and the waste generated from destruction has no commercial value, the applicable duties may also be exempt. U.S. FTZ users may claim duty exemption benefits, regardless of how long the merchandise or goods made from it have been held in the zone. The duties relief program in Canada and IMMEX in Mexico offer similar benefits, though the same time restrictions apply as for duty deferral above.

If foreign-status merchandise or the products made from it within U.S. FTZs are entered for consumption first before subsequent exportation (hereafter referred to as “indirect export shipment”), duty exemption is not applicable. The merchandise or the products made from it must go through the customs clearance process and pay applicable duties. U.S. FTZ users may use the duty drawback program to seek the refund of duty payment, if eligible. Canada and Mexico have similar rules on indirect export shipment. As discussed below, USMCA/NAFTA places restrictions on use of duty exemption and duty drawback for goods exported to partner countries.

The customs bonded warehouse programs in the three countries also offer duty exemption treatment on direct export shipments, though with the same time limit as for duty deferral above. Duty exemption is also not applicable for indirect export shipments from the customs bonded warehouses.

Duty reduction: Under the U.S. FTZ program, firms can reduce duty payments on certain imported inputs used in producing finished goods within a U.S. FTZ that are entered for consumption. Duty reduction is only possible in the case of tariff inversion, where the duty rate for the finished goods is lower than the duty rates that would normally apply to the imported inputs. In such situations, firms can pay duties on eligible imported inputs based on the lower duty rate applicable to the finished good, thereby reducing their duty payments. The primary duty reduction programs in Mexico include PROSEC and regla octava. They offer preferential ad valorem tariff rates ranging from 0 percent to 10 percent on imported inputs in certain sectors, regardless of whether the finished goods are for export or domestic consumption. By contrast, no FTZ-type programs in Canada provide firms with a duty reduction mechanism. Although, as discussed below, Canada’s low most-favored nation (MFN) tariff rates may reduce the need for such a mechanism.

Duty drawback: Duty drawback refers to the refund of certain duty, tax, and fee payments if the imported merchandise is exported or destroyed. In the United States, the drawback program is

administered separately from the U.S. FTZ program, though U.S. FTZ users may use the drawback program in conjunction with the U.S. FTZ program. Canada and Mexico have their respective drawback programs. All drawback programs in the three countries have time restrictions. In general, firms in the United States must file the drawback claim within five years from the date of importation of the merchandise on which duties were paid. In Canada, firms must file a claim within four years (or five years for destroyed goods), and in Mexico, firms must file within 12 months.

In addition to special tariff treatments described above, these FTZ or FTZ-type programs also provide tax, logistical, and other cost-saving benefits where applicable. Under the U.S. FTZ program, these benefits are only available to authorized operations within designated FTZ locations. Most of the FTZ-type programs in Canada and Mexico have time restrictions but impose few geographic restrictions. See table ES.1 below for a summary of these selected features.

Table ES.1 Selected features of FTZ, FTZ-type, and related programs in the United States, Canada, and Mexico

✓ = Yes, it is a central feature of the program; X = No, it is not a central feature of the program.

FTZ = Foreign Trade Zone; EDCP = the Export Distribution Centre Program; EOPS = the Exporters of Processing Services Program; IMMEX = the Industria Manufacturera, Maquiladora y de Servicio de Exportación (the Program of Manufacturing Industry, Maquila and Export Services); PROSEC = Los Programas de Promoción Sectorial (the Sectoral Promotion Programs).

Program	Country	Duty deferral	Duty exemption	Duty reduction	Duty drawback	Tax relief	Geographic restriction	Time restriction
FTZ Program	United States	✓	✓	✓	X	✓	✓	X
Drawback Program	United States	X	X	X	✓	✓	X	✓
Customs bonded warehouse	United States	✓	✓	X	X	✓	✓	✓
Duties relief program	Canada	✓	✓	X	X	✓	X	✓
Duty drawback program	Canada	X	X	X	✓	✓	X	✓
Customs bonded warehouse	Canada	✓	✓	X	X	✓	✓	✓
EDCP/EOPS	Canada	X	X	X	X	✓	X	✓
IMMEX	Mexico	✓	✓	X	X	✓	X	✓
PROSEC/regla octava	Mexico	X	X	✓	X	X	X	X
Comprehensive certification scheme	Mexico	X	X	X	X	✓	X	✓
Special Customs Regimes	Mexico	✓	✓	X	X	✓	✓	✓
Drawback Program	Mexico	X	X	X	✓	✓	X	✓

Source: Compiled by USITC staff.

NAFTA/USMCA Restrictions

U.S. FTZs and FTZ-type programs in Canada and Mexico are impacted by other trade policies and practices in each country. Each country is subject to the restrictions set in NAFTA/USMCA on the use of

drawback and duty exemption on exports to NAFTA/USMCA partner countries, though the countries differ in their respective mechanisms to implement the restrictions.

Article 2.5 of the USMCA, which carries over provisions from Article 303 of NAFTA, places restrictions on the use of drawback and duty exemption for goods imported under a deferral program and subsequently exported to other USMCA countries. Article 2.5.3 requires that goods manufactured under a deferral program and subsequently exported to another USMCA country are treated as if withdrawn for domestic consumption with the customs duties assessed. This restriction does not apply to goods imported under a deferral program that are exported in the same condition (e.g., warehoused goods). Article 2.5.1 states that the amount of such customs duties that may be refunded (e.g., through a drawback program), waived, or reduced is the lesser of the two duties: the total amount of customs duties paid on the goods or materials when imported into the USMCA country, and the total amount of customs duties paid on the finished goods in the USMCA country to which it is exported. These provisions primarily affect duty benefits under the U.S. FTZ program, the duties relief program in Canada, and IMMEX in Mexico, as well as the drawback programs in all three countries. Several other free trade agreements (FTAs), including the U.S.-Chile FTA, the Canada-European Union Comprehensive Economic and Trade Agreement, and the EU-Mexico FTA, have similar restrictions.

The United States implemented these two restrictions in U.S. law. In addition, U.S. NAFTA/USMCA implementing provisions provide that non-originating inputs used in goods manufactured in U.S. FTZs do not qualify as originating, even if the goods meet the conditions of the USMCA rules of origin (ROOs). Thus, these non-originating inputs are subject to applicable NTR tariff rates when such manufactured goods enter U.S. customs territory for domestic consumption or subsequent export to USMCA partner countries. For goods exported to USMCA partner countries from a U.S. FTZ, however, the drawback program may be used to claim a refund on duty paid. As noted above, the amount of drawback is subject to the “lesser of the two” rule.

In general, many FTAs and trade preference programs in the United States require that preferential duty rates only be accorded to foreign goods which are imported directly into U.S. customs territory from the partner or beneficiary country. Since FTZs are outside U.S. customs territory, preferential treatment is not applicable to foreign-status inputs used to make goods in a U.S. FTZ. Thus, foreign-status inputs are subject to applicable NTR duty rates when the goods made with them enter U.S. customs territory. Therefore, even without the existence of the USMCA implementing provisions (or analogous provisions implementing other U.S. FTAs) explicitly limiting the use of FTZs in conjunction with preferential treatment under the agreement, foreign-status inputs of goods produced in a U.S. FTZ would not be eligible for preferential treatment when goods produced with them are entered into U.S. customs territory for consumption or subsequent exportation to USMCA partner countries.

Canada issued government regulations to implement USMCA provisions affecting its duty exemption and drawback programs. Unlike the United States, Canada’s duty exemption program does not operate as if outside Canadian customs territory and therefore its mechanism to implement the USMCA restriction on duty exemption is different from that of the United States. Canada implements the NAFTA/USMCA restriction on duty drawback (the “lesser of the two” rule) in a manner similar to the United States.

Mexico does not publish specific USMCA implementation documents other than to recognize its obligations under the agreement are binding upon ratification. Similar to Canada, Mexico does not treat

firms using its FTZ-type programs as operating outside Mexican customs territory, so its mechanism for implementing the restriction on duty exemption differs from that of the United States. In Mexico, IMMEX allows participating firms to temporarily import goods into Mexican customs territory and defer the payment of import duties. When a product leaves an IMMEX facility and is “definitively” imported into Mexico, whether for domestic consumption or subsequent exportation to a USMCA partner, firms are required to pay the applicable customs duties. Mexico has a duty drawback program similar to those in the United States and Canada, including implementation of the “lesser of the two” rule.

FTZ-Related Economic Activity

United States

Warehousing and distribution operations comprise a larger number of firms participating in U.S. FTZ operations, but production operations account for the majority of FTZ employment. Foreign-owned firms have been active users of the U.S. FTZ program; however, domestic sources accounted for most of the capital investment as well as net assets received by firms producing in U.S. FTZs (a subset of those participating in FTZs) in recent years. Foreign-status merchandise accounted for a small share of incoming and outgoing merchandise shipments in U.S. FTZs. Fuels was the top sector with the largest value of merchandise shipments, followed by vehicles and parts. Most export shipments from U.S. FTZs entered U.S. customs territory for consumption before subsequently being sent to foreign markets.

Firms: During 2016–21, the number of firms participating in production as well as warehousing and distribution operations in U.S. FTZs (firms participating in FTZ operations) hovered around 3,300. About 90 percent of these firms were engaged in warehousing and distribution operations, and 10 percent were engaged in production operations. Nonelectrical machinery, vehicles and parts, electronics, and pharmaceuticals are the sectors with the largest numbers of firms producing in FTZs.

Employment: In 2021, firms participating in FTZ operations employed 480,000 workers, growing by 14 percent from 420,000 in 2016. FTZ employment in warehousing and distribution operations grew by 40 percent, and FTZ employment in production operations grew by 9 percent over this same period. Production operations accounted for about 80 percent of total FTZ employment during this period. The largest employers among FTZ-producing firms are in the sectors of vehicles and parts, nonelectrical machinery, and fuels.

Investment: About 36 percent of firms producing in FTZs have an ultimate owner or parent company outside the United States. Of \$267 billion capital investment received by firms producing in FTZs during 2016–21, 26 percent was from foreign sources. The remaining 74 percent was from domestic sources. The vehicles and parts and nonelectrical machinery sectors were the top recipients of domestic capital investment, while the nonelectrical machinery sector was the top recipient of foreign capital investment. Nearly all foreign capital investment went to foreign-owned firms.

Admission (incoming shipments): The value of merchandise admitted into U.S. FTZs by firms participating in FTZ operations grew by 37 percent from \$610 billion in 2016 to \$836 billion in 2021. In 2021, firms participating in FTZ operations admitted \$294 billion of foreign-status merchandise, accounting for 35 percent of total admissions, and more than 10 percent of U.S. general imports. China was the largest source of foreign-status admissions.

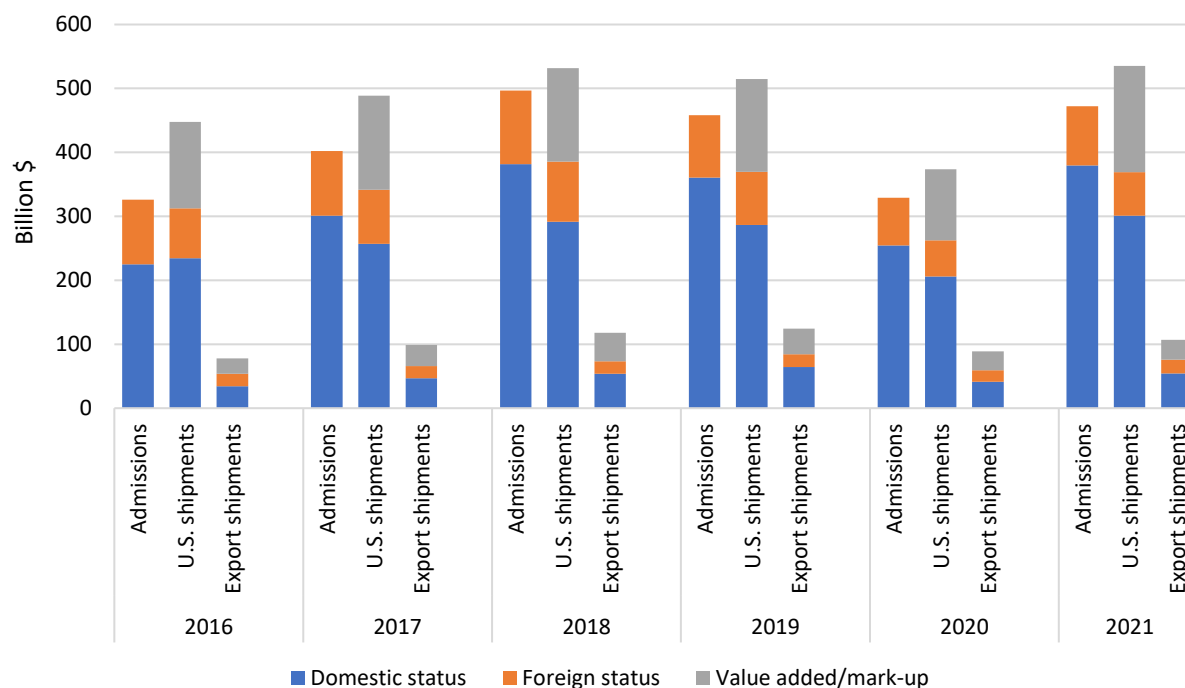
The value of merchandise admitted by firms producing in FTZs grew by 45 percent from \$326 billion in 2016 to \$472 billion in 2021, even with a notable drop in 2020 because of the COVID-19 pandemic (figure ES.2). During this period, about 77 percent of admitted merchandise was in domestic status, consisting of two-thirds domestic-origin and one-third foreign-origin goods. The fuels sector admitted by far the largest value of merchandise, followed by the vehicles and parts sector.

Outgoing shipments: The value of outgoing shipments by firms producing in FTZs grew by 22 percent from \$526 billion in 2016 to \$642 billion in 2021. During 2016–21, about 82 percent of these outgoing shipments were destined for the U.S. domestic market (U.S. shipments) and 18 percent were destined for foreign markets (export shipments). Domestic- and foreign-status inputs accounted for 53 percent and 17 percent of the value of outgoing shipments, respectively. Value added/markup through FTZ operations contributed to the remaining 30 percent (figure ES.2).

During 2016–21, only 23 percent of export shipments by firms producing in FTZs were directly exported from an FTZ without first being entered into U.S. custom territory for consumption (direct export shipments). About 77 percent of export shipments were indirectly exported—having previously entered the U.S. customs territory for consumption before being sent to foreign markets (indirect export shipments), including 14 percent destined for Canada and 22 percent destined for Mexico. The prevalent use of indirect export shipments was most notable in the fuels as well as vehicles and parts sectors. It is attributable to the increasing use of domestic-status inputs as well as the rising trend of using the drawback program in conjunction with the U.S. FTZ program in some leading sectors.

Figure ES.2 U.S. FTZ admissions and outbound shipments by firms producing in FTZs, by status, 2016–21

In billions of dollars. Underlying data for this figure can be found in appendix H, table H.2.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.8, 2.10, and 2.11.

Note: Admissions do not include admissions of zone restricted (ZR)-status merchandise. According to survey results, ZR status accounts for less than 0.5 percent of total admissions in any given year. These survey results comport with how, and the frequency with which, ZR status is used by firms with U.S. FTZ production activity, according to industry experts. Export shipments can include direct export shipments (where the foreign status portion of the finished goods was not cleared through customs before exportation) or indirect export shipments (where the foreign status portion of the finished goods was first cleared through Customs before exportation).

Canada

Among Canada's FTZ-type programs, more firms used Canada's drawback program, while larger duty benefits were realized under its duties relief program. Public data on economic activity related to Canadian FTZ-type programs are limited. Although the Canadian government does not track trade volumes under these programs, it compiles data that may indicate how these programs are used. For fiscal year 2019–20, these data show that under the duty drawback program, 1,300 firms received duty benefits of approximately C\$176 million (about \$130 million). Under the duties relief program, 310 firms received duty benefits of C\$255 million (about \$189 million). Under the customs bonded warehouse program, 200 firms received duty benefits of C\$129 million (about \$95 million) and tax benefits of C\$315 million (about \$233 million). These numbers indicate that more firms in Canada use the duty drawback program than the duty relief program or the customs bonded warehouse program. Extrapolating shipment values from duty benefits is not possible given the differences in duty rates, especially for agricultural goods, which can be as high as 300 percent.

Mexico

Public data on economic activity related to Mexican FTZ-type programs are limited. The Mexican government releases some aggregate data on IMMEX. These data show that 5,191 establishments had IMMEX authorizations during 2021. They employed approximately 2.8 million workers, significantly higher than the 480,000 employees in the U.S. FTZ program. In 2021, about 74 percent of inputs used by IMMEX firms were imported and about 26 percent were from Mexican domestic suppliers. The value of inputs used by IMMEX firms grew from \$244 billion in 2016 to \$297 billion in 2021. According to the limited information available on PROSEC, almost 4,000 firms participated in PROSEC in 2022 and \$11.0 billion of goods were imported under regla octava in 2021, of which the United States was the largest source, accounting for \$3.3 billion.

Literature Review on the Effects of U.S. FTZs

The most recently available studies (from 2010 to 2022) on the economic effects of the U.S. FTZ program examined how firms use and benefit from FTZs and the impacts of FTZs on surrounding communities.

One group of studies found that duty cost savings are the primary benefit to firms using the program, including duty reduction based on tariff inversions, duty exemption on exports, and duty deferral, using qualitative and descriptive analyses. Duty savings are not uniform across companies and are highly dependent upon the concentration of foreign materials used, the tariff rates on those materials, and the destination for shipments of finished goods. Other FTZ-related benefits, such as those involving taxes or pre-entry staging, are also important and, for some firms, the primary reason for using the program; however, none of these factors was referenced as often as duty cost savings. These studies are largely consistent with the findings from this investigation.

Another group of studies examined the economic regional effects of U.S. FTZs using quantitative methods. By analyzing trends across indicators related to manufacturing industrial activity, employment, and income, these studies generally found the economic effects of FTZs were positive for areas where zones were recently established. One of these studies found that effects were negative for nearby regions without FTZs, suggesting that FTZs benefit certain areas economically at the expense of others.

Cost-Competitiveness Effects

The cost-competitiveness effects of the U.S. FTZ program and FTZ-type programs in Canada and Mexico on participating firms are subject to multiple factors, such as the tariff regime and alternative duty-saving mechanisms in the country, the cost structure and destination markets of the firm, as well as restrictions associated with other trade policies.

Tariff Regimes and the FTZ and FTZ-Type Programs

The cost-competitiveness effects of the U.S. FTZ program and FTZ-type programs in Canada and Mexico on participating firms are in large part influenced by non-FTZ specific policies and practices. The rates associated with the tariff regimes of the United States, Canada, and Mexico impact the attractiveness and usage of their respective FTZs and FTZ-type programs, the types of firms and industries using these

programs, and ultimately these firms' cost competitiveness. Firms use these FTZ and FTZ-type programs in the three countries to reduce their costs primarily through duty savings on imported goods that would otherwise be subject to applicable normal trade relations (NTR) or most-favored nation (MFN) duty rates.³ The U.S. FTZ program, however, has disparate effects on cost savings across sectors and firms because of the differences in average NTR tariff rates on raw material inputs and intermediate inputs for manufactured products, as well as the availability of alternative duty-saving mechanisms on foreign-origin goods, such as drawback or FTA preferential rates. The near-free MFN tariff rates on almost all manufacturing inputs (both raw material inputs and intermediate inputs) in Canada likely make duty benefits available under its FTZ-type programs less consequential for manufacturing firms. On the other hand, the presence of relatively higher MFN tariff rates for manufacturing inputs on a significant number of tariff lines and the value-added tax rate of 16 percent in Mexico make its various FTZ-type programs more attractive to manufacturers who are interested in setting up export-oriented production operations in Mexico. See table ES.2 for the number of tariff lines subject to non-free tariff rates, and figure ES.3 for the average tariff rate on manufacturing inputs for the United States, Canada, and Mexico.

Table ES.2 Number of tariff lines with rate of free and non-free in Canada, Mexico, and the United States among raw material and intermediate inputs into industrial products, 2021

In number of tariff lines.

Item	Canada	Mexico	United States
Tariff lines for raw material inputs with zero duty (number)	211	235	221
Tariff lines for raw material inputs with non-zero duty applied on an ad valorem basis (number)	6	61	21
Tariff lines for raw material inputs with non-zero duty applied on a non-ad valorem basis (number)	1	3	14
Total number of tariff lines for raw material inputs (number)	218	299	256
Tariff lines for intermediate inputs with zero duty (number)	1,765	3,353	1,384
Tariff lines for intermediate inputs with non-zero duty applied on an ad valorem basis (number)	117	1,757	2,115
Tariff lines for intermediate inputs with non-zero duty applied on a non-ad valorem basis (number)	24	115	93
Total number of tariff lines for intermediate inputs (number)	1,906	5,225	3,592

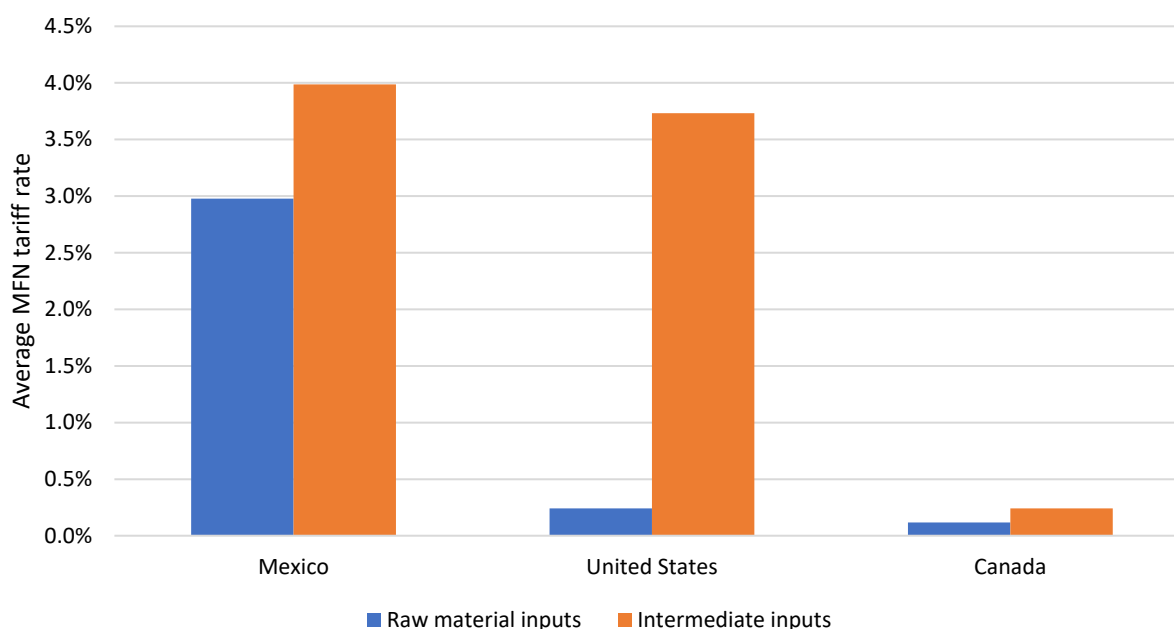
Source: USITC, *2022 Harmonized Tariff Schedule of the United States, Revision 2*, February 22, 2022; Government of Mexico, *Tariff Schedule of Mexico*, July 1, 2020; CBSA, *Customs Tariff 2021, Revision 6*, December 21, 2021; WTO, *Market Access: Unfinished Business - Post Uruguay Round Inventory and Issues*, 2001, 26; World Bank, WITS, "UNCTAD Classification of Goods by Stages of Processing - UNCTAD-SoP2: Intermediate Goods," accessed April 1, 2022; World Bank, WITS, "UNCTAD Classification of Goods by Stages of Processing - UNCTAD-SoP1: Raw Materials," accessed April 1, 2022.

Note: Tariff lines are identified at the 8-digit level. The rate of the tariff line is counted as non-zero non-ad valorem if it is a specific or compound MFN rate. Products are HS subheadings that fall within the list of multilateral trade negotiation industrial product categories as identified by the WTO and are classified as intermediate goods under UNCTAD's classification of goods by stage of processing.

³ MFN is referred to as "normal trade relations" or "NTR" in the *Harmonized Tariff Schedule of the United States*.

Figure ES.3 Average MFN tariff rate on raw material inputs and intermediate inputs into industrial products, by country, 2021

In percentages. Underlying data for this figure can be found in appendix H, table H.3.



Source: USITC, 2022 Harmonized Tariff Schedule of the United States, Revision 2, February 22, 2022; Government of Mexico, Tariff Schedule of Mexico, July 1, 2020; CBSA, Customs Tariff 2021, Revision 6, December 21, 2021; WTO, Market Access: Unfinished Business – Post Uruguay Round Inventory and Issues, 2001, 26; World Bank, WITS, “UNCTAD Classification of Goods by Stages of Processing – UNCTAD-SoP1: Raw Materials,” accessed April 1, 2022; World Bank, WITS, “UNCTAD Classification of Goods by Stages of Processing – UNCTAD-SoP2: Intermediate Goods,” accessed April 1, 2022.

Note: Figure excludes any specific or compound tariff rates (i.e., the average applied NTR rate is taken from the free and non-free ad valorem tariff lines only). The “raw material inputs and intermediate inputs into industrial products” are HS subheadings covered in the list of multilateral trade negotiation industrial product categories as identified by the WTO and are classified as raw materials and intermediate goods under UNCTAD’s classification of goods by stage of processing.

Effects of the U.S. FTZ Program

Firms producing in U.S. FTZs primarily use the program to reduce the production costs associated with foreign-status goods. In 2021, foreign-status inputs accounted for a relatively small share—13.9 percent—of the total value of outgoing shipments by firms producing in U.S. FTZs, highlighting that most firms use the program to reduce only a small portion of their production costs. However, duty savings for these firms can still be substantial. In 2021, firms producing in FTZs saved \$1.2 billion on duties from using the program. Additionally, many firms producing in FTZs consider duty reduction and duty exemption—the mechanisms that make those duty savings possible—to be extremely important in their decisions to use the program.

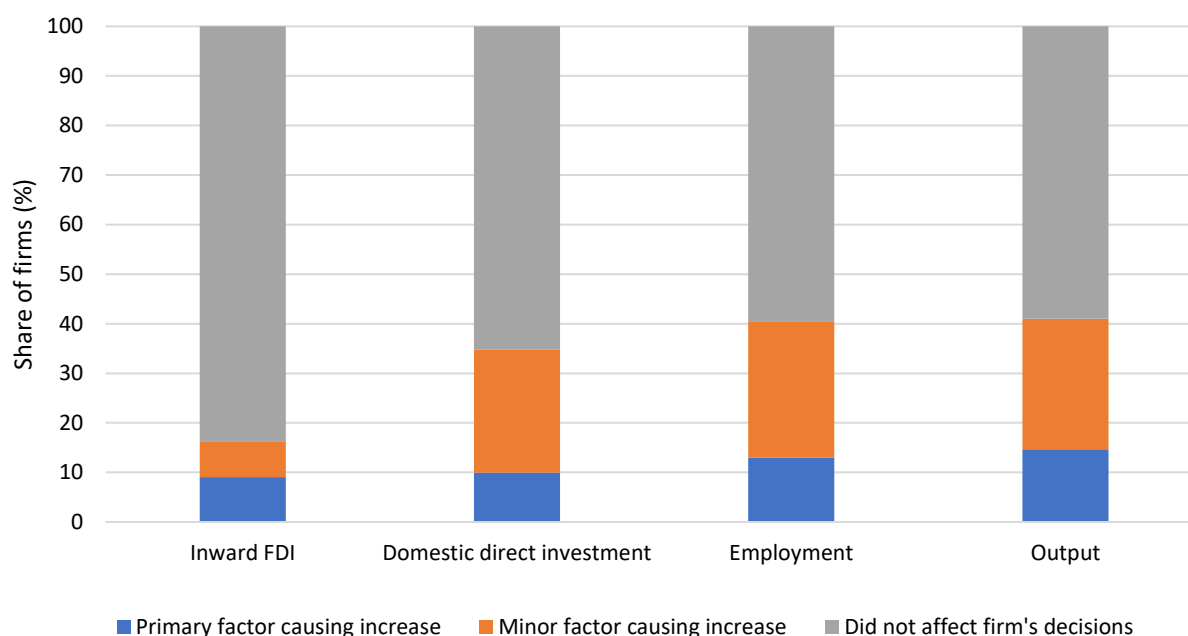
Firms use FTZs for a wide range of other cost-saving benefits as well, including duty deferral, tax benefits, and logistical and other benefits. These additional features of the U.S. FTZ program can reduce production or logistical costs and enhance firms’ capabilities. However, the importance of these FTZ features differs depending on the firm. For example, firms producing in U.S. FTZs with large inventories of foreign-status goods reported that duty deferral enabled a substantial cash flow benefit, because they were able to delay making duty payments on these goods until closer to the time of sale.

Additionally, certain tax benefits are only applicable to firms that operate in states with inventory taxes that can be reduced through FTZ use.

Despite the cost-saving benefits offered by the U.S. FTZ program, most firms producing in FTZs do not make operational decisions primarily based on the use of FTZs (figure ES.4). A minority of firms consider the use of FTZs to be one of the factors (which would also include labor costs and local supply strategies) driving their decisions to expand their U.S. investment, manufacturing output, or employment. For some firms that have multinational operations, the associated cost savings from using the U.S. FTZ program drives decisions to locate or expand production lines in the United States. For smaller firms based in the United States, the use of FTZs enhances the competitiveness with imports, and in some cases, helps avoid offshoring of their facilities.

Figure ES.4 Share of firms producing in U.S. FTZs that consider their FTZ use to be a primary factor, minor factor, or nonfactor causing increases across various measures of firm activity

In percentages. FDI = foreign direct investment. Underlying data for this figure can be found in appendix H, table H.19.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.6.

Note: Firms producing in U.S. FTZs generally do not consider FTZ use to be a factor causing decreases across measures of firm activity. This response is not included within this figure.

FTZs may indirectly impact U.S. firms that supply goods or services to FTZ producers. If FTZs incentivize the establishment or expansion of major manufacturing facilities such as automotive assembly plants, supplier firms may cluster around those FTZ facilities, creating additional employment and encouraging the development of domestic supply chains. On the other hand, if FTZ producers use the program to decrease their duty payments on foreign goods, they may choose to increase their sourcing of foreign goods at the expense of domestic suppliers. Responses to the Commission's questionnaire indicate that the FTZ program facilitates foreign sourcing of materials, but not necessarily at the expense of domestic suppliers.

Effects of FTZ-Type Programs

Canada's FTZ-type programs do not provide firms many duty saving opportunities not otherwise available as part of the country's broader trade and tariff policy. Because the MFN duty rate for most raw materials and intermediate goods for industrial use is near zero, these goods can be mostly imported into Canada duty free. Moreover, Canada has 15 FTAs with 51 countries, which allows additional duty saving opportunities. In 2021, 76.1 percent of Canadian imports came from its FTA partner countries, including 48.6 percent from the United States. Use of Canada's FTZ-type programs is likely further limited by the lack of any duty reduction mechanism within the programs that could apply to any remaining inputs with non-free MFN duty rates. Although some firms producing in U.S. FTZs also operate in Canada, none of them operates in Canada to participate in FTZ-type programs in that country. For imported materials, producers in Canada in several sectors have lower duty costs than those of firms producing in U.S. FTZs, largely due to Canada's broader tariff policy rather than the benefits of Canadian FTZ-type programs.

Mexico's FTZ-type programs provide significant opportunities for firms to save on Mexico's relatively high MFN duty rates on raw materials and intermediate goods. IMMEX and Mexico's special customs regimes provide opportunities for deferral and exemption on duties, as well as certain kinds of Mexican taxes that would normally be levied on imports. Like Canada, Mexico has 13 FTAs with 50 countries, offering additional duty saving opportunities on imports. On the other hand, the large majority of Mexico's exports (86.9 percent in 2021) are to the United States, Canada, and EU countries, which are subject to USMCA and Mexico-EU FTA provisions that restrict duty exemption and drawback benefits for exports to partner countries. Therefore, firms' use of its FTZ-type programs such as IMMEX for duty exemption is limited. Alternatively, duty reduction under the PROSEC and regla octava programs likely provides substantial duty cost savings for production facilities in Mexico. Most firms producing in U.S. FTZs cannot evaluate distinctions in benefits between U.S. FTZs and Mexican FTZ-type programs, but those that can generally consider the Mexican programs to offer greater savings than the U.S. FTZ program.

Some industry representatives said that the requirement that firms producing in U.S. FTZs pay duties on their foreign-status materials both for domestic shipments and exports to Canada and Mexico creates a cost disadvantage for these facilities in the United States. This cost disadvantage occurs because producers in Canada and Mexico have multiple mechanisms to reduce or eliminate duty costs on those materials. This includes MFN duty rates of free, preferential rates under FTAs, and reduced duty rates offered through PROSEC and regla octava in Mexico (which are not subject to the restrictions of USMCA). By contrast, opportunities to reduce duty rates otherwise subject to non-free NTR rates is more limited in the United States. Duty reduction through the U.S. FTZ program provides the opportunity for reduced duty rates; however, this benefit is available only in the case of tariff inversion and restricted for sensitive goods even where tariff inversion occurs. As a result, some sectors in the United States (most notably the U.S. automotive industry, as described below) continue to pay duties on materials even in cases where they are able to reduce certain duty costs using U.S. FTZs. Industry representatives asserted that in cases where firms choose to invest or produce depending on cost factors alone, even small differences in duty cost payments can incentivize expansion in Canada or Mexico rather than the United States, with a detrimental effect on U.S. employment.

Impacts on Selected U.S. Industries (Case Studies)

- Automotive industry:** Two segments of the automotive industry use U.S. FTZs and FTZ-type programs: light vehicle manufacturers and corresponding parts producers. Fourteen light vehicle manufacturers used FTZs for production in 2016–21. Overall, nearly 127,000 workers were employed in automotive production in U.S. FTZs in 2021, making up 12.7 percent of automotive workers in the United States. Although the automotive industry is a leading user of the U.S. FTZ program, some of the largest vehicle manufacturers do not use FTZs. Most U.S. vehicle and parts production occurs outside FTZs, with two-thirds of U.S. vehicle production occurring outside FTZs in 2021.

Vehicle manufacturers using U.S. FTZs benefit from duty exemption on direct export shipments, duty reduction on tariff inversions, streamlined logistics, and reduced customs fees. Firms in this industry that import from and export to non-North American countries are the greatest beneficiaries of the U.S. FTZ program because duties on imported materials used in these exports can be exempted. Vehicle manufacturers and parts suppliers producing in U.S. FTZs for duty exemption view this benefit as extremely important. From 2016 to 2021, firms producing vehicles in U.S. FTZs saved over \$100 million per year on average on duty exemption, and parts producers saved less than \$3 million per year on average.

Similarly, all vehicle manufacturers and parts suppliers producing in FTZs use the program for duty reduction purposes and almost all view this benefit as extremely important. From 2016 to 2021, firms producing vehicles in U.S. FTZs saved over \$200 million per year and parts producers saved less than \$20 million per year on average from duty reduction. Tariff inversions between light vehicles and parts are relatively few because the U.S. NTR duty rates on passenger vehicles and most parts are harmonized at 2.5 percent (although other parts have higher duty rates). This puts vehicle manufacturers and parts producers in the United States at a disadvantage relative to vehicle manufacturers and parts suppliers in Mexico that can eliminate duties on foreign materials in many cases using PROSEC. All vehicle manufacturers in Mexico, as well as 60 of the 100 largest parts producers in North America, participate in the PROSEC program. Similarly, although MFN duty rates are not considered an FTZ-type program in this report, firms in Canada have a cost-competitiveness advantage because of Canada's MFN duty rate of free for imports of automotive parts for OEM assembly. Data on usage of Canada's FTZ-type programs are not available.

- Upholstered furniture manufacturing:** Upholstered furniture production in FTZs includes sofas, chairs, sectionals, recliners, glider-rockers, loveseats, and the like covered in fabric or leather. Nine U.S. companies have FTZ production authority for manufacturing upholstered furniture, with the majority of these firms operating in Mississippi. Five of these companies used their production authority as of 2021 and employed between approximately 4,000 and 5,000 workers, equivalent to between 10 percent and 13 percent of total national employment of furniture manufacturers. U.S. upholstered furniture manufacturers primarily use FTZs to admit foreign-status upholstery fabric, which is subject to a higher NTR rate than furniture, thus creating the opportunity for duty reduction. This lowers costs by reducing duties that would otherwise be paid on those inputs. All upholstered furniture manufacturers producing in U.S.

FTZs experience duty reduction benefits. Duty exemption is not considered a significant benefit to these firms, as less than 2 percent of their total shipments from U.S. FTZs were exports in 2021.

Canada and Mexico are major competitors in the U.S. market for upholstered furniture. In recent years, some U.S. and foreign furniture companies have moved their production operations to Mexico to take advantage of the low labor costs and proximity to the U.S. market, as well as Mexico's FTZ-type programs. Information is scarce about the extent to which firms in Canada use Canada's FTZ-type programs. Because upholstered furniture producers in Canada are generally able to import major textile inputs under MFN duty rates of free, they have few incentives to use FTZ-type programs to save on duty costs.

Objection to the use of U.S. FTZs in recent years has largely been concentrated within domestic textile-producing industries. Some domestic producers contend that the U.S. FTZ program encourages manufacturers to increase reliance on foreign inputs rather than domestically sourced goods. In part, because of consideration of concerns expressed by domestic textile firms, some applications for production authority have either been denied, accepted without tariff relief, or approved with limitations on import volumes.

- **Petroleum refining:** Petroleum refineries process crude oil into finished petroleum products such as motor gasoline and diesel, as well as into intermediate goods used as inputs for petrochemical and plastics manufacturing. Petroleum refineries are one of the largest users of the U.S. FTZ program. More than 30 U.S. refineries owned by 15 different parent companies and representing a little more than one-half of total U.S. refining capacity used FTZ production authority as of the end of 2021. Within FTZs, these firms employed more than half of the 105,000 workers in the U.S. refining sector in 2021.

Refineries primarily use U.S. FTZs to reduce duty payments on crude oil through duty reduction from inverted tariffs on some outputs such as petrochemicals, duty exemption for exports, and in-bond shipments of jet fuel to airports. The main inputs for refineries—crude oil and unfinished heavy fuel oils—are subject to relatively low NTR duty rates, but the high total import volumes can result in significant duty payments. In 2021, about 333 million barrels of crude oil and unfinished heavy oils were admitted into U.S. FTZs and bonded warehouses, with maximum possible duty savings of \$26 million. Duty reductions, such as those on the inverted tariffs, are one of the most important effects for refiners. Refiners saved tens of millions of dollars annually from 2016 to 2021 from duty reduction on their U.S. customs entries from subzones. Refiners also saved millions of dollars annually from 2016 to 2021 from duty exemption on direct exports from FTZ subzones, but views on the importance of duty exemption to firms receiving this benefit are mixed. Refineries remain one of the top users of the FTZ program, but the number of refiners producing in FTZs and the volume of general imports admitted into FTZs has declined steeply since 2016. One reason for this change is the reduction in available duty savings, resulting from shifts in the type of crude oil being imported and the increase in the availability of domestically produced crude oil.

Refineries producing in U.S. FTZs are not adversely affected by competition with refineries in Mexico or Canada using similar programs. Mexico's and Canada's refining industries are each a

fraction of the size of the U.S. industry. Mexico's petroleum industry and its refineries almost exclusively process domestic crudes and use net imports of finished petroleum products sourced from U.S. refineries to meet domestic demand. Canada is the United States' largest source of refined petroleum product imports, but this trade is primarily concentrated in the Northeast, where U.S. refining capacity is limited.

- Pharmaceutical manufacturing:** The U.S. pharmaceutical industry is a major user of U.S. FTZs. The sector experiences significant cost savings from duty reductions on tariff inversions and duty exemptions on direct exports. In addition, firms producing pharmaceuticals in FTZs have faster speed to market when using FTZs for pre-launch activities in anticipation of the U.S. Food and Drug Administration granting U.S. marketing approval. Pharmaceutical companies experience significant cost-competitiveness benefits from U.S. FTZ use and have substantially increased their use of the program. The value of admissions by pharmaceutical firms producing in U.S. FTZs more than doubled between 2016 and 2021 and exceeded \$26 billion in 2021. Similarly, between 2016 and 2021, employment within firms producing pharmaceuticals in FTZs also increased by 22.2 percent to more than 27,000 workers in 2021. The impacts of the program on U.S. investment and employment, however, have been firm-specific and limited. A wide variety of considerations go into establishing pharmaceutical production in a specific country, including availability of inputs, costs, regulations, market access, utilities, skilled labor, and transportation.

A majority of pharmaceutical firms producing in U.S. FTZs experience duty exemption and duty reduction benefits. More than half of such firms consider these benefits to be extremely important in their decisions to use the program. Duty savings from exemptions and reductions are the primary factor driving pharmaceutical manufacturing in FTZs, with duty savings totaling hundreds of millions of dollars in 2021 on goods that entered U.S. customs territory and exports. Most pharmaceutical firms producing in FTZs also consider logistical and other cost benefits, such as streamlined U.S. customs procedures, to be at least moderately important in their decisions to use U.S. FTZs. However, most pharmaceutical firms producing in U.S. FTZs do not consider their use of the program to be a factor causing increased inward foreign direct investment, domestic direct investment, U.S. employment, or manufacturing output. In addition, many pharmaceutical firms have additional production sites in the United States that manufacture different pharmaceuticals from the ones they manufacture in FTZs, including pharmaceuticals with duty-free inputs.

Many pharmaceutical firms producing in U.S. FTZs are multinationals with operations around the world. Almost one-third of these companies have operations in Canada, and somewhat fewer have operations in Mexico. Pharmaceutical firms producing in U.S. FTZs that have manufacturing facilities in Canada do not generally use Canadian FTZ-type programs because Canada's MFN duty rates are free on imports under chapters 29 (Organic Chemicals, which are pharmaceutical inputs) and 30 (Pharmaceutical Products). Pharmaceutical operations in Mexico do use FTZ-type programs. About 19 percent of Mexican imports of chapter 29 and 30 imports were under IMMEX or similar duty deferral programs, and about 47 percent of Mexican exports of these goods were under these duty deferral programs. Pharmaceutical companies' use of Mexican FTZ-type programs appears to be limited, however, in large part because of Mexico's low duties on many imports of pharmaceutical inputs.

- **Warehousing and distribution:** Warehousing and distribution refers to any activity occurring for purposes of receiving, storing, or delivering goods without those goods undergoing any substantial transformation or change in condition. U.S. FTZ warehousing and distribution operations without production authority received merchandise valued at \$369.8 billion in 2021. These facilities had relatively lower total employment (more than 100,000, 22 percent of FTZ employment) in 2021 compared to production operations (about 375,000, 78 percent of FTZ employment). FTZ warehousing and distribution operations have several competitive advantages over other U.S. warehouses, mostly related to their ability to use duty deferral to hold inventories for extended periods of time. Additionally, firms are able to use their FTZ warehousing and distribution operations for duty exemption on their exports to other countries, including Canada, Mexico, and Chile.

The United States, Mexico, and Canada all offer duty deferral and duty exemption benefits to warehousing and distribution operations under their FTZs and FTZ-type programs. U.S. FTZs and FTZ-type programs in Canada and Mexico generally do not reduce duties for warehoused goods that enter domestic commerce. Therefore, there is broad parity across each of the three countries in terms of cost-competitiveness advantages provided by FTZs and FTZ-type programs. However, there are slight differences that offer certain competitive advantages to firms in each country. For example, only the United States, through FTZs, allows firms to indefinitely defer duties.

U.S. de minimis provisions that give duty-free access for small-value import shipments into the United States present a significant challenge for U.S. FTZ warehousing and distribution operations. E-commerce has increased rapidly as a share of U.S. retail sales in recent years. De minimis provisions have likely been a substantial contributing factor driving investment in facilities in Canada and Mexico that are used to serve the U.S. market from the other side of the border. A warehouse in Canada or Mexico can import bulk shipments of foreign goods and, if operating under an FTZ-type program, not pay duties (or receive drawback in Canada) on goods destined for re-exportation. U.S. importers—which could include individual consumers using an e-commerce platform—that purchase goods from these facilities would not pay duties on shipments valued at or below the U.S. de minimis threshold (\$800). In contrast, U.S. FTZ warehousing and distribution operations can defer—but must ultimately pay—duties on goods admitted into FTZs and then shipped to U.S. customers, including low-value shipments.

Chapter 1

Introduction

This report responds to the request by the U.S. Trade Representative (Trade Representative) for information and analyses on the Foreign-Trade Zones (FTZs) program in the United States and FTZ-type programs in Canada and Mexico. The report was prepared in response to a letter received from the Trade Representative on December 14, 2021, under authority delegated by the President under section 332(g) of the Tariff Act of 1930.⁴ The letter asked that the U. S. International Trade Commission (Commission) conduct an investigation and prepare a report that provides the following information if available and to the extent practicable:

1. An overview of economic activities in FTZs operating in the United States, Canada, and Mexico since 2016, such as the number of firms operating in FTZs, FTZ employment, leading sectors and industries participating in FTZs, shipments into FTZs and exports from FTZs, and foreign direct investment in FTZs.
2. An overview of the current FTZ policies and practices in the United States, Canada, and Mexico, such as FTZ tariff treatment, and other relevant policies and practices that affect the cost-competitiveness of products of U.S. firms operating in FTZs.
3. An analysis of the effects of current FTZ policies and practices in the United States, Canada, and Mexico on the cost-competitiveness of products of firms operating in these FTZs, including descriptions of the effects on (1) relative production costs of U.S. firms operating in FTZs in the United States, Canada, and Mexico; (2) U.S. employment; and (3) selected U.S. sectors/industries operating in FTZs in the United States, Canada, and Mexico, with use of case studies as appropriate, and including a review of recent literature on the effects of FTZs on U.S. firm competitiveness and production.

The Trade Representative requested that, to the extent practicable, the Commission develop a broad record of information through a public hearing and other outreach from firms that may be impacted by these policies. The Trade Representative also noted the Commission may also include a survey of U.S. firms participating in FTZs, if deemed necessary for information and data gathering. The Trade Representative further requested that the Commission not include in its analysis any duties imposed under U.S. trade remedy laws or Title III of the Trade Act of 1974, as amended, or action taken under section 232 of the Trade Expansion Act of 1962, as amended. The Trade Representative requested that the Commission submit its report no later than April 14, 2023.

⁴ 19 U.S.C. § 1332(g).

Scope and Approach

U.S. FTZ Program and FTZ-Type Programs in Canada and Mexico

This report covers the U.S. FTZ program and FTZ-type programs in Canada and Mexico. U.S. FTZs are designated locations in the United States authorized by the Foreign Trade Zone Act and governed by regulations administered by the FTZ Board and U.S. Customs and Border Protection (CBP) that allow companies to use special customs procedures for duty and tax benefits. U.S. FTZs, while physically located in the United States, are outside the U.S. customs territory. Firms operating in FTZs are allowed to defer indefinitely the payments of customs duties and federal excise tax on “foreign-status merchandise” admitted into zones, until the merchandise or goods produced from that merchandise in the zone make entry for consumption.⁵ Major characteristics of the U.S. FTZ program include duty exemption, duty reduction, and other cost-saving benefits. Canada and Mexico do not have programs that are identical to the U.S. FTZ program. However, each country has multiple trade promotion programs that share certain features with the U.S. FTZ program. These features are explained further in chapter 2.

To identify similar programs, policies, or practices in Canada and Mexico (hereafter FTZ-type programs)⁶, this report uses two criteria. One criterion is whether these programs, policies, or practices offer comparable duty and other benefits as the U.S. FTZ program. The second criterion is whether industry, government, and trade experts report notable impacts of these programs on cost-competitiveness of participating firms.

The FTZ-type programs in Canada identified in this report include the duties relief program (DRP), the duty drawback program, and the customs bonded warehouses (CBW) program, all of which fall under Canada’s duty deferral program (DDP). These programs offer duty deferral and duty exemption benefits to participating firms. Two other FTZ-type programs offered by the government of Canada are the Export Distribution Centre Program (EDCP) and the Exporters of Processing Services Program (EOPS), which grant export-oriented firms relief from a Harmonized Sales Tax (HST) or the federal Goods and Services Tax (GST).⁷ The DRP most closely resembles the U.S. FTZ program, because it provides firms duty relief—either up front or refunded later—on foreign goods that are imported into Canada and subsequently exported.

⁵ Imported merchandise must be admitted into FTZs in foreign status if it has not been properly released from CBP custody into customs territory (19 C.F.R. § 146.1). Foreign-status merchandise includes merchandise admitted to a zone that is of foreign origin, without being subject to formal customs entry procedures and duty payment, unless and until the foreign merchandise enters U.S. customs territory for consumption. 19 U.S.C. § 81c(a); NAFTA, “FTZ Basics and Benefits,” accessed April 22, 2022. See box 2.1 in chapter 2 of this report for information on zone status and corresponding duty treatment.

⁶ For the purposes of this report, “FTZ-type” programs refer to programs in Canada and Mexico that are similar to the U.S. FTZ program and have notable impacts on the competitiveness of firms participating in these programs. See chapter 2 of this report for a discussion of the U.S. FTZ program and FTZ-type programs in Canada and Mexico.

⁷ Government of Canada, “Foreign Trade Zone,” accessed October 21, 2022. See chapter 2 of this report for more information regarding Canada’s FTZ-type programs.

Several FTZ-type programs in Mexico offer duty and tax benefits similar to those benefits available to firms operating in U.S. FTZs.⁸ The Industria Manufacturera, Maquiladora y de Servicios de Exportación program (the Program of Manufacturing Industry, Maquila and Export Services, known as IMMEX) is the primary duty deferral program. The Programas de Promoción Sectorial (Sectoral Promotion Programs, known as PROSEC) and regla octava (Rule 8) offer participating IMMEX firms additional duty benefits. The Comprehensive Certification Scheme offers additional tax benefits. In addition, Mexico has several special customs regimes that share some similar features with U.S. FTZ program, including depósito fiscal [fiscal deposit], recinto fiscal [bonded warehouse], and Recinto Fiscalizado Estratégico (Strategic Bonded Warehouse, known as RFE).⁹ All these programs have been identified as FTZ-type programs in Mexico; however, this report primarily focuses on IMMEX, PROSEC, and Rule 8, which are the programs that offer firms in Mexico similar duty and tax benefits to those offered to firms in the U.S. FTZ program.

In some ways, the FTZ-type programs in Canada and Mexico discussed in this report are broader than the U.S. FTZ program because they encompass some analogous non-U.S. FTZ programs that are available to firms in the United States. In the United States, these non-U.S. FTZ programs, such as the customs bonded warehouse program and drawback program, are independent from FTZs but may be used in place of or in combination with the U.S. FTZ program.¹⁰

Firm and Industry Coverage

This report focuses primarily on firms that have been granted the authority to conduct production operations in U.S. FTZs.¹¹ In addition, this report also provides information and analyses of the impact of FTZ policies—to the extent feasible and necessary—on other kinds of firms,¹² including firms that:

- Operate in the United States but outside FTZs, to the extent that they are impacted by FTZ policies.
- Use FTZs for warehousing and distribution.
- Operate under FTZ-type programs in Canada and Mexico.

See the report's glossary of FTZ terms and chapters 2 and 3 for definitions and discussions of production and non-production activities under U.S. FTZs and FTZ-type programs in Canada and Mexico.

⁸ VTZ, *Doing Business in Mexico*, 2020.

⁹ See chapter 2 of this report for more information regarding Mexico's FTZ-type programs.

¹⁰ The overlapping features and nuances of the North American programs, as well as brief coverage of these analogous U.S. non-FTZ programs, are discussed further in chapter 2 of this report.

¹¹ Two types of business operations are conducted in FTZs: production operations, which involve substantial transformation of a foreign article; and warehouse and distribution, which does not involve substantial transformation of a foreign article. 15 C.F.R. § 400.2(o). This report uses the term “firms producing in FTZs” when referring to this population of firms that have been granted the authority to conduct production operations in FTZs. In this report, the reference to “firms producing in FTZs” indicates data and information extracted from the Commission's survey. Additionally, this report uses the terms “goods produced within FTZs” and “zone products” to describe output of firms producing in FTZs, which may incorporate foreign- and domestic-status materials.

¹² These analyses are presented through case studies and a literature review in chapter 3 of this report.

Case Studies

The report includes case studies that analyze the effects of FTZ policies and practices on the cost-competitiveness of selected U.S. sectors and industries. The Commission selected five industries—four in the manufacturing sector and one in the services sector. These sectors were chosen for their significant economic activity in U.S. FTZs and for the different types of program utilization and effects they represent. The four manufacturing industries with firms producing in U.S. FTZs include: (1) automotive industry, (2) upholstered furniture manufacturing, (3) petroleum refining, and (4) pharmaceutical manufacturing. The fifth case study covers the warehousing and distribution industry, a non-production sector that is a significant user of the U.S. FTZ program.

The case studies use the various data and information collected through the information-gathering approaches described below. Using the competitiveness framework described later in this chapter and in chapter 3, the case studies complement the overview of economic activity of U.S. FTZs and FTZ-type programs in Canada and Mexico by offering detailed assessments of the impact of FTZ policies and practices on the competitiveness of particular U.S. firms and industries in the North American market. Chapter 3 provides greater detail on the criteria applied to select these case studies.

Report Organization

Chapter 1 provides the scope and approach for the report, sources for the data and information presented, background information on the U.S. FTZ program and FTZ-type programs in Canada and Mexico, and the competitiveness framework used to measure the cost-competitiveness of firms operating under these programs. Chapter 2 presents profiles of the U.S. FTZ program and FTZ-type programs in Canada and Mexico, including overviews of current FTZ-related policies and practices affecting the cost-competitiveness of products of U.S. firms operating in FTZs, and FTZ-related economic activity in the three countries. Chapter 3 analyzes how policies and practices of the U.S. FTZ program and similar programs in Canada and Mexico affect the cost-competitiveness of goods made and sold by firms operating within FTZs, including through the case studies described above and a review of recent literature. In addition, chapter 3 analyzes the impacts on U.S. employment caused by firms' changes in investment and output resulting from these program-related competitiveness effects.

Information and Data Sources

For this report, the Commission relied on information gathered using its questionnaire; a review of relevant literature; a public hearing; desk research; written submissions; and interviews. The latter were conducted with representatives of FTZ grantees and users, industry and trade associations, U.S. and foreign government officials, and legal experts.¹³ The Commission held a public hearing on May 17, 2022, and participants included representatives of industry and trade associations.¹⁴ The Commission also received written submissions from a similar cross section of interested parties.¹⁵ Primary sources on activities within U.S. FTZs and relevant policies and practices in Canadian and Mexican FTZ-type

¹³ Commission staff conducted more than 70 interviews within this cross section of interested parties.

¹⁴ See appendix C for a list of hearing participants.

¹⁵ See appendix D for summaries of views of interested parties.

programs were gathered from representatives of FTZ-related industries, program experts, and government websites and officials.

Data on relevant economic activity in U.S. FTZs were collected from publicly available data sources, as well as through the Commission's questionnaire. Publicly available data sources include the annual reports published by the U.S. Foreign-Trade Zones Board, which provide aggregate data by economic activity of active U.S. FTZ operations.¹⁶ The U.S. Census Bureau provides data by product on admission, entry, and exports of U.S. FTZs and bonded warehouses, including the value of foreign content (dutyable value) entering U.S. customs territory from FTZs and bonded warehouses. Additional merchandise trade data came from the Commission's DataWeb, a database built on U.S. Census Bureau data. Firm- and industry-level data were obtained from the Commission's questionnaire results, described in more detail below.

Data on economic activity related to FTZ-type programs in Canada came primarily from the government of Canada through a written submission.¹⁷ Relatively little data for Canada's FTZ-type programs are publicly available. The government of Canada does not track the use of these programs by industry or trade volume. It publishes estimates on the number of firms participating in Canada's FTZ-type programs, but additional data about employment, leading sectors and industries, shipments, exports, and foreign direct investment are not available.¹⁸

Data on economic activity related to FTZ-type programs in Mexico came primarily from the government agency Instituto Nacional de Estadística, Geografía e Informática (National Institute of Statistics and Geography, known as INEGI).¹⁹ Most industry-level information for Mexico on indicators like shipments and employment are aggregated at the broad 3-digit level of the North American Industry Classification System. For IMMEX, the government of Mexico publishes the number and names of participating firms and associated employment data, as well as information on input levels, but no data on foreign direct investment or exports. The Mexican government also regularly publishes lists of firms participating in PROSEC and import-level data under *regla octava* but does not provide data about employment, exports, or foreign direct investment associated with these two sector-specific programs.

As requested, the report also includes a literature review and profiles of selected U.S. sectors/industries operating in FTZs in the United States, Canada, and Mexico (chapters 2 and 3). Data and information about major sectors and industries using these programs in the three countries are presented in chapter 2. Chapter 3 presents a literature review and case studies that analyze the effects of relevant policies and practices on the competitiveness of U.S. firms producing in U.S. FTZs.

¹⁶ The FTZ Board, which consists of the Secretary of Commerce (who acts as its chairman) and the Secretary of the Treasury, or their designated alternates, and has an Executive Secretariat located within the U.S. Department of Commerce, reports on active FTZ operations. Data are reported only from operators that admit foreign-status merchandise into an FTZ in a given year.

¹⁷ Additional sources of data and information for FTZ-type programs in Canada include interviews with industry representatives, legal experts, and the Government of Canada. See chapter 2 of this report for specific sources of data and information for FTZ-type programs in Canada.

¹⁸ Canadian government official, email message to USITC staff. November 30, 2022.

¹⁹ Additional sources of data and information for FTZ-type programs in Mexico include interviews with industry representatives, legal experts, and the government of Mexico. See chapter 2 of this report for specific sources of data and information for FTZ-type programs in Mexico.

Commission's Information Collection

In accordance with the request letter—to include a survey of U.S. firms participating in FTZs if necessary—the Commission issued a questionnaire to collect data from firms producing in U.S. FTZs.²⁰ Surveying for this investigation consisted of conducting a census survey, rather than selecting a sample, of the firms identified as the target population. In the questionnaire, the Commission sought quantitative and qualitative data not publicly available for certain analyses requested by the Trade Representative. Questionnaire recipients were firms in U.S. FTZs that were granted production authority before January 1, 2022, and had production activities within a U.S. FTZ at any time during 2016 through 2021. This report uses the primary source information gathered from these firms to present quantitative and qualitative analyses of the U.S. FTZ program. Additionally, the questionnaire asked firms about the competitiveness of the U.S. FTZ program vis-à-vis FTZ-type programs in Canada and Mexico.

The Commission's survey of firms with production authority in U.S. FTZs primarily provides the data necessary to analyze the economic activity in U.S. FTZs and the effects of current FTZ policies and practices on U.S. firms operating in these FTZs. Through a census survey of the FTZ population described above, the Commission collected quantitative and qualitative data and information for assessing the cost-competitiveness of firms operating in U.S. FTZs vis-à-vis firms operating under programs similar to U.S. FTZs in Canada and Mexico.

Several categories of data were collected on these firms through the survey. Data include economic activity in U.S. FTZs (e.g., employment, domestic shipments, exports); effects of U.S. FTZ use on operations (e.g., costs, investment, employment, output); and participation in FTZ-type programs in Canada and Mexico (e.g., cost savings related to this participation). Firms' perspectives on their competitors' usage of an FTZ-type program in Canada and Mexico and the impact this has on North American competition were also collected.²¹ The Commission's survey results were used to compare a firm's competitiveness across the several factors outlined in the competitiveness framework discussed below. Survey results are presented throughout chapters 2 and 3 and in appendix G.

Although not the focus of the survey, information on other kinds of firms described in the "Firm and Industry Coverage" section above was collected, primarily using approaches outside the survey.²²

²⁰ See appendix E of this report for the Commission's FTZ questionnaire. See appendix F of this report for a description of the Commission's survey methodology. Various terms (e.g., census, questionnaire, survey) are also defined in appendix F of this report.

²¹ See appendix E of this report for the Commission's FTZ questionnaire.

²² The Commission's questionnaire, issued only to firms with production activities in U.S. FTZs, also asked these firms about any warehousing activities they may also have had in FTZs and where they had such activities. The survey requested that quantitative data for production- and non-production-related activities (e.g., warehousing and distribution) be reported separately. For a discussion of warehousing/distribution activities in U.S. FTZs and FTZ-type programs in Canada and Mexico, see chapters 2 and 3 of this report. Outside the survey, the Commission gathered information through a public hearing; desk research; written submissions; and interviews with FTZ grantees, industry and trade associations, U.S. and foreign government officials, legal experts, and firm representatives.

Background Information on the Economic and Trade Policy Environment

Globally, there are various international zones that provide special customs privileges or other trade promotion and development incentives. These are most commonly referred to as “free trade zones” and “special economic zones.”²³ These zone programs are designed to provide duty and other tax benefits to firms to increase competitiveness of domestic industries and attract investment. Although some program aspects overlap, the characteristics associated with these programs do not fully encompass the U.S. FTZ program or the FTZ-type programs in Canada and Mexico.

The respective design and use of the U.S. FTZ program and similar programs in Canada and Mexico are unique and largely shaped by each country’s broader tariff policy and economic framework. The following sections provide background on each country’s economic environment—particularly tariff policy and trade flows—to provide the reader with context to understand the cost and other competitive advantages of the programs across these countries.

Most-Favored Nation (MFN) Tariff Rates

The effects of the U.S. FTZ program and similar programs in Canada and Mexico on firms’ competitiveness can be understood and expressed relative to the broader tariff and trade policy landscape of these countries. Firms use the U.S. FTZ program and similar programs in Canada and Mexico primarily to reduce their costs. This is realized specifically through duty cost savings on goods that would otherwise be imported and subject to most-favored nation (MFN)²⁴ duty rates other than free.²⁵ As a result, the rates associated with the tariff regimes of the United States, Canada, and Mexico impact the attractiveness and usage of their respective FTZs and FTZ-type programs, the types of firms and industries using these programs, and ultimately firms’ cost-competitiveness.

Canada’s notably low MFN tariff rates are the result of substantial tariff reductions in recent decades. To improve export competitiveness, the Canadian government reported undertaking a “comprehensive review of its tariff system” beginning in 1994 (the year NAFTA entered into force), “including a study on manufacturing inputs.” As a result of the study, Canada reduced MFN tariff rates on about 1,500 tariff lines, implemented in June 1995 (table 1.1).²⁶ Beginning in 2009, the government of Canada unilaterally eliminated MFN customs duties on many manufacturing inputs and machinery and equipment.²⁷ According to the Canadian government, by 2015, Canada had eliminated tariffs on almost all manufacturing inputs, making the entire country a tariff-free zone for industrial manufacturers.²⁸ In

²³ Tiefenbrun, “U.S. Foreign Trade Zones, Tax-Free Trade Zones of the World, and Their Impact on the U.S. Economy,” 2013; World Bank, *SEZs*, April 2008.

²⁴ Referred to as “normal trade relations” or “NTR” in the *Harmonized Tariff Schedule of the United States*.

²⁵ See the case studies in chapter 3 of this report for examples.

²⁶ WTO, CMA, *Minutes of the Meeting of 26 June 1995*, July 12, 1995, 3; WTO, *Trade Policy Review - Canada: Report by the Government*, October 15, 1996, 5.

²⁷ Canadian government official, email message to USITC staff. November 30, 2022; WTO, “Canada Eliminates Tariffs on Manufacturing Inputs and Machinery,” April 29, 2010.

²⁸ Government of Canada, “Foreign Trade Zone,” accessed October 21, 2022; BDC, “What Is a Free Trade Zone,” accessed March 21, 2022.

addition, Canada currently has 15 free trade agreements (FTAs) with 51 countries that provide Canadian firms with preferential access to a variety of manufacturing inputs.²⁹

Similarly, Mexico has gone through substantial tariff reductions. Between 1993 and 1997 (coinciding with the signature and implementation of NAFTA), Mexico reported unilaterally eliminating MFN rates on more than 1,200 products—primarily inputs and machinery used in agricultural, chemical, electrical, electronic, textile, and publishing sectors.³⁰ On September 29, 2006, Mexico announced that it unilaterally reduced MFN tariff rates for 6,089 tariff lines. In most cases, the reduction in tariff ranged from 30 percent to 33 percent. Mexico intended to reduce the cost of raw materials for industries producing final goods, to eliminate tariff discrepancies, and to reduce incentives to evade tariffs.³¹ About 70 percent of Mexican imports entered Mexico duty free in 2020. Industries with non-free MFN duties included nonelectrical machinery (2.8 percent), electrical machinery (3.5 percent), transport equipment (8.5 percent), and other manufactures (5.1 percent) in 2020.³² In addition, firms operating in Mexico benefit from the country's 13 FTAs with 50 countries.³³

Unlike Canada and Mexico, the United States did not implement unilateral tariff reduction schemes in the mid-1990s.³⁴ U.S. tariff levels have fallen since that time, however. The average normal trade relations (NTR) tariff rates across the 10,187 lines of the U.S. 2001 Harmonized Tariff Schedule, including the ad valorem equivalents of specific and compound rates, was 5.4 percent in 2000, falling from a rate of 6.4 percent in 1996.³⁵ In 2021, the average NTR tariff rate was at 3.4 percent overall across 10,905

²⁹ In addition to USMCA, Canada's FTA partners include European Union, the European Free Trade Association, Israel, Jordan, Korea, Ukraine, members of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, and six countries in Latin America. Government of Canada, "Trade and Investment Agreements," accessed January 2, 2023. Canadian government official, email message to USITC staff. November 30, 2022.

³⁰ WTO, *Trade Policy Review - Mexico: Report by the Government*, September 2, 1997, 2.

³¹ WTO, *Trade Policy Review - Mexico: Report by the Government*, January 7, 2008, 11.

³² World Trade Organization (WTO), "Mexico and the WTO: Goods, Services Schedules and Tariff Data," accessed January 17, 2023.

³³ In addition to USMCA, Mexico's FTA partners include the European Union, the European Free Trade Association, Israel, Japan, members of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, and 10 countries in Latin America. USDOC, ITA, "Mexico - Country Commercial Guide," September 23, 2022.

³⁴ Separately, however, all three countries did commit to implementing the tariff reductions agreed to under the Uruguay Round in 1994. See "Uruguay Round Agreements Act" Pub L. No. 103-465, 108 Stat. 4809, enacted December 8, 1994; Government of Mexico, Secretariat for Home Affairs, "DECRETO de promulgación del Acta Final de la Ronda Uruguay (World Trade Organization Agreement Decree)," December 30, 1994; Government of Canada, "World Trade Organization Agreement Implementation Act," December 15, 1994. The U.S. Uruguay Round Agreements Act of 1994 amended domestic legislation to bring it into conformity with the U.S. multilateral commitments. One of the main elements of these commitments was a trade-weighted tariff reductions of about 35 percent over five years. WTO, *Trade Policy Review United States - Report by the Secretariat*, October 21, 1996, 22, 46. Canadian and Mexican MFN tariff reductions discussed above were separate from the tariff reductions agreed to under the Uruguay Round in 1994. WTO, "Trade Policy Review: Canada - Report by the Secretariat," October 7, 1996, 21; WTO, "Trade Policy Review: Mexico - Report by the Secretariat," September 2, 1997, 37.

³⁵ WTO, *Trade Policy Review: United States - Report by the Secretariat*, August 15, 2001, 24-25.

lines.³⁶ Around 57 percent of U.S. imports entered duty free in 2020.³⁷ The United States is currently party to 14 FTAs with 20 countries.³⁸

Canada has eliminated tariffs on almost all (96.8 percent) tariff lines of raw material inputs into manufacturing operations, and Mexico has maintained tariffs on 21 percent of tariff lines for raw material inputs with a wide range of MFN tariff rates. Products covering about 86 percent of tariff lines for raw material inputs can enter the United States duty free, and the tariff rates for products in the remaining tariff lines are low (table 1.1). Among the three countries, in 2021, Mexico had the highest average MFN tariff rate on raw material inputs for industrial products at 3.0 percent, followed by the United States at 0.2 percent and Canada at nearly 0.1 percent (figure 1.1).³⁹

Table 1.1 Number of tariff lines with rate of free and non-free in Canada, Mexico, and the United States among raw material inputs into industrial products, 2021

In the number of tariff lines and percentages.

Item	Canada	Mexico	United States
Tariff lines with rate of free (number)	211	235	221
Tariff lines with non-free duty calculated on an ad valorem basis (number)	6	61	21
Tariff lines with non-free duty calculated on a non-ad valorem basis (number)	1	3	14
Total number of tariff lines (number)	218	299	256
Tariff lines with rate of free (%)	96.8	78.6	86.3
Tariff lines with non-free duty applied on an ad valorem basis (%)	2.8	20.4	8.2
Tariff lines with non-free duty applied on a non-ad valorem basis (%)	0.5	1.0	5.5
Total number of tariff lines (%)	100.0	100.0	100.0

Source: USITC, *2022 Harmonized Tariff Schedule of the United States, Revision 2*, February 22, 2022; Government of Mexico, *Tariff Schedule of Mexico*, July 1, 2020; CBSA, *Customs Tariff 2021, Revision 6*, December 21, 2021; WTO, *Market Access: Unfinished Business – Post Uruguay Round Inventory and Issues*, 2001, 26; World Bank, WITS, “UNCTAD Classification of Goods by Stages of Processing - UNCTAD-SoP1: Raw Materials,” accessed April 1, 2022.

Note: Tariff lines are identified at the HTS 8-digit level, chapters 1–97. The rate of the tariff line is counted as non-free non-ad valorem if it has a specific or compound MFN rate. The “raw material inputs into industrial products” referred to in the table title are HS subheadings covered in the list of multilateral trade negotiation industrial product categories as specified by the WTO and are classified as raw materials under UNCTAD’s classification of goods by stage of processing.

³⁶ WTO, “United States and the WTO: Goods, Services Schedules and Tariff Data,” accessed March 7, 2023; WTO, *Trade Policy Review: United States – Report by the Secretariat*, November 9, 2022, 69–71.

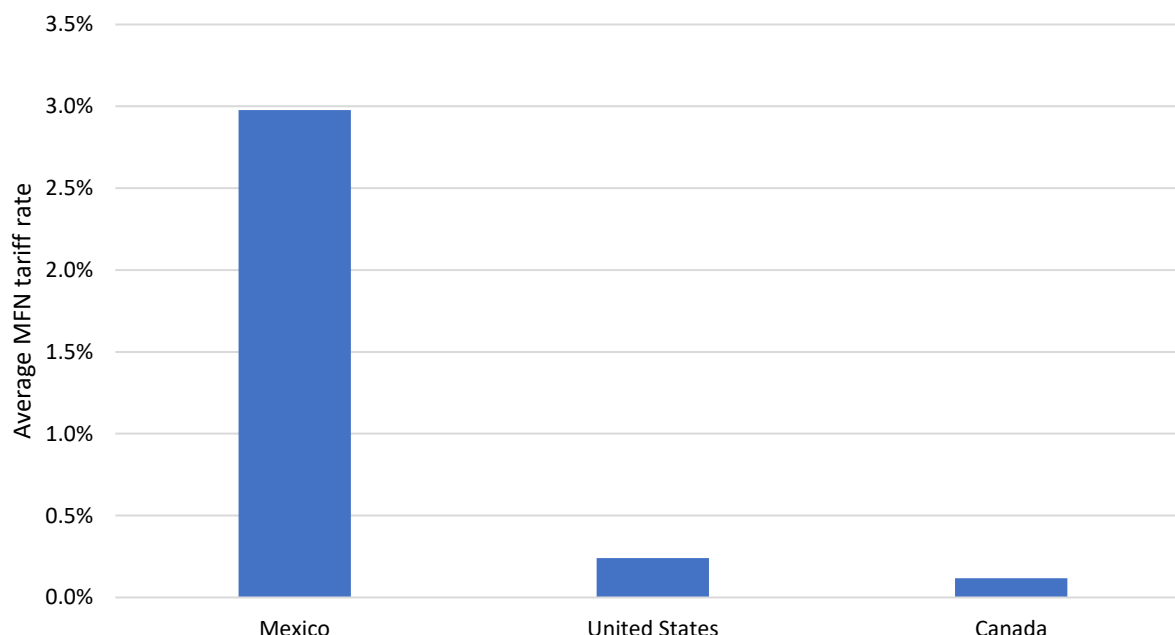
³⁷ WTO, “United States and the WTO: Goods, Services Schedules and Tariff Data,” accessed March 7, 2023.

³⁸ This count of FTAs includes trade promotion agreements with Colombia, Panama, and Peru. USTR, “Free Trade Agreements,” accessed March 7, 2023.

³⁹ Raw materials and intermediate inputs here are two of the four product groups defined by UNCTAD’s Stage of Processing statistical product classification, which also includes consumer goods and capital goods. These product groupings contain food- and energy-related commodities, but only products used for industrial products as determined by the World Trade Organization (WTO) in its multilateral trade negotiation product categories are included in figures 1.1 and 1.2.

Figure 1.1 Average MFN tariff rate on raw material inputs into industrial products, 2021

In percentages. Underlying data for this figure can be found in appendix H, table H.3



Source: USITC, 2022 Harmonized Tariff Schedule of the United States, Revision 2, February 22, 2022; Government of Mexico, Tariff Schedule of Mexico, July 1, 2020; CBSA, Customs Tariff 2021, Revision 6, December 21, 2021; WTO, Market Access: Unfinished Business - Post Uruguay Round Inventory and Issues, 2001, 26; World Bank, WITS, "UNCTAD Classification of Goods by Stages of Processing - UNCTAD-SoP1: Raw Materials," accessed April 1, 2022.

Note: Figure excludes specific or compound tariff rates (i.e., the average MFN rate is taken from the free and non-free ad valorem tariff lines only). The "raw material inputs into industrial products" referred to in the table title are HS subheadings covered in the list of multilateral trade negotiation industrial product categories as identified by the WTO and are classified as raw materials under UNCTAD's classification of goods by stage of processing.

For the United States, 62 percent of the NTR tariff rates on raw material inputs for industrial products fall between greater than 0 and 5 percent, with the remaining rates falling between a rate of greater than 5 percent and a maximum of 14 percent. For Mexico, about 12 percent of MFN tariff rates on these inputs fall between a rate of greater than 0 and 5 percent, with the majority (89 percent) of the tariff rates on these inputs falling at or above 10 percent and the maximum MFN tariff rate topping out at 20 percent.⁴⁰

In 2021, Mexico had 64 percent of tariff lines of intermediate inputs with MFN rates of free, compared to 38 percent for the United States. Canada has set tariff rates to free on nearly 95 percent of tariff lines of intermediate inputs into industrial products (table 1.2).⁴¹ The United States and Mexico had higher

⁴⁰ Tariff lines are identified at the HTS 8-digit level, chapters 1–97. MFN tariff rates described in this paragraph are those from the 61 Mexican tariff lines and 21 U.S. tariff lines in table 1.1 with a non-free duty calculated on an ad valorem basis (i.e., tariff lines with a non-free duty calculated on a non-ad valorem basis and tariff lines with an MFN duty rate of free are excluded from shares discussed in this paragraph).

⁴¹ Raw materials and intermediate inputs presented in tables 1.1 and 1.2 are two of the four product groups defined by UNCTAD's Stage of Processing statistical product classification, which also includes consumer goods and capital goods. These product groupings contain food- and energy-related commodities, but only products used for industrial products as determined by the World Trade Organization (WTO) in its multilateral trade negotiation product categories are included in tables 1.1 and 1.2 and figures 1.1 and 1.2.

average MFN tariff rates on intermediate inputs for industrial products, at 3.7 percent and 4.0 percent, respectively, compared to Canada's 0.2 percent (figure 1.2). For the United States, 38 percent of the NTR tariff rates on intermediate inputs for industrial products fall between a rate of greater than 0 and 5 percent and 51 percent fall between a rate of greater than 5 and 10 percent. For the United States, the maximum NTR tariff rate for these inputs was 33.6 percent. For Mexico, less than 1 percent of tariff rates on intermediate inputs for industrial products fall between a rate of greater than 0 and 5 percent. For Mexico, 38 percent of tariff rates on these inputs fall between greater than 5 and 10 percent, and 61 percent of these rates are above 10 percent, with the maximum MFN tariff rate for these inputs topping out at 20 percent.⁴²

Table 1.2 Number of tariff lines with rate of free and non-free in Canada, Mexico, and the United States among intermediate inputs into industrial products, 2021

In number of tariff lines and percentages.

Item	Canada	Mexico	United States
Tariff lines with rate of free (number)	1,765	3,353	1,384
Tariff lines with non-free duty calculated on an ad valorem basis (number)	117	1,757	2,115
Tariff lines with non-free duty calculated on a non-ad valorem basis (number)	24	115	93
Total number of tariff lines (number)	1,906	5,225	3,592
Tariff lines with rate of free (%)	92.6	64.2	38.5
Tariff lines with non-free duty calculated on an ad valorem basis (%)	6.1	33.6	58.9
Tariff lines with non-free duty calculated on a non-ad valorem basis (%)	1.3	2.2	2.6
Total number of tariff lines (%)	100.0	100.0	100.0

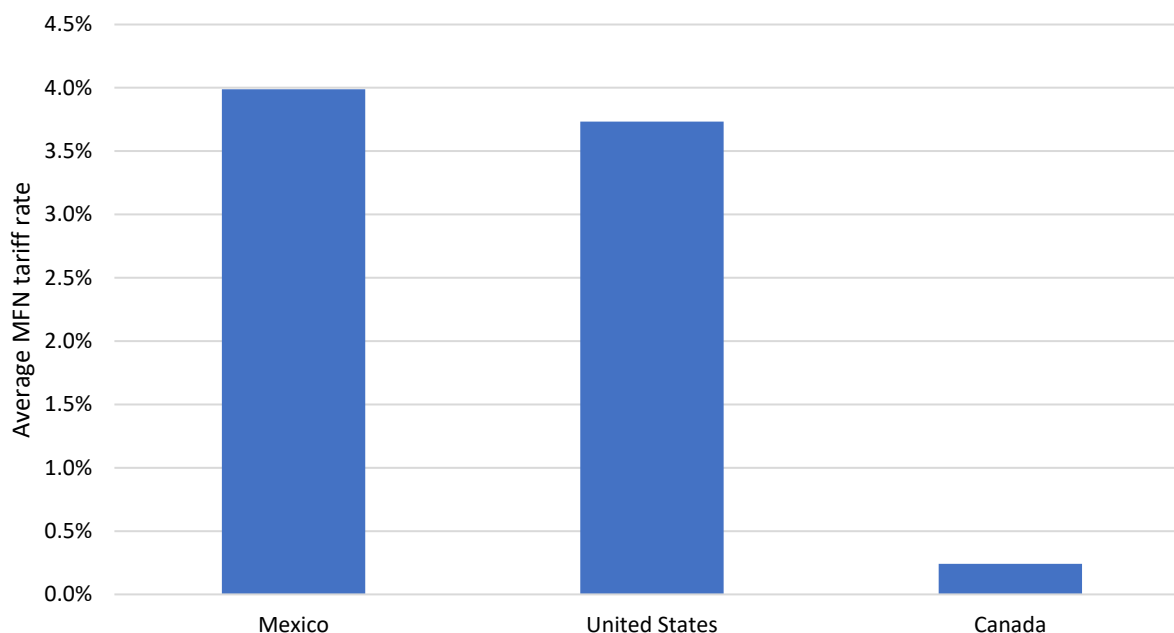
Source: USITC, *2022 Harmonized Tariff Schedule of the United States, Revision 2*, February 22, 2022; Government of Mexico, *Tariff Schedule of Mexico*, July 1, 2020; CBSA, *Customs Tariff 2021, Revision 6*, December 21, 2021; WTO, *Market Access: Unfinished Business - Post Uruguay Round Inventory and Issues*, 2001, 26; World Bank, WITS, "UNCTAD Classification of Goods by Stages of Processing - UNCTAD-SoP2: Intermediate Goods," accessed April 1, 2022.

Note: Tariff lines are identified at the HTS 8-digit level, chapters 1–97. The rate of the tariff line is counted as non-free non-ad valorem if it has a specific or compound MFN rate. The "intermediate inputs into industrial products" referred to in the table title are HS subheadings that fall within the list of multilateral trade negotiation industrial product categories as identified by the WTO and are classified as intermediate goods under UNCTAD's classification of goods by stage of processing.

⁴² Tariff lines are identified at the HTS 8-digit level, chapters 1–97. MFN tariff rates described in this paragraph are those from the 1,757 Mexican tariff lines and 2,115 U.S. tariff lines in table 1.2 with a non-free duty calculated on an ad valorem basis (i.e., tariff lines with a non-free duty calculated on a non-ad valorem basis and tariff lines with an MFN duty rate of free are excluded from shares discussed in this paragraph).

Figure 1.2 Average MFN tariff rate on intermediate inputs into industrial products, 2021

In percentages. Underlying data for this figure can be found in appendix H, table H.4.



Source: USITC, *2022 Harmonized Tariff Schedule of the United States, Revision 2*, February 22, 2022; Government of Mexico, *Tariff Schedule of Mexico*, July 1, 2020; CBSA, *Customs Tariff 2021, Revision 6*, December 21, 2021; WTO, *Market Access: Unfinished Business - Post Uruguay Round Inventory and Issues*, 2001, 26; World Bank, WITS, “UNCTAD Classification of Goods by Stages of Processing - UNCTAD-SoP2: Intermediate Goods,” accessed April 1, 2022.

Note: Figure excludes specific or compound tariff rates (i.e., the average MFN rate is taken from the free and non-free ad valorem tariff lines only). The “intermediate inputs into industrial products” referred to in the table title are HS subheadings covered in the list of multilateral trade negotiation industrial product categories as identified by the WTO and are classified as intermediate goods under UNCTAD’s classification of goods by stage of processing.

The U.S. FTZ program offers reduced costs and other financial benefits through duty cost savings. The relatively high share of tariff lines with an NTR rate of free, however, limits the benefits of the U.S. FTZ program largely to those firms and sectors that rely on raw materials comprising the relatively smaller share of tariff lines subject to non-free NTR rates. NTR duty rates on most raw materials for industrial products are relatively low, but rates on some raw materials and intermediate inputs are higher. As a result, the U.S. FTZ program has disparate effects on costs across these sectors as well as on firms depending on the raw materials and intermediate inputs used and applicable NTR tariff rates. In contrast, the free or near-free MFN tariff rates on almost all industrial inputs in Canada potentially make duty benefits under its FTZ-type programs less consequential, though relief from a value-added tax (VAT) might still present incentives to its participants. On the other hand, the relatively higher MFN tariff rates for industrial inputs and the VAT rate (known by its Spanish acronym, IVA) of 16 percent in Mexico make its various FTZ-type programs more attractive to manufacturers who are interested in setting up production operations in Mexico. Chapters 2 and 3 provide greater detail on the interplay between the three countries’ MFN tariff rates and other taxes and the usage of FTZ and FTZ-type programs in various sectors.

Trade and the U.S.-Mexico-Canada Agreement

An important context for the analyses of the FTZ and FTZ-type programs is the central position of the U.S. market in North American trade. Also important is the treatment of goods under the United States-Mexico-Canada Agreement (USMCA) and its predecessor, the North American Free Trade Agreement (NAFTA), specifically restrictions in the agreement related to duty exemption or duty drawback. The U.S. market is the largest destination for Canadian and Mexican exports of merchandise. In 2021, about 75 percent of Canadian exports and 84 percent of Mexican exports were destined for the United States. About 33 percent of U.S. exports went to Canada and Mexico combined during the same period. The economic importance of these export flows is further highlighted when compared to gross domestic product (GDP). Exports to the United States accounted for 19 percent of Canadian GDP and 24 percent of Mexican GDP, but exports to Canada and Mexico accounted for less than 3 percent of U.S. GDP (table 1.3). These trade flows suggest the U.S. market is key for firms located in any of the three USMCA countries.

Table 1.3 Export shares of goods from Canada, Mexico, and the United States to USMCA partners, 2017–21

In percentages, by share of total exports and ratio to GDP.

Trade flow	Metric	2017	2018	2019	2020	2021
U.S. exports to USMCA	Share of total exports	34.0	34.0	33.4	32.7	33.3
U.S. exports to USMCA	Ratio to GDP	2.7	2.8	2.6	2.2	2.6
Canadian exports to the United States	Share of total exports	75.8	75.0	75.3	73.3	75.4
Canadian exports to the United States	Ratio to GDP	19.4	19.7	19.5	17.6	19.1
Mexican exports to the United States	Share of total exports	79.8	76.4	84.8	86.4	83.8
Mexican exports to the United States	Ratio to GDP	28.4	27.9	22.8	23.9	24.0

Source: compiled by USITC staff.

The trade flow context is useful for understanding the benefits associated with the trade promotion programs that exist in North America. Duty exemption primarily benefits firms that are highly export oriented and that rely on imports of foreign goods that, if not for FTZs, would be dutiable or not free. Firms' decisions to invest in the North American market not only contribute to these trade flows but also are shaped in part by the trade promotion and incentive programs available within the broader trade framework negotiated under NAFTA, and subsequently the USMCA. However, certain duty exemption restrictions under the USMCA impose limitations on the duty savings for several sectors that use U.S. FTZs and FTZ-type programs in Canada and Mexico. The interactions between the USMCA and the U.S. FTZ program and FTZ-type programs in Canada and Mexico are discussed in chapters 2 and 3.

Domestic Tradeoffs

U.S. FTZs and FTZ-type programs are designed to reduce company production costs by lowering duty costs on inputs, which may lead some firms to increase their investment and production. However, by

allowing for duty reductions and exemptions on imported inputs, these programs may act as an incentive for FTZ producers to increase their sourcing of foreign inputs at the expense of domestic inputs. Similarly, all else being equal, firms that do not or cannot participate in FTZs and FTZ-type programs may find themselves at a cost disadvantage compared to those that are able to use FTZ-type programs to reduce their duty costs.⁴³ However, many U.S. firms choose not to use FTZs because they do not use inputs subject to duties or because of program limitations or logistical challenges in using the program. These tradeoffs and components of FTZs and FTZ-type programs are described in greater detail in chapters 2 and 3.

Competitiveness Framework

To assess the effects of current FTZ policies and practices in the United States, Canada, and Mexico on the cost-competitiveness of products of firms operating under these programs, the Commission used a competitiveness framework that considers several factors. These factors include the economic and regulatory environment in which firms compete, how firms use U.S. FTZs to reduce costs, and how cost savings from program use compare across the three countries. As described above, the cost-competitiveness analyses of these programs consider tariff rates paid by importing firms under MFN tariff rates or FTAs, in addition to other trade policies affecting FTZ use. Comparisons of the relative cost-competitiveness effects of U.S. FTZs with FTZ-type programs in Canada and Mexico also are focused on markets where firms in multiple countries participate. For most sectors, direct competition predominantly occurs in these three countries' domestic markets, particularly that of the United States.

Although this report covers the programs of all three countries, the competitiveness framework focuses on the competitiveness of products of firms operating in U.S. FTZs vis-à-vis firms operating in FTZ-type programs in Canada and Mexico. Participation in the U.S. FTZ program or similar programs in Canada and Mexico can reduce a firm's costs to acquire, process, and sell its goods. Such participation may enhance a firm's ability to improve its price competitiveness as a means of holding or gaining market share or return value to investors. If investment and production are greater than they would be otherwise, firms operating in FTZs may choose to retain or expand employment in facilities that participate in those programs.

Based on the above, the cost-competitiveness of U.S. firms is assessed using these broad questions:

1. What are the economic, policy, and regulatory factors that determine the use of FTZs and FTZ-type programs?
2. How do U.S. firms use the FTZ program to improve their cost-competitiveness?
3. How do cost-competitiveness effects of the U.S. FTZ program compare with those of similar programs in Canada and Mexico in sectors with potential for direct competition?

These questions are designed to help understand the effects specifically related to the use of these programs on investment, production, and employment. Drawing clear connections between observed changes in employment and use of these programs is challenging, however, because program use is one of many competitive factors that determine investment and production. For some firms, FTZ programs may provide certain benefits but are not necessarily major considerations in business and investment

⁴³ USITC, hearing transcript, May 17, 2022, 99, 116–117 (testimony of Charles Benoit, CPA).

decisions. Given the limited amount of publicly available data and information, the Commission has relied on the data collected through its survey to make such assessments.

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Chapter 2

FTZ-Related Policies, Practices, and Economic Activities

This chapter provides an overview of the current FTZ program in the United States and FTZ-type programs in Canada and Mexico. It describes special tariff treatments under these programs, as well as policies and practices that may affect the cost-competitiveness of goods produced by firms operating in U.S. FTZs. This chapter also provides information on economic activity related to these programs in the United States, Canada, and Mexico during 2016–21 to the extent such data are available. This covers the number of firms operating under these programs, related employment, leading sectors, inbound and outbound shipments, and foreign direct investment in FTZs.

This chapter includes four sections. The first section provides a summary, including an overview of major special tariff treatments—the central feature of these FTZ and FTZ-type programs. The second section focuses on the U.S. FTZ program, including a brief background, current policies and practices that govern U.S. FTZ operations and associated benefits and costs, other related U.S. trade programs and policies that may influence use of the U.S. FTZ program, and recent trends in FTZ-related economic activity. The third and fourth sections focus on the FTZ-type programs in Canada and Mexico, respectively, describing related policies, practices, and economic activity.

For the impact of these policies and practices on the cost-competitiveness of products of U.S. firms operating in U.S. FTZs, see chapter 3. See the glossary of key FTZ terms for definitions of terms used in this report.

Summary

U.S. FTZ program: Established in 1934 under the Foreign Trade Zones Act (the FTZ Act), U.S. FTZs are designated locations in the United States where companies can use special customs procedures for special tariff treatments and duty benefits as well as tax, logistical, and other cost savings.

Canada and Mexico do not have the same program, though each country has multiple FTZ-type programs that share similar features with U.S. FTZs.

FTZ-type programs in Canada: Among FTZ-type programs in Canada, the duty deferral program—consisting of the duties relief program, the duty drawback program, and the customs bonded warehouse program—offers firms special tariff treatments and various duty benefits. Two other programs, the Export Distribution Centre Program (EDCP) and the Exporters of Processing Services Program (EOPS), can be used for additional tax relief. These programs may be used separately or together.

FTZ-type programs in Mexico: The primary FTZ-type programs in Mexico include the Industria Manufacturera, Maquiladora y de Servicios de Exportación (the Program of Manufacturing Industry, Maquila and Export Services, also known by the Spanish acronym IMMEX), Los Programas de Promoción Sectorial (the Sectoral Promotion Programs, also known by the Spanish acronym PROSEC),

and regla octava (Rule 8). These programs offer various duty benefits, and may be used separately or together. Comprehensive certification schemes are available for additional tax relief, an important benefit for firms in Mexico. Other trade promotion programs are available in Mexico, such as several special customs regimes and the drawback program. Although these other programs may be important for certain users, in general, they are not as impactful as the IMMEX, PROSEC, and regla octava programs mentioned above.

The central features of U.S. FTZ and FTZ-type programs in Canada and Mexico are the special tariff treatments, principally duty deferral, duty exemption, duty reduction, and duty drawback. They are subject to specific regulations governing FTZ and FTZ-type operations in each of these three countries. Other trade programs and policies also affect the special tariff treatments available under these programs as well as their usage.

Duty deferral: The U.S. FTZ program offers a special tariff treatment that allows firms to bring imported merchandise into U.S. FTZs without completing the U.S. customs clearance process (referred to as “foreign-status merchandise”) and paying import duties. Because FTZs are considered outside the U.S. customs territory, firms can defer the clearance process and duty payment until the merchandise or products made from the merchandise are entered into the customs territory of the United States for the purpose of consumption (hereafter referred to as “entered/entry for consumption”). Duty payment on foreign-status merchandise can be deferred in U.S. FTZs without time restrictions.

Unlike the U.S. FTZ program, Canada and Mexico do not consider their FTZ-type programs operating outside of their customs territories. All Canadian and Mexican imports under their FTZ-type programs are required to go through each country’s respective customs clearance process. Firms participating in the primary duty deferral programs in Canada (the duties relief program) and Mexico (IMMEX) can defer duty payments on these imports, provided that the imports or goods made from these imports will be exported within a specified period. In general, firms can defer duties for up to four years (or five years in the case of imported spirits used to manufacture distilled spirits) under Canada’s duties relief program and 18 months under Mexico’s IMMEX. Duties become payable if this condition is no longer met, such as when the imports or goods made from these imports enter domestic commerce or are not exported within the allowed timeframe.

The customs bonded warehouse programs in the three countries also offer duty deferral treatment, though with a time limit. The U.S. customs bonded warehouse program, administered separately from the U.S. FTZ program, has a time limit of five years from the date of importation. The Canadian customs bonded warehouse program allows duty deferral for up to four years, and in the case of goods such as beer and wine, for up to five years. Mexico has several special customs regimes that resemble the customs bonded warehouse programs in the other two countries with varied time limits.

Duty exemption: The U.S. FTZ program allows an exemption from deferred duty payment if foreign-status merchandise or products made from it are exported from U.S. FTZs directly to foreign markets (hereafter referred to as “direct export shipment”). If foreign merchandise is destroyed in U.S. FTZs and the waste generated from destruction has no commercial value, the applicable duties may also be exempt. U.S. FTZ users may claim duty exemption benefits, regardless of how long the merchandise or goods made from it have been held in the zone. Duty exemption is not available for goods produced in U.S. FTZs and exported to Canada and Mexico, owing to the implementation of USMCA Article 2.5(3),

as discussed below. The duties relief program in Canada and IMMEX in Mexico offer similar benefits, though the same time restrictions apply as for duty deferral above.

If foreign-status merchandise or products made from it within U.S. FTZs are entered for consumption first before subsequent exportation (hereafter referred to as “indirect export shipment”), duty exemption is not applicable. U.S. FTZ users, however, may use the duty drawback program to seek the refund of duty payment, if eligible, as described below. Canada and Mexico have similar rules on indirect export shipments.

The customs bonded warehouse programs in the three countries also offer duty exemption treatment on direct export shipments, though with the same time limit as for duty deferral above. Duty exemption is also not applicable for indirect export shipments from the customs bonded warehouses.

Duty reduction: Under the U.S. FTZ program, firms can reduce duty payments on certain imported inputs used in producing finished goods that are entered for consumption. Duty reduction is only possible in the case of tariff inversion, where the duty rate for the finished goods is lower than the duty rates that would normally apply to the imported inputs, as illustrated in certain cases of kitting (see box 3.1). In the case of tariff inversion, firms can pay duties on eligible imported inputs based on the lower duty rate applicable to the finished good, thereby reducing their duty payments. The primary duty reduction programs in Mexico include PROSEC and regla octava. They offer preferential ad valorem tariff rates ranging from 0 percent to 10 percent on imported inputs in certain sectors, regardless of whether the finished goods are for exports or domestic consumption. By contrast, no FTZ-type programs in Canada provide firms with a duty reduction mechanism.

Duty drawback: The drawback program in the United States allows for the refund of certain U.S. duties, taxes, and fees that have been collected upon the importation of merchandise, if the merchandise is exported or incorporated into products that are eventually exported or destroyed. It is administered separately from the U.S. FTZ program, though U.S. FTZ users may use the drawback program in conjunction with the U.S. FTZ program. Canada and Mexico have their respective drawback programs. All drawback programs in these three countries have time restrictions: in general, firms must file the drawback claim within five years from the date of importation in the United States, four years in Canada (or five years for destroyed goods), and 12 months in Mexico. For exports to a USMCA party, the amount of drawback may not exceed the total customs duties paid to the USMCA country to which the goods are exported.

U.S. FTZs and FTZ-type programs in Canada and Mexico also provide tax, logistical, and other cost-saving benefits where applicable. Under the U.S. FTZ program, duty reduction, duty deferral, and duty exemption benefits are only available to authorized operations within designated FTZ locations, but without time limitations. Most of the FTZ-type programs in Canada and Mexico have time restrictions but impose few geographic restrictions. See table 2.1 below for a summary of these selected features.

Table 2.1 Selected features of FTZ, FTZ-type, and related programs in the United States, Canada, and Mexico

✓ = Yes, it is a central feature of the program; X = No, it is not a central feature of the program.

FTZ = Foreign Trade Zone; EDCP = the Export Distribution Centre Program; EOPS = the Exporters of Processing Services Program; IMMEX = the Industria Manufacturera, Maquiladora y de Servicio de Exportación (the Program of Manufacturing Industry, Maquila and Export Services); PROSEC = Los Programas de Promoción Sectorial (the Sectoral Promotion Programs).

Program	Country	Duty deferral	Duty exemption	Duty reduction	Duty drawback	Tax relief	Geographic restriction	Time restriction
FTZ Program	United States	✓	✓	✓	X	✓	✓	X
Drawback Program	United States	X	X	X	✓	✓	X	✓
Customs bonded warehouse	United States	✓	✓	X	X	✓	✓	✓
Duties relief program	Canada	✓	✓	X	X	✓	X	✓
Duty drawback program	Canada	X	X	X	✓	✓	X	✓
Customs bonded warehouse	Canada	✓	✓	X	X	✓	✓	✓
EDCP/EOPS	Canada	X	X	X	X	✓	X	✓
IMMEX	Mexico	✓	✓	X	X	✓	X	✓
PROSEC/ regla octava	Mexico	X	X	✓	X	X	X	X
Comprehensive certification scheme	Mexico	X	X	X	X	✓	X	✓
Special Customs Regimes	Mexico	✓	✓	X	X	✓	✓	✓
Drawback Program	Mexico	X	X	X	✓	✓	X	✓

Source: Compiled by USITC staff.

U.S. FTZ operations and the associated tariff benefits are impacted by other U.S. trade policies and practices. The drawback and bonded warehouse programs can be used in conjunction with or in place of the U.S. FTZ program to provide duty benefits. In addition to these programs, other U.S. trade policies and practices affect benefits derived from the U.S. FTZ program, in particular those that address tariff rates and duties owed on imports. These rates and duties may differ depending on shipment value (e.g., de minimis), source country (e.g., FTA partner) or other factors.

Warehousing and distribution operations in U.S. FTZs make up the majority of FTZ-participating firms; production operations account for the majority of FTZ employment. During 2016–21, the number of FTZ-participating firms hovered around 3,300. About 90 percent of these firms were engaged in warehousing and distribution operations. About 10 percent of these firms conducted production operations in U.S. FTZs, and they accounted for nearly 80 percent of total FTZ employment.

The vehicles and parts sector was the largest employer, followed by the nonelectrical machinery⁴⁴ and fuel sectors.

Foreign-owned firms are active users of the U.S. FTZ program; domestic sources accounted for the majority of inbound capital investment in recent years. About 36 percent of FTZ-producing firms have an ultimate owner or parent company outside the United States. Of \$267 billion in capital investment received by FTZ-producing firms during 2016–21, 26 percent was from foreign sources and the remaining 74 percent was from domestic sources. Nearly all foreign capital investment went to foreign-owned firms. On average, a foreign-owned firm producing in U.S. FTZs received higher capital investment than a domestic-owned firm.

Even with a notable drop in 2020 due to the COVID-19 pandemic, merchandise shipments by firms producing in U.S. FTZs, measured by value, grew from 2016 to 2021, led by the fuel sector as well as the vehicles and parts sector. During 2016–21, the value of inbound shipments, or admissions (including domestic- and foreign-status merchandise) into U.S. FTZs by firms producing in U.S. FTZs grew by 45 percent from \$326 billion in 2016 to \$472 billion in 2021. The value of outbound shipments (including shipments to U.S. domestic and foreign markets) from U.S. FTZs by these firms grew by 22 percent from \$448 billion in 2016 to \$535 billion in 2021. The fuel sector was by far the largest FTZ user, accounting for more than 60 percent of merchandise (inbound and outbound) shipments by value during this period. The vehicles and parts sector followed with nearly 20 percent. Although accounting for less than 5 percent, the nonelectrical machinery sector had the fastest growth rate, with the value of merchandise shipments more than doubling during this period.

Foreign-status admissions and exports accounted for a small share of U.S. FTZ production-related economic activity. During 2016–21, less than 25 percent of merchandise admitted into U.S. FTZs by firms producing in U.S. FTZs was in foreign status and the rest was in domestic status. Of outbound shipments by firms producing in U.S. FTZs during this period, only about 18 percent were destined for foreign markets (including direct and indirect export shipments) and the remaining 82 percent was for U.S. domestic consumption.

Among the FTZ-type programs in Canada, more firms used the duty drawback program and larger duty benefits were realized under the duties relief program. The near-free MFN tariff rates on almost all manufacturing inputs in Canada, however, has reduced the importance of its FTZ-type programs. The Canadian government implemented several rounds of unilateral reduction and elimination of tariff rates on manufacturing inputs in recent years. As a result, more than 99 percent of manufacturing inputs can be imported into Canada free of duties, which has reduced the demand for FTZ-type programs in Canada by manufacturing firms.

Various FTZ-type programs in Mexico and 13 FTAs with 50 countries provide manufacturing firms in Mexico ample options for duty, tax, logistical, and other cost-saving benefits. Mexico has relatively higher duty rates compared to Canada and the United States. Therefore, the duty benefits offered by various FTZ-type programs in Mexico create the possibility for greater duty cost savings for

⁴⁴ The nonelectrical machinery sector, as broadly defined in this report, includes firms producing a variety of goods, including appliances, construction equipment, oil drilling equipment, energy-generation equipment, and other industrial/machinery equipment. See appendix F for additional details on how sectors were defined for this report.

participating firms relative to firms in Canada and the United States. The ability to apply preferential tariff rates under 13 FTAs with 50 countries offer manufacturing firms in Mexico additional opportunities to explore duty, tax, and other benefits. IMMEX is the largest FTZ-type program in Mexico, with 5,191 establishments, employing 2.8 million workers in 2021.

NAFTA/USMCA places restrictions on the use of drawback and duty deferral programs (including the U.S. FTZ program and selected FTZ-type programs in Canada and Mexico) on exports to partner countries, though the three countries differ in their implementation mechanisms. NAFTA/USMCA requires goods that are produced under a duty deferral program and exported to other partner countries be treated as if withdrawn for domestic consumption, with customs duties assessed. NAFTA/USMCA also limits allowable duty drawback to no greater than the total customs duties paid to the USMCA country to which the goods are exported. The NAFTA/USMCA restrictions are not applicable to a good exported to another party country in the same condition as when imported into the territory of the party from which the good was exported, such as warehoused goods in FTZs. Each country differs in its implementation mechanism. The United States stipulates FTZ-related rules in *the U.S. NAFTA Implementation Act of 1993* and *the USMCA Implementation Act of 2020*. Canada specifies the practices in government regulations to meet the requirements. Mexico publishes no specific NAFTA/USMCA implementation documents other than to recognize its obligations under the agreement are binding upon ratification.

FTZ Program in the United States

Background

U.S. FTZs (also referred to as “zones”) are designated locations in the United States where companies can use special customs procedures and receive duty and tax benefits, as well as other savings. FTZs are considered outside the U.S. customs territory but remain in the jurisdiction of local, state, or federal governments. Upon CBP approval, foreign and domestic merchandise may be brought into zones or moved between zones for authorized operations, such as storage, exhibition, assembly, manufacturing, and processing.⁴⁵

Congress first authorized the U.S. FTZ program in 1934 under the Foreign-Trade Zones Act (the FTZ Act), with the primary purpose of encouraging and expediting foreign commerce. The original FTZ Act only allowed for the storing, packaging, and resorting of merchandise and did not allow for manufacturing in FTZs.⁴⁶ As described in the Senate report accompanying the bill for the original FTZ Act, the Act was intended to benefit firms in the “reexport trade” by offering advantages relative to the bonded warehouse program at that time, including that FTZs would be subject to less direct supervision by Customs officials. The report, referencing language in a 1918 report by the Tariff Commission to the Chairman of the Commerce Committee, noted the purpose of an FTZ was to alleviate the restrictions of customs duties on U.S. foreign trade—“not for domestic consumption, but for reexport to foreign markets and for conditioning or for combining with domestic products previous

⁴⁵ 19 U.S.C. §§ 81b–c; USDOC, ITA, “About FTZs,” accessed December 12, 2022.

⁴⁶ Foreign Trade Zones Act, Pub. L. No. 73-397, 48 Stat. 998 (1934) (codified at 19 U.S.C. §§ 81a–u). The chapeau to the FTZ Act stated that the act was to establish FTZs so as “to expedite and encourage foreign commerce.”

to export.”⁴⁷ According to remarks by former U.S. Representative from New York, Emanuel Celler, one of the original authors of the FTZ Act, FTZs were created to spur economic growth following the Great Depression. He viewed the legislation as a necessary remedy to declining trade.⁴⁸ According to one researcher, the FTZ Act’s drafters expected that the FTZ Act would boost foreign trade through U.S. FTZs. They anticipated it in turn would encourage domestic investment in new industries and reassembly businesses, and increase U.S. employment in FTZs that might otherwise be replaced by foreign labor overseas. In addition, they hoped the FTZ program would increase the exposure of U.S. companies to foreign markets, develop U.S. distribution points for global trade, and enhance the greater use and profits of the U.S. merchant marine.⁴⁹

Following passage of the FTZ Act, interest in the U.S. FTZ program was minimal for decades—by 1950, only six U.S. FTZs had been established.⁵⁰ The 1950 Boggs Amendment included the benefits of the original act and expanded duty deferral by removing the two-year limitation under the original act.⁵¹ The 1950 Boggs Amendment also expanded the scope of allowable activities to manufacturing and exhibition within zones, with the intention of expanding international trade.⁵² Per a congressional report accompanying the Boggs amendment, quoting the Secretary of Commerce, allowing “manufacturing in the zones is expected further to assist American business by enabling it to manufacture certain types of products for export under minimum cost conditions.”⁵³ Regulations issued by the FTZ Board in 1952 allowed for the creation of the special-purpose zone (now referred to as “subzones”) for use by one company for a limited purpose. These two developments encouraged zone use in the years that followed.⁵⁴ In 1973, the number of FTZs increased to 18,⁵⁵ but manufacturing operations within zones remained infrequent.⁵⁶ The 1980s saw a notable increase in use of the U.S. FTZ program: in 1983, 50 zone projects were active; by 1993, more than 122 zone projects were active.⁵⁷ This increase was potentially attributable to the increasing adoption of subzones and two regulatory changes at that time.⁵⁸ In 1980, the U.S. Department of Treasury amended its regulations to eliminate

⁴⁷ S. Rep. No. 73-905, at 2–3 (1934) (stating “The establishment of foreign-trade zones will liberate the transshipment trade from the burden and expenses {in bonded warehouses} now imposed upon it, and will do much to assist in building up the United States as a transshipment center.”); Kanellis, “Reining in the Foreign Trade Zones Board,” 1995, 611.

⁴⁸ 78 Cong. Rec. 9852-59 (1934); Kanellis, “Reining in the Foreign Trade Zones Board,” 1995, 611.

⁴⁹ Kanellis, “Reining in the Foreign Trade Zones Board,” 1995, 612.

⁵⁰ Kanellis, “Reining in the Foreign Trade Zones Board,” 1995, 615.

⁵¹ Pub. L. No. 81-566, § 1, 64 Stat. 246 (1950). A Senate report indicated that the duty deferral provision had not been used by importers because of the requirement to pay duties within two years. S. Rep. No. 81-1107, at 3–4 (1950).

⁵² Pub. L. No. 81-566, § 1, 64 Stat. 246 (1950); H.R. Rep. No. 81-957 (1949).

⁵³ H.R. Rep. No. 81-957 (1949).

⁵⁴ For a definition of a subzone see the glossary. Lane, “The Impact of Foreign Trade Zones in the United States,” 2022, 57–58; Pub. L. No. 81-566, 64 Stat. 246 (1950); 17 Fed. Reg. 5316 (June 11, 1952); Teifenbrun, “U.S. Foreign Trade Zones and Chinese Free Trade Zones,” 2015, 197.

⁵⁵ Kanellis, “Reining in the Foreign Trade Zones Board,” 1995, 617.

⁵⁶ Lane, “The Impact of Foreign Trade Zones in the United States,” 2022, 62.

⁵⁷ FTZ Board, 45th Annual Report, 1984, 2; FTZ Board, 55th Annual Report, 1994, 1. “Active zone projects” were a combined count of the active general-purpose zones and subzones in operation over the previous fiscal year.

⁵⁸ Kanellis, “Reining in the Foreign Trade Zones Board,” 1995, 617.

value added⁵⁹ from the dutiable value of zone products that entered for consumption and, thus, reduced the payable duty.⁶⁰ The 1984 amendment to the FTZ Act exempted merchandise held in zones for certain reasons or exported from zones from state and local ad valorem taxation.⁶¹ For the history of major legal and regulatory changes related to the U.S. FTZ program, see table 2.2.

Table 2.2 The history of major legal and regulatory changes related to the U.S. FTZ program

Year	Event
1934	Congress passed the FTZ Act and established the FTZ program and the FTZ Board.
1950	Congress passed the Boggs Amendment to the FTZ Act (Pub. L. No. 81-566, § 3, amending 19 U.S.C. 81c(a)) and allowed manufacturing and exhibition within FTZs.
1952	The FTZ Board revised its regulations to allow for the creation of special-purpose subzones (now referred to as “subzones”).
1980	The U.S. Department of the Treasury changed its regulations and eliminated value added from the dutiable value of zone products (only the value attributable to the foreign components would be dutiable).
1984	Congress again amended the FTZ Act, stipulating that imported tangible personal property (TPP) held in an FTZ or U.S.-produced TPP held in an FTZ for exportation is exempt from state and local ad valorem taxation (Pub. L. No. 98-573 § 231; 19 U.S.C. § 81o(e)).
1991	The FTZ Board revised its regulations, extending the radius from a port of entry where an FTZ may be located from 35 miles to either 60 miles or 90 minutes’ driving time, while adding more restrictions to subzone applications and activity.
2009	The FTZ Board adopted the option of designating and managing zones under the alternative site framework that provides greater flexibility, increased predictability for approval of zone sites, and shorter application processing times.
2012	The FTZ Board issued a comprehensive revision of its regulations concerning the authorization and regulation of FTZs and zone activity in the United States. The changes simplify many procedures, including streamlining the application process for subzones. The new rules improve access for U.S. manufacturing operations, safeguard against negative consequences from certain FTZ activities, and establish a definition of “production” (15 C.F.R. § 400.2(o)) that combines the definitions of “manufacturing” and “processing” defined in the 1991 regulations.

Source: Pub. L. No. 73-397, 48 Stat. 998 (1934); Pub. L. No. 81-566, 64 Stat. 246 (1950); Pub. L. No. 98-573, 98 Stat. 2948 (1984); 17 Fed. Reg. 5316 (June 11, 1952); 45 Fed. Reg. 17,976 (March 20, 1980) (“Treasury Decision 80-87”); 56 Fed. Reg. 50790 (October 8, 1991); 74 Fed. Reg. 1170 (January 12, 2009); 77 Fed. Reg. 12111, 12139 (February 28, 2012); Kanellis, “Reining in the Foreign Trade Zones Board,” 1995; Teifenbrun, “U.S. Foreign Trade Zones and Chinese Free Trade Zones,” 2015.

The FTZ program continued to grow through the 1990s into its present-day form. In 2021, there were 258 approved FTZs, 197 active FTZs, and 1,200 active FTZ operations, employing more than 480,000 people. All states have at least one zone (figure 2.1).⁶² Texas, Florida, California, and New York were the states with the most zones (34, 20, 17, and 14 zones, respectively).⁶³ Texas, California, and Louisiana

⁵⁹ Value added consists of a percentage of the value of zone processing/manufacturing costs, overhead, and profit. GAO, *Foreign Trade Zone Growth Primarily Benefits Users Who Import for Domestic Commerce*, March 2, 1984, 12.

⁶⁰ This decision amended language in 19 C.F.R. 146.48(e). 45 Fed. Reg. 17,976 (March 20, 1980) (often referred to as “Treasury Decision 80-87”).

⁶¹ Pub. L. No. 98-573, § 231(b)(1), 98 Stat. 2948, 2991 (1984) (codified at 19 U.S.C. § 81o(e)); Teifenbrun, “U.S. Foreign Trade Zones and Chinese Free Trade Zones,” 2015, 197.

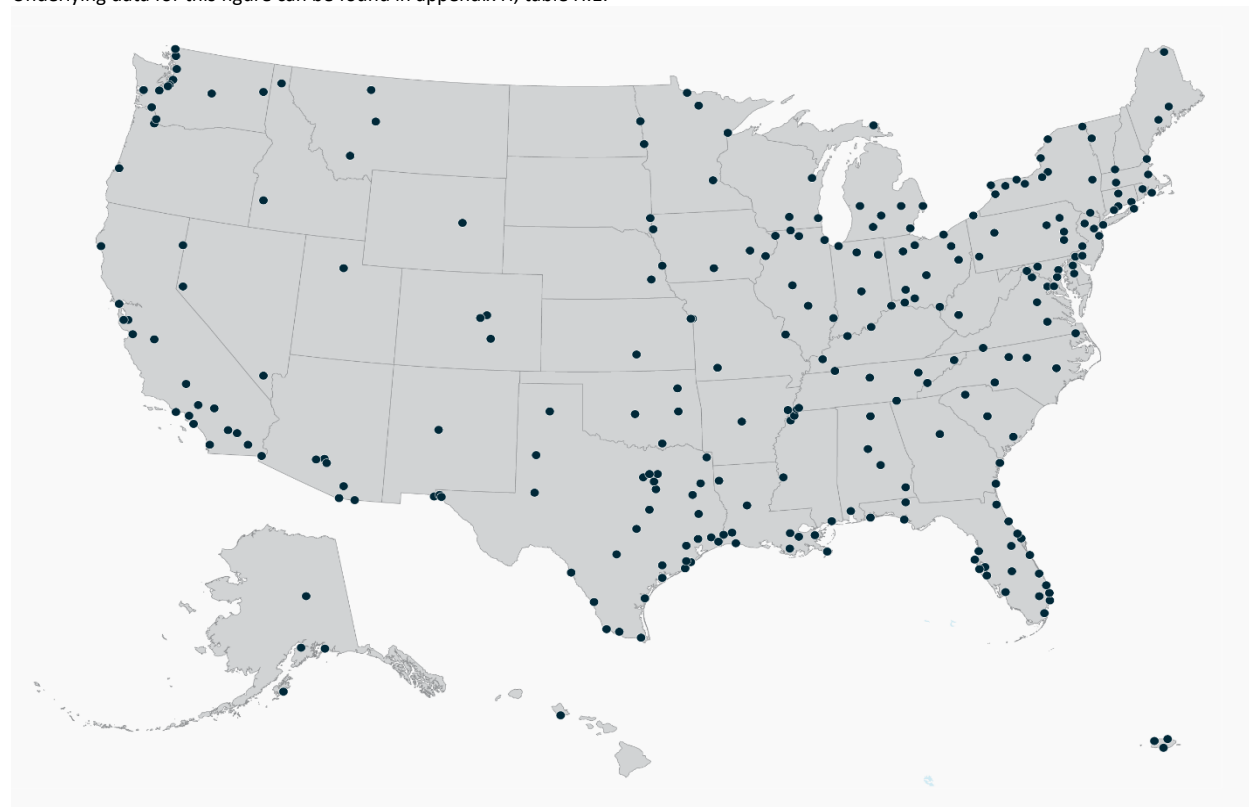
⁶² FTZ Board, *83rd Annual Report*, August 2022, 1; USDOC, ITA, “OFIS Database, Zone Information,” accessed October 18, 2022.

⁶³ USDOC, ITA, “OFIS Database, Zone Information,” accessed October 18, 2022.

received the largest amount of merchandise into FTZs by value; and Texas, Louisiana, and South Carolina exported the largest amount of merchandise from FTZs by value.⁶⁴

Figure 2.1 The approximate location of U.S. foreign trade zones (FTZs), 2023

Underlying data for this figure can be found in appendix H, table H.1.



Source: USDOC, ITA, "OFIS Database, Zone Information," accessed February 14, 2023.

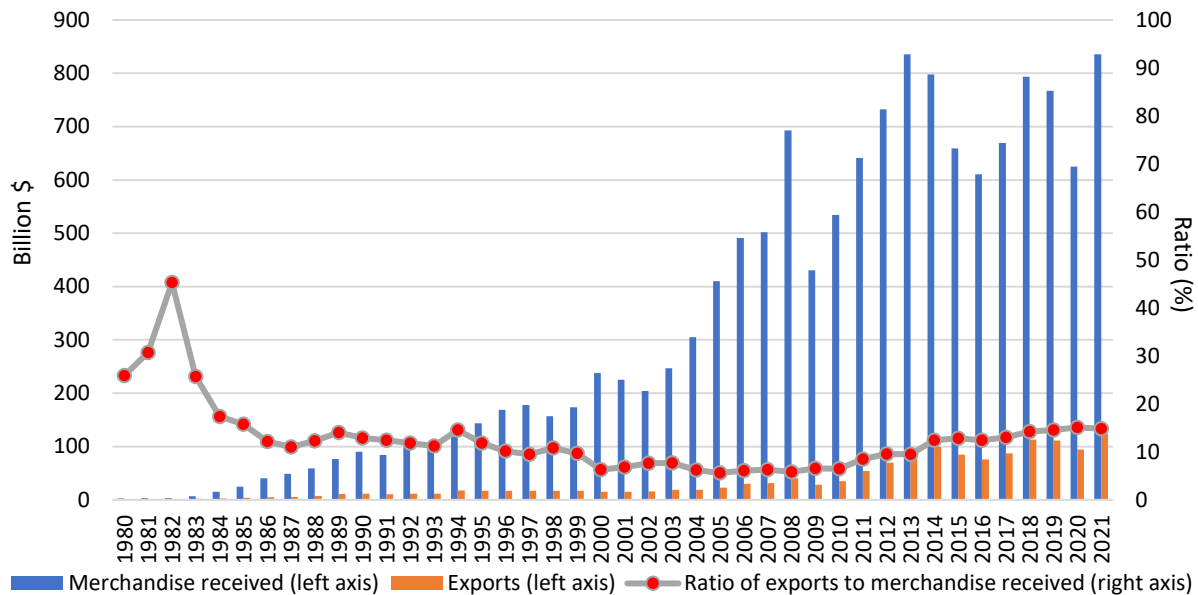
During the past 40 years, zone activities increased substantially, especially the value of merchandise received into FTZs. The value of merchandise exported from FTZs also grew, though at a slower pace, because the shipments destined for the U.S. domestic market outnumbered the export shipments (figure 2.2).⁶⁵ Despite the initial spikes in 1981 and 1982, the ratio of merchandise exported to merchandise received has generally declined, from 0.26 in 1980 to a low of 0.06 in 2005 before bouncing back to 0.15 in 2021. The overall low ratio suggests that only a small share of merchandise was exported directly from FTZs and the majority entered for consumption.

⁶⁴ FTZ Board, *83rd Annual Report*, August 2022, 10.

⁶⁵ USITC, *The Implications of Foreign Trade Zones for U.S. Industries and Competitive Conditions between U.S. and Foreign Firms*, February 1984, A-23.

Figure 2.2 Merchandise received into U.S. FTZs and exported from U.S. FTZs, 1980–2021

In billions of dollars (left axis) and percentages (right axis). Underlying data for this figure can be found in appendix H, table H.5.



Source: FTZ Board, *Annual Report of the Foreign-Trade Zones Board to the Congress*, various years.

Note: As reported in FTZ Board reports, merchandise received includes foreign- and domestic- origin merchandise admitted to the zone.

Export shipments from zones include merchandise that is manufactured within the zone, as well as products that have passed through the zone without substantial transformation.

Key FTZ Policies and Practices

This section highlights key policies that govern the establishment and conduct of FTZ operations, as well as the associated benefits and costs.⁶⁶

The FTZ Act prescribes FTZ-specific policies, administered under two sets of regulations. The first establishes the regulations of the FTZ Board, including the substantive and procedural rules for the Board's authorization of FTZs and regulations of zone activity.⁶⁷ The FTZ Board is a federal government entity created by the FTZ Act, housed in the International Trade Administration of the U.S. Department of Commerce, and chaired by the U.S. Secretary of Commerce, with the U.S. Secretary of the Treasury also serving on the board.⁶⁸ It has authority on a broad set of FTZ matters, such as prescribing rules and regulations concerning zones, approving new zones, subzones, and modifications to the original zone,

⁶⁶ While some benefits of FTZs are explicitly listed in U.S. regulations and code, other benefits are less explicitly expressed. The primary benefits of duty deferral and exemption, for example, stem from the fact that FTZs are not part of U.S. customs territory such that duties may be deferred on goods admitted to FTZs and duties are not owed for direct exports from FTZs. See 19 U.S.C. § 81c(a); 19 C.F.R. § 101.1; 19 C.F.R. § 146.67(a); USITC, Harmonized Tariff Schedule of the United States, General Notes 2, 11(b).

⁶⁷ 15 C.F.R. § 400 (regulations of the FTZ Board); CBP. In 2012, the FTZ Board revised its regulations to simplify and clarify FTZ use, ensure compliance with statutory requirements, improve access for U.S. manufacturing operations, and safeguard against negative consequences from certain FTZ activities. 77 Fed. Reg. 12111 (February 28, 2012).

⁶⁸ 19 U.S.C. § 81(a)(b); 15 C.F.R. §§ 400.1(a), 400.6(2)(d) & 400.6.

and authorizing certain manufacturing and processing activity in zones and subzones.⁶⁹ Under this authority, the FTZ Board may determine, as appropriate, whether zone activity is in the public interest or detrimental to the public interest, health, or safety.⁷⁰ The FTZ Board is required to take this as well as other related criteria, including potential employment impacts and effect on domestic industry, into consideration in its evaluation of the establishment of or modification to zones or subzones, or of its authorizations of certain types zone activity.⁷¹

The second set of regulations lays out the customs regulations governing FTZ activities, such as the procedure for zone activation and zone changes; the admission of merchandise to a zone; inventory control and recordkeeping requirements; manipulation, manufacture, or exhibition in a zone; exportation of merchandise from a zone; and transfer of merchandise from a zone into customs territory.⁷² CBP advises the FTZ Board on zone applications, makes decisions on zone activation requests, and provides direct supervision over zone activities through compliance reviews and visits. CBP is also responsible for legal interpretation and enforcement of related customs regulations and procedures.⁷³

Main Zone Participants

The main participants of the U.S. FTZ program include zone grantees, operators, and users. Zone grantees and FTZ participants such as operators and users, must comply with the requirements and follow the procedures stipulated in these regulations for conducting zone operations. A zone grantee is an organization that has received a grant of authority from the FTZ Board to establish, operate, and maintain an FTZ in its region.⁷⁴ Grantees may be either public entities (e.g., city, county, port authority) or private not-for-profit corporations organized for the purpose of establishing a zone project. A zone operator is a corporation, partnership, or person that operates a zone or subzone under the terms of an agreement with the zone grantee.⁷⁵ A zone operator has a broad set of responsibilities, including maintaining the zone, supervising the handling and movement of merchandise in the zone, maintaining the inventory control and recordkeeping system, among others.⁷⁶ The operator must be approved by

⁶⁹ 19 U.S.C. §§ 81h (authorizing FTZ Board to issue regulations to carry out act), 81b (authority to issue grants of authority for FTZ), 81f(b) (authority to modify grant of authority), 81c(a) (activities within FTZ exempt from customs law), and 81p(c) (requiring annual report to Congress). The FTZ Board evaluates the application for new zones (including subzones) as well as production authority and requests public comment on the application. The approval is granted on the basis of the FTZ Board's evaluation and with no objections received. 15 C.F.R. § 400.32(c)(2). The FTZ Board also has authority to restrict or prohibit zone operations and to determine whether zone activity is detrimental to the public interest, health, or safety. 15 C.F.R. §§ 400.3(a) & 400.5. Additional information on the role of the FTZ Board is contained in sections below as well as in chapter 3.

⁷⁰ 15 C.F.R. § 400.3(a)(2, 15) (approval of and modification to zones and subzones).

⁷¹ 15 C.F.R. § 400.26 (FTZ Board criteria for evaluation of applications for expansions, subzones or other modifications of zones) & 400.27(b) (economic factors considered by FTZ Board in evaluations of production authority).

⁷² 19 C.F.R. § 146; CBP, "About FTZs," accessed March 21, 2022.

⁷³ 19 C.F.R. § 146; CBP, "About Foreign-Trade Zones and Contact Info," accessed March 21, 2022; USDOC, ITA, "The U.S. Foreign-Trade Zone Program: Information for CBP," accessed October 12, 2022; Wong, "U.S. Foreign-Trade Zone (FTZ) Program," February 26, 2020, 1.

⁷⁴ 19 U.S.C. § 81a(h).

⁷⁵ 19 C.F.R. § 146.1(b).

⁷⁶ 19 C.F.R. § 146.4.

CBP and pay an FTZ operator bond.⁷⁷ In some zones, the grantee may also be the operator; other zones may have multiple operators. A zone user is a person or firm using a zone for storage, handling, or processing of merchandise under the terms of an agreement with the zone grantee or operator.⁷⁸ Zone users include zone producers as well as firms engaged in non-production activities such as warehousing. Users often own the merchandise handled by operators. A user may also be an operator that handles its own merchandise. See the glossary of key FTZ terms for definitions of FTZ grantee, operator, and users.

Setting Up Zone Operations

The FTZ Act requires zones to be located in or adjacent to CBP ports of entry (including air, land, and sea ports).⁷⁹ FTZ regulations define “adjacent” as being within 60 miles of, or 90 minutes’ drive from, the outer limits of a CBP port of entry.⁸⁰ To set up a new zone, an application must be submitted to the FTZ Board for a grant of authority to establish and operate a zone to serve a specifically defined geographic area. The FTZ Board evaluates the application and requests public comment on the application. On the basis of its evaluation, with no objections received, the FTZ Board may grant the applicant the authority to establish a zone. Upon the approval, the applicant becomes known as the zone grantee and is able to submit applications to the FTZ Board to designate zone sites or subzones for use by companies in the FTZ.⁸¹ Most firms undertake their FTZ activity in subzones, which are typically the sites established around planned or current operations that are outside the pre-established zone boundaries while still within the port of entry adjacency requirements.⁸² Using subzones allows firms flexibility in choosing the locations of their operations. It was estimated that more than 80 percent of FTZ activity occurs in subzone sites.⁸³

Two major types of business operations are conducted in FTZs: production operations and warehousing and distribution operations. Production operations involve either substantial transformation of a foreign article⁸⁴ or a change in condition, which results in a modification to the customs classification of the article or in its eligibility for entry for consumption.⁸⁵ Production operations could be traditional

⁷⁷ 19 C.F.R. § 113.13(b); 19 C.F.R. § 146.6(e); see also CBP, *Foreign-Trade Zones Manual*, 2011, 119–20; CBP, “Customs Directive 099 3510-004,” July 23, 1991.

⁷⁸ 19 C.F.R. § 146.1(b).

⁷⁹ 19 U.S.C. § 81b(a). Currently, CBP reported 328 air, land, and sea ports of entry throughout the United States. CBP, “At Ports of Entry,” accessed February 5, 2023.

⁸⁰ 15 C.F.R. § 400.11(b)(2)(i); USDOC, ITA, “Where Can A Zone Be Located?,” accessed April 28, 2022.

⁸¹ 15 C.F.R. § 400.32(c)(2).

⁸² Subzone sites outside the limit of 60 miles or 90 minutes may alternatively qualify to be considered adjacent, if CBP determines proper oversight measures are in place and CBP can adequately oversee the activity. 15 C.F.R. § 400.11(b)(2)(ii).

⁸³ NAFTA, *The U.S. Foreign-Trade Zones Program*, 2013, 6.

⁸⁴ Although it is rather common to use domestic-status inputs in FTZ production operations, only production with foreign-status inputs can benefit from special tariff treatments under the U.S. FTZ program and are subject to the FTZ regulations. In the event that an FTZ producer uses only domestic-status inputs in its zone production for an entire year, the FTZ Board ceases to collect information from its production operations.

⁸⁵ For the purpose of U.S. FTZ Board regulations, production means activity involving (1) the substantial transformation of a foreign article into a new and different article having a different name, character, and use or (2) a change in the condition of the article that results in a change in the customs classification of the article or in its eligibility for entry for consumption. 15 C.F.R. § 400.2(o).

manufacturing activities or kitting or assembly operations.⁸⁶ Firms must obtain production authority from the FTZ Board to set up production operation in a zone.⁸⁷ Granted on a firm- and product-specific basis, production authority allows firms to conduct production activity in a zone under FTZ procedures within the approved scope of authority. This granted authority is limited to the production of specific finished products with specific foreign components in a particular zone, as described in the request(s) approved by the FTZ Board.⁸⁸ Additional approval from the FTZ Board to expand the scope of production authority is required before firms can make new finished products or use new foreign-status components in active zone production.⁸⁹ Warehousing and distribution operations do not involve substantial transformation or modification to the customs classification of a foreign article.

Management of Merchandise in Zones

Management of merchandise in zones usually involves three stages of zone activities. These stages are (1) the admission of merchandise into a zone, (2) the handling and storage of merchandise in a zone, and (3) the transfer of merchandise from a zone. Specific policies and practices are stipulated to regulate each stage of zone operations.⁹⁰ Operators usually conduct these zone activities. Zone operators may also enter into agreements with zone users to undertake these activities within a zone, such as storage, handling, or manufacture of merchandise.⁹¹ For purposes of this report, however, we only refer to “operators” conducting these zone activities.

Figure 2.3 displays the movement of goods through the stages of U.S. FTZ operations, summarizing the central practices and procedures of the program. The figure is a simplified schematic showing the applicability of the program to a variety of shipment types, regardless of origin of the goods or their handling/manufacture within the zone. As explained in the next section, the duty benefits incurred at admission, entry, and export and their timing depend on the foreign/domestic status of the merchandise, the duty rates of this merchandise, and whether the merchandise has been substantially transformed.

⁸⁶ Kitting is the practice of putting components or materials in sets for retail sale. These sets are classified under the same tariff line as the primary component (generally a finished product) that gives the kit its essential character. These classification principles are outlined in USITC, Harmonized Tariff Schedule General Rules of Interpretation 3(b) Revision 12, 2021. Kitting is a frequent application of production authority. See “Notification of Proposed Production Activity; Bacardi USA, Inc,” 83 Fed. Reg. 34825 (July 23, 2018) and other *Federal Register* notices in the FTZ Board’s OFIS Database for examples. USDOC, ITA, “OFIS Database, Federal Register Notices,” accessed December 19, 2022. For more information on kitting, see box 3.1 in chapter 3.

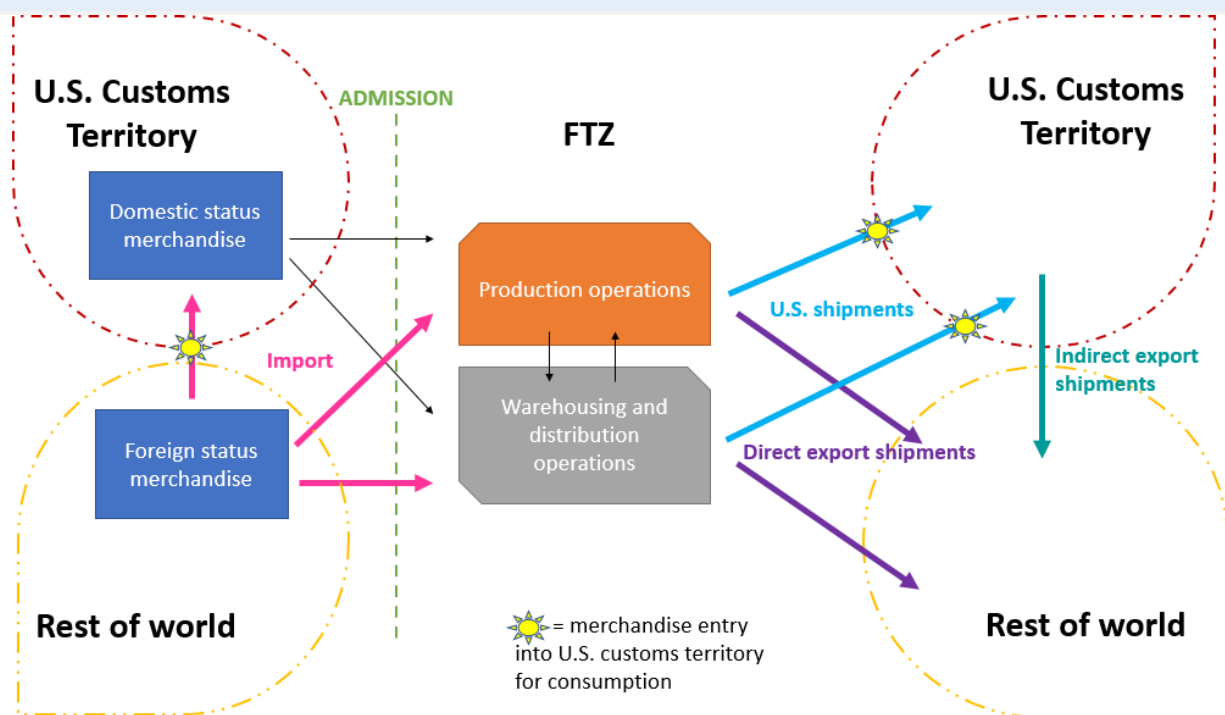
⁸⁷ 19 C.F.R. § 400.14(a).

⁸⁸ 19 C.F.R. §§ 400.14(b) & 400.34 (describing review procedures for grant of production authority).

⁸⁹ 19 C.F.R. § 400.14(d); USDOC, ITA, “FTZ Production Center,” accessed October 18, 2022.

⁹⁰ See 19 C.F.R. §§ 146.31–40 (admission of merchandise into a zone), 146.51–53 (handling of merchandise in a zone), and 146.61–71 (transfer of merchandise from a zone).

⁹¹ CBP, *Foreign-Trade Zones Manual*, 2011, 24–25.

Figure 2.3 Movement and designation of shipments through the U.S. FTZ program

Source: Compiled by USITC staff.

Note: Blue boxes with square borders represent the different types of products that may be admitted into a zone; opaque boxes with non-square borders represent types of operations within a zone; and arrows represent possible movement of shipments into, within, and out of U.S. FTZs.

Admission of Merchandise into Zones

With CBP's permission, any foreign or domestic merchandise, whether dutiable or not, may be admitted⁹² into a zone, unless prohibited by law (e.g., controlled substances).⁹³ The FTZ Board may also restrict or exclude the admission of certain merchandise into a zone if so required by other federal government regulations (e.g., explosives) or the FTZ Board determines the merchandise is detrimental to the public interest, health, or safety.⁹⁴ The normal zone admission process requires an operator to file, with respect to any foreign merchandise, an FTZ admission application with and receive a permit from CBP to admit its goods into a zone.⁹⁵ Alternatively, zone operators may be eligible to use the "direct delivery" procedure for admitting certain low-risk, repetitive shipments of foreign merchandise

⁹² The term "admit/admission" describes the process of bringing merchandise into a zone. 19 C.F.R. § 146.1(b).

⁹³ 19 C.F.R. §§ 146.31–32.

⁹⁴ 19 C.F.R. §§ 146.31(a) & 146.1(b) (defining "Prohibited Merchandise"); 15 C.F.R. §§ 400.3(a) & 400.5 (FTZ Board authority to restrict or prohibit zone operations and to determine whether zone activity is detrimental to the public interest, health or safety); CBP, "About FTZs," accessed March 21, 2022.

⁹⁵ Merchandise may be admitted into a zone using Customs Form 214—"Application for Foreign-Trade Zone Admission and/or Status Designation," and upon the issuance of a permit by CBP. Exceptions to the Customs Form 214 requirement are temporarily deposited merchandise, transiting merchandise, or domestic-status merchandise. 19 C.F.R. § 146.32. Except for domestic-status merchandise, all merchandise is required to be traceable to a Customs Form 214 and accompanying documentation. 19 C.F.R. §§ 146.22–23. For the detailed information on the customs procedure of merchandise admission, see CBP, *Foreign-Trade Zones Manual*, 2011, chapter 6.

without prior application and CBP approval.⁹⁶ In effect, the direct delivery procedure allows operators to admit foreign merchandise directly to the zone on weekends and after hours, with notification filed with Customs the next working day. This trims the delivery time of goods into the zone, which can provide logistical benefits, as described later in this chapter.⁹⁷

At the time of admission, the importer must choose a zone status for the merchandise admitted. For some merchandise, particular status is required. The status can be either domestic or one of the three foreign-status categories—privileged foreign status, non-privileged foreign, or zone restricted. This allows the CBP to trace and determine duty treatment when merchandise is entered for consumption or is exported.⁹⁸ For information on zone status and corresponding duty treatment, see box 2.1, below, as well as table 2.3 in “Entry for Consumption” for an illustrative example.

Box 2.1 Status of Merchandise in a Zone

Merchandise in a zone must be designated with either domestic or foreign status for the purpose of tracing its duty treatment.

Domestic status: Domestic status may be granted to merchandise that has been (i) produced in the U.S. and not exported therefrom or (ii) previously imported into Customs territory and properly released from Customs custody (19 C.F.R. § 146.1). Domestic status merchandise includes (i) domestic-origin items, which are grown, produced, or manufactured in the United States, with all internal revenue taxes having been paid, and (ii) foreign-origin items, which are previously imported and on which all applicable duty and tax have been paid, or (iii) foreign-origin items, which previously entered free of duty and tax (19 C.F.R. § 146.43 (a)). No application or permit is required to admit, handle, or transfer domestic-status merchandise, except when it is mixed or combined with merchandise in another zone status or by order of the Commissioner of Customs (19 C.F.R. § 146.43(b)).

Foreign status: Foreign status usually is granted to imported merchandise, normally of foreign origin, admitted to a zone site under CBP supervision without being subject to formal customs clearance procedures and duty payment, unless and until the foreign merchandise enters customs territory (19 C.F.R. § 146.1(b)). Foreign status is further broken down into three sub-categories—privileged foreign status, non-privileged foreign status, and zone-restricted status (19 C.F.R. § 146.41–42, 44).

Privileged foreign status (PF status): Foreign merchandise in this status is evaluated based on the time-of-admission condition, even if it may have undergone a transformation in the zone. Such merchandise is usually classified and appraised, with duties and taxes determined (but deferred) at the time it is admitted to the zone and the status is selected. PF-status merchandise maintains its status upon designation, retaining its country of origin, tariff classification, and tariff treatment when within the zone (19 C.F.R. § 146.41(e), CBP, *Foreign-Trade Zones Manual*, 116–17).

PF status is commonly required for goods subject to a tariff-rate quota or trade remedy tariffs (e.g., antidumping and countervailing duties, section 301 and 232 duties, etc.).^a It may also be selected if the

⁹⁶ 19 C.F.R. § 146.39.

⁹⁷ Eligibility is granted by CBP approval of an operator application outlining the merchandise to be handled or processed and the kind of operation it will undergo in the zone. 19 C.F.R. §§ 146.36 & 146.39–40; CBP, *Foreign-Trade Zones Manual*, 2011, 240; Griswold, “Practical Advice: US Foreign-Trade Zones,” accessed May 2, 2022.

⁹⁸ 19 C.F.R. §§ 146.41–44; CBP, “Form 214 - Application for FTZ Admission and/or Status Designation,” accessed February 8, 2023.

NTR duty rate for a material input is lower than the NTR duty rate for the good produced in an FTZ or if the good is on a list of sensitive products for which other domestic firms have expressed concerns to the FTZ Board (see the case study on upholstered furniture manufacturing in chapter 3 for more specific examples). Occasionally the FTZ Board will approve a firm's production authority with the caveat that certain foreign-status goods admitted to a zone must maintain PF status to assure these inputs will maintain their tariff classifications (see, e.g., Authorization of Production Activity, 81 Fed. Reg. 78773 (November 9, 2016)).

Non-privileged foreign status (NPF status): Foreign merchandise in this status is evaluated based on its condition at the time it is transferred from a zone and makes entry for consumption. At the time of entry, NPF-status inputs used in producing final goods in FTZs adopt the tariff classification and tariff treatment of the final product that is manufactured in the FTZ. (19 C.F.R. § 146.65(a)(2)).

Zone-restricted status (ZR status): Merchandise brought into a zone for the sole purpose of exportation, destruction (except destruction of distilled spirits, wines, and fermented malt liquors), or storage may be given ZR status. ZR status may be requested at any time the merchandise is located in a zone but cannot be abandoned once granted. It may not be entered for domestic consumption, except where the FTZ Board finds that entry would be in the public interest (19 C.F.R. § 146.44). Merchandise moved into zones for export under ZR status may be considered exported for purposes such as federal excise tax rebates and customs drawback (15 C.F.R. § 400.1(c)). Merchandise may be admitted from a bonded warehouse into a U.S. FTZ, but only under ZR status (19 C.F.R. §§ 146.11(d), 146.44(d), & 144.37(g)).

Source: 19 C.F.R. §§ 146.41–44; FTZ Board, *82nd Annual Report*, August 2021; CBP, *Foreign-Trade Zones Manual*, 2011, 116, 165; U.S. industry representative, interview by USITC staff, March 18, 2022.

^a As discussed further below, requiring that inputs subject to trade remedies be designated PF status was meant to prevent circumvention of such measures through manufacturing inside an FTZ.

Handling of Merchandise in Zones

Merchandise can undergo several types of activities, including assembling, exhibition, manufacturing, processing, storage, and destruction in zones.⁹⁹ However, retail trade is generally prohibited within zones.¹⁰⁰ The handling of merchandise in a zone must follow a set of rules that allows sufficient CBP supervision of goods within the zone. Zone operators are required to maintain inventory control and recordkeeping systems¹⁰¹ that account for all merchandise (domestic- and foreign-status) admitted or

⁹⁹ USDOC, ITA, “The U.S. Foreign-Trade Zone Program: Information for CBP,” accessed October 12, 2022. In addition, before merchandise undergoes any substantial transformation, destruction, exhibition, or is transferred from a zone, the operator must file Customs Form 216—“Application for Foreign-Trade Zone Activity Permit.” Contingent on the firm having an inventory control and record-keeping system that can allow it to audit merchandise through the zone operation, firms may be approved for a blanket application for a period of up to one year for a continuous or repetitive operation, rather than several separate applications for each new type of merchandise incorporated. 19 C.F.R. § 146.52. For the detailed CBP requirements on handling merchandise in FTZs, see CBP, *Foreign-Trade Zones Manual*, 2011, chapters 7–8.

¹⁰⁰ 19 U.S.C. § 81o(d).

¹⁰¹ Merchandise admitted to an FTZ is recorded in the inventory system using the zone lot number or unique identifier for traceability. 19 C.F.R. § 146.22.

temporarily deposited in a zone, and track its movements, as well as any related zone activities.¹⁰² Inventory tracking also includes maintaining the records on the scrap or waste generated in the zone.¹⁰³

FTZ sites and facilities are situated within the jurisdictions of local, state, and federal governments. Zone operations are subject to the requirements of obtaining the licenses or permits associated with merchandise handling within these jurisdictions, if applicable.¹⁰⁴ In addition, many products subject to an internal revenue tax—including alcoholic beverages, products containing alcoholic beverages except domestic denatured distilled spirits, perfumes containing alcohol, tobacco products, firearms, and sugar—may not be manufactured in a zone. The manufacture of clock and watch movements, as well, is not permitted in a zone.¹⁰⁵

Transfer of Merchandise from Zones

With a CBP permit, merchandise may be transferred¹⁰⁶ between zones or from a zone for warehousing, consumption, exportation, or transportation to another port for exportation.¹⁰⁷ Customs entry¹⁰⁸ is required to transfer zone merchandise from a zone for warehousing, consumption, as well as transportation and exportation.¹⁰⁹

Under so-called zone-to-zone transfer, merchandise may, if authorized, be transferred between different zones with the same or different operators in the same or different port without making entry

¹⁰² 19 C.F.R. §§ 146.21–23.

¹⁰³ Waste recovered from the manufacture or manipulation of privileged foreign status merchandise within a zone is designated as non-privileged foreign status merchandise. 19 C.F.R. § 146.42(b).

¹⁰⁴ 15 C.F.R. § 400.13(c); NAFTA, “FTZ Basics and Benefits,” accessed April 22, 2022.

¹⁰⁵ 19 U.S.C. § 81c(a)(2); CBP, *Foreign-Trade Zones Manual*, 2011, 167–68; CBP, “About Foreign Trade Zones and Contact Info,” accessed February 2, 2023. Note that certain provisions referenced in 19 U.S.C. § 81c(a)(2) have been superseded, such as paragraphs 367 or 368 of 19 U.S.C. § 1001 that describe watch and clock movements, respectively. See Tariff Act of 1930, chapter 497, Pub. L. No. 71-361, paras. 367–68, 46 Stat. 590 (1930). The FTZ Manual lists other products on which the FTZ Board had placed restrictions as of 2011, including on the manufacture or processing of certain products within zones, on the use of certain foreign status inputs in manufacturing within the zone, and on the status certain foreign status goods admitted to the zone may be assigned. In many of these cases, the FTZ Board has made these decisions under its authority to assess whether the proposed zone activities are in the public interest. CBP, *Foreign-Trade Zones Manual*, 2011, 167–72; 15 C.F.R. 400.3(a)(15).

¹⁰⁶ The term “transfer” means to “take merchandise with zone status from a zone for consumption, transportation, exportation, warehousing, cartage or lighterage, vessel supplies and equipment, admission to another zone, and like purposes.” 19 C.F.R. § 146.1(b).

¹⁰⁷ 19 C.F.R. §§ 146.61–71.

¹⁰⁸ Customs entry describes the general customs process of filing required documentation or data with CBP to secure the release of imported merchandise from CBP custody. Entry is also applied to the process of filing the required documentation or data with CBP to withdraw merchandise from a duty deferral program in the United States for exportation to Canada or Mexico, or for entry into a duty deferral program in Canada or Mexico. 19 C.F.R. § 141.0a.

¹⁰⁹ 19 C.F.R. § 146.62(a). For the detailed information on customs entry procedures and required documentation regarding transferring merchandise from a zone for warehousing, consumption, as well as transportation and exportation, see CBP, *The Foreign-Trade Zones Manual*, 2011, chapter 9.

and being subject to duty payment.¹¹⁰ Such transfers allow firms to have quick access to duty-deferred foreign inputs from their suppliers in a zone and maintain flexibility in their value chains.¹¹¹

Entry for Warehousing

Entry for warehousing means that goods are transferred from a zone to a bonded warehouse for storage or other activities (e.g., packing or unpacking) incidental before exportation.¹¹² Zone operators may transfer merchandise from an FTZ to a bonded warehouse with certain restrictions, unless it was imported more than five years before the warehouse entry was filed.¹¹³ ZR-status goods can be transferred to a bonded warehouse, but only for storage pending exportation, unless the FTZ Board has approved another disposition. These goods may be subsequently transferred to other bonded warehouses, but they retain their designation in ZR status and may not be withdrawn into U.S. customs territory for consumption.¹¹⁴ Zone operators may transfer NPF-status merchandise to a bonded warehouse. Once goods are placed in a bonded warehouse, they become subject to the associated regulations and may not remain there after five years from the date of importation of the merchandise.¹¹⁵ Zone operators are prohibited from transferring any PF-status merchandise or products containing PF-status inputs into bonded warehouses.¹¹⁶ For more information, see the U.S. bonded warehouse section of this chapter.

Entry for Consumption

Goods leaving a zone (excluding ZR-status goods) may be entered into the U.S. customs territory for consumption, but different rules apply according to their zone status.¹¹⁷ Domestic-status merchandise may return to U.S. commerce free of quota, duty, or taxes.¹¹⁸ Foreign-status merchandise or products manufactured in the zone with foreign-status inputs may also be entered for consumption, but only after cleared with Customs with applicable duties and fees paid.¹¹⁹ Merchandise in ZR status may not

¹¹⁰ 19 C.F.R. § 146.66.

¹¹¹ U.S. industry representative, interview with USITC staff, September 28, 2022; industry representatives, interview with USITC staff, April 29, 2022.

¹¹² Note that handling goods for warehousing or distribution in an FTZ is distinct from the U.S. Customs bonded warehouse program.

¹¹³ 19 C.F.R. § 146.64(a); CBP, *Foreign-Trade Zones Manual*, 2011, 127.

¹¹⁴ 19 C.F.R. §§ 146.64(b) & 146.70(c); CBP, “CROSS Ruling HQ 224147,” April 12, 1993; CBP, *Foreign-Trade Zone Manual*, 2011, 128.

¹¹⁵ 19 C.F.R. § 146.64(a), (d). For example, if NPF-status merchandise has been in a zone for three years and is transferred to a U.S. bonded warehouse, it can remain in the bonded warehouse facility for two years. CBP, *Foreign-Trade Zones Manual*, 2011, 127–28. In comparison with bonded warehouses, goods may remain in FTZs without a time limit.

¹¹⁶ 19 C.F.R. § 146.64(a); CBP, *Foreign-Trade Zones Manual*, 2011, 127.

¹¹⁷ To make entry for consumption, firms are required to file entry documentation such as an Entry Summary or a Form 7501 with CBP, with details about the shipments (e.g., value, classification, and country of origin). CBP uses this documentation to assess duties, collect statistics, and determine whether other legal requirements have been met. CBP, “Entry Summary,” accessed January 14, 2023. For more information on consumption entry filing procedure and required documentation, see CBP, *The Foreign-Trade Zones Manual*, 2011, 115–24.

¹¹⁸ 19 C.F.R. § 146.43.

¹¹⁹ 19 C.F.R. §§ 141.101–105; CBP, *Foreign-Trade Zones Manual*, 2011, 120.

be entered for consumption, except under special circumstances when a formal request is approved by the FTZ Board.¹²⁰

When foreign-status merchandise is admitted into an FTZ, duties are initially deferred. When foreign status merchandise or goods produced in FTZs with foreign-status inputs are entered for consumption, the foreign value content is subject to the applicable duties. For PF-status inputs, the original duty rates based on the classification of the product at the time of admission are applied, as are any applicable trade remedy duties or import quota restrictions.¹²¹ For NPF-status inputs, the duties are based on the duty rate for the finished product when entered for consumption.¹²² When the duty rate for the finished goods is lower than the duty rates for the NPF-status inputs, as in the situation of tariff inversion, FTZ producers can reduce or—where the duty rate on the finished good is free—eliminate duty payments on NPF-status inputs. Firms report this duty reduction as a major duty benefit offered by the U.S. FTZ program.

Table 2.3 provides an illustrative example of tariff treatment on inputs with different zone statuses, as well as duty reduction for NPF-status inputs in the case of tariff inversion. At the time of admission, the NTR tariff rates of NPF-status input 1, NPF-status input 2, and PF-status input 3 are 5 percent, 4 percent, and 8 percent, respectively. The total duties deferred and owed are \$222 (input 1: \$150; input 2: \$32; and input 3: \$40). The NTR duty rate of the final goods manufactured with these inputs is 2 percent, as listed in the bottom row of table 2.3, lower than the NTR rates of foreign inputs. This is the situation of tariff inversion. When the final goods manufactured with these inputs within a zone are entered for consumption, the NTR rate for the final goods at 2 percent is applied to NPF-status inputs instead of the initial NTR duty rates of 5 percent and 4 percent, and PF-status input 3 maintains the original NTR rate at 8 percent. As a result, the firm pays duties of \$60 instead of \$150 on NPF-status input 1, \$16 instead of \$32 on NPF-status input 2, and \$40 on PF-status input 3 with no reduction. In

¹²⁰ 19 C.F.R. §§ 146.43 & 146.63.

¹²¹ The requirement that inputs subject to trade remedy measures be designated PF-status emerged through appeals regarding AD/CVD orders in the early 1990s, when reviewing Courts found that the FTZ Act on its face exempted foreign merchandise subject to AD/CVD orders when incorporated into other merchandise in an FTZ prior to entry into the United States. See, e.g., *Torrington Co. v. United States*, 818 F. Supp. 1563, 1572 (Ct. Int'l Trade 1993). The FTZ Board subsequently amended its regulations to require that items subject to AD/CVD orders be placed in PF status to ensure that FTZ procedures did not allow circumvention of AD/CVD orders. 15 C.F.R. § 400.14(e); see also 56 Fed. Reg. 50790, 50797 (October 8, 1991) (amending regulations and explaining need to prevent circumvention of AD/CVD orders). Similarly, proclamations implementing measures under sections 201 or 301 of the Trade Act of 1974, and section 232 of the Trade Expansion Act of 1962, have required that items subject to such measures entered into FTZs be placed in PF status. See, e.g., Proclamation No. 9693, 83 Fed. Reg. 3541 (January 25, 2018) (application to solar safeguards measure); 83 Fed. Reg. 14906 (April 6, 2018) (application to China section 301 duties); Proclamation No. 9711, 83 Fed. Reg. 133361 (March 28, 2018) (application to section 232 tariffs on imports of steel). CBP, *Foreign-Trade Zones Manual*, 2011, 55–56; CBP, “CSMS# 18-000419,” July 6, 2018 (timing of assessment of Section 301 tariffs on products from China leaving FTZs).

¹²² If the zone product is made with several foreign-status inputs from multiple countries, the country of origin is assigned to the country that accounts for the highest value of foreign-status (including PF and NPF) components. The country of origin for the purpose of assessing customs duties differs from the country of origin for marking purposes, which is generally the United States for FTZ products. This FTZ country of origin practice may complicate the interpretation of the trade data derived from these entries. U.S. government representative, interview with USITC staff, May 19, 2022; CBP, *Foreign-Trade Zones Manual*, 2011, 117.

this tariff inversion situation, the firm realizes a total of \$106 duty reduction benefits by using the U.S. FTZ program. See chapter 3 for sector-specific examples of this benefit.¹²³

Table 2.3 Tariff treatment on final goods produced with inputs in different zone status when entered for consumption

In percentages and dollars. NTR = normal trade relations. N/A = not applicable.

Input/final product	NTR rate	Dutiable value	Duties owed/deferred	NTR rate applied when entered for consumption	Duty payable when entered for consumption	Duty reduction benefit
NPF-status input 1	5%	\$3,000	\$150	2%	\$60	-\$90
NPF-status input 2	4%	\$800	\$32	2%	\$16	-\$16
PF-status input 3	8%	\$500	\$40	8%	\$40	\$0
Domestic-status input 4	N/A	N/A	N/A	N/A	N/A	N/A
Final good	2%	\$4,300	\$222	2%	\$116	-\$106

Source: Compiled by USITC staff.

As noted above, FTZ operators generally file customs entry documentation for each shipment into consumption channels. FTZ operators, however, may be eligible to use the weekly entry filing program CBP implemented for repetitive, high-volume entries of low-risk products from FTZs.¹²⁴ Under the weekly entry, zone operators can file one entry form for all the estimated shipments at the beginning of a seven-day period, rather than a separate entry form for each individual shipment. This policy allows firms to save on merchandise processing fees, which would normally be assessed with each shipment withdrawn from the zone.¹²⁵ Some industry representatives reported that the weekly entry policy also results in a savings on broker fees that might be assessed on a per entry basis.¹²⁶

Transfer for Exportation

Merchandise in a zone may be (1) exported directly without being transferred into the customs territory (direct exportation);¹²⁷ (2) transferred into the customs territory and then directly exported from the port where the zone is located (immediate exportation);¹²⁸ or (3) transferred into the customs territory, transported to, and exported from a different port (transportation and exportation).¹²⁹ This report refers to these three aforementioned forms of exportation as “direct export shipments,” and refers to merchandise that entered for consumption before it is subsequently exported as “indirect

¹²³ See *Armco Steel Corp. v. Stans*, 431 F.2d 779, 785 (2d Cir. 1970) (interpreting 19 U.S.C. § 81c); CBP, “CROSS Ruling HQ 556976,” June 9, 1994 (citing *Armco* and interpreting 19 U.S.C. § 81c). For more information on PF and NPF status, see box 2.1 in this chapter.

¹²⁴ 19 U.S.C. § 1484(j) (outlining CBP authority to treat merchandise in multiple shipments as single entry); 19 C.F.R. § 146.63(c) (allowing weekly entry for merchandise from zone); FDA, “Weekly Entry Filing,” October 17, 2022.

¹²⁵ The amount of the merchandise processing fee (MPF) is 0.21 percent of the value of the merchandise for a formal entry or release. It is currently capped at \$538.40 per entry. A company not operating in a zone must pay an MPF for each individual entry and may pay additional customs broker transactional fees if those fees are assessed per entry. CBP, *Foreign-Trade Zones Manual*, 2011, 34; 19 U.S.C. § 58c(a)(9).

¹²⁶ Industry representatives, interview with USITC staff, April 29, 2022; NAFTAZ, “Fundamentals of Foreign-Trade Zones,” 2022, 20.

¹²⁷ 19 C.F.R. § 146.67(a).

¹²⁸ 19 C.F.R. § 146.67(b).

¹²⁹ 19 C.F.R. § 146.67(c).

export shipments.” Products entered for consumption follow entry procedures that require filing certain documentation, including an entry summary for consumption and duty assessment.¹³⁰ For direct exportation, no entry is required.¹³¹ For immediate exportation, as well as transportation and exportation, an entry process and bonded transportation are required.¹³² For these two forms of exportation, however, entry is not for consumption such that no duties are assessed.

Upon CBP approval, zone operators may use a weekly permit to enter and release zone merchandise for exportation or transportation and exportation. This policy allows zone operators to release the quantity of specific merchandise from a zone as estimated on the weekly permit without additional CBP approval procedure, leading to time and cost savings.¹³³

Firms producing in FTZs may use direct export shipments for most foreign markets. Two U.S. FTAs, NAFTA/USMCA and the U.S.-Chile FTA, however, require the United States to assess customs duties on imported goods used in production and subsequently exported from an FTZ to a partner country as if the exported good had been withdrawn for domestic consumption. As such, under the U.S. FTZ program, firms are required to use indirect export shipments for goods produced in FTZs and exported to those partner countries.¹³⁴ The same requirement does not apply to products merely warehoused in

¹³⁰ This report distinguishes between indirect and direct export shipments as those shipments that have “[made] customs entry (for consumption)” vs. those that have not before exportations. Shipments that are “transferred into” customs territory—which is the case for intermediate export and transportation and export shipments—are not entered for consumption. The Commission’s questionnaire defines “making customs entry (for consumption)” as filing an entry summary which includes documentation that enables CBP to assess duties. For merchandise in direct export shipments—transportation and exportation or immediate exportation, a deposit of duties is not required with bonded transportation, and an in-bond application requires the filing of a transportation entry and manifest (CBP Form 7512), instead of an entry summary (CBP Form 7501). 19 C.F.R. § 141.101(e) (exemption of deposit of duties for in-bond merchandise); 19 C.F.R. § 18.1 (requirements for in-bond application); CBP, *Foreign-Trade Zones Manual*, 2011, 97. See exports shipments section of this chapter and page 5 and 16 of questionnaire in appendix E for further details.

¹³¹ Direct exportation occurs when goods are laden directly onto an exporting carrier within a zone, and no cartage or transportation in-bond is required to deliver it to the carrier. CBP, *Foreign-Trade Zones Manual*, 2011, 137–8.

¹³² 19 C.F.R. § 146.67; See 19 C.F.R. § 18.1 for the requirements for an in-bond application. Entries for immediate exportation (type 63) and entries for transportation and exportation (type 62) are different from entries for consumption—type 06 entries, which are used to denote merchandise leaving an FTZ to be entered into U.S. customs territory for consumption. CBP, *Foreign-Trade Zones Manual*, 2011, 138; CBP “Entry Summary,” accessed January 14, 2023.

¹³³ 19 C.F.R. § 146.68. Unlike the weekly entry program, the weekly permit for exports and transportation is not associated with any CBP fee costs savings like the merchandise processing fee. For more information see CBP, *Foreign-Trade Zones Manual*, 2011, 141.

¹³⁴ USMCA, art. 2.5.3; United States-Mexico-Canada Agreement Implementation Act, Pub. L. No. 116–113, §§ 208 & 501, 134 Stat. 11, 67 (2020) (implementing USMCA provision into U.S. law and codified at 19 U.S.C. § 4534 and amending 19 U.S.C. § 81c(a)); USMCA Interim Final Rules, 86 Fed. Reg. 35566, 35576–77 (July 6, 2021) (to be codified at 19 C.F.R. part 182, subpart E); see also NAFTA Implementing Regulations, 19 C.F.R. § 181.53(a)(2)(i); U.S.-Chile FTA, art. 3.9(3); United States-Chile Free Trade Agreement Act, Pub. L. No. 108–77, § 203(b)(5), 117 Stat. 909, 929 (2003) (implementing FTA and amending 19 U.S.C. § 81c(a)); see also CBP, *Foreign-Trade Zones Manual*, 2011, 135–36.

or distributed from FTZs.¹³⁵ For more information on this requirement, see the “U.S. Free Trade Agreements” section below.

Benefits and Costs of Using the U.S. FTZ Program

Under the FTZ program participating firms can reduce their costs through multiple duty benefit, tax relief, streamlined customs processes, reduced customs fees, and other indirect benefits. To participate in the U.S. FTZ program and be eligible for those benefits, firms incur one-time upfront costs for applications and software and hardware to meet compliance requirements and recurring costs for maintaining and administering FTZ operations. These benefits and costs are summarized below.

Duty Benefits

The U.S. FTZ program allows firms to use special customs procedures for certain duty benefits, depending on the type of business operations involved, authority granted by the FTZ Board and CBP,¹³⁶ as well as the status of merchandise admitted into FTZs.¹³⁷ Potential duty benefits include duty deferral, duty exemption, and duty reduction. In addition, firms may use the drawback program in conjunction with the U.S. FTZ program for additional duty benefits (see the drawback section in this chapter for more information). As noted above, duty reduction is not applicable to zone merchandise admitted in PF status.¹³⁸ Firms operating in FTZs may benefit from exemption from import quota restrictions until subject goods are entered for consumption, if applicable.¹³⁹

Firms operating in FTZs are allowed to defer indefinitely the payments of customs duties on all foreign-status merchandise admitted into zones. Those payments become payable when that merchandise, or products made from it in a zone are entered for consumption.¹⁴⁰ Firms with production authority may also temporarily defer duties on production equipment admitted into a zone, as part of their capital investments in zone production operations, until the equipment is used in commercial production in the zone.¹⁴¹

If foreign-status merchandise, or products made from it are exported from a zone directly, firms are exempt from the customs clearance procedure and the associated duty payment.¹⁴² Firms are also exempt from paying applicable duties on foreign-status goods destroyed in zones if the waste generated from destruction has no commercial value.¹⁴³ Duty exemption is not applicable for FTZ exports of products manufactured in an FTZ to Canada, Mexico, and Chile because of the entry requirement stipulated in the USMCA and U.S.-Chile Free Trade Agreement. It is available for FTZ

¹³⁵ This requirement generally does not apply with respect to warehousing and distribution operations as Article 2.5(6) of USMCA provides that the article does not apply inter alia to goods exported to a partner country in the same condition as when imported.

¹³⁶ See discussion in “Setting Up Zone Operation,” in this chapter.

¹³⁷ See discussion in “Admission of Merchandise into Zones,” in this chapter.

¹³⁸ See discussion in “Entry for Consumption” section in this chapter.

¹³⁹ NAFTA, “FTZ Basics and Benefits,” accessed April 22, 2022; NAFTA, “Fundamentals of Foreign-Trade Zones,” 2022.

¹⁴⁰ 19 U.S.C. § 81c(a); NAFTA, “FTZ Basics and Benefits,” accessed April 22, 2022.

¹⁴¹ 19 U.S.C. § 81c(e)(1); NAFTA, “FTZ Basics and Benefits,” accessed April 22, 2022.

¹⁴² 19 U.S.C. § 81c(a); NAFTA, “FTZ Basics and Benefits,” accessed April 22, 2022.

¹⁴³ 19 U.S.C. § 81c(a); NAFTA, “FTZ Basics and Benefits,” accessed April 22, 2022.

exports to those countries if the goods exported are in the same condition as imported, for example, in the case of firms engaged in warehousing and distribution as opposed to manufacturing operations.

As mentioned earlier, FTZ producers may be able to reduce or eliminate the duties owed on eligible foreign inputs in the case of tariff inversion. Firms may pay the lower duty rates of final goods on NPF-status inputs when making the customs entry for consumption. If the duty rates for finished goods are zero, firms may eliminate payable duties on NPF-status inputs.¹⁴⁴

Most foreign-status merchandise admitted into zones is exempted from import quota restrictions until entered for consumption.¹⁴⁵ This feature, along with other features of U.S. FTZs (i.e., inventory tax exemption, lack of storage time limit), allows users to store or stage products within FTZs in anticipation of new quota-year openings, which are administered on a first-come first-served basis.¹⁴⁶

Tax, Logistical and Other Cost Saving Benefits

Merchandise admitted into an FTZ is subject to the same taxes and fees imposed on merchandise imported directly into U.S. customs territory. Some taxes and fees may be deferred while merchandise remains in FTZs, and some taxes are payable but may be refunded in part through drawback (see drawback section in this chapter for more details).¹⁴⁷

¹⁴⁴ 19 U.S.C. § 81c(a); NAFTA, “FTZ Basics and Benefits,” accessed April 22, 2022.

¹⁴⁵ 19 U.S.C. § 81c(a); USDOC, ITA, “About FTZs,” accessed December 12, 2022; NAFTA, “FTZ Basics and Benefits,” accessed April 22, 2022. In practice, sugar imports are one such exception to this quota benefit. The FTZ Board has limited the operations within zones to a specified annual volume of production and CBP restricts the volume of sugar-containing products to a specified amount. These limits were established under the public interest authority of 19 U.S.C. § 81o(c) to restrict the circumvention of the sugar quota. CBP, *Foreign-Trade Zones Manual*, 2011, 170–71. See, e.g., FTZ applications for production operations attempting to circumvent the sugar quota: 54 Fed. Reg. 42317 (September 26, 1989); and corresponding FTZ Board application rejections: 55 Fed. Reg. 20617 (May 18, 1990).

¹⁴⁶ NAFTA, “FTZ Basics and Benefits,” accessed April 22, 2022.

¹⁴⁷ Such taxes and fees include harbor maintenance taxes (HMT), certain internal revenue taxes, and merchandise processing fees (MPF). MPF can be deferred and is due at the same time the duties on the merchandise are deposited. HMT and certain internal revenue taxes (e.g., the oil spill liability tax and the Superfund tax imposed on crude oil and petroleum products) are both due on a quarterly basis regardless of whether a firm is receiving merchandise in an FTZ or in U.S. customs territory. 19 C.F.R. § 24.24(e)(2)(iii) (HMT payment in FTZs); CBP, CROSS Ruling HQ 229806, February 20, 2003; 26 U.S.C. § 32 (manufacturers excise taxes) & 38 (with the exception of Subchapter A) (environmental taxes) & 51 (taxes on distilled spirits, wine, and beer) & 52 (taxes on tobacco products, cigarette papers, and tubes); 19 U.S.C. § 58c(a)(9) (authority to impose merchandise processing fee); 19 C.F.R. § 141.101 (time of deposit of MPF for formal entries), 19 C.F.R. § 143.28 (time of deposit of MPF for informal entries); CBP, *Foreign-Trade Zones Manual*, 2011, 34; 26 U.S.C. §§ 4611(a)–(d) (oil spill liability tax and Superfund tax statute); Pub. L. 117-169, 136 Stat. 1818 Section 13601 (August 16, 2022) (reinstatement Superfund tax); CBP, “Drawback of Federal Excise Tax Paid on Petroleum Products - Revised Claim Documentation,” October 11, 2018; Treasury, IRS, “Petroleum Tax—Hazardous Substance Superfund Financing Rate Reinstated,” December 19, 2022.

Because of the 1984 FTZ Act Amendment, imported tangible personal property¹⁴⁸ stored or processed in an FTZ or U.S.-produced tangible personal property held in an FTZ for exportation are exempt from state and local ad valorem taxation (e.g., inventory taxes).¹⁴⁹ Several states, including Texas, Louisiana, and Kentucky, impose ad valorem tax on business inventory. This tax exemption provides an important source of savings for some FTZ participating firms.¹⁵⁰ See the chapter 3 case study on petroleum for more information. In certain states and territories, such as Arizona and Puerto Rico, other local tax benefits may be also available.¹⁵¹

Firms with FTZ operations may benefit from storing foreign status merchandise in zones and transferring that merchandise between zones, as well as other cost savings related to admitting, handling, and transferring foreign status merchandise. Specifically:

- The U.S. FTZ program does not impose a time limit on how long merchandise may be stored. Unlike U.S. bonded warehouses where goods can only be stored for up to five years, goods in a zone can be held indefinitely. This benefit can help operators increase their speed to market. For operators admitting merchandise that will be entered for consumption under a quota, for example, maintaining merchandise in FTZs allows them to be ready to admit that merchandise as soon as the new quota period starts. The absence of storage time limits in FTZs also allows operators to hold products that are awaiting approval from a U.S. federal agency for sale within the United States. This was the case with the U.S. Food and Drug Administration's approval of Pfizer's COVID vaccines in 2020 (for more information, see chapter 3 case study on pharmaceuticals).¹⁵²
- Zone operators may, subject to CBP approval, transfer zone goods between different zones or remove goods from the zone for up to 120 days for repair, restoration, or incidental operation

¹⁴⁸ Tangible personal property (TPP) is property that can be touched and moved, such as equipment, furniture, and other possessions. Many state and local governments impose ad valorem property taxes on TPP, including in the form of an inventory tax, the largest tax businesses pay at state and local level. Tax Foundation, "States Moving Away From Taxes on Tangible Personal Property," October 4, 2012; Fritts, "Does Your State Tax Business Inventory?," March 17, 2021.

¹⁴⁹ Pub. L. No. 98-573, § 231(b)(1), 98 Stat. 2948, 2991 (1984) (codified at 19 U.S.C. § 810(e)).

¹⁵⁰ 19 U.S.C. § 810(e). At the time of the 1984 amendment, most states that imposed an ad valorem tax on business inventory allowed exemptions from this tax for firms in FTZs. Texas was distinct in that its state constitution prohibited any such exemption from local taxes for this merchandise. This provision was added to allow FTZs within Texas to have similar tax benefits to those in other states. S. Rep. No. 98-308, at 36-37 (1983). See chapter 3 case study on petroleum for more information. NAFTAZ, "FTZ Basics and Benefits," accessed April 22, 2022.

¹⁵¹ NAFTAZ, "FTZ Basics and Benefits," accessed April 22, 2022. Under Arizona law, FTZ operators may access lower real and personal property tax rates than they would otherwise enjoy outside an FTZ in Arizona, for example. City of Phoenix, "Zone Schedule for Foreign-Trade Zone No. 75, Phoenix, Arizona," April 15, 2022, 5; City of Phoenix, Phoenix FTZ 75, "Guidelines for Tax Concurrence Letters," January 2023. Under Puerto Rico law, real property that is acquired or developed by a private company within an FTZ is exempt from taxation. Ley Núm. 159 de 2004 -Para enmendar el artículo 5.01 de la ley Núm. 83 de 1991: Ley de Contribución Municipal sobre la Propiedad de 1991, (Law no. 159 of 2004, amending Art. 5.01 of law no. 83 of 1991: Municipal Property Tax Law of 1991), June 24, 2004.

¹⁵² NAFTAZ, "Fundamentals of Foreign-Trade Zones," 2022.

without being taxed.¹⁵³ In addition, zone operators may use “direct delivery” for admission of merchandise into a zone and “weekly entry/weekly permit” for transferring merchandise from a zone¹⁵⁴ to reduce the associated administrative cost, time, and applicable merchandise processing fees.¹⁵⁵ In contrast, there are more restrictions on using a single form to encompass multiple entries when goods are imported directly into customs territory.¹⁵⁶

- Insurance rates may be lower for zone firms than for non-zone firms as a result of the strict CBP inventory control and security requirements for zone firms. In addition, given that cost of merchandise in a zone does not include customs duty of the product, the insurable value of the product is also reduced.¹⁵⁷

The potential benefits of the U.S. FTZ program are summarized in table 2.4 below.

Table 2.4 Summary of available benefits under the U.S. FTZ program

* = this benefit is not available to exports to USMCA partner countries.

Zone benefit	Claim Eligibility
Defer duties on foreign merchandise when in a zone (or transferred between zones)	All FTZ firms
Defer duties on foreign production equipment in a zone until used	Authorized FTZ producers
Direct delivery	All FTZ firms
Duty exemption for goods destroyed in a zone	All FTZ firms
Duty exemption for goods warehoused in a zone and directly re-exported from a zone, provided they do not change condition in the zone	All FTZ firms
Duty exemption for goods produced in a zone and directly exported from a zone*	Authorized FTZ producers
Duty reduction on eligible zone products entered for consumption	Authorized FTZ producers
Inventory tax exemption in certain states (TX, LA, KY)	All FTZ firms
Local tax exemption in certain jurisdictions (AZ, PR)	All FTZ firms
Lower administrative costs or MPFs using weekly entry or weekly permit	All FTZ firms
Lower insurance rates	All FTZ firms
No taxation on inter-zone transfers	All FTZ firms
No time limit on storage within a zone	All FTZ firms
Quota exemption while in a zone	All FTZ firms

Source: Compiled by USITC staff.

Cost of Using the FTZ Program

Participating in the U.S. FTZ program has one-time and recurring costs above and beyond those associated with manufacturing or warehousing in/importing directly into U.S. customs territory. One-time costs include application fees to the FTZ Board, application and activation processing fees to

¹⁵³ 19 C.F.R. § 146.66 (regulations on transferring merchandise between zones); CBP, *Foreign-Trade Zones Manual*, 2011, 112–13; CBP, HQ Letter 214189, August 31, 1982 (authorization of temporary removal from a zone for up to 120 days); Indianapolis Airport Authority, “Foreign Trade Zone Costs and Benefits,” April 21, 2022.

¹⁵⁴ For more information, see the section on admission of merchandise into zones for direct delivery, the section on entry for consumption for weekly entry, and the section on transfer for exportation for weekly permit. 19 C.F.R. §§ 146.63(c) & 146.68.

¹⁵⁵ 19 C.F.R. § 24.23 (merchandise processing fee); 19 C.F.R. §§ 146.63(c) (weekly entry) & 146.39–146.40 (direct delivery); CBP, *Foreign-Trade Zones Manual*, 2011, 34–36; Griswold, “Practical Advice: US Foreign-Trade Zones,” accessed May 2, 2022.

¹⁵⁶ 19 C.F.R. § 142.17.

¹⁵⁷ NAFTAZ, “Fundamentals of Foreign-Trade Zones,” 2022; Indianapolis Airport Authority, “Foreign Trade Zone Costs and Benefits,” April 21, 2022.

grantees, and up-front investment in software and hardware to meet FTZ compliance requirements (e.g., inventory management and tracking systems). Recurring costs include site annual fees payable to grantees, and dedicated administrative costs to FTZ operations. Occasionally, FTZ users incur additional one-time expenses if they make changes to their zones or zone operations.

Operators incur compliance costs to meet CBP requirements—in particular those associated with setting up and maintaining inventory control and recordkeeping systems.¹⁵⁸ According to industry representatives, meeting these requirements involves the purchase of complex inventory control software and potentially hiring additional staff or outside consultants to manage record keeping.¹⁵⁹ Additional compliance costs for instituting FTZ operations included security upgrades (e.g., camera installation and personnel security badging). These are required to maintain security of facilities in their designation as operating outside U.S. customs territory.¹⁶⁰

More than 92 percent of firms with production activities in U.S. FTZs incur fixed or recurring costs associated with U.S. FTZ compliance, operations, or setup. Almost 90 percent of these firms considered cost savings associated with operating a U.S. FTZ to outweigh those costs.¹⁶¹ Industry representatives noted that there are also many firms for whom the costs of operating within an FTZ outweigh the associated cost savings and ultimately decide against using FTZs for their production or warehousing operations.¹⁶² Among these firms, the labor and software costs associated with the inventory management controls and the additional costs for installing the security required in FTZs are often the deciding factor, especially for smaller firms and firms that import too little to benefit from the program.¹⁶³ Costs associated with establishing and conducting zone operations are outlined in table 2.5, below.

¹⁵⁸ 19 C.F.R. §§ 146.21–26 (regulations concerning inventory control and record keeping systems within FTZs).

¹⁵⁹ Industry representatives, interviews by USITC staff, June 16 and 17, 2022. Some firms report that their inventory transactions in FTZs must be reconciled on a daily basis, which can be an extremely time-intensive undertaking. Industry representative, interview by USITC staff, September 27, 2022.

¹⁶⁰ CBP, *Physical Security Standards for CBP Bonded Facilities*, February 1, 2016. Annual software costs can run over \$190,000 annually according to responses from the USITC survey of firms producing in FTZs. USITC, *Foreign Trade Zones Questionnaire*, narrative responses, question 3.3.

¹⁶¹ This does not distinguish between the degrees to which cost savings outweigh fixed costs (slightly, moderately, or largely). USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.3.

¹⁶² Many firms that consider FTZ use may, after discussions with consultants and grantees and internal cost-benefit analysis, decide that their supply chain and the origin of their shipments and the corresponding tariff levels are such that the FTZ program would not produce sufficient savings for their business. Industry representative, interviews by USITC staff, January 9 and 6, 2023.

¹⁶³ Industry representative, interviews by USITC staff, January 9, 10, and 11, 2023. Industry representatives also noted factors like the expiration of a contract or a change in the applied tariff rates as other reasons firm may opt out of their existing FTZ operations. Industry representative, interviews by USITC staff, January 6 and 11, 2023.

Table 2.5 Mandatory costs associated with FTZ compliance incurred by all FTZ firms

Cost of zone operations	How often incurred by firms in zones	Amount
Application fee to the FTZ Board for new zone, subzone, or expansion	One-time	\$0–\$6,500
New site/subzone application processing fee	One-time	Varies, \$2,000–\$10,000+
Site activation processing fee	One-time	Varies, \$2,500–\$4,000
Production notification/application processing fee	One-time	Varies, \$2,500–\$4,000
Active site annual fee	Recurring	Varies by zone, \$2,500–\$6,500
Inactive site annual fee	Recurring	Around \$2,500
Alternation processing fee	One-time	Varies, \$1,000–\$2,500
FTZ operator bond to CBP	Recurring	\$50,000+
Inventory management software	One-time/recurring	Varies
Security cameras, fencing	One-time	Varies
Human resources to manage FTZ operations	Recurring	Varies
Security staff	Recurring	Varies

Source: Compiled by USITC staff.

Note: Costs listed are those that would be incurred in excess of costs incurred by non-FTZ U.S. importers. The application fee to the FTZ Board for a new zone, subzone, or expansion is payable at the time of application submission to the FTZ Board. No fee is associated with a notification or application for zone production authority, but the operator will declare in the zone/subzone application if production activities are planned to take place there. 15 C.F.R. § 400.29; U.S. government representative, interview by USITC staff, October 6, 2022. Sometimes grantee fees for an active site are charged on a monthly basis or according to the amount of square feet an operator occupies. INzone, “Zone Schedule Foreign-Trade Zone #72,” October 23, 2018. The FTZ operator bond amount does not include the cost of a continuous entry bond, which non-FTZ importers may apply for as well. The minimum amount for both the FTZ operator bond and a continuous entry bond is \$50,000 annually. CBP, *Foreign-Trade Zones Manual*, 2011, 119–20; CBP, “Customs Directive 099 3510-004,” July 23, 1991. Human resources to manage FTZ operations could be internal employees or external consultants.

FTZ-Related Trade Policies and Practices

FTZ operations and the associated special tariff treatments are influenced by policies and practices under other U.S. programs. The drawback program can be used in conjunction with the U.S. FTZ program and expand the duty benefits. NAFTA/USMCA stipulates specific limitations on duty drawback on goods produced in FTZs and exported to partner countries. A CBP ruling from 2018 limits the availability of duty exemption benefits under the de minimis threshold for FTZ operations. See each program below for more information.

Selected Trade Promotion Programs

The FTZ program is one of several programs available to those seeking duty benefits in the United States. The bonded warehouse and duty drawback programs administered by Customs provide some benefits overlapping with those available from the U.S. FTZ program. These programs may be used in concert with the FTZ program, if desired, providing firms with additional options to manage merchandise and opportunities to accrue duty savings.

Bonded Warehouses

The bonded warehouse program administered by Customs, established under the Tariff Act of 1930, may be used in place of or in conjunction with the U.S. FTZ program for firms seeking duty deferral or

exemption.¹⁶⁴ It allows for the storage, manipulation, or manufacture of admitted foreign merchandise with duty deferred for up to five years from the date of importation.¹⁶⁵ Unlike the FTZ program, domestic merchandise (including merchandise that was previously imported and cleared through Customs) is generally not permitted in bonded warehouses.¹⁶⁶ Once products are admitted, the warehouse operator is liable for merchandise under a warehouse bond until products are exported, used to supply a ship or aircraft, destroyed, or withdrawn for U.S. consumption.¹⁶⁷ Duties become payable when goods are withdrawn from a bonded warehouse for consumption. Duties are exempt when exported directly from a bonded warehouse or destroyed under Customs supervision.¹⁶⁸ Firms may use the bonded warehouse program in conjunction with the U.S. FTZ program, with certain restrictions applied. See the “Admission of Merchandise into Zones” and “Entry for Warehousing” sections of this chapter for related discussions.

Drawback

Drawback is a program administered by Customs that allows for the refund of certain U.S. duties, taxes, and fees that have been paid upon entry of merchandise, if the merchandise is exported or incorporated into products that are eventually exported.¹⁶⁹ The drawback program is an alternative to the FTZ program for firms seeking duty benefits or may be used in conjunction with the FTZ program. Compared to the U.S. FTZ program, the U.S. drawback program has the upside of fewer up-front costs to meet compliance requirements and the downside of up-front duty payment, even if it may later be refunded. Firms may also use the drawback program in conjunction with the FTZ program to recover duties paid on foreign merchandise admitted into an FTZ and subsequently exported.

The U.S. drawback laws have been revised and modernized numerous times.¹⁷⁰ Several types of drawback are authorized, some of which can be used by firms operating in U.S. Customs territory. Others can be used by firms operating in U.S. FTZs. Among the most common types are:

¹⁶⁴ Pub. L. No. 71-361, § 555, 40 Stat. 590, 743 (1930) (codified at 19 U.S.C. § 1555). The regulations covering the operation of bonded warehouses are found at 19 C.F.R. § 19.

¹⁶⁵ 19 U.S.C. § 1555(a) (describing activities permitted in bonded warehouses); 19 C.F.R. § 19.1 (defining classes of bonded warehouse and associated activities); 19 U.S.C. § 1557(a) (bonded warehouse time limits).

¹⁶⁶ 19 U.S.C. § 1557(a); CBP, *Bonded Warehouse Manual*, January 2012, 39.

¹⁶⁷ 19 C.F.R. § 19.6(a). See also CBP, *Bonded Warehouse Manual*, January 2012, 23–25 (detailing additional proprietor obligations).

¹⁶⁸ 19 U.S.C. § 1557. Certain classes of bonded warehouses allow for manufacturing to occur. However, one government representative estimated that only around 10 percent of merchandise held in U.S. bonded warehouses was involved in production activities. This representative approximated the number of active bonded warehouses in 2022 to be about 1,800. Typically, around 70 percent of foreign merchandise held in these warehouses makes entry for consumption, and the rest is for export. 19 C.F.R. § 19.1; U.S. government representative, interview by USITC staff, August 1, 2022.

¹⁶⁹ 19 U.S.C. § 1313; CBP, “Drawback - A Refund for Certain Exports,” July 2013, 1.

¹⁷⁰ See 19 U.S.C. § 1313. Significant changes to this provision were recently made in the Trade Facilitation and Trade Enforcement Act of 2015, Pub. L. No. 114-125, § 906, 130 Stat. 122, 226 (2016) (TFTEA) and its implementing regulations in 2018, which generally liberalized standards for substituting merchandise, eased documentation requirements, extended and standardized timelines for filing claims, and required electronic filing. See 83 Fed. Reg. 64942 (December 18, 2018) (amending regulations at 19 C.F.R. pts. 181, 190 (including appendices), and 191 to comply with TFTEA).

- *Manufacturing drawback*: Allows for drawback on certain duties, taxes, and fees imposed on the imported parts and materials used to manufacture articles in the United States, provided those articles are subsequently exported or destroyed.¹⁷¹
- *Unused merchandise drawback*: Allows for drawback on certain duties, taxes, or fees paid on imported merchandise that is unused before its exportation or destruction.¹⁷²

Under modernized drawback procedures, firms are also permitted to seek both manufacturing and unused merchandise drawback on exported merchandise that is classified under the same HTS 8-digit or, in some cases, 10-digit level as merchandise the firm has imported, a practice known as “substitution.”¹⁷³ For the types of drawback listed above, firms are refunded no more than 99 percent of the eligible duties, taxes, and fees paid.¹⁷⁴ For all types of drawback, any antidumping and countervailing duties are not eligible to seek refunds.¹⁷⁵ Currently, the duties on steel and aluminum imposed under section 232 of the Trade Expansion Act of 1962 are not eligible for drawback, while duties imposed on products currently covered under sections 201 or 301 of the Trade Act of 1974 are eligible for drawback.¹⁷⁶

In general, a drawback claim has to be filed within five years from the importation of the eligible duty-paid merchandise.¹⁷⁷ Some industry representatives complained about the extended processing time of drawback refunds by CBP and the burdensome nature of filing a U.S. drawback claim.¹⁷⁸

For the purposes of drawback claims involving goods admitted into U.S. FTZs and subsequently entered for consumption, manufacturing in a zone is considered manufacturing in the United States.¹⁷⁹ Therefore, firms producing goods in a zone (the same as firms producing goods with the U.S. customs

¹⁷¹ 19 U.S.C. § 1313(a); 19 C.F.R. § 190 Subpart B.

¹⁷² 19 U.S.C. § 1313 (j)(1); 19 C.F.R. § 190 Subpart C.

¹⁷³ 19 U.S.C. §§ 1313(b) (substitution in manufacturing drawback) & 1313(j)(2) (substitution in unused merchandise drawback). However, products exported to USMCA partner countries or Chile are ineligible to seek substitution in unused merchandise drawback. 19 U.S.C. § 1313(j)(4). Before TFTEA was enacted, this substitution practice was not available for all products for these types of drawback—firms in some sectors report that changing the statute to allow for this practice has driven increased use of the drawback program and had large implications on firms’ duty savings. See box 3.2 for more information.

¹⁷⁴ 19 U.S.C. §§ 1313 (a)–(c) and (j)(1). Refunds are calculated as the lesser of the amount of duties, taxes, and fees paid (1) with respect to the imported merchandise, or (2) that would apply to the substituted merchandise if the substituted merchandise were imported (if merchandise is being substituted). 19 C.F.R. § 190.22(a)(ii).

¹⁷⁵ 19 U.S.C. § 1677h (indicating antidumping and countervailing duties are not eligible for drawback).

¹⁷⁶ Proclamation No. 9739, 83 Fed. Reg. 20677 (May 7, 2018) (proclaiming section 232 duties on imports of aluminum ineligible for duty drawback); Proclamation No. 9740, 83 Fed. Reg. 20683 (May 7, 2018) (proclaiming section 232 duties on imports of steel ineligible for duty drawback); CBP, “Drawback: Trade Remedies Frequently Asked Questions (FAQs),” December 9, 2020; CBP, “CSMS# 18-000419” July 3, 2018; CBP, “CSMS# 19-000050,” February 8, 2019 (indicating that duties imposed under current section 201 or 301 trade remedies are eligible for duty drawback).

¹⁷⁷ 19 C.F.R. §§ 190.27, 190.31(b), and 190.42(a).

¹⁷⁸ USITC, hearing transcript, May 17, 2022, 44–45 (Christopher Carney, FDP Brakes); U.S. industry representative, interview by USITC staff, October 4, 2022. These complaints were specific to non-FTZ-related drawback, but other firms complained about processing delays and the burdensome nature of filing drawback on merchandise entered into U.S. customs territory from FTZs, as well. USITC, hearing transcript, May 17, 2022, 64 (Dean Wood, BorderWorx); U.S. industry representative, interview by USITC staff, July 28, 2022.

¹⁷⁹ C.S.D. 81-44; CBP, *Foreign-Trade Zones Manual*, 2011, 152.

territory) may seek drawback on up to 99 percent of the value of duties and taxes paid, provided they are in compliance with the relevant regulations.¹⁸⁰ The USMCA/NAFTA (“lesser of the two” rule) limits the amount of duty drawback for goods exported to Canada and Mexico.¹⁸¹

Firms operating in an FTZ may file for drawback in two ways. Under the first method, these firms file for drawback of duties, taxes, and fees upon admission of merchandise (e.g., on which customs duties were previously paid) into a zone for the sole purpose of exportation, storage, or destruction.¹⁸² Drawback is authorized only if merchandise is admitted in zone-restricted status and maintains that status under a zone lot system.¹⁸³ Manufacturing or unused merchandise drawback claims may be filed through this process.¹⁸⁴

Under the second method, firms may file for drawback on the eligible duties, taxes, and fees on the foreign-status content of goods produced or stored in a zone that are entered for consumption and subsequently exported.¹⁸⁵ Proof of exportation must be furnished in order to file this type of drawback claim.¹⁸⁶ The goods must be exported within five years from the date of importation of foreign-status inputs to be eligible for manufacturing or unused merchandise drawback.¹⁸⁷ Inputs in PF status and NPF status are both eligible for manufacturing drawback. Only the NTR duties paid on PF-status inputs are eligible for drawback.¹⁸⁸ Note that, for this type of drawback filing method, because drawback regulations require that imported merchandise is entered into U.S. customs territory in order to be eligible for refund, firms may seek drawback on duties, taxes, and fees on PF- and NPF-status

¹⁸⁰ 19 C.F.R. § 190.181; 19 U.S.C. § 1313(l)(2). Drawback may be claimed for “any duty, tax, or fee imposed under Federal law upon entry or importation.” 19 U.S.C. § 1313(j)(1).

¹⁸¹ 19 C.F.R. § 181.44(a); 19 C.F.R. § 181.53(b)(4). See also USMCA Interim Final Rules, 86 Fed. Reg. 35566, 35587 (July 6, 2021) (to be codified at 19 C.F.R. part 182, subpart E).

¹⁸² 19 C.F.R. § 190.181; CBP, *Foreign-Trade Zones Manual*, 2011, 82–85.

¹⁸³ 19 C.F.R. § 190.182. Under drawback law, exportation of merchandise may be deemed to have occurred when goods subject to drawback are admitted into a foreign trade zone in zone-restricted status. 19 C.F.R. § 190.2.

¹⁸⁴ CBP, *Foreign-Trade Zones Manual*, 2011, 82–84. Operators can also seek drawback on merchandise transferred to zones from “continuous CBP custody” (e.g., a bonded warehouse) through this method. 19 U.S.C. § 1557(a), 19 C.F.R. § 191.184. Note that among firms producing in FTZs, zone-restricted status merchandise accounted for less than 0.5 percent of total admissions in any given year between 2016 and 2021, so very little merchandise by value would have been eligible to file by this method of drawback among these firms over this time period. USITC, *Foreign Trade Zones Questionnaire*, weighted responses to question 2.8.

¹⁸⁵ 19 U.S.C. § 1313(a) (claiming duty drawback); 19 C.F.R. §§ 190.183–85 (drawback on merchandise admitted to FTZs); 19 C.F.R. § 181.53(a)(3)(iii) (claiming drawback under NAFTA duty deferral program). See also USMCA Interim Final Rules, 86 Fed. Reg. 35566, 35577, 35590 (July 6, 2021) (to be codified at 19 C.F.R. part 182, subpart E).

¹⁸⁶ See 19 C.F.R. § 181.47(b)(2)(i) (for manufacturing drawback claims) & 181.47(b)(2)(ii) (for unused merchandise drawback); 19 C.F.R. §§ 190.183 (for manufacturing drawback claims for merchandise admitted into FTZs) & 190.185 (for unused merchandise drawback claims for merchandise admitted into FTZs) & 190.184 (for drawback claims for merchandise admitted into FTZs from bonded warehouses). 86 Fed. Reg. 35566 (USMCA interim final rule, July 6, 2021) (to be codified at 19 C.F.R. § 182.47).

¹⁸⁷ 19 U.S.C. § 1313(a–b); 19 U.S.C. § 1313(j). The date of importation is defined in 19 C.F.R. § 101.1 and is not necessarily the date of entry into U.S. Customs territory from a zone or the date of admission into a zone.

¹⁸⁸ C.S.D. 85-33, modifying C.S.D. 83-85; CBP, *Foreign-Trade Zones Manual*, 2011, 152.

merchandise from a zone only on indirect, rather than direct, exports.¹⁸⁹ For examples of the types of drawback that FTZ firms have been using in recent years, see box 2.2 below.

Box 2.2 Meaningful TFTEA Changes to Drawback as Cited by Firms with U.S. FTZ Operations

The Trade Facilitation and Trade Enforcement Act of 2015 (TFTEA) brought important changes to the U.S. duty drawback program.^a For manufacturers, some of these changes increased the potential duty savings compared to pre-TFTEA levels by expanding the scope of products and the scope of duties and taxes for which drawback could be filed.^b Some firms with FTZ production operations reported that these changes to the drawback program have impacted or have the potential to impact their use of the FTZ program, based on the benefits each program provides.^c Descriptions of the portions of these changes that were highlighted in industry outreach for this study as having implications for U.S. FTZ use and practices are listed below. The effective date for these changes listed below was December 18, 2018.^d

Expansion of the scope of eligible products

As summarized in a report by U.S. Government Accountability Office (GAO), before the changes made in TFTEA, CBP's substitution standards for granting drawback claims required substituted product to match on several different criteria, which included industrial standards, part numbers, tariff classification, value, and use, depending on the product and the type of drawback sought.^e Under the new substitution standard for unused merchandise and manufacturing drawback, both the imported merchandise and the substituted merchandise only need to match at the 8-digit or, in some cases, 10-digit HTS classification to be eligible for drawback refunds.^f In effect, this has expanded the types of products firms may use to submit drawback claims and enabled new firms to file drawback refunds.^g Certain firms in the automotive sector, for example, report that because of the TFTEA changes, they are able to now file for drawback claims by substituting domestic vehicle exports for imported foreign-made vehicles.^h One automotive company noted that, as a result of changes to the substitution standard, its annual drawback refunds increased from \$2 million before TFTEA to \$20 million afterward.ⁱ Another firm in the automotive sector reported that the TFTEA change has prompted its company to enter more of its FTZ shipments destined for export into U.S. customs territory so that it may qualify for drawback, rather than exporting these shipments directly from the zone.^j

Expansion of the scope of eligible taxes

According to the same GAO report, TFTEA changes also increased the scope of taxes for which refunds could be sought under drawback.^k Before TFTEA, refunds for manufacturing drawback were only available for customs duties.^l Post-TFTEA, drawback on merchandise processing fees, the harbor maintenance tax, and internal revenue taxes imposed at the time of importation (such as the oil spill liability tax) was made available through manufacturing drawback.^m This change meant that for the first time, through manufacturing drawback, firms could seek the refunds on taxes and fees on imported product that was manufactured in and exported from the United States, or that matched product that was manufactured in and exported from the United States using substitution.ⁿ Although before TFTEA, firms were able to claim refunds on these taxes and fees through drawback using substitution on unused merchandise and on certain petroleum derivatives, representatives from the petroleum sector cited major increases in cost savings due to the post-TFTEA expansion of drawback eligibility for these

¹⁸⁹ 19 U.S.C. § 1313(u) (entry requirement for eligibility of imported merchandise for drawback); C.S.D. 85-49; C.S.D. 85-33; C.S.D. 83-85.

taxes.^o Representatives of two firms in the petroleum sector with FTZ operations claimed that TFTEA drawback changes impacted their use of the FTZ program. Another noted that, following the TFTEA changes, savings from the drawback program exceeded savings from the FTZ program.^p However, one petroleum industry representative noted that the choice between using FTZs versus drawback was dependent upon the destination of a firm's shipments. This representative stated that petroleum firms serving the U.S. market tend to benefit more from the tariff reduction feature of the FTZ program in tariff inversions, while more export-oriented petroleum firms tend to benefit more from the drawback program.^q For more information on other factors informing the petroleum industry's use of FTZs, see box 3.4.

^a Pub. L. No. 114-125, 130 Stat. 122 (2016).

^b Pub. L. No. 114-125, § 906, 130 Stat. 122 (2016) (codified as amended throughout 19 U.S.C. § 1313).

^c U.S. industry representatives, interviews by USITC staff, August 30, 2022, and January 27, 2023; USITC, *Foreign Trade Zones Questionnaire*, 2022, narrative responses to question 6.1.

^d The effective date for these changes was December 17, 2018. 83 Fed. Reg. 64942 (December 18, 2018).

^e GAO, *Customs and Border Protection: Risk Management*, December 2019, 19. CBP determined commercial interchangeability by evaluating critical properties of the substituted merchandise and in that evaluation factors considered included, but were not limited to, governmental and recognized industrial standards, part numbers, tariff classification, and value. CBP, "CROSS Ruling HQ 226625," July 3, 1996. CBP determined the "same kind and quality" standard as applied in 1313(b), i.e., the designated imported merchandise and the substituted merchandise must be capable of being used interchangeably in the manufacture of the exported or destroyed articles with no substantial change in the production process. See footnote 10 in CBP, *Regulatory Impact Analysis of the Modernized Drawback Final Rule*, November 20, 2018, 11.

^f Following TFTEA changes, for unused merchandise drawback, if the 8-digit subheading number under which the imported merchandise is classified begins with the term "other," merchandise may be substituted at the HTS 10-digit statistical reporting number, as long as the article description for the 10-digit number does not begin with "other." Pub. L. No. 114-125, § 906(b), 130 Stat. 122 (2016) (codified as amended at 19 U.S.C. § 1313(b) & 1313(j)); 19 U.S.C. § 1313(b) & 1313(j); CBP, *Regulatory Impact Analysis of the Modernized Drawback Final Rule*, November 20, 2018, 58–62.

^g GAO, *Customs and Border Protection: Risk Management*, December 2019, 20.

^h GAO, *Customs and Border Protection: Risk Management*, December 2019, 20. Recent CBP rulings note that FTZ operators in the automotive sector have attempted to file substitution unused merchandise drawback claims as described above. CBP, "CROSS Ruling HQ H302869," November 30, 2021; CBP, "CROSS Ruling HQ H305251," December 10, 2021.

ⁱ GAO, *Customs and Border Protection: Risk Management*, December 2019, 20.

^j Industry representative, interview by USITC staff, January 27, 2023.

^k Pub. L. No. 114-125, § 906(g), 130 Stat. 122 (2016); GAO, *Customs and Border Protection: Risk Management*, December 2019, 24.

^l Industry representative, interview by USITC staff, February 10, 2023.

^m Pub. L. No. 114-125, § 906(g), 130 Stat. 122 (2016) (codified as amended at 19 U.S.C. § 1313(l)(2)(C)); 19 U.S.C. § 1313(l)(2)(C); industry representative, interview by USITC staff, February 10, 2023; 19 C.F.R. § 24.24; CBP, "What Is The Harbor Maintenance Fee (HMF)?," January 27, 2023; CBP, *Regulatory Impact Analysis of the Modernized Drawback Final Rule*, November 20, 2018, 94–95.

ⁿ 19 U.S.C. § 1313(b).

^o 19 U.S.C. §§ 1313(j)(2) & 1313(p); See "2. Harbor Maintenance and Oil Spill Liability Taxes" in 83 Fed. Reg. 64942 (December 18, 2018); GAO, *Customs and Border Protection: Risk Management*, December 2019, 24; industry representative, interview by USITC staff, August 30, 2022.

^p USITC, *Foreign Trade Zones Questionnaire*, 2022, narrative responses to question 6.1; industry representatives, interviews by USITC staff, August 30 and December 21, 2022.

^q Industry representative, interview by USITC staff, February 10, 2023.

U.S. Free Trade Agreements

As of January 2023, the United States had 14 FTAs, covering 20 countries.¹⁹⁰ In general, to be eligible for preferential duty rates under FTAs and other trade preference programs, foreign goods must be imported from the partner country or beneficiary country directly into U.S. customs territory for

¹⁹⁰ USTR, "Free Trade Agreements," accessed January 4, 2023.

consumption.¹⁹¹ As a consequence, foreign-status inputs that are used to make goods in an FTZ are not eligible for preferential duty treatment, and are subject to applicable NTR duty rates when the goods made with them are entered into U.S. customs territory, even if the finished good meets the FTA or preference program ROO.¹⁹² In addition, two FTAs—NAFTA/USMCA and the U.S.-Chile FTA—place additional restrictions on duty benefits available for goods produced in FTZs and exported to Canada, Mexico, and Chile.

Entry Requirements for Exports

NAFTA/USMCA and the U.S.-Chile FTA have explicit entry requirements on goods produced in FTZs, if the goods are exported to the FTA partner country. Article 2.5(3) of the USMCA, which carries over provisions from Article 303 of NAFTA, places restrictions on the use of drawback and duty deferral programs for exports to other USMCA countries.¹⁹³ The key requirement of these provisions related to the U.S. FTZ program is that goods manufactured in U.S. FTZs and exported to another USMCA country must be treated as if withdrawn for domestic consumption and cleared through customs in the United States before their exportation.¹⁹⁴ According to the NAFTA Statement of Administrative Action, the restriction on duty waivers and reductions under an FTZ was to “ensure that none of the NAFTA countries can become an ‘export platform’ for materials produced in other regions of the world.”¹⁹⁵ In effect, this provision requires that FTZ firms exporting goods manufactured in U.S. FTZs to Canada or Mexico must first enter the goods for consumption and pay the applicable duties.¹⁹⁶ The U.S.-Chile FTA has a similar requirement.¹⁹⁷ Under such entry requirements, applicable duties, tax, and fees associated with these exports must be deposited within 60 days of export and before FTZ firms can file for duty

¹⁹¹ USITC, interview with government representative, May 19, 2022. The direct importation requirement comes from the specific language of respective agreements. Examples of U.S. trade agreements with this type of language include the U.S.-Israel FTA, USMCA, the U.S.-Jordan FTA, the U.S.-Morocco FTA, the U.S.-Singapore FTA, the U.S.-Chile FTA, the U.S.-Bahrain FTA, the U.S.-Australia FTA, CAFTA-DR, the U.S.-Oman FTA, the U.S.-Peru TPA, KORUS, the U.S.-Colombia TPA, and the U.S.-Panama TPA. USITC, Harmonized Tariff Schedule, General Notes 8(b), 11(b) 18(b), 25(b), 26(b), 27(b), 28(b), 29(b), 30(b), 31(b), 32(b), 33(b), 34(b), 35(b), accessed October 21, 2022. U.S. unilateral trade preference programs with this language include the Generalized System of Preferences, the Caribbean Basin Economic Recovery Act, the African Growth and Opportunities Act, the U.S.-Caribbean Basin Trade Partnership Act, and the Nepal Trade Preference Program. USITC, Harmonized Tariff Schedule General Note 4(b), 7(b), 16(b), 17(b), 4(e)(ii), accessed October 21, 2022.

¹⁹² In contrast, foreign goods brought into an FTZ that do not undergo manufacturing and are simply warehoused still qualify as being directly shipped and may claim a preferential rate. USMCA Art. 2.5(6)(b); U.S. government representative, interview by USITC staff, March 1, 2023; see, e.g., 19 C.F.R. § 10.175(c) (defining direct shipment for purposes of GSP and that goods shipped through an FTZ may undergo sorting, packing, etc.).

¹⁹³ USMCA, art. 2.5.3; United States-Mexico-Canada Agreement Implementation Act, Pub L. No. 116-113, §§ 208 & 501, 134 Stat. 11, 67 (2020) (implementing USMCA provision into U.S. law and codified at 19 U.S.C. § 4534 and amending 19 U.S.C. § 81c(a)).

¹⁹⁴ USMCA, art. 2.5.3; 19 U.S.C. §§ 81c(a) & 4534.

¹⁹⁵ North American Free Trade Act, Statement of Administrative Action, H.R. Doc. No. 103-159, vol. 1, at 19 (103d Cong., 1st Sess. 1993).

¹⁹⁶ 19 U.S.C. § 81c(a); USTR, “USMCA Chapter 2,” accessed May 2, 2022; SICE, “NAFTA Chapter Three,” accessed May 2, 2022. CBP, *Foreign-Trade Zones Manual*, 2011, 135–36.

¹⁹⁷ U.S.-Chile FTA, art. 3.9(3); United States-Chile Free Trade Agreement Act, Pub. L. No. 108-77, § 203(b)(5), 117 Stat. 909, 929 (2003) (implementing FTA and amending 19 U.S.C. § 81c(a)).

drawback.¹⁹⁸ NAFTA/USMCA entry requirement is not applicable on a good exported to another party country in the same condition as when imported into the territory of the party from which the good was exported, such as those warehoused goods in FTZs.¹⁹⁹

NAFTA/USMCA “Lesser of the Two” Rule

Article 2.5(1) of the USMCA places restrictions on duty benefits under drawback and duty deferral programs for exports to other USMCA countries.²⁰⁰ It states that the amount of customs duties that may be refunded, reduced, or waived is the lesser of the total amount of customs duties paid on the goods or materials when imported into the USMCA country and the total amount of customs duties paid on the finished goods in the USMCA country to which it is exported. The customs administration assessing such duties may then waive or reduce them by an amount that does not exceed the total customs duties paid to the USMCA country to which the goods are exported.²⁰¹ This rule primarily affects the amount of duty drawback that FTZ firms receive on their exports to other USMCA countries.

NAFTA/USMCA Non-Originating Inputs

The U.S. NAFTA Implementation Act, enacted in 1993, provided the conditions under which NAFTA rules of origin (ROOs) requirements can be met for goods manufactured with non-originating materials.²⁰² A provision of the act stated that these conditions were not applicable to goods produced in U.S. FTZs that subsequently were entered into U.S. customs territory for domestic consumption or

¹⁹⁸ 19 U.S.C. § 4534. Special duty drawback rules apply with respect to goods produced in FTZs that are entered for consumption and exported to Canada, Mexico, or Chile. See, e.g., 19 C.F.R. 181.53 (laying out NAFTA rules for collection and waiver or reduction of duty under duty deferral programs); CBP, *Foreign-Trade Zones Manual*, 2011, 136–39. But generally, under the USMCA, the amount of customs duties allowed to be refunded, reduced, or waived is the lesser of the total amount of customs duties paid or owed on the goods or materials when imported into a USMCA country and the total amount of customs duties paid or owed on the finished good in the USMCA country to which it is exported. 86 Fed. Reg. 35566 (USMCA interim final rule, July 6, 2021) (to be codified at 19 C.F.R. part 182, subpart E). Noting, however, certain duty types (such as AD/CVD, section 232) are nonrefundable under these provisions. 19 U.S.C. § 1677h (indicating antidumping and countervailing duties are not eligible for drawback). Proclamation No. 9739, 83 Fed. Reg. 20677 (May 7, 2018) (proclaiming section 232 duties on imports of aluminum ineligible for duty drawback); Proclamation No. 9740, 83 Fed. Reg. 20683 (May 7, 2018) (proclaiming section 232 duties on imports of steel ineligible for duty drawback).

¹⁹⁹ Processes such as warehousing, testing, cleaning, repacking, inspecting, sorting, or marking a good, or preserving a good in its same condition, shall not be considered to change the good’s condition. USMCA, chapter 2, article 2.5(6)(b).

²⁰⁰ USMCA, chapter 2, article 2.5(1).

²⁰¹ USMCA Interim Final Rules, 86 Fed. Reg. 35566, 35577, 35587, 35590 (July 6, 2021) (to be codified at 19 C.F.R. part 182, subpart E); Tuttle Law, “The USMCA and Its Impact on Drawback and Duty Deferral Programs,” July 28, 2020.

²⁰² Pub. L. No. 103–182, § 202(a)(1)(B), 107 Stat. 2057, 2069 (1993). USMCA (and NAFTA before it) provides preferential duty and quota treatment to eligible products. ROOs are used to determine whether a good will qualify as originating and therefore be eligible for preferential treatment. The agreement has provisions that lay out the conditions under which goods that incorporate non-originating materials can be considered originating under the agreement. For NAFTA, these provisions were the product-specific ROOs detailed within Annex 401 of that agreement and previously implemented in the HTS through general note 12. For USMCA, the product-specific ROOs are detailed within Annex 4-B of that agreement and implemented in the HTS through general note 11, which superseded general note 12 on July 1, 2020. USITC, HTS, November 2022, general notes 11–12.

for exportation to Canada or Mexico.²⁰³ When the U.S. NAFTA Implementation Act was replaced with the USMCA Implementation Act of 2020, this FTZ exception was initially not included but was later added through a “technical correction” in the Consolidated Appropriations Act of 2021 and remains in effect.²⁰⁴

Under this provision, non-originating inputs²⁰⁵ used in goods manufactured in U.S. FTZs would not qualify as originating, even if the goods meet the conditions of the USMCA ROOs, and therefore be subject to applicable NTR tariff rates when such goods enter U.S. customs territory for consumption or when such goods enter U.S. customs territory for subsequent export to USMCA partner countries.²⁰⁶ When originally enacting this provision in the NAFTA Implementation Act, a Senate report indicated that this provision was a continuation of law already in effect regarding goods produced in FTZs with foreign inputs.²⁰⁷

Certain industry representatives have asserted that this provision of the USMCA Implementation Act puts U.S. FTZ producers at a disadvantage compared to suppliers in Canada or Mexico. They claimed that those suppliers in Canada and Mexico do not face the same exception and can export goods to the United States duty-free, as long as the goods meet ROO requirements under the USMCA.²⁰⁸ To be eligible for preferential duty rates under the USMCA and many other FTAs and trade preference programs, foreign goods must be imported directly into U.S. customs territory from the partner or beneficiary country, which excludes goods produced in a U.S. FTZ and entered into U.S. customs territory from being eligible for preferential treatment.²⁰⁹ Thus, even without the existence of the

²⁰³ Pub. L. No. 103–182, § 202(a)(2)(A), 107 Stat. 2057, 2069 (1993).

²⁰⁴ See Pub. L. No. 116–113, § 202(c), 134 Stat. 11, 25 (2020); *but see also* Pub. L. No. 116–260, § 601(b), 134 Stat. 1182, 2150 (2020) (codified as amended at 19 U.S.C. § 4531(c)(3)).

²⁰⁵ FTZ users usually choose to import originating inputs from USMCA partner countries directly into customs territory with preferential duty rates, and then admit them into FTZs under domestic status.

²⁰⁶ 19 U.S.C. § 4531(c)(3); CBP, “CROSS Ruling HQ H183474,” January 27, 2012 (applying the earlier, NAFTA version of the provision); *see also* 19 U.S.C. § 81c(a)(2), third proviso (outlining requirements for subsequent export to USMCA countries).

²⁰⁷ S. Rep. No. 103-189, at 14 (1993) (stating “{t}his provision ensures that current law will continue to apply to goods produced in FTZs or subzones, i.e., that full duties are owed on the value of foreign materials or components used in goods produced in FTZs or subzones when such goods are entered for consumption in the United States.”).

²⁰⁸ USITC, hearing transcript, May 17, 2022, 10, 12 (Jeff Tafel, NAFTAZ). Non-originating inputs used to produce exports to another USMCA country under duty deferral and drawback programs in Canada and Mexico are subject to the same USMCA restrictions and applicable duties regardless of whether the final goods meet the USMCA ROOs or not. The overall low MFN duty rates in Canada and the duty reduction benefits provided by PROSEC and *regla octava* in Mexico, however, offer firms in these two countries favorable duty rates. For more information on the Mexican and Canadian policies and practices regarding USMCA tariff treatment of goods, see the corresponding sections later in this chapter.

²⁰⁹ Goods that are warehoused in FTZs are not considered direct imports but do maintain originating status upon entry into U.S. customs territory from an FTZ. U.S. government representative, interview by USITC staff, May 19, 2022; *see e.g.*, USITC, Harmonized Tariff Schedule, General Note 11(b) (specifying that “a good imported *into the customs territory of the United States from the territory of a USMCA country* . . . is eligible for the preferential tariff”) [emphasis added]. Note that Foreign Trade Zones are not within the customs territory of the United States as defined in the HTS or applicable CBP regulations. USITC, Harmonized Tariff Schedule, General Note 2; 19 C.F.R. § 101.1. USITC, Harmonized Tariff Schedule, General Note 2 (USMCA originating rules) & 33 (similar KORUS originating rules).

USMCA Implementation Act provision on FTZ exception, goods produced in FTZs would not be eligible to receive preferential treatment under the USMCA—or NAFTA before it—when such goods enter U.S. customs territory for consumption or subsequent export to USMCA partner countries.²¹⁰ FTZ users, however, may use the drawback program to claim a refund on duty paid, if the product is subsequently exported or destroyed.²¹¹ As described above, the amount allowed to be refunded or waived, however, is subject to the “lesser of the two” rule.²¹²

De Minimis Rules

Industry representatives also reported impacts of U.S. de minimis policy on their competitiveness compared to companies providing warehousing and distribution services in Canada and Mexico.²¹³ In the United States, section 321 of the Tariff Act of 1930 allows for duty-free importation of goods below specified value thresholds.²¹⁴ On February 24, 2016, the Trade Enforcement and Trade Facilitation Act of 2015 was signed into law, which increased the primary U.S. de minimis value exemption under section 321 from \$200 to \$800.²¹⁵

CBP ruled in 2018 that distributors using the U.S. FTZ program may not enter bulk imported goods into an FTZ, break them down into individual consumer shipments with a value under \$800, and take advantage of the de minimis exemption when entering these individual shipments for consumption.²¹⁶ CBP’s ruling stated that importation occurs at the time the bulk goods arrive at the port of entry²¹⁷ and before their admission into an FTZ.²¹⁸ Because, at the time of importation, the bulk shipment is likely valued at more than \$800, the de minimis exception does not apply to such goods.²¹⁹

Industry representatives claimed that this ruling disadvantaged U.S. warehouse/distribution operators in U.S. FTZs compared to foreign distributors. For example, a company with a warehouse or distribution center in Ontario, Canada, could import bulk merchandise, repackage it into multiple shipments valued at less than \$800, and send these shipments to a U.S. customer free of duty using the U.S. de minimis rule. Meanwhile, distributors operating in U.S. FTZs could not do the same with bulk shipments. In response, some companies have reportedly moved or set up warehouse/distribution facilities in border regions of Canada and Mexico where they can hold third-country goods for de minimis sales to U.S.

²¹⁰ U.S. government representative, interview by USITC staff, May 19, 2022; U.S. government representative, email message to USITC staff, February 26, 2023.

²¹¹ See, generally, 19 U.S.C. § 1313(b)(1); see also 19 U.S.C. § 81c(a).

²¹² 19 C.F.R. § 181.44(a); USMCA Interim Final Rules, 86 Fed. Reg. 35566, 35587 (July 6, 2021) (to be codified at 19 C.F.R. part 182, subpart E).

²¹³ U.S. industry representative, interview by USITC staff, January 6, 2023; Costello, written submission to the USITC, May 5, 2022; Benoit, written submission to the USITC, May 5, 2022; USITC, hearing transcript, May 17, 2022, 15-18 (Dean Wood, BorderWorx).

²¹⁴ 19 U.S.C. § 1321(a).

²¹⁵ Pub. L. No. 114–125, § 901(c), 130 Stat. 122 (2016) (modifying 19 U.S.C. § 1321(a)(2)(C)).

²¹⁶ CBP, “CROSS Ruling HQ H275567,” May 8, 2018; CBP, “CROSS Ruling HQ H282601,” September 18, 2018.

²¹⁷ The term “import” means to land on, bring into, or introduce into or attempt to land on, bring into, or introduce into any place subject to the jurisdiction of the United States, whether or not such landing, bringing, or introducing constitutes an importation within the meaning of the customs laws of the United States. 16 U.S.C. § 1532(10).

²¹⁸ CBP, “CROSS Ruling HQ H275567,” May 8, 2018.

²¹⁹ CBP, “CROSS Ruling HQ H275567,” May 8, 2018.

consumers.²²⁰ For more information on warehousing/distribution operations in U.S. FTZs, see chapter 3.

Recent Trends in FTZ-Related Economic Activity

This section provides information on FTZ-related economic activity, such as firms and leading industries participating in the U.S. FTZ program, FTZ employment, admissions of merchandise into FTZs, exports and U.S. domestic shipments from FTZs, and foreign direct investment in FTZs during the 2016–21 period. Three data sources are used in this section. The annual FTZ Board reports to Congress cover the program-wide economic activity by firms participating in production operations as well as warehousing and distribution operations (hereafter “firms participating in FTZ operations”).²²¹ Because they are mandatorily collected from all FTZ operators each year, the FTZ Board report data provide the most comprehensive information on firms participating in FTZ operations and FTZ shipments that is publicly available. Trade data from the U.S. Census Bureau cover detailed product information but combine economic activity for FTZs and Customs bonded warehouses. Therefore, the Census Bureau trade data are used sparingly in this section and only more extensively in some of the case studies in chapter 3. The Commission’s survey results cover firms that were granted production authority before January 1, 2022, and had production activity within a U.S. FTZ at any time during 2016 through 2021 (hereafter “firms producing in FTZs”). Data from the Commission’s survey provide insights (e.g., shipment by zone status or destination market) on firms producing in FTZs that are not available in the FTZ Board Report and are presented extensively in this section. For more information on the differences between these three data sources as well as their respective coverages, see chapter 1 as well as the appendix F on the survey methodology.

Firms

Key Trend: During 2016–21, of about 3,300 firms participating in FTZ operations, about 90 percent were engaged in warehousing and distribution operations, and 10 percent engaged in production operations. Nonelectrical machinery, vehicles and parts, electronics, and pharmaceuticals accounted for more than half of FTZ-producing firms.

Since 2016, the number of firms participating in FTZ operations has been hovering around 3,300.²²² In 2021, 263 firms produced in FTZs, up from 216 in 2016.²²³ The largest increases in the number of firms producing in FTZs came from the minerals and metals sector, which grew from 11 firms in 2016 to 23

²²⁰ United States Fashion Industry Association, “CBP Issues FTZ De Minimis Ruling,” July 24, 2018; NAFTAZ, “321/de Minimis,” accessed May 3, 2022; USITC, hearing transcript, May 17, 2022, 15-18 (Dean Wood, BorderWorx); Costello, written submission to the USITC, May 24, 2022.

²²¹ For the purposes of this report, “firms participating in FTZ operations” refers to firms that are the operators of FTZ facilities or the users of such facilities.

²²² FTZ Board, *78th Annual Report*, November 2017, 1; FTZ Board, *79th Annual Report*, November 2018, 1; FTZ Board, *80th Annual Report*, November 2019, 1; FTZ Board, *81st Annual Report*, November 2020, 1; FTZ Board, *82nd Annual Report*, August 2021, 1; FTZ Board staff, email message to USITC staff, January 13, 2022.

²²³ Of these 263 firms, 66.3 percent had zone shipments (i.e., admissions, exports, or U.S. shipments) in all six years of the period between 2016 and 2021. USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.3, 2.8, 2.10.

firms in 2021, and the nonelectrical machinery sector, which grew from 35 to 47 firms during the same period.²²⁴

Employment

Key Trend: *Production operations accounted for about 80 percent of total FTZ employment, though FTZ employment in warehousing and distribution operations grew faster from 2016 to 2021. The largest employers among firms producing in FTZs are vehicles and parts, nonelectrical machinery, and fuels.*

In 2021, firms participating in FTZ operations employed 480,000²²⁵ workers within FTZs, growing by 14 percent from 420,000 in 2016. During this period, FTZ employment in warehousing and distribution operations grew by 40 percent, and FTZ employment in production operations grew by 9 percent. Production operations accounted for 78–82 percent of total FTZ employment during this period.²²⁶

As reported in the survey results, firms producing in FTZs employed approximately 385,000 workers in 2021, including production line and non-production line workers (hereafter, collectively referred to as “FTZ production workforce”). The vehicles and parts sector was the largest employer, accounting for around one-third of FTZ production workforce in any year between 2016 and 2021. Firms in the nonelectrical machinery and fuels sectors were the next two largest employers, though these two sectors experienced rather different trends in the FTZ employment during this period. In 2016, the fuel sector employed 83,000 workers (25 percent of the FTZ production workforce). By 2021, its FTZ employment declined to around 56,000 workers (15 percent), a reflection of the decreased use of FTZs by U.S. petroleum refiners (see the case study in chapter 3 for more details). By contrast, the nonelectrical machinery sector saw a steady increase in its FTZ employment from more than 45,000 workers (13 percent of the FTZ workforce for production) in 2016 to around 83,500 workers (22 percent of the workforce) in 2021. It replaced the fuel sector as the second largest FTZ employer by 2020 (figure 2.4).²²⁷ Firms in the nonelectrical machinery sector reported several reasons for the increasing use of FTZs, including the ability to defer duty payment on inventories of imported parts in FTZs, which allows them to quickly service customers seeking machinery repair by freeing resources for additional inventory. In addition, these firms are able to reduce duties on the NPF status inputs used to produce the (often zero-duty) equipment manufactured in the zone.²²⁸

²²⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.3.

²²⁵ The FTZ Board reports employment in tens of thousands of employees as the lowest level of specificity when reporting total employment.

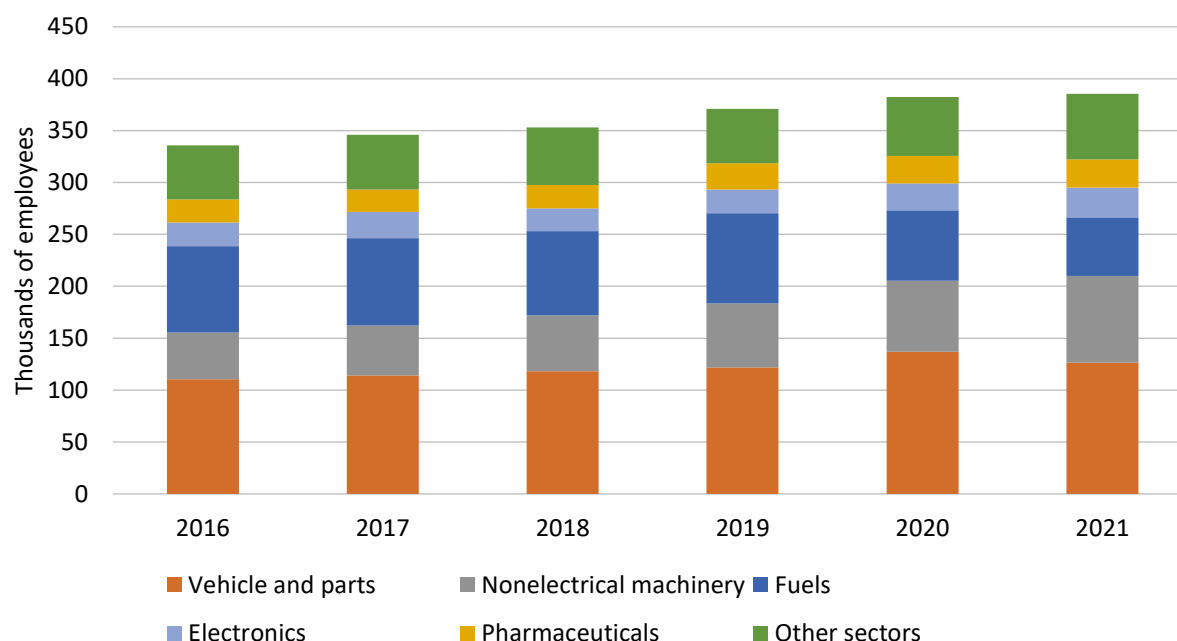
²²⁶ FTZ Board, *83rd Annual Report*, August 2022, 1, 4; FTZ Board, *82nd Annual Report*, August 2021, 1; FTZ Board, *81st Annual Report*, November 2020, 1; FTZ Board, *80th Annual Report*, November 2019, 1; *79th Annual Report*, November 2018, 1; FTZ Board, *78th Annual Report*, November 2017, 1.

²²⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.3 and 2.7.

²²⁸ U.S. industry representatives, interviews by USITC staff, July 22 and 28, 2022.

Figure 2.4 FTZ employment by firms producing in FTZs, by sector, 2016–21

In thousands of employees. Underlying data for this figure can be found in appendix H, table H.6.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.3 and 2.7.

Note: Other sectors in the figure above are made up of chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous sectors.

Investment

Key Trend: About 36 percent of firms producing in FTZs are foreign owned. Of the \$267 billion in capital investment received by firms producing in FTZs during 2016–21, nearly three-quarters came from domestic sources and slightly more than one-quarter from foreign sources. The vehicles and auto parts, as well as nonelectrical machinery sectors are the top recipients of domestic capital investments. The nonelectrical machinery sector was the top recipient of foreign capital investment. Nearly all foreign capital investment went to foreign-owned firms.

Nearly 70 percent of firms producing in FTZs are owned at least partially by another company. Of these firms, nearly 52 percent have an ultimate owner or parent company outside the United States (i.e., at least 36 percent of all firms producing in FTZs are foreign owned, with Japan and Germany being the countries in which the most foreign-owned FTZ firms are based).²²⁹ Foreign-owned firms are active users of the U.S. FTZ program, as evidenced by the volume of their applications to the FTZ Board to establish or modify their manufacturing operations. Of the 71 companies that were granted approval to establish new manufacturing subzones or expand existing manufacturing subzones from 2016 to 2021, 22 (31 percent) were foreign owned.²³⁰

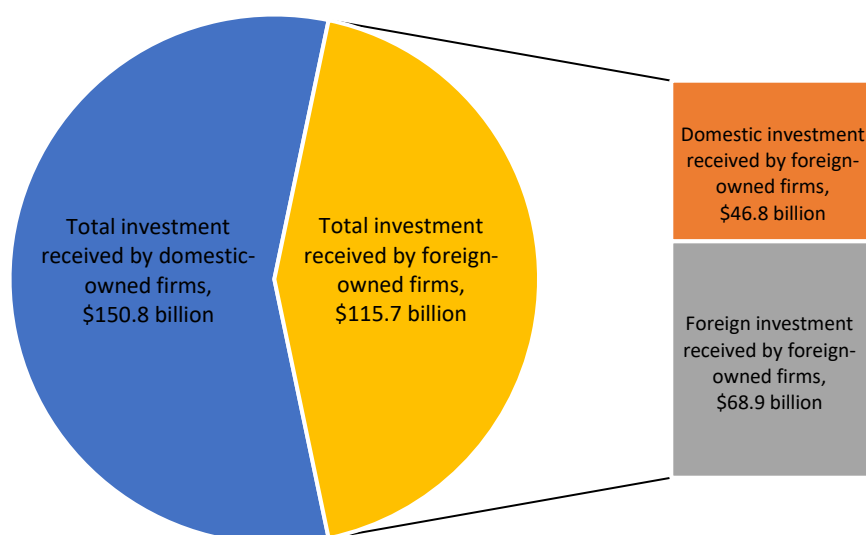
²²⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 1.3 and 1.4.

²³⁰ USDOC, ITA, “OFIS Database, Federal Register Notices,” accessed December 19, 2022; Bureau van Dijk, “ORBIS Database,” accessed December 19, 2022.

Over the period from 2016 to 2021, firms producing in U.S. FTZs received a total of \$267 billion in capital investment, with 74 percent coming from domestic sources and 26 percent from foreign sources.²³¹ Nearly all (99.8 percent) of the \$69 billion foreign capital investment went to foreign-owned firms, though these firms also received about 40 percent (\$47 billion) of capital investment from domestic sources (figure 2.5).²³²

Figure 2.5 Sum of all capital investment in U.S. FTZs facilities received by firms producing in FTZs, by type of investor (foreign vs. domestic) and type of firm (foreign-owned vs. domestic-owned), 2016–21

In billions of dollars. Underlying data for this figure can be found in appendix H, table H.7.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 1.4 and 2.15.

Note: Almost all (99.8 percent) foreign capital investment went to those foreign-owned firms producing in FTZs; capital investment received by the domestic-owned firms producing in FTZs was almost exclusively from domestic sources.

During 2016–21, FTZ-producing firms in the vehicles and parts sector and the nonelectrical machinery sector received the largest shares (27 percent and 24 percent, respectively) of capital investment (figure 2.6). The value of capital investments received by FTZ-producing firms in the fuel sector declined annually, dropping from \$8.9 billion in 2016 to \$4.6 billion in 2021. Total net assets held by the fuel

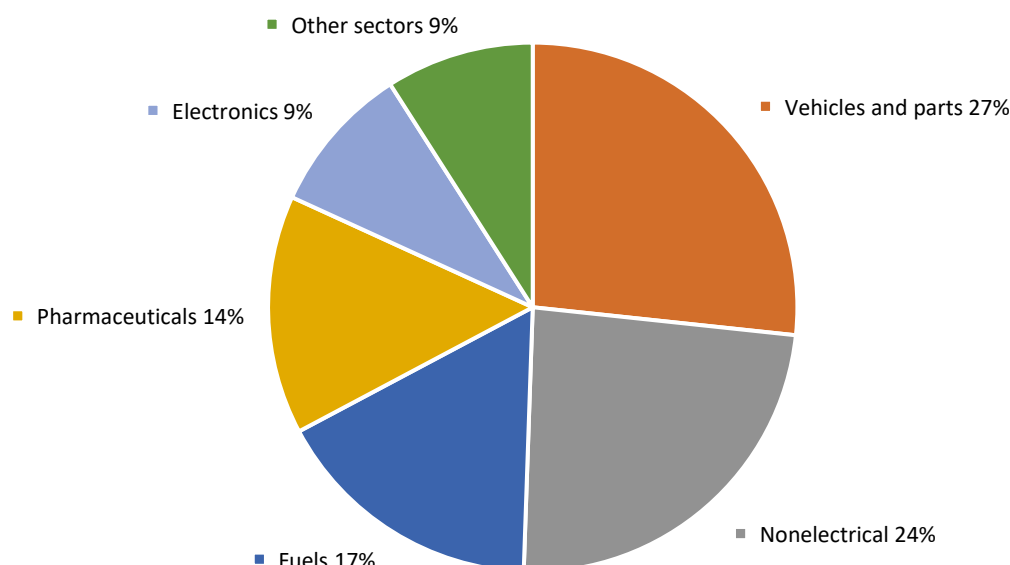
²³¹ Note that some firms were hesitant to provide annual capital investment and net assets information, while others averaged it over the period of 2016–2021. Industry representative, interview by USITC staff, February 17, 2023; industry representative, email message to USITC staff, November 10, 2022. Totals over the 2016–2021 period are presented in aggregate over this period in the analysis in this chapter; for more specific FDI trend analysis, see chapter 3.

²³² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.15. Direct capital investment includes acquisition or installation of land, machinery, buildings, or any physical or tangible assets for use in U.S. FTZ operations, as well as any capital improvements to these operations by the firms or parent companies of firms with production activity in U.S. FTZs. See pages 5–6 in the Foreign Trade Zones Questionnaire in appendix E for more details.

sector declined in 2020 and 2021 as well, reflecting the deactivation of FTZ facilities by several petroleum refining firms since 2016 (see box 3.4 for more details).²³³

Figure 2.6 Share of total capital investment in U.S. FTZ facilities received by firms producing in FTZs, by sector, 2016–21

In percentages. Underlying data for this figure can be found in appendix H, table H.8.



Source: USITC, *Foreign Trade Zone Questionnaire*, 2022, weighted responses to questions 2.3 and 2.15.

Note: Other sectors are made up of textiles, chemicals, minerals and metals, other transportation, and miscellaneous sectors. Firms producing in FTZs in the agricultural and food sector did not report any investment data.

Admissions

Key Trend: In 2021, firms participating in FTZ operations admitted \$294 billion of foreign-status merchandise, accounting for 35 percent of total FTZ admissions and about 10 percent of U.S. general imports. China was the largest source of foreign-status admissions. The value of merchandise admission by firms producing in FTZs grew by 45 percent from \$326 billion in 2016 to \$472 billion in 2021. About 80 percent of admitted merchandise was in domestic status, consisting of two-thirds domestic-origin and one-third foreign-origin goods. Most of foreign-status merchandise admitted was in NPF status. The fuels sector admitted by far the largest value of merchandise, followed by the vehicles and parts sector.

The value of merchandise admitted into U.S. FTZs by firms participating in FTZ operations grew by 37 percent from \$610 billion in 2016 to \$836 billion in 2021.²³⁴ Domestic-status FTZ admissions grew at a faster rate than foreign-status admissions. In 2021, domestic-status merchandise accounted for 65

²³³ Net assets investments are the value of assets (net of all associated depreciation or amortization Expenses) controlled by the firms or parent companies of firms with production activity in U.S. FTZs. See pages 5–6 in the *Foreign Trade Zones Questionnaire* in appendix E for more details.

²³⁴ FTZ Board, *78th Annual Report*, November 2017, 6; FTZ Board, *83rd Annual Report*, August 2022, 1, 6.

percent of total FTZ merchandise admissions, increasing from 63 percent in 2016.²³⁵ In 2021, the value of foreign-status admissions was \$294 billion, accounting for 10.4 percent of U.S. general imports in that year.²³⁶ During 2016–21, the largest source country for foreign-status admissions into U.S. FTZs and bonded warehouses was China. During this period, the value of foreign-status admissions from China grew by 89 percent. In 2021, China represented 36 percent of foreign-status merchandise admissions, followed by Germany (8 percent), Vietnam (7 percent), Japan (5 percent), and Mexico (5 percent).²³⁷

In 2021, production operations accounted for 56 percent of total FTZ merchandise admissions by value, declining from 63 percent in 2016.²³⁸ Of the top 25 production operations admitting the most merchandise into FTZs in 2021 by value, 16 were operated by petroleum or refining/petrochemical companies,²³⁹ and 5 were by vehicle manufacturers.²⁴⁰ The remaining operations were by companies in the pharmaceuticals, aircraft/defense, auto parts, consumer electronics and related products, and renewable energy sectors.²⁴¹

As reported in the survey results, domestic-status merchandise accounted for the majority of FTZ admissions by firms producing in FTZs—in 2021, about \$379 billion, or 80 percent, of admissions by these firms was in domestic status, increasing from 69 percent in 2016 (figure 2.7).²⁴² Of these domestic-status admissions by firms producing in FTZs in their latest full year of U.S. FTZ production, nearly one-third was of foreign origin and two-thirds was of domestic origin.²⁴³

The share of foreign-status merchandise in total admissions by firms producing in FTZs decreased from 31 percent (\$101 billion) in 2016 to 20 percent (\$93 billion) in 2021. This decline is attributable to the

²³⁵ FTZ Board, 78th Annual Report, November 2017, 6; FTZ Board, 79th Annual Report, November 2018, 6; FTZ Board, 80th Annual Report, November 2019, 6; FTZ Board, 81st Annual Report, November 2020, 6; FTZ Board, 82nd Annual Report, August 2021, 6; FTZ Board, 83rd Annual Report, August 2022, 1, 6.

²³⁶ USITC DataWeb/Census, general imports, 2021, accessed October 27, 2022; FTZ Board, *83rd Annual Report*, August 2022, 1, 6.

²³⁷ USITC DataWeb/Census, general imports, rate provision code 00, articles entered into bonded warehouses or Foreign Trade Zones, 2016–21, accessed October 27, 2022.

²³⁸ FTZ Board, *78th Annual Report*, November 2017, 6; FTZ Board, *83rd Annual Report*, August 2022, 1, 6.

²³⁹ These petroleum companies are listed with the country of company headquarters and the number of production operations owned by that company that fall within the top 25 merchandise-receiving FTZ production operations in 2021 in parentheses: Chevron (United States, 3), CITGO (United States, 1), Exxon Mobil (United States, 3), Marathon (United States, 2), Motiva Enterprises (United States, 1), Phillips 66 (United States, 1), Premcor Refining (United States, 1), Shell (United States, 1), Tesoro Refining and Marketing (United States, 1), Total Petrochemicals & Refining (United States, 1), and Valero (United States, 1). FTZ Board, *83rd Annual Report*, August 2022, 13.

²⁴⁰ These vehicle manufacturers are listed with the country of company headquarters and the number of production operations owned by that company that fall within the top 25 merchandise-receiving FTZ production operations in 2021 in parentheses: BMW (Germany, 1), Mercedes-Benz (Germany, 1), Tesla (United States, 1), and Toyota (Japan, 2). FTZ Board, *83rd Annual Report*, August 2022, 13.

²⁴¹ FTZ Board, *83rd Annual Report*, August 2022, 13. Sector designations for production operations are made by the FTZ Board here: <https://www.trade.gov/production-industry>.

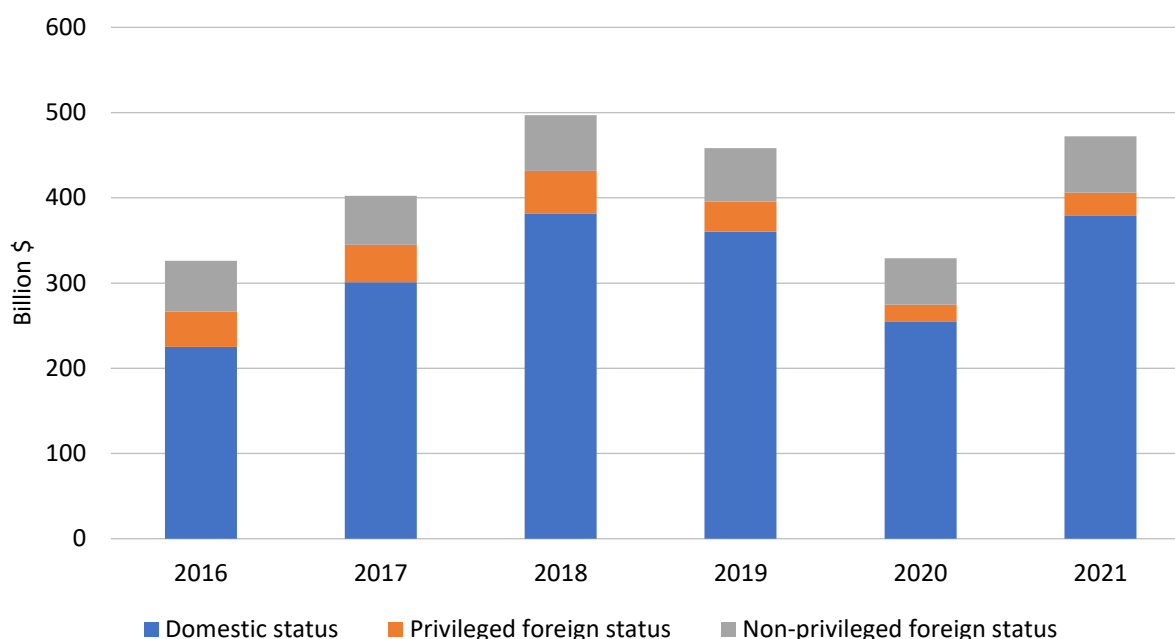
²⁴² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8. Comparatively, warehouse/distribution operations (admissions into FTZs without production authority) admitted a lower share of domestic status merchandise at 49 percent in 2021. FTZ Board, *83rd Annual Report*, August 2022, 1, 6.

²⁴³ For more information on domestic- and foreign-origin goods of domestic-status admission, see box 2.1. USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.9.

changing trend in the fuel sector, the sector with the largest value of merchandise admissions (see additional analysis on the fuel sector, below). Of foreign-status admissions by firms producing in FTZs, about 71 percent were entered under NPF status in 2021, compared to 59 percent in 2016 (figure 2.7).²⁴⁴

Figure 2.7 Value of U.S. FTZ admissions by firms producing in FTZs, by admission type, 2016–21

In billions of dollars. Underlying data for this figure can be found in appendix H, table H.9.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

Note: Total admissions do not include admissions of merchandise in zone-restricted (ZR) status, which accounts for less than 0.5 percent of total admissions by firms producing in FTZs in any given year. According to industry experts, these findings support expectations of the manner and frequency ZR status is used by firms in U.S. FTZs. FTZ Board staff, email message to USITC staff, February 3, 2023.

The fuels sector accounted for the largest share of merchandise admissions by firms producing in FTZs during this period. Its share peaked at 68 percent in 2018 before falling to 50 percent in 2020. This drop reflects the decline in industry use of FTZs in recent years (see box 3.4 in chapter 3), as well as the steep dip in crude oil prices in 2020.²⁴⁵ In 2021, the fuels sector received about \$274 billion, or 58 percent, of merchandise admissions. The value of admissions for the vehicles and parts sector increased from 2016 to 2021. The exception was 2020, which was likely impacted by the drop U.S. vehicle sales and production due to factory shutdowns and the global semiconductor chip shortage related to the COVID-19 pandemic.²⁴⁶ Vehicles and parts sector admissions rose from \$60 billion (18 percent of all admissions) in 2016 to \$100 billion in 2021 (21 percent of all admissions) (figure 2.8).

²⁴⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

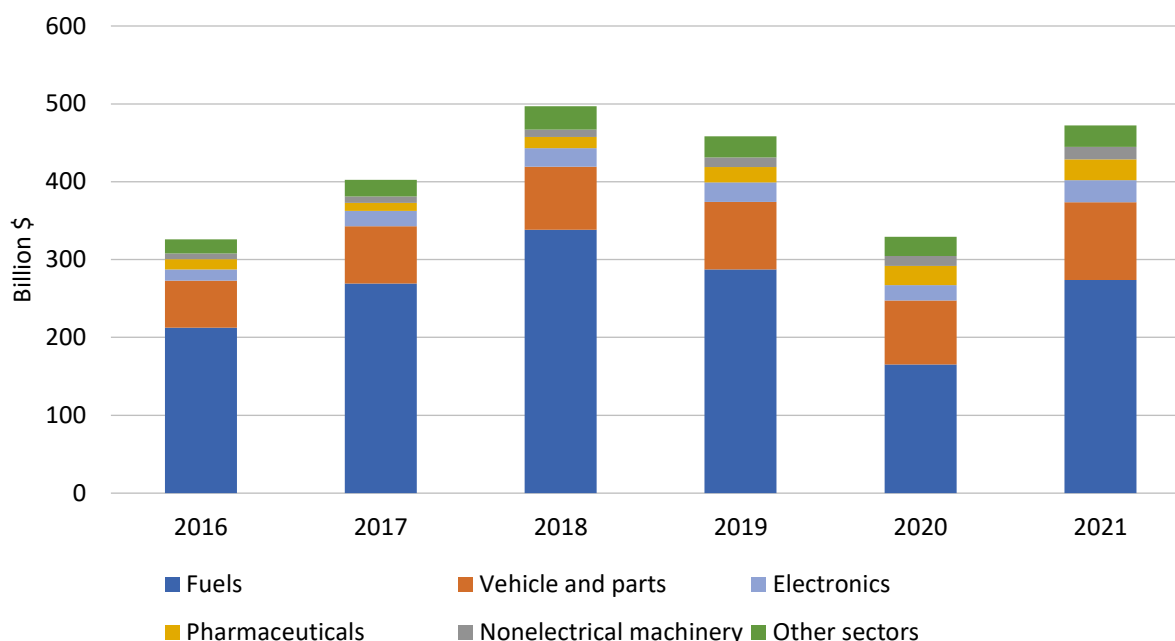
²⁴⁵ Unit values for crude oil imports entered into FTZ and bonded warehouses fell by one-third from 2019 to 2020 and then fully recovered in 2021. USITC/Census DataWeb, unit values of general imports, rrcode 00, HTS 2709, accessed February 7, 2023. These unit values track the trends in crude oil prices during this time period. Camp, “From the Barrel to the Pump: The Impact of the COVID-19 Pandemic on Prices for Petroleum Products,” October 2020.

²⁴⁶ Coffin et al., “The Roadblocks of the COVID19 Pandemic in the U.S. Automotive Industry,” June 2022.

Not all sectors of firms producing in FTZs saw a drop in merchandise admissions as a result of the COVID-19 pandemic in 2020. The pharmaceuticals sector saw a \$5.2 billion increase (27 percent) in the value of admitted merchandise from 2019 to 2020, driven in part by the surge in demand for COVID-19 treatment and diagnostic products as well as an increase in FDA drug approvals (see pharmaceuticals case study in chapter 3 for more information).

Figure 2.8 Value of U.S. FTZ admissions of merchandise by firms producing in FTZs by sector, 2016–21

In billions of dollars. Underlying data for this figure can be found in appendix H, table H.10.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.3 and 2.8.

Note: Other sectors in the figure above are made up of chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous sectors.

Of firms producing in FTZs, five sectors accounted for the largest shares of foreign-status admissions by value: fuels (29 percent), pharmaceuticals (27 percent), vehicles and vehicle parts (23 percent), electronics (7 percent), and nonelectrical machinery (5 percent) in 2021. The fuels sector was a much larger driver of foreign-status admissions before 2020, peaking at \$70 billion (60 percent of all foreign-status admissions in FTZs) in 2018. Within the fuel sector, the share of merchandise admissions in foreign status (as opposed to domestic status) has declined steadily during this period. It dropped from 28 percent in 2016 to 10 percent in 2020 because oil refiners increased the share of domestic inputs into fuel production (see box 3.4 in chapter 3). The vehicles and parts sector increased its value of foreign-status admission in recent years from \$16 billion in 2018 to \$21 billion in 2021. Its share of the value of foreign-status merchandise admitted by all firms producing in FTZs has hovered around 21 percent from 2017 to 2021 after dropping slightly from 27 percent in 2016.

Among firms producing in FTZs, the sectors accounting for the largest shares of domestic-status admissions by value in 2021 were fuels (65 percent of all domestic-status admissions into FTZs), vehicles and parts (20 percent), and electronics (6 percent).²⁴⁷

Outgoing Shipments

Key Trend: During 2016–21, about 82 percent of outgoing shipments by firms producing in FTZs were destined to the U.S. domestic market and 18 percent were destined to foreign markets. Only 23 percent of export shipments were directly exported from an FTZ without first entering U.S. custom territory for consumption (direct export shipments). About 77 percent of export shipments were entered for consumption before being sent to foreign markets (indirect export shipments). About 14 percent of indirect export shipments were destined for Canada and 22 percent of indirect export shipments were destined for Mexico. Indirect export shipments predominated in the fuels and vehicles and parts sectors. Within these sectors, increased use of domestic-status inputs, and use of the drawback program in conjunction with the U.S. FTZ program are likely driving firm’s decisions to export indirectly rather than directly from FTZs.

The FTZ Board does not report a total value for outgoing shipments leaving U.S. FTZs, but it does provide the value of export shipments from zones. Using the difference between merchandise received and merchandise exported to approximate merchandise that potentially left FTZs to enter the U.S. domestic market, it is estimated that up to 77 percent of merchandise admitted into FTZs was entered for consumption in recent years.²⁴⁸ The survey results indicate that, of outbound shipments by firms producing in FTZs, 83 percent (\$535 billion) were destined for the U.S. market in 2021 (figure 2.9). This share was consistent between 2016 and 2021.²⁴⁹ Because they were impacted by the same sectoral and macroeconomic factors, outbound shipments by sector followed a trend similar to admissions from 2016 to 2021.

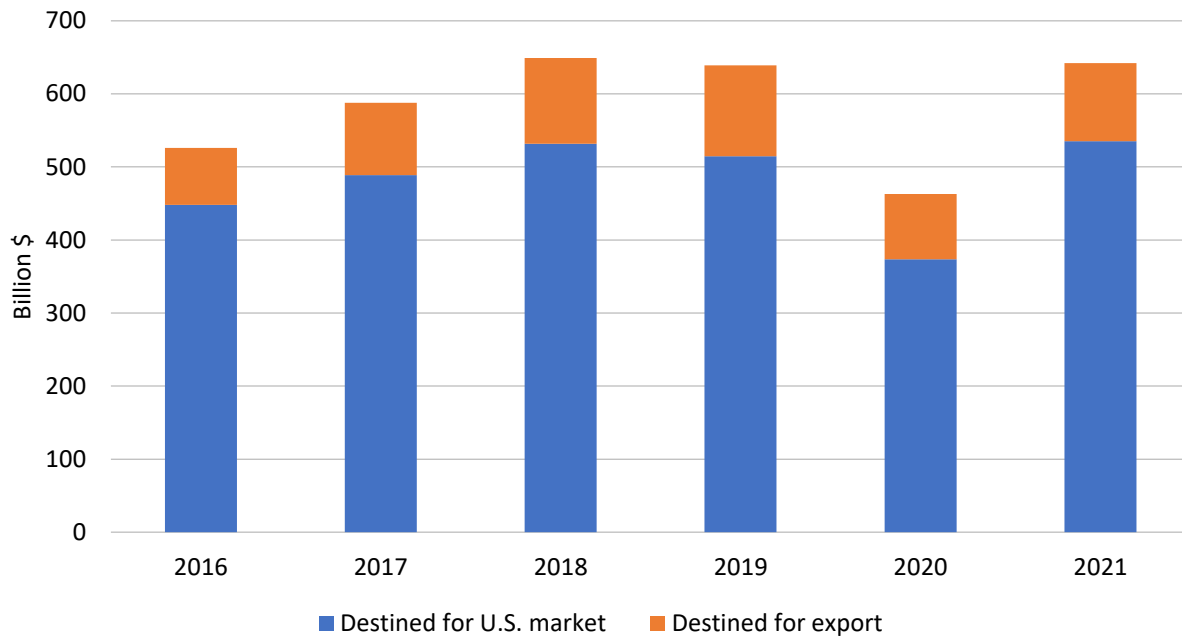
²⁴⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.3 and 2.8.

²⁴⁸ This 77 percent is based on the data in the FTZ Board report (value of merchandise received minus value of exports/value of merchandise received). Note that this approximation ignores the value of merchandise that was potentially destroyed in the zone. Additionally, export figures presented in the FTZ Board reports exclude value-added in the zone, so the figure above assumes a similar share of value added in the total value of export shipments and U.S. shipments. FTZ Board, *78th Annual Report*, November 2017, 6; FTZ Board, *79th Annual Report*, November 2018, 6; FTZ Board, *80th Annual Report*, November 2019, 6; FTZ Board, *81st Annual Report*, November 2020, 6; FTZ Board, *82nd Annual Report*, August 2021, 6; FTZ Board, *83rd Annual Report*, August 2022, 1, 6; FTZ Board staff, email message to USITC staff, January 17, 2023.

²⁴⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Figure 2.9 Outgoing shipments from firms producing in FTZs, by destination, 2016–21

In billions of dollars. Outgoing shipments include both produced and warehoused goods. Underlying data for this figure can be found in appendix H, table H.11.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

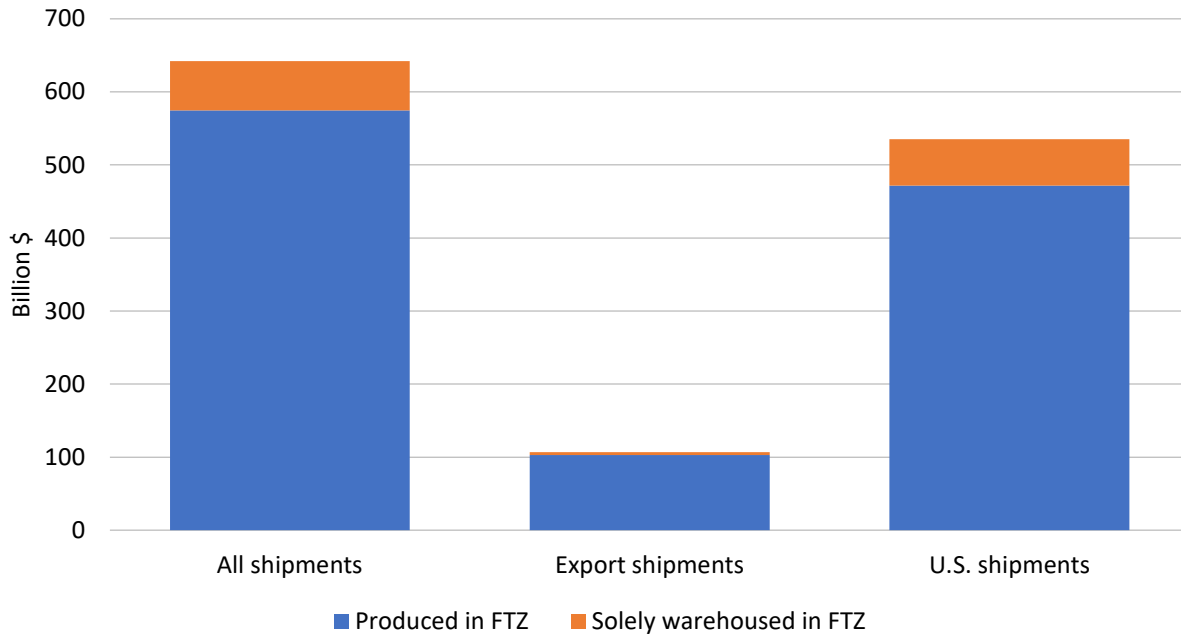
Note: Firms were asked to report the ultimate destination of their shipments out of their FTZs, which means that the value reported as "destined for export" can include direct export shipments (where the foreign status portion of the finished goods was not entered into U.S. customs territory for consumption before exportation) or indirect export shipments (where the foreign status portion of the finished goods was first cleared through Customs before exportation).

These outgoing shipments (produced and warehoused goods) primarily comprised goods produced within U.S. FTZs. In 2021, these goods produced within U.S. FTZs accounted for 90 percent of the value of outgoing shipments from firms producing in U.S. FTZs (figure 2.10). This share was higher in U.S. shipments (97 percent) than in export shipments (88 percent). For firms producing in U.S. FTZs, these shares of U.S. FTZ-produced vs. warehoused goods have been relatively consistent across shipment types (i.e., export shipments and U.S. shipments) since 2016.²⁵⁰

²⁵⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Figure 2.10 Outgoing shipments from firms producing in FTZs, by destination and product type, 2021

In billions of dollars. Outgoing shipments include both produced and warehoused goods. Underlying data for this figure can be found in appendix H, table H.12.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Note: Figure includes value added in the zone (i.e., foreign and domestic content, labor value-added, etc.). Export shipments can include direct export shipments (where the foreign status portion of the finished goods were not entered into U.S. customs territory for consumption before exportation) or indirect export shipments (where the foreign status portion of the finished goods were entered into U.S. customs territory for consumption before exportation). Because of rounding, figures may not add to totals shown.

U.S. Shipments

For firms producing in FTZs, 77–88 percent of the value of annual shipments destined for the U.S. domestic market (U.S. shipments) between 2016 and 2021 were goods produced in zones. The remainder of the shipments by value were solely warehoused goods.²⁵¹ The largest share of inputs in the total value of U.S. shipments were domestic-status inputs—in 2021, this share was 56 percent.²⁵² Value added in the zone was the next largest share (around 31 percent of the value of U.S. shipments in 2021) (figure 2.11).²⁵³ The shares of PF- and NPF-status merchandise for all U.S. shipments declined slightly during this period, from 7 and 10.5 percent in 2016 to 3.5 and 9.2 percent, respectively, in 2021.²⁵⁴ This decline in the share of foreign-status merchandise was driven by shipments of goods produced in U.S. FTZs, which increasingly used more domestic-status inputs. By contrast, shipments of

²⁵¹ Note that the value recorded for entries in the USITC survey data includes the value of domestic and foreign status merchandise and value added during the FTZ production process.

²⁵² When U.S. shipments of goods produced in FTZs are entered into U.S. customs territory, duties are only payable on the value of the foreign status components of the shipment, not the value-added or domestic status components. 19 U.S.C. 81(c)

²⁵³ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

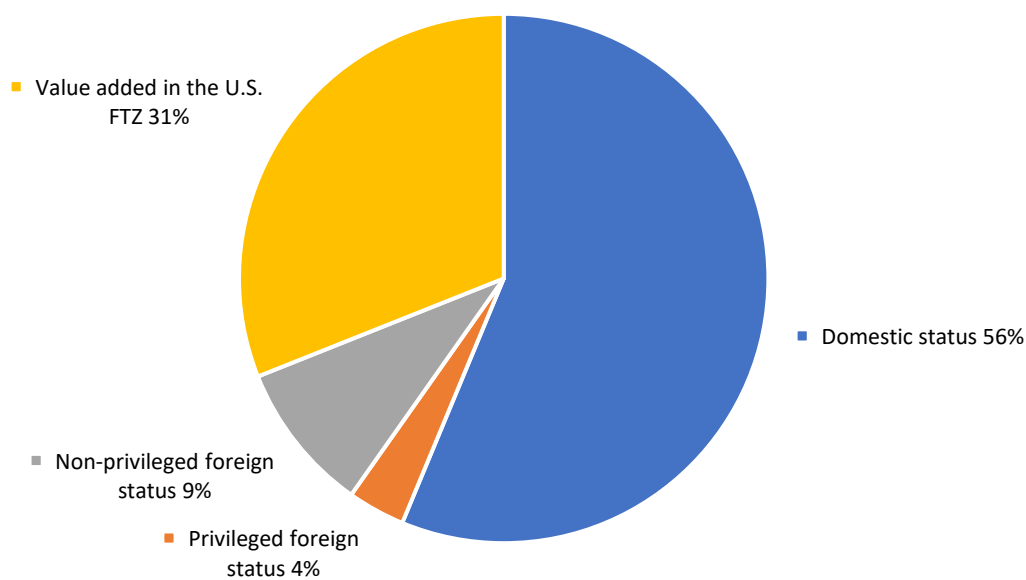
²⁵⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Foreign Trade Zones

warehoused FTZ goods were composed of larger shares of foreign-status merchandise, which increased during the period from 9.7 percent in 2016 to 27.3 percent in 2021.

Figure 2.11 Share of inputs in U.S. shipments by firms producing in U.S. FTZs, by zone status, 2021

In percentages. Shipments include both produced and warehoused goods. Underlying data for this figure can be found in appendix H, table H.13.



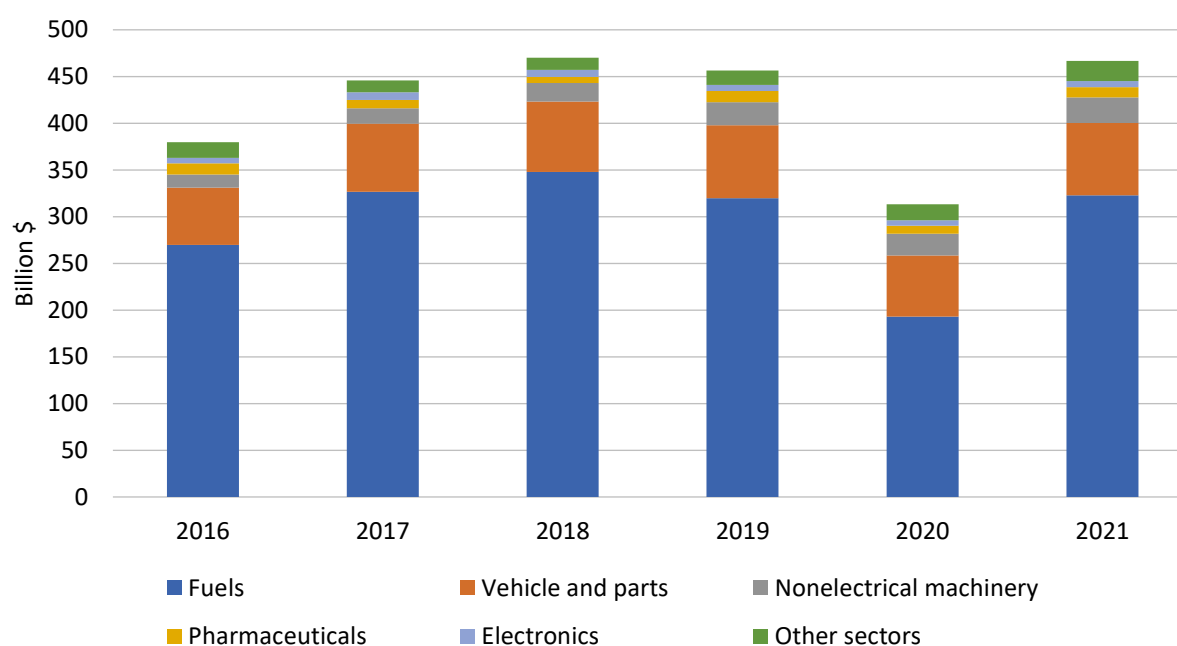
Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Note: For goods produced in FTZs, value added includes direct labor and factory overhead relating to production operations. For goods solely warehoused in FTZs, value added only includes the markup between the unit value of the admitted goods and the final sales value of the shipped goods.

Among firms producing in FTZs, the fuels sector accounted for the largest share (\$322 billion, 68 percent) of U.S. shipments in 2021. It was followed by the vehicles and parts sector (\$77 billion, 16 percent) (figure 2.12).

Figure 2.12 Value of U.S. shipments from firms producing in FTZs, by sector, 2016–21

In billions of dollars. Shipments include both produced and warehoused goods. Underlying data for this figure can be found in appendix H, table H.14.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Note: Other sectors in the figure above include chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous.

Export Shipments

The value of exports²⁵⁵ from firms participating in FTZ operations grew 63 percent, from \$76 billion in 2016 to \$124 billion in 2021. In 2016, about 12 percent of merchandise admitted by firms participating in FTZ operations was for exports. In 2021, this share increased to 15 percent.²⁵⁶ In 2021, production operations accounted for 62 percent of merchandise exported from FTZs, by value, and warehousing and distribution operations accounted for 38 percent.²⁵⁷ The value of exports from U.S. FTZs accounted

²⁵⁵ Export value in the FTZ Board report is based on material inputs and does not include value added through FTZ operations. Merchandise exports as presented by the FTZ Board are gathered from FTZ operators with instructions to consider both direct and indirect export shipments. In speaking with these operators, however, FTZ Board staff found that in practice, most firms provide estimates of direct exports only in their annual reporting, either because they did not know the value of indirect exports or because direct export values were more accessible, given the firm's inventory control software. FTZ Board staff, email message to USITC staff, January 17, 2023.

²⁵⁶ FTZ Board, *78th Annual Report*, November 2017, 6; FTZ Board, *79th Annual Report*, November 2018, 6; FTZ Board, *80th Annual Report*, November 2019, 6; FTZ Board, *81st Annual Report*, November 2020, 6; FTZ Board, *82nd Annual Report*, August 2021, 6; FTZ Board, *83rd Annual Report*, August 2022, 6.

²⁵⁷ FTZ Board, *83rd Annual Report*, August 2022, 1, 6.

for 7 percent of total U.S. exports in 2021.²⁵⁸ The top destination markets for exports from U.S. FTZs and bonded warehouses, excluding Canada, in 2021 were China, Germany, South Korea, and Mexico.²⁵⁹

Of the top 25 production operations exporting the most merchandise from FTZs in 2021 by value, 14 were operated by U.S. petroleum or refining/petrochemical companies²⁶⁰ and five were by vehicle manufacturers.²⁶¹ The remaining operations were by companies in pharmaceuticals, liquid natural gas, and other electronics and telecommunications.²⁶² More information on how the companies within these industries use zones is available in the case studies presented in chapter 3.

As previously discussed in the section on “Transfer for Exportation,” export shipments from U.S. FTZs may consist of direct export shipments and indirect export shipments. In 2021, indirect export shipments accounted for about 77 percent of export shipments by firms producing in FTZs (i.e., those export shipments were entered for consumption before being exported to their foreign destination markets).²⁶³ Only 23 percent of export shipments were exported directly from an FTZ without entering U.S. customs territory.²⁶⁴ Of indirect export shipments, 14 percent were destined for Canada and 22 percent for Mexico. See figure 2.13 below for more details.²⁶⁵

²⁵⁸ USITC DataWeb/Census, accessed October 27, 2022; FTZ Board, *83rd Annual Report*, August 2022, 1, 6.

²⁵⁹ Census records export data from U.S. FTZs and Customs bonded warehouses. Those bonded warehouse and FTZ shipments destined to Canada are excluded from these totals because of a data sharing agreement between the two countries. Census, exports from U.S. FTZs, accessed August 2022.

²⁶⁰ These petroleum companies are listed with the country of company headquarters and the number of production operations owned by that company that fall within the 25 exporting FTZ production operations in 2021 in parentheses: Chevron (United States, 2), CITGO (United States, 1), ExxonMobil (United States, 3), Marathon (United States, 2), Motiva Enterprises (United States, 1), Phillips 66 (United States, 1), Premcor Refining (United States, 1), Shell (United States, 1), and Valero (United States, 2). FTZ Board, *83rd Annual Report*, August 2022, 13.

²⁶¹ These vehicle manufacturers are listed with the country of company headquarters and the number of production operations owned by that company that fall within the 25 exporting FTZ production operations in 2021 in parentheses: Mercedes-Benz (Germany, 1), Nissan (Japan, 1), Tesla (United States, 1), and Toyota (Japan, 2). FTZ Board, *83rd Annual Report*, August 2022, 13.

²⁶² FTZ Board, *83rd Annual Report*, August 2022, 13. Sector designations for production operations are made by the FTZ Board here: <https://www.trade.gov/production-industry>.

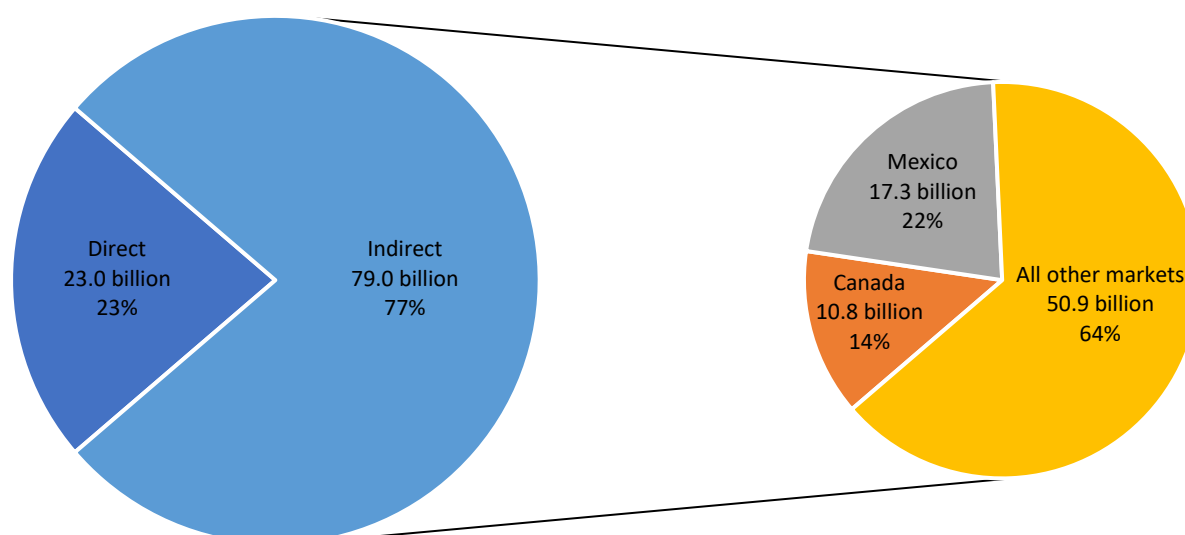
²⁶³ Firms responding to the USITC questionnaire were instructed to consider both direct and indirect FTZ exports, including those that made U.S. Customs entry for the purposes of exportation and those that made U.S. Customs entry for consumption, as required under Article 2.5 of USMCA. See definitions on page 6 of the questionnaire in appendix E.

²⁶⁴ Only 34 percent of goods warehoused by firms producing in FTZs were exported directly from an FTZ without entering U.S. Customs territory. USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.12.

²⁶⁵ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.12 and 2.13.

Figure 2.13 Share of direct vs. indirect export shipments by firms producing in FTZs, 2021.

In percentages. Underlying data for this figure can be found in appendix H, table H.15.



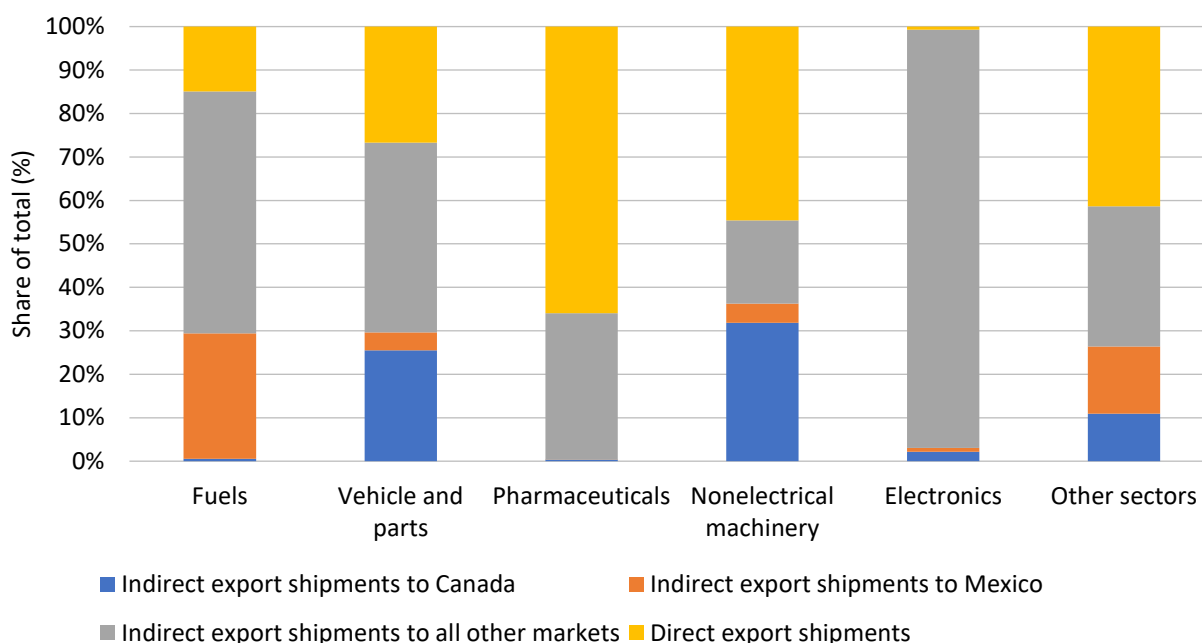
Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.12.

The practice of direct vs. indirect export shipments varies widely across firms producing in FTZs, depending upon their industry sector. Firms in the sectors making up the largest share of FTZ exports—fuels and vehicles and parts—used direct export shipments less frequently. In these two sectors, only 15 percent and 27 percent of exports were via direct exports shipments, respectively. This practice may be driven by firms’ increasing use of domestic-status inputs in producing goods in the zone. Lower shares of dutiable foreign-status content make duty payment upon entry for consumption less burdensome for firms. Additionally, firms in the fuels and the vehicles and parts sector have cited their increased use of the drawback program in conjunction with the FTZ program to seek refunds on the duties, taxes, and fees paid on eligible indirect export shipments (see case studies of these two sectors in chapter 3 for more explanation of these two phenomena). Firms in other sectors comparatively used a much higher share of direct exports shipments, such as 66 percent for pharmaceuticals (figure 2.14).²⁶⁶ For firms producing in FTZs in the fuels sector, 34 percent of indirect export shipments were destined for Mexico. In the vehicles and parts sector, 35 percent of indirect export shipments were destined for Canada.

²⁶⁶ Note that 28 percent of all 2021 outgoing shipments from the pharmaceutical firms producing in FTZs were exports, representing \$4.2 billion of shipments. USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Figure 2.14 Share of export shipments manufactured within their zones by firms producing in FTZs by sector, by type (direct vs. indirect) and destination market, 2021

In percentages. Underlying data for this figure can be found in appendix H, table H.16.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.3 and 2.12.

Note: Other sectors includes chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous.

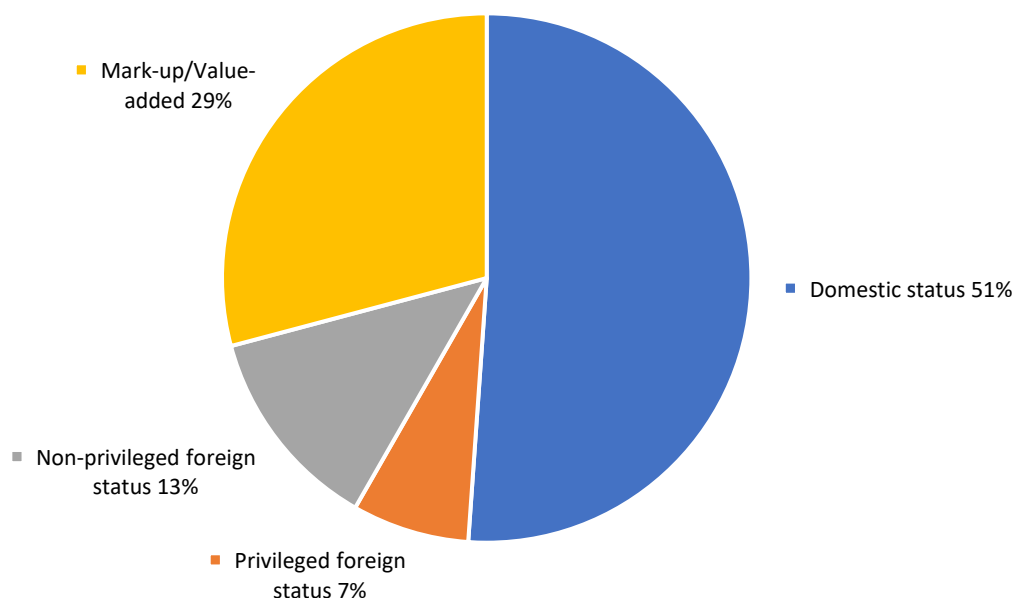
Domestic-status value content accounted for the largest share (48 percent) of inputs into goods produced in FTZs and exported in 2021, followed by value added within a zone, making up around 33 percent (figure 2.15).²⁶⁷ These shares remained relatively consistent during the 2016–21 period.²⁶⁸

²⁶⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

²⁶⁸ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11. Domestic-status content also made up the largest share of total value for exports of shipments of products not produced in FTZs (43 percent) followed by PF-status inputs (21 percent) in 2021. From 2016 to 2020, NPF-status inputs made up the second largest share, ranging from 20 percent to 29 percent of the total value of these shipments. USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.11.

Figure 2.15 Share of inputs in export shipments by firms producing in U.S. FTZs by zone status and value added, 2021

In percentages. Export shipments include both produced and warehoused goods. Underlying data for this figure can be found in appendix H, table H.17.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

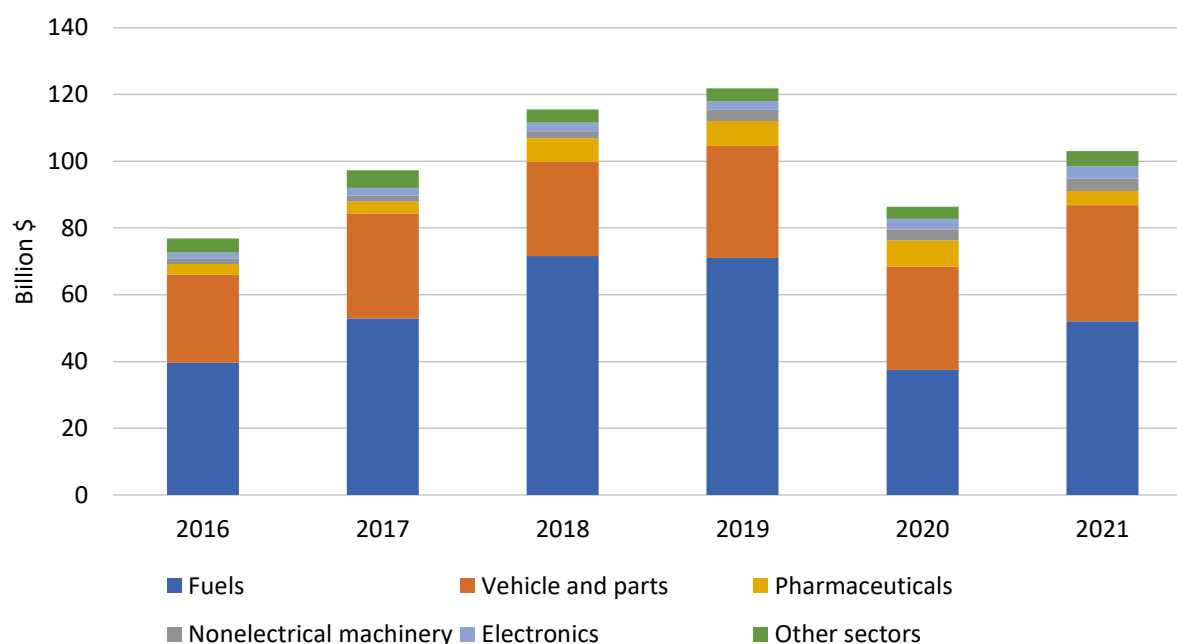
Note: For goods produced in the FTZ, value added includes direct labor and factory overhead relating to production operations. For goods only warehoused in the FTZ, value added includes the markup between the value of the admitted goods and the final sales value of the shipped goods.

Among firms producing in FTZs, the fuels sector made up the largest share, 51 percent (\$53 billion), of the value of total U.S. export shipments from FTZs of goods produced in the zone in 2021. The next largest sector was the vehicles and parts sector (34 percent, \$35 billion) (figure 2.16).²⁶⁹

²⁶⁹ In terms of export shipments of goods not produced in FTZs, firms in the electronics sectors exported the largest share of any sector (60 percent) in 2021. Electronics firms' share of exports of warehoused goods has grown each year since 2016 (33 percent). USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.3 and 2.11.

Figure 2.16 Value of export shipments from firms producing in FTZs, by sector, 2016–21

In billions of dollars. Export shipments include both produced and warehoused goods. Underlying data for this figure can be found in appendix H, table H.18.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.3, 2.10, and 2.11.

Note: Other sectors in the figure above include chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous.

FTZ-Type Programs in Canada

Canada does not have any FTZ-type programs that are directly analogous to U.S. FTZs. Instead, the government of Canada lists five programs—collectively called “FTZ-type programs” in this report—that provide duty and tax incentives to firms engaged in international trade.²⁷⁰ In contrast to the U.S. FTZ programs, these FTZ-type programs are not considered to operate outside the customs territory of Canada.²⁷¹ Three of the programs—the duties relief program, the duty drawback program, and the customs bonded warehouse program—are grouped under the broad duty deferral program (DDP), though each program has its own corresponding regulation. They provide import duty deferral or relief. Two other programs—the Export Distribution Centre Program (EDCP) and the Exporters of Processing Services Program (EOPS)—provide separate relief from the federal Goods and Services Tax (GST) or

²⁷⁰ Government of Canada, Department of Finance, “Foreign Trade Zone,” accessed October 12, 2022.

²⁷¹ Canadian government officials, email message to USITC staff, November 30, 2022; Canadian government officials, interview by USITC staff, December 6, 2022.

Harmonized Sales Tax (HST) for export-oriented businesses (the customs bonded warehouse program also includes GST/HST relief among its available benefits).²⁷²

The Canadian government reports that duty and tax benefits offered by Canada's FTZ-type programs are geographically flexible and can be enjoyed anywhere in Canada.²⁷³ This is a major difference from the U.S. FTZ program, whose benefits apply to eligible operations within the designated FTZ locations. Another major difference is that the Canadian programs do not allow duty reduction or elimination in cases of tariff inversion.²⁷⁴ In addition, because Canadian MFN tariff rates on manufacturing inputs are relatively low, the importance of the duty deferral program for manufacturing firms in Canada may be limited (table 2.6).²⁷⁵

Table 2.6 Selected features of FTZ-type programs in Canada

✓ = Yes, it is a central feature of the program; X = No, it is not a central feature of the program.

EDCP = the Export Distribution Centre Program; EOPS = the Exporters of Processing Services Program.

Program	Duty Deferral	Duty Exemption	Duty Reduction	Duty Drawback	Tax Relief	Geographic Restrictions	Time Limit
Duties relief Program	✓	✓	X	X	✓	X	✓
Duty drawback Program	X	X	X	✓	✓	X	✓
Customs bonded warehouse	✓	✓	X	X	✓	✓	✓
EDCP/EOPS	X	X	X	X	✓	X	✓

Source: Compiled by USITC staff.

Background

Canada's FTZ-type programs, as well as its overall low tariff rates on manufacturing inputs, reflect decades of Canadian government efforts to increase the competitiveness of its domestic industry.²⁷⁶ In 1985, Canada's Ministry of Finance introduced measures to consolidate duty relief, reduction, and deferral programs, which were "designed to assist Canadian manufacturers in increasing their competitiveness in foreign and domestic markets."²⁷⁷ These efforts extended to an initiative to achieve

²⁷² The Goods and Services Tax (GST) is Canada's value-added consumption tax. Several provinces, including Ontario, Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland and Labrador, harmonize their provincial sales taxes with the GST under the Harmonized Sales Tax (HST). These provinces have a single set of consumption tax rules, a single tax administrator, and a single procedure to recover these taxes. British Columbia, Manitoba, and Saskatchewan have separate provincial sales taxes. Quebec has a provincial sales tax that is harmonized with the GST base. Government of Canada, "Foreign Trade Zone," accessed October 12, 2022; Government of Canada, "How Places of Supply Affects GST/HST Rates," accessed October 21, 2022; RCC, "Sales Tax Rates by Province in Canada," accessed October 24, 2022.

²⁷³ Government of Canada, Department of Finance, "Foreign Trade Zone," accessed October 12, 2022.

²⁷⁴ Canadian government officials, interview by USITC staff, December 6, 2022.

²⁷⁵ Canadian government officials, interview by USITC staff, December 6, 2022; Yeh, "Foreign Trade Zones in Canada vs. the United States: Which One to Use?," February 27, 2018. See chapter 1 for more information on Canadian MFN duty rates.

²⁷⁶ In addition to reduced MFN duties, Canada also has sector-specific import provisions allowing for some parts to be imported duty free if imported for use as original equipment. See chapter 3 for more information.

²⁷⁷ Government of Canada, "Securing Economic Renewal: Budget Papers," May 23, 1985, 191.

a “duty free manufacturing tariff regime” that intended to eliminate tariffs on manufacturing inputs and made “Canada one large FTZ for firms importing manufacturing inputs.”²⁷⁸ The unilateral reduction and elimination of duty rates for manufacturing inputs provided firms in Canada with tariff benefits and likely decreased the demand for the benefits offered by Canada’s FTZ-type programs.²⁷⁹ This may lead to a much larger impact of the broader tariff reductions on the cost-competitiveness of export-oriented Canadian firms than its FTZ-type programs. Several U.S. firms noted during interviews that Canadian zero import tariffs on most manufacturing inputs give firms manufacturing in Canada duty savings greater than those available to firms operating in U.S. FTZs.²⁸⁰

The Economic Action Plan of 2013 includes a set of measures that are claimed to reduce red tape, cut costs, improve access to FTZ-type programs, and promote the advantages of Canada’s FTZ-type programs. These measures include the elimination of the annual registration fee for the customs bonded warehouse program, the simplification of the application process to access Canada’s FTZ-type programs, the introduction of services standards for application processing times, and the acceptance of new requests for FTZ point single windows.²⁸¹

Key Policies and Practices

Duty Deferral Program

The duty deferral program, established by law in the Customs Tariff and administered by the Canadian Border Services Agency (CBSA), is Canada’s primary FTZ-type program. The program has three components—the duties relief program, the duty drawback program, and the customs bonded warehouse program—that can be used individually or in combination.²⁸² All three components share the common features that duty relief, either deferral upfront or refund later, is available for goods that are imported into Canada and subsequently exported. Duty relief is available for firms in all industrial sectors and for most goods. Among the few exceptions are fuels or plant equipment consumed in the manufacture of other goods (imported and exported fuels not consumed in the manufacture of other goods are not excluded from duty relief).²⁸³ To qualify for special tariff treatments under each of the three components, imported goods must be exported within four years (five years in the case of imported spirits used to manufacture distilled spirits). The duties become payable if goods no longer qualify for the programs, such as a sale in Canada, or goods are no longer for export. Duty relief is not

²⁷⁸ Government of Canada, Department of Finance, “Foreign Trade Zone,” accessed October 12, 2022.

²⁷⁹ Canadian government officials, interview by USITC staff, December 6, 2022. For more information on MFN rates in the United States, Canada, and Mexico, see chapter 1.

²⁸⁰ Industry representative, interview by USITC staff, August 1, 2022.

²⁸¹ FTZ points are designated locations that include an organization to facilitate firm access to information on FTZ-type programs and other Canadian programs and policies covering trade and foreign direct investment. FTZ points are tied to regional development agencies and do not appear to offer additional duty/tax benefits unavailable elsewhere in Canada. Government of Canada, Department of Finance, “Foreign Trade Zone,” accessed October 12, 2022; Government of Canada, “Economic Action Plan 2013,” March 21, 2013; industry representative, interview by USITC staff, November 17, 2022.

²⁸² Government of Canada, Department of Finance, “Foreign Trade Zone,” accessed October 12, 2022.

²⁸³ Government of Canada, “Memorandum D7-4-1: Duties Relief Program,” March 16, 2015, ¶ 18.

available for imported goods that are subsequently consumed in the domestic market.²⁸⁴ Although specific reporting requirements vary, firms seeking duty relief under each of the three components are responsible for maintaining the records and tracking the activities and movements of imported goods until they are exported. The firms are subject to periodic audits or verifications by CBSA.²⁸⁵

Duties Relief Program

Among Canadian FTZ-type programs, the duties relief program (DRP) perhaps most closely resembles the U.S. FTZ program. It provides firms upfront relief from duty payment at the time of importation on foreign goods that will eventually be exported either in the same condition, or after being consumed, processed, or used to manufacture other goods.²⁸⁶ Participating firms apply for a license according to their business processes, including types of goods imported, manufacturing process, type of good exported, and ability to meet safety requirements.²⁸⁷ Firms may need to submit an amendment to CBSA if the processes change significantly.²⁸⁸ A firm is not required to be export oriented, with, for example, a requirement for exports to exceed a certain percentage of its business (in contrast to programs in Mexico, see below). Once a firm has a DRP license, it does not need approval from CBSA for individual import shipments. This program has several key features:

- In most cases, participants can defer the payments of customs duties, antidumping and countervailing duties, and excise taxes other than GST/HST²⁸⁹ at the time of importation, if the goods are for export.²⁹⁰
- Relief of duties or taxes levied or imposed on certain imported goods (e.g., tobacco products) under the Excise Act 2001, the Excise Tax Act, or section 20 of the Customs Tariff may not be granted under the DRP.²⁹¹
- The imported goods must be exported from Canada within four years, or within five years in the case of imported spirits used to manufacture distilled spirits.²⁹²
- The amount of relief becomes payable once the goods no longer qualify for the program, i.e., if they are no longer intended for export.²⁹³
- Participants can sell or transfer the goods to other authorized DRP participants without having to pay duties. The receiving party would assume the liability for any unpaid duties.²⁹⁴

²⁸⁴ Canadian government official, email message to USITC staff. November 30, 2022. Canadian government officials, interview by USITC staff, December 6, 2022.

²⁸⁵ Canadian government official, email message to USITC staff. November 30, 2022. Canadian government officials, interview by USITC staff, December 6, 2022.

²⁸⁶ Government of Canada, Department of Finance, “Foreign Trade Zone,” accessed October 12, 2022.

²⁸⁷ Canadian government officials, interview by USITC staff, December 6, 2022.

²⁸⁸ Canadian government officials, interview by USITC staff, December 6, 2022.

²⁸⁹ Although relief of GST/HST is not available under the Duties Relief Program, firms can use customs bonded warehouses, the Export Distribution Centre Program (EDCP), and the Exporters of Processing Services Program (EPDP) to seek GST/HST relief benefits, or they can recover the GST/HST payment after goods are exported. Government of Canada, “Memorandum D7-4-1: Duties Relief Program,” March 16, 2015, ¶ 1.

²⁹⁰ Government of Canada, “Memorandum D7-4-1: Duties Relief Program,” March 16, 2015, ¶ 1.

²⁹¹ Government of Canada, “Memorandum D7-4-1: Duties Relief Program,” March 16, 2015, ¶ 3.

²⁹² Government of Canada, “Memorandum D7-4-1: Duties Relief Program,” March 16, 2015, ¶ 12.

²⁹³ Government of Canada, “Memorandum D7-4-1: Duties Relief Program,” March 16, 2015, ¶ 3.

²⁹⁴ Government of Canada, Department of Finance, “Foreign Trade Zone,” accessed October 12, 2022.

- Users do not need bonds or incur licensing fees to use this program.²⁹⁵

Duty deferral and duty exemption benefits provided by the DRP mirror those offered by the U.S. FTZ program, with three significant differences. First, since goods imported under the DRP are not considered to be outside the Canadian customs territory, the Canadian program has a different administrative procedure and paperwork requirements.²⁹⁶ Second, the DRP maintains the tariff lines and associated duty treatments for those duty-deferred goods, which does not allow duty reduction in the situation of tariff inversion when these goods enter the domestic market, a key benefit of the U.S. FTZ program.²⁹⁷ Third, DRP benefits are not restricted to any specific locations and are available to firms located anywhere in Canada, though they have time restrictions.²⁹⁸ As discussed in chapter 1, Canada reduced or eliminated MFN tariffs on most manufacturing inputs in the late 2000s, suggesting that benefits offered by the DRP are not needed by manufacturing firms using those duty-free inputs.

Duty Drawback Program

The DRP allows participating firms to defer the payment of duties and taxes; the duty drawback program (DDP) allows firms to claim a refund of previously paid import duties and taxes (including customs duties, antidumping and countervailing duties, and excise taxes other than GST/HST) when eligible goods are exported.²⁹⁹ Firms may claim drawbacks on imported goods that are further processed, displayed or demonstrated, subsequently re-exported, used to produce other goods for export, or destroyed rather than being sold in Canada or exported.³⁰⁰ Most goods qualify for drawbacks. Among the few exceptions are fuels and plant equipment consumed in the manufacture of other goods (imported and exported fuels not consumed in the manufacture of other goods are not excluded from drawback).³⁰¹ Motor vehicles are subject to additional drawback regulations.³⁰² Firms must file the drawback claim within four years from the date of importation (or five years for destroyed goods).³⁰³

According to industry representatives, the DDP is an important option for Canadian firms seeking duty benefits. It is likely easier to use compared to the DRP and more expedited compared to the U.S. drawback program.³⁰⁴ The DRP does not require licensing or advanced qualification and CBSA has a

²⁹⁵ Government of Canada, Department of Finance, “Foreign Trade Zone,” accessed October 12, 2022.

²⁹⁶ Canadian government official, email message to USITC staff, November 30, 2022; Canadian government officials, interview by USITC staff, December 6, 2022.

²⁹⁷ Canadian government officials, interview by USITC staff, December 6, 2022; Yeh, “Foreign Trade Zones in Canada vs. the United States: Which One to Use?” February 27, 2018.

²⁹⁸ Government of Canada, “Foreign Trade Zone,” accessed October 12, 2022; Kreklewetz, Raphael, “Geographically Flexible Foreign Trade Zones in Canada,” February 5, 2018; Government of Canada, Department of Finance, “Foreign Trade Zone,” accessed October 12, 2022.

²⁹⁹ Government of Canada, “Memorandum D7-4-2: Duty Drawback Program,” November 13, 2014, 1–4. In comparison, antidumping and countervailing duties are not eligible for drawback under the U.S. drawback program. 19 U.S.C. § 1677h.

³⁰⁰ Government of Canada, “Memorandum D7-4-2: Duty Drawback Program,” November 13, 2014, 2.

³⁰¹ PCB, “Canada’s Duty Drawback Program,” September 2022; Government of Canada, “Memorandum D7-4-2: Duty Drawback Program,” November 13, 2014, 3, 19.

³⁰² Government of Canada, “Memorandum D7-3-2: Exported Motor Vehicles Drawback,” November 14, 2014.

³⁰³ Government of Canada, “Memorandum D7-4-2: Duty Drawback Program,” November 13, 2014, 13.

³⁰⁴ Industry representative, interview by USITC staff, August 4, 2022; hearing transcript, p. 64.

financial incentive to process claims quickly: If a firm does not receive its full or partial reimbursement within 90 days of submission, the CBSA is liable for the interest on any balance owed.³⁰⁵

Customs Bonded Warehouse

The customs bonded warehouse (CBW) program in Canada is similar to the U.S. bonded warehouse program, allowing firms to store most types of imported goods in licensed facilities with the deferred payments of customs duties.³⁰⁶ The Canadian CBW program also allows deferral of antidumping and countervailing duties (like the U.S. FTZ program) and excise taxes (including GST/HST) for up to four years, and in the case of goods such as beer and wine, for up to five years.³⁰⁷ CBSA may grant an extension of the time limit upon receipt of a written request.³⁰⁸ Duties and taxes become payable if goods are released for domestic consumption.³⁰⁹ Certain activities are allowed to be performed in a CBW in Canada, provided that they do not change the condition of the goods or materially alter the characteristics of the goods. Activities allowed include disassembling or reassembling, displaying, inspecting, marking, labeling, tagging, packing or unpacking, testing, cleaning, diluting, sorting, and grading.³¹⁰

The United States increased the de minimis threshold in section 321 of the Tariff Act of 1930 from \$200 to \$800 in 2015. Since then, industry representatives reported that use of the Canadian CBW program by companies conducting e-commerce and distribution into the U.S. market has increased. These companies reportedly import bulk shipments into Canadian customs bonded warehouses near the U.S. border without paying Canadian duties/taxes. They then repack goods into individual parcels with values less than \$800 and ship them directly to consumers in the United States, claiming import duty exemption under U.S. section 321 de minimis. For more information, see previous subsection on de minimis rules under the U.S. section and the case study on the FTZ warehousing and distribution operation in chapter 3.³¹¹

EDCP and EOPS

As noted above, the Export Distribution Centre Program (EDCP) and the Exporters of Processing Services Program (EOPS)—provide separate relief from the federal Goods and Services Tax (GST) or Harmonized Sales Tax (HST) for export-oriented businesses.³¹² Both programs are administered by the Canadian Revenue Agency.

³⁰⁵ If firms do not receive the full reimbursement within 90 days of submission, the CBSA will pay interest on any remaining balance owed. However, the Canadian government has up to four years to review applications. If it changes its findings about duty drawback, the firm is required to pay the original duty plus interest. Industry representative, interview by USITC staff, August 4, 2022.

³⁰⁶ Government of Canada, “Memorandum D7-4-4: Customs Bonded Warehouses,” October 21, 2015, 1.

³⁰⁷ Government of Canada, “Memorandum D7-4-4: Customs Bonded Warehouses,” October 21, 2015, 1–4, 29.

³⁰⁸ Government of Canada, “Memorandum D7-4-4: Customs Bonded Warehouses,” October 21, 2015, 30.

³⁰⁹ Government of Canada, “Memorandum D7-4-4: Customs Bonded Warehouses,” October 21, 2015, 2.

³¹⁰ Government of Canada, “Memorandum D7-4-4: Customs Bonded Warehouses,” October 21, 2015, 5.

³¹¹ Hearing transcript, pp. 17-19 (Wood); industry representatives, interviews by USITC staff, July 5 and October 4, 2022.

³¹² Government of Canada, Department of Finance, “Foreign Trade Zone,” accessed October 12, 2022.

The EDCP provides GST/HST relief to export-oriented businesses primarily involved in processing goods, such as distributing, disassembling, or reassembling. This relief is available for most shipments (imported or domestic purchase) invoiced in an amount of at least C\$1,000 (\$747).³¹³ The EDCP eligibility criteria include engaging exclusively (at least 90 percent of operations) in commercial activities, having a minimum of 90 percent of annual business revenue from exports sales, and adding limited value (up to 10 percent through non-basic services, not to exceed 20 percent of total value) to the eligible goods without substantial transformation.³¹⁴

Similarly, the EOPS provides relief from GST/HST for goods that are imported for processing, distribution, or storage and are subsequently exported. The owners of the goods cannot be Canadian residents.³¹⁵ The EOPS program has a different set of eligibility criteria from the EDCP. The minimum level of export sales has no requirements or limits on the value that can be added to a non-resident's goods. The participants cannot own the imported goods or resultant processed goods at any time when they are in Canada and cannot be closely related to the foreign owner of the goods, such as no common ownership of at least 90 percent.³¹⁶

Other Related Trade Policies

Canadian regulations require that firms must comply with USMCA restrictions and limitations on the duty deferral program.³¹⁷ Canadian firms are required to calculate two duty amounts to determine the amount of customs duties subject to claim under the DDP or deferrable under the DRP and apply the lesser of the two.³¹⁸ The amount firms are allowed to claim is the lesser of the customs duties paid or owed on imported goods entering Canada and the customs duties paid on the goods entering another USMCA country.³¹⁹ Firms are required to pay deferred duties within 60 days of export. Upon export to another USMCA country, firms are required to provide satisfactory evidence of duty payment.³²⁰ Canada's free trade agreements with the European Union and the United Kingdom likewise require the payment, within 60 days of export, of any deferred duties on imported inputs used in making goods

³¹³ Government of Canada, "Export Distribution Centre Program," accessed March 10, 2023.

³¹⁴ "Basic services" are distinguished from "non-basic services" when the value added is assessed. Generally, "basic services" means a type of service that may be performed in a customs bonded warehouse (CBW). See the CBE section for more information. Any other services are considered as non-basic service. Government of Canada, Department of Finance, "Foreign Trade Zone," accessed October 12, 2022.

³¹⁵ Government of Canada, Department of Finance, "Foreign Trade Zone," accessed October 12, 2022; Sousa, "A Tale of Two FTZs: Reforming Canada's Foreign Trade Zone Program," May 2018.

³¹⁶ Government of Canada, Department of Finance, "Foreign Trade Zone," accessed October 12, 2022.

³¹⁷ For more information on USMCA restrictions, see U.S. section in this chapter.

³¹⁸ See U.S. section on the "lesser of the two" rule.

³¹⁹ Government of Canada, "Memorandum D7-4-3: NAFTA Requirements for the Duty Drawback and the Duties Relief Programs," May 27, 2015, 4.

³²⁰ Government of Canada, "Memorandum D7-4-3: NAFTA Requirements for the Duty Drawback and the Duties Relief Programs," May 27, 2015. Some categories of goods are exempt from duty relief limitation, and they may be eligible for full duty drawback or deferral. A good may qualify as being in the same condition even after some, limited operations.

exported to those markets. Under both agreements, these imported inputs are not eligible for duty drawback or duty refund.³²¹

Economic Activity

Although the Canadian government does not track trade volumes under these programs, it compiles data that may indicate how these programs are used.³²² Data for fiscal year 2019–20 show that under the DDP, 1,300 firms received approximately C\$176 million (about \$130 million) and under the DRP, 310 firms received C\$255 million (about \$189 million) in duty relief. Under the CBW program, 200 firms received C\$129 million (about \$95 million) and C\$315 million (about \$233 million) in GST/HST in duty deferral for the same period. These numbers indicate that more firms use the DDP than the DRP or the CBW. Extrapolating shipment values from duty relief is not possible given differences in duty rates, especially for agricultural goods, which can be as high as 300 percent. Canadian government officials note that the demand for these programs is likely reduced by the country's low-tariff policy on imports of industrial inputs.³²³

The Commission's survey results can provide a basis for estimating how much Canadian FTZ-type programs, in comparison to the U.S. FTZ program, may help participating firms' competitiveness. Most firms producing in U.S. FTZs that also operate in Canada are active in the same sectors in both countries.³²⁴ Most of these firms (56.1 percent) do not participate in the Canadian FTZ-type programs, and none said FTZ-type programs were a factor in setting up operations in Canada.³²⁵ Of those firms participating in Canadian FTZ-type programs, less than half reported that they realized production cost savings from using the programs. More firms said they realized cost savings from the DRP than from the DDP or the CBW.³²⁶ For firms that realized savings, most said they did not know or were unable to evaluate how production cost savings associated with participation in U.S. FTZs, compared with those associated with participation in Canadian FTZ-type programs.³²⁷

FTZ-Type Programs in Mexico

Mexico does not have a single program directly analogous to the U.S. FTZ program; instead, the government offers multiple programs that provide duty and tax incentives to firms engaged in international trade. The Industria Manufacturera, Maquiladora y de Servicios de Exportación (the Program of Manufacturing Industry, Maquila and Export Services, also known by the Spanish acronym IMMEX) provides duty deferral and duty exemption benefits. Two other programs allow for reduced tariff rates on imports of goods in defined categories. Los Programas de Promoción Sectorial (the Sectoral Promotion Programs, also known by the Spanish acronym PROSEC) allows participating firms

³²¹ Government of Canada, "Canada Customs Tariff (S.C. 1997, c. 36), Part 3, Division 2," January 10, 2022, 98.1 (1), 98.2 (1).

³²² Canadian government official, email message to USITC staff, November 30, 2022.

³²³ Canadian government officials, interview by USITC staff, December 6, 2022.

³²⁴ Sectors where firms were active in both U.S. FTZs and Canada include chemicals, industrial machinery and equipment, metals and minerals, oil drilling equipment, and other consumer products.

³²⁵ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 4.2, 4.3, and 4.4.

³²⁶ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.5.

³²⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.6.

in specific sectors to import goods at reduced duty rates. Regla octava (Rule 8) allows firms to import goods that are not produced in Mexico (or produced in quantities insufficient to meet domestic demand) at reduced duty rates. These duty reduction mechanisms are applicable regardless of whether the goods are later exported or sold in the Mexican domestic market. A comprehensive certification scheme is available for additional tax relief from impuesto al valor agregado (Mexican version of value added tax, also known by the Spanish acronym IVA) of 16 percent and, when applicable, Impuesto Especial de Productos y Servicios (the Special Tax on Products and Services, abbreviated in Spanish as IEPS). Mexico also has several special customs regimes that share some similar features with the U.S. FTZ and U.S. bonded warehouse programs, including recinto fiscal [bonded warehouse], recinto fiscalizado estratégico (Strategic Bonded Warehouse, known as RFE), and depósito fiscal [fiscal deposit]. Like the United States and Canada, Mexico has a duty drawback program that, with restrictions, allows firms to recover previously paid duties when exporting qualifying goods (table 2.7).

Table 2.7 Selected features of FTZ-type programs in Mexico

✓ = Yes, it is a central feature of the program; X = No, it is not a central feature of the program.

IMMEX = the Industria Manufacturera, Maquiladora y de Servicio de Exportación (the Program of Manufacturing Industry, Maquila and Export Services); PROSEC = Los Programas de Promoción Sectorial (the Sectoral Promotion Programs).

Program	Duty deferral	Duty exemption	Duty reduction	Duty drawback	Tax Relief	Geographic Restrictions	Time Limit
IMMEX	✓	✓	X	X	✓	X	✓
PROSEC/regla octava (Rule 8)	X	X	✓	X	X	X	X
Comprehensive certification schemes	X	X	X	X	✓	X	✓
Special Customs Regimes	✓	✓	X	X	✓	✓	✓
Drawback	X	X	X	✓	X	X	✓

Source: Compiled by USITC staff.

Background

NAFTA article 303 (which was replaced by USMCA article 2.5), with its general prohibition on duty exemption for non-originating goods used in production for exports to NAFTA partner countries, spurred a redesign of Mexico's duty deferral programs.³²⁸ Before NAFTA, the major Mexican export promotion programs were Fomento y Operación de la Industria Maquiladora de Exportación (commonly known as the maquiladoras program) and Establece Programas de Importación Temporal para Producir Artículos de Exportación (commonly known by its Spanish acronym, PITEX). These programs provided duty deferral and reduction to firms importing materials, parts, and other goods as long as they were used to produce goods for export.³²⁹ In the years following the NAFTA agreement, the Mexican government set up new duty reduction mechanisms for imported goods, whether or not they are subsequently exported. PROSEC was established in 2002, in response to the phased introduction of NAFTA requirements, including tariff normalization between the three parties and the

³²⁸ For more information on NAFTA restriction, see U.S. section of this chapter.

³²⁹ Doing Business Mexico, "A Guide to International Trade in Mexico," August 2020; Government of Mexico, Secretariat for Home Affairs, "IMMEX Decree," November 1, 2006.

WTO Agreement on Subsidies and Countervailing Measures, which prohibits export subsidies.³³⁰ In establishing IMMEX in 2006, the Mexican government cited both competitiveness in international markets and its commitments under NAFTA.³³¹

Like Canadian FTZ-type programs, the Mexican programs operate in an environment where duty rates on many manufacturing inputs have been unilaterally reduced. Nonetheless, in 2021, among the USMCA countries, Mexico still had the largest percentage of tariff lines subject to non-MFN duty free rates and the highest average MFN tariff rate on raw material inputs for manufactured products.³³² Mexico, however, has 13 free trade agreements with 50 countries.³³³ This provides manufacturing firms with more opportunities to import inputs at FTA preferential duty rates than in the United States, which has 14 FTAs, but covering fewer countries. As with VAT exemption in Canada, eligible firms in Mexico can receive an IVA exemption for imported goods that are later exported.³³⁴

Key Policies and Practices

IMMEX

IMMEX is a duty deferral program established in 2006 to increase the competitiveness of the Mexican export sector.³³⁵ It provides benefits to authorized companies that engage in international trade. Mexico's Federal Tax Code and Income Tax Law limit IMMEX participation to authorized domestic companies and foreign companies with a local subsidiary.³³⁶ IMMEX has five types of participants. The most common is IMMEX industrial companies, which is a status granted to firms that use imported materials and carry out industrial manufacturing processes or transform goods for export.³³⁷

³³⁰ Government of Mexico, Secretariat for Home Affairs, "PROSEC Decree," August 2, 2002. Export subsidies prohibited under the WTO agreement are those that are contingent on export performance. USDOC, ITA, "Trade Guide: WTO Subsidies Agreement," accessed March 16, 2023.

³³¹ Government of Mexico, Secretariat for Home Affairs, "IMMEX Decree," November 1, 2006.

³³² See the background information section in chapter 1 for more information.

³³³ USDOC, ITA, "Mexico: Trade Agreements," September 23, 2022. In addition to USMCA partners, Mexico's FTA partners include the European Union, the European Free Trade Association, Israel, Japan, members of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, and 10 countries in Latin America.

³³⁴ Tetakawi, "VAT Refund in Mexico," March 10, 2021; Government of Mexico, Secretariat of Finance and Public Credit, "First Modifications to Foreign Trade General Rules," July 24, 2020, Reforms, additions, and repeals, 7.3.3, XIII b), XXV.

³³⁵ Government of Mexico, Secretariat for Home Affairs, "Decree of Maquiladora Modifications," November 1, 2006.

³³⁶ Base Aduanera Digital Online (BADO), "IMMEX Decree," accessed January 18, 2022, Article 3; Base Aduanera Digital Online (BADO), "Federal Fiscal Code Article 9," accessed February 14, 2023; Camara de Diputados (Chamber of Deputies of Mexico), "Mexican Income Tax Law," accessed February 14, 2023, article 2.

³³⁷ Other types of IMMEX participants are IMMEX holding companies that control one or more companies in an integrated manufacturing operation; IMMEX service companies that perform services for the processing of goods for export or provide export services; IMMEX shelter companies that import technology, raw materials, and components supplied by foreign companies and carry out contracted industrial activities, exporting their products to the foreign company; and IMMEX tertiary companies that, lacking appropriate infrastructure, carry out manufacturing through third parties under its IMMEX registration. Government of Mexico, Secretariat for Home Affairs, "Decree of Maquiladora Modifications," November 1, 2006.

IMMEX allows participating firms to temporarily import goods into Mexican customs territory and defer the payment of import duties or Impuesto General de Importación (the General Import Tax, known by its Spanish acronym IGI) in Mexico. When an IMMEX firm exports those temporarily imported goods (warehoused or used to manufacture other goods) to foreign destinations, duty payments are exempt on those temporarily imported goods, except with respect to destinations for which duty exemption restrictions apply.³³⁸ In that regard, when an IMMEX firm sells temporarily imported goods to a domestic consumer or exports those goods to a USMCA partner country (or the EU), those goods are treated as “definitive” imports by Mexican customs authorities, and the IMMEX firm must pay applicable Mexican customs duties on them.³³⁹ The applicable duty may be the MFN tariff rate, a preferential duty rate under free trade agreements to which Mexico is a party, or a reduced duty rate available to participants in PROSEC (see below).³⁴⁰

IMMEX’s key provisions apply with respect to products manufactured for export or for delivery to and use by other IMMEX companies or original equipment manufacturers to produce their own products for export.³⁴¹ Under IMMEX, inputs, components, and raw materials imported temporarily may remain in national territory up to 18 months. Firms granted IMMEX status must export a minimum of at least \$500,000 annually or must have exports accounting for a minimum of 10 percent of the annual sales. Firms participating in IMMEX must submit an annual electronic report of total sales and exports for the immediately preceding tax year.³⁴² Automotive parts manufacturers from the United States, Europe, China, and Japan are the primary participants in IMMEX, with additional benefit from automotive fiscal deposits, a separate program described below.³⁴³ Other notable industries using IMMEX include aerospace, clothing and apparel, and personal care products.³⁴⁴

The time required to set up an IMMEX manufacturing operation is about three to four months. A U.S. FTZ production application can take 12 months.³⁴⁵ The initial application to IMMEX is reportedly difficult. IMMEX applicants are required to specify planned inputs, finished goods, equipment, and number of employees. Firms must comply with IMMEX-related regulations and be subject to “thorough” audits. If non-compliance is found, firms may lose the eligibility to participate in the program.³⁴⁶

³³⁸ Base Aduanera Digital Online (BADO), “IMMEX Decree,” accessed March 22, 2023, articles 2, 3.

³³⁹ More than 80 percent of Mexico’s exports are to the United States, Canada, and the EU and, therefore, are not eligible for the temporary good duty exemption. See chapter 3, “Effects of Mexican FTZ-Type Programs,” and table 1.3 for more information on Mexico’s exports. Industry representative, interview by USITC staff, April 5, 2022; Doing Business Mexico, “IMMEX Program,” August 2020; Base Aduanera Digital Online (BADO), “IMMEX Decree,” accessed January 18, 2022; industry representative, interview by USITC staff, March 29, 2022.

³⁴⁰ Base Aduanera Digital Online (BADO), “IMMEX Decree,” accessed January 18, 2022; industry representative, interview by USITC staff, March 29, 2022; Foley & Lardner LLP, “IMMEX Highlights,” August 29, 2019; industry representative, interview by USITC staff, April 5, 2022.

³⁴¹ Base Aduanera Digital Online (BADO), “IMMEX Decree,” accessed January 18, 2022, articles 3, 8; Foley & Lardner LLP, “PROSEC and Rule 8,” October 22, 2019.

³⁴² VTZ, *Doing Business in Mexico*, 2020.

³⁴³ For more information on FTZ use by automotive industry, see chapter 3.

³⁴⁴ Industry representative, interview by USITC staff, March 29, 2022.

³⁴⁵ Industry representatives, interviews by USITC staff, March 29, and September 26 and 27, 2022; USDOC, ITA, “FTZ Case Processing Times,” accessed January 17, 2023.

³⁴⁶ Industry representative, interview by USITC staff, September 26, 2022.

PROSEC and Regla Octava

PROSEC and regla octava are production promotion programs independent from IMMEX, but firms may use these three programs in conjunction. PROSEC allows the imports of a defined set of goods for use in producing specific products for certain industries, with a preferential ad-valorem tariff, regardless of whether the goods produced are for export or the domestic market. Preferential import duties under PROSEC range from 0 percent to 10 percent.³⁴⁷

Preferential tariff rates under PROSEC apply exclusively to the importation of goods in specific sectors for specific end uses. As of April 2022, these sectors were “electrical; electronics; furniture; toys, recreational toys and sports articles; footwear; mining and metals; capital goods; photographic; agricultural machinery; miscellaneous industries;³⁴⁸ chemical; and rubber and plastic goods; steel; pharmaceutical products; medications and medical equipment; transport, except automotive; paper and cardboard; wood; leather; automotive and parts; textile and clothing; chocolates; candies and alike; coffee; and food.”³⁴⁹ The Mexican government provides a list of components and final products by HS code for each of these sectors, specifying the types of imported components that can be used and final products produced to qualify for the preferential tariff treatment under each PROSEC sector. Most PROSEC participants are certified to source/produce under more than one PROSEC sector.³⁵⁰

Authorized PROSEC companies may also be eligible for additional benefits from regla octava, which is a part of the PROSEC program. A regla octava permit allows companies to import goods at reduced duty rates that do not qualify for PROSEC preferential duties. Such eligible goods include machinery and equipment, inputs, materials, and parts and components that are related to the products to be manufactured or assembled in Mexico. These goods are imported under a single tariff subheading, 98.02 “special operations.”³⁵¹ To award a regla octava permit, the Secretariat of the Economy requires that the goods be unavailable or insufficiently available in Mexico, among other criteria.³⁵² Regla octava permits are limited to a specific HTS code, product description, usage, and predicted volume. If the predicted volume is exceeded, firms can reapply for a new permit to cover additional volume.³⁵³ The

³⁴⁷ The PROSEC tariff structure includes 24 industries. Government of Mexico, Secretariat of Economy, “PROSEC Tariff Structure,” November 18, 2021.

³⁴⁸ Sectors covered under “miscellaneous industries” include pet care, glass fiber, glass containers and vials, blinds, metal doors and screen, cigars, etc. Government of Mexico, “PROSEC - Specific Information and Beneficiaries,” accessed March 17, 2023.

³⁴⁹ Foley & Lardner LLP, “PROSEC and Rule 8,” October 22, 2019; Government of Mexico, Secretariat of Economy, “PROSEC,” accessed February 10, 2022.

³⁵⁰ Government of Mexico, Secretariat of Economy, “PROSEC,” accessed February 10, 2022.

³⁵¹ Government of Mexico, SIICEX (Integrated Foreign Trade Information System), “Autorizaciones de Regla 8a – Información General (Rule 8A Authorizations - General Information),” accessed April 15, 2022; Foley & Lardner LLP, “PROSEC and Rule 8,” October 22, 2019.

³⁵² Government of Mexico, Secretariat of Economy, “Rule 8 Permissions,” September 21, 2020. Regla octava permits are similar to temporary duty suspensions or reductions granted by U.S. Miscellaneous Trade Bill Acts (ex. Pub. L. No. 115-239), allowing duty-free or reduced-duty import of goods that are not produced or produced in insufficient quantities by domestic industry.

³⁵³ Industry representative, interview by USITC staff, August 10, 2022.

regla octava application process is relatively easy and quick, in some cases requiring only two days for approval.³⁵⁴

Comprehensive Certification Scheme

Mexico established a Comprehensive Certification Scheme for firms engaging in foreign trade operations. The purpose of this program is to provide trade facilitation measures to make these firms more competitive.³⁵⁵ Two key certifications—IVA/IEPS and Operador Económico Autorizado (Authorized Economic Operators, also known by the Spanish acronym OEA)—provide tax relief, a major benefit to firms participating FTZ-type programs in Mexico.

Multiple IMMEX program participants note that exemption from IVA is a key benefit of IMMEX participation, and for many firms this benefit is more important than duty-related benefits.³⁵⁶ Effective January 1, 2015, goods temporarily imported under IMMEX are subject to the payment of IVA at 16 percent, and when applicable, IEPS.³⁵⁷ At the same time, the Mexican government created an IVA/IEPS certification scheme, which allowed IMMEX participants to either claim and receive an expedited refund of IVA/IEPS payment within 10–20 days once these temporarily imported goods are exported or avoid paying IVA/IEPS upon importation through advance tax credits.³⁵⁸ Firms that do not acquire certification may, instead, avoid IVA/IEPS payment at the time of importation by providing a bond to guarantee payment of tax interest.³⁵⁹ With the IVA/IEPS certification, IMMEX firms can receive additional benefits, depending upon the industry of the IMMEX company.³⁶⁰ In July 2020, the Mexican government amended the Foreign Trade General Rules and introduced substantial changes to reduce the benefits under the IVA/IEPS certification.³⁶¹ Included in the changes are the elimination of the expedited refund process for the IVA/IEPS certification holders, the reduction of time that temporarily imported goods could remain in the country from 36 months to 18 months, and the limitation of many benefits previously available under to IVA/IEPS to firms holding OEA certification.³⁶²

The OEA certification also extends the time that temporarily imported inputs may remain without incurring duty, from 18 to 48 months. It allows importation of goods using express lanes and expedited crossings at the border lanes for expedited inspection. Another benefit of OEA certification is that it

³⁵⁴ Industry representative, interview by USITC staff, September 27, 2022.

³⁵⁵ VTZ, *Doing Business in Mexico*, 2020.

³⁵⁶ Industry representatives, interviews by USITC staff, April 5, and September 7 and 26, 2022.

³⁵⁷ Government of Mexico, Secretariat for Home Affairs, “Tax Incentive Decree,” December 26, 2013, third article.

³⁵⁸ Government of Mexico Tax Administrative Service, “Miscellaneous Tax Resolution 2014,” December 18, 2014, I.2.3.6; VTZ, *Doing Business in Mexico*, 2020; American Industries, “IVA and IEPS Certification for Mexico Manufacturing Companies,” November 8, 2022; Portilla, Ruy-Diaz & Aguilar, “Certification in VAT and IEPS,” accessed February 7, 2023.

³⁵⁹ Base Aduanera Digital Online (BADO), “Article 28A VAT Law of Mexico,” accessed February 20, 2023; BADO, “Article 141 Fiscal Code of Mexico,” accessed February 20, 2023.

³⁶⁰ Foley & Lardner LLP, “Manufacturing in Mexico?,” August 8, 2019.

³⁶¹ Baker McKenzie, “Mexico – Changes to Foreign Trade Rules,” July 31, 2020; Government of Mexico, Secretariat of Finance and Public Credit, “First Modifications to Foreign Trade General Rules,” July 24, 2020.

³⁶² Tetakawi, “VAT Refund in Mexico,” March 10, 2021; Government of Mexico, Secretariat of Finance and Public Credit, “First Modifications to Foreign Trade General Rules,” July 24, 2020, Reforms, additions, and repeals, 7.3.3, XIII b), XXV.

allows firms to reclassify temporary imports into final imports in a single import notice, rather than multiple notices.³⁶³

Special Customs Regimes and Drawback Program

Mexico has multiple special customs provisions allowing for deferral of duties and taxes on goods that are warehoused with only limited processing. These warehousing facilities are similar to customs bonded warehouses, and they can be used in conjunction with IMMEX. The depósito fiscal is a customs regime with a special application for the automotive industry, which allows firms to store domestic or imported goods at a bonded facility, deferring duties and taxes for up to 24 months.³⁶⁴ Goods can be imported from a depósito fiscal to the Mexican market, re-exported, or transferred to IMMEX facilities.³⁶⁵

Automotive fiscal deposits are a specific form of the regime available to original equipment manufacturers (OEMs) in Mexico. Automotive fiscal deposits allow OEMs to defer taxes and duties on imported and domestically purchased goods and to incorporate products from manufacturers operating under IMMEX into vehicle assembly. The regimes also allow deferral of taxes and duties on allowable OEM transfer of vehicles to other facilities using automotive fiscal deposits and introduction of prototypes, machinery, research equipment, parts, tooling, and quality control equipment.³⁶⁶ In addition, the regime grants other benefits such as certification of origin and customs clearance facilitation. OEMs authorized as automotive fiscal deposits may register authorized IMMEX auto parts manufacturers as their suppliers. IMMEX auto parts manufacturers may sell the products under their IMMEX program to OEMs for introduction into automotive fiscal deposit and subsequent incorporation into the OEMs' assembly production of vehicles. The authorization for automotive fiscal deposits lasts for 10 years and may be renewed for another 10-year period. OEMs must comply with strict administrative and inventory control requirements to retain the authorization.³⁶⁷ One participating firm characterized automotive fiscal deposits as widely used in the industry, estimating 90 percent of OEMs use this customs regime (see chapter 3 for more information on automotive fiscal deposits).³⁶⁸

Mexico's customs regime also allows for areas where limited activity can be performed on imported goods without incurring IVA. Recintos fiscales are defined zones operated by Mexican customs authorities where goods can be handled, stored, loaded, unloaded, and cleared.³⁶⁹ Recintos fiscalizados and recintos fiscalizados estratégicos are similar to recintos fiscales but are administered by private

³⁶³ Government of Mexico, Tax Administration Service, "Authorized Economic Operator Benefits," accessed April 15, 2022; VTZ, *Doing Business in Mexico*, 2020.

³⁶⁴ Ortiz, "Depósito Fiscal," April 14, 2021.

³⁶⁵ Government of Mexico, Tax Administration Service, "Customs Regimes Definition," accessed February 20, 2023.

³⁶⁶ Government of Mexico, Secretariat for Home Affairs, "General Rules for Foreign Trade 2017," January 27, 2017, 4.5.29–4.5.32; Menchaca, "What Is an Automotive Fiscal Deposit in Mexico?" March 10, 2022.

³⁶⁷ Foley & Lardner LLP, "What Is an Automotive Fiscal Deposit in Mexico?", March 10, 2022; Foley & Lardner LLP, "IMMEX Highlights—Certificates of Transfer of Goods," October 13, 2019.

³⁶⁸ Industry representative, interview by USITC staff, September 27, 2022.

³⁶⁹ Government of Mexico, Chamber of Deputies, "Customs Law 2021," November 12, 2021, Article 14; Ortiz, "Differences between Customs Regimes," July 5, 2021.

operators who, with the approval of the Mexican Tax Administration Service, can handle and store goods.³⁷⁰

Mexico has, since 1995, had a duty drawback program similar to those in the United States and Canada. The Mexican program, administered by the Secretariat of Economy, allows drawback for imported goods that are either exported in their original condition or as an input into another good. Firms in Mexico must request a duty refund within 90 business days of the day following export and within 12 months of importation. The Secretariat has 10 business days to make a determination on drawback requests.³⁷¹ Under USMCA article 2.5, duty drawback for goods exported to another USMCA partner is limited by the “lesser of the two” rule.

Related Trade Policies and Practices

Firms operating in Mexico can benefit from the country’s 13 FTAs with 50 countries, including the European Union, the European Free Trade Association, Israel, Japan, members of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, and 10 countries in Latin America.³⁷² The preferential duty treatment under most FTAs can be used in conjunction with Mexican FTZ-type programs. NAFTA/USMCA and the Mexico-EU FTA place restrictions on the use of IMMEX for duty exemption, requiring that goods be treated as if for domestic consumption and pay duties before export to a partner country. Given the importance of the U.S. market to Mexican industry, NAFTA/USMCA had an important role in shaping Mexico’s FTZ-type programs, as in the establishment of PROSEC and regla octava. These two programs provide manufacturing firms in Mexico the opportunity to reduce duties on imported inputs used to produce goods that will subsequently be exported to a USMCA partner, if they meet the requirements of those mechanisms. Firms operating in Mexico may also apply preferential duties under most FTAs to non-originating imports that are exported to a USMCA partner.³⁷³

Economic Activity

Public data on economic activity related to Mexican FTZ-type programs are limited. The Mexican government releases some aggregate data on IMMEX. Data show that 5,191 establishments had IMMEX authorizations during 2021. They employed approximately 2.8 million workers (table 2.8), a number significantly higher than the 480,000 workers in the U.S. FTZ program. About 74.4 percent of IMMEX firms’ inputs were imported, and about 25.6 percent were purchased from Mexican suppliers. The inputs used by IMMEX firms grew from \$244 billion in 2016 to \$297 billion in 2021 (table 2.9).

³⁷⁰ Government of Mexico, Chamber of Deputies, “Customs Law 2021,” November 12, 2021, Article 14; Ortiz, “Preparation, Transformation, or Repair in a Controlled Area,” April 8, 2021; industry representative, interview by USITC staff, April 5, 2022.

³⁷¹ Government of Mexico, Secretariat for Home Affairs, “Duty Drawback Decree,” May 11, 1995.

³⁷² USDOC, ITA, “Mexico: Trade Agreements,” September 23, 2022.

³⁷³ Mexico has no implementing law because treaty agreements are binding upon ratification. See e.g., Government of Mexico, Decree Approving the Protocol Replacing NAFTA with T-MEC [USMCA], July 29, 2019; *see also* Government of Mexico, Constitution of Mexico, Feb. 5, 1917, arts. 76(1), 133; Base Aduanera Digital Online (BADO), “IMMEX Decree,” accessed January 18, 2022; industry representative, interview by USITC staff, March 29, 2022; Foley & Lardner LLP, “IMMEX Highlights,” August 29, 2019; industry representatives, interview by USITC staff, April 5, 2022; USDOC, ITA, “Mexico - Country Commercial Guide,” September 23, 2022.

According to the limited information available on PROSEC, almost 4,000 firms participated in PROSEC in 2022 and \$11.0 billion of goods were imported under regla octava in 2021, of which the United States was the largest source, accounting for \$3.3 billion.³⁷⁴

Table 2.8 Number of establishments and employment in IMMEX by period, 2016–21

In number of establishments and millions of employees.

Item	2016	2017	2018	2019	2020	2021
Establishments (number)	5,024	5,076	5,122	5,146	5,163	5,191
Employment (millions)	2.4	2.6	2.7	2.7	2.6	2.8

Source: Government of Mexico, INEGI, Indicadores de Coyuntura, March 2, 2023.

Note: IMMEX stands for Manufacturing, Maquila and Export Services Industries Program (IMMEX is its Spanish acronym).

Table 2.9 Inputs used by IMMEX firms, by source, 2016–21

In billions of dollars and percentages.

Input types	2016	2017	2018	2019	2020	2021
Imported inputs (billion \$)	184	202	209	217	188	221
National inputs (billion \$)	61	73	77	80	65	76
All Input types (billion \$)	244	275	286	296	253	297
Imported inputs (%)	75.2	73.5	73.0	73.1	74.2	74.4
National inputs (%)	24.8	26.5	27.0	26.9	25.8	25.6
All Input types (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: Government of Mexico, INEGI, Indicadores de Coyuntura, March 2, 2023; Exchange Rates UK, March 2, 2023.

Note: IMMEX stands for Manufacturing, Maquila and Export Services Industries Program (IMMEX is its Spanish acronym). Inputs are equivalent to the term "admission" used in the U.S. FTZ program. These data are for manufacturing IMMEX firms only. Dollar figures are calculated based on average annual exchange rates on Exchange Rates UK, which will be used throughout the report. Because of rounding, figures may not add to totals shown.

The Commission's survey results can provide a basis for estimating how much Mexican FTZ-type programs, in comparison to the U.S. FTZ program, may help participating firms' competitiveness. About 27 percent of firms producing in FTZs also have production operations in Mexico. Of them, more than 76 percent participate in Mexican FTZ-type programs (more than 60 percent participate in IMMEX, about 55 percent use PROSEC, and approximately 41 percent use regla octava).³⁷⁵ For 72 percent of U.S. FTZ firms participating in Mexican FTZ-type programs, these programs were a factor for establishing operations in Mexico.³⁷⁶ The majority of these firms realized production savings under IMMEX (82 percent of firms), PROSEC (76.1 percent), and regla octava (52.6 percent).³⁷⁷ For firms that realized savings, most did not know or were unable to evaluate how production cost savings associated with participation in U.S. FTZs compare with those associated with participation in Mexican FTZ-type programs.³⁷⁸ Rather than using cross-border operations to diversify into multiple sectors; 90.1 percent of firms that use U.S. FTZ program and Mexican FTZ-type programs are active in the same sectors, including food products/supplies, other consumer products, chemicals, pharmaceuticals, and steel, in both countries.³⁷⁹

³⁷⁴ SNICE, "PROSEC Directory," May 31, 2022; IHS Markit, "Global Trade Atlas," accessed February 15, 2023.

³⁷⁵ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 4.1 and 4.8. Fewer than 10 percent of firms with production operations in FTZs that also had operations in Mexico used the Automotive Fiscal Deposit, the Recinto Fiscal, or the Recinto Fiscalizado Estratégico.

³⁷⁶ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.9.

³⁷⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.10.

³⁷⁸ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.11.

³⁷⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.7.

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Chapter 3

FTZ and FTZ-Type Program Effects

Summary

This chapter provides an analysis of the effects of current policies and practices of U.S. FTZs and similar programs in Canada and Mexico (FTZ-type programs) on the cost-competitiveness of products of firms operating under these programs.³⁸⁰ The analysis in this chapter uses results from the U.S. International Trade Commission's (Commission's) survey, interviews with industry representatives, public data and other information, a literature review, and case studies focused on five industries. The key findings from this analysis are described below.

U.S. FTZs improve the cost-competitiveness of firms by providing a range of benefits. These benefits vary significantly across sectors and firms, depending on their sourcing of goods and finished materials, shipment destinations, and other operational practices. Firms producing in U.S. FTZs commonly use duty reduction, duty exemption, duty deferral, tax benefits, and logistical and other cost-saving benefits.³⁸¹ Warehousing and distribution operations use all the above provisions, except for duty reduction. Examples of unique uses and benefits of U.S. FTZs from the case studies include the use of zone-to-zone transfers (used by the automotive industry), duty exemption on fuel used by in-bond facilities (petroleum refining), and pre-launch activities before U.S. marketing approval by the U.S. Food and Drug Administration (FDA) (pharmaceutical industry).

Duty reduction and duty exemption are the primary features of U.S. FTZs used by firms to lower their production costs. Most firms producing in U.S. FTZs use the program to reduce duty costs based on tariff inversions or realize duty exemption on exports. Firms producing in U.S. FTZs saved over \$1 billion in 2021 using duty reduction and duty exemption, and many firms consider these to be production cost savings. However, some firms may not realize major cost-competitiveness benefits from U.S. FTZs. One example would be a firm that primarily acquires materials from duty-free sources (like the U.S. domestic market). In another case, a firm might have fewer duty reduction opportunities based on tariff inversions (i.e., duty rates on finished goods are equal to or higher than those of imported materials used to make those goods).

The effects of U.S. FTZs on firms and their usage patterns are driven in large part by non-program-related policies. For all firms, duty savings using U.S. FTZs are largely dependent on whether the firms would otherwise pay duties if importing goods normally, which in turn is based on U.S. normal trade relations (NTR) duty rates. In some sectors, firms may have alternative mechanisms for duty savings on

³⁸⁰ The U.S. Trade Representative's letter uses the term "FTZs" for U.S. FTZs and similar programs in Canada and Mexico. This chapter uses the terms "U.S. FTZs" or "FTZs" interchangeably to refer to the U.S. program and "FTZ-type programs" to refer to programs similar to FTZs in Canada and Mexico. See chapter 2 for a full list of FTZ-type programs in Canada and Mexico.

³⁸¹ "Tax benefits" of U.S. FTZs include savings on inventory taxes and other state and local taxes. "Logistical and other cost saving benefits" of U.S. FTZs include those related to weekly entry, direct delivery, zone-to-zone transfer, merchandise processing fee (MPF) savings, and quota exemption/staging opportunities.

foreign-origin goods, such as duty-free access to imports from free trade agreement (FTA) countries and duty drawback (refunded duties on imported goods for products that are subsequently exported). These alternative mechanisms likely reduce firms' use of the U.S. FTZ program depending on the relative cost savings available.

Other U.S. trade policies and practices that allow duty-free access for imports of finished goods also create competitive challenges for firms producing in U.S. FTZs. The United States-Mexico-Canada Agreement (USMCA) provides duty-free access for eligible imports from Canada and Mexico that compete with the output of firms producing in U.S. FTZs. However, the USMCA explicitly prevents firms producing in U.S. FTZs from using the U.S. FTZ duty exemption benefit for exports to Canada and Mexico. Also, importers do not pay duties on import shipments valued at or below the de minimis threshold, allowing for duty-free access of U.S. imports valued at or less than \$800. U.S. FTZ warehousing and distribution operations that ship small-value orders to U.S. customers are at a competitive disadvantage relative to de minimis imports, because these operations can defer but must ultimately pay duties on imported goods when they are shipped to U.S. customers from a U.S. FTZ.

The impacts of U.S. FTZs on investment, output, and employment are uneven across sectors. Most firms producing in U.S. FTZs experience financial benefits but do not translate those savings into changes in investment, production, and employment in the United States. Some firms producing in FTZs, however, do consider U.S. FTZs to positively affect those measures of activity. Firms producing in FTZs that consider FTZ use to positively affect their investment, production, and employment also grew more rapidly than other firms producing in FTZs across these measures. U.S. FTZ participation is often one of many competitive factors that contribute to firms' operational decisions.

For sectors or firms with increasing North American integration of supply, U.S. FTZ participation generates fewer benefits because firms can access duty-free materials from domestic suppliers or USMCA partners.³⁸² One such sector includes petroleum refiners, which have abundant access to North American crude oil. Another sector includes certain U.S. vehicle manufacturers, which no longer use U.S. FTZs because their reliance on North American parts has reduced their need to access inputs from global sources.

By contrast, U.S. FTZs are a major factor helping to support U.S. investment, production, and employment for certain industries that rely heavily on dutiable materials and other goods. For example, the upholstered furniture industry's use of U.S. FTZs has likely improved the cost-competitiveness of operations that involve the cutting and sewing of upholstery fabric. By reducing costs for this upstream, labor-intensive process, U.S. FTZs have likely contributed to the retention of hundreds of workers in the furniture industry. Likewise, warehousing and distribution operations are able to defer duty costs for goods stored in inventories, and when goods are exported eliminate duties altogether. These savings incentivize firms to invest in warehousing and distribution operations in the United States, which supports employment.

Canadian FTZ-type programs do not offer cost-competitiveness advantages beyond those provided by U.S. FTZs. For all the production sectors examined, firms in Canada are able to import key raw materials under MFN duty rates of free. This duty-free access to raw materials creates an advantage for firms in these sectors, which have no need to use FTZ-type programs to save on duty costs. Canadian FTZ-type

³⁸² "North America" in this chapter refers to the parties to the USMCA: the United States, Canada, and Mexico.

programs are more limited than those in the United States or Mexico because they do not have a duty-reduction mechanism. Although slight differences exist between Canadian and U.S. duty deferral provisions, they are unlikely to significantly affect the competitiveness of warehousing and distribution operations in either country. When comparing warehousing and distribution operations in Canada with those in U.S. FTZs, the competitive advantage is in the use of U.S. de minimis provisions by customers importing from Canada, not in the use of Canadian FTZ-type programs.

Mexican FTZ-type programs offer cost-competitiveness advantages that in certain cases exceed those of U.S. FTZs. Unlike Canada, Mexico has non-free MFN duty rates for many materials. As a result, FTZ-type programs are used often by firms in Mexico to lower duty costs. Of the four production sectors examined in the case studies, the automotive industry is the only sector in which Mexican FTZ-type programs (particularly PROSEC) lead to greater duty reduction savings compared to firms producing in U.S. FTZs. For other sectors, however, Mexican FTZ-type programs offer cost-competitiveness benefits that combine with a variety of other competitive factors to incentivize production and investment in Mexico. These other competitive advantages include low labor costs, proximity to the U.S. market, and preferential access to imports from major trading partners under Mexican free trade agreements. As with Canada, few differences between U.S. FTZs and Mexican FTZ-type programs themselves affect the cost-competitiveness of warehousing and distribution operations in either country. Like Canada, warehousing and distribution operations in Mexico that serve the U.S. market benefit from U.S. de minimis provisions.

Chapter Approach and Organization

This chapter includes three sections: (1) a review of recent literature on the economic effects of U.S. FTZs, (2) an overview, based largely on survey data, of firms' experiences with U.S. FTZs and FTZ-type programs, and (3) case studies on the effects of U.S. FTZs and FTZ-type programs on selected U.S. industries. Collectively, these three sections contain analyses of the effects of U.S. FTZs and FTZ-type programs on the relative production costs of U.S. firms operating in these programs (production cost-competitiveness analysis) and on U.S. employment (employment impact analysis).

The production cost-competitiveness analysis includes an examination of how firms use U.S. FTZs to reduce costs and a quantification of the extent of cost savings from duty reduction and duty exemption, the two primary benefits of U.S. FTZs for most firms producing in FTZs. In addition, this analysis includes descriptions of the limitations of the U.S. FTZ program that prevent some firms from using the program. To analyze the effects of U.S. FTZs and FTZ-type programs on the relative production costs of U.S. firms, the cost-saving benefits of U.S. FTZs are compared with those of similar programs in Canada and Mexico. Most of this analysis is focused on duty costs and duty cost savings on foreign materials used in production. However, a case study focused on warehousing and distribution operations also includes a cost-competitiveness analysis based on costs of goods warehoused and shipped from U.S. FTZs.

The employment impact analysis is directly related to the production cost-competitiveness effects described above. To the extent firms using U.S. FTZs improve the cost-competitiveness of their products, they may have the incentive to invest or produce more in the United States. Likewise, if programs in Canada and Mexico have cost-competitiveness advantages that outweigh those of U.S. FTZ users, this could be a factor incentivizing firms to establish or increase production in those countries rather than in the United States. Any change in investment or output is likely to affect employment as well, even in

cases where firms are highly capital intensive. For this reason, the employment impact analysis of this chapter includes information related to the effects of U.S. FTZs and FTZ-type programs on investment and output in addition to employment itself. In addition, the employment impact analysis includes an examination of how the program affects firms without U.S. FTZ operations, particularly suppliers.

Literature Review on Effects of U.S. FTZs

The following literature review covers recent studies (published between 2010 and 2022) on the economic effects of U.S. FTZs. One group of studies examined how firms use and benefit from U.S. FTZs, using qualitative and descriptive analyses. These studies generally found that duty cost savings, including duty reduction based on tariff inversions, duty exemption on exports, and duty deferral, are a major benefit to many firms using the program. However, these studies found that the duty savings are not uniform across companies and are highly dependent on the share of foreign materials used, the tariff rates on those materials, and the destination for shipments of finished goods. These studies found that other U.S. FTZ-related benefits, such as those involving taxes or pre-entry staging, are also important and for some firms the primary reason for using the program; however, none of these factors was referenced as often as duty cost savings.

Other studies examined the impacts of U.S. FTZs on surrounding communities, using quantitative approaches. Looking at geographically specific data on indicators related to industrial activity, employment, and income, these studies generally found that economic effects of FTZs were positive for areas where zones were recently established. However, one of these studies found that effects were negative for nearby regions without FTZs, suggesting that FTZs benefit certain areas economically at the expense of others.

Studies on the Effects of U.S. FTZs on Firms

Three studies examined the effects of U.S. FTZs on firms using primarily qualitative and descriptive analyses based on industry interviews, literature review, survey data, and broad trends in economic data. The first of these, by Min and Lambert in 2010, used a survey of firms participating in U.S. FTZs to analyze the drivers of these firms' decisions to use FTZs and the corresponding impacts on their operations.³⁸³ This study found that duty-related cost savings on both domestic entries and exports were the primary drivers of U.S. FTZ usage. Many firms indicated that the benefits of U.S. FTZs enhanced their cost-competitiveness, led to increases in capital investment within the FTZ region, and allowed for retention or even expansion of employment. Firms responding to Min and Lambert's survey also emphasized the logistical benefits of U.S. FTZ use; they considered access to transportation infrastructure and warehousing facilities to be important in their decisions to set up within FTZs.³⁸⁴

The second of these studies, published in a 2013 journal article by Tiefenbrun, extensively describes U.S. FTZs and how they compare to global free trade zones. This article described the many cost-related impacts of global free trade zones, including duty cost savings (e.g., duty deferral, duty exemption, and duty reduction) and logistical benefits (e.g., the ability to use U.S. FTZs for quota staging or to showcase

³⁸³ Min and Lambert, "The Utilisation of FTZs," 2010, 114–16.

³⁸⁴ Min and Lambert, "The Utilisation of FTZs," 2010, 116–23.

goods for international sales).³⁸⁵ The article summarized prior research, which found large manufacturing industries using U.S. FTZs benefited from substantial duty cost savings and potentially were incentivized to invest in the United States. However, the article also identified other research noting a number of economic disadvantages associated with U.S. FTZ use, such as a greater reliance on foreign materials in domestic manufacturing and accompanying job losses in domestic component producing sectors. In addition, the article noted that while the U.S. FTZ program was intended in large part to increase employment through increased U.S. exports, exports from these zones had remained relatively unchanged and low relative to total U.S. exports.³⁸⁶

The third study, a 2017 U.S. Government Accountability Office (GAO) report, used company interviews and other analytical techniques to assess the relative importance of specific U.S. FTZ benefits across sectors and companies. The report found that duty reduction and duty exemption allowed companies that relied on substantial amounts of dutiable foreign materials to reduce costs and improve their domestic or international competitiveness. However, for firms that relied on lower-duty materials, these duty-related benefits were less important and generally not in themselves justification for using the U.S. FTZ program. The study also identified indefinite duty deferral as valuable for firms, particularly because of the many benefits associated with being able to time entry of goods into the U.S. market. Although firms were unable to quantify their cost savings associated with duty deferral, the study found that industries with higher capital costs likely benefited to a greater extent from duty deferral. The study also found that, depending on the structure of the firm and the state where it was based, state and local tax savings related to U.S. FTZ use could total millions of dollars.³⁸⁷

Despite these benefits, GAO noted that no clear quantitative evidence showed that the U.S. FTZ program had positively impacted U.S. employment or had affected the hiring decisions of U.S. FTZ users. To support this lack of a firm conclusion on the impacts of the U.S. FTZ program, GAO pointed to the applications for FTZ production authority submitted from 2012 to 2016 in which U.S. firms disagreed about the impacts those FTZ operations would have on job creation and other economic factors.³⁸⁸

Studies on the Regional Economic Effects of FTZs

Three other studies have used empirical analyses to quantify the effects of U.S. FTZs on broader communities (including firms inside and outside the FTZs). These approaches benefit from the use of readily available community-level information (e.g., county- or zip code-level data) rather than voluntarily supplied firm-level information. These studies do not isolate the impacts of U.S. FTZs on firms using zones or on specific aspects of the U.S. FTZ program that generate these effects.

In their 2016 study, Ghosh, Reynolds, and Rohlin analyzed the impacts of U.S. FTZ site establishment (which the study assumes generally corresponded with manufacturing operations) on nonmanufacturing business activity in the zip codes in which the FTZ subzones were established, as well as nearby zip

³⁸⁵ Tiefenbrun, “U.S. Foreign Trade Zones,” 2013, 182–86.

³⁸⁶ Tiefenbrun, “U.S. Foreign Trade Zones,” 2013, 212–22.

³⁸⁷ GAO, *FTZs: CBP Should Strengthen*, July 2017, 10–14.

³⁸⁸ GAO, *FTZs: CBP Should Strengthen*, July 2017, 17–20.

codes.³⁸⁹ The authors used this approach to measure “spillovers” of U.S. FTZ use, or indirect impacts of the program’s use by manufacturers on different sectors.³⁹⁰ The study developed a historical data set covering the number of new and existing establishments and the number of employees across U.S. zip codes. Using these data, the study measured growth rates across these measures in zip codes that had, or were near, recently established FTZ sites. The study then compared that growth to other similar zip codes that did not have FTZs in order to analyze the extent to which FTZs contributed to local effects on the number of nonmanufacturing establishments and employment.³⁹¹ Authors found that, over the long term, both zip codes with new FTZ site designations and adjacent zip codes experienced higher growth in the number of new and existing nonmanufacturing establishments.³⁹² The authors concluded that this evidence suggested that areas where FTZs were located, and their surrounding areas, attracted more entrepreneurs and encouraged retention of existing businesses. Using additional analysis, they found that these results were strongest within five miles of the FTZ site, suggesting that such benefits were largely confined to areas close to the FTZ site.³⁹³

In a 2019 study produced for the National Association of Foreign-Trade Zones (NAFTZ), which advocates for greater use of U.S. FTZs, The Trade Partnership (a U.S. research firm) conducted an economic analysis of the effects of U.S. FTZs on the “Zone Economic Communities” (ZECs). ZECs were defined as counties that had at least a majority of their area within a 17.5-mile radius of the center of the FTZ.³⁹⁴ Using an econometric approach, the study examined growth of employment, wages, and value added in ZECs in the years following the establishment of FTZs. For each ZEC, the study isolated the impacts of the FTZ by comparing growth for these indicators in the ZEC following FTZ establishment to growth rates in a similar community that had not yet established an FTZ.³⁹⁵ Using this approach, the study found that ZECs 10 years after the establishment of an FTZ had an average 0.19 percentage point higher employment growth, an average 0.34 percentage point higher wage growth, and an average 0.37 percentage point higher value added growth.³⁹⁶

In a 2022 study, Lane found uneven effects of FTZs between areas with U.S. FTZs and those without. First, the study used detailed spatial analysis (quantitative analysis based on the attributes of different geographic areas) for a single year (2016). Lane found that counties with FTZs and neighboring counties had higher median household incomes, lower unemployment, and more manufacturing firms than

³⁸⁹ The authors assumed that the primary beneficiaries of new FTZ sites, defined as including general purpose sites and subzones, were manufacturing operations. Therefore, measurement of impacts for nonmanufacturing sectors would provide a means to observe the spillover impacts of FTZs on sectors that did not directly participate in the program. Ghosh, Reynolds, and Rohlin, “The Spillover Effects of U.S. FTZs,” September 13, 2016, 4114–16.

³⁹⁰ Ghosh, Reynolds, and Rohlin, “The Spillover Effects of U.S. FTZs,” September 13, 2016, 4115–16.

³⁹¹ The study used propensity scores to match zip codes with FTZ sites (or neighboring FTZ sites) with similar zip codes that were not eligible to receive FTZ sites. Propensity scores were calculated using several criteria for each zip code, including measures of the level of business activity, the share of establishments engaged in manufacturing, and the existence of large cities. Ghosh, Reynolds, and Rohlin, “The Spillover Effects of U.S. FTZs,” September 13, 2016, 4118–21.

³⁹² Employment effects were not statistically significant. Ghosh, Reynolds, and Rohlin, “The Spillover Effects of U.S. FTZs,” September 13, 2016, 4124.

³⁹³ Ghosh, Reynolds, and Rohlin, “The Spillover Effects of U.S. FTZs,” September 13, 2016, 4123–27.

³⁹⁴ Trade Partnership, *U.S. FTZ Program*, February 2019, 3, 16.

³⁹⁵ Trade Partnership, *U.S. FTZ Program*, February 2019, 32–33.

³⁹⁶ Trade Partnership, *U.S. FTZ Program*, February 2019, 36, 39, 42.

counties that did not have or did not neighbor another county with FTZs.³⁹⁷ Second, the study observed differences in short- and long-term trends across these indicators for counties with FTZs and those without. The study found that from 2009 to 2016, the number of manufacturing firms in counties without FTZs decreased over the long term while unemployment in those counties increased. By contrast, counties with FTZs experienced long-term increases in manufacturing employment.³⁹⁸ The study concluded that FTZs attracted employment and investment in urban areas that already had development advantages and came at the expense of other, often rural, areas.³⁹⁹

Overview of Cost-Competitiveness Effects

This section is an overview of the effects of U.S. FTZs and Canadian and Mexican FTZ-type programs on the cost-competitiveness of U.S. firms. The first part of this section describes the effects of the U.S. FTZ program on firms' production costs. The second part analyzes how Canadian and Mexican FTZ-type programs affect the competitiveness of firms operating in those countries, according to an analysis of the policies and practices in those countries and firms' experiences with and perceptions of FTZ-type programs. The third part of this section describes the impact of these programs on U.S. employment, investment, and output. These analyses are based on the Commission's survey of firms with U.S. FTZ production as well as a broad record of information developed through the Commission's hearing, other industry outreach, and publicly available information.

U.S. FTZ Production Cost-Competitiveness Effects

Firms with U.S. FTZ production use the program to reduce costs that account for a relatively small portion of their total shipments: the cost of foreign-status goods. In 2021, firms with active production operations in U.S. FTZs shipped goods worth \$642.1 billion from their FTZ facilities.⁴⁰⁰ The cost of foreign-status goods shipped from firms' FTZ facilities composed 13.9 percent of the value of these firms' shipments from U.S. FTZs in 2021, or \$89.1 billion. Firms can reduce the cost of foreign-status goods by using provisions that generate duty savings (duty reduction, duty exemption, and duty deferral) and tax, logistical, and other cost benefits, such as savings on U.S. customs fees and streamlined customs procedures. Most of the value of total shipments by firms producing in U.S. FTZs (86.1 percent) consisted of costs and income that could occur in any non-FTZ operation, such as profits, value-added costs (such as labor and overhead), and domestic-status material costs of goods sourced from within the United States (including foreign-origin goods that previously entered the U.S. customs territory).⁴⁰¹

³⁹⁷ The magnitude by which the presence of FTZs was estimated to raise incomes, decrease unemployment, and increase the number of manufacturing firms in these counties varied significantly across the country, however. For example, these effects were strongest around major waterways and coastal areas. Lane, "The Impact of Foreign Trade Zones in the United States," 2022, 120–23, 138, 145–46.

³⁹⁸ Lane, "The Impact of Foreign Trade Zones in the United States," 2022, 133, 139–44.

³⁹⁹ Lane, "The Impact of Foreign Trade Zones in the United States," 2022, 138–39, 146–47.

⁴⁰⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

⁴⁰¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Duty Savings in U.S. FTZs

For most firms that operate within U.S. FTZs, duty savings—including duty exemption, duty reduction, and duty deferral—are the primary benefits received and the reason for using the U.S. FTZ program. Duty savings from duty exemption and duty reduction totaled \$1.2 billion, slightly less than 2 percent of the value of shipments of foreign-status goods from firms producing in FTZs in 2021.⁴⁰² Firms using U.S. FTZs realize duty savings on goods that, when entered into U.S. customs territory, are subject to non-free NTR duty rates and that are not eligible for entry using preferential tariff rates such as those under FTAs or trade preference programs. Most firms producing in U.S. FTZs that have duty savings are able to use those savings to lower their production costs.⁴⁰³

Duty savings in U.S. FTZs occur largely within a few sectors that rely at least to some extent on foreign-origin materials that are subject to non-duty-free rates when entered into U.S. customs territory.⁴⁰⁴ NTR duty rates have become free for many goods as a result of the Uruguay Round Agreement and the WTO Information Technology Agreement, substantially reducing the use of U.S. FTZs to realize NTR duty savings for many products.⁴⁰⁵ The sectoral concentration of duty savings can be demonstrated using product-level data on U.S. imports admitted into FTZs and bonded warehouses.⁴⁰⁶ Table 3.1 shows the top 10 U.S. imports of intermediate goods admitted into FTZs and bonded warehouses in 2021 that had non-free NTR duty rates.⁴⁰⁷

⁴⁰² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10, 2.11, and 3.4.

⁴⁰³ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.2.

⁴⁰⁴ Duty cost savings are realized only on goods that would otherwise be subject to non-free duty rates. For multiple potential reasons, foreign-status admissions can also include a variety of goods subject to duty rates of free. Some firms that source a variety of different kinds of foreign-origin goods may choose to admit both duty-free and dutiable goods into FTZs under foreign-status for the sake of administrative efficiency in admission processes. As described below within box 3.1, some firms combine dutiable inputs with duty-free NPF status admissions within kitting operations to realize duty reduction savings. Additional duties may be applied on goods that have NTR duty rates of free. Tax, logistical, and other cost savings (described in greater detail below) also can drive foreign-status admissions of goods that have duty rates of free. Industry representatives, interviews by USITC staff, July 22 and August 10, 2022.

⁴⁰⁵ Ehmann, written submission to the USITC, November 30, 2022; CDF, written submission to the USITC, November 21, 2022; WITA, “Zoning in on Foreign Trade Zones (Part 2),” February 17, 2011; industry representative, interview by USITC staff, September 9, 2022.

⁴⁰⁶ Analyses of product-level foreign-status admissions into FTZs in this chapter rely on U.S. import data for admissions into bonded warehouses and FTZs (U.S. Census Bureau data for general imports under rate provision “00”) despite the possibility that these data also include some bonded warehouse admissions. Production activity in bonded warehouses is limited and therefore it is less likely that such facilities would admit substantial quantities of intermediate foreign goods. According to one U.S. government official, FTZs account for the large majority of total U.S. imports admitted into bonded warehouses and FTZs. U.S. government official, interview by USITC staff, August 1, 2022.

⁴⁰⁷ Intermediate and finished goods in this section were defined using the UN Statistical Commission’s Classification by Broad Economic Categories (BECs), which classifies HS-6 subheadings by end use among other breakouts. Intermediate goods reported in this section are those classified by BEC as having an end use of “intermediate consumption” whereas finished goods are those classified by BEC as having an end use of “final consumption” or “gross fixed capital formation.” HS 2710.19 is classified by BEC as having potential end uses of either “final consumption” and “intermediate consumption.” Because HTS-8 subheading 2710.19.06 is likely further refined, it is considered an intermediate good. HTS-8 subheading 2710.19.11 is considered a finished good for purposes of this analysis. UNSD, “BEC,” accessed January 31, 2023.

As discussed in chapter 1, the average NTR duty rate is 0.2 percent on raw material inputs for industrial use but 3.7 percent for intermediate inputs for industrial use. Imports of intermediate goods admitted into FTZs and bonded warehouses with non-free NTR duty rates were primarily those commonly used as materials in production by three sectors: petroleum refiners, pharmaceutical manufacturers, and vehicle and parts producers.⁴⁰⁸ These sectors also accounted for about two-thirds of nonprivileged foreign (NPF) status admissions in 2021 among firms producing in U.S. FTZs.⁴⁰⁹ More than half of duty savings from FTZ production activities occur within the sectors producing pharmaceuticals and vehicles and parts, whereas duty savings have substantially decreased for the refined petroleum sector. See case study 1 (Automotive Industry), case study 3 (Petroleum Refining), and case study 4 (Pharmaceutical Manufacturing) for more detail.

⁴⁰⁸ USITC DataWeb/Census, General imports, accessed December 21, 2022.

⁴⁰⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

Table 3.1 U.S. imports of intermediate goods admitted into FTZs or bonded warehouses, top 10 HTS subheadings with non-free NTR duty rates, 2021

In millions of dollars. — (em dash) = not applicable; degrees A.P.I. = scale expressing the gravity or density of petroleum liquids; n.e.s.o.i. = not elsewhere specified or indicated; NTR duty rates = normal trade relations duty rates listed in column 1-general of the HTS.

Product type	HTS-8 subheading	U.S. NTR duty rate	Admissions into FTZs and bonded warehouses (million \$)
Petroleum oils and oils from bituminous minerals, crude, testing 25 degrees A.P.I. or more	2709.00.20	10.5 cents/barrel	11,049
Petroleum oils and oils from bituminous minerals, crude, testing under 25 degrees A.P.I.	2709.00.10	5.25 cents/barrel	7,429
Distillate and residual fuel oil (including blends) derived from petroleum or oils from bituminous minerals, testing under 25 degrees A.P.I.	2710.19.06	5.25 cents/barrel	3,855
Aromatic or modified aromatic drugs of other heterocyclic compounds, n.e.s.o.i.	2934.99.30	6.5%	2,831
Aromatic heterocyclic compounds with oxygen hetero-atom(s) only described in additional U.S. note 3 to section VI, n.e.s.o.i.	2932.99.61	6.5%	1,930
Spark-ignition reciprocating piston engines for vehicles of 8701.2 or 8702–8704, cylinder capacity greater than 2000 cc, new	8407.34.48	2.5%	1,916
Other aromatic or modified aromatic drugs containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure	2933.59.53	6.5%	1,731
Parts and accessories of motor vehicles of 8701.2, 8702, 8703 or 8704, gear boxes	8708.40.11	2.5%	1,662
Other sulfonamide drugs (excluding anti-infective agents)	2935.90.60	6.5%	1,433
Parts of storage batteries, including separators, therefore, other than parts of lead-acid storage batteries	8507.90.80	3.4%	1,303
Total top 10 NTR dutiable subheadings for intermediates	—	—	35,140

Source: USITC DataWeb/Census, General imports, accessed December 21, 2022; USITC, HTS, March 2022.

Note: Although this study examines use of FTZs between 2016 and 2021, this table uses a comparison between 2017 and 2021 to compare trends in admissions across individual tariff lines. The Harmonized System (HS) was revised in 2017, and as a result, multiple *Harmonized Tariff Schedule of the United States* (HTS) subheadings used in 2017–21 were not used in 2016. Data for U.S. imports admitted into FTZs and bonded warehouses (U.S. Census Bureau data for general imports under rate provision “00”) are used in this chapter as a proxy for product-level admissions of foreign-status materials into FTZs despite the possibility that these data also include some bonded warehouse admissions.

The U.S. imports of dutiable finished goods most frequently admitted into FTZs and bonded warehouses in 2021 were passenger vehicles, various refined petroleum products, and apparel and footwear (table 3.2). These goods were subject to relatively high NTR duty rates when entered into U.S. customs territory. It is unlikely that goods such as these would undergo additional substantial transformation within FTZs. They are, therefore, more likely to be part of FTZ warehousing and distribution operations. These operations are described in greater detail in case study 5 (Warehousing and Distribution).

Table 3.2 U.S. imports of finished goods admitted into FTZs or bonded warehouses, top 10 HTS subheadings with non-free NTR duty rates, in million dollars, 2021

In millions of dollars. — (em dash) = not applicable; n.e.s.o.i. = not elsewhere specified or indicated; NTR duty rates = normal trade relations duty rates listed in column 1-general of the HTS.

Product type	HTS-8 subheading	U.S. NTR duty rate	Admissions into FTZs and bonded warehouses (million \$)
Motor vehicles to transport persons, with spark-ignition internal combustion piston engines with cylinder capacity greater than 1,500cc but less than or equal to 3,000cc	8703.23.01	2.5%	15,082
Motor vehicles to transport persons, with spark-ignition internal combustion piston engines with cylinder capacity greater than 3,000cc	8703.24.01	2.5%	3,703
Light oil motor fuel from petroleum oils and bituminous minerals (other than crude) or preparations 70 percent or more by weight from petroleum oils	2710.12.15	52.5 cents/barrel	806
Motor vehicles to transport persons, with spark-ignition internal combustion piston engines and electric motors incapable of charge by plug to external source	8703.40.00	2.5%	678
Sports footwear with outer soles rubber or plastic and uppers of textile, valued at over \$12 per pair	6404.11.90	20.0%	650
Sweaters, pullovers and similar articles, knitted or crocheted, of cotton, n.e.s.o.i.	6110.20.20	16.5%	620
Footwear with outer soles of rubber/plastic and uppers of textile, n.e.s.o.i., valued at over \$12 per pair	6404.19.90	9.0%	546
Men's or boys' trousers and shorts, not bibs, not knitted or crocheted, cotton, not containing 15% or more by weight of down, etc., other than recreational performance outerwear	6203.42.45	16.6%	504
Distillate and residual fuel oil (including blends) derived from petroleum oils or oil of bituminous minerals, testing 25 degree A.P.I. or more	2710.19.11	10.5 cents/barrel	482
Women's or girls' trousers, breeches and shorts, not knitted or crocheted, of cotton, n.e.s.o.i., other than recreational performance outerwear	6204.62.80	16.6%	454
Total top 10 NTR dutiable subheadings for finished goods	—	—	23,525

Source: USITC DataWeb/Census, General imports, accessed December 21, 2022; USITC, HTS, March 2022.

Note: Although this study examines use of FTZs between 2016 and 2021, this table uses a comparison between 2017 and 2021 to compare trends in admissions across individual tariff lines. The Harmonized System was revised in 2017, and as a result, multiple HTS subheadings used in 2017–21 were not used in 2016. Data for U.S. imports admitted into FTZs and bonded warehouses (U.S. Census Bureau data for general imports under rate provision “00”) are used in this chapter as a proxy for product-level admissions of foreign-status materials into FTZs despite the possibility that these data also include some bonded warehouse admissions.

Duty Exemption in U.S. FTZs

Duty exemption allows firms to eliminate deferred duties if goods are exported from U.S. FTZs and, as a result, duty exemption primarily benefits firms that are highly export oriented.⁴¹⁰ About 70 percent of firms producing in U.S. FTZs benefit from duty exemption. About half of all firms producing in U.S. FTZs

⁴¹⁰ For more detail on how FTZs provide firms with duty exemption benefits, see chapter 2.

considered duty exemption to be extremely important in their decisions to operate within the program.⁴¹¹ In 2021, firms producing in U.S. FTZs realized duty exemption savings within their operations totaling \$497.2 million, an increase of 140.8 percent over savings in 2016.⁴¹² Most of the increase in duty exemption savings during this period was due to substantially higher pharmaceutical and electronics exports and associated savings in 2021. Along with vehicles and parts (which did not experience the same level of growth but have, in recent years, accounted for high values of FTZ export shipments), these sectors accounted for 79.1 percent of total duty exemption savings in 2021.⁴¹³

Duty exemption under the U.S. FTZ program is not available for firms producing in FTZs for their exports to Canada, Mexico, and Chile.⁴¹⁴ For firms that export to these destinations, duty reduction (described below) may offer an alternative method of saving on duty costs. However, as described below, duty reduction is limited to situations where the NTR duty rate on imports of foreign-status goods admitted into an FTZ is higher than the NTR duty rate on the finished good (tariff inversion). Therefore, the duty exemption restriction for U.S. exports to Canada and Mexico limits the extent of duty savings possible for exporting firms producing in U.S. FTZs. In 2021, firms producing in U.S. FTZs paid \$109.6 million in duties on the value of foreign-status admissions that were used in FTZ production operations and then exported to Canada and Mexico. U.S. customs duties paid on foreign-status materials incorporated within exports to Canada and Mexico accounted for 15.3 percent of total U.S. customs duties paid on goods produced in and shipped from U.S. FTZs.⁴¹⁵

Duty Reduction in U.S. FTZs

Duty reduction is used by U.S. producers to save on duties for goods that are substantially transformed in the United States and then make U.S. customs entry, which is required when goods are shipped domestically or exported to Canada, Mexico, or Chile.⁴¹⁶ As a result, duty reduction is the most significant source of duty savings for firms that use dutiable foreign materials in production and that primarily serve these markets. When firms admit inputs into an FTZ under NPF status and then make U.S. customs entry, they pay duties on the value of NPF status inputs based on the NTR rate of the finished product. If the NTR rate for the finished product is lower than the NTR rate for the admitted material input (an “inverted tariff” or a “tariff inversion”), the firm can reduce its duty costs. As described in box 3.1, kitting, or combining components (including finished components) into a single product offering, is another approach that some assembly operations use to reduce duties on NPF status goods. Privileged foreign (PF) status shipments or shipments from warehouses have no duty reduction opportunities.

⁴¹¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁴¹² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4.

⁴¹³ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 3.4.

⁴¹⁴ Under U.S. implementing law for FTAs with these countries, goods that are produced in FTZs and then exported to those destinations are treated for U.S. duty collection purposes as if they had been withdrawn for U.S. consumption. As a result, applicable U.S. customs duties are collected on the value of these exports. See chapter 2 for more detail.

⁴¹⁵ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 3.4 and 3.5.

⁴¹⁶ For more detail on how FTZs provide firms with duty reduction benefits, see chapter 2.

Box 3.1 Kitting Operations in U.S. Foreign Trade Zones (FTZs)

Kitting refers to a process in which U.S. FTZ operators combine multiple nonprivileged foreign-status (NPF) status components or materials and sell them as a set for retail sale, or kit, which could be classified under the same tariff line as a component (generally a finished product) that gives the kit its essential character. Examples of kits include a cellphone sold with a holster, a power drill sold with a detachable lithium-ion battery, a smartwatch sold with a watch band, or alcoholic beverages sold with glassware. Most kits referenced in notifications for kitting operations contain multiple additional foreign-status components.^a Kitting is performed in accordance with the FTZ Act, which allows for, among other things, the repacking and mixing of foreign and domestic merchandise within FTZs.^b

In cases where kits can be classified under a single tariff line, a single NPF status component that gives the kit its essential character (e.g., a cellphone, HTS 8517.12) retains the same tariff classification between FTZ admission and customs entry. Other NPF status components (e.g., a holster, HTS 3926.90) are incorporated within the cellphone's tariff classification upon customs entry. Consumer and portable electronics companies such as Samsung Electronics (which had FTZ admissions of \$10–25 billion in 2021), Apple (\$1–5 billion), and Flex (\$250–500 million) are among the primary users of U.S. FTZs for kitting.^d Certain manufacturers use their FTZ production authority solely for kitting, but others include kitting operations as a part of their broader FTZ production operations. One manufacturer with FTZ production authority states that within its FTZ production operations, those operations involving assembly account for 70 percent of its added value. Kitting accounts for the other 30 percent.^e

Box table 1 shows the potential savings from U.S. FTZ kitting operations associated with one product: wearable electronic communication or data devices (otherwise known as “smartwatches”).^f A smartwatch kit includes the smartwatch itself, which is subject to an NTR rate of free, as well as other components such as watch bands made of leather, silicon, steel, or nylon fabric that are subject to NTR tariffs ranging from 1.8 percent to 11.2 percent.^g Kitting smartwatches with watch bands in a U.S. FTZ allows for personalization of finished products sold to customers, avoiding the need to import quantities of each possible smartwatch/watch band combination or otherwise limit customers' options for customization. Upon shipment of the smartwatch kit from the U.S. FTZ into U.S. customs territory, the facility would pay the applicable duties on the value of all foreign-status components included within the kit. However, duties paid on the value of NPF status watch bands (as permitted within the firm's FTZ production authority) that are kitted with smartwatches would be based on the smartwatch NTR duty rate of free and would thus be reduced to zero. Using this approach, a smartwatch kitting company could save hundreds of thousands to millions of dollars on their foreign-status inputs.

Box table 1 Examples of U.S. imports of smartwatch components admitted into FTZs and bonded warehouses, 2021

In millions of dollars and percentages.

Product description	HTS subheading	U.S. NTR duty rates (%)	Admissions into bonded warehouses and FTZs (million \$)	Total U.S. general imports (million \$)	Share of U.S. general imports admitted into bonded warehouses and FTZs (%)	Potential savings from duty reduction using kitting (million \$)
Smartwatches and similar mobile devices	8517.62.00	Free	5,338	42,221	12.6	0.0
Metal watch bands	9113.20.40	11.2	13	38	33.2	1.4
Textile watch bands	9113.90.40	7.2	10	19	51.1	0.7
Watch bands of other materials	9113.90.80	1.8	72	151	47.7	1.3

Source: USITC DataWeb/Census, General imports, HTS subheadings 8517.62.00, 9113.20.40, 9113.90.40, and 9113.90.80, accessed December 10, 2022; USITC, HTS, March 2022.

Note: Data for U.S. imports admitted into FTZs and bonded warehouses (U.S. Census Bureau data for general imports under rate provision “00”) are used in this chapter as a proxy for product-level admissions of foreign-status materials into FTZs despite the possibility that these data also include some bonded warehouse admissions. The potential savings from duty reduction using tariff inversion were calculated by multiplying the total value of U.S. FTZ admissions by the NTR rate of duty. The savings would apply to all companies’ imports of the products under this subheading for use in making smartwatches eligible for duty-free entry. Also, companies may bring in other products as inputs, so the potential savings could be higher

^a 80 Fed. Reg. 10456 (February 26, 2015); 78 Fed. Reg. 45911–12 (July 30, 2013); 86 Fed. Reg. 11921 (March 1, 2021); 83 Fed. Reg. 34825 (July 23, 2018).

^b 19 U.S.C. § 81c(a).

^c Section 3(b) of the General Rules of Interpretation states that composite goods and goods put up in sets for retail sale (kits) shall be classified “as if they consisted of the material or component which gives them their essential character.” CBP has previously ruled on the application of this rule to cellphone kits in FTZs. USITC, HTS, general rules of interpretation, 2021; CBP, CROSS Ruling HQ H103166, July 26, 2010.

^d FTZ Board, *83rd Annual Report*, August 2022.

^e Industry representative, interview by USITC staff, Sept 26, 2022.

^f This example is based on XPO Logistics’ notification of proposed production activity in FTZ No. 72. In its notification, XPO Logistics stated that it would operate the FTZ on behalf of its customer, Apple Inc. 86 Fed. Reg. 11921 (March 1, 2021); XPO Logistics, “Notification of Proposed Production Activity,” March 1, 2021.

^g The finished smartwatch is classified under the HTS-8 subheading 8517.62.00 (machines for the reception, conversion and transmission or regeneration of voice, images or other data, including switching and routing apparatus). Separate foreign-status inputs that could be included within the kit are those under subheadings 9113.20.40 (watch straps, watch bands and watch bracelets, and parts thereof, of base metal, whether or not gold- or silver-plated, valued at more than \$5 per dozen), 9113.90.40 (watch straps, watch bands and watch bracelets, of textile material, and parts thereof), and 9113.90.80 (watch straps, watch bands and watch bracelets, other than of precious metal, base metal or textile material, and parts thereof). USITC, HTS, March 2022; XPO Logistics, “Notification of Proposed Production Activity,” March 1, 2021.

Duty reduction accounts for the greatest overall amount of NTR duty savings related to U.S. FTZ use, as 96 percent of shipments of goods produced in U.S. FTZs in 2021 made U.S. customs entry and were unable to benefit from duty exemption as a result.⁴¹⁷ About 80 percent of firms with these operations in U.S. FTZs experience a duty reduction benefit, making it the benefit associated with U.S. FTZ use most commonly experienced by such firms. Almost 75 percent of firms producing in U.S. FTZs consider duty reduction to be at least moderately important in their decisions to operate within the U.S. FTZ program. Nearly 60 percent consider duty reduction to be extremely important in these decisions.⁴¹⁸ In 2021,

⁴¹⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.12.

⁴¹⁸ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

firms producing in U.S. FTZs realized duty reduction savings from these operations totaling \$730.2 million, an increase from \$603.3 million in 2016.⁴¹⁹

Unlike duty exemption, duty reduction leads to fewer savings within sectors that produce finished goods that are subject to higher NTR duty rates (such as fuels, vehicles and parts, nonelectrical machinery, and chemicals). In these sectors, inverted tariffs often account for only a small share of a firm's collective inputs and outputs, limiting the primary mechanism for duty reduction (see case studies 1 and 3 on the automotive and petroleum refining industries, respectively). Similarly, firms that rely largely on PF status admissions have no duty reduction opportunities with respect to those admissions, because duties are collected according to the applicable tariff rate covering goods as they were admitted into the zone.

In 2021, firms producing in U.S. FTZs paid NTR duties on foreign-status goods worth \$714.7 million, demonstrating that U.S. FTZs do not allow those firms to completely eliminate duties on foreign-status goods when entered for consumption domestically.⁴²⁰ Most of these duties were paid by firms producing vehicles and parts in U.S. FTZs, because auto parts and finished vehicles (which account for a large share of FTZ production) are generally subject to an NTR duty rate of 2.5 percent. This limits the opportunity to realize duty reduction in the vehicle and parts sector to the limited instances where tariff inversion exists. In comparison, the pharmaceutical industry—another major sector using U.S. FTZs—paid almost no duties on foreign-status inputs used in their FTZ production operations, because most finished pharmaceuticals are subject to NTR duty rates of free.⁴²¹

Duty Deferral in U.S. FTZs

For many firms operating in U.S. FTZs, the ability to delay—if not reduce—payment of duties on foreign-status admissions until goods enter the U.S. customs territory or are exported is a substantial cash flow benefit, because duty costs are incurred on goods closer to the time of sale.⁴²² Duty deferral is available to firms using FTZs for all foreign-status admissions and shipments from FTZs, regardless of the PF versus NPF status designation, use in production versus warehousing and distribution, or destination. More than 75 percent of firms producing in U.S. FTZs use duty deferral. Almost 40 percent of firms producing in U.S. FTZs consider duty deferral to be extremely important in their decision to operate within U.S. FTZs. Firms producing in U.S. FTZs in the minerals and metals, fuels, and nonelectrical machinery sectors place relatively greater importance on duty deferral than firms in other sectors.⁴²³

Duty deferral primarily benefits companies that have high inventory levels of material feedstock or that hold high-value inventories of finished products or parts used for aftermarket sales or servicing of equipment.⁴²⁴ For capital-intensive production operations, duty deferral can also help firms save money

⁴¹⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 3.4.

⁴²⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4. Per the request letter and as discussed in chapter 1, this study does not address the effects of additional duties imposed under U.S. trade remedy laws (19 U.S.C. § 1671 et seq.), section 301 the Trade Act of 1974, as amended (19 U.S.C. § 2411 et seq.), or section 232 of the Trade Expansion Act of 1962, as amended (19 U.S.C. § 1862) (additional duties). As presented in this chapter, the value of duties paid on PF status admissions does not include these additional duties.

⁴²¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4.

⁴²² For more detail on how FTZs provide firms with duty deferral benefits, see chapter 2.

⁴²³ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁴²⁴ Industry representatives, interviews by USITC staff, July 22 and 28, 2022; USITC, *Foreign Trade Zones Questionnaire*, 2022, narrative responses to question 3.8.

on high-value manufacturing equipment used within FTZs, because duties are not collected on the value of imported capital equipment until the time that it enters operational use.⁴²⁵ By contrast, duty deferral is less beneficial for firms that rely on lean or “just-in-time” inventory material sourcing or that have low inventory levels of finished goods because of a constant flow of sales.⁴²⁶ Duty deferral is less important for firms that have low costs of capital (e.g., when interest rates are low).⁴²⁷ Case study 5 on FTZ warehousing and distribution operations describes a variety of other benefits of duty deferral for goods that are not directly used by firms in production operations.

Tax, Logistical, and Other Cost-Saving Benefits of U.S. FTZs

Multiple other U.S. FTZ program provisions are not directly related to duty savings. Rather, they are more broadly related to the different U.S. customs procedures that occur for goods that are admitted into and shipped from zones. These include streamlined U.S. customs procedures, particularly (1) direct delivery of admissions into FTZs from ports, (2) weekly entry procedures in which a single customs entry can be filed for seven consecutive days’ worth of entries and exports, and (3) zone-to-zone transfers of duty-deferred goods. Direct delivery improves the logistical capability of firms that frequently admit foreign-status goods into their production operations and that need access to those goods quickly and reliably.⁴²⁸ Weekly entry reduces the customs reporting frequency for firms that have many shipments from FTZ facilities each week, which reduces administrative costs (including customs brokerage fees) but also merchandise processing fees (MPFs) on entries.⁴²⁹ Zone-to-zone transfers allow firms the flexibility to receive the benefits from U.S. FTZs and maintain an extended domestic supply chain involving multiple facilities and firms, as long as those operations are also within zones.⁴³⁰

More than 70 percent of firms producing in U.S. FTZs experience streamlined customs procedures or savings on customs fees such as MPFs. Firms that do experience these benefits are mixed on the importance of these effects in determining their use of U.S. FTZs. Firms in the vehicles and parts and nonelectrical machinery sectors placed relatively greater importance on these benefits than other sectors.⁴³¹ This reflects the many kinds of inputs used in producing complex machinery and vehicles, and the reliance on just-in-time delivery systems. This also translates to a greater need for more streamlined logistics across a large number of shipments into and out of production facilities.⁴³²

Few firms producing in U.S. FTZs experience improved quota timing management as a result of their use of U.S. FTZs.⁴³³ Most U.S. import quotas and tariff-rate quotas involve goods such as agricultural goods and food products, which are not major sectors that use U.S. FTZs, though there are some quotas on manufactured products for which staging in FTZs may be used.⁴³⁴ Therefore, timing of shipments to

⁴²⁵ Industry representative, interview by USITC staff, September 9, 2022.

⁴²⁶ Industry representatives, interviews by USITC staff, April 29 and August 2, 2022.

⁴²⁷ Industry representative, interview by USITC staff, April 10, 2022; GAO, *FTZs: CBP Should Strengthen*, July 2017, 12.

⁴²⁸ USITC, *Foreign Trade Zones Questionnaire*, 2022, narrative responses to question 3.9.

⁴²⁹ Industry representatives, interviews by USITC staff, March 2 and September 27, 2022.

⁴³⁰ Industry representative, interview by USITC staff, September 27, 2022.

⁴³¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁴³² Industry representatives, interviews by USITC staff, April 29, and August 2 and 10, 2022.

⁴³³ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁴³⁴ CBP, “Quota Bulletins,” accessed January 1, 2023; industry representative, interview by USITC staff, October 4, 2022.

fulfill first-come, first-served quotas is not a priority for most firms producing in FTZs. However, as described in case study 4 (Pharmaceutical Manufacturing), staging of goods in FTZs before FDA marketing approval is important in that sector.

Similarly, most firms producing in U.S. FTZs do not experience local or state tax savings. However, those firms that do experience local or state tax savings generally consider these effects to be extremely important in their decision to use U.S. FTZs. More so than in other parts of the United States, firms producing in FTZs in Texas, Louisiana, Puerto Rico, Kentucky, and Arizona consider local or state tax savings to be extremely important.⁴³⁵ These jurisdictions were described in chapter 2 as having local and state real estate taxes that are, in some cases, reduced for FTZ users and inventory taxes that are exempt for FTZ users under the FTZ Act.⁴³⁶ Relatedly, petroleum refiners (which are largely centered in Texas and Louisiana) were among those considering such savings to be extremely important, as described in greater detail in case study 3 (Petroleum Refining).⁴³⁷

Limitations of U.S. FTZ Production Cost-Competitiveness Effects

Although U.S. FTZs positively affect cost-competitiveness for many firms using the program, these benefits are limited by certain aspects of the program as well as other factors such as relative NTR duty rates. Many firms are unable to use U.S. FTZs to improve their cost-competitiveness and therefore do not use the program for their production operations. Some firms producing in U.S. FTZs between 2016 and 2021 have either deactivated FTZ subzones or expect reductions in their operations within the next five years.⁴³⁸ In addition to analyzing the effects of U.S. FTZs on firms using the program, most of the case studies below highlight the experiences of firms that are unable to use U.S. FTZs to realize savings and positive impacts.

Industry representatives provided multiple reasons why producers do not use or may cease to use U.S. FTZs for all or part of their production operations, most of which relate to limitations on duty savings.⁴³⁹ In some cases, duty savings may be simply unnecessary because firms primarily source foreign goods that can be directly imported under NTR duty rates of free or that originate from duty-free sources such as FTA partners or domestic sources.⁴⁴⁰ In other cases, duty savings are limited by the structure of the program and its administration. For example, the FTZ Board has placed limitations on the production authority for some firms. These firms therefore cannot use U.S. FTZs to realize the full range of duty

⁴³⁵ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.3 and 3.1.

⁴³⁶ 19 U.S.C. § 810(e).

⁴³⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁴³⁸ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.4 and 2.6.

⁴³⁹ Multiple firms producing in U.S. FTZs provided narrative responses to the USITC questionnaire that address these issues. These responses include those explaining why they deactivated subzones, why they project reduced operations within FTZs during the next five years, and why they do not exclusively use FTZs for their U.S. production operations. USITC, *Foreign Trade Zones Questionnaire*, 2022, narrative responses to questions 2.4, 2.6, and 3.11.

⁴⁴⁰ Increased reliance on or access to duty-free materials has led firms such as vehicle manufacturers and petroleum refiners to reduce their use of FTZs over the long term. See case study 1 (Automotive Industry) and case study 3 (Petroleum Refining) for more details.

savings that would otherwise be available to firms without such restrictions.⁴⁴¹ In addition, if a company relies on foreign materials that are required to be admitted under PF status, such materials would retain their tariff classification upon entry into U.S. customs territory rather than entering under the classification of finished goods.⁴⁴² In these instances, and where the NTR duty rate of the finished good is lower than the imported foreign status material, a firm would be unable to use duty reduction that would be otherwise available if such materials were admitted under NPF status.⁴⁴³ Likewise, if NTR duty rates on goods produced in U.S. FTZs are high relative to the NTR duty rates of foreign-status materials, duty reduction based on tariff inversions is limited.⁴⁴⁴ As described above, the duty exemption restriction for U.S. exports to Canada and Mexico limits duty savings for exporting firms producing in FTZs. These limitations on duty savings would be extensive for firms that rely heavily on exports to these countries and where duty reduction is not possible based on the duty rates of materials and finished goods.⁴⁴⁵ Firms that do not realize duty savings generally have little incentive to use the U.S. FTZ program.

Comparison with Effects of FTZ-Type Programs

FTZ-type programs in Canada and Mexico operate differently from U.S. FTZs but offer firms comparable benefits (see chapter 2 for a detailed discussion of the provisions of each country's FTZ-type programs). This section describes how firms use the Canadian and Mexican FTZ-type programs to realize duty cost savings. It then compares those duty cost savings to those of firms producing in U.S. FTZs, according to the experiences and perceptions of those firms in the United States.⁴⁴⁶ (More detailed comparisons of duty savings possible for specific foreign materials are included within the case studies). As described above with respect to U.S. FTZs, duty saving features of Canadian and Mexican FTZ-type programs affect firms' cost-competitiveness. However, this is only to the extent that those firms rely on foreign-origin goods that would be dutiable. Therefore, the program-related cost-competitiveness advantages of each country are examined within the context of that country's broader tariff policy.

⁴⁴¹ About 17 percent of firms producing in U.S. FTZs were subject to additional requirements and restrictions imposed by the FTZ Board or the CBP. USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.5. Examples of these restrictions are described in greater detail within box 3.3 in case study 2 (Upholstered Furniture).

⁴⁴² 19 C.F.R. §§ 146.41 and 146.65.

⁴⁴³ USITC, hearing transcript, May 17, 2022, 47 (testimony of Christopher Carney, FDP Virginia) and 59–60 (Fred Ferguson, Vista Outdoor); industry representative, interview by USITC staff, October 4, 2022.

⁴⁴⁴ Case study 1 (Automotive Industry) and case study 3 (Petroleum Refining) give more detail on how most of the finished goods made by FTZ production facilities within these sectors have NTR duty rates that are as high or higher than the NTR duty rates on key material inputs, reducing the impact of FTZs on these firms' sales to United States and duty exemption-restricted export markets.

⁴⁴⁵ Industry representative, interview by USITC staff, October 4, 2022.

⁴⁴⁶ Most of the overlap between the three countries' programs involves their ability to provide firms with duty savings. Although Canada and Mexico have programs that provide benefits other than duty savings, particularly related to value-added tax deferral, these provisions are not directly comparable to non-duty benefits under the U.S. FTZ program. Therefore, this chapter's comparison of the relative competitiveness of North American programs is based on those programs' duty saving features.

Effects of Canadian FTZ-Type Programs

Canada's FTZ-type programs do not offer many duty saving opportunities to firms that are not otherwise available as part of the country's broader trade and tariff policy. Canada has unilaterally reduced its MFN duty rates during the last two decades (as described in chapter 1).⁴⁴⁷ As a result, the applied MFN duty rate for most raw materials and intermediate inputs for industrial use is free.⁴⁴⁸ Canada has negotiated free trade agreements with its largest source of imports (the United States) as well as several other major trading partners, such as the European Union and the members of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).⁴⁴⁹ In 2021, 76 percent of Canadian imports came from countries with which it has signed free trade agreements, with 49 percent of Canadian imports coming from the United States.⁴⁵⁰

As described in chapter 2, the government of Canada collects little information on the extent of firm use of Canada's FTZ-type programs. However, Canadian industry and government representatives indicate that manufacturing firms' use of Canadian FTZ-type programs has declined because of national efforts to reduce tariffs on manufacturing inputs.⁴⁵¹ According to these sources, many of the savings involved with these programs pertain to agricultural inputs subject to high MFN duty rates that can reach triple digits, as well as to certain capital equipment.⁴⁵² These products do not overlap with foreign-status materials admitted by the manufacturing sectors that are the primary users of production authority within U.S. FTZs.

Use of Canada's FTZ-type programs is likely further limited by the lack of any duty reduction mechanism within the programs. All of Canada's FTZ-type programs are focused on duty and tax deferral, as well as duty exemption and duty drawback on exports. As with the United States, the USMCA substantially restricts duty exemption or duty drawback on foreign materials used in Canadian production and then exported to the United States and Mexico.⁴⁵³ Canada is subject to similar prohibitions on duty exemption or duty drawback on exports to the European Union.⁴⁵⁴ Collectively, these export destinations accounted for 81.6 percent of Canada's total exports in 2021.⁴⁵⁵ Therefore, for this large

⁴⁴⁷ Government of Canada, written submission to the USITC, December 2022.

⁴⁴⁸ CBSA, Customs Tariff 2021, December 21, 2021. See chapter 1 for further description of Canada's MFN duty rates for raw material and intermediate inputs for industrial use.

⁴⁴⁹ Government of Canada, written submission to the USITC, December 2022. For a list of current Canadian free trade agreements, see Government of Canada, "Trade and Investment Agreements," accessed January 2, 2023.

⁴⁵⁰ S&P Global, GTAS, accessed March 16, 2023.

⁴⁵¹ Industry representative, interview by USITC staff, November 17, 2022; Canadian government representative, interview by USITC staff, December 6, 2022.

⁴⁵² CBSA, Customs Tariff 2021, accessed February 2022; industry representative, interview by USITC staff, November 17, 2022; Canadian government representative, interview by USITC staff, December 6, 2022.

⁴⁵³ As described in chapter 2, drawback or waiver of duties payable on Canadian exports of foreign materials used in Canadian production to USMCA parties would be limited to the lesser of (1) duties payable to Canada on the value of imported foreign materials used in production and (2) customs duties paid in the destination market when such exports are imported into the United States or Mexico. Canadian exports of goods produced in Canada and meeting the applicable ROO, however, would be eligible for preferential treatment under the USMCA and, therefore, would be subject to a free duty rate in the United States and Mexico, such that the "lesser of the two" rule would not allow duty savings. USITC, hearing transcript, May 17, 2022, 10 (testimony of Jeffrey Tafel, NAFTAZ).

⁴⁵⁴ CETA, Article 2.5.

⁴⁵⁵ S&P Global, GTAS, accessed December 20, 2022.

majority of Canadian exports and for Canadian domestic shipments, Canada's FTZ-type programs would not provide any benefits other than duty and tax deferral. For the remainder of exports that are shipped to other countries, duty exemption is comparable to what is available to users of U.S. FTZs: total elimination of duty costs.

Firms producing in U.S. FTZs generally have little awareness of the Canadian FTZ-type programs. Although 21.6 percent of firms producing in U.S. FTZs also have operations in Canada, those firms generally do not use Canadian FTZ-type programs.⁴⁵⁶ Although some firms producing in U.S. FTZs also operate in Canada, none of these firms operates in Canada in order to participate in FTZ-type programs in that country.⁴⁵⁷ Less than half of firms producing in U.S. FTZs are aware of competitors in Canada within their sector, and fewer than 15 percent are familiar with the operations of these competitors. Firms that are familiar with operations of competitors in Canada are not generally aware of whether companies there use FTZ-type programs.⁴⁵⁸

For imported materials, producers in Canada in several sectors have lower duty costs than those of firms producing in U.S. FTZs. However, these advantages are largely due to Canada's broader tariff policy rather than the benefits of Canadian FTZ-type programs. The few firms producing in U.S. FTZs that also use Canadian FTZ-type programs were generally unable to distinguish the extent of duty savings realized under Canadian programs compared to those realized under U.S. FTZs.⁴⁵⁹ About 10 percent of firms producing in FTZs that are familiar with their competitors' operations in Canada consider those operations in Canada likely to have lower production costs in general.⁴⁶⁰ However, most of these firms producing in U.S. FTZs do not attribute any of the cost advantages of operations in Canada to those operations' use of FTZ-type programs.⁴⁶¹

⁴⁵⁶ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 4.1 and 4.3. The most frequently used Canadian program by firms producing in U.S. FTZs was the duty drawback program, with 15.9 percent of firms with operations in Canada reporting use of that program. Canada's duty drawback program is used more frequently than the duties relief program and also provides for duty exemption on exports, albeit without use of a duty deferral provision. Although firms using duty drawback are required to pay Canadian customs duties at the time of importation, duty drawback in Canada may be less administratively burdensome than the duties relief program for firms that do not export all or most of their production outside Canada, the United States, Mexico, and the EU. Industry representative, interview by USITC staff, November 17, 2022; Canadian government representative, interview by USITC staff, December 6, 2022.

⁴⁵⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.4.

⁴⁵⁸ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 5.1 and 5.3. Information presented in this section and the section below on Mexican FTZ-type programs based on responses to questions in section 5 of the Commission's questionnaire are not comparable to data presented in appendix G derived from the same questions. The analyses in chapter 3 of the effects of Canadian and Mexican FTZ-type programs use data from section 5 of the questionnaire based on responses of firms producing in FTZs that indicated that they were either somewhat or very familiar with operations of their competitors in Canada (for the section on Canada) or Mexico (for the section on Mexico). Appendix G presents weighted responses to questions in section 5 of the questionnaire based on responses from all firms producing in FTZs.

⁴⁵⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.6.

⁴⁶⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 5.2.

⁴⁶¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 5.9.

Effects of Mexican FTZ-Type Programs

More firms participate in Mexican FTZ-type programs than in U.S. FTZs.⁴⁶² The popularity of Mexican FTZ-type programs reflects firms' use of these programs to save on Mexico's relatively high MFN duty rates on raw materials and intermediate inputs for industrial use (as described in chapter 1), for which significant percentages of Mexican tariff lines are subject to non-free MFN duty rates, 21 and 36 percent, respectively. As described in the case studies below, producers in Mexico are often able to use these programs to pay zero or reduced duties on foreign inputs.

The Industria Manufacturera Maquiladora y de Servicios de Exportación (the Program of Manufacturing Industry, Maquila and Export Services, or IMMEX) and Mexico's special customs regimes (which are less frequently used) allow firms to defer duties and certain kinds of taxes normally charged on imports. According to Mexican industry sources, deferral of Mexico's impuesto al valor agregado (IVA or value-added tax) is the primary reason for using IMMEX, with duty deferral being a secondary factor for most firms using the program.⁴⁶³ Firms can also use these programs for duty exemption on exports, comparable to what is available for users of U.S. FTZs and Canadian FTZ-type programs. Like Canada, the large majority of Mexico's exports (86.9 percent in 2021) are to duty exemption-restricted destinations, limiting the use of duty deferral programs like IMMEX for duty exemption.⁴⁶⁴ IMMEX and special customs regimes do not include duty reduction mechanisms for domestic sales or exports to the United States, Canada, or the EU.⁴⁶⁵

Because most Mexican shipments go either to the domestic market or to markets subject to duty exemption and drawback restrictions (e.g., USMCA and EU countries), duty reduction under the PROSEC and regla octava (Rule 8) programs likely offers the most substantial duty cost savings for production facilities in Mexico. PROSEC is the principal means by which participating firms can reduce duties on foreign material inputs. If a firm is authorized to use PROSEC in the production of specific categories of goods, then it can import material inputs linked with those categories at duty rates that are lower than Mexican MFN duty rates. Most duty rates (95.8 percent) under PROSEC were free for at least some, if not all, categories of goods produced using those inputs.⁴⁶⁶

Regla octava permits may also be available on a case-by-case basis to PROSEC-authorized firms if the materials are unavailable or insufficiently available in Mexico. Some goods have limited Mexican supply and no duty-free provisions under PROSEC. Industry representatives from firms with operations in Mexico stated that they find regla octava to be a relatively straightforward method to further reduce

⁴⁶² SNICE, PROSEC Directory, May 31, 2022; SNICE, IMMEX Directory, May 31, 2022.

⁴⁶³ As described in chapter 2, the Mexican government recently implemented a series of limitations on tax deferral using IMMEX. However, tax deferral remains one of the primary reasons that firms use IMMEX.

⁴⁶⁴ S&P Global, GTAS, accessed December 20, 2022.

⁴⁶⁵ Industry representatives, interviews by USITC staff, March 29, April 5, and September 27, 2022. About one-third of firms producing in U.S. FTZs that also had operations in Mexico stated that they also use the Operador Económico Autorizado (OEA) program in Mexico. As described in greater detail in chapter 2, OEA certification extends IMMEX duty deferral for temporarily imported goods from 18 to 48 months; it also provides logistical benefits such as use of dedicated express border inspections and a single import notice for changing multiple import shipments from the temporarily imported customs regime to definitive imports (comparable to weekly entry in the U.S. FTZ program). USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.8.

⁴⁶⁶ SNICE, "PROSEC Article 5 Tariff Matrix," November 18, 2021; S&P Global, GTAS, accessed June 2022.

duty costs for these goods.⁴⁶⁷ Therefore, whatever duty reduction is available under PROSEC is potentially even greater if a firm also has duty reduction opportunities under regla octava.

All firms producing in U.S. FTZs are aware of the existence of competitors in Mexico. Most firms producing in U.S. FTZs that are aware of their competitors' use of Mexican FTZ-type programs considered those programs to improve the competitiveness and production costs of operations in Mexico.⁴⁶⁸ Likewise, most firms producing in U.S. FTZs that also use FTZ-type programs in their operations in Mexico are able to realize production cost savings as a result of their participation in those Mexican programs.⁴⁶⁹ These firms generally choose to operate facilities in Mexico in order to use FTZ-type programs there.⁴⁷⁰

Most firms producing in U.S. FTZs do not know or cannot evaluate the distinctions between U.S. FTZs and Mexican FTZ-type programs, but those that can generally consider the Mexican programs to offer greater savings. About 27 percent of firms producing in U.S. FTZs that also use Mexican FTZ-type programs consider the duty savings associated with participation in the U.S. FTZ program to be lower than those realized through Mexican programs. About 15 percent of such firms consider the opposite to be true, and only 5 percent consider the savings to be equal.⁴⁷¹ About 23 percent of firms producing in U.S. FTZs, familiar with their competitors' operations in Mexico, consider these operations in Mexico likely to have lower production costs in general. A similar share considers the Mexican FTZ-type programs to offer greater advantages over the U.S. FTZ program in terms of duty savings.⁴⁷²

Interactions Between U.S. FTZs and the USMCA

U.S. FTZs can reduce duty cost disadvantages faced by U.S. producers relative to competing imports. These disadvantages emerge when imports of finished goods are subject to NTR duty rates that are lower than NTR duty rates on imported materials used to produce finished goods in the United States. Where NTR duty rates on finished goods are lower than NTR rates on inputs, otherwise known as a tariff inversion (as described above), it could be more advantageous for a firm to serve the U.S. market using imports rather than through U.S. production. In that case, U.S. FTZs offer producers the ability to pay the

⁴⁶⁷ Industry representatives, interviews by USITC staff, August 10 and September 27, 2022.

⁴⁶⁸ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 5.1 and 5.4. Although all firms producing in U.S. FTZs are aware of the existence of competitors in Mexico, only about 30 percent are familiar with the operations of these competitors. About 30 percent of firms producing in U.S. FTZs and familiar with competitors in Mexico are aware that their competitors in Mexico use FTZ-type programs there. More than 70 percent of those firms producing in U.S. FTZs consider it likely that those programs improve their competitors' relative competitiveness and production costs.

⁴⁶⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.10.

⁴⁷⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.9.

⁴⁷¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.11. About 53 percent of firms producing in FTZs that also use Mexican FTZ-type programs do not know or cannot evaluate the difference in duty savings between those programs.

⁴⁷² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 5.1, 5.2, and 5.10. About 30 percent of firms producing in U.S. FTZs were familiar with their competitors' operations in Mexico. Most of these firms do not know or cannot evaluate whether the U.S. FTZ program or Mexican FTZ-type programs offer greater advantages in terms of cost savings to firms using the programs.

lower NTR duty rate of finished goods on their NPF-status-admitted materials in order to remove the incentive to import the finished goods instead.⁴⁷³

Goods produced in U.S. FTZs may have improved cost parity with imports entering under NTR duty rates. Such parity is not always possible with imports from Canada and Mexico, which can enter duty-free using the USMCA. Producers in Canada and Mexico using duty deferral or drawback programs must pay applicable duties to their own customs authorities on imported materials used in production of goods that are exported to the USMCA parties. However, producers in Canada and Mexico have multiple mechanisms to pay little or no duty costs on those materials, including MFN duty and FTA preferential rates of free, as well as PROSEC and regla octava in Mexico. In sectors such as the automotive industry described in case study 1, firms producing in U.S. FTZs must pay U.S. customs duties on foreign-status inputs used in products shipped to the domestic market, even if they are able to reduce certain duties based on tariff inversion. In cases where neither producers in Canada and Mexico nor their U.S. import partners pay duty costs, U.S.-produced goods using imported materials have a duty-related cost disadvantage within the U.S. market.⁴⁷⁴

Some industry representatives link this disparity to a U.S. statutory provision implementing the USMCA that states that goods produced in U.S. FTZs are not eligible for preferential treatment under the USMCA when they make U.S. customs entry.⁴⁷⁵ This statutory provision is described in greater detail in chapter 2. As stated there, foreign-status admissions that undergo manufacturing in U.S. FTZs would not be eligible for USMCA preferential treatment when they enter U.S. customs territory, even aside from this statutory provision, because they would not meet the requirement to be imported directly into U.S. customs territory from the territory of a USMCA country. Regardless, duty-free access for U.S. imports from Canada and Mexico may create cost disadvantages for U.S. firms that can at best reduce duties on raw materials to the NTR duty rates of their finished products.

For similar reasons, U.S. exports to Canada and Mexico face duty cost disadvantages in certain sectors relative to the domestic sales of producers in those countries. As with Canadian and Mexican exports to the United States, producers in the United States can use the USMCA to gain duty-free access for their exports to Canada or Mexico. However, the duty exemption restriction under the USMCA requires firms producing in U.S. FTZs to make U.S. customs entry and pay applicable duties for the value of materials used in exports to USMCA partner countries. Duty reduction based on tariff inversions, while possible for such exports, do not always result in elimination of duties. This creates the same duty-related cost disadvantage described above for U.S. industries that cannot eliminate their duty costs on materials using U.S. FTZs but where their competitors in Canada and Mexico can through the FTZ-type programs or duty-free rates offered by those countries.⁴⁷⁶

Several industry representatives argue that the cost-competitiveness disadvantages could incentivize investment in Canada or Mexico rather than in the United States. For facilities that generate millions of dollars in revenue, savings of even a few dollars per unit can impact firms' location decisions within

⁴⁷³ Ehmann, written submission to the USITC, November 30, 2022; CDF, written submission to the USITC, November 21, 2022.

⁴⁷⁴ NAFTAZ, written submission to the USITC, November 30, 2022; ISCM, Inc., written submission to the USITC, November 28, 2022.

⁴⁷⁵ 19 U.S.C. § 4531(c)(3); NAFTAZ, written submission to the USITC, November 30, 2022.

⁴⁷⁶ USITC, hearing transcript, May 17, 2022, 10–13 (testimony of Jeffrey Tafel, NAFTAZ).

North America. NAFTA and the USMCA have led to greater integration of industries and supply chains across the three countries' common borders. These industry representatives therefore assert that many firms rely on cost-based factors to choose which country to invest in.⁴⁷⁷

Few firms producing in U.S. FTZs are aware of the effects of either the limitation on U.S. entries using USMCA preferential treatment or the USMCA duty exemption restriction for exports to Canada and Mexico. Most firms that are aware of these effects consider the provisions to have no effect on their costs relative to those of their competitors. Fewer than 10 percent of firms identified cost disadvantages for U.S. firms relative to producers in either Canada or Mexico as a result of either provision.⁴⁷⁸ Similarly, fewer than 10 percent of firms producing in U.S. FTZs expect that removal of the USMCA duty exemption restriction would result in any changes in their operations' shipments, investment, or input sourcing.⁴⁷⁹

Impact of U.S. FTZs on U.S. Employment

This section provides an overview of the impact of U.S. FTZs on U.S. employment, using information from the Commission's survey and other information provided by industry representatives. These impacts include not only the effects of U.S. FTZs on firms that use FTZs, but also those that are domestic suppliers to firms using FTZs. This analysis is based primarily on the experiences of U.S. firms. The focus of this section is therefore on the U.S. employment impact of the U.S. FTZ program rather than of FTZ-type programs in Canada and Mexico. Specific impacts of FTZ-type programs in Canada and Mexico are described in the sector-specific case studies. This section focuses primarily on the impacts of U.S. FTZ use on firms engaged in production activities. For a discussion on the impacts of U.S. FTZs on warehousing and distribution operations, see case study 5 (Warehousing and Distribution).

Because the primary effect of U.S. FTZs on firms using the program is cost reduction, the direct impacts of FTZs on these firms are generally financial. The financial savings created by U.S. FTZs may cause or enable firms to invest or produce more in the United States. This in turn may cause them to hire more workers. Likewise, if U.S. FTZs improve the financial viability of firms seeking to maintain their U.S. operations, the firms can act to forestall closure of U.S. facilities and layoffs.⁴⁸⁰ To remain competitive and maintain manufacturing operations in the United States, some firms producing in FTZs actively invest in more capital equipment to increase automation in their zone operations.⁴⁸¹ With greater automation, employment may grow slower than increases in investment and output for these firms. For the most part, however, industry representatives associated changes in investment and output with similar directional changes in employment. For these reasons, the employment impact analysis of this section and the case studies consider whether U.S. FTZs impact investment and output in addition to employment.

⁴⁷⁷ USITC, hearing transcript, May 17, 2022, 10–13 (testimony of Jeffrey Tafel, NAFTAZ) and 27 (testimony of Sean Lydon, ISCM); CDF, written submission to the USITC, November 21, 2022; HMCAA, written submission to the USITC, November 28, 2022.

⁴⁷⁸ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 5.5 and 5.6.

⁴⁷⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 5.7.

⁴⁸⁰ CRS, *U.S. Foreign-Trade Zones*, December 19, 2019; Trade Partnership, *U.S. FTZ Program*, February 2019.

⁴⁸¹ Industry representatives, interviews by USITC staff, September 9 and 26, 2022.

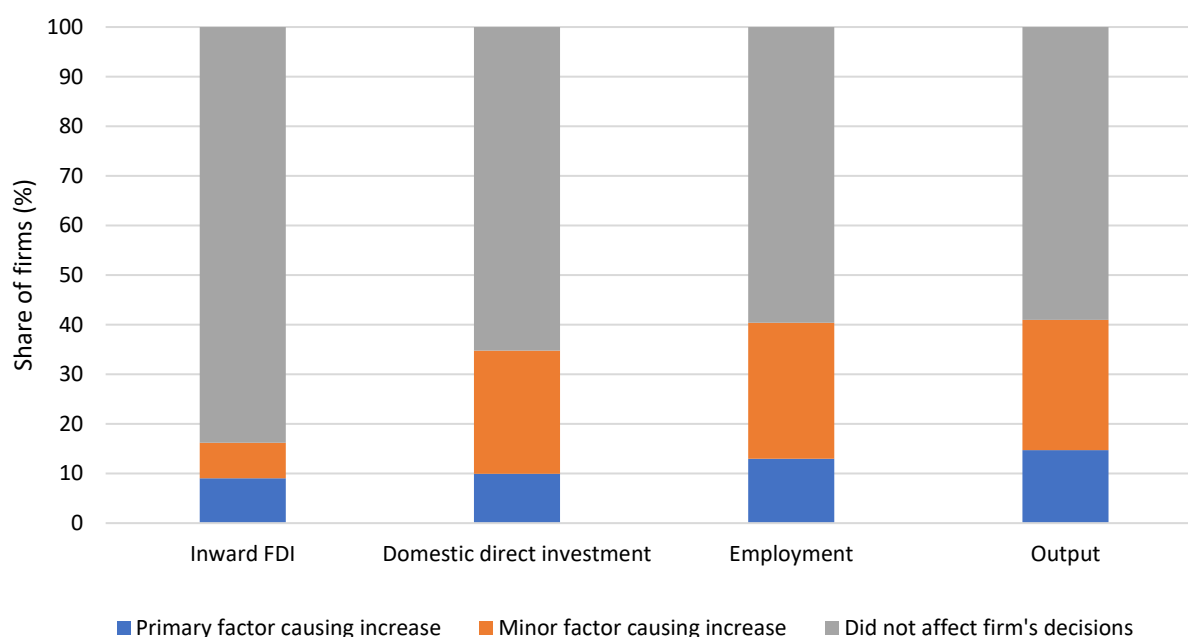
Because the analysis of this section largely focuses on the experiences and economic trends of firms producing in FTZs, limited counterfactual analysis allows for comparison of what would have occurred if those firms had not used FTZs for production. As stated in the literature review section, quantitative analyses in other studies have incorporated counterfactuals, embodied by areas without FTZs considered similar to those with FTZs, to isolate the impacts of FTZs on employment and related metrics.

Impact on Firms Producing in U.S. FTZs

Many firms experience financial benefits from producing in U.S. FTZs. Most firms that have production operations in FTZs (86 percent) have cost savings from FTZ use that outweigh fixed or recurring FTZ compliance, operational, and set-up costs.⁴⁸² Despite these financial benefits, most firms producing in FTZs do not consider FTZ use itself to affect their decisions related to employment or other measures of production activity that correlate with employment, including investment and manufacturing output (see figure 3.1).⁴⁸³

Figure 3.1 Share of firms producing in U.S. FTZs that consider their FTZ use to be a primary factor, minor factor, or nonfactor causing increases across various measures of firm activity

In percentages. Underlying data for this figure can be found in appendix H, table H.19.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.6.

Note: Firms producing in U.S. FTZs generally do not consider FTZ use to be a factor causing decreases across measures of firm activity. This response is not included within this figure.

For about 20 to 30 percent of firms producing in U.S. FTZs, their U.S. FTZ program use is a minor factor driving increases in their employment, domestic direct investment (DDI), and manufacturing output.⁴⁸⁴

⁴⁸² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.3. For more detail on the costs associated with using FTZs, see chapter 2 of this report.

⁴⁸³ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.6.

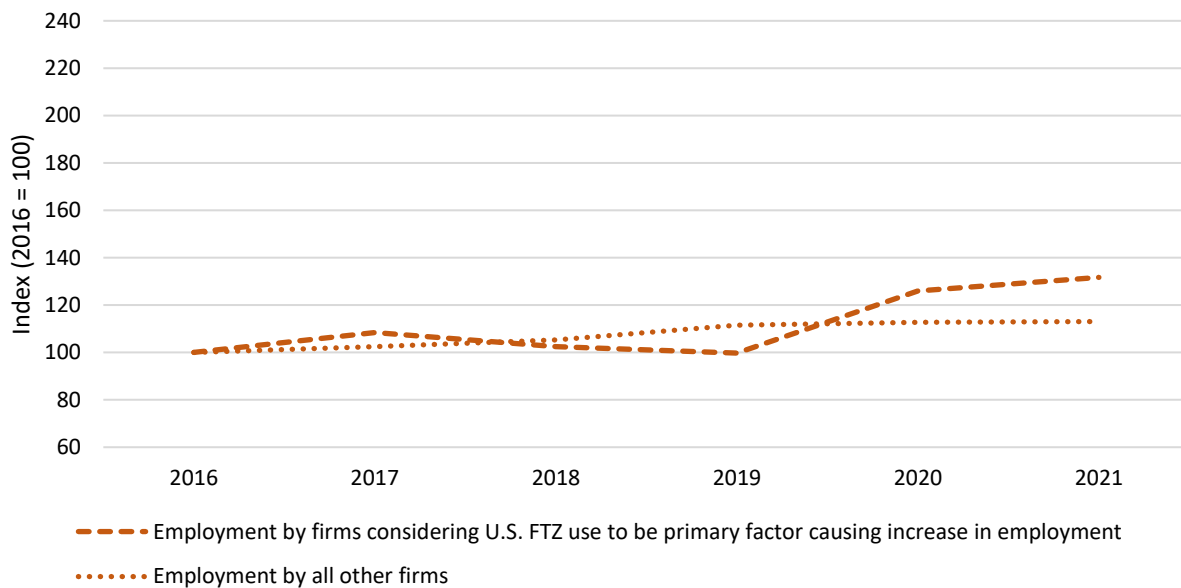
⁴⁸⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.6.

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For these firms, other competitive factors may have more direct effects on changes in their operations, but the savings associated with FTZs also positively influence expansion decisions. Smaller shares of firms consider FTZ use to be a primary factor driving increases across these measures of firm activity.⁴⁸⁵ These firms increased their employment, DDI, and manufacturing output (as measured by total shipments from production) within FTZ production operations between 2016 and 2021 (see figures 3.2–3.4). By contrast, all other firms producing in U.S. FTZs experienced more modest increases or slight decreases across these measures of firm activity.⁴⁸⁶

Figure 3.2 Changes in employment of firms actively producing in U.S. FTZs, according to whether the firms consider FTZ use to be a primary factor causing increases in employment, 2016–21

In percentages. Underlying data for this figure can be found in appendix H, table H.20.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.7 and 3.6.

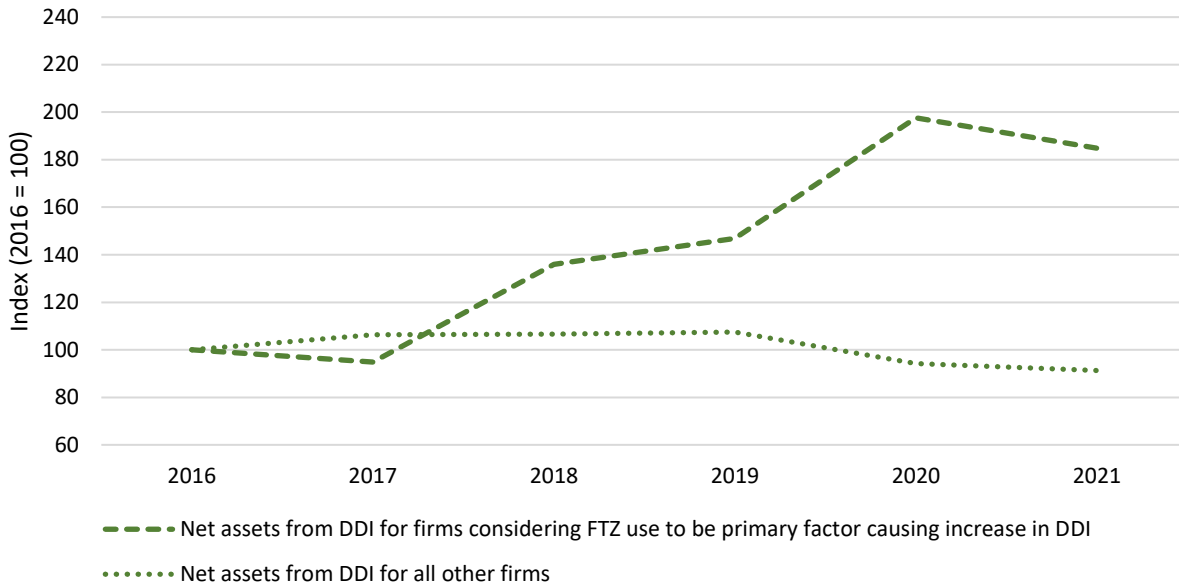
Note: Fewer than 15 percent of firms consider U.S. FTZ usage to be a primary factor causing increased employment.

⁴⁸⁵ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.6.

⁴⁸⁶ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.7, 2.10, 2.15, and 3.6.

Figure 3.3 Changes in net assets from domestic direct investment (DDI) of firms actively producing in U.S. FTZs, according to whether the firms consider FTZ use to be a primary factor causing increases in DDI, 2016–21

In percentages. Underlying data for this figure can be found in appendix H, table H.21.

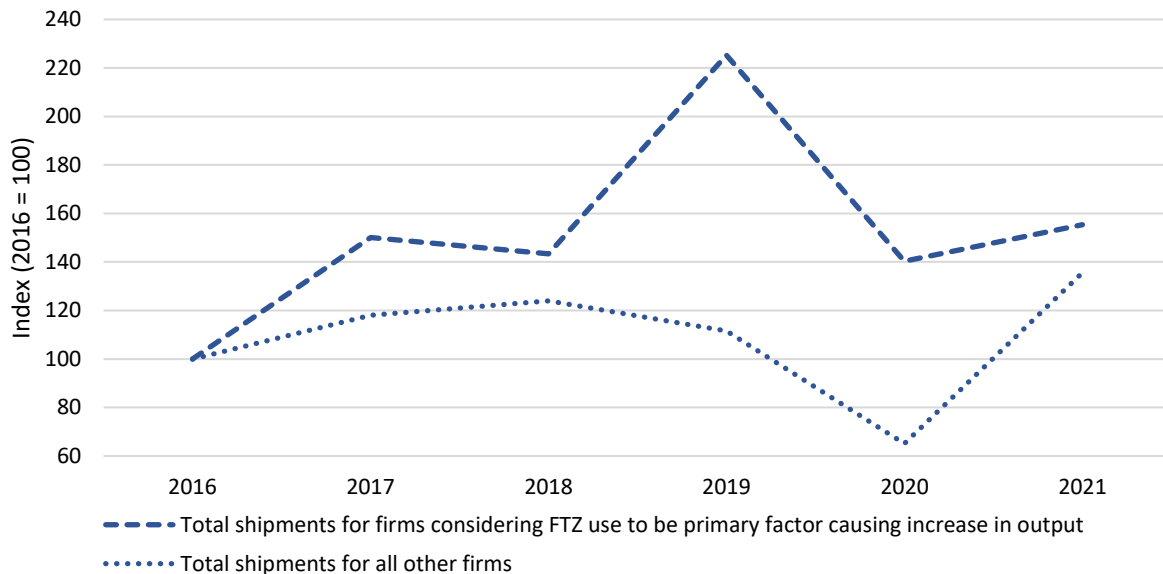


Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.15 and 3.6.

Note: Fewer than 10 percent of firms consider U.S. FTZ usage to be a primary factor causing increased DDI.

Figure 3.4 Changes in total shipments from production for firms actively producing in U.S. FTZs, according to whether the firms consider FTZ use to be a primary factor causing increases in output, 2016–21

In percentages. Underlying data for this figure can be found in appendix H, table H.22.



Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 3.6.

Note: Fewer than 15 percent of firms consider U.S. FTZ usage to be a primary factor causing increased output.

Firms generally do not identify a strong relationship between their use of FTZs and changes in their inward foreign direct investment (FDI), which are their U.S. assets controlled or owned by non-U.S.-based investors. However, for the 9 percent of firms that consider FTZ use to be the primary factor causing increases in inward FDI, net assets from FDI increased from about \$1 billion in 2016 to \$10 billion in 2021. Therefore, a large amount of recent accumulations of inward FDI within FTZ production operations has been concentrated within firms that also consider FTZs to drive that investment. For all other firms, net assets from FDI decreased from about \$32 billion in 2016 to \$23 billion in 2021.⁴⁸⁷

Not all measurable increases in firm employment, investment, or output in FTZs can be attributed to the benefits of FTZs themselves, even for firms stating that FTZ use was a primary factor causing such increases. This is apparent within firms' stated reasons behind planned expansions in FTZ production operations during the next five years, expected by 27 percent of firms producing in U.S. FTZs. Some firms expect to pursue expansions in their FTZ production authority to include operations that already exist in non-FTZ facilities. This would result in more production activity occurring within FTZs, even if the firm's overall output remained unchanged. Other firms expect increased FTZ production activity as a result of a variety of unrelated factors, such as increased demand or diversification of product lines. However, many firms that project expansion of FTZ operations during the next five years have an intention to leverage savings to improve their competitiveness within their larger operations.⁴⁸⁸ This suggests that FTZs themselves are expected to be among the drivers leading to projected expansions in firms' overall output and associated investment and employment.

In discussions with Commission staff, multiple industry representatives added details about how their firms' investment and output decisions—and in turn their U.S. employment—were at least partially related to their use of U.S. FTZs. For example, foreign-owned firms explained how greenfield investments were dictated by a range of factors that included their ability to use FTZs. One foreign-owned manufacturer stated that it had an interest in producing its finished product near most of its consumers in the U.S. market. The finished product, however, had an NTR duty rate of free but the materials were dutiable. Receiving FTZ production authority swayed its decision to produce the finished product in the United States, leading to employment of almost 1,000 workers.⁴⁸⁹ Another large export-oriented manufacturer reported that multiple logistical, human capital, and other tax-related factors led it to invest in a multibillion-dollar facility in the United States that employs more than 10,000 workers in a U.S. FTZ. Its use of FTZs, however, is the factor that allows it to be globally competitive.⁴⁹⁰

Other industry representatives described how U.S. FTZs were among the factors that multinational companies consider when deciding whether to increase production activities and associated employment in the United States or in other countries. In certain cases, U.S. production facilities compete with affiliated facilities overseas for output allocated by a shared parent company. For example, one producer of appliances described how it uses FTZs as one of several tools to improve its cost-competitiveness compared to "sister" facilities in Asia. This, in turn, offsets other cost-related disadvantages and helps maintain its employment of more than 1,000 workers in the United States.⁴⁹¹

⁴⁸⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.15 and 3.6.

⁴⁸⁸ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted and narrative responses to question 2.6.

⁴⁸⁹ Industry representatives, interviews by USITC staff, August 1 and September 27, 2022.

⁴⁹⁰ Industry representative, interview by USITC staff, September 27, 2022.

⁴⁹¹ Industry representative, interview by USITC staff, September 9, 2022.

By contrast, where firms are only able to realize limited duty savings using U.S. FTZs, specific production lines and associated employment may shift toward affiliates in other countries. For example, one manufacturer of a dutiable pharmaceutical product decided not to invest in a new production line in the United States. An appreciable share of that production was expected to be exported to Canada and therefore would be subject to duty exemption restrictions under the USMCA. As a result, the company invested in a European facility from where it could export these products to Canada duty free.⁴⁹²

In addition to multinational or foreign-owned operations, U.S. FTZs can support small domestically owned facilities' continued operation in the United States, thereby allowing firms to retain employees. For example, an industry representative described how a small producer of specialized materials used in food products uses FTZs as a means of ensuring its continued operation in the United States. This facility relies on inputs that are subject to high NTR duty rates and can be sourced only from foreign suppliers; in addition, the firm exports a substantial share of its output. As a result of duty exemption savings from its use of FTZs, the firm has been able to continue to employ about 100 workers who would otherwise struggle to find re-employment for similar pay in a rural and economically depressed region.⁴⁹³ Another industry representative described how a cluster of small family-owned and -operated businesses involved in processing and distributing raw materials had increasingly gravitated toward the use of FTZs to remain globally competitive in a high-value industry. For these firms, cost savings led to increased compensation and continued employment for the owners and workers.⁴⁹⁴

In cases where U.S. FTZs do not result in duty cost savings that are equivalent to those in Canada or Mexico, U.S. firms may have an incentive to invest more in those countries. Decisions to invest in Canada or Mexico instead of the United States may occur when existing plants or new investment opportunities are similar, or when additional incentives to producing in Canada or Mexico exist. For example, one multinational company detailed how it has similar operations in Mexico and the United States producing the same manufactured consumer goods for sale in the same (primarily U.S.) markets. U.S. FTZs help improve the relative costs of production in the United States, but the company stated that it can use PROSEC and regla octava to essentially eliminate Mexican customs duties for production there. The company has expanded North American capacity several times in response to increased demand. Although it maintains its U.S. operations to serve consumer markets that value "Made in the USA"-type labels, most of its capacity expansions have been in Mexico due to the lower cost of production there. As a result of these decisions, it now produces eight to nine times the volume in Mexico as in its U.S. facility and employs almost 16 times more workers in Mexico.⁴⁹⁵

Collectively, these analyses from the survey and from industry interviews indicate that the program has uneven employment and employment-related impacts driven by firm-specific factors. FTZ use has little impact on investment, production, or employment for most firms. For some firms, the competitive benefits associated with FTZ use is one of multiple factors impacting changes in investment, production, and employment. A relatively small number of firms point to direct connections between FTZ use and substantial measurable increases in production activity. U.S. employment supported by the cost-

⁴⁹² Industry representative, interview by USITC staff, May 24, 2022.

⁴⁹³ Industry representative, interview by USITC staff, January 6, 2023.

⁴⁹⁴ Industry representative, interview by USITC staff, January 10, 2023.

⁴⁹⁵ Industry representative, interview by USITC staff, September 26, 2022.

competitiveness effects of the U.S. FTZ program may be lower when firms have similarly cost-competitive options for production in a foreign country.

Impact on Other U.S. Firms

U.S. FTZs may also have indirect impacts on U.S. firms that operate outside FTZs that supply goods or services to firms producing in U.S. FTZs. FTZ production could contribute to positive or negative impacts on supplier firms' employment, depending on whether firms producing in U.S. FTZs expand their reliance on domestic sources or shift toward greater reliance on imports.

If firms producing in U.S. FTZs maintain or grow their operations because of improved cost-competitiveness, then U.S. firms that supply those producers may benefit from the producers' continued or expanded requirements for materials and services. If FTZs incentivize the establishment or expansion of major manufacturing facilities, such as automotive assembly plants, supplier firms may cluster around those facilities and create additional employment and economic development within the region. For example, more than 150 companies in Alabama supply goods to two major FTZ operations in the state: Mercedes-Benz and Hyundai.⁴⁹⁶ An industry representative described how another large vehicle assembler invested in their county, in part, because of the incentives provided by the FTZ. This investment, which has continued to grow, led not only to thousands of jobs in the assembly plant itself but more than 10,000 indirect and multiplier-related jobs. Many of those jobs resulted from new suppliers investing in the region.⁴⁹⁷ As described in the literature review, more than one study has found positive effects on broader employment in areas near recently established FTZs.⁴⁹⁸

On the other hand, if firms producing in U.S. FTZs use the program to decrease their duty payments on foreign goods, they may choose to increase their sourcing of foreign goods at the expense of domestic supply. For intermediate goods with high NTR duty rates, FTZs offer a means for firms to reduce or eliminate those tariffs. This could diminish the price competitiveness of domestically produced goods that are substitutable for those imported intermediates.⁴⁹⁹ Such adverse impacts could create repercussions further upstream in the supply chain, affecting the suppliers of domestic producers of intermediate goods.⁵⁰⁰

In prior decades, concern about these negative effects on domestic suppliers was largely centered within the automotive industry (see box 3.2). In recent years, most objections to FTZ production authority applications have come from domestic producers in the textile industry.⁵⁰¹ These objections

⁴⁹⁶ Jones, "Turning the Tide," September 26, 2016.

⁴⁹⁷ Industry representative, interview by USITC staff, January 9, 2023.

⁴⁹⁸ A 2016 study by Ghosh, Reynolds, and Rohlin and a 2019 study by The Trade Partnership found mostly positive effects on areas with recently established FTZs. A similar finding was made in a 2022 study by Lane, but this study found that such positive effects came at the expense of surrounding rural counties. Ghosh, Reynolds, and Rohlin, "The Spillover Effects of U.S. FTZs," September 13, 2016; Trade Partnership, *U.S. FTZ Program*, February 2019; Lane, "The Impact of Foreign Trade Zones in the United States," 2022.

⁴⁹⁹ USITC, hearing transcript, May 17, 2022, 99, 116–17 (testimony of Charles Benoit, CPA).

⁵⁰⁰ USITC, hearing transcript, May 17, 2022, 99, 116 (testimony of Charles Benoit, CPA); NCTO, written submission to the USITC, November 29, 2022.

⁵⁰¹ NCTO, written submission to the USITC, November 29, 2022; GAO, *FTZs: Board Should Document*, November 27, 2018.

are described in greater detail within case study 2 (Upholstered Furniture Manufacturing), which focuses on an industry that admits foreign-status textiles into FTZs for production operations.

Box 3.2 Impacts of Early Automotive Industry FTZ Production Operations on Parts Suppliers

Following the Tokyo Round Agreements in the late 1970s, a substantial inverted tariff relationship emerged between U.S. NTR duty rates for finished light vehicles (2.5 percent) and most automotive parts (3–6 percent).^a Multiple foreign vehicle manufacturing companies began to establish assembly facilities in the United States at that time. Most of these facilities relied heavily on foreign materials in their initial operations. Between the late 1970s and the early 1990s, the FTZ Board approved dozens of FTZ subzones for both foreign and domestic vehicle manufacturers.^b Firms producing finished vehicles in U.S. FTZs were able to reduce duties on these inverted tariffs. If automotive parts admitted under nonprivileged foreign (NPF) status had been used to produce a finished vehicle in a zone, then firms paid an NTR duty rate of 2.5 percent on the value of those parts.

Labor groups and domestic vehicle parts manufacturers opposed multiple applications for production authority in FTZs by automotive firms during this period. These groups asserted that subzones were incentivizing increased imports rather than exports, subverting the original intent of the FTZ program.^c The FTZ Board's examiners reports accompanying the approvals of these subzones generally found that such incentives would diminish quickly. These reports found that vehicle manufacturers were likely to continue to expand their domestic sourcing of materials on the basis of past experience with other subzones. They did not find evidence that imports of parts would increase in a manner that would occur without the subzone in place.^d A 1993 FTZ Board examiners report noted that imports of finished autos from Japan had declined as the number of Japanese-owned auto plants with FTZ subzones in the United States had increased. This outcome supported earlier examiners report conclusions that FTZs were effective at substituting imports with domestic output.^e

In a 1988 factfinding report, the U.S. International Trade Commission (Commission) developed a model to estimate U.S. employment effects for the domestic automotive sector from an expanded FTZ program. Using a two-staged production partial equilibrium model that included assumptions regarding the responsiveness of the supply of auto parts and auto assembly to price changes, the Commission found that FTZs and corresponding declines in the price of imported auto parts had led to employment losses among domestic auto parts manufacturers of about 14,600 workers. This more than offset employment gains of about 4,400 auto assembly workers. However, the Commission stated that this finding was based on high levels of uncertainty regarding the responsiveness to price changes for both industries.^f In addition, this finding assumed that imported auto parts were close substitutes for domestically produced parts. The Commission noted that if imported and domestic parts were complements rather than substitutes, lower prices for imported auto parts would cause employment gains in both the auto parts and vehicle producer industries.^g

In the early 1990s, the FTZ Board amended its regulations to clarify the economic factors that it would consider when weighing the public interest for proposed manufacturing activity in zones. These included consideration of the impact on related domestic industry, taking into account market conditions.^h Also, after the implementation of the Uruguay Round Agreements Act in 1994, the inverted tariff for the automotive industry was largely removed, with both finished vehicles and most auto parts subject to NTR duty rates of 2.5 percent.ⁱ As a result, U.S. auto parts producers have since the early 1990s significantly reduced their opposition to vehicle manufacturers' use of FTZs for production.^j As described

in case study 1 (Automotive Industry), many auto parts producers also currently have FTZ production authority.

^a Ehmann, written submission to the USITC, November 30, 2022.

^b FTZ Board, Examiners Report Honda Subzone 46B Expansion, 1988.

^c USITC, The Implications of Foreign Trade Zones for U.S. Industries and Competitive Conditions between U.S. and Foreign Firms (Supplement and Expansion), February 1988.

^d See, e.g., FTZ Board, Examiners Report Honda Subzone 46B Expansion, 1988.

^e FTZ Board, Examiners Report BMW Subzone Establishment, 1993.

^f Chapter 8 and appendix H of the 1988 factfinding report provide a description of the partial equilibrium model, including a discussion of assumptions and limitations of the model. USITC, The Implications of Foreign Trade Zones for U.S. Industries and Competitive Conditions between U.S. and Foreign Firms (Supplement and Expansion), February 1988.

^g USITC, The Implications of Foreign Trade Zones for U.S. Industries and Competitive Conditions between U.S. and Foreign Firms (Supplement and Expansion), February 1988, 8-6—8-7.

^h Foreign-Trade Zones in the United States, 56 Fed. Reg. 50790, 50795-97 (October 8, 1991) (discussion section 400.31, currently codified at 15 C.F.R. 400.27).

ⁱ CDF, written submission to the USITC, November 21, 2022.

^j FTZ Board, Examiners Report Nissan Scope Expansion, October 29, 2003.

For most firms producing in U.S. FTZs, FTZ use does not impact their reliance on inputs from any given source. Few firms producing in U.S. FTZs either reduce (9 percent) or increase (7 percent) their reliance on domestic sources as a result of their use of U.S. FTZs. However, for 24 percent of firms producing in U.S. FTZs, FTZ use leads to greater reliance on material inputs from suppliers outside North America.⁵⁰² These data indicate that the FTZ program facilitates foreign sourcing of materials, but not necessarily at the expense of domestic suppliers.

Impacts on Selected U.S. Industries

This section contains industry-specific analyses of the effects of U.S. FTZs and FTZ-type programs on the cost-competitiveness of products of firms operating under these programs and corresponding impacts on U.S. industries. Industries were chosen using two criteria. First, industries were chosen that collectively account for most U.S. FTZ activity to assess the impacts of this program and other North American programs on U.S. firm competitiveness. Second, industries were selected that represent different types of program uses and effects. The selected industries producing vehicles and parts, upholstered furniture, refined petroleum, and pharmaceutical products collectively accounted for about 80 percent of admissions by firms producing in U.S. FTZs in 2021.⁵⁰³ A fifth case study in this chapter covers warehousing and distribution operations, accounting for all goods admitted into FTZs that are not substantially transformed into other goods.

All five case studies are structured similarly. First, each one describes which firms use U.S. FTZs in order to contextualize the cost-competitiveness effects of the program. Second, each examines how and the extent to which firms within the industry are able to use U.S. FTZs to improve their competitiveness and, in particular, their cost-competitiveness. Third, each case study considers the extent to which firms in Canada and Mexico use those countries' programs. Within this context, the study then compares the cost-competitiveness effects of U.S. FTZs with those of Canadian and Mexican FTZ-type programs. For production-focused case studies (case studies 1–4), these comparisons generally involve analysis of duty reductions and resulting duties paid on key raw materials used in production operations. For the warehousing and distribution case study (case study 5), comparisons of the competitiveness effects of North American programs are based on an examination of differences in duty deferral provisions across

⁵⁰² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.10.

⁵⁰³ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

the countries. Finally, each case study draws conclusions regarding the impact of the competitiveness effects of U.S. FTZs and the relative competitiveness of Canadian and Mexican programs on U.S. employment and drivers of employment: investment and output. Impact analysis considers not only U.S. FTZ and FTZ-type program-related effects, but also the interaction of those effects with other policies and conditions of competition.

Case Study 1: Automotive Industry

Key Findings

This case study focuses on the usage of U.S. FTZs and FTZ-type programs by two segments of the automotive industry—light vehicle⁵⁰⁴ manufacturers and corresponding parts producers. It uses information from the Commission’s survey, public data, and interviews with industry experts.⁵⁰⁵ The automotive industry consistently ranks as one of the largest users of FTZs. Vehicle and parts producers experience cost-competitiveness benefits from the FTZ program that in some cases may, along with many other factors, contribute to their decisions to invest, produce, and employ workers in the United States. These firms can use FTZs to realize duty exemptions on exports, reduction of customs fees and other administrative costs, and (in the case of parts producers) integration with downstream in-bond vehicle manufacturers. Firms that import from and export to non-North American countries are the greatest beneficiaries of the program because duties on imported materials used in these exports can be exempted.⁵⁰⁶ U.S. vehicle manufacturers and parts producers can reduce some duties for their sales into the North American market. Most inputs, however, are subject to NTR duty rates that are lower than or equal to the U.S. vehicle tariff of 2.5 percent, which prevents duty reduction on tariff inversions for most of the value of foreign-status admissions. This puts vehicle manufacturers and parts producers in the United States at a disadvantage compared to vehicle manufacturers and parts producers in Mexico, which can reduce duties on foreign materials to free in many cases using PROSEC. Similarly, firms in Canada have a cost-competitiveness advantage because of Canada’s MFN duty rate of free for imports of automotive parts for original equipment manufacturer (OEM) assembly.

U.S. Industry Use of FTZs

Both vehicle manufacturers and parts producers use the U.S. FTZ program for production operations, but most U.S. vehicle and parts production occurs outside FTZs. Because some of the largest vehicle manufacturers (Ford, Honda, General Motors, and Stellantis) do not use FTZs, two-thirds of U.S. vehicle production occurred outside FTZs in 2021.⁵⁰⁷ One of the reasons these producers do not currently utilize

⁵⁰⁴ Light vehicles are typically defined as the universe of passenger vehicles, cars and sport utility vehicles (SUVs) classified in HS heading 8703, and light trucks (primarily pickup trucks) in HS subheadings 8704.21, 8704.31, 8704.41, 8704.51, and some portion of 8704.60 (those trucks less than 5 metric tons).

⁵⁰⁵ Most relevant vehicle producers discussed in this case study are producers of both passenger vehicles and light trucks. Many of the benefits of FTZs (such as tariff inversion) are concentrated in the passenger vehicle segment of the industry. The tariff rate on light trucks is 25 percent instead of 2.5 percent. USITC, HTS, March 2022.

⁵⁰⁶ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4; industry representative, interview by USITC Staff, September 27.

⁵⁰⁷ USITC calculation using sales data from Ward’s Intelligence, “North America Vehicle Production by State and Plant, 2017–2021,” April 11, 2022, and FTZ production information from FTZ Board, *83rd Annual Report*, August 2022.

FTZs is because these manufacturers' supply chains contain a higher percentage of North American content and primarily produce for the North American market.⁵⁰⁸ Also, the FTZ program requires extensive (and expensive) tracking of automotive parts.⁵⁰⁹ Costs vary from user to user but tend to be hundreds of thousands of dollars per site.⁵¹⁰ The variation and relatively high level of the costs offers some explanation for why some vehicle manufacturers and parts producers use FTZs and some do not. This is also likely the reason many vehicle manufacturers and parts producers that use FTZs do not use them for every production site they have in the United States.⁵¹¹

Despite the expense of managing an FTZ program, most vehicle manufacturers have at least some production in FTZs.⁵¹² Fourteen light vehicle manufacturers used FTZs for production in 2016–21, although Honda ceased use of its FTZ production authority in 2017.⁵¹³ Ford, General Motors, and Stellantis were significant users of FTZs before the implementation of tariff reductions negotiated during the Uruguay Round Agreements Act (URAA) because tariffs for many automotive inputs were higher than the tariff for vehicles. However, tariff reductions in the URAA brought the tariffs on many automotive parts in line with tariffs on vehicles. After that, there was less incentive to produce vehicles and parts in an FTZ, which caused FTZ participation to decline significantly for those manufacturers. In addition, the high share of North American content in vehicles produced by these firms significantly reduced the potential benefit of participating in the program.⁵¹⁴

Investment in U.S. FTZs tends to be significantly higher by vehicle manufacturers than by parts producers. Nearly 57 percent of the \$43.2 billion invested in the United States from 2016 to 2021 by light vehicle manufacturers that use FTZs was invested in FTZ locations.⁵¹⁵ Overall, automotive parts were the third-most admitted foreign-status goods into FTZs in 2021, with total foreign-status admissions of nearly \$13.8 billion.⁵¹⁶ The most common automotive parts admitted into FTZs and bonded warehouses were certain automotive engines, gear boxes, and battery parts.⁵¹⁷ Parts supplier investment in FTZs was only 10.9 percent of parts supplier investment in the United States; only 15 of

⁵⁰⁸ Industry representative, interview by USITC staff, February 14, 2022.

⁵⁰⁹ USITC, hearing transcript, May 17, 2022, 67 (testimony of Sean Lydon, ISCM).

⁵¹⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.3.

⁵¹¹ Industry representatives, interviews by USITC staff, June 16, 2022, and January 24, 2023.

⁵¹² FTZ Board, *83rd Annual Report*, August 2022, 8; industry representatives, interviews by USITC staff, February 14 and April 29, 2022.

⁵¹³ Kia was the other major manufacturer that used FTZs but stopped before 2016. FTZ Board, *83rd Annual Report*, August 2022, 8.

⁵¹⁴ Industry representatives, interviews by USITC staff, February 14 and April 29, 2022.

⁵¹⁵ USITC analysis of investments by vehicle manufacturers and parts producers that participate in FTZs. Based on data provided by Center for Automotive Research, "Automotive Communities Partnership," accessed August 30, 2022.

⁵¹⁶ FTZ Board, *83rd Annual Report*, August 2022, 8.

⁵¹⁷ The specific parts were HTS 8407.34.4800 (new internal combustion engines over 2,000 ccs), HTS 8708.40.1110 (gearboxes for passenger vehicles), and 8507.90.8000 (battery parts for non-lead-acid batteries). USITC DataWeb/Census, accessed July 12, 2022. As described above, data for U.S. imports admitted into FTZs and bonded warehouses (U.S. Census Bureau data for general imports under rate provision "00") are used in this chapter as a proxy for product-level admissions of foreign-status materials into FTZs despite the possibility that these data also include some bonded warehouse admissions.

the top 100 North American parts producers use FTZs.⁵¹⁸ Nearly 127,000 workers were employed in automotive production in FTZs in 2021, making up 12.7 percent of automotive workers.⁵¹⁹

Table 3.3 Automotive industry facilities producing in U.S. FTZs, Canada, and FTZ-type programs in Mexico, during 2016–21

By industry segment, in number of facilities.

Industry segment	U.S. FTZ Facilities	FTZ Locations	PROSEC facilities	IMMEX facilities	Canadian facilities
Parts producers	47	AL, CA, GA, IA, IL, IN, KY, MD, MI, MS, NV, NY, OH, PA, SC, TN, TX, VA, WA	1,012	1,147	1,013
Vehicle manufacturers	16	AL, AZ, CA, IL, IN, KY, MD, MS, OH, SC, TN	23	12	8

Source: Compiled by USITC, categorized from data provided by FTZ Board, OFIS Database, accessed February 6, 2023; FTZ Board, “FTZ Production Approvals by Industry,” accessed December 20, 2022; FTZ Board, *83rd Annual Report*, August 2022; SNICE, IMMEX Directory, May 31, 2022; SNICE, PROSEC Directory, May 31, 2022; Automotive News, Research and Data Center, “Top 100 Parts producers, by OEM Sales, 2020,” June 28, 2021; Ward’s Intelligence, “World Vehicle Assembly Plants by Manufacturer, March 30, 2022; Government of Canada, Canadian Industry Statistics, Motor Vehicle Parts Manufacturing, accessed December 12, 2022.

Note: The most recent FTZ Board Report does not include Honda, Lucid, or Rivian, all of which used FTZs during the period of investigation. Lucid established its FTZ in 2020, and Rivian established its FTZ in 2021. Honda last used its FTZ production authority in 2017. See Authorization of Limited Production Activity, 86 FR 26206 (May 13, 2021). Vehicle manufacturers that do not have FTZs include Ford, General Motors, Stellantis, and Kia. Many facilities that use PROSEC also use IMMEX. Canadian facilities include all establishments producing these goods in Canada, regardless of whether they participate in FTZ-type programs.

U.S. FTZ Production Cost-Competitiveness Effects

Vehicle manufacturers using FTZs benefit from duty exemptions on exports, duty reduction on tariff inversions, streamlined logistics processes, and reduced customs fees. Vehicle manufacturers that export a significant share of their production tend to see the greatest benefits from FTZs, particularly if they export to destinations other than Canada or Mexico.⁵²⁰ By using an FTZ, firms do not pay tariffs on admitted foreign-status parts installed on vehicles that are then directly exported outside North America. In 2021, exports accounted for almost a third of shipments of vehicles produced in U.S. FTZs, with more than half these exports going to destinations other than Canada and Mexico.⁵²¹

Survey results confirm the value of duty exemptions for vehicle manufacturers with significant exports. Less than half the vehicle manufacturers producing in U.S. FTZs use duty exemption, but this benefit is extremely important for roughly two-thirds of these firms. A larger share of parts producers use U.S. FTZs for duty exemptions, and an even larger share of those firms see it as extremely important.⁵²² More

⁵¹⁸ USITC analysis of investments by vehicle manufacturers and parts producers that participate in FTZs. Based on data provided by Center for Automotive Research, “Automotive Communities Partnership,” accessed August 30, 2022; FTZ Board, *83rd Annual Report*, August 2022. An additional 18 parts producers that use FTZs do not rank among the top 100 largest suppliers. Automotive News, Research and Data Center, “Top 100 Parts Suppliers, by OEM Sales, 2020,” June 28, 2021.

⁵¹⁹ Automotive employment (NAICS 3361, 3362, and 3363) totaled 994,800 in December 2021. USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.7; BLS, Current Employment Statistics, accessed February 6, 2023.

⁵²⁰ Multiple vehicle manufacturers rank among the top 25 exporters from FTZs annually. Industry representatives, interviews by USITC staff, September 27 and 28, 2022, and January 27, 2023; FTZ Board, *83rd Annual Report*, August 2022; FTZ Board, *82nd Annual Report*, August 2021; FTZ Board, *81st Annual Report*, November 2020.

⁵²¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.12.

⁵²² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

than a third of vehicle manufacturers' duty savings in FTZs was due to duty exemptions on exports in 2021.⁵²³ From 2016 to 2021, firms producing vehicles in U.S. FTZs saved over \$100 million per year, on average, on duty costs incorporated within exports, and parts producers saved less than \$3 million.⁵²⁴

All vehicle manufacturers and parts producers that use FTZs do so at least in part for duty reduction on tariff inversions, and almost all find it to be extremely important to their business.⁵²⁵ From 2016 to 2021, firms producing vehicles in U.S. FTZs saved over \$200 million per year, on average, on duty costs incorporated within U.S. customs entries, and parts producers saved less than \$20 million, on average.⁵²⁶ As noted above, tariff inversions between light vehicles and parts are relatively few because the U.S. NTR duty rates on passenger vehicles and most parts are harmonized at 2.5 percent. However, some tariff inversions occur in cases where parts have higher duty rates. For example, the U.S. NTR duty rate on tires is 4 percent.⁵²⁷ If tires are admitted under NPF status, vehicle manufacturers in an FTZ pay only 2.5 percent (the vehicle tariff) on those tires when selling a finished vehicle in the United States.⁵²⁸ The savings on a specific part or input may total only a few dollars per unit, but those unit savings multiplied across hundreds of thousands of vehicles or parts can produce significant savings.⁵²⁹

Vehicle manufacturers and parts producers also save time and money using FTZ provisions that streamline logistics processes and reduce costs associated with customs procedures.⁵³⁰ Producers state that the use of direct delivery from the port to the facility is much faster than having shipments wait at the port to be cleared by U.S. Customs. Vehicle manufacturers' usage of a "lean" supply chain, where even a short delay can shut down a manufacturing plant, makes these time savings particularly useful.⁵³¹ Both vehicle and parts manufacturers in FTZs also save money on customs fees by using weekly entry, when firms pay customs brokers only a single fee per week instead of paying per shipment.⁵³² Vehicle manufacturers may get dozens of shipments in a week, making this a substantial annual savings.⁵³³ Most vehicle manufacturers and parts producers consider streamlined customs procedures and savings on customs fees to be important in determining whether they use FTZs.⁵³⁴ Vehicle manufacturers sometimes encourage parts producers to use the program to facilitate zone-to-zone transfers, which ease shipments and lower costs.⁵³⁵

⁵²³ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4.

⁵²⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4.

⁵²⁵ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁵²⁶ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4.

⁵²⁷ Radial tires of a kind used in motor cars (HTS 4011.10.10). USITC, HTS, March 2022; industry representative, interview by USITC staff, April 29, 2022.

⁵²⁸ Industry representative, interview by USITC staff, April 29, 2022.

⁵²⁹ USITC, hearing transcript, May 17, 2022, 143 (testimony of Sean Lydon, ISCM); industry representatives, interviews by USITC staff, June 16 and July 27, 2022.

⁵³⁰ USITC, hearing transcript, May 17, 2022, 44 (testimony of Christopher Carney, FDP Virginia); industry representatives, interviews by USITC staff, April 29 and September 27, 2022.

⁵³¹ Industry representatives, interviews by USITC staff, April 29, June 16, July 27, and August 2, 2022. For more information on direct delivery, see chapter 2 of this report.

⁵³² For more information on weekly entry, see chapter 2 of this report.

⁵³³ Industry representatives, interviews by USITC staff, April 29, June 16, and August 2, 2022.

⁵³⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁵³⁵ Industry representatives, interviews by USITC staff, September 27 and 28, 2022.

Vehicle manufacturers and parts producers may also save money by deferring duties on foreign-status materials. These savings are generally low because of the lean inventory systems common in this industry.⁵³⁶ Roughly three-fourths of vehicle manufacturers and parts producers in FTZs use duty deferral, but only one-third see duty deferral as extremely important.⁵³⁷

Comparing Cost Effects of FTZs and FTZ-Type Programs

Both Canada and Mexico have large automotive industries; however, firms are likely to use FTZ-type programs in Mexico more frequently than Canadian FTZ-type programs. Using FTZ-type programs, low or free MFN duty rates, and/or trade agreements, firms in Canada and Mexico are able to import automotive inputs duty free in most cases. Automotive firms operating in these countries gain cost-competitiveness advantages compared to such firms producing in U.S. FTZs. Firms in U.S. FTZs cannot eliminate duty costs in most cases for domestic sales or exports to Canada and Mexico.

Vehicle producers and parts producers in Mexico are major users of FTZ-type programs there. In particular, PROSEC allows companies engaged in certain automotive production activities to reduce or eliminate tariffs on imports of certain products.⁵³⁸ More than 800 automotive companies participate in PROSEC, including 60 of the 100 largest parts producers in North America.⁵³⁹ All vehicle manufacturers with assembly plants in Mexico participate in PROSEC.⁵⁴⁰

IMMEX and the depósito fiscal automotriz (automotive fiscal deposit) program—two Mexican duty deferral programs that are often used in conjunction—are also heavily used by automotive producers. IMMEX tends to be used more by parts producers; the depósito fiscal automotriz program is reportedly widely used by vehicle manufacturers.⁵⁴¹ Industry representatives say they encourage their parts producers in Mexico to use IMMEX, because parts producers participating in IMMEX can re-import reusable containers free of duty. Some non-IMMEX participants have had their containers stopped at the border waiting to be cleared by Mexican customs, and such a delay can affect production

⁵³⁶ Industry representatives, interviews by USITC staff, April 29, June 16, and July 27, 2022.

⁵³⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁵³⁸ Companies approved for automotive production under PROSEC are able to import certain parts (the official list includes 549 HS-8 subheadings ranging from lubricating oils to brake parts) for lower or no duty as long as they are for the production of certain parts or vehicles (a list of 479 HS-8 subheadings is provided).

⁵³⁹ USITC analysis based on Automotive News, Research and Data Center, “Top 100 Parts Suppliers, by OEM Sales, 2020,” June 28, 2021; SNICE, PROSEC Directory, May 31, 2022.

⁵⁴⁰ SNICE, PROSEC Directory, May 31, 2022.

⁵⁴¹ Forty-eight of the 100 largest parts producers in North America are registered IMMEX users (513 parts producers in the program). USITC analysis from the SNICE, IMMEX Directory, April 2022 and Automotive News, Research and Data Center, “Top 100 Parts Suppliers, by OEM Sales, 2020,” June 28, 2021. IMMEX exports also make up a much higher share of Mexican automotive parts exports than vehicle exports. Eighty-three percent (\$21.9 billion) of Mexican automotive parts exports to the United States (Mexico’s top destination for parts) use IMMEX, but only 2.2 percent (\$1.2 billion) of Mexican vehicle exports to the United States use IMMEX (Mexico’s top destination for vehicles). HS heading 8708 for parts, and HS headings 8703 and 8704 for vehicles. S&P Global, GTAS, accessed June 23, 2022.

schedules.⁵⁴² IMMEX employment in transportation equipment manufacturing was about 800,000 workers in 2021, and sales totaled \$122 billion in the same sector.⁵⁴³

Similarly, Canada has eight vehicle manufacturers and more than 1,000 parts producers.⁵⁴⁴ Little information is available about the extent to which firms in Canada (including automotive producers) use that country's FTZ-type programs. However, vehicles and parts producers in Canada already have access to free MFN duty rates for materials used in production even without use of FTZ-type programs. Specifically, vehicle manufacturers and parts producers can import automotive parts and raw materials into Canada duty free as long as they are for use in the manufacture of original equipment parts or as original equipment parts for use in vehicle production.⁵⁴⁵ These producers have little incentive to use Canada's FTZ-type programs.

Automotive firms in Canada and Mexico have a competitive advantage over those using U.S. FTZs because they can reduce duties for sales into their home markets and elsewhere in North America. The largest destination market for all three countries' automotive industries shipments (table 3.4) is North America (including home market sales and exports). On average, of the more than 15 million vehicles produced in North America each year, only about 2 million are exported outside North America. Similarly, most North American automotive parts exports are shipped elsewhere within North America.⁵⁴⁶

⁵⁴² Industry representative, interview by USITC Staff, April 29, 2022.

⁵⁴³ INEGI, IMMEX Database, accessed August 10, 2022. These data are based on NAICS code 336 (automotive goods and other transportation equipment). Employment is based on monthly data for the number of production workers within IMMEX and IMMEX-contracted facilities (series H114A and I400A) averaged across all months in 2021.

⁵⁴⁴ Ward's Intelligence, "World Vehicle Assembly Plants by Manufacturer," March 30, 2022; Government of Canada, Canadian Industry Statistics, Motor Vehicle Parts Manufacturing, accessed December 12, 2022.

⁵⁴⁵ CBSA, *Memorandum D10-15-15*, October 28, 2014; CBSA, *Memorandum D10-15-21*, November 2, 2015; USITC, hearing transcript, May 17, 2022, 46–47 (testimony of Christopher Carney, FDP Virginia).

⁵⁴⁶ S&P Global, GTAS, accessed November 22, 2022. HS subheadings that include significant (or exclusively) parts specific to automotive goods include: 3819.00, 3820.00, 4009.12, 4009.22, 4009.32, 4009.42, 4011.10, 4011.20, 4012.11, 4012.12, 4012.20, 4013.10, 4016.93, 4016.99, 6813.20, 6813.81, 6813.89, 7007.11, 7007.21, 7009.10, 7315.11, 7318.16, 7320.10, 7320.20, 8301.20, 8302.10, 8302.30, 8407.34, 8408.20, 8409.91, 8409.99, 8413.30, 8413.91, 8414.30, 8414.59, 8414.80, 8415.20, 8415.90, 8421.23, 8421.31, 8421.39, 8425.49, 8426.91, 8431.10, 8482.10, 8482.20, 8482.40, 8482.50, 8483.10, 8501.32, 8507.10, 8507.30, 8507.60, 8507.90, 8511.10, 8511.20, 8511.30, 8511.40, 8511.50, 8511.80, 8511.90, 8512.20, 8512.30, 8512.40, 8512.90, 8517.12, 8519.81, 8525.60, 8527.21, 8527.29, 8531.80, 8536.41, 8536.90, 8539.10, 8539.21, 8544.30, 8707.10, 8707.90, 8708.10, 8708.21, 8708.29, 8708.30, 8708.40, 8708.50, 8708.70, 8708.80, 8708.91, 8708.92, 8708.93, 8708.94, 8708.95, 8708.99, 8716.90, 9029.10, 9029.20, 9029.90, 9104.00, 9401.20, 9401.90. More than 90 percent of Canadian and Mexican exports of automotive parts are destined for elsewhere in North America (primarily the United States). Overall, more than 75 percent of North American automotive parts exports are exported to elsewhere in North America.

Table 3.4 North American light vehicle production and exports, by country, annual average 2016–21
In millions of vehicles and by share of production.

Country	Production (million vehicles)	Exported to USMCA partners (million vehicles)	Exported to other partners (million vehicles)	Production shipped to domestic market (million vehicles)	Share of production that is shipped to North America (%)
United States	10.3	1.1	1.7	7.5	83.4
Canada	1.8	1.6	0.2	0.1	88.8
Mexico	3.5	2	0.4	1.1	88.6

Sources: S&P Global, GTAS, accessed December 2, 2022; USITC DataWeb/Census, accessed December 2, 2022; Ward's Intelligence, "North America Car and Truck Production by Country, 1951–2021," April 11, 2022.

Note: Calculations are based on unrounded data.

For U.S. producers' sales of vehicles and parts produced in FTZs and shipped to North American destinations, the potential benefit from using the program for duty reduction on tariff inversion is limited. As described above with respect to vehicle and parts producers' duty reduction benefits using U.S. FTZs, duties can be reduced on certain materials like tires that have relatively high NTR duty rates. Because the NTR duty rate for finished vehicles and most core parts is 2.5 percent, this represents the minimum duty that firms producing in U.S. FTZs must pay on foreign NPF status materials used in production operations. Nearly two-thirds (66.1 percent) of U.S. automotive parts imports from 2016 to 2021 came from outside North America, meaning that importers would not be able to use the USMCA for duty-free treatment on such goods.⁵⁴⁷ Given the industry's substantial use of non-USMCA foreign inputs, the minimum 2.5 percent tariff on foreign inputs puts them at a cost disadvantage compared to producers in countries that (1) face lower MFN tariffs on their own foreign inputs and (2) are also able to use USMCA or other trade programs to access the U.S. market with preferential duty rates of free. Table 3.5 compares the tariff rates on various categories of automotive parts across the United States, Canada, and Mexico, and their applicable programs.

⁵⁴⁷ USITC DataWeb/Census, accessed November 28, 2022. Comparison made using a custom list of automotive-specific or majority automotive parts headings. HS subheadings that include significant (or exclusively) parts specific to automotive goods can be found in footnote 546. However, it is possible for such imports to use duty-free treatment under other free trade agreements, depending on the source country and rules of origin applied.

Foreign Trade Zones

Table 3.5 Average duty rates of automotive parts across U.S., Mexican, and Canadian MFN tariff schedules and FTZ-type programs

Applied duty rates in percentages.

Product type	Key HS subheadings	U.S. average NTR duty rate for parts	U.S. average NTR duty rate for finished vehicles	Canadian average MFN duty rate	Canadian average OEM MFN duty rate	Mexican average MFN duty rate	Mexican average PROSEC duty rate
Engine, engine parts, and batteries	8407.34, 8408.20, 8409.91, 8507.60, 8507.90	2.8%	2.5%	0.6%	Free	0.0%	0.0%
Brakes, suspension, wheels, and tires	4011.10, 4011.20, 8708.30, 8708.70 8708.80	3.2%	2.5%	6.4%	Free	3.9%	0.2%
Gear boxes, steering systems, drive-axles, and related parts	8708.40, 8708.50, 8708.94	2.4%	2.5%	5.8%	Free	1.9%	0.0%
Other miscellaneous automotive parts, components, and kits	8708.99, 8708.29	2.4%	2.5%	5.8%	Free	2.1%	0.0%

Source: Compiled by USITC using the following sources: USITC DataWeb/Census, accessed November 28, 2022; S&P Global, GTAS, accessed June 2022; USITC, HTS, March 2022; WTO, Tariff Data Database, accessed February 2022; CBSA, Customs Tariff 2021, accessed February 2022; SNICE, "PROSEC Article 4 Tariff Matrix," December 28, 2020; SNICE, "PROSEC Article 5 Tariff Matrix," November 18, 2021.

Note: Duty rates in this table are the trade-weighted average duty rates of the HTS subheadings included in that product type. The U.S. NTR duty rates for finished vehicles applies to NPF status admissions that are used in FTZ production of vehicles and then entered into U.S. customs territory. Mexican duty rates under PROSEC apply to imported automotive parts of companies in Mexico that are registered producers of goods within the PROSEC sectoral program for vehicles and parts. Canadian OEM MFN duty rates apply to imports of automotive parts used in the production of vehicles. For each pair of columns pertaining to a country, the right most column is the lowest duty that can hypothetically be paid via the U.S. FTZ or FTZ-type program, and the left most column is the country's trade-weighted average NTR/MFN rate for the applicable group of automotive parts. Note that the Canadian MFN duty rate on all but one of the key subheadings in the product type Engine, engine parts, and batteries is free. The one exception (8507.60.90) is subject to a 7 percent tariff.

In competing for North American sales with U.S. FTZ users, vehicle producers and parts producers in Mexico have a cost-competitiveness advantage as a result of various practices used to import foreign parts duty free, including the use of PROSEC. In contrast to the United States, the majority (62.6 percent) of Mexico's automotive parts imports from 2017 to 2021 came from USMCA partner countries and could therefore potentially use the duty-free privileges of that agreement for those inputs.⁵⁴⁸ The vast majority of remaining Mexican imports of automotive parts from non-USMCA sources enter either under tariff lines that have MFN duty rates of free or are eligible for duty-free treatment under PROSEC, if used in producing automotive goods.⁵⁴⁹ In addition to being able to import many non-North American goods duty free using Mexico's FTZ-type programs, firms in Mexico can also import from Japan and the EU (which are both also significant producers of automotive parts) duty free via free trade agreements with those markets. Imports from the EU and Japan made up 47 percent of non-North American imports of certain Mexican automotive parts from 2017 to 2021.⁵⁵⁰

As stated above, producers of vehicles and parts in Canada already have access to MFN duty rates of free for materials used in production, and likely have little incentive to use FTZ-type programs. In addition, most Canadian automotive parts imports are from countries with which Canada has FTAs. Similar to Mexico, the majority (76 percent) of Canadian automotive parts imports from 2017 to 2021 were from USMCA partner countries.⁵⁵¹ Firms in Canada can also import from Japan and the EU duty free via their free trade agreements with those markets. Such imports made up almost 40 percent (\$15.5 billion) of Canadian automotive parts imports from outside North America from 2017 to 2021.⁵⁵²

Impact on the U.S. Automotive Industry

Despite the competitive differences between the three countries' programs, program-related savings are one of many factors for most manufacturers in determining where they establish their operations. Firms indicate that the existence of these other programs has had varying degrees of impact on their decisions to operate in Mexico or Canada. The United States has continued to be the leading vehicle and parts producer and the leading destination for automotive investment.⁵⁵³ Firms producing in U.S. FTZs that also have these operations in Canada and Mexico indicate that the Canadian and Mexican programs enable them to significantly reduce (or eliminate) the duties paid on various foreign goods. They

⁵⁴⁸ S&P Global, GTAS, accessed November 22, 2022. Comparison made using a custom list of automotive-specific or majority automotive parts headings. HS subheadings that include significant (or exclusively) parts specific to automotive goods can be found in footnote 546.

⁵⁴⁹ SNICE, "PROSEC Article 5 Tariff Matrix," November 18, 2021; S&P Global, GTAS, accessed November 22, 2022. Comparison made using a custom list of automotive-specific or majority automotive parts headings. HS subheadings that include significant (or exclusively) parts specific to automotive goods can be found in footnote 546.

⁵⁵⁰ S&P Global, GTAS, accessed November 22, 2022. Comparison made using a custom list of automotive-specific or majority automotive parts headings. HS subheadings that include significant (or exclusively) parts specific to automotive goods can be found in footnote 546.

⁵⁵¹ S&P Global, GTAS, accessed October 27, 2022. Comparison made using a custom list of automotive-specific or majority automotive parts headings. HS subheadings that include significant (or exclusively) parts specific to automotive goods can be found in footnote 546.

⁵⁵² S&P Global, GTAS, accessed November 22, 2022. Comparison made using a custom list of automotive-specific or majority automotive parts headings. HS subheadings that include significant (or exclusively) parts specific to automotive goods can be found in footnote 546.

⁵⁵³ Center for Automotive Research, "Automotive Communities Partnership," accessed August 30, 2022.

repeatedly indicated that these benefits were only one of many factors that influenced decisions to operate in Canada or Mexico.⁵⁵⁴

U.S. FTZs likely played an incentivizing role in some of the initial foreign-based producer investments in the United States. This is evident by the fact that most (if not all) foreign-based vehicle manufacturers' initial forays into vehicle production in the United States included an FTZ application.⁵⁵⁵ However, as described above, most current U.S. automotive production does not take place in an FTZ. Those light vehicle manufacturers that continue to use FTZs generally consider the benefits related to duty cost savings and streamlined customs processes to outweigh compliance costs.⁵⁵⁶ Companies that export large quantities of vehicles and parts to destinations outside North America and those that rely on foreign inputs benefit from the U.S. FTZ program the most.⁵⁵⁷

By contrast, producers that primarily sell within North America have somewhat limited opportunities to reduce duties on foreign inputs. U.S. NTR duty rates for most inputs are less than or equal to 2.5 percent and therefore cannot be reduced for such sales. The U.S. FTZ program has become less important to at least some vehicle manufacturers and parts producers that are heavily integrated within the North American supply chain. These companies have been able to access many materials duty free using NAFTA and, now, the USMCA.⁵⁵⁸ Some North America-focused vehicle manufacturers and parts producers have even stopped using U.S. FTZs because opportunities for savings are limited.⁵⁵⁹

Less than half the U.S. automotive firms producing in U.S. FTZs indicated that the ability to use FTZs was a primary factor in their U.S. production or employment decisions. This is a reflection of the company-specific benefits of the U.S. FTZ program. Roughly two-thirds of automotive firms indicated that the ability to use FTZs positively affected their investment decisions.⁵⁶⁰ However, more firms indicated that FTZs were only a minor factor in their investment decisions, and not the primary one.⁵⁶¹ The primary factor driving automotive investment decisions is typically proximity to consumer markets.⁵⁶² Therefore, most automotive manufacturing employment within FTZs cannot be reasonably credited to the FTZs themselves.⁵⁶³

Unlike the U.S. FTZ program, a large number of firms representing the majority of Mexican automotive production use similar programs in Mexico, reflecting the competitive advantages created by these programs. Every light vehicle manufacturer assembling vehicles in Mexico participates in one or both PROSEC and IMMEX (many for multiple facilities). The 100 percent participation rate in either PROSEC or

⁵⁵⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 4.3, 4.4, 4.5, and 4.9; industry representatives, interviews by USITC staff, April 29, July 27, August 2, and September 27, 2022.

⁵⁵⁵ Examples include Honda in 1978, Toyota in 1986, BMW in 1993, and Kia in 2009. 47 Fed. Reg. 10612 (March 11, 1982); 51 Fed. Reg. 21946 (June 17, 1986); 58 Fed. Reg. 40623 (July 29, 1993); 73 Fed. Reg. 20247 (April 15, 2008).

⁵⁵⁶ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.3.

⁵⁵⁷ Industry representative, interview by USITC staff, September 27, 2022.

⁵⁵⁸ Industry representative, interview by USITC staff, February 14, 2022.

⁵⁵⁹ Industry representative, interview by USITC staff, February 14, 2022.

⁵⁶⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.6.

⁵⁶¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.6.

⁵⁶² Vehicle manufacturers generally prefer "build where they sell," particularly when it comes to large markets. This is both for economic (save money on transportation costs) and political reasons (build domestic support for foreign vehicle manufacturers). Klier and Rubenstein, *Who Really Made Your Car?*, July 31, 2008, 220.

⁵⁶³ Industry representative, interview by USITC staff, April 29, 2022.

IMMEX of light vehicle manufacturers in Mexico may indicate that vehicle manufacturers value participation in these programs more than the U.S. FTZ program. Automotive producers in Canada are not major users of programs similar to the U.S. FTZ program, reflecting the Canadian duty-free rates applicable to imported parts and materials used in manufacturing.

Firms in Canada or Mexico may gain an advantage because they pay lower duties on materials when using those countries' FTZ-type programs or other duty-free provisions. As described within the overview section, this disparity in duties paid on materials is created in part by the USMCA requirement that firms pay applicable duties on foreign inputs used in duty-deferred production for exports to other North American countries. Multiple automotive firms indicated that this requirement limits the benefits of the FTZ programs to their operations.⁵⁶⁴ Although firms in all three countries are subject to these rules, producers in Canada and Mexico pay essentially zero duties on imported materials used in their North American sales for the reasons discussed above.⁵⁶⁵ The duties paid by firms producing in U.S. FTZs on foreign-status admissions tend to be less than \$100 dollars per vehicle.⁵⁶⁶

Some FTZ practitioners (e.g., FTZ grantee organizations and other FTZ experts) argue that lower duties paid by firms in Canada and Mexico add up over time and may lead some firms to invest in Canada or Mexico instead of the United States.⁵⁶⁷ These FTZ practitioners assert that vehicle manufacturers and parts producers have thin operating income margins and most consumers do not prioritize purchasing vehicles (or parts within vehicles) produced in the United States.⁵⁶⁸ According to these industry representatives, the higher duty costs of firms producing in U.S. FTZs may provide an advantage for Canada and Mexico when competing with the United States for vehicle and parts production. They argue such a disadvantage is particularly important when new investments are emerging in North America as a result of the USMCA's automotive regional value content requirements or shifts to electric vehicle production.⁵⁶⁹

The U.S. FTZ program and similar programs in Canada and Mexico are only one of many factors influencing U.S. automotive production. The duty savings of vehicle and parts manufacturers using U.S. FTZs were \$417.3 million in 2021, while their duties paid totaled \$408.8 million in the same year. These duties paid equated to 2.0 percent of the value of their foreign-status shipments from FTZ production in that year, but less than 0.4 percent of the value of their total shipments from FTZ production given the large amount of domestic-status and value-added costs incorporated within these shipments.⁵⁷⁰ Therefore, elimination of duty costs similar to what is available to firms producing in Canada and Mexico would reduce only a relatively small share of U.S. FTZ producers' total costs. Furthermore, Canada and Mexico's participation in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership

⁵⁶⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 5.7.

⁵⁶⁵ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 4.3, 4.5, and 4.9.

⁵⁶⁶ USITC estimate based on survey and production data. Ward's Intelligence, "North America Vehicle Production by State and Plant, 2017–2021," April 11, 2022; FTZ Board, *83rd Annual Report*, August 2022; USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4.

⁵⁶⁷ USITC, hearing transcript, May 17, 2022, 143, 148–49 (testimony of Sean Lydon, ISCM); Alabama Department of Commerce, written submission to the USITC, November 28, 2022; CDF, written submission to the USITC, November 21, 2022.

⁵⁶⁸ Alabama Department of Commerce, written submission to the USITC, November 28, 2022.

⁵⁶⁹ CDF, written submission to the USITC, November 21, 2022; USITC, hearing transcript, May 17, 2022, 28–29 (testimony of Sean Lydon, ISCM).

⁵⁷⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 3.4.

(CPTPP) and agreements with the EU may mean that a significant share of automotive inputs enter duty free regardless of programs in place for reducing MFN duties. Lower labor costs in Mexico may also be a factor in determining North American automotive production location.⁵⁷¹

Case Study 2: Upholstered Furniture Manufacturing

Key Findings

U.S. FTZs for upholstered furniture manufacturing have increased competitiveness for U.S. furniture producers vis-à-vis other countries. They have helped equalize the duty costs on key imported materials, primarily for the U.S. upholstered furniture manufacturers that wish to retain cut-and-sew operations. These FTZ furniture manufacturers with cut-and-sew operations benefit from admitting foreign fabric under non-privileged foreign (NPF) status. After manufacturers cut and sew and adhere the fabric onto furniture in their U.S. facilities, it enters the U.S. market duty free under the current NTR rate.

The benefits afforded to U.S. furniture manufacturers with FTZ operations may be limited compared to the significant benefits seen by furniture companies that operate facilities within Mexico. Facilities in Mexico are able to use FTZ-type programs to reduce duties on inputs and also have greater access to cheaper labor costs and tax incentives, while still being relatively close to the U.S. market. Domestic fabric producers raised a number of objections to the initial FTZ applications for upholstered furniture. This led to quantitative limits on the amount of foreign material admitted under NPF status for upholstered furniture manufacturers using U.S. FTZs. Some firms producing upholstered furniture in U.S. FTZs have ceased operations in the United States entirely, and others are no longer performing cut-and-sew operations in their facilities. Competition and costs have increased because of supply chain issues and the higher price of U.S. labor.

U.S. Industry Use of FTZs

Upholstered furniture includes sofas, chairs, sectionals, recliners, glider-rockers, loveseats, and the like covered in fabric or leather.⁵⁷² It is produced by adhering upholstery fabric, usually formed to the shape of the furniture, onto wooden or metal frames along with other components such as coil springs, foam, and webbing. Cut-and-sew operations generally prepare fabric in advance into kits, which are custom components ready to install onto the frame or cushion.

Nine U.S. companies have FTZ production authority for use in manufacturing upholstered furniture, five of which have actively used their production authority as of 2021.⁵⁷³ Four of the firms actively using the FTZ program—Max Home, Southern Motion, H.M. Richards Company, and Morgan Fabrics—operate in the Greater Mississippi Foreign Trade Zone (Zone 158), which includes 13 counties in northern

⁵⁷¹ For a more complete discussion of labor costs in Mexico, see case study 3 in USITC, *Economic Impact of Trade Agreements, 2021 Report*, June 2021.

⁵⁷² Furniture Today, “Upholstery Archives,” accessed July 11, 2022.

⁵⁷³ The companies that have FTZ production authority for upholstered furniture include Klaussner Home Furnishings; H.M. Richards Company, Inc.; Morgan Fabrics Corporation; Max Home, LLC; Southern Motion, Inc.; Best Home Furnishings; EBI, LLC; Lane Home Furniture; and Bauhaus Furniture Group, LLC. Other companies, such as Ashley Furniture, have used the FTZ program for warehousing and distribution. FTZ Board, OFIS Database, accessed February 6, 2023; Thomas, “Ashley Buys Miss. Plant,” January 23, 2013.

Mississippi. The fifth company, Best Home Furnishings, is located in Indiana (Zone 177). According to the FTZ Board Annual Report, total shipments in 2021 for these five companies' FTZ facilities ranged between \$236 million and \$580 million.⁵⁷⁴ Total employment for these companies is estimated to be between 4,000 and 5,000 workers, equivalent to between 10 percent and 13 percent of total national employment of furniture manufacturers in December 2021.⁵⁷⁵

U.S. FTZ Production Cost-Competitiveness Effects

U.S. upholstered furniture manufacturers primarily use FTZs to admit foreign-status upholstery fabric under NPF status, thereby lowering costs by reducing duties that would otherwise be paid on those inputs. Fabric is the most expensive input in upholstered furniture, comprising about 25 percent of overall material costs.⁵⁷⁶ Specifically, upholstered furniture manufacturers with FTZ production authority admit micro-denier suede upholstery fabrics finished with a hot caustic soda solution, which are fabrics that are not produced in the United States.⁵⁷⁷ These fabrics have NTR duty rates ranging from 2.7 percent to 17.2 percent. When admitted under NPF status and assembled into furniture within FTZs, they can enter U.S. customs territory subject to the upholstered furniture NTR duty rate of free.⁵⁷⁸ Admissions of fabrics under HTS subheading 5903.20.25 (the HTS subheading covering most of this upholstery fabric material, according to the applications from the FTZ users) were among the highest-value admissions into FTZs and bonded warehouses of fabric in 2021.⁵⁷⁹ Many U.S. upholstered furniture manufacturers also import cut-and-sew kits under HTS 9401.99.9021 at an NTR duty rate of free. These kits are then adhered to furniture frames in the United States.⁵⁸⁰ Every U.S. FTZ upholstered furniture manufacturer indicated that duty reduction was a benefit they received from the FTZ program that resulted in cost savings for their companies.⁵⁸¹

Other benefits of the FTZ program include savings on other U.S. customs fees, streamlined U.S. customs processing, and duty deferral. No FTZ upholstered furniture manufacturers consider those to be

⁵⁷⁴ FTZ Board, *83rd Annual Report*, August 2022.

⁵⁷⁵ Industry representative, email message to USITC staff, December 16, 2022; USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.7; BLS, Current Employment Statistics, NAICS 337, accessed February 6, 2023.

⁵⁷⁶ Industry representative, interview by USITC staff, April 21, 2022.

⁵⁷⁷ This is limited to a certain number of square yards per year per the FTZ authorization for each company. 74 Fed. Reg. 263 (January 5, 2009); 76 Fed. Reg. 11425 (March 2, 2011); 76 Fed. Reg. 11426 (March 2, 2011); 77 Fed. Reg. 6536 (February 8, 2012); 78 Fed. Reg. 5773 (January 28, 2013); 79 Fed. Reg. 64167 (October 28, 2014). Southern Motion, based in Mississippi, also has FTZ production authority to import mechanical components for its motion furniture, including motors under HTS 8501.31 (2.8 percent NTR duty rate) and transformers under HTS 8504.31 (1.6 percent NTR duty rate) under NPF status. 81 Fed. Reg. 72566; Greater Mississippi Foreign-Trade Zone, Inc., "Notification of Proposed Production Activity," June 16, 2016.

⁵⁷⁸ FTZ Board, *Examiners Report (Lane Furniture Industries, H.M. Richards, Inc., and Bauhaus USA, Inc.)*, December 12, 2008, 2.

⁵⁷⁹ USITC DataWeb/Census, General imports, accessed various dates; 72 Fed. Reg. 43232; 81 Fed. Reg. 20617; Greater Mississippi Foreign-Trade Zone, Inc., "Notification of Proposed Production Activity," May 29, 2014, 4; 77 Fed. Reg. 17012. Data for U.S. imports admitted into FTZs and bonded warehouses (U.S. Census data for general imports under rate provision "00") are used in this chapter as a proxy for product-level admissions of foreign-status materials into FTZs despite the possibility that these data also include some bonded warehouse admissions.

⁵⁸⁰ Industry representative, interview by USITC staff, April 21, 2022.

⁵⁸¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.2.

extremely important benefits, and about half do not use those benefits at all.⁵⁸² The majority of firms producing upholstered furniture in U.S. FTZs consider the benefits associated with the FTZ program to outweigh the costs associated with FTZ compliance, operations, and set-up.⁵⁸³

Comparing Cost Effects of FTZs and FTZ-Type Programs

In recent years, some U.S. and foreign furniture companies have moved their production operations to Mexico to take advantage of the low labor costs and proximity to the U.S. market. Furniture manufacturers in Mexico, including those owned by large U.S. furniture companies La-Z-Boy and Ethan Allen, are major users of FTZ-type programs, including PROSEC and IMMEX.⁵⁸⁴

Furniture manufacturers using PROSEC and IMMEX in Mexico are able to reduce tariffs on imported materials, including upholstery fabric. Under PROSEC, textiles coated in polyurethane (HS 5903.20), one of the major fabrics for furniture, can be imported duty free if used in the production of furniture.⁵⁸⁵ This benefit, along with the tax benefits received under IMMEX, make production of cut-and-sew kits in Mexico an attractive option for U.S. furniture firms. In 2021, an average of 32,296 workers were employed by furniture manufacturers operating under IMMEX in Mexico.⁵⁸⁶ IMMEX users in this sector had exports of \$931.4 million and domestic sales of \$122.6 million in 2021.⁵⁸⁷ Imports into Mexico under HS 5903.20 (the subheading of the most imported fabric by U.S. FTZ upholstered furniture manufacturers) totaled \$170.5 million in 2021.⁵⁸⁸ About 64 percent (\$108.7 million) of those imports entered through IMMEX.⁵⁸⁹

Canada is also a major competitor in the U.S. market for upholstered furniture. In 2021, U.S. imports from Canada of finished upholstered furniture totaled \$337 million. Canada was the second largest source of U.S. imports of upholstered seats with metal frames behind China and the fifth largest supplier of upholstered seats with wooden frames.⁵⁹⁰ According to Statistics Canada, 3,858 establishments were primarily engaged in manufacturing furniture in Canada in 2021, including 3,044 specifically in household furniture.⁵⁹¹ Information is scarce about the extent to which firms in Canada (including upholstered furniture producers) use that country's FTZ-type programs. Upholstered furniture

⁵⁸² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁵⁸³ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.3.

⁵⁸⁴ SNICE, PROSEC Directory, May 31, 2022; SNICE, IMMEX Directory, May 31, 2022.

⁵⁸⁵ SNICE, "PROSEC Article 5 Tariff Matrix," November 18, 2021.

⁵⁸⁶ INEGI, IMMEX Database, accessed August 10, 2022. These data are based on NAICS 337 (all furniture and related product manufacturing). Employment numbers are based on monthly data for the number of production workers within IMMEX and IMMEX-contracted facilities (series H114A and I400A), averaged across all months in 2021.

⁵⁸⁷ INEGI, IMMEX Database, accessed August 10, 2022. Based on M710B and M310B (domestic sales) and M710C and M310C (foreign sales), covering NAICS 337 (all furniture and related product manufacturing).

⁵⁸⁸ S&P Global, GTAS, Imports by Regime, HS 5903.20, accessed November 22, 2022.

⁵⁸⁹ S&P Global, GTAS, Imports by Regime, HS 5903.20, accessed November 22, 2022.

⁵⁹⁰ USITC DataWeb/Census, HTS 9401.71 and HTS 9401.61, accessed August 6, 2022.

⁵⁹¹ Government of Canada, Canadian Industry Statistics, Furniture and Related Product Manufacturing (NAICS 337) and Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371), accessed February 15, 2023.

producers in Canada are generally able to import major textile inputs under MFN duty rates of free; therefore, they have few incentives to use FTZ-type programs to save on duty costs.⁵⁹²

The majority of upholstered furniture produced in the United States, Canada, and Mexico is sold within North America (see table 3.6). U.S. upholstered furniture manufacturers operate in a domestic market worth \$18.7 billion in 2021, and imports supply more than half the U.S. domestic market.⁵⁹³ About 48 percent of the U.S. furniture market was supplied by U.S. producers.⁵⁹⁴ U.S. exports of upholstered furniture totaled only \$742 million, with 83.2 percent of that exported to Canada and Mexico.⁵⁹⁵ Firms producing upholstered furniture in U.S. FTZs also have limited exports; less than 2 percent of total shipments from U.S. FTZ production were exports in 2021.⁵⁹⁶ In 2021, Mexican exports of upholstered furniture to the United States totaled \$680.8 million and 86.0 percent of all exports of upholstered furniture went to the United States. Also in 2021, Mexican exports to Canada totaled \$108.4 million and exports to all other countries totaled \$2 million.⁵⁹⁷ Similarly, 97.1 percent of Canada's upholstered furniture exports were to the United States.⁵⁹⁸

Table 3.6 North American upholstered furniture exports, 2021

In millions of dollars.

Country	Exports to USMCA		Share of exports that are
	partners	Exports to other partners	shipped to USMCA partners
United States	617.8	124.3	83.2
Canada	414.8	12.1	97.1
Mexico	789.2	2.0	99.7

Sources: S&P Global, GTAS, HS subheadings 9401.61 and 9401.71, accessed October 27, 2022; USITC DataWeb/Census, HS subheadings 9401.61 and 9401.71, accessed various dates.

This comparative analysis of program effects on competitiveness largely focuses on the extent to which each country's programs reduce duty costs on foreign materials used in goods sold within North America and the impacts of those cost reductions. As described above, producers in all three North American countries must pay applicable duties on foreign materials used in goods shipped within North America (whether they are domestic sales or exports within North America). For the most part, imported materials for upholstered furniture, including cut-and-sew kits (which each country imports in large quantities) and goods entering under the USMCA or other FTAs, already are eligible for duty-free treatment in each of the three countries. However, upholstery fabric itself faces relatively high tariff rates in the United States and Mexico. Table 3.7 provides some of the associated tariff rates in the United States, Mexico, and Canada for these upholstery fabric inputs.

⁵⁹² See table 3.7 below.

⁵⁹³ Statista, "Upholstered Furniture Market Size U.S. 2013–2023," accessed August 31, 2022; USITC DataWeb/Census, HTS 9401.71 and HTS 9401.61, accessed August 6, 2022.

⁵⁹⁴ Statista, "Upholstered Furniture Market Size U.S. 2013–2023," accessed August 31, 2022; USITC DataWeb/Census, HTS 9401.71 and HTS 9401.61, accessed August 6, 2022.

⁵⁹⁵ Statista, "Upholstered Furniture Market Size U.S. 2013–2023," accessed August 31, 2022; USITC DataWeb/Census, HTS 9401.71 and HTS 9401.61, accessed August 6, 2022.

⁵⁹⁶ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.10.

⁵⁹⁷ S&P Global, GTAS, HS subheadings 9401.61 and 9401.71, accessed August 31, 2022.

⁵⁹⁸ S&P Global, GTAS, HS subheadings 9401.61 and 9401.71, accessed August 31, 2022.

Table 3.7 Duty rates of key upholstered furniture fabric inputs across U.S., Mexican, and Canadian MFN tariff schedules and FTZ-type programs

Product type	Primary HS subheading	U.S. NTR duty rate for parts	U.S. NTR duty rate for finished upholstered furniture	Mexican MFN duty rate	Mexican PROSEC duty rate	Canadian MFN duty rate
Textile fabrics impregnated, coated, covered, or laminated with plastics, other than those of heading 5902: With polyurethane	5903.20	7.5%	Free	10.0%	Free	Free
Unbleached or bleached knitted or crocheted fabrics of synthetic fibers, n.e.s.o.i.	6006.31	10.0%	Free	15.0%	Free (for use in textiles, not available for furniture)	Free
Other woven fabrics of synthetic staple fibers: of polyester staple fibers, mixed mainly or solely with man-made filaments	5515.12	12.0%	Free	10.0%	No PROSEC coverage	Free
Parts of seats (except parts of medical, dentist, barber, and similar seats), n.e.s.o.i.	9401.99	Free	Free	Free	No PROSEC coverage	Free

Source: Compiled by USITC using the following sources: USITC, HTS, March 2022; WTO, Tariff Data Database, accessed February 2022; CBSA, Customs Tariff 2021, accessed February 2022; SNICE, "PROSEC Article 4 Tariff Matrix," December 28, 2020; SNICE, "PROSEC Article 5 Tariff Matrix," November 18, 2021.

Note: The U.S. NTR duty rates for finished upholstered furniture applies to NPF status admissions that are used in FTZ production of upholstered furniture then entered into the customs territory of the United States. Mexican duty rates under PROSEC apply to imported upholstery fabric of companies in Mexico that are registered producers of goods within the PROSEC sectoral program for furniture or textile products. The comparable key fabric types within each key subheading were the following: 5903.20.25 (U.S.), 5903.20.02 (Mexico), 5903.20.20 (Canada); 6006.31.00 (U.S.), 6006.31.03 (Mexico), 6006.31.00 (Canada); and 5515.12.0040 (U.S.), 5515.12 (Mexico), 5515.12.00 (Canada).

The U.S. FTZ program allows U.S. firms to reduce NTR duties to zero for NPF status upholstery fabric admissions, helping to equalize the duty costs on these key imported materials for the U.S. upholstered furniture manufacturers that wish to retain cut-and-sew operations. PROSEC also provides for duty reductions for upholstered furniture producers operating in Mexico. The positive impacts these duty cost reductions have had on both industries' overall cost competitiveness exist within a broader set of economic factors determining investment and continued production in each country. Upholstered furniture producers in Canada do not receive any duty reduction for North American sales as a result of their participation in FTZ-type programs. These programs do not provide such duty reduction, and MFN duty rates are already free for those foreign inputs.

Impact on the U.S. Upholstered Furniture Industry

U.S. upholstered furniture manufacturers began using FTZs during a period when most of the industry was offshoring production to other countries. For several decades, a number of U.S. furniture manufacturers have turned to other countries for their production.⁵⁹⁹ Furniture manufacturing, particularly in the cut-and-sew segment, is a highly labor-intensive process. Lower wage rates in China, Vietnam, Mexico, and certain Central American countries have made these suppliers more attractive for manufacturers.⁶⁰⁰

U.S. producers face substantial competition from foreign industries. This section begins with an examination of the extent to which FTZ-type programs in Canada and Mexico contribute to investment incentives in those foreign countries, then considers whether the FTZ program mitigates pressure to divest from the U.S. upholstered furniture industry.

Mexico is a competitive destination for investment in furniture manufacturing and cut-and-sew operations intended to serve the U.S. market. In 2021, Mexico was the third largest supplier to the United States of seat parts of textile material, cut to shape, behind China and Vietnam.⁶⁰¹ Mexico was also the third largest supplier of upholstered furniture to the United States, and 100 percent of U.S. FTZ upholstered furniture manufacturers indicated they were aware of competitors in Mexico.⁶⁰² This is due in large part to the fact that these are labor-intensive operations and Mexico's labor costs for production workers have remained substantially lower than those for the United States.⁶⁰³ In 2016, the hourly wage for furniture manufacturing in Mexico was \$3.21.⁶⁰⁴ By comparison, the average hourly wage for furniture manufacturers in the United States, as of December 2021, was \$24.95 and, in December 2016, was \$21.05.⁶⁰⁵

In addition to these labor cost advantages, furniture companies in the United States with outsourced cut-and-sew and downstream furniture assembly operations overseas can import cut-and-sew kits or

⁵⁹⁹ Industry representative, interview by USITC staff, April 21, 2022.

⁶⁰⁰ Lee, "Household Furniture Manufacturing in the US," 2022, 11–12; industry representative, interview by USITC staff, April 21, 2022.

⁶⁰¹ USITC DataWeb/Census, HTS statistical reporting number 9401.90.5021, accessed August 30, 2022.

⁶⁰² USITC DataWeb/Census, HTS statistical reporting number 9401.90.5021, accessed December 20, 2022; USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 5.1.

⁶⁰³ Industry representative, interview by USITC staff, April 21, 2022; USITC, *Economic Impact of Trade Agreements, 2021 Report*, June 2021, 152; USITC, hearing transcript, May 17, 2022, 177 (testimony of Sean Lydon, ISCM).

⁶⁰⁴ Conference Board, "The Conference Board International Labor Comparisons," accessed August 31, 2022.

⁶⁰⁵ BLS, Current Employment Statistics, NAICS 337, accessed February 6, 2023.

the furniture itself into the United States under NTR duty rates of free. Cut-and-sew operations and furniture assembly facilities in Mexico are able to use PROSEC to reduce duties on at least one key upholstery fabric subheading (5903.20.02) to zero, further improving the cost-competitive advantages of producing there. Under IMMEX, furniture companies do not have to pay the IVA (Mexico's value added tax) at the time of import.⁶⁰⁶ Some U.S. companies import the fabric from China, often through the United States, re-export to facilities in Mexico for cut-and-sew activity and then reimport finished kits into the United States.⁶⁰⁷ Mexico has both program-specific and non-program-specific competitive advantages that incentivize investment in cut-and-sew and furniture assembly industries that serve the North American market.

La-Z-Boy, a large U.S. furniture manufacturer based in Monroe, Michigan, exemplifies the cost savings associated with IMMEX and PROSEC. In 2008, La-Z-Boy began moving its U.S. cut-and-sew manufacturing to Mexico.⁶⁰⁸ In the process, it closed its Tremonton, Utah, plant that employed 630 workers, and laid off cutting and sewing employees at its Dayton, Tennessee, and Newton, Mississippi plants.⁶⁰⁹ La-Z-Boy uses PROSEC and IMMEX, thereby allowing it to enter fabric for the cut-and-sew kits duty free into Mexico.⁶¹⁰ In addition, it imported about \$8.5 million of products under regla octava permits in 2021, 100 percent of which were from China.⁶¹¹ La-Z-Boy benefits from the cheaper labor costs in Mexico for its cut-and-sew operations before shipping the finished furniture to the United States under NTR duty rates of free. According to La-Z-Boy's 2009 annual report, it expected to realize an annual cost savings of more than \$20 million from this move.⁶¹² La-Z-Boy continued to expand its Mexican facilities in 2021 and 2022 in the face of shipping delays for its products from Asia and now operates five facilities in Mexico.⁶¹³

Foreign furniture companies are also moving facilities to Mexico because of ongoing supply chain issues resulting from the COVID-19 pandemic and to take advantage of duty-free access to the United States. Man Wah, one of China's largest furniture companies, opened a \$300 million factory in Mexico in 2022 designed to serve the U.S. market.⁶¹⁴ Man Wah also began participating in the PROSEC and IMMEX programs in 2022.⁶¹⁵ Man Wah plans to produce more than 900,000 pieces of furniture annually in its Mexican factory.⁶¹⁶ Production of furniture in Mexico continues to increase, and companies have

⁶⁰⁶ Foley & Lardner LLP, "Manufacturing in Mexico?," August 8, 2019.

⁶⁰⁷ Industry representative, interview by USITC staff, December 15, 2022.

⁶⁰⁸ SEC, "Form 8-K: LA-Z-BOY Incorporated," March 31, 2008.

⁶⁰⁹ Chattanooga.com, "La-Z-Boy, Whirlpool Moving Hundreds of Jobs to Mexico," April 3, 2008; WTOK, "La-Z-Boy to Move Some Newton Operations to Mexico," August 12, 2019; Furniture Today, "La-Z-Boy to Shift Cut-and-Sew Operations to Mexico," April 3, 2008.

⁶¹⁰ SNICE, IMMEX Directory, May 31, 2022; SNICE, PROSEC Directory, May 31, 2022.

⁶¹¹ ImportGenius, ImportGenius Database, HS 980200, accessed December 7, 2022.

⁶¹² La-Z-Boy, *2009 Annual Report*, 2009.

⁶¹³ Salgado, "La-Z-Boy Makes 'Structural Changes' Across Supply Chain to Tackle Backlog," June 28, 2022; La-Z-Boy, *2022 Annual Report*, 2022, 4.

⁶¹⁴ Goodman, "Why Chinese Companies Are Investing Billions in Mexico," February 3, 2023.

⁶¹⁵ SNICE, PROSEC Directory, December 31, 2022; SNICE, IMMEX Directory, December 31, 2022.

⁶¹⁶ Goodman, "Why Chinese Companies Are Investing Billions in Mexico," February 3, 2023.

reported difficulties in hiring enough workers for the factories, securing suppliers, and finding raw materials.⁶¹⁷

Canada is a major source of imports of upholstered furniture to the United States, with no indication that firms in Canada use FTZ-type programs to improve their cost-competitiveness relative to the United States. Canada has no duty reduction mechanism within its FTZ-type programs and firms producing upholstered furniture in Canada already can use an MFN duty rate of free for fabric imports. Unlike those in Mexico, firms in Canada do not have an additional labor cost advantage over firms producing furniture in the United States. In 2016, the Canadian furniture manufacturing industry's hourly wage rate was \$23.27 (USD), slightly higher than the U.S. hourly wage rate.⁶¹⁸ About half of U.S. FTZ upholstered furniture manufacturers are generally unaware of competitors in Canada, and none was aware of any competitors operating within FTZ-type programs there.⁶¹⁹

U.S. producers seeking to retain domestic cut-and-sew operations or downstream furniture assembly have relied on other advantages to remain competitive. U.S. manufacturing processes that integrate cut-and-sew operations provide greater flexibility and supply chain risk management for sales into a large domestic market with shifting style preferences.⁶²⁰ By contrast, furniture manufacturers relying on imported cut-and-sew kits must buy the pre-fabricated kits months in advance and often can be left with old styles that consumers are no longer interested in purchasing.⁶²¹ Importing finished furniture also has some issues. The size and inflexibility of furniture limits the quantity that can be put in shipping containers, increasing shipping costs because more freight volume is necessary.⁶²² Additionally, maintaining operations in the United States reduces delays associated with extended global supply chains, which have been exacerbated during and following the COVID-19 pandemic.⁶²³ By reducing the relatively high tariffs on one of the most expensive materials used in furniture manufacturing to free within FTZs, U.S. upholstered furniture manufacturers have been able to pair logistical advantages with significant cost savings. Reducing duties on upholstery fabric has provided U.S. producers with greater material cost parity with duty-free imports of cut-and-sew kits and furniture. Despite recent demand downturns and supply chain issues, two-thirds of upholstered furniture manufacturers producing in FTZs plan to either expand or maintain operations at current levels.⁶²⁴

In part because of these FTZ-related cost savings, U.S. upholstered furniture manufacturers have maintained and, in some cases, even expanded U.S. investment, production, and employment. According to the U.S. Bureau of Labor Statistics, employment in the U.S. furniture manufacturing sector has grown over the course of the past 10 years from 349,400 in January 2012 to 382,400 in January 2022, an increase of 9.4 percent.⁶²⁵ Upholsterers for furniture manufacturing totaled 13,580 employees

⁶¹⁷ Goodman, "Why Chinese Companies Are Investing Billions in Mexico," February 3, 2023; Dalheim, "'Made in Mexico' Gaining Momentum," February 28, 2022.

⁶¹⁸ Conference Board, "The Conference Board International Labor Comparisons," accessed August 31, 2022.

⁶¹⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 5.1 and 5.3.

⁶²⁰ Industry representative, interviewed by USITC staff, April 21, 2022.

⁶²¹ Industry representative, interviewed by USITC staff, April 21, 2022; Piedmont Triad Partnership, *Application for Manufacturing Subzone Status-Klaussner Home Furnishings*, October 27, 2009, 4.

⁶²² Industry representative, interviewed by USITC staff, April 21, 2022.

⁶²³ Industry representative, interviewed by USITC staff, April 21, 2022; USITC, *Shifts in U.S. Merchandise Trade, 2021*, "The 2021 Commodity Price Surge: Causes and Impacts on Trade Flows," June 2022.

⁶²⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.6. Low precision estimate.

⁶²⁵ BLS, Current Employment Statistics, NAICS 337, accessed February 6, 2023.

in 2021, about 4 percent of all furniture manufacturing employment.⁶²⁶ Mississippi-based Max Home indicated that it was able to increase employment from 348 in 2009 to 649 in 2015, during its five-year temporary production authority.⁶²⁷ In its original application in 2014, Southern Motion indicated it had 958 employees.⁶²⁸ By 2020, after acquiring Fusion Furniture in 2018, it had about 1,500 employees and expanded to five locations.⁶²⁹ Most upholstered furniture manufacturers producing in FTZs indicated that the program had been a factor increasing both employment and manufacturing output.⁶³⁰ The FTZ program has also contributed to furniture manufacturing companies' ability to retain the cut-and-sew workers in house.⁶³¹ These companies' production operations experienced slight increases in total shipments from FTZ production and employment between 2016 and 2021.⁶³²

However, in recent years, the benefits of the U.S. FTZ program have not been sufficient to mitigate cost pressures faced by several companies, and layoffs have occurred. In 2022, lower consumer demand resulted in some companies reducing their workforces or shutting down completely. One example is Southern Motion, which announced in June 2022 that it was reducing its workforce by 280 employees as a result of lower consumer demand.⁶³³ Other companies stopped using the FTZ program except for warehousing and distribution purposes and subsequently suffered from supply chain delays. These delays contributed in part to the closure of a major company in the industry, United Furniture (d.b.a. Lane Home Furnishings).⁶³⁴ Lane Home Furnishings was already importing the finished cut-and-sew kits before receiving FTZ authorization. It stopped using its FTZ authorization for in-house cut-and-sew operations in 2016, instead moving production activity to Mexico.⁶³⁵ Other companies that stopped using their FTZ production authority were relatively small producers, and the benefits of the FTZ program did not outweigh the costs associated with operating the program.⁶³⁶

Impacts on U.S. Upholstery Fabric Suppliers

As described in the overview section to this chapter, some domestic parties have contended that U.S. FTZs encourage manufacturers to increase reliance on foreign inputs rather than domestically sourced goods. In recent years, this objection to the use of FTZs has been largely concentrated within domestic textile-producing industries. A representative of the textile industry explained the opposition as being against the program's incorporation of duty-saving provisions that serve as a "legal method of circumventing the U.S. tariff schedule," a particular concern for textiles given the typically higher NTR

⁶²⁶ BLS, "Occupational Employment and Wages, May 2021," May 2021.

⁶²⁷ Greater Mississippi Foreign-Trade Zone, Inc., "Re: Production Notification on Behalf of Max Home, LLC," October 15, 2015.

⁶²⁸ Greater Mississippi Foreign-Trade Zone, Inc., "Notification of Proposed Production Activity," May 29, 2014.

⁶²⁹ Slaughter, "Fusion Furniture Expands to New Albany, Miss.," December 16, 2020.

⁶³⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.6.

⁶³¹ Industry representative, interviewed by USITC staff, April 21, 2022.

⁶³² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.7 and 2.10.

⁶³³ Layton, "'Voluntary Layoffs' Not Enough to Save 280 Jobs at Southern Motion, Fusion," June 23, 2022.

⁶³⁴ McLoughlin, "Update: Details Emerge on Lane's Termination of All Employees," November 22, 2022; Lester, "Retailers Shocked by News of Lane's Sudden Demise," November 22, 2022; industry representatives, interviews by USITC staff, December 8 and 15, 2022.

⁶³⁵ Industry representatives, interviews by USITC staff, December 8 and 15, 2022; FTZ Board, *Examiners Report (Lane Furniture Industries, H.M Richards, Inc., and Bauhaus USA, Inc.)*, December 12, 2008, 1; FTZ Board, *78th Annual Report*, November 2017.

⁶³⁶ Industry representative, interview by USITC staff, December 15, 2022.

duty rates on imports of these goods.⁶³⁷ Therefore, this sector has submitted by far the largest number of domestic party objections to applications for firms seeking to admit NPF status textiles into FTZs in recent years.⁶³⁸ Production authority granted to such applications is often subject to specific limitations imposed by the FTZ Board (see box 3.3). Industry representatives state that, in many cases, firms that would consider admitting NPF status textiles into FTZs are discouraged from using the FTZ program. This is because production authority applications could be denied or modified to the point where the costs of program participation outweigh the benefits.⁶³⁹

Within this context, the first FTZ production authority applications in 2007 for upholstered furniture received a number of comments from domestic parties. The American Fiber Manufacturers Association, the National Council of Textile Organizations (NCTO), the National Textile Association, and the American Manufacturing Trade Action Coalition filed joint letters opposing the FTZ production authority for Klaussner Home Furnishings, H.M. Richards, Bauhaus USA, Lane Furniture, and Max Home.⁶⁴⁰ Fabric companies such as Copland Industries and David Rothschild Co. filed opposition comments. These parties argued that these production authority authorizations would put significant pressure on U.S. upholstery fabric producers by allowing companies the opportunity to source foreign fabric for lower costs.⁶⁴¹ They disagreed with the applications' statements that environmental regulations are responsible for the hot caustic soda finishing for micro-denier suede fabric's being unavailable from domestic sources. Domestic textile producers responded by stating that the U.S. industry had "devised more environmentally friendly finishing processes that achieve the same effect."⁶⁴²

Several individual domestic upholstery fabric producers also commented in support of the FTZ applications. North Carolina-based companies STI Fabrics, Chambers Fabrics, Inc., and Culp, Inc. submitted letters of support for Klaussner Home Furnishings' FTZ application in 2009.⁶⁴³ In their letters, the companies indicated that, if the FTZ production authority applications were approved, the FTZ users would provide support for the U.S. textile industry's domestic customer base because upholstered furniture producers purchase from them as well.⁶⁴⁴

After several years of debate, the FTZ Board determined that the upholstered furniture companies would be allowed to admit NPF status micro-denier suede upholstery fabric finished with a hot caustic soda solution, concluding that this fabric was not produced by any domestic manufacturers. However,

⁶³⁷ NCTO, written submission to USITC, November 29, 2022.

⁶³⁸ USITC, hearing transcript, May 17, 2022, 99 (testimony of Charles Benoit, CPA); GAO, *FTZs: Board Should Document*, November 27, 2018. The GAO report is based on Notifications for Production Authority submitted between April 2012–September 2017.

⁶³⁹ Industry representatives, interviews by USITC staff, April 27 and June 17, 2022; USITC, hearing transcript, May 17, 2022, 119 (testimony of Sean Lydon, ISCM).

⁶⁴⁰ NCTO, NTA, AMTAC, AFMA, "RE: Docket 59-2009: Foreign-Trade Zone 230," March 8, 2010; NCTO, NTA, AMTAC, AFMA, "RE: Foreign Trade Zone 158," December 14, 2009; NCTO, NTA, AMTAC, AFMA, "RE: Docket 41-2009: Foreign-Trade Zone 158," April 16, 2010.

⁶⁴¹ NCTO, NTA, AMTAC, AFMA, "RE: Foreign Trade Zone 158," December 14, 2009, 1.

⁶⁴² NCTO, NTA, AMTAC, AFMA, "RE: Foreign Trade Zone 158," December 14, 2009, 2.

⁶⁴³ Klaussner Home Furnishings no longer uses its FTZ production authority.

⁶⁴⁴ Culp, Inc., "Letter to FTZ Board Re Docket 28-2007," September 26, 2007; Culp, Inc., "Letter to FTZ Board Re Docket 59-2009," February 5, 2010; Chambers Fabrics, Inc., "Re: Klaussner Subzone Application -- Docket No. 59-2009," February 25, 2009; Gibbons, "Letter from STI to FTZ Board Re Docket 59-2009," February 11, 2010.

the FTZ Board limited the amount of NPF status admissions of this fabric for each authorized user on the basis of the average annual volume of micro-denier fabric consumed by each company.⁶⁴⁵

Since the first upholstered furniture manufacturers were granted FTZ production authority in 2009, the domestic upholstery fabric industry has had differing experiences. STI Fabrics has been making performance upholstery fabrics under the brand name “Revolution Fabrics” since 2014. STI Fabrics continues to operate in North Carolina and expanded its facility in 2018.⁶⁴⁶ Chambers Fabrics, a chenille fabric producer, was bought by Richloom Fabrics in 2019 but continues to manufacture woven fabrics in North Carolina.⁶⁴⁷ Culp now manufactures upholstery cut-and-sew kits in its Haiti facility, as well as in Vietnam and China, with limited production of upholstery fabric in the United States. Culp’s remaining U.S. facility is located in Anderson, South Carolina, and mainly produces upholstery velvet.⁶⁴⁸ Copland Industries, one of the objectors to Klaussner’s application, closed at the end of 2018.⁶⁴⁹ David Rothschild Co. still produces fabric for furniture and drapes in North Carolina.⁶⁵⁰

The domestic textile industry has opposed a number of FTZ production authority applications beyond those involving upholstery fabric. Box 3.3, below, describes some other examples of domestic opposition to FTZs in the textile sector.

Box 3.3 Domestic Opposition to Foreign Trade Zones

Certain domestic industries, such as textile manufacturers, may be harmed by duty reductions on NPF status materials under the FTZ program because these cheaper foreign materials may compete with their domestically made products. Domestic manufacturers have the opportunity to comment on proposed FTZ production notifications, and such comments are considered by the FTZ Board in its decisions of whether to approve such activities. Comments in opposition to production notifications have been rare in recent years.^a Applications have been either denied, accepted without tariff relief, or approved with limitations on import volumes after domestic opposition. The FTZ Board is required to apply various criteria when determining whether or not an FTZ application should be approved.^b As part of its determination process, the FTZ Board requires applicants to provide a number of details, including among other things, whether the foreign components are available domestically and, if so, why they are unable to obtain them.^c

An example of an application that was denied after domestic opposition involved ASO, LLC in 2013. ASO, an adhesive bandage producer in Sarasota, Florida, applied for FTZ production authority using admissions of NPF status polyester, cotton dyed plain weave, and a blended cotton/manmade fiber fabric.^d Several domestic associations and Copland Industries, a fabric mill, filed opposition letters in response to this application, arguing that these inputs are made in the United States and the U.S. fabric companies would be willing and able to supply the fabrics.^e In August 2015, after comment and rebuttal

⁶⁴⁵ FTZ Board, *Examiners Report (Lane Furniture Industries, H.M Richards, Inc., and Bauhaus USA, Inc.)*, December 12, 2008; FTZ Board, *Examiners Report (Best Chair, Inc.)*, January 4, 2012, 11; FTZ Board, *Examiners Report (Max Home, LLC and Klaussner Home Furnishings)*, December 17, 2010.

⁶⁴⁶ Harrill, “STI Celebrates Major Expansion,” January 18, 2018.

⁶⁴⁷ Elliott, “Richloom Acquires Domestic Producer Chambers Fabrics,” November 18, 2019.

⁶⁴⁸ Culp, Inc., “Culp Announces Revised U.S. Upholstery Fabrics Manufacturing Strategy,” December 14, 2006; Culp, Inc., *Culp Annual Report to Shareholders*, 2008.

⁶⁴⁹ Croxton, “Copland to Close,” November 1, 2018.

⁶⁵⁰ David Rothschild Company, Inc., “Home Page,” accessed September 8, 2022.

comment periods, the FTZ Board decided not to approve the production authority for ASO.^f ASO continues to manufacture bandages in Sarasota and Lakeland, Florida.^g Copland Industries went out of business at the end of 2018 after 77 years, citing competition from China and increasing costs.^h

Some FTZ applications opposed by domestic industry are approved with limitations that remove savings that would otherwise be available to producers using the program. Such production authority limitations include denying admission of certain inputs under NPF status or requiring that FTZ production only be used for exports and not for domestic shipments. The FTZ Board has restricted production authority when it finds that the positive effects attributable to expanded FTZ production do not outweigh potential negative effects on domestic suppliers and competing producers.ⁱ For example, in 2014, The Coleman Company, Inc. (Coleman) applied for FTZ production authority for the manufacturing of lifejackets using NPF status admissions of certain fabrics at its facility in Sauk Rapids, Minnesota.^j However, several domestic associations and one fabric producer, Milliken & Company, opposed this application.^k In 2014, Coleman attained production authority with the proviso that they admit foreign-status inputs under PF status. This status requires payment of duties on such goods at the NTR duty rate applicable to fabric and prevents duty reduction on such materials for lifejackets sold to U.S. customers.^l Coleman attempted for several more years to get NPF status on these admissions, but the FTZ Board rejected further attempts in 2018. Coleman announced in 2021 that it would be closing the Sauk Rapids plant and laying off 175 employees, indicating the company would be exiting the industrial and government line of flotation products.^m Coleman continues to make recreational flotation devices in its overseas facilities.ⁿ Milliken continues to operate in South Carolina and recently acquired a new plant to expand its yarn production for its protective fabrics, workwear, government and defense, industrial, and napery textile business units.^o

Finally, companies such as the upholstered furniture businesses described in this case study have been granted approval for FTZ production, provided they keep their admissions of NPF status merchandise under a certain quantitative limit. An example of this is Flemish Master Weavers (FMW), an area rug manufacturer in Waterville, Maine. FMW applied for FTZ production authority in 2016.^p It received opposition comments from a yarn manufacturer, National Spinning, and several domestic industry associations on its request to admit polypropylene and polyester yarns under NPF status. The FTZ Board originally restricted its approval by requiring the yarns be admitted to the subzone in PF status, similar to the restriction faced by Coleman described above.^q FMW put forth a second application, requesting authority to admit polypropylene and polyester yarns under NPF status, which it argued could not be sourced domestically.^r The domestic industry associations filed opposition comments to the application, and the FTZ Board determined in 2018 that it would approve the FMW application with a limitation that the FTZ facility would only admit 3 million kilograms per year under NPF status for a period of five years.^s FMW has since expanded its FTZ subzone area by 2.1 acres.^t National Spinning continues to operate two facilities in North Carolina.^u

^a Between April 2012 and September 2017, 5 of the 54 notifications for production authority published in the *Federal Register* received public comments. However, opposition to FTZ applications was much more common in the past. Fifty-three applications between July 30, 1982, and July 14, 1987, received domestic opposition. GAO, “Foreign-Trade Zones: Board Should Document Consideration,” November 27, 2018; USITC, *The Implications of Foreign-Trade Zones for U.S. Industries*, February 1988, appendix C.

^b 15 C.F.R. § 400.27.

^c OMB, Foreign-Trade Zone Application for Production Authority, OMB Control No. 0625-0139.

^d 78 Fed. Reg. 18314 (March 26, 2013).

^e AFMA, NCTO, and USIFI, “RE: Docket B-24-2013, ASO, LLC in Subzone 169A,” April 28, 2014; Copland Industries, “RE: ASO LLC Application for Expanded Production Authority,” July 15, 2014.

^f 80 Fed. Reg. 47895 (August 10, 2015).

^g Levey-Baker, “Made in Sarasota: Aso Bandages,” February 1, 2017.

^h Croxton, “Copland to Close,” November 1, 2018.

¹ See, e.g., FTZ Board, *Examiners Report (The Coleman Company, Inc.)*, June 18, 2018.

² 79 Fed. Reg. 18509 (April 2, 2014).

³ Milliken, “Letter to FTZ Board re Docket B-031-2014,” May 12, 2014; NCTO, USIFI, and AFMA, “RE: Docket B-31-2014; Coleman Company, Inc; FTZ 119,” May 12, 2014.

⁴ 79 Fed. Reg. 43390 (July 25, 2014).

⁵ Associated Press, “Coleman Plant in Sauk Rapids Closing, Eliminating 175 Jobs,” September 4, 2021.

⁶ Associated Press, “Coleman Plant in Sauk Rapids Closing, Eliminating 175 Jobs,” September 4, 2021.

⁷ Associated Press, “Coleman Plant in Sauk Rapids Closing, Eliminating 175 Jobs,” September 4, 2021.

⁸ 81 Fed. Reg. 22210 (April 15, 2016).

⁹ 81 Fed. Reg. 51850 (August 5, 2016); AFMA, NCTO, and USIFI, “RE: Foreign-Trade Zone 186; Docket # B-18-2016,” May 25, 2016; National Spinning, “RE: B-2018-2016; City of Waterville, Maine on behalf of Flemish Master Weavers; FTZ 186,” May 24, 2016.

¹⁰ Flemish Master Weavers, Inc., “Rebuttal Comments of Flemish Master Weavers,” August 18, 2017.

¹¹ 83 Fed. Reg. 54709 (October 31, 2018).

¹² 84 Fed. Reg. 21325 (May 14, 2019); 84 Fed. Reg. 33223 (July 12, 2019); 84 Fed. Reg. 57391 (October 25, 2019); 84 Fed. Reg. 70932 (December 26, 2019).

¹³ Davis, “SPINNING FOCUS,” accessed August 24, 2022.

Case Study 3: Petroleum Refining

Key Findings

Petroleum refineries are one of the largest users of the U.S. FTZ program. They primarily use it to reduce duty payments on crude oil through duty exemption for exports, duty reduction from inverted tariffs on some outputs such as petrochemicals, and in-bond shipments of jet fuel to airports. U.S. refineries are a competitive option for processing Canadian and Mexican crude oil and do not appear to be affected by FTZ-type programs in Canada or Mexico. Savings associated with the U.S. FTZ program helped the domestic industry maintain global competitiveness during a period of increased reliance on imported inputs and competition with foreign refineries in the 1990s. However, FTZ duty savings are relatively small and have declined substantially since 2016 because U.S. refineries have shifted to sourcing higher shares of domestic crude oil inputs.

U.S. Industry Use of FTZs

Petroleum refineries process crude oil into finished petroleum products such as motor gasoline and diesel, as well as into intermediate goods used as inputs for petrochemical and plastics manufacturing. The relative amounts of each product produced by petroleum refineries can be measured through average U.S. refinery yield, which shows the volume of output of the finished product as a percentage of the volume of inputs.⁶⁵¹

The United States has the largest refining sector in the world, and it supplies 17.6 percent of the world’s total petroleum refining capacity.⁶⁵² More than 30 U.S. refineries, owned by 15 different parent companies and representing a little more than half the total U.S. refining capacity, were using FTZ production authority as of the end of 2021. Most of these refineries are located along the Gulf Coast, mainly in Texas and Louisiana. Some refineries produce in U.S. FTZs along the West Coast (including several in California); in the Midwest (including several in Ohio); on the East Coast; and in Hawaii,

⁶⁵¹ For example, an average yield of 8.4 percent jet fuel means that refining 100 barrels of crude oil typically results in about 8 barrels of jet fuel (and many barrels of other products). Because of processing gain, output volumes are greater than input volumes. As a result, refinery yield percentages total above 100 and do not represent the percentage of output volume. EIA, “U.S. Refinery Yield,” August 31, 2022; EIA, “What Is Crude Oil?,” April 19, 2022.

⁶⁵² BP, “Oil: Refining Capacity (from 1965),” Stat. Rev. World Energy, 71st ed., June 2022.

Alaska, and Puerto Rico.⁶⁵³ About two-thirds of refiners producing in U.S. FTZs also operate U.S. refineries that do not use FTZs. Firms generally attribute this decision to location-related factors that dictate differences in use of foreign feedstock and export competitiveness.⁶⁵⁴ The U.S. refining sector employed about 105,000 workers in 2021, more than half of whom worked at refineries that use FTZs.⁶⁵⁵

U.S. FTZ Production Cost-Competitiveness Effects

Refineries can use several U.S. FTZ program benefits to reduce their duty payments on imported inputs—duty exemptions, specific rules regarding fuel consumed onsite and jet fuel shipped in-bond, and duty reductions from inverted tariffs. The main inputs for refineries—crude oil and unfinished heavy fuel oils—are subject to relatively low NTR duty rates ranging from 5.25 cents per barrel to 10.5 cents per barrel.⁶⁵⁶ These tariffs are relatively low—on an ad valorem equivalent basis, they have ranged from averaging less than 0.1 percent to about 0.3 percent—however, the high total import volumes can result in significant duty payments.⁶⁵⁷ In 2021, about 333 million barrels of crude oil and unfinished heavy oils were admitted into U.S. FTZs and bonded warehouses, with maximum possible duty savings of \$26 million. These FTZ and bonded warehouse admissions represented 13.8 percent of general U.S. imports of crude oil and unfinished heavy oils by volume.⁶⁵⁸

Duty exemptions are available for foreign-status admissions of inputs that are used in producing a product that is exported without first making U.S. customs entry. In 2021, about 15 percent of exports from refineries producing in FTZs did not make U.S. customs entry.⁶⁵⁹ About half the refiners producing in FTZs use duty exemptions and consider them extremely important. Another 30 percent of these refiners use the exemptions but consider them moderately or not very important; the rest do not use any duty exemption.⁶⁶⁰ Refiners saved millions of dollars annually from 2016 to 2021 from duty savings on exports from FTZs.⁶⁶¹

Refinery inputs yield a small amount of still gas (also referred to as refinery gas)—about 4.1 percent of the input volume, on average, domestically.⁶⁶² This still gas is produced during refineries' first step of

⁶⁵³ The Puerto Rico site is a former refinery that maintains FTZ production authority for petroleum product blending. List compiled by USITC. EIA, *Refinery Capacity Report*, June 21, 2022; FTZ Board, *83rd Annual Report*, August 2022.

⁶⁵⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.11; USITC, *Foreign Trade Zones Questionnaire*, 2022, questionnaire narrative responses; industry representatives, interviews by USITC staff, August 30 and December 21, 2022.

⁶⁵⁵ Sector employment data include workers in the coal products manufacturing subsector. USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.7; BLS, Current Employment Statistics, NAICS 324, accessed February 6, 2023.

⁶⁵⁶ USITC, HTS, HTS subheadings 2709.00.10, 2709.00.20, and 2710.19.06.

⁶⁵⁷ USITC DataWeb/Census, Imports for consumption, accessed September 2, 2022.

⁶⁵⁸ Savings calculation assumes zero duties paid. USITC DataWeb/Census, General imports, HTS statistical reporting numbers 2709.00.1000, 2709.00.2010, 2709.00.2090, and 2710.19.0635, accessed September 13, 2022. Data for U.S. imports admitted into FTZs and bonded warehouses (U.S. Census data for general imports under rate provision "00") are used in this chapter as a proxy for product-level admissions of foreign-status materials into FTZs despite the possibility that these data also include some bonded warehouse admissions.

⁶⁵⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.12.

⁶⁶⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁶⁶¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4.

⁶⁶² EIA, "U.S. Refinery Yield," August 31, 2022.

processing (separating crude oil into different hydrocarbon mixtures, according to their boiling points) and is then used as a fuel in refineries' other processing units.⁶⁶³ Starting in 1995 with Amoco Oil Company's Texas City refinery, the FTZ Board began to approve expanded production authority for refineries to elect NPF status for admitted refinery inputs used to make certain petrochemicals, by-products, and exports.⁶⁶⁴ Among other benefits, the FTZ Board's authorizations allowed refineries not to pay duties on the share of crude oil inputs used to make still gas, which is duty free.⁶⁶⁵

Interactions between the FTZ program and U.S. rules on in-bond shipments also allow refineries to not pay duties on shipments of jet fuel to airports or other FTZs. These provisions allow refineries producing in FTZs to admit foreign-status crude oil, refine it into jet fuel, and sell and transport the jet fuel to domestic airports in-bond without having to pay duties on the crude oil inputs used. Airlines may then purchase this foreign-status jet fuel duty free when using it for international flights.⁶⁶⁶ U.S. refinery inputs yielded 8.4 percent jet fuel in 2021.⁶⁶⁷

For sales into the U.S. market or elsewhere in North America, refineries producing in U.S. FTZs may admit NPF status crude inputs and then use the finished goods classification at the time of entry into consumption. The result is lower duty payments for certain products with inverted tariffs, which do not exist for refineries' main outputs of motor gasoline and diesel. As shown in tables 3.8 and 3.9, these products are subject to NTR duty rates that are as high or higher than those of the main crude inputs. Refineries have inverted tariffs for a small subset of outputs with NTR duty rates of free, including petroleum coke, still gas, hydrocarbon gas liquids, and some by-products, such as sulfur.

Although inverted tariffs are present for a relatively small share of outputs, refineries producing in FTZs are able to use flexible accounting rules for all their outputs to maximize their duty reduction benefits. CBP's accounting requirements for refineries producing in FTZs are based on a table listing the maximum yields that are technically feasible for each petroleum product. These requirements differ from other sectors because of the challenges of tracing origin when refineries commingle inputs and process them together. The requirements allow for a lot of flexibility in how a group of similar products (such as hydrocarbon gas liquids) is accounted for, enabling refineries producing in FTZs to attribute more of their duty-free outputs to NPF status inputs. Similarly, these refineries can attribute most (if not all) of their higher-duty products, such as gasoline, to domestic-status inputs, including foreign-origin goods

⁶⁶³ Industry representative, interview by USITC staff, August 30, 2022; McKinsey, "Refinery Gas," accessed July 29, 2022.

⁶⁶⁴ 60 Fed. Reg. 13118 (March 10, 1995). For more context on the evolution of these production authorities, see FTZ Board, *Examiner's Report Concerning the Application of Amoco Oil Company in Texas City, Texas*, December 9, 1994, 16–19.

⁶⁶⁵ 60 Fed. Reg. 13118 (March 10, 1995); *Citgo Pet. Corp. v. U.S. For. Trade-Zones Bd.*, 83 F.3d 397 (Fed. Cir. 1996); FTZ Board, *Examiner's Report Concerning the Application of Amoco Oil Company in Texas City, Texas*, December 9, 1994, 23.

⁶⁶⁶ 19 U.S.C. § 1309; NAFTAZ, "The Impact of Foreign-Trade Zones," 2008, 8–9; CBP, "HQ 223268: Transportation via Bonded Pipeline," October 15, 1991.

⁶⁶⁷ U.S. refineries historically had higher jet fuel yields (closer to 9.5 or 10 percent) but shifted yields to other products after the COVID-19 pandemic disrupted jet fuel demand. One of the U.S. refineries operating in an FTZ is owned by Delta Airlines and has been focused on maximizing its share of jet fuel outputs. Monroe Energy, "Why Monroe Energy," accessed July 29, 2022; EIA, "U.S. Refinery Yield," August 31, 2022; EIA, "Changing Demand for Petroleum Products," August 28, 2020.

imported under FTAs before admission.⁶⁶⁸ Duty reductions such as those on the inverted tariffs on duty-free products in table 3.9 are one of the most important benefits for refiners. More than 60 percent of refiners producing in FTZs use duty reductions and view them as extremely important. Most remaining companies still use some duty reductions; less than 9 percent of refiners producing in FTZs do not use any duty reductions.⁶⁶⁹ Refiners saved tens of millions of dollars annually from 2016 to 2021 on their U.S. customs entries from zones, far exceeding the millions of annual duty savings from duty exemption for exports.⁶⁷⁰

Table 3.8 U.S. imports of main refining sector inputs admitted into FTZs and bonded warehouses
In millions of barrels and percentages

Product type	HTS-8 subheadings	U.S. NTR duty rate	Admissions into FTZs and bonded warehouses in 2021 (million barrels)	Admissions as a share of general imports (%)
Crude oil < 25 degrees API	2709.00.10	5.25 cents per barrel	112	8.8
Crude oil ≥ 25 degrees API	2709.00.20	10.5 cents per barrel	164	25.1
Unfinished heavy oil	2710.19.06	5.25 cents per barrel	57	29.4

Source: USITC, HTS, March 2022; USITC DataWeb/Census, General imports, accessed December 7, 2022.

Note: Data for U.S. imports admitted into FTZs and bonded warehouses (U.S. Census Bureau data for general imports under rate provision “00”) are used in this chapter as a proxy for product-level admissions of foreign-status materials into FTZs despite the possibility that these data also include some bonded warehouse admissions.

Table 3.9 Examples of refining sector outputs and their average yield, 2021
In percentages

Product type	HTS-8 subheadings	U.S. NTR duty rate	Average U.S. refinery yield from inputs, percent
Motor fuel	2710.12.15	52.5 cents per barrel	47.8
Distillate and residual fuel oil ≥ 25 degrees API	2710.19.11	10.5 cents per barrel	29.7
Kerosene-type jet fuel	2710.19.16	52.5 cents per barrel	8.4
Petroleum coke	2713.11.00 2713.12.00	Free	4.9
Still gas	2711.29.00	Free	4.1
Hydrocarbon gas liquids (ethane, propane, butanes, ethylene, propylene, butylene)	2711.12.00 2711.13.00 2711.14.00 2711.19.00 2711.29.00	Free	4.0

Source: USITC, HTS, March 2022; EIA, “U.S. Refinery Yield,” August 31, 2022.

Note: Product descriptions generally align, but mapping between the HTS-8 and EIA data may not be exact. Yield data for HTS subheading 2710.19.11 use EIA’s Distillate Fuel Oil category. Because of processing gain, U.S. refinery output volumes were about 6.2 percent greater than input volumes in 2021 (i.e., average U.S. refinery yield from all inputs totaled 106.2 percent).

⁶⁶⁸ U.S. government official, interview by USITC staff, October 6, 2022; industry representative, interview by USITC staff, August 30, 2022.

⁶⁶⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁶⁷⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4.

In addition to the duty-related benefits, some refiners use FTZs for savings on other taxes and fees. More than two-thirds of refiners producing in FTZs are eligible for local- and state-level benefits like inventory tax savings. Most refiners that receive these benefits consider them extremely important, but nearly a third of refiners producing in FTZs do not receive them in any of their FTZ production operations.⁶⁷¹ More than 90 percent of refiners producing in FTZs experience savings on non-duty U.S. customs fees (such as through weekly entry) and streamlined customs procedures but have mixed views on how important these are.⁶⁷²

Comparing Cost Effects of FTZs and FTZ-Type Programs

There is no evidence that refineries producing in U.S. FTZs are adversely affected by competition with refineries in Mexico or Canada using similar programs. Mexican and Canadian refining industries are each a fraction of the size of the U.S. industry. As of the end of 2021, each country had refining capacities below 2 million barrels per day, compared to a U.S. refining capacity of 17.9 million barrels per day.⁶⁷³ Mexico's petroleum industry is consolidated under the state-owned entity Pemex, and its refineries almost exclusively process domestic crudes.⁶⁷⁴ These refineries do not process some types of domestic crude oil and have been constrained by operational issues since 2014. Mexico's heavy crude oil is often exported to U.S. refineries, and Mexico uses net imports of finished petroleum products (including gasoline that is primarily sourced from U.S. refineries) to meet domestic demand.⁶⁷⁵ Canada's largest refinery, located in the province of New Brunswick, accounts for most of its imports of crude oil. However, all other refineries in Canada process almost exclusively Canadian crudes, crude originating from the United States, or some combination of the two.⁶⁷⁶ Canada is the United States' largest source of refined product imports. This trade is primarily concentrated in the Northeast, a region near the New Brunswick refinery but also where U.S. refining capacity is limited. This flow of imports from Canada is also characterized by U.S. industry trade associations as part of a broader energy partnership that provides economic benefits and energy security.⁶⁷⁷

Mexico and Canada have MFN duty rates of free for crude oil imports and for most refined petroleum products.⁶⁷⁸ Duty-free access to crude oil may offer a cost advantage to refineries in Mexico and Canada,

⁶⁷¹ Inventory tax savings are most relevant for refinery FTZs in Texas and Louisiana. Inventory tax discounts may vary from 0 to 100 percent or payments in lieu of taxes may be required, depending on the site and local tax entities. Industry representatives, interviews by USITC staff, August 30, August 31, and December 21, 2022; U.S. government official, interview by USITC staff, October 6, 2022; PHA, "Explore FTZ 84: Benefits and Implementation," accessed July 29, 2022.

⁶⁷² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁶⁷³ BP, "Oil: Refining Capacity (from 1965)," Stat. Rev. World Energy, 71st ed., June 2022.

⁶⁷⁴ S&P Global, GTAS, HS heading 2709, accessed September 16, 2022; EIA, "Country Analysis Executive Summary: Mexico," November 30, 2020, 4–6.

⁶⁷⁵ President Lopez Obrador has announced a plan to achieve fuel independence through refinery upgrades and the construction of a new refinery in Dos Bocas, with capacity to process heavy crude oil. However, the Dos Bocas refinery is facing cost overruns and delays. Meana, "Mexico to Cut Ribbon on Refinery," June 30, 2022; EIA, "Country Analysis Executive Summary: Mexico," November 30, 2020, 4–5.

⁶⁷⁶ CER, "Market Snapshot: Crude Oil Imports Declined in 2021," March 30, 2022; Oil Sands Magazine, "Canadian Refineries," November 7, 2022.

⁶⁷⁷ EIA, "Country Analysis Executive Summary: Canada," July 12, 2022, 3–5; ICF, *U.S.-Canada Cross-Border Petroleum Trade*, March 2021, 6–8; Grissom, "Why Partnerships with Canada and Mexico," May 28, 2021.

⁶⁷⁸ WTO, Tariff Data Database, accessed February 2022; CBSA, Customs Tariff 2021, Chapter 27, March 31, 2021.

but this advantage is unrelated to the countries' use of FTZ-type programs. Nevertheless, the duty-free access to crude oil and the domestic market focus of refineries in Mexico and Canada suggest that they do not have a clear incentive to use FTZ-type programs. Information is limited about the extent to which firms in Canada (including refiners) use that country's FTZ-type programs; Mexico's IMMEX and PROSEC do not appear to include the refining sector.⁶⁷⁹ Evidence points to U.S. refineries being a competitive option for processing Mexican and Canadian crude. In 2022, oil producers in Mexico and Canada increased investments in U.S. refineries that they were previously operating as joint venture partners: Pemex finalized its acquisition of Shell's stake in the Deer Park, Texas refinery and Canadian oil sands producer Cenovus announced an agreement to buy BP's stake in its Toledo, Ohio refinery.⁶⁸⁰

Impact on the U.S. Petroleum Refining Industry

Most U.S. refinery applications for FTZ status were submitted in a period following two downturns in the U.S. petroleum refining industry, in the early 1980s (following the removal of crude oil price controls and subsidies for small refiners) and then in the early 1990s (following new environmental regulations, particularly the Clean Air Act).⁶⁸¹ Refinery applicants argued that the FTZ program was important to partially offset U.S. environmental compliance costs and keep U.S. refineries competitive against foreign refineries that did not face the same requirements.⁶⁸² Some domestic refineries opposed FTZ applications in the late 1980s and raised concerns that FTZs would incentivize more reliance on crude imports. By 1993, refineries were expressing nearly universal support. The FTZ Board attributed this changed position to a new industry focus on improving competitiveness with foreign refineries.⁶⁸³ By 2000, the domestic industry supported an indefinite extension of 58 refinery FTZ authorizations. The FTZ Board found that these extensions would have a net positive effect. It noted that U.S. refineries were increasingly globalized and competing with other business units for capital funds. Zone savings supported investment in maintaining and incrementally expanding capacity and, by extension, also supported domestic refinery employment.⁶⁸⁴ However, these zone savings have declined in more recent years, largely as a result of changes in crude oil supplies and sourcing (box 3.4).

⁶⁷⁹ In 2018, Mexico enacted a decree excluding petroleum products and other hydrocarbon-derived products from IMMEX. The only petroleum good that can be subject to lower duty rates under PROSEC is finished lubricating oils, when used to make electrical or automotive products. INEGI, IMMEX Database, accessed August 10, 2022; SNICE, "PROSEC Article 5 Tariff Matrix," November 18, 2021; Global Trade Alert, "Mexico: Prohibition to Import Hydrocarbons under the IMMEX Regime," June 1, 2018.

⁶⁸⁰ Pemex is expected to use the Deer Park refinery to process imported Mexican crude oil and export the products to Mexico. The Toledo refinery is more focused on sales to the domestic Midwest market. Martinez, "Shell to Hand Over Deer Park Refinery," January 13, 2022; Reuters, "Cenovus to Buy Remaining 50% Stake," August 8, 2022.

⁶⁸¹ FTZ Board, *Examiner's Report Concerning the Requests for Extensions of Authority*, April 18, 2000, 7–8. Among refineries that remain in business as of 2021 and were at some point in time approved for an FTZ, more than 80 percent had their FTZ applications granted between 1993 and 2002. List compiled by USITC. EIA, *Refinery Capacity Report*, June 21, 2022; FTZ Board, "FTZ Board Action Cross Reference," accessed September 16, 2022; FTZ Board, *83rd Annual Report*, August 2022.

⁶⁸² Bi-State Authority, *Robinson Refinery FTZ Application*, April 24, 1995, 3, 42–43; FTZ of Texas City-Gulf Coast, Inc., *Texas City Refinery Application*, January 26, 1993, IV–38–IV–43.

⁶⁸³ FTZ Board, *Examiners Report Concerning the Application of Amoco Oil Company in Texas City, Texas*, December 9, 1994, 8, 16; FTZ Board, *Examiners Report: Expansion of Foreign-Trade Zone 70T*, February 16, 2006, 4; USITC, *The Implications of Foreign Trade Zones for U.S. Industries and Competitive Conditions between U.S. and Foreign Firms (Supplement and Expansion)*, February 1988, xv.

⁶⁸⁴ FTZ Board, *Examiners Report Concerning the Requests for Extensions of Authority*, April 18, 2000, 3, 19, 20.

Box 3.4 Refineries' duty savings from U.S. FTZs and participation in the program have declined

Refineries remain one of the top users of the FTZ program, but the number of refineries producing in FTZs and the volume of general imports admitted into FTZs have declined steeply since 2016.^a Companies that deactivated refinery FTZs in 2016–21 largely attributed the decision to changed economics, or the savings no longer being worth the costs of maintaining the FTZ.^b One reason for this changed economics is reduced FTZ duty savings, stemming from shifts in the availability of domestically produced crude oil, in the type of crude oil being imported, and in the savings available through drawback.

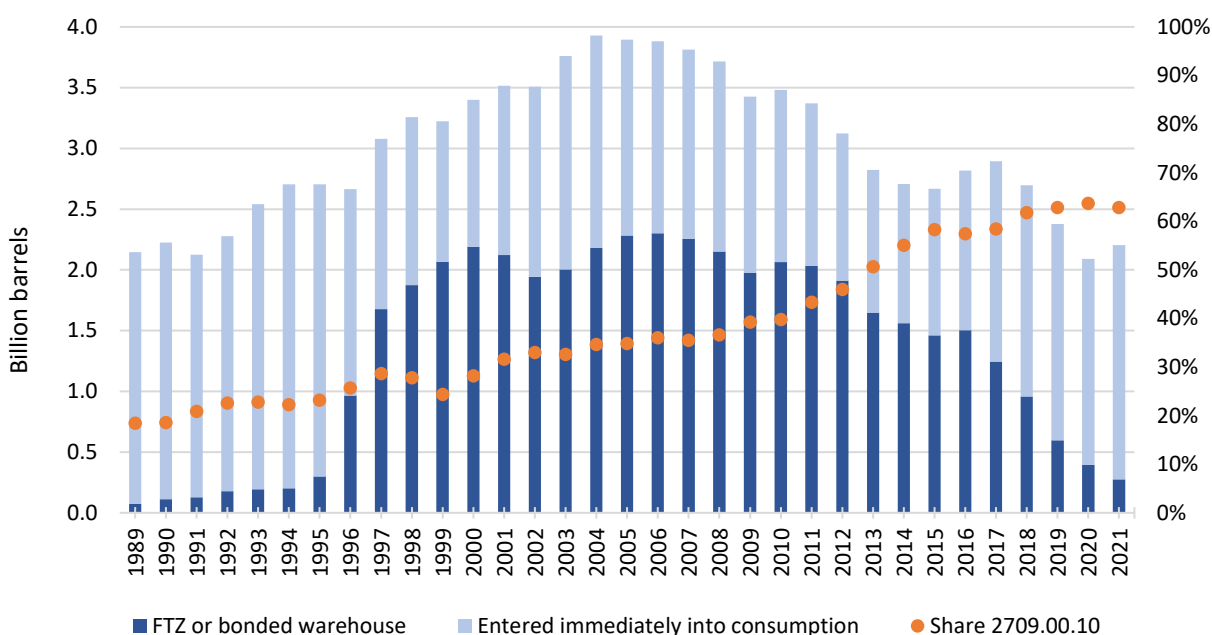
Domestic crude production began a downward slide in 1985, from an annual level of 3.3 billion barrels, and continued to trend downward until dropping to 1.8 billion barrels in 2008.^c U.S. refineries imported larger volumes of crude oil to compensate for the shortfall and made substantial investments in refinery capacity to process less expensive, lower API gravity crudes (also referred to as heavy crudes).^d Crude oil imports with a very low API gravity are imported under HTS 2709.00.10 and are subject to a lower duty rate of 5.25 cents per barrel. The bulk of the U.S. imports remained above the API gravity threshold until 2013, facing a higher 10.5 cent per barrel duty rate (table 3.9).

The U.S.-Canada Free Trade Agreement and North American Free Trade Agreement (NAFTA) phased out duties for U.S. crude oil imports from Canada and Mexico from 1989 to 1993 and 1994 to 2003, respectively.^e However, most crude oil imports in the 1990s were still sourced from countries that were subject to the full NTR rates, such as Saudi Arabia and Venezuela. Non-NAFTA imports increased in the late 1990s, enhancing the savings associated with refinery FTZ use.^f As shown in figure 3.5, FTZ import volumes climbed and then remained relatively steady throughout the 2000s.

However, starting in the late 2000s, advances in the techniques used to extract crude oil spurred production growth in the United States. By 2014, U.S. crude production had rebounded to 3.2 billion barrels. Domestic crude has since continued to grow and displace imports, particularly of lighter crudes classified in HTS 2709.00.20.^g From 2016 to 2021, the value of foreign-status admissions into refinery FTZs fell by tens of billions of dollars (or from about a fourth of total admissions to about a tenth).^h Even as operating refining capacity grew slightly from 2017 to 2019, U.S. crude oil imports fell steeply.ⁱ Imports also increasingly consisted of heavier crude oil subject to a lower 5.25 cent per barrel rate, reducing the duty savings available. As of 2021, more than 60 percent of U.S. crude oil imports faced the lower tariff, compared to less than one-fifth of imports in 1989 (box figure 1). As total crude imports have declined and shifted from HTS 2709.00.20 to 2709.00.10, the volumes being imported into FTZs or bonded warehouses have fallen even more rapidly.

Box figure 1 U.S. general imports of crude oil by tariff line and rate provision code and share of the total under HTS 2709.00.10, 1989–2021

In billions of barrels and percentages. Underlying data for this figure can be found in appendix H, table H.23.



Source: USITC DataWeb/Census, General imports, HTS 2709.00.10 and 2709.00.20, accessed September 16, 2022.

Another factor behind reduced refinery use of FTZs is a switch to alternative duty-saving programs, specifically the drawback program. Refineries increased their use of drawback in the mid to late 2010s, due to a couple of factors. One factor was greater exports of crude and refined petroleum exports, stemming from the growing domestic crude oil production, the 2015 removal of the U.S. crude oil export ban, and record-high levels of refinery throughput.^j Another factor was policy changes such as the Trade Facilitation and Trade Enforcement Act of 2015 (TFTEA), which expanded manufacturing drawback to allow refunds on the oil spill tax and harbor maintenance fee. Before TFTEA, these taxes and fees were only refundable through non-manufacturing (unused merchandise) drawback, which did not allow crude oil imports to be matched with refined product exports (see box 2.2 for more information). This manufacturing drawback expansion was reportedly “much more lucrative” for refiners.^k The harbor maintenance fee is 0.125 percent of the value of the commercial shipment and is collected on imports, domestic shipments, FTZ admissions, and passengers shipped through ports and harbors.^l The oil spill tax is a 9 cent per barrel excise tax on crude oil and petroleum product imports used to fund federal responses to oil spills. Opportunities for savings through drawback refunds recently expanded even further for refineries: a Superfund excise tax starting at 16.4 cents per barrel for crude oil (and adjusted annually for inflation) went into effect on January 1, 2023.^m

Because of the tax and fee refunds, the drawback program offers greater savings than FTZs for refineries that are exporting their products. However, FTZs offer some other avenues for duty savings (such as duty reduction for certain products sold to the domestic market).ⁿ Refiners’ decisions to use either program or use both together vary depending on their individual circumstances.^o One refiner commented that changes modernizing the drawback program from 2015 to 2018 factored into their decision to deactivate their FTZ operation, and another reported adjusting how it was using FTZs in order to maximize drawback claims.^p In 2021, most exports from refineries producing in FTZs were sent

to countries other than Canada or Mexico and made customs entry—suggesting there may be widespread use of drawback. These exports were valued at \$28.9 billion, greatly exceeding the value of exports that did not make customs entry.^q

Some refineries have also reportedly switched from importing crude oil duty free from certain free trade agreement partners like Canada and Mexico to paying the import duties upfront and then claiming drawback to qualify for the tax and fee refunds.^r Use of free trade agreement and preferential tariff treatment programs for crude oil imports from eligible source countries declined significantly from 2016 to 2021.^s It is unclear how much of this decline was from switching to the drawback program. Use of NAFTA and USMCA preferences for Canadian imports has reportedly also declined in response to increased customs audits of Canadian crude oil shipments and challenges with traceability.^t

^a List compiled by USITC. FTZ Board, “FTZ Board Action Cross Reference,” accessed September 16, 2022; FTZ Board, *83rd Annual Report*, August 2022; FTZ Board, *78th Annual Report*, November 2017; EIA, Refinery Capacity Report, June 21, 2022.

^b USITC, *Foreign Trade Zones Questionnaire*, 2022, questionnaire narrative responses.

^c EIA, “Crude Oil Production,” September 30, 2022.

^d EIA, “U.S. Imports of Crude Oil,” November 30, 2022; EIA, *U.S. Crude Oil Production Forecast*, May 29, 2014, 4; Andrews, Pirog, and Sherlock, *The U.S. Oil Refining Industry*, November 22, 2010, 13–16.

^e USITC, *Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement*, January 1993, 1-1, F-2, F-4; Sanford, “The Canada-U.S. Free Trade Agreement,” 372, 380–82; USITC, *Harmonized Tariff Schedule – Basic Publication* (chapter 27), 1989, 1992, 1993, 1994, 2002, and 2003; USITC, *Harmonized Tariff Schedule – Supplement* (chapter 27), July 1, 1994.

^f USITC DataWeb/Census, Imports for Consumption, HS subheading 2709.00, accessed December 20, 2022.

^g USITC, *U.S.-Mexico-Canada Trade Agreement*, April 2019, 105; EIA, “Crude Oil Production,” September 30, 2022; EIA, *U.S. Crude Oil Production Forecast*, May 29, 2014, 2–3.

^h USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

ⁱ EIA, “U.S. Number and Capacity of Petroleum Refineries,” June 21, 2022.

^j Industry representative, interview by USITC staff, February 10, 2023; EIA, “The U.S. Exported Slightly More Petroleum,” September 17, 2021; EIA, “For One Week in November the U.S. Was a Net Exporter,” December 12, 2018.

^k GAO, *Customs and Border Protection: Risk Management for Tariff Refunds*, December 2019, 24; industry representative, interview by USITC staff, February 10, 2023.

^l CBP, “What is the Harbor Maintenance Fee?” November 2, 2020.

^m The oil spill tax was not in effect for the first two months of 2018 and for all of 2019 after expiring without reauthorization. OPIS, “Oil Spill Liability Tax Basics 2020 Update,” April 20, 2020; ABA, “The Reinstated Superfund Excise Taxes,” December 21, 2022.

ⁿ Industry representatives, interviews by USITC staff, August 30 and December 21, 2022, and February 10, 2023; USITC, *Foreign Trade Zones Questionnaire*, 2022, questionnaire narrative responses.

^o Industry representative, interview by USITC staff, February 10, 2023.

^p USITC, *Foreign Trade Zones Questionnaire*, 2022, questionnaire narrative responses.

^q USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.12.

^r Industry representative, interview by USITC staff, December 21, 2022.

^s USITC DataWeb/Census, Imports for Consumption, HS subheading 2709.00, accessed December 20, 2022.

^t Morgan, “Canada’s Oilpatch Pays America \$60 Million a Year,” June 20, 2019; industry representative, interview by USITC staff, August 30, 2022.

FTZ use in recent years appears to have limited effects on U.S. refiners, but results in some improved capabilities and can play a secondary role in supporting some decisions to expand. A small share of refiners producing in FTZs (ranging from about 11 to 22 percent) indicated that FTZ use was a minor factor behind decisions to increase inward FDI, DDI, U.S. employment, or manufacturing output. However, most refiners producing in FTZs said that FTZ use did not affect these decisions, and none considered FTZ use to be a primary factor affecting these indicators positively or negatively.⁶⁸⁵ About 15 percent of refiners producing in FTZs said the ability to use U.S. FTZs improved their production

⁶⁸⁵ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.7.

capabilities.⁶⁸⁶ More significantly, about 28 percent of refiners producing in FTZs said it improved their logistical capabilities.⁶⁸⁷

The National Association of Foreign-Trade Zones (NAFTZ) has raised concerns about FTZ users not being able to apply duty exemption to their exports to Canada and Mexico.⁶⁸⁸ Restrictions on the use of duty deferral programs for exports to Canada and Mexico were maintained under USMCA Article 2.5 but have consistently been in force since NAFTA. Removing this restriction could significantly enhance the duty savings available to refineries producing in FTZs: about 30 percent of their exports were sent to Canada and Mexico in 2021.⁶⁸⁹ A small minority of refiners producing in FTZs anticipate that they would experience a decrease in duty costs if the requirements in USMCA Article 2.5 did not exist. However, most refiners producing in FTZs do not know or cannot evaluate the impact of this provision on duty costs.⁶⁹⁰

Case Study 4: Pharmaceutical Manufacturing

Key Findings

The U.S. pharmaceutical industry is a major user of U.S. FTZs. Pharmaceutical companies report numerous benefits from using FTZs, including cost savings from duty reductions on tariff inversions, duty exemption on exports, and faster speed to market when using FTZs for pre-launch activities in anticipation of the U.S. Food and Drug Administration (FDA) granting U.S. marketing approval. Pharmaceutical companies' use of Canadian and Mexican FTZ-type programs appears to be limited, in large part because of those countries' low duties on many imports of pharmaceutical inputs. Pharmaceutical companies experience significant cost-competitiveness benefits from FTZ use and have substantially increased their use of the program. However, the impacts of the program on U.S. investment and employment have been firm-specific and limited as a result of the wide variety of considerations that go into establishing pharmaceutical production in a specific country.

U.S. Industry Use of FTZs

The pharmaceutical industry produces a wide range of active pharmaceutical ingredients (APIs), as well as dosage-form products that are formulated from the APIs. Pharmaceutical companies participating in FTZ operations include Abbot, AbbVie, AstraZeneca, Bristol-Myers Squibb, Catalent, Eli Lilly, GlaxoSmithKline, Merck, and Pfizer.⁶⁹¹ The value of admissions by pharmaceutical firms producing in U.S. FTZs more than doubled between 2016 and 2021 and exceeded \$26 billion in 2021. This growth was driven by increased NPF status admissions, which generally accounted for about 80 percent or more of the value of total admissions.⁶⁹² The use of FTZs to admit a growing value of foreign-status goods during these years was consistent with a 56 percent increase in U.S. general imports of formulated

⁶⁸⁶ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.8.

⁶⁸⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.9.

⁶⁸⁸ NAFTZ, written submission to the USITC, May 24, 2022, 5–9; NAFTZ, written submission to the USITC, November 30, 2022, 2, 4–5.

⁶⁸⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.12.

⁶⁹⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 5.7.

⁶⁹¹ FTZ Board, *83rd Annual Report*, August 2022.

⁶⁹² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

pharmaceuticals and their inputs. This, in turn, was driven in large part by the surge in demand for products used to prevent, treat, and diagnose COVID-19 infections, in addition to other treatments.⁶⁹³ The value of pharmaceutical firms' shipments of goods that were produced in FTZs was relatively stable during this period, and their shipments of goods that were warehoused but not produced in FTZs nearly tripled.⁶⁹⁴ Since 2016, the sector's employment within FTZ production facilities increased by 22.2 percent to more than 27,000 workers in 2021.⁶⁹⁵

U.S. FTZ Production Cost-Competitiveness Effects

Since the 1994 WTO Agreement on Trade in Pharmaceutical Products, pharmaceutical imports have been subject to tariff inversions, which collectively have led to higher U.S. NTR duty rates for inputs and NTR duty rates of free for most finished pharmaceuticals.⁶⁹⁶ U.S. imports of bulk APIs are classified in numerous chapters of the HTS, with many classified in chapter 29 (Organic Chemicals). Maximum NTR duty rates for chemical inputs in chapter 29 can be as high as 6.5 percent. U.S. imports of dosage-form products such as tablets, capsules, and injectables, among others, are generally classified in chapter 30 (Pharmaceutical Products). Most U.S. imports entering under chapter 30 subheadings have been afforded NTR duty rates of free since the implementation of the WTO Agreement on Trade in Pharmaceutical Products, which concluded during the Uruguay Round Agreement negotiations.⁶⁹⁷

One result of this tariff inversion was that the product mix of U.S. pharmaceutical imports has historically skewed toward dosage-form products.⁶⁹⁸ As an alternative to importing dosage-form products from overseas facilities, firms producing in U.S. FTZs admit domestic and imported bulk inputs

⁶⁹³ USITC DataWeb/Census, accessed February 14, 2022. Data for formulated pharmaceuticals and their inputs were based on a subgroup of HTS-8 subheadings referred to as digest CH019 ("Medicinal chemicals") listed within USITC, *Shifts in U.S. Merchandise Trade, 2021*, June 2022. Another factor that contributed to the increase was the large number of pharmaceuticals approved for use by the U.S. Food and Drug Administration (FDA) during 2020–2021. FDA, "Novel Drug Approvals for 2021," May 13, 2022; FDA, "Novel Drug Approvals for 2020," January 13, 2021; FDA, "Novel Drug Approvals for 2019," January 14, 2020; Mullard, "2020 FDA Drug Approvals," February 2021, 85.

⁶⁹⁴ USITC, *Foreign Trade Zones Questionnaire, 2022*, weighted responses to questions 2.10 and 2.11. About 45 percent of pharmaceutical firms producing in U.S. FTZs said they also maintain distribution operations in FTZ zones. USITC, *Foreign Trade Zones Questionnaire, 2022*, weighted responses to question 2.2.

⁶⁹⁵ USITC, *Foreign Trade Zones Questionnaire, 2022*, weighted responses to question 2.7.

⁶⁹⁶ The WTO Agreement on Trade in Pharmaceutical Products also created the Pharmaceutical Appendix (PA), another route for duty-free entry for bulk APIs provided they meet certain conditions. However, the PA has not been updated since 2010. Therefore, U.S. imports of bulk APIs developed since 2010 (e.g., the ubrogepant and atogepant APIs discussed in this section) are ineligible for duty-free entry under the PA but are still eligible for duty-free entry under Chapter 30 if imported as dosage-form products. Alternatively, firms producing pharmaceuticals in FTZs can use the duty reduction and duty exemption benefits of the FTZ program to realize these duty savings. WTO Pharmaceutical Agreement, accessed February 5, 2023; Sentry BioPharma Services, Inc., "Benefits of FTZs," September 30, 2021; QAD Precision, "Foreign-Trade Zones for Pharma," December 15, 2021; Nesbitt, "Changes in the U.S. Pharmaceutical Import Mix," Executive Briefings on Trade, August 2017; industry representatives, interviews by USITC staff, May 24 and September 2, 2022.

⁶⁹⁷ USITC, HTS, March 2022.

⁶⁹⁸ QAD Precision, "Foreign-Trade Zones for Pharma," December 15, 2021; Nesbitt, "Changes in the U.S. Pharmaceutical Import Mix," Executive Briefings on Trade, August 2017; industry representatives, interviews by USITC staff, May 24 and September 2, 2022.

and manufacture dosage-form products. When firms sell dosage-form pharmaceuticals in the U.S. market or export these products to Canada, Mexico, or Chile, companies have the option to reduce duties to zero on the value of foreign materials admitted under NPF status as a result of the NTR duty rate of free applicable to most finished products.⁶⁹⁹ Similarly, dosage-form goods manufactured in U.S. FTZs and exported to other countries are exempt from payment of U.S. customs duties. A majority of pharmaceutical firms producing in U.S. FTZs experience duty exemption and duty reduction effects, with more than half considering these effects to be extremely important in their decisions to use the program.⁷⁰⁰

One example of how pharmaceutical firms save on duty costs in FTZs is AbbVie's production of UBRELVY® and ATOGEPANT®, dosage-form pharmaceuticals used to treat and prevent migraines, respectively, with sales of each projected to reach \$1–2 billion per year.⁷⁰¹ On September 24, 2021, AbbVie notified the FTZ Board of proposed production of UBRELVY® and ATOGEPANT® tablets and related products within Subzone 71, at its facility in Barceloneta, Puerto Rico, with two of the inputs being the ubrogepant and atogepant APIs.⁷⁰² Both APIs are classified in HTS subheading 2933.79.08 ("Certain other aromatic or modified aromatic lactams") with a duty rate of 6.5 percent ad valorem. The tablets are classified in HTS subheading 3004.90.92, with a duty rate of free.⁷⁰³

Pharmaceutical firms producing in U.S. FTZs saved hundreds of millions of dollars in 2021 on goods that entered U.S. customs territory and exports, with these savings substantially increasing in recent years.⁷⁰⁴ Public trade data offer examples of how significant savings might occur. Table 3.10 shows information on the top three HTS-8 subheadings applicable to pharmaceutical inputs by value for admissions into U.S. FTZs and bonded warehouses in 2021, all of which are subject to NTR duty rates of 6.5 percent. If these admissions are within FTZs for use in the production of dosage-form products, the potential duty savings (either through duty reduction on tariff inversions or duty exemption on exports) for these three products alone would be in the hundreds of millions of dollars.

⁶⁹⁹ CBP, "About FTZs," accessed March 21, 2022; QAD Precision, "Foreign-Trade Zones for Pharma," December 15, 2021.

⁷⁰⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁷⁰¹ AbbVie, "What Is UBRELVY®," accessed August 7, 2022; AbbVie, "QULIPTA™ for Migraine Attacks," accessed August 7, 2022; Dunleavy, "AbbVie's New Migraine Meds," January 31, 2022.

⁷⁰² 86 Fed. Reg. 54923 (October 5, 2021). UBRELVY® was approved by the FDA on December 23, 2019, and ATOGEPANT® on September 28, 2021.

⁷⁰³ CBP, CROSS Ruling NY N293354, January 29, 2018; CBP, CROSS Ruling NY N293355, January 29, 2018.

⁷⁰⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4.

Table 3.10 U.S. imports of top pharmaceutical inputs admitted into FTZs and bonded warehouses, 2021
In millions of dollars and percentages.

HTS subheadings	NTR duty rate	Admissions into FTZs and bonded warehouses (\$ millions)	Total U.S. general imports (\$ millions)	Share of U.S. general imports admitted into FTZs and bonded warehouses (%)	Potential savings from duty reduction using tariff inversion (\$ millions)
2934.99.30	6.5%	2,831.4	4,968.3	57.0	184.0
2932.99.61	6.5%	1,929.9	2,027.4	95.2	125.5
2933.59.53	6.5%	1,731.4	2,003.4	86.4	112.5

Source: USITC DataWeb/Census, HTS subheadings 2934.99.30, 2932.99.61, and 2933.59.53, accessed September 2, 2022; USITC, HTS, March 2022.

Note: The descriptions for each HTS-8 subheading within this table are: 2934.99.30 (“Other aromatic or modified-aromatic nucleic acid drugs”); 2932.99.61 (“Certain heterocyclic drugs with oxygen hetero-atom(s) only, not listed in the Chemical Appendix”); and 2933.59.53 (“Other aromatic or modified aromatic drugs containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure”). Data for U.S. imports admitted into FTZs and bonded warehouses (U.S. Census Bureau data for general imports under rate provision “00”) are used in this chapter as a proxy for product-level admissions of foreign-status materials into FTZs despite the possibility that these data also include some bonded warehouse admissions. The potential savings from duty reduction using tariff inversion was calculated by multiplying the total value of U.S. FTZ admissions by the NTR rate of duty. The savings would apply to all companies’ imports of the products under this subheading for use in making formulated pharmaceuticals eligible for duty-free entry.

Duty savings from exemptions and reductions may be the primary factor driving pharmaceutical manufacturing in FTZs, but most pharmaceutical firms also consider logistical and other cost benefits of FTZs, such as streamlined U.S. customs procedures, to be at least moderately important in their decisions to use FTZs.⁷⁰⁵ In addition to realizing duty savings, pharmaceutical firms can conduct production, packaging, labeling, and storage activities in FTZs before the FDA approval and domestic market launch of new products (“pre-launch activities”) because the FDA approval process can be lengthy.⁷⁰⁶ Although companies are not usually allowed to import dosage-form pharmaceuticals into the United States before they are approved by the FDA, the FDA allows firms to conduct pre-launch activities for the U.S. market, such as labeling and storage for dosage-form products in an FTZ.⁷⁰⁷ Moreover, under the provisions of 21 C.F.R. Subpart D - Exemptions From Adequate Directions for Use, dosage-form products can also be produced in FTZs from imported APIs before FDA approval. However, the companies must not further distribute the finished products to U.S. customers before receiving FDA approval.⁷⁰⁸

An advantage of conducting pre-launch activities in FTZs is the ability of firms to rapidly distribute pharmaceuticals to the U.S. market from the FTZ upon receiving marketing authorization from the FDA, allowing patients faster access to new pharmaceuticals.⁷⁰⁹ One third-party logistics provider indicated that it can usually take 30–90 days to distribute dosage-form pharmaceuticals after receiving FDA

⁷⁰⁵ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.

⁷⁰⁶ Industry representatives, interviews by USITC staff, March 23, May 24, and September 2, 2022; NAFTAZ, “FTZ Sector Spotlight: Pharmaceuticals,” February 2021; Belden, “Using FTZs to Treat,” January 31, 2019.

⁷⁰⁷ Horowitz, Manning, “FDA Issues Final Guidance,” March 8, 2022; industry representative, email to USITC staff, October 25, 2022.

⁷⁰⁸ 21 C.F.R. § 201.122(c); industry representative, email to USITC staff, October 25, 2022.

⁷⁰⁹ Industry representative, interview by USITC staff, September 2, 2022; Sentry BioPharma Services, Inc., “Strategic Benefits of Airport Proximity and Foreign Trade Zones,” March 10, 2022; QAD Precision, “Foreign-Trade Zones for Pharma,” December 15, 2021; Belden, “Using FTZs to Treat,” January 31, 2019.

authorization. Use of its U.S. FTZ for a product manufactured in Europe, however, allowed for U.S. distribution within 24–48 hours after FDA approval.⁷¹⁰

Use of FTZs for pre-launch activities was particularly useful during the COVID-19 pandemic when the FDA granted emergency use authorizations (EUAs) for many pharmaceuticals.⁷¹¹ Pfizer stated that it saved “days of transit time” by using an FTZ to store its vaccine and other COVID-19 pharmaceuticals until the FDA granted EUAs for the products, rapidly getting products to consumers during the pandemic.⁷¹² Speeding needed products to market generally also allows first entrants in the pharmaceutical industry advantages over later entrants, including higher market share even 10 years after the product enters the market.⁷¹³

Comparing Cost Effects of FTZs and FTZ-Type Programs

Many pharmaceutical firms producing in U.S. FTZs are multinationals with operations around the world. Almost one-third of these companies have operations in Canada, and somewhat fewer have operations in Mexico.⁷¹⁴ In addition to facilities that are vertically integrated with U.S. and other multinational firms, both countries have domestically owned pharmaceutical companies. Pharmaceutical operations in Canada and Mexico include those engaged in research and development, production, and distribution, including contract development and manufacturing organizations.⁷¹⁵

Information is limited about the extent to which firms in Canada (including pharmaceutical manufacturers) use that country’s FTZ-type programs. Pharmaceutical firms in Canada have little incentive to use the programs. Although more than half of Canada’s chapter 29 and 30 imports come from countries other than the United States and Mexico, Canada’s MFN duty rates are free on imports under these chapters.⁷¹⁶ Consistent with this duty-free access for imports, pharmaceutical firms producing in U.S. FTZs that have manufacturing facilities in Canada do not generally use Canadian FTZ-type programs.⁷¹⁷

In comparison, pharmaceutical operations in Mexico do use FTZ-type programs. Some firms with production operations in U.S. FTZs also have Mexican facilities that use IMMEX.⁷¹⁸ Chemical manufacturing within IMMEX facilities is substantial, with combined domestic and export shipments of

⁷¹⁰ ICS, “Every Day Is an Opportunity to Develop a Seamless Partnership,” September 2020.

⁷¹¹ NAFTAZ, “FTZ Sector Spotlight: Pharmaceuticals,” February 2021; Autor, “Navigating the Global Pandemic,” August 30, 2021.

⁷¹² NAFTAZ, “FTZ Sector Spotlight: Pharmaceuticals,” February 2021.

⁷¹³ Cha and Yu, “Pharma’s First-to-Market Advantage,” Our Insights, September 1, 2014, 5; NAFTAZ, “FTZ Sector Spotlight: Pharmaceuticals,” February 2021; industry representative, interview by USITC staff, September 2, 2022.

⁷¹⁴ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.1.

⁷¹⁵ Government of Canada, “Canadian Life Science Industries,” March 16, 2022; Government of Canada, “Canadian Life Science Clinical Research and Manufacturing Capabilities,” June 2, 2022; GlobalData Healthcare, “Mexican Manufacturing,” February 21, 2022.

⁷¹⁶ S&P Global, GTAS, accessed June 2022.

⁷¹⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 4.1 and 4.3.

⁷¹⁸ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 4.1 and 4.8.

\$18.4 billion in 2021, although this value consists primarily of non-pharmaceutical chemical products.⁷¹⁹ About 19 percent of Mexican imports of chapter 29 and 30 imports were under IMMEX or similar duty deferral programs, such as recintos fiscalizados estratégicos (RFEs or strategic bonded warehouses). About 47 percent of Mexican exports of these goods were under these duty deferral programs.⁷²⁰

As with other sectors, pharmaceutical producers and distributors in Mexico may use IMMEX in part to facilitate both duty deferral and IVA deferral. Pharmaceutical operations in Mexico can also use duty deferral programs to exempt duties on a small share of their inputs. Although many APIs are subject to Mexican MFN duty rates of free⁷²¹ more than \$200 million of Mexican imports in 2021 were of chapter 29 goods from outside North America under subheadings with MFN duty rates between 3 and 15 percent.⁷²² Most of Mexico's pharmaceutical exports under chapter 30 were to destinations in South and Central America and the Caribbean.⁷²³ Mexican exports to these countries would not face the same duty-exemption limitations that apply to Mexican exports to USMCA or EU countries.⁷²⁴

For production allocated to shipments within Mexico or to the United States, Canada, or the EU, pharmaceutical manufacturers in Mexico have limited opportunity to reduce duties on imported APIs, using PROSEC. PROSEC contains a sectoral program for pharmaceutical products, medicine, and medical equipment, covering production of many goods corresponding with HS subcategories that cover pharmaceutical APIs and dosage-form products.⁷²⁵ However, with the exception of one HS subheading, duty reductions on imported chapter 29 materials (covering APIs) are not available under PROSEC for production of goods within this sectoral program.⁷²⁶ No pharmaceutical firms producing in U.S. FTZs used PROSEC for their facilities in Mexico.⁷²⁷ However, multiple registered PROSEC participants are

⁷¹⁹ The conclusion that most chemical manufacturing under IMMEX is primarily for non-pharmaceutical products is based on a review of registered IMMEX participants, which mostly consists of firms that primarily engage in non-pharmaceutical chemical manufacturing and distribution. However, several large multinational pharmaceutical companies were registered IMMEX participants, including Pfizer. SNICE, IMMEX Directory, May 31, 2022; INEGI, IMMEX Database, accessed August 10, 2022.

⁷²⁰ S&P Global, GTAS, accessed December 17, 2022.

⁷²¹ In 2021, 85.9 percent of Mexican imports of chapter 29 goods, which contain most APIs, were subject to MFN duty rates of free. An additional 10.5 percent of imports were subject to non-free MFN duty rates but came from the United States or Canada and therefore were eligible to receive duty-free treatment under the USMCA if such goods met the relevant rules of origin requirements. S&P Global, IHS Markit, GTA database, accessed June 2022; WTO, Tariff Data database, accessed February 2022.

⁷²² S&P Global, GTAS, accessed June 2022; WTO Tariff Data database, accessed February 2022.

⁷²³ S&P Global, GTAS, accessed December 16, 2022. Producers in Mexico pay duties on duty-deferred materials when exporting finished products to the United States, Canada, or the EU.

⁷²⁴ As noted in chapter 2, the duty exemption restriction only applies to Mexico's agreements with USMCA countries and the EU.

⁷²⁵ Pharmaceutical goods produced by PROSEC registrants are covered under "Productos Farmoquímicos, Medicamentos y Equipo Médico" (Pharmaceuticals, Medicines, and Medical Equipment), sectoral program XIV, as shown within Article 4 of the PROSEC Decree. SNICE, "PROSEC Article 4 Tariff Matrix," December 28, 2020.

⁷²⁶ Mexican HS 2929.10.99 is the only product under chapter 29 that can be imported at a reduced rate of free under PROSEC (compared to a Mexican MFN duty rate of 5 percent for that good). Mexico imported \$8.5 million under this subcategory in 2021. S&P Global, GTAS, accessed June 2022; WTO, Tariff Data database, accessed February 2022; SNICE, "PROSEC Article 5 Tariff Matrix," November 18, 2021.

⁷²⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 4.1 and 4.8.

engaged in pharmaceutical production activity, suggesting that they are finding other uses for the program beyond importing APIs under reduced rates.⁷²⁸

Impact on the U.S. Pharmaceutical Manufacturing Industry

For multinational pharmaceutical companies, the duty savings and other benefits of FTZs improves the cost-competitiveness of manufacturing in the United States, leading to improvements in profitability of these investments.⁷²⁹ With FTZ-related duty savings in the hundreds of millions of dollars each year across the industry, the benefits of manufacturing in an FTZ outweigh annual operating and compliance costs needed to maintain FTZ operations, with some firms choosing to reinvest the duty savings by expanding and modernizing their FTZ operations.⁷³⁰ More than 90 percent of pharmaceutical firms producing in U.S. FTZs either plan to maintain or expand their current footprint of FTZ operations during the next five years.⁷³¹ As described above, the value of FTZ admissions and the number of employees within FTZs have substantially increased between 2016 and 2021.⁷³² Also, almost half of the pharmaceutical firms producing in U.S. FTZs said they also conduct warehousing activities.⁷³³ These activities could be used to support production operations, for warehousing inputs for the FTZ manufacturing processes, or for pre-launch activities, including production and storage, pending FDA approval.

FTZs have been increasingly used by pharmaceutical firms to improve cost-competitiveness. The extent to which these benefits translate into changes in firms' overall investment, production, and employment is firm specific. Pharmaceutical firms' decisions regarding location of production operations are based on many considerations, including availability of inputs, costs, regulations, market access, utilities, skilled labor, and transportation.⁷³⁴ Most pharmaceutical firms producing in U.S. FTZs do not consider their use of the program to be a factor causing increased inward FDI, DDI, U.S. employment, or manufacturing output. Other firms did consider FTZ use to be linked with their expansion of production activities. About 30 percent of pharmaceutical firms producing in U.S. FTZs consider the program to be at least a minor factor contributing to increased U.S. employment and DDI and 40 percent of such firms said the same with respect to manufacturing output.⁷³⁵

Similarly, representatives of the pharmaceutical industry offered mixed views of the importance of FTZs in driving overall U.S. investment decisions. For example, one firm's representative stated that, absent the substantial duty reductions on tariff inversions obtained through the program, the firm would need to consider sourcing of dosage-form pharmaceuticals using imports rather than U.S. manufacturing.⁷³⁶ By contrast, another industry representative stated that FTZs "do not drive where the money goes" and

⁷²⁸ SNICE, PROSEC Directory, May 31, 2022.

⁷²⁹ USITC, *Foreign Trade Zones Questionnaire*, 2022, questionnaire narrative responses; Autor, "Navigating the Global Pandemic," August 30, 2021, 45.

⁷³⁰ USITC, *Foreign Trade Zones Questionnaire*, 2022, questionnaire narrative responses and weighted responses to questions 3.3 and 3.4.

⁷³¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.6.

⁷³² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.7 and 2.8.

⁷³³ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.2.

⁷³⁴ Pharmapproach, "12 Factors," July 23, 2019.

⁷³⁵ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.6.

⁷³⁶ Industry representative, interview by USITC staff, September 2, 2022.

are only part of the business equation for investments.⁷³⁷ Many pharmaceutical firms indicated that they have additional production sites in the United States that manufacture pharmaceuticals other than those they manufacture in FTZs, including some with duty-free inputs.⁷³⁸

For production of pharmaceuticals under HTS chapter 30, all North American countries allow for duty-free access to most APIs under chapter 29, using either FTZ-type programs or MFN duty rates of free. For U.S. and Canadian shipments of such goods that remain in North America, applicable duties on foreign materials can be reduced to zero (using U.S. FTZs) or are otherwise eligible for duty-free access under MFN duty rates of free (Canada). For some tariff subheadings accounting for a small value of imports, non-free Mexican MFN duty rates generally cannot be reduced using PROSEC. This puts producers in Mexico at a disadvantage for domestic or North American sales that use these materials. For all three countries, however, FTZ-type programs can be used to exempt duties on exports to many destinations outside North America. Most Mexican exports of these goods would not be subject to the duty exemption restrictions under the USMCA and its FTA with the EU. The small distinctions between the North American FTZ-type programs that exist are not sufficient to drive any significant changes in investment between the three countries, given the multiple other considerations that firms take into account when deciding where to establish pharmaceutical production facilities.

Case Study 5: Warehousing and Distribution

Key Findings

Warehousing and distribution refer to any activity occurring for purposes of receiving, storing, or delivering goods without those goods undergoing any substantial transformation or change in condition. This is the second type of major operation that is allowed in U.S. FTZs. U.S. FTZ warehousing and distribution operations without production authority (FTZ warehousing and distribution facilities) grew significantly in 2021, with an estimated \$369.8 billion in merchandise received.⁷³⁹ Canada and Mexico also allow for the establishment of duty-deferred FTZ-type warehouses, frequently used for the transfer of goods to and from the United States. The United States, Mexico, and Canada all offer duty deferral and duty exemption benefits through their warehousing and distribution facilities, though only U.S. FTZ policies include indefinite duty deferrals as a competitive advantage. These FTZ and FTZ-type programs generally do not reduce duties for warehoused goods that enter domestic commerce. General duty-free access for small-value import shipments into the United States using de minimis provisions presents a significant challenge for U.S. FTZ warehousing and distribution operations compared to their Canadian and Mexican counterparts. FTZ users can defer duties on goods admitted into FTZs, but they must pay applicable duties on all goods entered into U.S. customs territory. Warehouses in Mexico or Canada can

⁷³⁷ Industry representative, interview by USITC staff, October 26, 2022.

⁷³⁸ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.11 and 3.11; industry representative, interview by USITC staff, September 2, 2022.

⁷³⁹ FTZ Board, *83rd Annual Report*, August 2022, 6. “Merchandise received” is a similar measure to FTZ “admissions” (including domestic-status and foreign-status admissions), a term that is used more frequently in other parts of this chapter. Merchandise may be received without complete customs documentation, in which case it is recorded in a “suspense” account until it is complete and formally admitted to the zone. 19 C.F.R. § 146.22(c).

use their proximity to the U.S. market to ship small-value shipments to the United States duty free. This may give warehouses in Canada and Mexico a competitive advantage over U.S. FTZ warehouses.

U.S. FTZ Cost-Competitiveness Effects

Warehousing and distribution operations are one of the primary uses of the U.S. FTZ program. Before manufacturing was allowed within FTZs in the 1950s, warehousing and distribution were the only activities allowed within FTZs.⁷⁴⁰ The development of containerization in the 1970s enabled fast and efficient transportation to local warehouses and distribution centers, which further expanded use of FTZs for these purposes.⁷⁴¹ FTZ warehousing and distribution facilities have several competitive advantages over other U.S. warehouses, mostly related to their ability to use duty deferral. FTZ warehouses can defer duty payments when goods are in storage, paying duties only at the time the goods are shipped to purchasers inside U.S. customs territory. This ensures that duty costs are covered by sales (a cash flow benefit). The benefits particularly accrue to companies with high volumes of admissions or that hold inventories for extended periods.⁷⁴² For example, in 2019 one retail firm estimated that its first-year duty deferral through a U.S. FTZ operation could save it \$2.6 million.⁷⁴³

Goods stored in FTZs remain outside the U.S. customs territory, and firms are able to use their FTZ warehousing and distribution operations to export goods to another country, avoiding U.S. import duties and customs procedures.⁷⁴⁴ Because goods do not enter U.S. customs territory, firms may find it easier to prove the specific country of origin of those goods when exporting to other countries that provide FTA privileges or similar benefits to imports from that country.⁷⁴⁵ FTZ warehousing and distribution operations offer another competitive advantage: if such exports were not substantially transformed within the FTZ, exemption from U.S. duties is possible for directly re-exported goods to USMCA countries and Chile. According to an industry representative, this can create a significant advantage for FTZ warehousing and distribution over FTZ production operations. Firms using U.S. FTZs pay applicable U.S. customs duties on the value of materials used in substantially transformed goods when they are exported to these three partner countries.⁷⁴⁶

Several types of firms use FTZs for warehousing and distribution activities. In some cases, companies will operate FTZ sites or subzones to warehouse and distribute their own goods. For example, Adidas established an FTZ subzone in Wilkes-Barre, Pennsylvania, in 2019 to manage its own warehousing and distribution of foreign-produced apparel, footwear, and accessories.⁷⁴⁷ Under another model, third-party logistics providers (3PLs) manage merchandise movements into and out of their FTZ warehouses on behalf of other firms, receiving transaction fees for storage and handling, inventory control,

⁷⁴⁰ Lane, “The Impact of Foreign Trade Zones in the United States,” 2022, 57–58; Pub. L. No. 81-566, 64 Stat. 246 (1950); 17 Fed. Reg. 5316 (June 11, 1952).

⁷⁴¹ Tiefenbrun, “U.S. Foreign Trade Zones,” 2013, 169.

⁷⁴² Riverside County Office of Economic Development, *Overview of the Key Benefits of the Foreign-Trade Zone Program*, 2015.

⁷⁴³ Thomson Reuters, *Building the Business Case for Foreign-Trade Zones*, 2019, 23.

⁷⁴⁴ Kanban Logistics, “Leveraging an FTZ Warehouse in the Wake of New Tariffs,” August 30, 2018.

⁷⁴⁵ Industry representative, interview by USITC staff, September 29, 2022.

⁷⁴⁶ Industry representative, interview by USITC staff, October 4, 2022. Also see 86 Fed. Reg. 35566 (July 6, 2021).

⁷⁴⁷ 84 Fed. Reg. 9485 (March 15, 2019); Eastern Distribution Center, Inc., “FTZ #24: Subzone Application for Adidas America, Inc.,” October 15, 2018.

recordkeeping, management, communication, personnel training, powers of attorney, and flexibility.⁷⁴⁸ Other warehousing and distribution operations are owned by the port itself. Globalplex Intermodal Terminal, located within the Port of Southern Louisiana FTZ, rents out space to other companies in addition to providing a variety of distribution and logistical services associated with the needs of that port.⁷⁴⁹ Some FTZ warehousing and distribution operations also offer highly specialized product-specific services. One such operation is the Louisiana Offshore Oil Port (LOOP), a unique port terminal that can offload crude oil from large oil tankers that cannot dock at most land-based ports.⁷⁵⁰

Facilities that engage in warehousing and distribution in FTZs without production authority have accounted for a large share of the total value of admissions into U.S. FTZs between 2016 and 2021. FTZ warehousing and distribution facilities received more than \$369.8 billion in merchandise in 2021 (up from \$224.2 billion in 2016), or 44.3 percent of U.S. FTZ admissions (figure 3.5).⁷⁵¹ For sake of comparison, the total value of merchandise received by facilities that were engaged in production operations in FTZs was \$465.8 billion in 2021, up from \$386.2 billion in 2016.⁷⁵² Exports were equivalent to 13 percent of merchandise received by FTZ warehousing and distribution facilities in 2021, suggesting that most shipments were to U.S. domestic purchasers.⁷⁵³ Employment in U.S. FTZs is relatively lower for FTZ warehousing and distribution facilities compared to production operations: FTZ warehousing and distribution facilities employed a little more than 100,000 workers in 2021, and production operations employed about 375,000 workers. This represents a steady gain from 2016 when employment was about 80,000 in FTZ warehousing and distribution facilities (production operations had about 350,000 in employment that year).⁷⁵⁴

⁷⁴⁸ NAFTAZ, “FTZs Benefits and Best Practices for 3PLs,” January 18, 2022.

⁷⁴⁹ Port of South Louisiana, “Foreign Trade Zone,” accessed September 29, 2022.

⁷⁵⁰ Louisiana Department of Transportation and Development, “Louisiana Offshore Oil Port (LOOP),” accessed October 12, 2022.

⁷⁵¹ FTZ Board, *82nd Annual Report*, August 2021, 6; FTZ Board, *83rd Annual Report*, August 2022, 6.

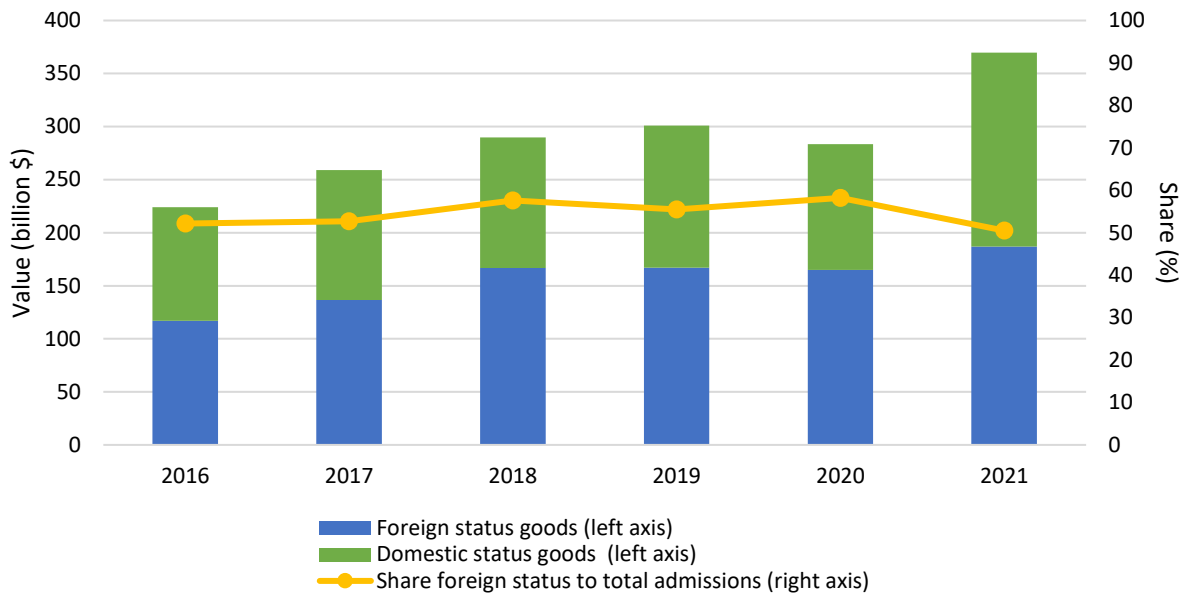
⁷⁵² FTZ Board, *82nd Annual Report*, August 2021, 6; FTZ Board, *83rd Annual Report*, August 2022, 6.

⁷⁵³ Export figures presented in the annual report are based on material inputs and do not include value added, making them comparable to merchandise received. However, they are not temporally comparable because exports likely included merchandise received in prior years as well as the year of exportation. FTZ Board, *83rd Annual Report*, August 2022, 6.

⁷⁵⁴ FTZ Board, *82nd Annual Report*, August 2021, 4; FTZ Board, *83rd Annual Report*, August 2022, 4.

Figure 3.5 Admissions into FTZ warehousing and distribution facilities, 2016–21

In billions of dollars and percentages; underlying data for this figure can be found in appendix H, table H.24.



Source: FTZ Board, *82nd Annual Report*, August 2021, 6; FTZ Board, *83rd Annual Report*, August 2022, 6.

Notes: Dedicated FTZ warehousing and distribution facilities do not include operations of firms with production authority. Domestic status inputs include both domestic-origin goods sourced domestically and foreign-origin goods that have been imported and entered for consumption before FTZ admission.

Unlike FTZ production operations, where domestic status inputs account for the majority of admissions, FTZ warehousing and distribution facilities mostly handle foreign-status merchandise. FTZ warehousing and distribution facilities accounted for 64 percent of foreign-status admissions into FTZs in 2021, up from 52 percent in 2016.⁷⁵⁵ The largest categories of warehousing and distribution of foreign-status products admitted into U.S. FTZs were finished goods, particularly electrical machinery, vehicles, and consumer electronics.⁷⁵⁶

In addition to the dedicated FTZ warehousing and distribution facilities described above, about half of the firms producing in U.S. FTZs also conducted warehousing and distribution activities within FTZs.⁷⁵⁷ Firms producing in U.S. FTZs may use warehousing and distribution operations in lieu of production operations for specific goods destined for U.S. or international markets, depending on the relative cost savings of producing domestically versus internationally for that good.⁷⁵⁸ In addition, some firms use FTZ warehousing and distribution operations to complement domestic manufacturing.⁷⁵⁹ For example, one

⁷⁵⁵ FTZ Board, *82nd Annual Report*, August 2021, 6; FTZ Board, *83rd Annual Report*, August 2022, 6.

⁷⁵⁶ FTZ Board, *83rd Annual Report*, August 2022, 8.

⁷⁵⁷ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.2. In 2021, the vast majority of these producers' shipments of goods that were warehoused but not produced in FTZs were shipped from facilities where they had FTZ production authority. These producers did, however, have small shipments from their own FTZ warehousing and distribution facilities without production authority. These shipments would overlap with those reported for such facilities by the Foreign-Trade Zones Board and described earlier in this section. USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.16.

⁷⁵⁸ Industry representative, interview by USITC staff, May 24, 2022.

⁷⁵⁹ USITC, hearing transcript, May 17, 2022, 44 (testimony of Christopher Carney, FDP Virginia).

firm manufactures heavy equipment in an FTZ where it also stores a large variety of duty-deferred parts needed to service that equipment. The equipment and parts represent two aspects of its product offerings to U.S. customers.⁷⁶⁰ Firms producing in U.S. FTZs shipped \$67.4 billion from their warehousing and distribution operations in 2021, an increase from recent years and roughly similar to the value of such shipments in 2016. The large majority of these shipments were for the U.S. domestic market. In contrast to dedicated FTZ warehousing and distribution facilities, the warehousing and distribution operations of firms producing in U.S. FTZs primarily shipped domestic-status goods rather than foreign-status goods.⁷⁶¹

Comparing Cost Effects of FTZs and FTZ-Type Programs

Little information is publicly available on either the economic size or the number of warehousing and distribution operations in Canada and Mexico under those countries' FTZ-type programs. Industry representatives, and other information collected in this investigation, suggest that both countries have significant warehousing and distribution industries, including many that use their FTZ-type programs. The United States is the destination for most of these countries' exports and is either the primary destination or an important secondary destination for goods shipped from those warehouses.⁷⁶²

In Canada, the duties relief program and the customs bonded warehouse programs offer duty deferral similar to that of the U.S. FTZ program. Warehouses that use duty drawback in Canada are often able to receive repayment of duties paid on goods that are stored and then exported from Canada, providing benefits roughly equivalent to the duty exemption provisions of U.S. FTZs.⁷⁶³ Canada had 4,734 warehouse and storage sites in 2021, mostly located in Ontario, Quebec, British Columbia, and Alberta.⁷⁶⁴ Warehouses in Canada operating under duty deferral programs primarily focus on exports.⁷⁶⁵

Public information about the extent to which firms in Canada use that country's FTZ-type programs is scarce. Many examples do exist of warehouses in Canada or public development initiatives focused on using FTZ-type programs in Canada to access the U.S. market. One is CanadaBW Logistics, which emphasizes its use of the Niagara Region FTZ Point to provide its customers access to Canadian FTZ-type programs that serve the broader North American (and particularly the U.S.) market.⁷⁶⁶ Similarly, CargoM is a public initiative in Montreal focused on developing the region as a logistics and transportation hub. It has created an FTZ point for that region focused on reducing administrative burdens and operating

⁷⁶⁰ Industry representative, interview by USITC staff, July 22, 2022.

⁷⁶¹ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.11.

⁷⁶² In 2021 the United States accounted for 75.4 percent of Canada's total exports (\$380.1 billion) and 83.8 percent of Mexico's total exports (\$306.4 billion). S&P Global, GTAS, accessed December 22, 2022.

⁷⁶³ Ferguson and Steverango, *Maximizing the Potential of the Foreign Trade Zone Concept in Canada*, January 2013, xiii.

⁷⁶⁴ Government of Canada, Canadian Industry Statistics, Warehousing and Storage 493, June 19, 2022.

⁷⁶⁵ For example, in 2013, more than 70 percent of Canada's sales from customs bonded warehouses were exports. Sousa, *A Tale of Two FTZs: Reforming Canada's Foreign Trade Zone Program*, 2018, 32.

⁷⁶⁶ CanadaBW, "What Is a FTZ?" accessed March 24, 2022; Forsyth, "Foreign Trade Zone Designation Packs Punch for Entrepreneurs Seeking New Opportunities," June 6, 2018; Niagara Economic Development, "Niagara Foreign Trade Zone," accessed December 14, 2022. For more information on Canadian FTZ-type programs and FTZ points in Canada, see chapter 2 of this report.

costs for participating firms.⁷⁶⁷ CargoM, in its 2021–22 annual report, emphasizes Montreal’s position as an e-commerce gateway for North America.⁷⁶⁸

Many warehouses in Mexico appear to serve the U.S. market using Mexico’s duty deferral programs. Mexico’s IMMEX lets warehousing and distribution operations, which are often located near the United States, defer duty payment on imported goods until they are eventually exported.⁷⁶⁹ IMMEX certification requires annual reports, so firms typically track admissions from and exports to the United States with transparency.⁷⁷⁰ In addition, RFEs may also be used to defer duties paid on imported goods.⁷⁷¹ Both RFEs and IMMEX warehousing operations can proactively waive or receive retroactive credit on Mexican IVA payments when goods are being temporarily stored in their facilities. Recent requirements that IMMEX warehousing companies pay IVA up front on temporary imports (described in greater detail in chapter 2) may have led to recent increases in the use of RFEs in Mexico.⁷⁷²

Many examples exist of firms that use Mexican duty deferral programs and explicitly target the U.S. market. IMMEX examples include warehousing and distribution services companies like Flexible Warehousing Solutions, SIAC Warehouse and Distribution Services, and Esgadi Storage and Logistics Solutions.⁷⁷³ Some of these firms seek to establish themselves as alternatives to U.S. warehousing and distribution options. For example, SBGroup in the Port of Manzanillo on the Mexican Pacific coast is a Mexican 3PL firm that offers warehousing services using an RFE and IMMEX. SBGroup has sought to offer its logistical services through Manzanillo as an alternative to U.S. ports, such as Los Angeles, because of both its duty deferral access and, in some cases, more rapid transit from the coast to inland U.S. destinations.⁷⁷⁴

U.S. FTZs and FTZ-type programs in Canada and Mexico give similar benefits to firms’ FTZ warehousing and distribution operations. Firms locate warehousing and distribution operations in U.S. FTZs and FTZ-type programs in Canada and Mexico primarily for duty deferral and duty exemption.⁷⁷⁵ In contrast to production operations, firms can use duty deferral to eliminate duty payments on exports to other USMCA parties if goods are not substantially transformed.⁷⁷⁶ These features allow for warehousing and distribution operations in all three countries to trade free of duty until the point at which goods are withdrawn for domestic consumption. The three countries’ programs demonstrate broad parity in terms of duty exemption and duty deferral benefits. However, certain types of U.S. FTZ warehousing and

⁷⁶⁷ Montreal FTZ Center, “Welcome to the Montreal FTZ Center,” accessed March 24, 2022; CargoM, “About Us,” accessed December 14, 2022.

⁷⁶⁸ CargoM, *Annual Report 2021–2022*, 2022, 18.

⁷⁶⁹ NAPS, “A Comprehensive Guide to the IMMEX Program,” accessed October 21, 2022.

⁷⁷⁰ Thomson Reuters, “Duty Deferral Opportunities Across the Globe,” October 6, 2021.

⁷⁷¹ RFEs and IMMEX are described in greater detail in chapter 2.

⁷⁷² Benítez and Vázquez, *Importing into Mexico: Overview*, September 1, 2022.

⁷⁷³ INEGI, IMMEX Database, accessed August 10, 2022.

⁷⁷⁴ For example, they estimated that it would take about 9–14 days to transport a container from Manzanillo to the U.S. Midwest, which can be relatively efficient compared to transport times from U.S. ports when those ports face substantial congestion. Glenn, “Mexico Free Trade Zones Worth Exploring for Stateside International Shippers,” February 4, 2022; SBGroup, “SB Free Trade Zone,” accessed December 14, 2022.

⁷⁷⁵ CBP, “Drawback and Duty Deferral Programs,” November 6, 2017.

⁷⁷⁶ USMCA, Article 2.5(6)(b).

distribution operations may experience slight program-related advantages and disadvantages relative to competitors in Canada and Mexico, depending on how they use the programs.

Unlike Canadian or Mexican FTZ-type programs, U.S. FTZ warehousing and distribution operations are allowed to use indefinite duty deferral. Under its FTZ-type programs with duty-deferral mechanisms, Canada limits storage of duty-deferred goods in warehouses to four or five years, depending on the product. Similarly, duty-deferred products can be stored in warehouses operating under Mexican FTZ-type programs for 18 to 48 months, depending on the program used, before they must be delivered domestically or re-exported to another country.⁷⁷⁷ U.S. FTZ warehousing and distribution operations do not have similar limits to duty deferral. Indefinite duty deferral is beneficial for firms that need flexibility on timing of shipments. When downstream retailers' demand is low or orders are made ahead of time for seasonal shipments, warehouses can hold on to goods under the expectation that conditions will improve in the future.⁷⁷⁸ Indefinite storage in a duty-deferred facility can help firms time shipments to markets subject to import quotas or other restrictions on market access.⁷⁷⁹ Other goods, such as clothing or electronic goods that may become unfashionable or obsolete, lose value and may ultimately have to be liquidated at a loss if held in inventory for extended periods of time.⁷⁸⁰ According to industry representatives, most customers do not want goods to remain in inventory for longer than four years.⁷⁸¹ Only a small number of firms producing in U.S. FTZs consider the U.S. FTZ program to offer advantages over similar programs in Canada or Mexico in terms of the time limits on duty deferral.⁷⁸²

The U.S. FTZ program offers a variety of benefits to warehousing and distribution firms under the umbrella of a single program that usually is pre-established by a grantee within the firm's target market. Canada's FTZ points are arguably more like marketing organizations and less involved in administration.⁷⁸³ Anecdotally, many Canadian industry associations have been unaware of their FTZ-type programs and do not significantly promote them.⁷⁸⁴ In one example of the U.S. FTZ program's benefits compared to Canada's programs, an outerwear company recently considered operating a warehouse in British Columbia but decided to use an FTZ subzone warehouse in Auburn, Washington, instead. This let them defer duty payments, pay reduced processing fees, avoid any duties when destroying damaged goods, and lower transportation costs by as much as 60 percent.⁷⁸⁵ Use of the U.S. FTZ saved this warehouse operator an estimated \$200,000 in 2017–18.⁷⁸⁶

FTZ-type programs in Mexico and Canada may also provide other competitive advantages to warehousing and distribution firms, compared to U.S. FTZs. Some industry observers suggest that the United States may have more costly FTZ-related legal and regulatory processes in both production and

⁷⁷⁷ See chapter 2 for additional information on duty deferral time limits in Canada and Mexico.

⁷⁷⁸ GAO, *FTZs: CBP Should Strengthen*, July 2017, 12.

⁷⁷⁹ GAO, *FTZs: CBP Should Strengthen*, July 2017, 12; USITC, hearing transcript, May 17, 2022, 64 (testimony of Dean Wood, BorderWorx).

⁷⁸⁰ Corkery, "Retailer's 'Dark Side': As Inventory Piles Up, Liquidation Warehouses Are Busy," July 30, 2022.

⁷⁸¹ Industry representative, interview by USITC staff, July 5, 2022.

⁷⁸² USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 5.9 and 5.10.

⁷⁸³ Ferguson and Steverango, *Maximizing the Potential of the Foreign Trade Zone Concept in Canada*, January 2013, 58.

⁷⁸⁴ Ferguson and Steverango, *Maximizing the Potential of the Foreign Trade Zone Concept in Canada*, January 2013, 57.

⁷⁸⁵ Purolator International, "Ultimate Guide to Foreign Trade Zones," July 3, 2020.

⁷⁸⁶ Trade Partnership, *U.S. FTZ Program*, February 2019, 55.

warehousing and distribution, compared to IMMEX facilities and other foreign warehouses.⁷⁸⁷ Canadian and Mexican programs do not require the same degree of security and inventory management, compared to U.S. FTZs.⁷⁸⁸ For smaller firms seeking to establish duty-deferred warehousing and distribution operations, the lower barriers to accessing program benefits in Canada and Mexico offer greater incentives to use those programs.⁷⁸⁹

Impact on the U.S. Warehousing and Distribution Operations

The extent to which U.S. companies save money using FTZ warehousing and distribution operations varies from firm to firm. Factors include the extent to which goods are re-exported versus shipped domestically; NTR duty rates applicable to foreign-status admissions; the importance of holding inventories of certain products for long periods of time; and financing costs for up-front duty payments on imported goods destined for inventories.⁷⁹⁰ Many industry representatives detailed the value their firms place on using FTZ warehousing and distribution facilities and indicated that the U.S. FTZ program benefitted their decisions to maintain or invest in operations within the United States. For example, a representative of the apparel and footwear industry stated that the benefits provided by FTZs helped to support the 1 million distribution workers that this industry employs.⁷⁹¹ Another industry representative described how a small billiards supply company relying on imports shifted distribution operations to the United States to take advantage of the cash flow opportunities associated with FTZ duty deferral.⁷⁹² A large, integrated global manufacturer of apparel products indicated that the ability to sort duty-deferred admissions of textiles and materials from all over the world using FTZs was essential to its continued operation of these distribution facilities in the United States. This company employed more than 1,000 workers in its U.S. distribution facilities.⁷⁹³

Representing only a portion of warehousing and distribution operations in U.S. FTZs, most firms producing in U.S. FTZs do not consider use of the program to be a driver of investment or employment in their warehousing and distribution operations. About one-quarter of firms producing in U.S. FTZs consider FTZs to be a factor contributing to increased employment within warehousing and distribution operations; about 20 percent consider FTZs to contribute to increased DDI.⁷⁹⁴ Similarly, several representatives of FTZ grantee organizations indicated that they had only limited awareness of firms that had established warehousing and distribution operations due to the FTZs themselves. However, they considered FTZs to be among the competitive factors contributing to growth or retention of employment within warehousing and distribution operations in their regions.⁷⁹⁵ U.S. FTZs therefore have a direct positive impact on U.S. employment in warehousing and distribution operations, in that they

⁷⁸⁷ Industry representative, interview by USITC staff, April 11, 2022.

⁷⁸⁸ The government of Canada notes that Canadian warehouses can be parts of office buildings or hotel conference rooms. Government of Canada, “Foreign Trade Zone,” accessed October 21, 2022.

⁷⁸⁹ Industry representative, interview by USITC staff, June 17, 2022.

⁷⁹⁰ USITC, hearing transcript, May 17, 2022, 44–45 (testimony of Christopher Carney, FDP Virginia); GAO, *FTZs: CBP Should Strengthen*, July 2017, 13.

⁷⁹¹ USITC, hearing transcript, May 17, 2022, 31 (testimony of Beth Hughes, AAFA).

⁷⁹² USITC, hearing transcript, May 17, 2022, 64 (testimony of Dean Wood, BorderWorx).

⁷⁹³ Industry representative, interview by USITC staff, September 29, 2022.

⁷⁹⁴ Only about 5 percent of firms producing in U.S. FTZs consider their FTZ use to be a factor causing increases in FDI. USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.7.

⁷⁹⁵ Industry representatives, interviews by USITC staff, January 6, 10, 11, and 19, 2023.

improve the competitiveness of these operations and are a consideration for some firms' decisions to expand operations in the United States.

Parity across U.S. FTZs and FTZ-type programs in Canada and Mexico that offer duty deferral and duty exemption savings for firms is broad. The programs have slight competitive differences impacting the decisions of certain companies depending on their size or specific needs. The differences between the programs themselves do not contribute to systemic competitive disadvantages faced by U.S. warehousing and distribution operations.

U.S. FTZs do not address a competitive disadvantage U.S. warehousing and distribution operations face relative to foreign competitors related to U.S. section 321 de minimis provisions. These provisions allow shipments valued at less than \$800 to be imported into the United States duty free and avoid formal customs requirements as long as they are imported by one person per day.⁷⁹⁶ In 2016, the United States raised its de minimis threshold from \$200 to \$800. By one estimate, this change increased international mail shipments from 150 million in 2013 to 500 million in 2017.⁷⁹⁷ E-commerce in particular has used these provisions to connect final consumers with foreign distributors to reduce duty costs.⁷⁹⁸

U.S. FTZ warehousing and distribution operations can defer, but must ultimately pay, duties on goods admitted into FTZs and then shipped to U.S. customers, including low-value shipments. The final duty costs for these shipments are therefore no different than for a non-FTZ warehousing and distribution operation that imports goods and then ships to U.S. customers. In contrast, a warehouse in Canada or Mexico can import bulk shipments of foreign goods and, if operating under an FTZ-type program, not pay duties in Mexico (or receive drawback in Canada) on goods destined for re-exportation. U.S. importers from these facilities, which could include individual consumers using an e-commerce platform, would not pay duties on smaller bundles of low-value imports from these facilities under U.S. de minimis rules. This puts U.S. FTZ warehousing and distribution operations seeking to serve low-value shipment markets, particularly those in the e-commerce sector, at a cost disadvantage relative to facilities in Canada and Mexico seeking to serve the same markets.

E-commerce has increased rapidly as a share of U.S. retail sales in recent years. Section 321 has been a substantial contributing factor driving investment in facilities in Canada and Mexico used to serve the U.S. market from the other side of the border. Such investments represent lost U.S. investment and employment opportunities given that such facilities might otherwise prefer to serve the U.S. market using U.S. FTZs. In some cases, existing warehousing and distribution operations have closed in response to these competitive pressures. Industry representatives give examples of multiple large retail and apparel brands that had closed warehouses or forgone U.S. expansion of existing distribution operations (including in FTZs) and instead invested in facilities in Canada and Mexico to use de minimis provisions to serve the U.S. market.⁷⁹⁹ One such example was an e-commerce retailer of socks and other apparel

⁷⁹⁶ Known as "low-value shipments."

⁷⁹⁷ Hewitt, "What Changes to the De Minimis Value Threshold Could Mean for Your Business," September 10, 2019.

⁷⁹⁸ USITC, hearing transcript, May 17, 2022, 32 (testimony of Beth Hughes, AAFA) and 155 (testimony of Sean Lydon, ISCM). This increased use of small-value international shipments using de minimis rules may create some challenges, because CBP and other government agencies estimated that 43 percent of their inspected shipments were noncompliant in 2017. FreightWaves Staff, "Ecommerce Challenges CBP," June 22, 2017.

⁷⁹⁹ Ship Safe Coalition, Confidential Posthearing brief, May 24, 2022; industry representative, interview by USITC staff, January 6, 2023.

products that sought to expand its warehousing using either its U.S. FTZ in Texas or warehouses in Mexico. After confirming that FTZs could not be used to enter duty-free, low-value shipments into the United States, the retailer chose to invest in three warehouses in Mexico and continue to use only its original warehouse in the United States.⁸⁰⁰ Multiple similar examples were offered at the public hearing and in industry interviews.⁸⁰¹

Firms producing in U.S. FTZs are less likely to be in the e-commerce or similar low-value shipment markets where de minimis imports present a competitive disadvantage. Most producers in FTZs are able to use the program to reduce duties paid on NPF status merchandise to zero. Thus, they would not face a disadvantage relative to de minimis imports even if they were to serve low-value shipment markets.⁸⁰² The large majority of producers that use FTZs do not know or cannot evaluate whether their competitors use de minimis entry to access the U.S. market.⁸⁰³

Despite the competitive disadvantage that FTZ warehousing and distribution operations face related to de minimis shipments, they also have built-in geographic advantages over facilities in Canada and Mexico for sales to certain parts of the U.S. market. U.S. FTZ warehousing and distribution operations are close to some of the largest ports and markets in North America. For regional markets that are far from border regions, U.S. FTZ warehousing and distribution operations do not face substantial competitive pressures from such operations in Canada or Mexico. For example, one grantee in the mid-Atlantic region stated that it was unaware of competition from warehouses and distribution operations in Canada or Mexico, because its focus was serving markets that were far from those countries.⁸⁰⁴ For U.S. markets that are close to borders, a warehouse's location within a U.S. FTZ can provide logistical competitive advantages. If the target market for a warehouse is the United States, avoiding a border crossing can save a day or more in transit, which can be critical for e-commerce retailers and other operations that rely on shipment speed within their business models.⁸⁰⁵

⁸⁰⁰ USITC, hearing transcript, May 17, 2022, 53 (testimony of Megan Costello, Ship Safe Coalition).

⁸⁰¹ USITC, hearing transcript, May 17, 2022, 20–21, 157 (testimony of Dean Wood, BorderWorx), 57 (testimony of Fred Ferguson, Vista Outdoor), and 155 (testimony of Sean Lydon, ISCM); industry representative, interview by USITC staff, July 5, 2022.

⁸⁰² As described above within the case study on the automotive industry, vehicle manufacturers and parts producers cannot reduce duties on NPF status admissions to zero as a result of the 2.5 percent vehicle tariff applied to most finished goods. However, these goods would rarely if ever qualify as low-value shipments.

⁸⁰³ USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 5.8.

⁸⁰⁴ Industry representative, interview by USITC staff, September 9, 2022.

⁸⁰⁵ Industry representative, interview by USITC staff, July 5, 2022.

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Appendix A

Request Letter

DOCKET NUMBER
3581
OFFICE OF THE SECRETARY
INT'L TRADE COMMISSION



RECEIVED
December 14, 2021
OFFICE OF THE
SECRETARY
U.S. INT'L TRADE
COMMISSION

THE UNITED STATES TRADE REPRESENTATIVE
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

December 14, 2021

The Honorable Jason E. Kearns
Chair
U.S. International Trade Commission
500 E Street, S.W.
Washington, DC 20436

Dear Chair Kearns:

The Office of the U.S. Trade Representative seeks to pursue a trade policy that invests in American workers, supports domestic manufacturing, and strengthens U.S. supply chain resilience. The United States – Mexico – Canada Agreement (USMCA), which entered into force on July 1, 2020, maintained certain provisions in the North American Free Trade Agreement (NAFTA) related to drawback and duty deferral programs, and the USMCA Implementation Act, as amended, maintained certain provisions from the NAFTA Implementation Act regarding the treatment of goods produced in U.S. foreign trade zones (FTZs), including to prohibit non-originating goods used in production processes within FTZs from qualifying as originating goods under the Agreement.

I believe that the Commission can be helpful to us in understanding the operation of U.S. FTZs and similar programs in Canada and Mexico, and whether and how policies and practices with respect to those respective FTZs and programs impact employment and the competitiveness of goods produced in FTZs in the United States.

Therefore, I am writing today to request that the Commission conduct an investigation and prepare a report under section 332(g) of the Tariff Act of 1930. To the extent the Commission deems it necessary after a review of available data, the investigation may also include a survey of U.S. firms participating in FTZs. Also, and to the extent practicable, the Commission will develop a broad record of information, through a hearing and/or other outreach, from firms that may be impacted by these policies. For the purpose of this investigation, the term FTZs includes U.S. FTZs and similar programs in Canada and Mexico. The report should include, to the extent practicable, the following:

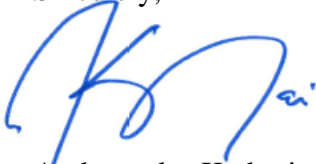
1. An overview of economic activity in FTZs operating in the United States, Canada, and Mexico since 2016. The overview should include to the extent practicable:
 - a. Data on the number of firms operating in FTZs.
 - b. Data on FTZ employment.
 - c. A list of the leading sectors/industries participating in FTZs.
 - d. Data on shipments into FTZs and exports from FTZs.

- e. Data on foreign direct investment in FTZs.
2. An overview of the current FTZ policies and practices in the United States, Canada, and Mexico. To the extent information is available, describe:
 - a. FTZ tariff treatment.
 - b. Other relevant policies and practices that affect the cost-competitiveness of products of U.S. firms operating in FTZs.
 3. To the extent practicable, an analysis of the effects of current FTZ policies and practices in the United States, Canada, and Mexico on the cost-competitiveness of products of firms operating in these FTZs. The analysis should include:
 - a. A description of the effects of these policies and practices on the relative production costs of U.S. firms operating in FTZs in the United States, Canada, and Mexico.
 - b. A description of the effects on U.S. employment.
 - c. A description of the effects on selected U.S. sectors/industries operating in FTZs in the United States, Canada, and Mexico, including through the use of case studies as appropriate.
 - d. A review of recent literature on the effects of FTZs on U.S. firm competitiveness and production.

The Commission should not include in its analysis any duties imposed under U.S. trade remedy laws or title III of the Trade Act of 1974, as amended, or action taken under section 232 of the Trade Expansion Act of 1962, as amended. I request the Commission deliver its report no later than 16 months from the date of this letter. As this office intends to make the report available to the public in its entirety, the Commission should not include in its report any confidential business information or national security information.

I appreciate the Commission's assistance and cooperation in this matter.

Sincerely,



Ambassador Katherine Tai

Appendix B

***Federal Register* Notice**

INTERNATIONAL TRADE COMMISSION**[Investigation No. 332–588]****Foreign Trade Zones (FTZs): Effects of FTZ Policies and Practices on U.S. Firms Operating in U.S. FTZs and Under Similar Programs in Canada and Mexico****AGENCY:** United States International Trade Commission.**ACTION:** Notice of investigation and scheduling of public hearing.

SUMMARY: Following receipt on December 14, 2021 of a request from the U.S. Trade Representative (USTR), under section 332(g) of the Tariff Act of 1930, the U.S. International Trade Commission (Commission) instituted Investigation No. 332–588, *Foreign Trade Zones (FTZs): Effects of FTZ Policies and Practices on U.S. Firms Operating in U.S. FTZs and Under Similar Programs in Canada and Mexico*, for the purpose of preparing a report that provides an overview of economic activity in FTZs operating in the United States, Canada, and Mexico since 2016, an overview of current FTZ policies and practices in the United States, Canada, and Mexico, and an analysis of the effects of current FTZ policies and practices in the United States, Canada, and Mexico on the cost-competitiveness of products of firms operating in these FTZs.

DATES:

May 3, 2022: Deadline for filing requests to appear at the public hearing.

May 5, 2022: Deadline for filing prehearing briefs and statements.

May 10, 2022: Deadline for filing electronic copies of oral hearing statements.

May 17, 2022: Public hearing.

May 24, 2022: Deadline for filing posthearing briefs and statements.

November 30, 2022: Deadline for filing all other written submissions.

April 14, 2023: Transmittal of Commission report to USTR.

ADDRESSES: All Commission offices are in the U.S. International Trade Commission Building, 500 E Street SW, Washington, DC. Due to the COVID–19 pandemic, the Commission's building is currently closed to the public. Once the building reopens, persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–2000.

FOR FURTHER INFORMATION CONTACT: Project Leader Fernando Gracia (202–205–2747 or Fernando.Gracia@usitc.gov), co-Deputy Project Leader

Ann Marie Carton (202–205–2781 or Annmarie.Carton@usitc.gov), or co-Deputy Project Leader Lin Jones (202–205–3246 or Lin.Jones@usitc.gov), for information specific to this investigation. For information on the legal aspects of this investigation, contact William Gearhart of the Commission's Office of the General Counsel (202–205–3091 or william.gearhart@usitc.gov). The media should contact Jennifer Andberg, Office of External Relations (202–205–3404 or publicaffairs@usitc.gov). Hearing-impaired individuals may obtain information on this matter by contacting the Commission's TDD terminal at 202–205–1810. General information concerning the Commission may also be obtained by accessing its website (<https://www.usitc.gov>). Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–2000.

The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <https://edis.usitc.gov>. General information concerning the Commission may be obtained by accessing its internet address (<https://www.usitc.gov>).

SUPPLEMENTARY INFORMATION:

Background: As requested in the letter received from the USTR on December 14, 2021, the Commission has instituted an investigation under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) on the economic activity in FTZs, current FTZ policies and practices, and the effects of those policies and practices, in the United States, Canada, and Mexico, on the cost-competitiveness of products of firms operating in these FTZs. For the purposes of this investigation, the term FTZs includes U.S. FTZs and similar programs in Canada and Mexico.

Specifically, the USTR requested that the Commission provide a report that includes the following:

- An overview of economic activity in FTZs operating in the United States, Canada, and Mexico since 2016. The overview should include to the extent practicable:
 - Data on the number of firms operating in FTZs.
 - Data on FTZ employment.
 - A list of the leading sectors/industries participating in FTZs.
 - Data on shipments into FTZs and exports from FTZs.
 - Data on foreign direct investment in FTZs.
- An overview of the current FTZ policies and practices in the United States, Canada, and Mexico. To the extent information is available, describe:

- FTZ tariff treatment.
- Other relevant policies and practices that affect the cost-competitiveness of products of U.S. firms operating in FTZs.
- To the extent practicable, an analysis of the effects of current FTZ policies and practices in the United States, Canada, and Mexico on the cost-competitiveness of products of firms operating in these FTZs. The analysis should include:
 - A description of these effects of these policies and practices on the relative production costs of U.S. firms operating in FTZs in the United States, Canada, and Mexico.
 - A description of the effects on U.S. employment.
 - A description of the effects on selected U.S. sectors/industries operating in FTZs in the United States, Canada, and Mexico, including through the use of case studies as appropriate.
 - A review of recent literature on the effects of FTZs on U.S. firm competitiveness and production.

As part of its investigation, the Commission intends to conduct a survey, and will post the survey on its website at a later date.

As requested by the USTR, the Commission will deliver the report on April 14, 2023. Since the USTR has indicated that USTR intends to make this report available to the public in its entirety, the Commission will not include confidential business or national security classified information in its report.

Public Hearing: A public hearing in connection with this investigation will be held beginning at 9:30 a.m. on May 17, 2022. More detailed information about the hearing, including how to participate, will be posted on the Commission's website at (https://usitc.gov/research_and_analysis/what_we_are_working_on.htm).

Requests to appear at the hearing should be filed no later than 5:15 p.m. on May 3, 2022, in accordance with the requirements in the “Written Submissions” section below. All prehearing briefs and statements should be filed not later than 5:15 p.m., May 5, 2022. To facilitate the hearing, including the preparation of an accurate written transcript of the hearing, oral testimony to be presented at the hearing must be submitted to the Commission electronically no later than noon, May 10, 2022. All posthearing briefs and statements should be filed no later than 5:15 p.m., May 24, 2022. Posthearing briefs and statements should address matters raised at the hearing. For a description of the different types of

written briefs and statements, see the “Definitions” section below.

In the event that, as of the close of business on May 3, 2022, no witnesses are scheduled to appear at the hearing, the hearing will be canceled. Any person interested in attending the hearing as an observer or nonparticipant should check the Commission website in the preceding paragraph for information concerning whether the hearing will be held.

Written Submissions: In lieu of or in addition to participating in the hearing, interested parties are invited to file written submissions concerning this investigation. All written submissions should be addressed to the Secretary, and should be received not later than the dates provided for in this notice. All written submissions must conform to the provisions of section 201.8 of the Commission’s Rules of Practice and Procedure (19 CFR 201.8), as temporarily amended by 85 FR 15798 (March 19, 2020). Under that rule waiver, the Office of the Secretary will accept only electronic filings at this time. Filings must be made through the Commission’s Electronic Document Information System (EDIS, <https://edis.usitc.gov>). No in-person paper-based filings or paper copies of any electronic filings will be accepted until further notice. Persons with questions regarding electronic filing should contact the Office of the Secretary, Docket Services Division (202–205–1802), or consult the Commission’s Handbook on Filing Procedures.

Definitions of Types of Documents That May Be Filed; Requirements: In addition to requests to appear at the hearing, this notice provides for the possible filing of four types of documents: prehearing briefs, oral hearing statements, posthearing briefs, and other written submissions.

(1) *Prehearing briefs* refers to written materials relevant to the investigation and submitted in advance of the hearing, and includes written views on matters that are the subject of the investigation, supporting materials, and any other written materials that you consider will help the Commission in understanding your views. You should file a prehearing brief particularly if you plan to testify at the hearing on behalf of an industry group, company, or other organization, and wish to provide detailed views or information that will support or supplement your testimony.

(2) *Oral hearing statements (testimony)* refers to the actual oral statement that you intend to present at the public hearing. *Do not* include any confidential business information in that statement. If you plan to testify, you

must file a copy of your oral statement by the date specified in this notice. This statement will allow Commissioners to understand your position in advance of the hearing and will also assist the court reporter in preparing an accurate transcript of the hearing (e.g., names spelled correctly).

(3) *Posthearing briefs* refers to submissions filed after the hearing by persons who appeared at the hearing. Such briefs: (a) Should be limited to matters that arose during the hearing, (b) should respond to any Commissioner and staff questions addressed to you at the hearing, (c) should clarify, amplify, or correct any statements you made at the hearing, and (d) may, at your option, address or rebut statements made by other participants in the hearing.

(4) *Other written submissions* refer to any other written submissions that interested persons wish to make, regardless of whether they appeared at the hearing, and may include new information or updates of information previously provided.

In accordance with the provisions of section 201.8 of the Commission’s Rules of Practice and Procedure (19 CFR 201.8) the document must identify on its cover (1) the type of document filed (i.e., prehearing brief, oral statement of (name), posthearing brief, or written submission), (2) the name of the person or organization filing it, and (3) whether it contains confidential business information (CBI). If it contains CBI, it must comply with the marking and other requirements set out below in this notice relating to CBI. Submitters of written documents (other than oral hearing statements) are encouraged to include a short summary of their position or interest at the beginning of the document, and a table of contents when the document addresses multiple issues.

Confidential Business Information: Any submissions that contain confidential business information must also conform to the requirements of section 201.6 of the Commission’s Rules of Practice and Procedure (19 CFR 201.6). Section 201.6 of the rules requires that the cover of the document and the individual pages be clearly marked as to whether they are the “confidential” or “non-confidential” version, and that the confidential business information is clearly identified by means of brackets. All written submissions, except for confidential business information, will be made available for inspection by interested parties.

As requested by the USTR, the Commission will not include any confidential business information in its

report. However, all information, including confidential business information, submitted in this investigation may be disclosed to and used: (i) By the Commission, its employees and Offices, and contract personnel (a) for developing or maintaining the records of this or a related proceeding, or (b) in internal investigations, audits, reviews, and evaluations relating to the programs, personnel, and operations of the Commission including under 5 U.S.C. Appendix 3; or (ii) by U.S. government employees and contract personnel for cybersecurity purposes. The Commission will not otherwise disclose any confidential business information in a way that would reveal the operations of the firm supplying the information.

Summaries of Written Submissions: Persons wishing to have a summary of their position included in the report that the Commission sends to the USTR should include a summary with their written submission and should mark the summary as having been provided for that purpose. The summary should be clearly marked as “summary for inclusion in the report” at the top of the page. The summary may not exceed 500 words and should not include any confidential business information. The summary will be published as provided if it meets these requirements and is germane to the subject matter of the investigation. The Commission will list the name of the organization furnishing the summary and will include a link to the Commission’s Electronic Document Information System (EDIS) where the full written submission can be found.

Issued: January 26, 2022.

Lisa Barton,

Secretary to the Commission.

[FR Doc. 2022–01916 Filed 1–28–22; 8:45 am]

BILLING CODE 7020–02–P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 337–TA–1295]

Certain Integrated Circuit Products and Devices Containing the Same; Notice of Institution of Investigation

AGENCY: International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that a complaint was filed with the U.S. International Trade Commission on December 29, 2021, under section 337 of the Tariff Act of 1930, as amended, on behalf of Future Link Systems, LLC of Santa Clara, California. A supplement

Appendix C

Calendar of Hearing Witnesses

CALENDAR OF PUBLIC HEARING

Those listed below appeared in the United States International Trade Commission's hearing via videoconference:

Subject: Foreign Trade Zones (FTZs): Effects of FTZ Policies and Practices on U.S. Firms Operating in U.S. FTZs and Under Similar Programs in Canada and Mexico

Inv. No.: 332-588

Date and Time: May 17, 2022 - 9:30 a.m.

ORGANIZATION AND WITNESS:

National Association of Foreign-Trade Zones ("NAFTZ")
Washington, DC

Jeffrey J. Tafel, CAE, President

BorderWorx Logistics LLC
Sanborn, NY

Dean L. Wood, Chief Executive Officer

ISCM
Washington, DC

Sean F. Lydon, President

American Apparel & Footwear Association ("AAFA")
Washington, DC

Beth Hughes, Vice President, Trade & Customs Policy

Coalition for a Prosperous America ("CPA")
Washington, DC

Charles Benoit, Trade Counsel

FDP Virginia Inc.
Tappahannock, VA

Christopher P. Carney, General Counsel

ORGANIZATION AND WITNESS:

Sorini, Samet & Associates LLC
Washington, DC
on behalf of

Ship Safe Coalition

Megan Costello, Vice President, Trade & Customs Policy

Vista Outdoor
Anoka, MN
on behalf of

Ship Safe Coalition

Fred C. Ferguson, Vice President, Public Affairs and Communications

-END-

Appendix D

Summary of Views of Interested Parties

Appendix D includes summaries of written submissions prepared by interested parties and the names of interested parties who filed written submissions in the investigation but did not file a written summary. The Commission has not edited the written summaries. A full copy of each written submission is available in the Commission's Electronic Document Information System (EDIS) (<https://edis.usitc.gov/>). A public hearing was held for the investigation on May 17, 2022, and the transcript of the hearing is available on EDIS.

Written Submissions

Alabama Department of Commerce

Since its establishment in 1969, the Alabama Department of Commerce has played a major role in reshaping Alabama's once-declining economy by recruiting diverse new industry in the state. In addition to its recruitment efforts, the Alabama Department of Commerce has worked in concert with local economic and government agencies in enhancing the competitiveness of businesses who make Alabama their home. It also works in concert with FTZ grantees in the state to recruit industry, and to make existing industry more globally competitive.

In 2021, total Zone-related production activity in Alabama exceeded \$22 billion in output, including \$9.7 billion in exports. This represents more than 40% of Alabama's manufacturing output. Direct Zone-related employment exceeded 14,000, of which 11,000 are accounted for by the production of automobiles and automotive parts. All this Zone-related activity has developed over the past 30 years.

Implementation of USMCA is anticipated to attract increased levels of automotive parts production to North America. However, tariff-related end-use provisions developed by Canada and Mexico in the wake of NAFTA's implementation have created tariff-rate distortions that tilt the competitive playing field in favor of Canada and Mexico for automotive parts production. The U.S. Foreign-Trade Zones program is a tool that mitigates tariff-related disparities in the automotive sector, but it is insufficient to level the competitive playing field under USMCA.

The ITC held a Public Hearing on May 17, 2022, during which a number of participants commented on the disparities between the U.S. FTZ program and similar programs in Canada and Mexico. A number of suggestions were made regarding ways in which such disparities could be remedied. The comments submitted by Alabama's Secretary of Commerce describe another remedy that can be implemented without the necessity of amending USMCA, its implementing statutes, nor further amending the Foreign-Trade Zones Act. Instead, Congress could use its existing authority to make targeted revisions to the Harmonized Tariff Schedule of the United States aimed at leveling the tariff-related playing field in the automotive industry.

The process for implementation is straightforward:

1. Identify specific commodities (e.g., specific vehicle parts) for which Canadian or Mexican tariff regimes or itemized tariff provisions offer duty free end-use provisions on nonUSMCA content used in their production;
2. Modify the U.S. Harmonized Tariff Schedule to offer the same end-use tariff treatment for specific items (e.g., "Axle assemblies used in the production of motor vehicles") produced in the United States that will be used in the production of higher value-added products;

3. Let the U.S. Foreign-Trade Zones Board conduct its normal business (i.e., authorizing FTZ production authority on a company-by-company, location-by-location, product-by-product basis).

Community Development Foundation

CDF is involved in regional economic development activities and is also involved in the Greater Mississippi FTZ project.

The FTZ program is well suited to level the competitive playing field for companies that manufacture products that could otherwise be imported at “Free” rates of duty. This is not the case in the automotive sector, where non-USMCA imports are often subject to 2.5% duty rates.

An apparent holdover from NAFTA - its so-called “duty-deferral restrictions,” which apply to manufactured goods traded among the United States, Canada, and Mexico - will be of more significance under USMCA than was the case under NAFTA. Among the duty-deferral regimes affected by these restrictions, are goods manufactured in U.S. Foreign-Trade Zones and subsequently shipped to Canada or Mexico. Such manufactured goods require Customs entry into the United States at the U.S. NTR rates applicable to such goods.

The aforementioned duty-deferral restrictions have, for more than two decades, been nullified by Canada and Mexico with respect to a number of targeted industries, including the automotive sector. These sector-by-sector nullifications – implemented by Canada and Mexico in accordance with their sovereign national rights - have created economic distortions that encourage new production investments in Mexico and Canada which might otherwise be located in the United States. In the absence of corrective measures adopted by the United States, these economic distortions will be perpetuated under USMCA – benefitting Canada and Mexico at the expense of the USA. The automotive industry provides a highly illustrative example of how this works.

Given the new Rules-of-Origin under USMCA for the automotive sector, a number of automakers – particularly those that have migrated to the United States since the adoption of NAFTA – are reviewing their future supply chain and production strategies, especially in light of the current duty-free tariff regimes developed by Canada and Mexico, and in light of other regional trade agreements those two countries have entered into since NAFTA was adopted. The outcomes of these future supply chain and production decisions will in many cases be cost-based; they will include the relative duty costs for locating future production operations in the United States (including the State of Mississippi) versus Canada or Mexico.

Given that the new USMCA Rules of Origin make the production location decisions for so-called “core” automotive parts (*e.g.* engines, drive trains, *etc.*) more duty-regime sensitive, there can be no doubt that Canada’s duty-free tariff regime for automotive sector production gives it a built-in advantage in attracting new automotive parts production under USMCA. Mexico’s “PROSEC” regime also provides it with an advantage in attracting new production investments within the North American automotive sector.

However, U.S. Congress can mitigate these imbalances by adopting appropriate trade-related legislation. Specifically, Congress can answer the sector-specific tariff regimes developed by Canada and Mexico by amending the Harmonized Tariff Schedule (HTS) of the United States on a strategic, targeted basis by instituting duty-free end-use provisions for specifically identified automotive parts used in the production of automobiles, trucks, and other motor vehicles.

Huntsville-Madison County Airport Authority

The Huntsville-Madison County Airport Authority (HMCAA), grantee of U.S. Foreign-Trade Zone No. 83, offers further information and context to the comments submitted by Alabama Secretary of Commerce, Greg Canfield. HMCAA wants to convey its experiences with one former Zone user and one existing Zone user to illustrate an important point that Secretary Canfield makes in his public comments – that is, the razor thin operating margins by which suppliers in the automotive industry operate mean that small duty-related cost differences can influence production and investment decisions.

HMCAA offers an array of facilities and services aimed at stimulating economic development and growth. These include our international airport, our intermodal center, our industrial park, and our FTZ project. Today, our intermodal and air cargo facilities and services, along with our Customs Port of Entry and FTZ status, enhance the supply-chain competitiveness of a variety of high-tech, high value-added operations in north and central Alabama, eastern and southern Tennessee, and northeast Mississippi. These value-added operations include users of FTZ No. 83, operating under the auspices of HMCAA, users of FTZ No. 98, operating under the auspices of the City of Birmingham, and users of FTZ No. 158, operating under the auspices of the Greater Mississippi Foreign-Trade Zone.

FTZ No. 83's first subzone was the Chrysler Electronics plant, at one time an important driver of technological innovation in the automotive industry. In 1994, a number of the plant's manufactured products were reclassified by U.S. Customs – thus eliminating FTZ benefits for those items. By 1995, production of those items was relocated to Mexico, from which those products were subsequently imported into the United States at NAFTA's "Free" rates of duty. The plant closed in 2010, and its production activity was moved to multiple locations, some in Texas, and some in Mexico.

In 2015, Toyota's Huntsville engine plant was authorized to conduct production activity under FTZ procedures. Even though the effective duty rate afforded by the U.S. FTZ program (2.5%) is higher than that which could otherwise be obtained through the special programs developed by Canada and Mexico (Zero), the enhancements in operating margins provided by the U.S. FTZ program have contributed to significant employment and production expansion at the plant.

Like Huntsville's NASA engineers who shaped America's space program, HMCAA has a long-established record of shaping the future, rather than waiting for it to happen. This is evidenced through several HMCAA initiatives over the past six decades: creation and development of an international airport; creation of an international intermodal center; development of an industrial center; establishment of a U.S. Customs Port of Entry; and establishment of an FTZ project.

The tariff-related disparities in the automotive sector created by the responses of Canada and Mexico to NAFTA's duty-deferral restrictions will be of even more consequence under USMCA. Rather than wait for USMCA's future economic consequences; we must make every effort to identify impediments to the competitiveness of U.S. based producers of automotive products, and devise remedies for those impediments as described by Secretary Canfield.

Coalition for a Prosperous America

No written summary. Please see EDIS for full submission.

ISCM Incorporated

Foreign Trade Zones

No written summary. Please see EDIS for full submission.

National Association of Foreign-Trade Zones

No written summary. Please see EDIS for full submission.

National Council of Textile Organizations

No written summary. Please see EDIS for full submission.

Richard F. Ehmann

No written summary. Please see EDIS for full submission.

Ship Safe Coalition

No written summary. Please see EDIS for full submission.

Teijin Holdings, USA

No written summary. Please see EDIS for full submission.

Vista Outdoor

No written summary. Please see EDIS for full submission.

Appendix E

Foreign Trade Zones Questionnaire



FOREIGN TRADE ZONES QUESTIONNAIRE

U. S. INTERNATIONAL TRADE COMMISSION

ftz.investigation@usitc.gov

You are receiving this questionnaire because the Commission has identified your firm as a firm with production authority (see definitions) in one or more U.S. FTZs. Your response will be treated as confidential and will only be referenced if we can ensure anonymity. If your firm has not been granted such authority, please contact the team at the phone number or email address above.

The U.S. Trade Representative (USTR) has requested that the U.S. International Trade Commission (USITC or Commission) conduct an investigation and prepare a report pursuant to section 332(g) of the Tariff Act of 1930 regarding economic activity and related policies in U.S. Foreign Trade Zones (FTZs) and similar programs in Canada and Mexico. USTR has further requested that the Commission conduct a survey and provide an analysis of the effects of current FTZ policies and practices on employment and on the cost-competitiveness of products produced by firms operating in these FTZs. In response to that request, the Commission has instituted an investigation and has issued this questionnaire to collect information directly from U.S. firms about their experiences in FTZs.

Answers to this questionnaire will provide information for the Commission's factfinding investigation on the operations of firms within U.S. FTZs, and how FTZ policies and practices may impact employment and competitiveness of goods produced in U.S. FTZs and similar programs in Canada and Mexico. You can learn more about this investigation (Inv. No. 332-588) at the following website: <http://www.usitc.gov/ftzinvestigation>

Your firm is required by law to respond to this questionnaire.

Please read all instructions and submit your response to the web-based questionnaire no later than xxx.

The Commission is requesting this information under the authority of section 332(g) of the Tariff Act of 1930 (19 U.S.C. § 1332(g)). Completing the questionnaire is mandatory, and failure to reply as directed can result in a subpoena or other order to compel the submission of records or information in your possession (19 U.S.C. § 1333(a)).

For more information on this questionnaire, contact the project team at ftz.investigation@usitc.gov.

Confidentiality

The Commission has designated the information you provide in response to this questionnaire as “confidential business information,” unless such information is otherwise available to the public. Information received in response to this questionnaire will be aggregated with information from other questionnaire responses. The information will not be published in a manner that would identify your firm or reveal the operations of your firm. Section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) provides that the Commission may not release information which it considers to be confidential business information unless the party submitting such information had notice, at the time of submission, that such information would be released by the Commission, or such party subsequently consents to the release of the information.

Instructions

1. **Completing the questionnaire.** To provide your firm's response to this questionnaire, use the secure interactive website version, accessible at this link:

<http://www.usitc.gov/ftzinvestigation>

2. **Accessing the questionnaire.** We sent your firm an email that includes a website link to the investigation website and the 10-digit questionnaire token. Click the link on the investigation website to take you to the interactive website version and access the questionnaire for online completion using your 10-digit questionnaire token. If you have issues with your token or accessing the questionnaire, please email ftz.investigation@usitc.gov for assistance.

3. **Entering information.** Please answer each question that applies to your firm. Some questions require you to answer by using the provided checkboxes, while others require a response to be typed into entry areas. You will have an opportunity to review your responses, edit them, and download a copy before submitting.

4. **Entering numeric data.** Enter data for revenue/sales, employees, etc. in actual units, not in thousands, millions, or other multiples of units. For example, for \$123.4 million, enter "123400000," not "123400" or "123.4." (Do not add commas between digits.)

5. **Questionnaire structure.** This questionnaire is composed of 7 sections. Section 6 contains a narrative question that allows you to provide any additional information you deem relevant to the investigation, or further explain your response to previous questions.

6. **Submitting the questionnaire.** After you have completed all applicable sections, you may download a copy before submitting. Select the "submit" button to send your final response.

How to report information about your firm

1. **Coordinating your firm's response.** Only one questionnaire per firm may be submitted. If individuals or departments within your firm will share responsibility for completing this questionnaire, please coordinate and combine their responses. This will minimize our need to contact you for clarification.
2. **Relationship to corporate structure.** Please provide a single response for your firm's activities and experiences and, to the extent possible, the experiences of its subsidiaries and affiliates.

If your firm is a holding company without operations, please contact the project team at ftz.investigation@usitc.gov for further instruction.

U.S. affiliates of foreign companies. Please respond as if the affiliate were an independent firm operating in the United States. For example, for an affiliate in the United States, report estimated total domestic and foreign sales for the affiliate and not for the foreign parent company.

3. **Multiple U.S. FTZs.** If your firm had production operations in multiple U.S. FTZs, please combine requested information into one response (except when noted in question 2.3).

Definitions/Glossary

Additional duties: Duties imposed under U.S. trade remedy laws (i.e., antidumping, countervailing, or safeguard duties) or title III of the Trade Act of 1974, as amended, (i.e., section 301 duties) or action taken under section 232 of the Trade Expansion Act of 1962, as amended (i.e., section 232 duties).

CBP: U.S. Customs and Border Protection.

Customs entry: “Entry” refers to the documentation or data required to be filed with CBP to secure the release of imported merchandise from CBP custody, or the act of filing that documentation. Entry also means the documentation or data required to be filed with CBP to withdraw merchandise from a duty-deferral program in the United States (e.g., withdrawn from an FTZ) for exportation to Canada or Mexico. “Making Customs entry” refers to a firm or individual undertaking these entry procedures, including providing an “entry summary” that includes documentation or electronic submission of data necessary to enable CBP to assess duties, and collect statistics on imported merchandise, and determine whether other requirements of law or regulation are met. (See 19 CFR § 141.0a).

Customs territory: “Customs territory” is the territory of the U.S. in which the general tariff laws of the United States apply. “Customs territory of the United States” includes only the States, the District of Columbia, and Puerto Rico. (See 19 CFR § 146.1).

Deactivated: A previously activated site or subzone site which no longer has local CBP authorization for activity under FTZ procedures. Deactivation procedures are described in 19 CFR § 146.7(b).

De minimis: A valuation ceiling for goods, including documents and trade samples, below which no duty or tax is charged, and clearance procedures are minimal.

Domestic direct investment: Capital investments made by U.S.-based companies involving the transfer of money or equity from inside the United States for acquisition or installation of land, machinery, buildings, or any physical or tangible assets for use in U.S. FTZ operations. These investments can include greenfield investments, capital improvements (costs that get capitalized in your firm's asset base in the United States), or purchases of existing assets using funding from U.S.-based investors or ultimate parent company's capital budget if the ultimate parent company is based in the United States and is not majority-owned or controlled by non-U.S. based investors (note that investment into U.S. FTZs by foreign affiliates of ultimate parent companies based in the United States is considered domestic investment if the U.S. based parent company is majority owned or controlled by U.S. investors). In reporting capital investments, do not include repair and maintenance expenditures for maintaining your asset base that were expensed in the period they occurred.

Domestic investment net assets: The value of assets (net of all associated depreciation or amortization expenses) controlled or owned by U.S.-based investors or by an ultimate parent company inside the United States that is not majority-owned or controlled by non-U.S.-based investors.

Domestic status merchandise (or domestic status inputs): Domestic status merchandise includes both domestic-origin merchandise (grown, produced, or manufactured in the United States) and foreign-origin items that have previously been entered for consumption (with duties paid, if applicable) prior to FTZ admission. (See 19 CFR § 146.43).

Duty deferral: The postponement of duty payment upon arrival of a good in the United States until entered for U.S. consumption or removed for exportation.

Duty exemption: Duty exemption occurs when goods do not make Customs entry and therefore are not subject to duty collection. Duty exemption may occur when goods are processed into finished goods and then exported from the FTZ without making Customs entry, re-exported from the FTZ without further processing, destroyed in the FTZ, or used as production equipment in the FTZ.

Duty reduction (or inverted tariff relief): Duty reduction may occur in a situation where the import duty on finished goods produced in an FTZ is lower compared to the import duty on material inputs that are used in the production of such finished goods (this is known as an “inverted tariff” or a “tariff reduction”). If the FTZ producer makes Customs entry on such merchandise based on the classification of the finished good, then they will pay a lower duty than if they had made entry on material inputs directly.

Export shipments: For purposes of this survey, export shipments include all shipments to firms or locations outside the Customs territory of the United States. This definition includes 1) exports of merchandise that do not make U.S. Customs entry as a condition for exportation (i.e., exported directly from an FTZ to another country); and 2) exports that make Customs entry as if they had been withdrawn for consumption (e.g., as required under USMCA article 2.5).

Foreign affiliate: A foreign business enterprise in which there is U.S. direct investment—that is, in which a U.S. person, or entity, owns or controls 10 percent or more of the voting securities of an incorporated foreign business enterprise or an equivalent interest in an unincorporated foreign business enterprise.

(Inward) Foreign direct capital investments: Investments made by non-U.S.-based companies involving the transfer of money or equity from outside the United States for acquisition or installation of land, machinery, buildings, or any physical or tangible assets for use in U.S. FTZ operations. These investments can include greenfield investments, capital improvements (costs that get capitalized in your firm's asset base in the United States) or purchases of existing assets using funding from non-U.S.-based investors or ultimate parent company's capital budget if the ultimate parent company is not based in the United States, or is majority-owned or controlled by non-U.S. based investors (note that investment into U.S. FTZs by foreign affiliates of ultimate parent companies based in the United States is considered foreign investment if the U.S. based parent company is majority owned or controlled by non-U.S. investors). In reporting capital investments, do not include repair and maintenance expenditures for maintaining your asset base that were expensed in the period they occurred.

Foreign investment net assets: The value of assets (net of all associated depreciation or amortization expenses) controlled or owned by non-U.S.-based investors or by an ultimate parent company outside of the United States, or by an ultimate parent company inside the United States that is majority-owned or controlled by non-U.S.-based investors.

Foreign status merchandise (or foreign status inputs): Foreign status merchandise that is admitted to zone sites without being subject to formal Customs entry procedures and payment of duties, unless and until the foreign merchandise enters Customs territory for domestic consumption. Foreign status merchandise can be further divided into three distinct categories: privileged foreign status merchandise, non-privileged foreign status merchandise (defined below), and zone restricted status.

Foreign-trade zone (FTZ): A U.S. FTZ is a location designated by the U.S. FTZ Board where special customs procedures may be used. To help encourage U.S. activity and value added, firms operating within the FTZ can delay or reduce duty payments on imported merchandise and may be eligible for other savings.

FTE: Employee figures should be reported on a full-time equivalent (FTE) basis. The term "FTE" reflects the total number of regular straight-time hours worked by employees, divided by the number of

compensable hours applicable to each calendar year. Hours related to annual leave, sick leave, and compensatory time off and other approved leave categories are considered to be "hours worked." But overtime or holiday hours are not considered "hours worked."

FTZ Admissions: Merchandise brought into FTZ under a specific status. Admissions can include foreign status merchandise, domestic status merchandise, and zone restricted status merchandise separately defined below.

- **Privileged foreign status merchandise:** One of the categories of foreign status merchandise. Such merchandise maintains its status based on its condition when it was admitted to the zone. Thus, if the merchandise is shipped from the zone to the U.S. market and entered for consumption by U.S. Customs and Border Protection (CBP), it is evaluated based on the time-of-admission condition even though it may have undergone a transformation in the zone. (See 19 CFR § 146.41).
- **Non privileged foreign status merchandise:** One of the categories of foreign status merchandise. Such merchandise is evaluated based on its condition at the time it is shipped from the zone to the U.S. market and entered for consumption by CBP. (See 19 CFR § 146.42).

FTZ Board: The board consists of the Secretary of Commerce and the Secretary of Treasury, or their designated alternates. Staff of the board are within the U.S. Department of Commerce. The Board is authorized, under the terms of 19 U.S.C. §§ 81a-81u and 15 C.F.R. Part 400.1-400.63, to grant to corporations the privilege of establishing, operating, and maintaining FTZs in or adjacent to ports of entry under the jurisdiction of the United States.

FTZ identifier: An identification number used by the FTZ Board and CBP to identify sites and/or subzone.

FTZ-type program: Programs in Canada and Mexico that provide similar duty and/or customs treatment to the U.S. FTZ program. For purposes of this survey, Canadian FTZ-type programs include the Duties Deferral Program, Export Distribution Center Program, and Exporters of Processing Services Program. Mexican FTZ-type programs include Industria Manufacturera, Maquiladora y de Servicios de Exportación (IMMEX); trade promotion instruments such as Programa de Promoción Sectorial (PROSEC), Rule 8 (Regla 8); comprehensive certification schemes such as Value Added Tax (VAT)/Special Tax on Production and Services (IEPS) Certification, and the Authorized Economic Operation (AEO) Certification; and special customs regimes such as Automotive Fiscal Deposit (Depósito Fiscal para la Industria Automotriz), Recinto Fiscal, Recinto Fiscalizado Estratégico, and Operadores Económicos Autorizados (OEA) (previously Nuevo Esquema de Empresas Certificadas (NEEC)).

Logistical/administrative costs: For purposes of this survey, logistical/administrative costs include various costs associated with the processes and services necessary to warehouse and distribute goods within production facilities or other FTZ operations; administrative costs associated with operation of an FTZ or subzone; transportation costs to and from the production facility or warehouse/distribution operation; and costs associated with trade such as Customs, attorney, and brokerage fees.

Mark-up: For purposes of this survey, mark-up equals the difference between a firm's sales or shipment values (i.e., U.S. shipments or export shipments) of goods warehoused but not produced in your FTZs and the original cost of those goods (i.e., the cost of the goods previously admitted into the zone that had been warehoused within the zone prior to sale or shipment). Mark-up includes any profit or (loss) between the admissions values of the goods and their final sales prices. Hypothetically, if a firm lost money on their final sales of their previously admitted goods the mark-up could be reported as a negative number.

Merchandise processing fee (MPF): A user fee that importers are required to pay to CBP when entering merchandise into the United States.

North American Industry Classification System (NAICS): The standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. This survey uses the NAICS standard to classify FTZ production activities by industrial sector. See <https://www.census.gov/naics/> for more information and a NAICS search tool.

Parent company: a single company that has a controlling interest in another company or joint venture.

Production authority: Authority granted by the U.S. FTZ Board to conduct production activity within an FTZ.

Production costs: For purposes of this survey, production costs include material input costs, duty costs applied to those material inputs (including as applied to merchandise produced in FTZs that enters U.S. Customs territory), labor costs, and other factors that contribute to the cost of goods sold, such as factory overhead.

Production operations: Refers to activity involving the substantial transformation of a foreign article resulting in a new and different article having a different name, character, and use, or to activity involving a change in the condition of the article which results in a change in the Customs classification of the article or in its eligibility for entry for consumption. (See 15 CFR § 400.2(o)). References to “goods produced” within FTZs refers to the output of FTZ production operations (production operations within FTZs with production authority), which may incorporate both foreign and domestic status materials.

Quota timing management: Imports subject to quota may be retained within a Foreign-Trade Zone once a quota has been reached allowing zone users access to potentially discounted inputs and the ability to clear through Customs merchandise as soon as a new quota year starts.

Streamlined U.S. Customs Procedures: Upon approval from Customs, imports may be directly delivered to the zone. Users may also request permission to break and affix Customs seals. A single entry may be filed for seven consecutive days’ worth of entries and exports.

Subzone: An FTZ site (or group of FTZ sites) established for a specific use and/or company. Subzones are most frequently used by manufacturing plants and distribution facilities that are not within sites.

Ultimate owner: the single company that owns your company, whether as a direct parent, as owner of the parent company, etc.

U.S. affiliate: A U.S. business enterprise in which there is foreign direct investment—that is, in which a single foreign person, or entity, owns or controls, directly or indirectly, 10 percent or more of the voting securities of an incorporated U.S. business enterprise or an equivalent interest in an unincorporated U.S. business enterprise.

U.S. Customs fees: Fees applied by U.S. Customs. Examples include the merchandise processing fee (MPF) on entries into U.S. Customs from the U.S. FTZ.

U.S. shipments: For purposes of this survey, U.S. shipments include all shipments to recipient firms within U.S. Customs territory for use or distribution within the United States. U.S. shipments do not include shipments to FTZs under bond or export shipments that make Customs entry as a condition for exportation (e.g., as required under USMCA article 2.5).

Value added: For purposes of this survey, value added equals the difference between a firm’s sales or shipment values (i.e., U.S. shipments or export shipments) of goods produced in your FTZs and the cost

of domestic or foreign material inputs used in their production (i.e., the cost of the goods previously admitted into the zone that had been used in your firm's domestic production activities within the zone). Value added includes both actual costs incurred by your firm in the production of those shipped products (i.e., direct labor, factory overhead, SG&A, et cetera), as well as any profit.

Warehousing and distribution: Warehousing and distribution characterizes any activity occurring within FTZs for purposes of receiving, storing, or delivering goods without those goods undergoing any substantial transformation within the FTZ.

Zone restricted status: Merchandise taken into a zone for the sole purpose of exportation, destruction, or storage. Zone-restricted status merchandise can be entered into U.S. Customs territory only if the FTZ Board finds that entry would be in the public interest (See 19 CFR § 146.44).

NOT FOR SUBMISSION

SECTION 1. Firm Information

Enter the 10-digit questionnaire token that was in the notification letter we sent to your firm. This will allow the project team to track your response. If you do not know this token, contact the project team at ftz.investigation@usitc.gov.

Questionnaire token: _____

1.1 Has your firm had U.S. FTZ [production authority](#) in one or more FTZs in the United States at any time since January 1, 2016?

- ☐ Yes
- ☐ No

[If no, "Our records indicate that your firm has had production activity at some point during the period of January 1, 2016 through December 31, 2021. Please contact the project team at ftz.investigation@usitc.gov for further instructions."]

1.2 Please enter your firm's U.S. headquarters' address and the name of a person that we may contact if we have any questions regarding your response.

Business name		
Address		
City	State	Zip code
Contact person's name	Contact person's job title	
Contact person's telephone number	Contact person's email	

1.3 Is your firm owned in whole or in part by another company?

- ☐ Yes
- ☐ No

[If "Yes"] [Parent company](#) name: _____

1.4 [If yes to question 1.3] Where is your firm's [ultimate owner](#) or [parent company](#) headquartered?

- ☐ In the United States
- ☐ Outside the United States

[If "Outside the United States"] In what country is your [ultimate owner](#) headquartered?

SECTION 2. U.S. FTZ Operations

2.1 Have your firm's U.S. FTZ production operations been active anytime since January 1, 2016?

- ☐ Yes
- ☐ No

[If no: Our records indicate that your firm has had production activity at some point during the period of January 1, 2016 through December 31, 2021. Please contact the project team at ftz.investigation@usitc.gov for further instructions.]

2.2 Has your firm had operations other than production (e.g., warehousing) in a U.S. FTZ anytime since January 1, 2016?

- ☐ Yes
- ☐ No

[If no, questions about operations other than production (e.g., warehousing) will be skipped; flag for follow up with survey team]

2.3 Please provide the following information on each facility in a U.S. FTZ in which your firm had production authority and had production operations since January 1, 2016.

FTZ zone number (include <u>subzone</u> identifier if applicable)	Location (city, state)	Sector	Primary 6-digit <u>NAICS</u> code that best describes the principal production operation that occurred in the zone in 2021	Facility's share of total shipments from U.S. FTZs in 2021. (should add to 100%)	Last year active (if currently active, answer 2022)
{Prepopulated}	{Prepopulated}	{Prepopulated with ITA sectors}		____%	

Select each year your firm had production operations, exports, and/or U.S. shipments in a U.S. FTZ.

- ☐ 2016
- ☐ 2017
- ☐ 2018
- ☐ 2019
- ☐ 2020
- ☐ 2021

Foreign Trade Zones

2.4 Has your firm deactivated or reactivated any U.S. FTZ production operation since January 1, 2016?

- ☐ No
- ☐ Yes, deactivated
- ☐ Yes, reactivated

[If Yes, deactivated] List the FTZ zone number and year your firm deactivated the production operation. _____

[If Yes, reactivated] List the FTZ zone number and year your firm reactivated the production operation. _____

[If Yes] Please explain why your firm deactivated or reactivated the production operation:

2.5 Are your firm's existing production operations in U.S. FTZs subject to any requirements or restrictions imposed by the FTZ Board or U.S. CBP, such as those governing the types of inputs or processes it can use as provided for under 15 CFR § 400.13(b), that go beyond the requirements faced by all U.S. FTZ operations?

- ☐ No
- ☐ Yes

[If yes] Explain: _____

2.6 Does your firm have plans to expand or reduce its overall U.S. FTZ production operations in the next 5 years?

- ☐ Expand
- ☐ Reduce
- ☐ No plans to expand or reduce

[If expand or reduce] Explain, including details as to the time, nature, significance, and reasoning for such plans: _____

2.7 Please provide the data requested in the table below relating to your firm's U.S. employment engaged in production operations within U.S. FTZs.

Item	2016	2017	2018	2019	2020	2021
U.S. employment within FTZ production operations:						
Employees (<u>FTE</u> , number)						

2.8 Please provide information requested in the table below relating to your firm's admissions or receipts of merchandise into U.S. FTZs where your firm had production operations.

Item	2016	2017	2018	2019	2020	2021
	Value (dollars)					
<u>Admissions</u> or receipts into FTZ:						
Domestic status						
<u>Privileged foreign status</u>						
<u>Non-privileged foreign status</u>						
<u>Zone restricted status</u>						
Total admissions or receipts						

2.9 For 2021 or your firm's last full year of production, please report the share of your firm's FTZ production operations' admissions of domestic status merchandise, by domestic vs. foreign origin of the materials being admitted:

Item	Share of <u>domestic status merchandise</u> admitted into U.S. FTZ (percent)
<u>Foreign origin</u> : Imported materials previously cleared through U.S. Customs and not enhanced in value in the United States prior to admission into a U.S. FTZ	
<u>Domestic origin</u> : Materials produced in the United States, including imported products that have been enhanced in value in the United States prior to admission into a U.S. FTZ	
Total (should sum to 100%)	

Foreign Trade Zones

2.10 Please provide the value of your firm's shipments of merchandise ***produced*** in U.S. FTZs, along with value of inputs for those products.

Item	2016	2017	2018	2019	2020	2021
	Value (dollars)					
<u>U.S. shipments</u> of merchandise produced in U.S. FTZs:						
<u>Domestic status inputs</u>						
<u>Privileged foreign status inputs</u>						
<u>Non-privileged foreign status inputs</u>						
<u>Value added</u> in the U.S. FTZ						
Subtotal, value of <u>U.S. shipments</u>						
<u>Export shipments</u> of merchandise produced in U.S. FTZs:						
<u>Domestic status inputs</u>						
<u>Privileged foreign status inputs</u>						
<u>Non-privileged foreign status inputs</u>						
<u>Value added</u> in the U.S. FTZ						
Subtotal, value of <u>export shipments</u>						
<u>Total shipments</u> (U.S. shipments + Export shipments)						

2.11 Please provide information relating to your firm's shipments of merchandise shipped out of your U.S. FTZs that was ***not produced*** in the U.S. FTZ (i.e., product was simply ***warehoused*** in the zone).

Item	2016	2017	2018	2019	2020	2021
	Value (dollars)					
U.S. shipments of merchandise warehoused but not produced in U.S. FTZs:						
<u>Domestic status</u>						
<u>Privileged foreign status</u>						
<u>Non-privileged foreign status</u>						
<u>Mark-up</u>						
Total value of U.S. shipments						
Export shipments of merchandise warehoused but not produced in U.S. FTZs:						
<u>Domestic status</u>						
<u>Privileged foreign status</u>						
<u>Non-privileged foreign status</u>						
<u>Zone restricted status</u>						
<u>Mark-up</u>						
Total value of export shipments						
Total shipments (U.S. shipments + Export shipments)						

Foreign Trade Zones

2.12 For your firm's exports of merchandise produced in U.S. FTZs in 2021, please identify the share by destination.

Destination	Share of value of 2021 exports of merchandise produced in U.S. FTZs (percent)
Exports that made U.S. <u>Customs entry</u> (e.g., as a condition for exportation under USMCA rules):	
Exports to Canada	
Exports to Mexico	
Exports to other countries	
Exports that did not make U.S. <u>Customs entry</u>	
Total exports (should sum to 100%)	

2.13 For your firm's exports of merchandise warehoused but not produced in U.S. FTZs in 2021, please identify the share of shipments by type.

Destination	Share of value of 2021 exports of merchandise warehoused but not produced in U.S. FTZs (percent)
Exports that were entered from U.S. FTZ into U.S. Customs prior to exportation	
Exports directly from FTZ (i.e., that did not enter U.S. Customs)	
Total export shipments (should sum to 100%)	

2.14 For your firm's shipments of merchandise warehoused but not produced in U.S. FTZs in 2021, please identify the share of shipments by type.

Type	Share of value of total shipments of merchandise <u>warehoused but not produced</u> from U.S. FTZs in 2021 (percent)
Shipments out of:	
U.S. FTZ operations with <u>production authority</u>	
U.S. FTZ operations without <u>production authority</u>	
Total shipments (should sum to 100%)	

- 2.15 Please provide information relating to your firm's capital investments and net assets in facilities operating within U.S. FTZs. If there are investments or assets that have dual purpose within and outside of the zone, include the full amount of those investments in your estimate.

Item	2016	2017	2018	2019	2020	2021
	Value (dollars)					
Capital investment in U.S. FTZ operations:						
<u>Domestic direct investment</u>						
<u>Foreign direct investment</u>						
Net assets in U.S. FTZ operations:						
from <u>domestic investments</u>						
from foreign investments						

SECTION 3. Effects of U.S. FTZ Use

3.1 Within your firm's U.S. FTZ production operations, indicate whether your firm has experienced any of the following effects associated with FTZ use and its importance on your firm's decision to operate within U.S. FTZs.

Effect associated with U.S. FTZ use	Not experienced	Experienced — Not very important	Experienced — Moderately important	Experienced — Extremely important
<u>Duty exemption</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Duty reduction</u> (duty savings on U.S. Customs entries)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Duty deferral</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Savings on other <u>U.S. Customs fees</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Streamlined U.S. Customs procedures</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Quota timing management</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other local/state benefits: Please list other benefits: _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.2 **Effects of U.S. FTZ use on costs:** Regarding your firm's FTZ production operations, indicate any of the following production, logistical/supply chain, or other cost savings your firm experienced related to your firm's FTZ use. To the extent possible, please compare costs to what costs would be if your operations had been outside an FTZ. [Only effects chosen as "experienced" in previous question will appear in this question]

Effects	Production cost savings from this effect (include savings on input costs, duties, and Customs charges)	<u>Logistical and administrative cost</u> savings from this effect (include savings on transportation, warehousing, other services)
<u>Duty exemption</u>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Duty reduction</u> (duty savings on U.S. Customs entries)	<input type="checkbox"/>	<input type="checkbox"/>
<u>Duty deferral</u>	<input type="checkbox"/>	<input type="checkbox"/>
Savings on other <u>U.S. Customs fees</u>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Streamlined U.S. Customs procedures</u>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Quota timing management</u>	<input type="checkbox"/>	<input type="checkbox"/>
Other local/state benefits	<input type="checkbox"/>	<input type="checkbox"/>

3.3 U.S. FTZ compliance costs: Did your firm incur fixed and/or recurring costs associated with U.S. FTZ compliance, operations, or set-up?

- ☐ Yes
- ☐ No

[If Yes] List cost types(s) and amount(s) incurred: _____

[If Yes] Do the production, logistical, and administrative cost savings from the effects (listed in question 3.2) of operating within a U.S. FTZ ("cost savings") outweigh the fixed and/or recurring costs associated with U.S. FTZ compliance, operations, or set-up ("costs of compliance")?

- ☐ No
- ☐ Cost savings slightly outweigh costs of compliance
- ☐ Cost savings moderately outweigh costs of compliance
- ☐ Cost savings largely outweigh costs of compliance

3.4 Please provide the value of duties paid by your firm and estimated duty savings on merchandise that entered into U.S. Customs or was exported from your firm's U.S. FTZ production operations. (If duty savings are challenging to estimate, please provide estimates for 2021 at minimum). Do not include additional duties (e.g., 301, 232, 201, or antidumping duties and/or countervailing duties (AD/CVD)):

Item	2016	2017	2018	2019	2020	2021
	Value (dollars)					
Duties paid on <u>privileged foreign status merchandise</u> entered into U.S. Customs						
Duties paid on <u>non-privileged foreign status merchandise</u> entered into U.S. Customs						
Estimate of duty savings on U.S. Customs entries as a result of your firm's use of FTZs (i.e., through <u>duty reductions</u> on entries of <u>non-privileged foreign status goods</u>)						
Estimate of duty savings on exports as a result of your firm's use of FTZs (i.e., through <u>duty exemptions</u> on exports that did not make U.S. <u>Customs entry</u>)						

Foreign Trade Zones

3.5 Please provide the U.S. Customs duties paid by your firm on goods produced in its U.S. FTZ production operations and exported to Canada and Mexico, including (1) U.S. Customs duties paid on material inputs prior to admission into the FTZ; and (2) U.S. Customs duties paid on foreign status merchandise that made entry for export to Canada and Mexico. Do not include additional duties (e.g., 301, 232, 201, or antidumping duties and/or countervailing duties (AD/CVD)):

Item	2016	2017	2018	2019	2020	2021
	Value (dollars)					
Duties paid on goods exported to Canada and Mexico						

3.6 For production operations within U.S. FTZs, indicate whether your firm's use of U.S. FTZs affected your firm's direct investment in the United States, employment, and/or manufacturing output and, if it did, whether FTZ use was a primary or minor factor. (A "primary factor" could refer to one of several major factors impacting the trend indicated.)

Firm activity	FTZ use was a <u>primary</u> factor causing <u>increase</u>	FTZ use was a <u>minor</u> factor causing <u>increase</u>	FTZ use <u>did not affect</u> firm's decisions	FTZ use was a <u>minor</u> factor causing <u>decrease</u>	FTZ use was a <u>primary</u> factor causing <u>decrease</u>
<u>Inward foreign direct investment</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Domestic direct investment</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Firm's U.S. employment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manufacturing output	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.7 For non-production operations within U.S. FTZs, indicate whether your firm's use of FTZs affected your firm's direct investment in the United States, and/or employment and, if it did, whether FTZ use was a primary or minor factor. (A "primary factor" could refer to one of several major factors impacting the trend indicated.)

Firm activity	FTZ use was a <u>primary</u> factor causing <u>increase</u>	FTZ use was a <u>minor</u> factor causing <u>increase</u>	FTZ use <u>did not affect</u> firm's decisions	FTZ use was a <u>minor</u> factor causing <u>decrease</u>	FTZ use was a <u>primary</u> factor causing <u>decrease</u>
<u>Inward foreign direct investment</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Domestic direct investment</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Firm's U.S. employment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.8 Has your firm's ability to use U.S. FTZs improved its production capabilities? (Production capability improvements include enhancements to the quality, product range, level of innovation, or technological sophistication of the merchandise produced within a manufacturing operation, or improvements to the efficiency of production operations.)

- ☐ Yes
- ☐ No

[If yes] Please describe how FTZ use has improved your firm's production capabilities:

3.9 Has your firm's ability to use U.S. FTZs improved its logistical capabilities? (Logistical capability improvements include enhancements to the efficiency, speed, or effectiveness of processes designed to ensure that necessary material inputs and services are available for production as needed, as well as the efficient and effective movement of products to downstream customers or other users.)

- ☐ Yes.
- ☐ No

[If yes] Please describe how FTZ use has improved your firm's logistical capabilities:

3.10 **U.S. FTZ effects on material sourcing:** Does production in a U.S. FTZ impact your firm's reliance on inputs from the United States or other countries?

Source of material inputs	U.S. FTZ use leads to less reliance on source	U.S. FTZ use does not affect reliance on source	U.S. FTZ use leads to greater reliance on source
U.S. domestic suppliers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suppliers in Canada	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suppliers in Mexico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suppliers in other countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.11 Does your firm have non-FTZ operations in the United States that produce the same products as those within U.S. FTZs?

- ☐ Yes
- ☐ No

[If "Yes"] Why doesn't your firm use the U.S. FTZ exclusively to produce these products?

SECTION 4. U.S. FTZ Firm's Operations in Canada and Mexico

4.1 Does your firm, including any related firms such as foreign affiliates or subsidiaries, have production operations in countries outside the United States? (Select all that apply)

- ☐ Yes, Canada
- ☐ Yes, Mexico
- ☐ Yes, Other
- ☐ No

4.2 [If operating in Canada] Are your firm's production operations in Canada within the same sector as your firm's U.S. FTZ production operations?

- ☐ Yes
- ☐ No

Please identify sector: Multichoice selection

- ☐ Aircraft/Defense
- ☐ Appliances
- ☐ Auto Parts
- ☐ Carbon Fiber
- ☐ Chemicals
- ☐ Construction Equipment
- ☐ Consumer Electronics and Related Products
- ☐ Cosmetics/Fragrances/Flavorings
- ☐ Food Products/Supplements
- ☐ Industrial/Machinery Equipment
- ☐ Liquefied Natural Gas
- ☐ Medical Supplies and Devices
- ☐ Metals and Minerals
- ☐ Miscellaneous
- ☐ Oil Drilling Equipment
- ☐ Oil Refineries/Petrochemical Facilities
- ☐ Other Consumer Products
- ☐ Other Electronics/Telecommunications
- ☐ Other Energy
- ☐ Pharmaceutical
- ☐ Printers/Copiers and their Supplies
- ☐ Semiconductors
- ☐ Shipyards
- ☐ Silicones/Polysilicon
- ☐ Steel
- ☐ Textiles/Footwear
- ☐ Vehicles

4.3 [If operating in Canada] Does your firm, including any related firms such as foreign affiliates or subsidiaries, participate in any of the following Canadian programs? (Select all that apply).

Duties Deferral Program, please select all applicable:

- ☐ Duty Relief Program
- ☐ Duty Drawback Program
- ☐ Customs Bonded Warehouse Program
- ☐ Export Distribution Center Program
- ☐ Exporters of Processing Services Program
- ☐ Other Canadian government programs that provide customs duty benefits
- ☐ My firm does not participate in any Canadian program listed above

[If "Other Canadian government programs..."] Please list other Canadian government programs: _____

4.4 [If participating in Canadian FTZ-type program] Was the opportunity to participate in these Canadian FTZ-type programs a factor in your decision to set up operations in Canada?

- ☐ Yes
- ☐ No

Please explain: _____

4.5 [If participating in Canadian FTZ-type program] Has your firm been able to realize production cost savings as a result of participation in each Canadian FTZ-type program? [only FTZ-type programs selected in question 4.3 will appear]

Canadian FTZ-type program	Yes, realized production cost savings as a result of participation
Duty Relief Program	<input type="checkbox"/>
Duty Drawback Program	<input type="checkbox"/>
Customs Bonded Warehouse Program	<input type="checkbox"/>
Export Distribution Center Program	<input type="checkbox"/>
Exporters of Processing Services Program	<input type="checkbox"/>

If your firm has been unable to realize production cost savings as a result of participation in a Canadian FTZ-type program, please explain: _____

Foreign Trade Zones

4.6 [If yes to any in question 4.5] How do your firm's production cost savings associated with participation in U.S. FTZs compare with cost savings from participation in Canadian FTZ-type programs?

Savings	Lower savings than Canadian FTZ-type programs	Equal savings	More savings than Canadian FTZ-type programs	Do not know or cannot evaluate
Duty savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Production cost savings other than duty savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Labor cost savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Logistical and administrative cost savings</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.7 [If operating in Mexico] Are your firm's production operations in Mexico within the same sector as your firm's U.S. FTZ production operations?

- ☐ Yes
- ☐ No

Please identify sector: Multichoice selection

- ☐ Aircraft/Defense
- ☐ Appliances
- ☐ Auto Parts
- ☐ Carbon Fiber
- ☐ Chemicals
- ☐ Construction Equipment
- ☐ Consumer Electronics and Related Products
- ☐ Cosmetics/Fragrances/Flavorings
- ☐ Food Products/Supplements
- ☐ Industrial/Machinery Equipment
- ☐ Liquefied Natural Gas
- ☐ Medical Supplies and Devices
- ☐ Metals and Minerals
- ☐ Miscellaneous
- ☐ Oil Drilling Equipment
- ☐ Oil Refineries/Petrochemical Facilities
- ☐ Other Consumer Products
- ☐ Other Electronics/Telecommunications
- ☐ Other Energy
- ☐ Pharmaceutical
- ☐ Printers/Copiers and their Supplies

- ☐ Semiconductors
- ☐ Shipyards
- ☐ Silicones/Polysilicon
- ☐ Steel
- ☐ Textiles/Footwear
- ☐ Vehicles

4.8 [If operating in Mexico] Does your firm, including any related firms such as foreign affiliates or subsidiaries, participate in any of the following Mexican programs?

- ☐ IMMEX (Industria Manufacturera, Maquiladora y de Servicios de Exportación, or Manufacturing, Maquila and Export Services Industries Program)
- ☐ PROSEC (Programa de Promoción Sectorial, or Sectorial Promotion Program)
- ☐ Rule 8 (Regla Octava)
 - Comprehensive certification scheme (please select all applicable)
 - ☐ Value Added Tax (VAT)/Special Tax on Production and Services (IEPS) Certification
 - ☐ OEA (Operadores Económicos Autorizados, or Authorized Economic Operators, previously NEEC)
 - Special Customs Regime, please select all applicable
 - ☐ Automotive Fiscal Deposit (Depósito Fiscal para la Industria Automotriz)
 - ☐ Recinto Fiscal
 - ☐ Recinto Fiscalizado Estratégico
- ☐ Other Mexican government programs that provide customs duty benefits
- ☐ My firm does not participate in any Mexican program listed above

[If "Other Mexican government programs..."] Please list other Mexican government programs: _____

4.9 [If participating in Mexican FTZ-type program] Was the opportunity to participate in these Mexican FTZ-type programs a factor in your decision to set up operations in Mexico?

- ☐ Yes
- ☐ No

Please explain: _____

Foreign Trade Zones

- 4.10 [If participating in Mexican FTZ-type program] Has your firm been able to realize production cost savings as a result of participation in each Mexican FTZ-type program? [only FTZ-type programs selected in question 4.8 will appear]

Mexican FTZ-type program	Yes, realized production cost savings as a result of participation
IMMEX (Industria Manufacturera, Maquiladora y de Servicios de Exportación, or Manufacturing, Maquila and Export Services Industries Program)	<input type="checkbox"/>
PROSEC (Programa de Promoción Sectorial, or Sectorial Promotion Program)	<input type="checkbox"/>
Rule 8 (Regla Octava)	<input type="checkbox"/>
Value Added Tax (VAT)/Special Tax on Production and Services (IEPS) Certification	<input type="checkbox"/>
OEA (Operadores Económicos Autorizados, or Authorized Economic Operators, previously NEEC)	<input type="checkbox"/>
Automotive Fiscal Deposit (Depósito Fiscal para la Industria Automotriz)	<input type="checkbox"/>
Recinto Fiscal	<input type="checkbox"/>
Recinto Fiscalizado Estratégico	<input type="checkbox"/>

If your firm has been unable to realize production cost savings as a result of participation in a Mexican FTZ-type program, please explain: _____

- 4.11 [If participating in Mexican FTZ-type program] How do your firm's cost savings associated with participation in U.S. FTZs compare with cost savings from participation in Mexican FTZ-type programs?

Savings	Lower savings than Mexican FTZ-type programs	Equal savings	More savings than Mexican FTZ-type programs	Do not know or cannot evaluate
Duty savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Production cost savings other than duty savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Labor cost savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Logistical and administrative cost savings</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SECTION 5. Competition with Other North American Firms

5.1 How familiar are you with the operations of your firm's competitors with facilities based in Canada or Mexico (i.e., producers of similar products that compete in similar markets)?

Competitor type	Very familiar with operations, including <u>production costs</u> and/or details of operations	Somewhat familiar with operations, although not aware of <u>production costs</u> or other details of operations	Aware of competitors' existence, but not familiar with their operations	Not aware of the existence of competitors in this country
Canadian competitors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mexican competitors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.2 How do your firm's overall production costs in U.S. FTZs compare with those of your firm's competitors in different countries?

Competitor type	My firm has lower production costs	My firm has similar production costs	My firm has higher production costs	Do not know or cannot evaluate
U.S. domestic competitors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Canadian competitors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mexican competitors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other foreign competitors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.3 Do you think your firm's competitors producing in Canada operate in FTZ-type programs in Canada?

- ☐ Yes
- ☐ No
- ☐ Unsure or no knowledge of competitors

[If Yes] Do you think the competitors' utilization of an FTZ-type program in Canada has improved those firms'?

Effect	Yes	No	Do not know or cannot evaluate
Relative competitiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Production costs</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Foreign Trade Zones

5.4 Do you think your firm's competitors producing in Mexico operate in FTZ-type programs in Mexico?

- ☐ Yes
- ☐ No
- ☐ Unsure or no knowledge of competitors

[If Yes] Do you think the competitors' utilization of an FTZ-type program in Mexico has improved those firms':

Effect	Yes	No	Do not know or cannot evaluate
Relative competitiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Production costs</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.5 Under U.S. law (19 U.S.C. § 4531(c)(3)), certain goods produced in U.S. FTZs are not eligible for preferential treatment under USMCA when they make U.S. Customs entry. ***For sales that make U.S. Customs entry***, to what extent does this provision affect your firm's costs relative to goods produced by the following competitor types?

Competitor type	Provision reduces my firm's costs relative to competitors	No effect on relative costs	Provision increases my firm's costs relative to competitors	Do not know or cannot evaluate
U.S. producers (not operating in U.S. FTZs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Canadian producers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mexican producers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other foreign producers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.6 Products manufactured in a U.S. FTZ and then exported to Canada or Mexico are required to make U.S. Customs entry as a condition for exportation to a USMCA partner (USMCA, Article 2.5). In other words, U.S. FTZ producers' manufactured goods exported to Canada or Mexico are not exempt from applicable duties on foreign status inputs, which is a difference from FTZ exports to most other global markets. ***For sales within Canada and Mexico***, to what extent does this provision affect your firm's cost competitiveness relative to goods sold in Canada and Mexico?

Competitor type	Provision reduces my firm's costs relative to competitors	No effect on relative costs	Provision increases my firm's costs relative to competitors	Do not know or cannot evaluate
U.S. producers (not operating in U.S. FTZs) (sales in Canada or Mexico)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Canadian producers (sales in Canada or Mexico)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mexican producers (sales in Canada or Mexico)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other foreign producers (sales in Canada or Mexico)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.7 If the USMCA Customs entry requirement (see question 5.6) for U.S. exports to Canada and Mexico did not exist, what would be the effect on your firm's operations?

Effect on operations	Decrease	No change	Increase	Do not know or cannot evaluate
Overall duty costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shipments to the U.S. market	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exports to Canada	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exports to Mexico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employment in the United States	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investment in the United States	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investment in Canada	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investment in Mexico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sourcing of <u>domestic status inputs</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sourcing of other North American inputs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sourcing of other foreign inputs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you stated above that your firm would experience a decrease in overall duty costs as a result of the removal of the USMCA provision (USMCA, Article 2.5), please estimate the value of duty savings (in dollars) that you would have saved in 2021 without the rule in place: \$ _____

Foreign Trade Zones

If you identified any effect(s) on your firm's operations from the removal of the USMCA Customs entry requirement for U.S. exports to Canada and Mexico, please further describe why this effect would occur: _____

5.8 Do your competitors in Canada and/or Mexico use de minimis Customs entry as a way to access the U.S. market?

- ☐ Yes
- ☐ No
- ☐ Unsure

[If yes] How does this impact your firm's cost competitiveness of U.S. FTZ warehousing and distribution operations?

Competitor type	Provision reduces competitors' costs relative to my firm	No effect on relative costs	Provision increases competitors' costs relative to my firm	Do not know or cannot evaluate
U.S. distributors (not operating in U.S. FTZs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Canadian distributors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mexican distributors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other foreign distributors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you noted an effect of de minimis rules above, please further describe this effect on your FTZ or FTZ-type operations. _____

5.9 Based on your perceptions of the U.S. FTZ program and [FTZ-type programs](#) in Canada, please indicate whether the U.S. or Canadian programs offer greater advantages to producers based on the following factors:

Factor	U.S. FTZ program offers greater advantages	U.S. and Canadian programs are similar	Canadian FTZ-type programs offer greater advantages	Do not know or cannot evaluate
Duty savings (e.g., through duty reduction on entries, duty exception on exports)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Duty deferral	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tax savings (e.g., local taxes, inventory taxes, value added taxes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Labor cost savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Customs fees savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FTZ compliance or setup costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Streamlining of customs procedures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Limitations on how long goods can stay in duty-deferred warehouses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quota timing management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geographic restrictions of program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to use preferential tariff treatment for FTZ/FTZ-type entries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you stated that the Canadian [FTZ-type programs](#) offer greater **duty savings** advantages relative to those of the United States, please identify why that is the case (check all that apply):

- ☐ Duty savings advantages are greater under the Canadian programs because the MFN tariffs for material inputs are lower and/or duty-free.
- ☐ Duty savings advantages are greater under the Canadian programs because of an aspect of the Canadian programs. Please describe this aspect of the Canadian programs that creates duty savings advantages: _____
- ☐ Duty savings advantages are greater under the Canadian programs because of some other factor not attributable to an aspect of the Canadian programs (please describe that other factor): _____

In addition to those factors listed above, please identify and describe any other advantages that either the U.S. FTZ program or the Canadian [FTZ-type program](#) has relative to the other:

5.10 Based on your perceptions of the U.S. FTZ program and [FTZ-type programs](#) in Mexico, please identify whether the U.S. or Mexican programs offer greater advantages to producers based on the following factors:

Factor	U.S. FTZ program offers greater advantages	U.S. and Mexican programs are similar	Mexican FTZ-type programs offer greater advantages	Do not know or cannot evaluate
Duty savings (e.g., through duty reduction on entries, duty exception on exports)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Duty deferral	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tax savings (e.g., local taxes, inventory taxes, value added taxes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Labor cost savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Customs fees savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FTZ compliance or setup costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Streamlining of customs procedures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Limitations on how long goods can stay in duty-deferred warehouses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quota timing management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geographic restrictions of program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to use preferential tariff treatment for FTZ/FTZ-type entries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you stated that the Mexican [FTZ-type programs](#) offer greater **duty savings** advantages relative to those of the United States, please identify why that is the case (check all that apply):

- ☐ Duty savings advantages are greater under the Mexican programs because the MFN tariffs for material inputs are lower and/or duty-free.
- ☐ Duty savings advantages are greater under the Mexican programs because Mexican producers are able to access lower tariffs under the PROSEC or Rule 8 programs.
- ☐ Duty savings advantages are greater under the Mexican programs because of an aspect of the Mexican programs. Please describe this aspect of the Mexican programs that creates duty savings advantages: _____
- ☐ Duty savings advantages are greater under the Mexican programs because of some other factor not attributable to an aspect of the Mexican programs (please describe that other factor): _____

In addition to those factors listed above, please identify and describe any other advantages that either the U.S. FTZ program or the Mexican [FTZ-type program](#) has relative to the other:

SECTION 6. Other Information [NARRATIVE RESPONSE PROMPT]

- 6.1 If your business would like to further explain any of the responses in this questionnaire, use the space below. As with all answers to this questionnaire, your response will be confidential and will only be referenced if we can ensure anonymity.

NOT FOR SUBMISSION

SECTION 7. Certification

The undersigned certifies that the information supplied herein in response to this questionnaire is complete and accurate to the best of their knowledge and belief. Section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) provides that the Commission may not release information which it considers to be confidential business information unless the party submitting such information had notice, at the time of submission, that such information would be released by the Commission, or such party subsequently consents to the release of the information.

The undersigned acknowledges that all information, including confidential business information, submitted in this questionnaire response and throughout this investigation may be disclosed to and used:

- (i) by the Commission, its employees and Offices, and contract personnel
 - (a) for developing or maintaining the records of this or a related proceeding, or
 - (b) in internal investigations, audits, reviews, and evaluations relating to the programs, personnel, and operations of the Commission including under 5 U.S.C. Appendix 3; or
- (ii) by U.S. government employees and contract personnel
 - (a) for cybersecurity purposes or
 - (b) in monitoring user activity on U.S. government classified networks.

The undersigned understands that all contract personnel will sign appropriate nondisclosure agreements. The Commission will not disclose any confidential business information, unless such information is otherwise available to the public. The United States Trade Representative has asked that the Commission not include any confidential business information in the report it transmits to them. Information received in response to this questionnaire will be aggregated with information from other questionnaire responses. The information will not be published in a manner that would identify your firm or reveal the operations of your business.

Certifier's name and title	Date of certification

Check the box below in place of a written signature to indicate that the authorized official listed above has certified the information provided.

☐ Certified

Before submitting your business's completed questionnaire, report the actual number of hours required and the cost to your business of completing this questionnaire, including all preparatory activities.

Number of hours: _____

Cost (\$): _____

Appendix F

Description of the Commission's Survey Methodology

Survey Methods

The U.S. Trade Representative (USTR) requested that the Commission investigate and prepare a report that describes the operation of U.S. foreign-trade zones (FTZs) and similar programs in Canada and Mexico, and whether and how policies and practices with respect to those respective FTZs and programs impact employment and the competitiveness of goods produced in FTZs in the United States. If deemed necessary, the Commission’s investigation was to use a survey of U.S. firms participating in U.S. FTZs. The Commission developed a questionnaire to collect information on the operations of firms granted production authority in U.S. FTZs, focusing on those that had active production operations in U.S. FTZs from January 1, 2016, through December 31, 2021. The Commission conducted field and cognitive testing of its questionnaire with companies in May and June 2022. The Commission submitted its questionnaire to the U.S. Office of Management and Budget (OMB) for approval in July 2022. After receiving the OMB approval in September 2022, the Commission sent the questionnaire to 330 firms.

Data collection for this investigation consisted of three major steps. First, the Commission identified firms relevant to the investigation. Second, due to the size of the population, it decided to conduct a census survey (census) of firms, rather than selecting a sample, and sent questionnaires to all firms identified (box F.1). Finally, the Commission combined individual responses to produce statistically representative estimates of firms with active production in U.S. FTZs.

Box F.1 Census Survey versus Sample Survey

A census survey (often referred to as a “census”) is a data collection where data are gathered from all units in the population of interest. A sample survey (often referred to as a “survey”) is a data collection where data are gathered from a statistically representative subset of the population of interest. Weights are added to the sample survey responses in order to make inferences about the overall population.^a For both census surveys and sample surveys, statisticians make adjustments when the overall response rate is not 100 percent.

The collection of data on all units of a population may not be possible or practical in all situations because of limitations on time or cost. Data collection on a subset of a population followed by the application of appropriate statistical methodologies can allow for sufficient estimates of characteristics of the overall population. One advantage of conducting a census is that it allows for statistics on the entire population and subgroups to be derived without being subject to sampling error or sample selection bias (although, like sample surveys, census surveys can be subject to other types of bias such as nonresponse bias).^b

In Commission reports, the term “survey results” is used when referencing estimates resulting from the entire survey process, including sampling and any adjustments (e.g., added weights, nonresponse adjustments) made after data collection. The term “questionnaire response” is used when referring to individual questionnaire responses without making any adjustments. A questionnaire response references primarily the use of narrative responses.

^a Australian Bureau of Statistics, *Samples and Censuses*.

^b USDA, *Census vs. Survey: What’s the Difference?*

Population

The first step in the survey process was to generate a comprehensive list of firms that had production authority in U.S. FTZs between January 1, 2016, and December 31, 2021 (the period of the investigation). The Commission collected information at the parent company level rather than at the FTZ level to gain insight into a company's experiences with FTZ-type programs in Mexico or Canada, and its experiences with provisions of the United States-Mexico-Canada Agreement. The parent company or the firm's U.S. headquarters would be better equipped than the individual FTZ operators to answer such survey questions.

Two primary sources were used to compile this list: (1) the International Trade Administration (ITA) list of firms with production authority in U.S. FTZs;⁸⁰⁶ and (2) the ITA's 77th through the 83rd iterations of its *Annual Report of the Foreign-Trade Zones Board to the Congress of the United States*.⁸⁰⁷ The ITA reports were used to pinpoint (or identify) those firms with production authority and operations at any time during the period of investigation. The Commission combined the narrower list of companies from the reports with a list containing multiple instances of firms operating in more than one U.S. FTZ into one singular company record. The final list of 330 firms were those that had production authority during 2016–21.

The population of most relevance to the questionnaire were companies that used their production authority for manufacturing operations in U.S. FTZs during the period of interest. The FTZ Board, the authoritative body governing U.S. FTZs, for its annual report collects data from zone operators if those operators admitted foreign status merchandise into their operations in the previous calendar year. These companies with production authority may not have had any active production activity. Because some firms admit foreign status merchandise without simultaneous production activity, the Commission granted response exemptions for those firms. Such firms had production authority but had not conducted manufacturing using foreign status inputs in a U.S. FTZ at any point during the period of investigation.

Response Rates

The identified firms received an initial physical mailing informing them about the investigation and the questionnaire, followed by an email containing instructions for completing the questionnaire, which was due within 30 days. The Commission hosted a webinar about the questionnaire on September 21, 2022, which included a brief presentation followed by a question-and-answer session. These questions and responses were documented and sent to the entire population of 330 firms so that all potential respondents received the same information.

The overall response rate for the data collection was 71.9 percent. This response rate incorporates all the adjustments that were made to the population of firms. Such adjustments included removing firms that did not have production activity during the period, were no longer in business, or were otherwise exempt. Of the 330 firms mailed a questionnaire, 5 firms did not have production authority during the

⁸⁰⁶ FTZ Board, FTZ Production Approvals by Industry, accessed May 2022.

⁸⁰⁷ FTZ Board, *Annual Report of the Foreign-Trade Zones Board to the Congress of the United States*, accessed August 2022.

period of investigation. Another 40 firms were exempted from responding because they did not use their production authority during the period of investigation. Some of these firms had only recently received production authority and had not yet set up operations, while others had stopped or never started production operations because of other factors such as changes in the industry or pricing obstacles.⁸⁰⁸ After all adjustments were made, 285 firms remained in the population and 205 responded to the questionnaire.

Weighting Adjustment and Response Analysis

The Commission reviewed questionnaire responses to ensure that respondents had properly reported all data. If data were missing or appeared inconsistent, respondents were contacted to obtain or correct data. The Commission then aggregated the responses from individual firms. Because the response rate for the questionnaire was below 90 percent, an adjustment was needed for the data to be representative of the entire population of firms utilizing their production authority in U.S. FTZs.

A nonresponse adjustment factor was determined to account for firms that did not respond to the questionnaire using a traditional weighting class adjustment.⁸⁰⁹ Traditional weighting class adjustments assume that sample units can be partitioned into homogenous cells, or weighting classes. These cells are formed using observable characteristics of respondents and nonrespondents that are thought to be correlated with survey responses. The weights for respondents are inflated by the inverse of the response rate within each cell. A weight of zero is given to each nonrespondent. Given this weight adjustment, the summation of the nonresponse-adjusted weights is the same as the summation of the original population. This method preserves cell counts as well as population counts.

With the information gathered from the respondents to the questionnaire and information available for all members in the population, the Commission was able to perform tests to determine if specific firm characteristics were associated with the likelihood to respond. To test the correlation of a characteristic with propensity to respond, that characteristic must be known for each member in the population. This requirement limits the available characteristics on which to perform a test. If the correlation test indicated that a certain characteristic of the firm is associated with propensity to respond, that characteristic was used in the weighting class adjustment.

In this investigation, known characteristics for each member of the population included sector, size of firm based on usage of U.S. FTZs, active year, and single or multiple FTZ production locations. First, the sector was determined by identifying broad industry categories based on ITA-defined industries. Each industry category was further grouped into sectors (table F.1) and each firm was then allocated to a sector determined by the product(s) it was authorized to produce in a U.S. FTZ.⁸¹⁰

Next, firm-level admissions (i.e., values of merchandise received) were used to calculate the size of the firm based on usage of U.S. FTZs. First, the value of merchandise received into FTZs (as reported as ranges in the FTZ Board reports) was averaged over the period of investigation for each firm. Then, by sector, this data point, or characteristic, was placed into a size category of small, medium, or large. Size

⁸⁰⁸ Industry representatives, interviews by USITC staff, September 7, 8, 16, 20, 21 and October 3, 4, 6, 7 and 17, 2023.

⁸⁰⁹ Hansen et al, *Sample Survey Methods and Theory, Vol II*, accessed November 2022.

⁸¹⁰ This is authorized in the *Federal Register* notice granting production authority.

category cutoffs were determined by finding natural break points in the value of average admissions of firms in each sector where there was also at least one response. For example, the agriculture and food products sector had little variation in its firms' values of average admissions and had a relatively low response rate compared to other sectors. Therefore, all firms in the agriculture and food products sector were placed into one size category (table F.2).

Finally, the Commission determined whether the firm operated in a single FTZ or in multiple FTZs based on FTZ Board reports for 2016 through 2021, and, whether or not that firm had operations (i.e., was using its production authority) during the final year of the period of investigation based on the FTZ Board's 2021 report.

Table F.1 Concordance between industry and broad sector groupings defined by the International Trade Administration (ITA)

Industry as defined by ITA	Sector
Aircraft/defense	Other transportation
Appliances	Nonelectrical machinery
Auto parts	Auto parts
Carbon fiber	Miscellaneous
Chemicals	Chemicals
Construction equipment	Nonelectrical machinery
Consumer electronics and related products	Electronics
Cosmetics/fragrances/flavorings	Chemicals
Food products/supplements	Agriculture and food products
Industrial/machinery equipment	Nonelectrical machinery
Liquified natural gas	Fuels
Medical supplies and devices	Miscellaneous
Metals and minerals	Minerals and metals
Miscellaneous	Miscellaneous
Oil drilling equipment	Nonelectrical machinery
Oil refineries/petrochemical facilities	Fuels
Other consumer products	Miscellaneous
Other electronics/telecommunications	Electronics
Other energy	Nonelectrical machinery
Pharmaceutical	Pharmaceutical
Printers/copiers and their supplies	Electronics
Semiconductors	Electronics
Shipyards	Other transportation
Silicones/polysilicon	Chemicals
Steel	Minerals and metals
Textiles/footwear	Textiles
Vehicles	Vehicles

Source: Compiled by USITC; USDOC, ITA, "Production by Industry," accessed August 2022.

Table F.2 Cutoffs for grouping firms into size of admissions categories of U.S. FTZ usage, by sector

In dollar ranges. — (em dash) = not applicable. M = millions of dollars, B = billions of dollars.

Sector	Low admissions	Medium admissions	High admissions
Agriculture and food products	0 to \$500M	—	—
Chemicals	0 to \$10M	\$10M to \$500M	\$500M+
Electronics	0 to \$100M	\$100M to \$1B	\$1B+
Fuels	0 to \$100M	\$100M to \$7.5B	\$7.5B+
Minerals and metals	0 to \$100M	\$100M to \$1B	\$1B+
Miscellaneous	0 to \$100M	\$100M to \$1B	\$1B+
Nonelectrical machinery	0 to \$100M	\$100M to \$1B	\$1B+
Other transportation	0 to \$100M	\$100M to \$1B	\$1B+
Pharmaceutical	0 to \$100M	\$100M to \$1B	\$1B+
Textiles	0 to \$100M	\$100M+	—
Vehicles	0 to \$100M	\$100M to \$1B	\$1B+
Auto parts	0 to \$100M	\$100M to \$1B	\$1B+

Source: Compiled by USITC.

Note: For size categories "to" is not inclusive, e.g., 0 to \$10M means up to, but not including, \$10M.

The probability of survey participation was estimated in a logistic regression of responses on the aforementioned available characteristics. Table F.3 shows that two of these variables, current active engagement in production operations and high admissions, as well as three sectors—chemicals, fuels, and minerals and metals—had a statistically significant effect on response rate. For example, firms that are currently active had response rates 16.1 percent higher than those that were not actively producing in a U.S. FTZ in 2021.

In accordance with standard econometric techniques, among categorical explanatory variables, one category is omitted to avoid perfect collinearity with the constant term. In this case, among level of admissions, the category of low admissions was omitted. Similarly, among sectors, the nonelectrical machinery sector was omitted. Therefore, the results in table F.3 for admissions and sectors are relative to the omitted category. For example, firms with high admissions over the period had response rates 14.9 percent higher than those with low admissions and firms in the chemicals sector had a response rate that was 28.5 percent higher than firms in the nonelectrical machinery sector.

Table F.3 Determinants of survey participation logistic regression results

^ = relative to the omitted category "Low admissions"; ^^ = relative to the omitted category "Nonelectrical machinery"; *** = significant at 1 percent level, ** = significant at 5 percent level, * = significant at 10 percent level; — (em dash) = not applicable.

Firm characteristic	Logistic regression coefficient	Logistic regression standard error	Marginal effects coefficient	Marginal effects standard error
Operates in multiple FTZ locations	-0.345	0.331	-0.063	0.019
Currently active	0.887***	0.302	0.161***	0.050
High admissions^	0.821*	0.484	0.149*	0.046
Medium admissions^	-0.100	0.335	-0.018	0.006
Agriculture and food products^^	-0.457	0.863	0.083	0.026
Chemicals^^	1.573**	0.726	0.285**	0.089
Electronics^^	0.416	0.521	0.075	0.023
Fuels^^	1.274*	0.727	0.231*	0.072
Minerals and metals^^	1.779**	0.725	0.323**	0.100
Miscellaneous^^	0.512	0.496	0.093	0.029
Other transportation^^	0.877	0.577	0.159	0.049
Pharmaceutical^^	0.836	0.565	0.152	0.047
Textiles^^	0.841	0.768	0.153	0.047
Vehicles and parts^^	0.676	0.474	0.123	0.038
Constant	0.576	0.368	—	—

Source: Compiled by USITC.

Respondents were grouped into strata based on the industries and size categories presented in table F.2, along with currently active status, which was found to be a statistically significant determinant of response in table F.3. Because some sectors did not have firms in all strata for a variety of reasons, the total number of weighting classes was 56. A nonresponse adjustment factor for each of the 56 weighting classes was determined by the inverse of the response rate for each class, and then the stratum's nonresponse adjustment factor was applied to each responding firm in the stratum.⁸¹¹ Nonresponse adjustment factors for the 56 strata ranged from 1 to 5, with an overall average nonresponse adjustment factor of 1.39. The average nonresponse adjustment factors by sector are shown in table F.4.

⁸¹¹ Federal Reserve Board, *Alternative Methods of Unit Nonresponse Weighting Adjustments*, accessed November 2022.

Table F.4 Average nonresponse adjustment factors, by sector

Sector	Nonresponse adjustment factor
Agriculture and food products	2.33
Chemicals	1.19
Electronics	1.50
Fuels	1.17
Minerals and metals	1.15
Miscellaneous	1.48
Nonelectrical machinery	1.72
Other transportation	1.33
Pharmaceutical	1.27
Textiles	1.38
Vehicles and parts	1.37
All sectors	1.39

Source: Compiled by USITC.

A poststratification adjustment was considered but determined to be unfitting for this investigation due to the lack of available information. The FTZ Board publishes firm-level information (such as merchandise received, exports, and total shipments) in ranges and not in exact values. Additionally, global totals for some metrics are available in the FTZ Board reports, such as total admissions and total shipments, but the Commission’s survey’s target population is a subset of the FTZ Board report’s population. The Commission ensured, however, that the weighted estimates from its survey did not exceed those included in the FTZ Board reports.

Disclosure Review

A comprehensive disclosure review was conducted for all survey results presented in the report or appendix tables. The USTR’s request letter directed that the Commission not include any confidential business information (CBI) in its report. Additionally, the Commission has designated the information provided in response to the questionnaire as CBI unless such information is otherwise available to the public. Therefore, the Commission is obligated to withhold any data that would reveal a firm’s information or allow it to be closely estimated by the public. Cell suppression was used to protect the data that were determined to be sensitive to a disclosure of information. Value data such as admissions, and shipments were determined to be sensitive and were subject to disclosure controls.

Based on agency standards, data cells were determined to be sensitive to a disclosure of information if they failed either of two rules – the threshold rule or the dominance rule. The threshold rule failed if the data cell contained less than three firms. For example, if only one firm experienced duty savings due to U.S. FTZ use in the pharmaceuticals sector, the Commission could not publish the sector total for duties saved without disclosing that firm’s information. The dominance rule was violated if the distribution of the data within the cell allowed a data user to estimate any respondent’s data too closely. For example, if there were many firms producing vehicles and some of them were large enough to dominate the cell total, the Commission could not publish the total for the vehicles sector without risking disclosing an individual respondent’s data. Any data violating the threshold rule or the dominance rule were suppressed and “d.s.” was placed in the cell in the tables.

Caveats

One potential source of data uncertainty arose with firms that had production authority in multiple U.S. FTZs that they used to produce products categorized in different sectors.⁸¹² In these instances, the Commission determined a primary sector for the firm based on the average value of goods admitted into each zone. The sector with the highest average value of admissions became that firm's primary sector. This affected only 19 of the 330 firms initially receiving the questionnaire.

⁸¹² Each firm was assigned only one ITA sector per zone, depending on the product they are approved to produce in that zone by the FTZ Board.

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Appendix G

Additional Survey Data

All Firms

Table G.1 Share of firms producing in U.S. FTZs that also conduct non-production related activities at any point during 2016–21, by sector

In percentages. d.s. = data are suppressed to protect confidentiality; * = low precision estimate.

Sector	Conduct non-production related activities	Do not conduct non-production related activities
Agriculture and food products	100.0	0.0
Chemicals	42.1	57.9
Electronics	53.6	46.4
Fuels	29.4	70.6
Minerals and metals	33.5	66.5
Miscellaneous	50.1	49.9
Nonelectrical machinery	58.7	41.3
Other transportation	22.8	77.2
Pharmaceuticals	45.4	54.6
Textiles	15.8*	84.2
Vehicles and parts	43.2	56.8
All firms	45.3	54.7

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.2.

Table G.2 Share of firms that deactivated or reactivated any U.S. FTZ production operation since January 1, 2016, by sector

In percentages. d.s. = data are suppressed to protect confidentiality; * = low precision estimate.

Sector	Deactivated production	Reactivated production	Deactivated or reactivated production	Did not deactivate or reactivate production
Agriculture and food products	0.0	0.0	0.0	100.0
Chemicals	d.s.	d.s.	10.5	89.5
Electronics	d.s.	d.s.	34.3	65.7
Fuels	d.s.	d.s.	31.0	69.0
Minerals and metals	d.s.	d.s.	28.8	71.2
Miscellaneous	d.s.	d.s.	21.6	78.4
Nonelectrical machinery	d.s.	d.s.	5.3	94.7
Other transportation	d.s.	d.s.	21.5	78.5
Pharmaceuticals	d.s.	d.s.	12.6	87.4
Textiles	d.s.	d.s.	0.0	100.0
Vehicles and parts	d.s.	d.s.	24.4	75.6
All firms	17.6	1.5*	18.7	81.3

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.4.

Note: Shares do not sum to 100. Firms may have both deactivated and reactivated production operations during the period.

Table G.3 Share of firms producing in U.S. FTZs with existing production that is subject to additional requirements/restrictions imposed by the FTZ Board or CBP, by sector

In percentages. d.s. = data are suppressed to protect confidentiality; * = low precision estimate.

Sector	Subject to restrictions	Not subject to restrictions
Agriculture and food products	d.s.	d.s.
Chemicals	21.1*	78.9
Electronics	19.3	80.7
Fuels	36.5	63.5
Minerals and metals	13.8*	86.2
Miscellaneous	14.0	86.0
Nonelectrical machinery	d.s.	d.s.
Other transportation	30.8	69.2
Pharmaceuticals	d.s.	d.s.
Textiles	42.1	57.9
Vehicles and parts	17.4*	82.6
All firms	17.4	82.6

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.5.**Table G.4** Share of firms producing in U.S. FTZs that have plans to expand or reduce their overall U.S. FTZ production in the next 5 years, by sector

In percentages. d.s. = data are suppressed to protect confidentiality; * = low precision estimate.

Sector	Expand	Reduce	Plans to expand or reduce	No plans to expand or reduce
Agriculture and food products	d.s.	d.s.	18.6	81.4
Chemicals	42.1	0.0*	42.1	57.9
Electronics	d.s.	d.s.	27.7	72.3
Fuels	17.5*	0.0*	17.5	82.5
Minerals and metals	14.8*	0.0*	14.8	85.2
Miscellaneous	34.5	7.0*	41.5	58.5
Nonelectrical machinery	39.9	17.2	57.1	42.9
Other transportation	d.s.	d.s.	6.3	93.8
Pharmaceuticals	d.s.	d.s.	32.8	67.2
Textiles	d.s.	d.s.	42.1	57.9
Vehicles and parts	d.s.	d.s.	37.3	62.7
All firms	27.1	6.9	34.1	65.9

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.6.

Table G.5 Number of employees within U.S. FTZ production operations, by sector, 2016–21

In number of employees.

Sector	2016	2017	2018	2019	2020	2021
Chemicals	8,380	8,136	9,655	8,569	8,389	9,169
Electronics	22,809	25,491	21,941	22,872	25,910	28,821
Fuels	83,454	83,971	81,173	86,859	68,053	56,456
Minerals and metals	4,953	4,469	5,322	5,347	5,889	7,364
Miscellaneous	10,121	11,820	12,061	9,206	12,813	13,874
Nonelectrical machinery	45,012	48,222	53,863	61,751	68,163	83,522
Other transportation	24,919	24,646	25,100	25,657	26,240	29,195
Pharmaceuticals	22,161	21,571	22,472	25,325	26,392	27,089
Vehicle and parts	110,368	114,094	118,197	121,830	137,105	126,441
All other sectors	3,751	3,416	3,183	3,538	3,505	3,343
All firms	335,928	345,836	352,967	370,954	382,459	385,274

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.7.

Note: All other sectors include the agriculture and food products sector and the textiles sector. Sectors were combined to avoid data disclosure issues.

Table G.6 Firms' share of total employees within U.S. FTZ production operations, by sector, 2016–21

In percentages.

Sector	2016	2017	2018	2019	2020	2021
Chemicals	2.5	2.4	2.7	2.3	2.2	2.4
Electronics	6.8	7.4	6.2	6.2	6.8	7.5
Fuels	24.8	24.3	23.0	23.4	17.8	14.7
Minerals and metals	1.5	1.3	1.5	1.4	1.5	1.9
Miscellaneous	3.0	3.4	3.4	2.5	3.4	3.6
Nonelectrical machinery	13.4	13.9	15.3	16.6	17.8	21.7
Other transportation	7.4	7.1	7.1	6.9	6.9	7.6
Pharmaceuticals	6.6	6.2	6.4	6.8	6.9	7.0
Vehicle and parts	32.9	33.0	33.5	32.8	35.8	32.8
All other sectors	1.1	1.0	0.9	1.0	0.9	0.9
All firms	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.7.

Note: All other sectors include the agriculture and food products sector and the textiles sector. Sectors were combined to avoid data disclosure issues.

Table G.7 Value of admissions or receipts of merchandise into U.S. FTZs for firms producing in U.S. FTZs, by status, 2016–21

In millions of dollars.

Status	2016	2017	2018	2019	2020	2021
Privileged foreign status	41,259	44,239	50,037	35,099	20,105	26,622
Non-privileged foreign status	59,828	57,171	65,277	62,638	54,552	66,266
Foreign status	101,087	101,410	115,314	97,737	74,657	92,888
Domestic Status	225,018	300,800	381,531	360,373	254,569	379,399
Total admissions or receipts	326,105	402,210	496,845	458,110	329,226	472,287

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

Note: Total admissions do not include admissions of zone restricted status merchandise (ZRS). ZRS accounts for less than 0.5 percent of total admissions in any given year. These survey results comport with our understanding of how and the frequency with which ZRS is used by firm with U.S. FTZ production activity, based on discussions with industry experts.

Foreign Trade Zones

Table G.8 Share of total admissions or receipts of merchandise into U.S. FTZs for firms producing in U.S. FTZs, by status, 2016–21

In millions of dollars.

Status	2016	2017	2018	2019	2020	2021
Privileged foreign status	12.7	11.0	10.1	7.7	6.1	5.6
Non-privileged foreign status	18.3	14.2	13.1	13.7	16.6	14.0
Foreign status	31.0	25.2	23.2	21.3	22.7	19.7
Domestic Status	69.0	74.8	76.8	78.7	77.3	80.3
Total admissions or receipts	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

Note: Total admissions do not include admissions of zone restricted status merchandise (ZRS). ZRS accounts for less than 0.5 percent of total admissions in any given year. These survey results comport with our understanding of how and the frequency with which ZRS is used by firm with U.S. FTZ production activity, based on discussions with industry experts.

Table G.9 Value of admissions or receipts of merchandise into U.S. FTZs for firms producing in U.S. FTZs, by sector, 2016–21

In millions of dollars.

Sector	2016	2017	2018	2019	2020	2021
Chemicals	5,408	4,988	7,858	7,971	6,102	6,396
Electronics	14,444	19,692	23,764	24,890	19,364	28,334
Fuels	212,715	269,195	338,396	287,409	165,357	273,574
Minerals and metals	1,754	1,893	2,174	1,682	1,949	2,729
Miscellaneous	2,605	2,779	3,111	2,308	2,851	4,829
Nonelectrical machinery	7,600	8,148	9,449	12,343	12,774	15,905
Pharmaceuticals	13,028	10,219	14,457	19,555	24,802	26,886
Textiles	165	163	163	213	194	232
Vehicle and parts	60,205	73,778	80,793	86,799	82,277	100,083
All other sectors	8,180	11,354	16,681	14,939	13,556	13,319
All firms	326,105	402,210	496,845	458,110	329,226	472,287

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

Note: All other sectors include the agriculture and food products sector and the other transportation sector. Sectors were combined to avoid data disclosure issues.

Table G.10 Share of total admissions or receipts of merchandise into U.S. FTZs for firms producing in U.S. FTZs, by sector, 2016–21

In percentages.

Sector	2016	2017	2018	2019	2020	2021
Chemicals	1.7	1.2	1.6	1.7	1.9	1.4
Electronics	4.4	4.9	4.8	5.4	5.9	6.0
Fuels	65.2	66.9	68.1	62.7	50.2	57.9
Minerals and metals	0.5	0.5	0.4	0.4	0.6	0.6
Miscellaneous	0.8	0.7	0.6	0.5	0.9	1.0
Nonelectrical machinery	2.3	2.0	1.9	2.7	3.9	3.4
Pharmaceuticals	4.0	2.5	2.9	4.3	7.5	5.7
Textiles	0.1	0.0	0.0	0.0	0.1	0.0
Vehicle and parts	18.5	18.3	16.3	18.9	25.0	21.2
All other sectors	2.5	2.8	3.4	3.3	4.1	2.8
All firms	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

Note: All other sectors include the agriculture and food products sector and the other transportation sector. Sectors were combined to avoid data disclosure issues.

Table G.11 Share and value of domestic status admissions for firms producing in U.S. FTZs, by origin location of materials being admitted and sector

In percentages and millions of dollars. d.s. = data are suppressed to protect confidentiality; * = low precision estimate.

Sector	Foreign origin (%)	Domestic origin (%)	Foreign origin (million \$)	Domestic origin (million \$)
Agriculture and food products	d.s.	d.s.	d.s.	d.s.
Chemicals	50.6*	49.4	2,263	2,210
Electronics	70.0*	30.0*	d.s.	d.s.
Fuels	25.0	75.0	64,473	193,755
Minerals and metals	25.2*	74.8*	d.s.	d.s.
Miscellaneous	62.3	37.7	2,019	1,224
Nonelectrical machinery	45.3	54.7	5,069	6,126
Other transportation	18.6*	81.4*	d.s.	d.s.
Pharmaceuticals	53.6*	46.4*	d.s.	d.s.
Textiles	d.s.	d.s.	d.s.	d.s.
Vehicles and parts	52.6	47.4	41,401	37,372
All firms	34.2	65.8	133,720	257,726

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.9.

Note: The questionnaire asked for firms to report for 2021 or the firm's last full year of production.

Table G.12 Outbound shipments from production operations for firms producing in U.S. FTZs, by shipment type, 2016–21

In millions of dollars and percentages.

Shipment type	2016	2017	2018	2019	2020	2021
U.S. shipments (million \$)	379,833	452,076	477,646	464,279	319,975	471,744
Export shipments (million \$)	76,891	97,277	115,527	135,772	86,393	103,029
Total shipments (million \$)	456,724	549,353	593,173	600,051	406,368	574,774
U.S. shipments (%)	83.2	82.3	80.5	77.4	78.7	82.1
Export shipments (%)	16.8	17.7	19.5	22.6	21.3	17.9
Total shipments (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.10.

Table G.13 Outbound shipments from non-production operations for firms producing in U.S. FTZs, by shipment type, 2016–21

In millions of dollars and percentages.

Shipment type	2016	2017	2018	2019	2020	2021
U.S. shipments (million \$)	68,038	36,740	53,977	50,360	53,792	63,645
Export shipments (million \$)	1,043	1,645	2,138	2,277	2,604	3,730
Total shipments (million \$)	69,081	38,385	56,115	52,637	56,396	67,375
U.S. shipments (%)	98.5	95.7	96.2	95.7	95.4	94.5
Export shipments (%)	1.5	4.3	3.8	4.3	4.6	5.5
Total shipments (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.11.

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Table G.14 U.S. shipments for firms producing in U.S. FTZs, by type, 2016–21

In millions of dollars.

Shipment type	2016	2017	2018	2019	2020	2021
Privileged foreign status	31,438	33,324	34,985	27,934	15,783	18,792
Non-privileged foreign status	46,839	51,182	59,169	55,247	40,740	49,197
Foreign status	78,277	84,507	94,154	83,181	56,523	67,988
Domestic status	234,424	257,176	291,600	286,362	206,102	301,236
Value-added/markup	135,170	147,133	145,868	145,096	111,142	166,165
Total	447,871	488,815	531,623	514,639	373,767	535,389

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Table G.15 U.S. shipments for firms producing in U.S. FTZs, by type, 2016–21

In percentages.

Shipment type	2016	2017	2018	2019	2020	2021
Privileged foreign status	7.0	6.8	6.6	5.4	4.2	3.5
Non-privileged foreign status	10.5	10.5	11.1	10.7	10.9	9.2
Foreign status	17.5	17.3	17.7	16.2	15.1	12.7
Domestic status	52.3	52.6	54.9	55.6	55.1	56.3
Value-added/markup	30.2	30.1	27.4	28.2	29.7	31.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Table G.16 Export shipments for firms producing in U.S. FTZs, by type, 2016–21

In millions of dollars.

Shipment type	2016	2017	2018	2019	2020	2021
Privileged foreign status	6,169	5,869	6,235	5,622	4,971	7,645
Non-privileged foreign status	13,415	13,216	13,635	14,051	13,336	13,437
Foreign status	19,584	19,085	19,869	19,673	18,307	21,082
Domestic status	34,233	46,680	53,600	64,570	41,215	54,572
Value-added/markup	24,117	33,158	44,196	39,936	29,474	31,105
Total	77,934	98,923	117,666	124,178	88,997	106,759

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Table G.17 Export shipments for firms producing in U.S. FTZs, by type, 2016–21

In percentages.

Shipment type	2016	2017	2018	2019	2020	2021
Privileged foreign status	7.9	5.9	5.3	4.5	5.6	7.2
Non-privileged foreign status	17.2	13.4	11.6	11.3	15.0	12.6
Foreign status	25.1	19.3	16.9	15.8	20.6	19.7
Domestic status	43.9	47.2	45.6	52.0	46.3	51.1
Value-added/markup	30.9	33.5	37.6	32.2	33.1	29.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Table G.18 U.S. shipments from both production and non-production operations for firms producing in U.S. FTZs, by sector, 2016–21

In millions of dollars. d.s. = data are suppressed to protect confidentiality.

Sector	2016	2017	2018	2019	2020	2021
Agriculture and food products	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Chemicals	6,095	6,584	9,001	8,851	7,420	6,074
Electronics	14,482	18,983	25,215	21,628	18,133	26,200
Fuels	271,096	328,619	349,878	321,682	194,627	324,382
Minerals and metals	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Miscellaneous	3,579	4,675	4,166	2,919	2,683	4,565
Nonelectrical machinery	15,285	17,834	22,099	26,835	25,564	30,350
Other transportation	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Pharmaceuticals	20,952	17,101	21,692	30,440	30,267	36,009
Textiles	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Vehicles and parts	62,193	74,101	76,991	79,743	66,744	79,034
Total	447,871	488,815	531,623	514,639	373,767	535,389

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Note: Because of data suppression values for sectors will not sum to the total.

Table G.19 U.S. shipments from both production and non-production operations for firms producing in U.S. FTZs, by sector, 2016–21

In millions of dollars. n.c. = not calculable.

Sector	2016	2017	2018	2019	2020	2021
Agriculture and food products	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Chemicals	1.4	1.3	1.7	1.7	2.0	1.1
Electronics	3.2	3.9	4.7	4.2	4.9	4.9
Fuels	60.5	67.2	65.8	62.5	52.1	60.6
Minerals and metals	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Miscellaneous	0.8	1.0	0.8	0.6	0.7	0.9
Nonelectrical machinery	3.4	3.6	4.2	5.2	6.8	5.7
Other transportation	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Pharmaceuticals	4.7	3.5	4.1	5.9	8.1	6.7
Textiles	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Vehicles and parts	13.9	15.2	14.5	15.5	17.9	14.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Note: Because of data suppression sector shares will not sum to 100 percent.

Table G.20 Export shipments from both production and non-production operations for firms producing in U.S. FTZs, by sector, 2016–21

In millions of dollars. d.s. = data are suppressed to protect confidentiality.

Sector	2016	2017	2018	2019	2020	2021
Agriculture and food products	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Chemicals	1,755	2,320	2,281	2,635	1,823	2,095
Electronics	2,152	2,988	3,552	3,749	4,814	5,915
Fuels	39,861	53,063	71,822	71,092	37,651	52,616
Minerals and metals	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Miscellaneous	856	1,948	936	1,076	1,330	1,235
Nonelectrical machinery	1,808	2,027	2,376	3,596	3,485	3,976
Other transportation	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Pharmaceuticals	3,168	3,496	6,952	7,480	7,878	4,171
Textiles	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Vehicles and parts	26,567	31,647	28,509	33,705	31,127	34,992
Total	77,934	98,923	117,666	138,049	88,997	106,759

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Note: Because of data suppression values for sectors will not sum to the total.

Table G.21 Export shipments from both production and non-production operations for firms producing in U.S. FTZs, by sector, 2016–21

In millions of dollars. n.c. = not calculable.

Sector	2016	2017	2018	2019	2020	2021
Agriculture and food products	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Chemicals	2.3	2.3	1.9	1.9	2.0	2.0
Electronics	2.8	3.0	3.0	2.7	5.4	5.5
Fuels	51.1	53.6	61.0	51.5	42.3	49.3
Minerals and metals	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Miscellaneous	1.1	2.0	0.8	0.8	1.5	1.2
Nonelectrical machinery	2.3	2.0	2.0	2.6	3.9	3.7
Other transportation	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Pharmaceuticals	4.1	3.5	5.9	5.4	8.9	3.9
Textiles	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Vehicles and parts	34.1	32.0	24.2	24.4	35.0	32.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Note: Because of data suppression sector shares will not sum to 100 percent.

Table G.22 Total outbound shipments from both production and non-production operations for firms producing in U.S. FTZs, by sector, 2016–21

In millions of dollars. d.s. = data are suppressed to protect confidentiality.

Sector	2016	2017	2018	2019	2020	2021
Agriculture and food products	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Chemicals	7,850	8,904	11,282	11,486	9,243	8,169
Electronics	16,634	21,971	28,767	25,377	22,947	32,115
Fuels	310,957	381,681	421,701	392,774	232,278	376,998
Minerals and metals	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Miscellaneous	4,435	6,624	5,101	3,996	4,013	5,799
Nonelectrical machinery	17,093	19,862	24,476	30,431	29,049	34,325
Other transportation	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Pharmaceuticals	24,120	20,597	28,644	37,920	38,144	40,180
Textiles	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.
Vehicles and parts	88,760	105,749	105,500	113,448	97,871	114,026
Total	525,805	587,738	649,288	652,688	462,764	642,149

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Note: Because of data suppression values for sectors will not sum to the total.

Table G.23 Total outbound shipments from both production and non-production operations for firms producing in U.S. FTZs, by sector, 2016–21

In millions of dollars. n.c. = not calculable.

Sector	2016	2017	2018	2019	2020	2021
Agriculture and food products	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Chemicals	1.5	1.5	1.7	1.8	2.0	1.3
Electronics	3.2	3.7	4.4	3.9	5.0	5.0
Fuels	59.1	64.9	64.9	60.2	50.2	58.7
Minerals and metals	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Miscellaneous	0.8	1.1	0.8	0.6	0.9	0.9
Nonelectrical machinery	3.3	3.4	3.8	4.7	6.3	5.3
Other transportation	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Pharmaceuticals	4.6	3.5	4.4	5.8	8.2	6.3
Textiles	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
Vehicles and parts	16.9	18.0	16.2	17.4	21.1	17.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 2.11.

Note: Because of data suppression sector shares will not sum to 100 percent.

Table G.24 Share and value of exports of merchandise produced in U.S. FTZs in 2021, by destination

In percentages and millions of dollars. * = low precision estimate.

Destination	Share of exports (%)	Value of exports (million \$)
Exports to Canada that made U.S. Customs entry	10.6	10,881
Exports to Mexico that made U.S. Customs entry	17.0*	17,483
Exports to other countries that made U.S. Customs entry	49.9	51,398
Exports that did not make U.S. Customs entry	22.6	23,267
Total exports	100.0	103,029

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.12.

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Table G.25 Share and value of exports of merchandise warehoused but not produced in U.S. FTZs in 2021, by destination

In percentages and millions of dollars. * = low precision estimate.

Destination	Share of exports (%)	Value of exports (million \$)
Exports that were entered from U.S. FTZ into U.S. Customs prior to exportation	65.5*	2,443
Exports directly from FTZ (i.e., that did not enter U.S. Customs)	34.5*	1,287
Total exports	100.0	3,730

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.13.

Table G.26 Share and value of total shipments of merchandise warehoused but not produced in U.S. FTZs in 2021, by type

In percentages and millions of dollars.

Type	Share of total shipments (%)	Value of total shipments (million \$)
Shipments out of U.S. FTZ operations with production authority	97.6	65,782
Shipments out of U.S. FTZ operations without production authority	2.4	1,593
Total shipments	100.0	67,375

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.14.

Table G.27 Capital investments and net assets in facilities operating in U.S. FTZs for firms producing in FTZs, 2016–21

In millions of dollars.

Item	Type	2016	2017	2018	2019	2020	2021
Capital investment	Domestic direct investment	27,573	30,957	34,631	35,684	34,606	34,061
Capital investment	Foreign direct investment	3,409	12,192	13,241	13,680	13,885	12,591
Total capital investment	Domestic and foreign direct investment	30,982	43,149	47,872	49,364	48,492	46,652
Net assets	From domestic investments	121,901	128,956	131,392	133,036	117,958	116,088
Net assets	From foreign investments	33,376	40,365	41,731	42,444	41,096	32,472
Total net assets	From all investments	155,277	169,320	173,123	175,480	159,055	148,560

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.15.

Table G.28 Share of total capital investments and total net assets in facilities operating in U.S. FTZs for firms producing in FTZs, by type, 2016–21

In percentages.

Item	Type	2016	2017	2018	2019	2020	2021
Capital investment	Domestic direct investment	89.0	71.7	72.3	72.3	71.4	73.0
Capital investment	Foreign direct investment	11.0	28.3	27.7	27.7	28.6	27.0
Total capital investment	Domestic and foreign direct investment	100.0	100.0	100.0	100.0	100.0	100.0
Net assets	From domestic investments	78.5	76.2	75.9	75.8	74.2	78.1
Net assets	From foreign investments	21.5	23.8	24.1	24.2	25.8	21.9
Total net assets	From all investments	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.15.

Table G.29 Share of firms producing in U.S. FTZs that have experienced effects associated with FTZ use and its importance on the firm's decision to operate within FTZs, by effect

In percentages.

Effect associated with U.S. FTZ use	Experienced and extremely important	Experienced and moderately important	Experienced and not very important	Experienced	Not experienced
Duty exemption	48.8	11.6	9.2	69.6	30.4
Duty reduction	57.1	15.0	7.4	79.5	20.5
Duty deferral	38.6	22.2	15.2	76.0	24.0
Savings on other U.S. Customs fees	32.8	21.5	19.2	73.4	26.6
Streamlined U.S. Customs procedures	30.6	23.8	17.6	72.0	28.0
Quota timing management	2.6	3.4	7.1	13.1	86.9
Other local/state benefits	17.7	8.7	2.2	28.5	71.5

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.1.**Table G.30** Share of firms producing in U.S. FTZs that have experienced cost savings from FTZ use, by type of cost saving and effect associated with U.S. FTZ use

In percentages.

Effect associated with U.S. FTZ use	Experienced production cost savings	Experienced logistical and administrative cost savings
Duty exemption	63.0	12.1
Duty reduction	71.7	16.9
Duty deferral	64.2	17.2
Savings on other U.S. Customs fees	57.0	20.4
Streamlined U.S. Customs procedures	34.5	35.8
Quota timing management	4.8	3.7
Other local/state benefits	14.8	6.6

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.2.**Table G.31** Share of firms producing in U.S. FTZs that incurred fixed or recurring costs associated with FTZ compliance, operations, or set-up

In percentages.

Compliance cost incurred	Share
Yes	91.6
No	8.5

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.3.**Table G.32** Share of firms producing in U.S. FTZs that incurred fixed or recurring costs associated with FTZ compliance, operations, or set-up and how much the effects of FTZ use outweigh these costs

In percentages.

Effects of FTZ use outweigh costs of FTZ use	Share
Do not outweigh	14.0
Slightly outweigh	7.7
Moderately outweigh	22.7
Largely outweigh	55.7

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.3.

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Table G.33 Duties paid by firms producing in U.S. FTZs and estimated duty savings on merchandise that entered into U.S. Customs or were exported from production operations, by type, 2016–21

In millions of dollars.

Item	2016	2017	2018	2019	2020	2021
Duties paid on privileged foreign status merchandise entered into U.S. Customs	80	91	172	455	276	408
Duties paid on non-privileged foreign status merchandise entered into U.S. Customs	237	300	293	280	271	307
Estimate of duty savings on U.S. Customs entries as a result of your firm's use of FTZs	603	708	715	717	711	730
Estimate of duty savings on exports as a result of your firm's use of FTZs	206	142	127	181	353	497

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.4.

Note: Duty savings on U.S. Customs entries as a result of your firm's use of FTZs includes through duty reductions on entries of non-privileged foreign status goods. Estimate of duty savings on exports as a result of your firm's use of FTZs includes through duty exemptions on exports that did not make U.S. Customs entry.

Table G.34 U.S. Customs duties paid by firms producing in U.S. FTZs on goods produced in FTZ production operations and exported to Canada and Mexico, by type, 2016–21

In millions of dollars.

Item	2016	2017	2018	2019	2020	2021
Duties paid on goods exported to Canada and Mexico	35	39	67	196	105	110

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.5.

Note: U.S. Customs duties include (1) U.S. Customs duties paid on material inputs prior to admission into the FTZ; and (2) U.S. Customs duties paid on foreign status merchandise that made entry for export to Canada and Mexico. These duties do not include additional duties (e.g., 301, 232, 201, or antidumping duties or countervailing duties (AD/CVD)).

Table G.35 Share of firms producing in U.S. FTZs whose use of U.S. FTZs affected firm activities for production operations and whether it was a primary or minor factor

In percentages.

Firm activity	Primary factor causing increase	Minor factor causing increase	Factor causing increase	Did not affect firms decisions or factor causing decrease
Inward foreign direct investment	9.0	7.1	16.1	83.9
Domestic direct investment	10.0	24.8	34.8	65.2
Firms U.S. employment	12.9	27.3	40.2	59.8
Manufacturing output	14.6	26.2	40.8	59.2

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.6.

Note: Firms with production activity in U.S. FTZs generally do not consider FTZ use to be a factor causing decreases across measures of firm activity.

Table G.36 Share of firms producing in U.S. FTZs whose use of U.S. FTZs affected firm activities for non-production operations and if it was a primary or minor factor

In percentages. d.s. = data are suppressed to protect confidentiality.

Firm activity	Primary factor causing increase	Minor factor causing increase	Factor causing increase	Did not affect firms decisions or factor causing decrease
Inward foreign direct investment	d.s.	d.s.	5.3	94.7
Domestic direct investment	6.5	12.8	19.3	80.7
Firms U.S. employment	5.3	16.9	22.3	77.8

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.7.

Note: Firms with production activity in U.S. FTZs generally do not consider FTZ use to be a factor causing decreases across measures of firm activity.

Table G.37 Share of firms producing in U.S. FTZs whose production in U.S. FTZs impacts reliance on inputs, by source of material inputs and reliance on source category

In percentages. d.s. = data are suppressed to protect confidentiality.

Source of material inputs	Leads to less reliance on source	Leads to greater reliance on source	Leads to change in reliance on source	Does not affect reliance on source
U.S. domestic suppliers	8.5	7.2	15.7	84.3
Suppliers in Canada	d.s.	d.s.	7.4	92.6
Suppliers in Mexico	d.s.	d.s.	6.6	93.4
Suppliers in other countries	4.6	24.4	29.0	71.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.10.**Table G.38** Share of firms producing in U.S. FTZs that have non-FTZ operations in the United States that produce the same products as within FTZs

In percentages.

Item	Share
Non-FTZ operations producing same product as FTZ operations	21.1

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.11.**Table G.39** Share of firms producing in U.S. FTZs that have production operations in countries outside the United States

In percentages.

Country	Share
Canada	21.6
Mexico	27.1
Other countries	56.5
No foreign operations	36.4

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.1.

Note: Production operations includes for related firms such as foreign affiliates or subsidiaries of the firms producing in U.S. FTZs.

Table G.40 Share of firms producing in U.S. FTZs and operating in Canada or Mexico whose operations are within the same sector as the firm's U.S. FTZ production operations

In percentages.

Country of operation	Operations within the same sector
Canada	74.7
Mexico	90.9

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 4.2 and 4.7.

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Table G.41 Share of firms producing in U.S. FTZs and operating in Canada or Mexico that set up operations there because of the opportunity to participate in an FTZ-type program in that country, by country

In percentages

Country	FTZ-type programs were a factor
Canada	0.0
Mexico	71.7

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 4.4 and 4.9.

Table G.42 Share of firms producing in U.S. FTZs and operating in Canada that participate in Canadian FTZ-type programs, by program

In percentages. d.s. = data are suppressed to protect confidentiality; * = low precision estimate.

Canadian programs	Share
Duty Relief Program	11.7
Duty Drawback Program	15.9
Customs Bonded Warehouse Program	7.5*
Export Distribution Center Program	d.s.
Exporters of Processing Services Program	d.s.
Other Canadian government programs that provide customs duty benefits	7.3*
Does not participate in any Canadian program listed above	56.1

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.3.

Note: Firms can participate in multiple FTZ-type programs.

Table G.43 Share of firms producing in U.S. FTZs that participate in Canadian FTZ-type programs that have been able to realize production cost savings as a result of participation in Canadian FTZ-type programs, by program

In percentages. d.s. = data are suppressed to protect confidentiality; * = low precision estimate.

Canadian programs	Share
Duty Relief Program	40.0
Duty Drawback Program	13.8*
Customs Bonded Warehouse Program	d.s.
Export Distribution Center Program	d.s.
Exporters of Processing Services Program	d.s.

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.5.

Table G.44 Share of firms producing in U.S. FTZs and operating in Mexico that participate in Mexican FTZ-type programs, by program

In percentages. d.s. = data are suppressed to protect confidentiality.

Mexican programs	Share
Manufacturing, Maquila and Export Services Industries Program	60.9
Sectorial Promotion Program	55.3
Rule 8	40.9
Authorized Economic Operators	31.5
Automotive Fiscal Deposit	d.s.
Recinto Fiscal	d.s.
Recinto Fiscalizado Estratégico	d.s.
Other Mexican government programs that provide customs duty benefits	15.0
Does not participate in any Mexican program listed above	23.4

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.8.

Note: Shares will not sum to 100 as firms can participate in multiple FTZ-type programs.

Table G.45 Share of firms producing in U.S. FTZs that participate in Mexican FTZ-type programs that have been able to realize production cost savings as a result of participation in Mexican FTZ-type programs, by program

In percentages. d.s. = data are suppressed to protect confidentiality.

Mexican programs	Share
Manufacturing, Maquila and Export Services Industries Program	82.0
Sectorial Promotion Program	76.1
Rule 8	52.6
Authorized Economic Operators	34.7
Automotive Fiscal Deposit	d.s.
Recinto Fiscal	d.s.
Recinto Fiscalizado Estratégico	d.s.

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.10.

Table G.46 Share of firms producing in U.S. FTZs that participate in Mexican FTZ-type programs and how cost savings associated with participation in U.S. FTZs compare with cost savings from participation in Mexican FTZ-type programs, by savings type

In percentages.

Savings	Lower savings than Mexican FTZ-type programs	Equal savings	More savings than Mexican FTZ-type programs	Do not know or cannot evaluate
Duty savings	27.2	4.6	15.4	52.8
Production cost savings other than duty savings	21.4	7.0	8.5	63.0
Labor cost savings	30.4	2.2	8.5	58.9
Logistical and administrative cost savings	17.2	2.0	8.5	72.4

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 4.11.

Table G.47 Firms producing in U.S. FTZs and its familiarity with the operations of firms' competitors with facilities based in Canada or Mexico

In percentages.

Competitor type	Very or somewhat familiar with competitors' operations	Aware of competitors existence, but not familiar with their operations	Not aware of the existence of competitors in this country
Canadian competitors	13.8	31.0	55.1
Mexican competitors	31.8	68.2	0.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 5.1.

Table G.48 Firms producing in U.S. FTZs and their production costs compared with those of competitors in different countries

In percentages.

Competitor type	Lower or similar production costs	Higher production costs	Do not know or cannot evaluate
U.S. domestic competitors	10.9	3.4	85.7
Canadian competitors	5.4	3.1	91.4
Mexican competitors	2.6	8.1	89.3
Other foreign competitors	2.4	10.8	86.8

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 5.2.

Table G.49 Share of firms producing in U.S. FTZs that think their competitors producing in Canada or Mexico operate in FTZ-type programs in that country

In percentages.

Foreign Trade Zones

Country	Competitors operate in FTZ-type programs	Competitors do not operate in FTZ-type programs	Unsure or have no knowledge of competitors
Canada	2.5	4.3	92.7
Mexico	10.3	5.0	84.2

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 5.3 and 5.4.

Table G.50 Share of firms producing in U.S. FTZs for which U.S. law (19 U.S.C. § 4531(c)(3)) affects costs relative to goods produced by competitors, by competitor type
In percentages.

Competitor type	Provision reduces costs relative to competitors or no effect on relative costs	Provision increases my firms costs relative to competitors	Do not know or cannot evaluate
U.S. producers (not operating in U.S. FTZs)	21.7	3.0	75.3
Canadian producers	13.6	5.7	80.7
Mexican producers	12.0	7.2	80.9
Other foreign producers	14.5	5.2	80.2

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 5.5.

Note: Under U.S. law (19 U.S.C. § 4531(c)(3)), certain goods produced in U.S. FTZs are not eligible for preferential treatment under USMCA when they make U.S. Customs entry.

Table G.51 Share of firms producing in U.S. FTZs for which USMCA, Article 2.5 affects costs relative to goods sold in Canada and Mexico, by competitor type
In percentages.

Competitor type	Provision reduces costs relative to competitors or no effect on relative costs	Provision increases my firms costs relative to competitors	Do not know or cannot evaluate
U.S. producers (not operating in U.S. FTZs) (sales in Canada or Mexico)	27.8	4.4	67.8
Canadian producers (sales in Canada or Mexico)	20.6	7.7	71.8
Mexican producers (sales in Canada or Mexico)	19.0	8.9	72.1
Other foreign producers (sales in Canada or Mexico)	19.4	7.3	73.3

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 5.6.

Note: Products manufactured in a U.S. FTZ and then exported to Canada or Mexico are required to make U.S. Customs entry as a condition for exportation to a USMCA partner (USMCA, Article 2.5).

Table G.52 Effect on firms producing in U.S. FTZs' operations if the USMCA Customs entry requirement did not exist

In percentages. d.s. = data are suppressed to protect confidentiality; * = low precision estimate.

Effect on operations	Decrease	No change	Increase	Do not know or cannot evaluate
Overall duty costs	10.4	38.0	3.2	48.4
Shipments to the U.S. market	d.s.	53.0	d.s.	44.9
Exports to Canada	1.2*	41.5	6.6	50.7
Exports to Mexico	1.2*	41.5	5.5	51.7
Employment in the United States	1.4*	44.8	6.3	47.6
Investment in the United States	d.s.	45.1	d.s.	47.5
Investment in Canada	1.7*	43.7	1.3	53.3
Investment in Mexico	1.3*	43.7	1.5	53.6
Sourcing of domestic status inputs	d.s.	47.8	d.s.	47.8
Sourcing of other North American inputs	1.3*	46.4	4.0	48.4

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 5.7.**Table G.53** Share of firms producing in U.S. FTZs that believe their competitors in Canada or Mexico use de minimis Customs entry as a way to access the U.S. market

In percentages.

Item	Share
Yes	2.0
No	7.1
Unsure	90.1

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 5.8.

Vehicles and Parts

Table G.54 Vehicles and parts: value of admissions or receipts of merchandise into U.S. FTZs for firms producing in U.S. FTZs, by status, 2016–21

In millions of dollars.

Status	2016	2017	2018	2019	2020	2021
Privileged foreign status	3,652	3,975	4,556	5,401	4,454	6,558
Non-privileged foreign status	12,642	11,936	11,650	12,706	12,511	14,783
Foreign status	16,294	15,911	16,206	18,107	16,965	21,340
Domestic Status	43,911	57,867	64,586	68,692	65,312	78,743
Total admissions or receipts	60,205	73,778	80,793	86,799	82,277	100,083

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

Note: Total admissions do not include admissions of zone restricted status merchandise (ZRS). ZRS accounts for less than 0.5 percent of total admissions in any given year. These survey results comport with our understanding of how and the frequency with which ZRS is used by firm with U.S. FTZ production activity, based on discussions with industry experts.

Foreign Trade Zones

Table G.55 Vehicles and parts: share of total admissions or receipts of merchandise into U.S. FTZs for firms producing in U.S. FTZs, by status, 2016–21

In millions of dollars.

Status	2016	2017	2018	2019	2020	2021
Privileged foreign status	6.1	5.4	5.6	6.2	5.4	6.6
Non-privileged foreign status	21.0	16.2	14.4	14.6	15.2	14.8
Foreign status	27.1	21.6	20.1	20.9	20.6	21.3
Domestic Status	72.9	78.4	79.9	79.1	79.4	78.7
Total admissions or receipts	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.8.

Note: Total admissions do not include admissions of zone restricted status merchandise (ZRS). ZRS accounts for less than 0.5 percent of total admissions in any given year. These survey results comport with our understanding of how and the frequency with which ZRS is used by firm with U.S. FTZ production activity, based on discussions with industry experts.

Table G.56 Vehicles and parts: share and value of domestic status admissions for firms producing in U.S. FTZs, by origin location of materials being admitted

In percentages and millions of dollars. d.s. = data are suppressed to protect confidentiality; * = low precision estimate.

Origin location	Share (%)	Value (million \$)
Foreign origin	52.6	41,401
Domestic origin	47.4	37,372
Total domestic status admissions	100.0	78,774

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.9.

Note: Total domestic status admissions includes firms' last full year of production; therefore, the total will not match previous tables.

Table G.57 Vehicles and parts: outbound shipments from production operations for firms producing in U.S. FTZs, by shipment type, 2016–21

In millions of dollars and percentages.

Shipment type	2016	2017	2018	2019	2020	2021
U.S. shipments (million \$)	d.s.	72,877	75,294	78,066	65,371	77,378
Export shipments (million \$)	d.s.	31,493	28,316	33,578	30,991	34,843
Total shipments (million \$)	87,550	104,370	103,610	111,644	96,362	112,221
U.S. shipments (%)	n.c.	69.8	72.7	69.9	67.8	69.0
Export shipments (%)	n.c.	30.2	27.3	30.1	32.2	31.0
Total shipments (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.10.

Table G.58 Vehicles and parts: outbound shipments from non-production operations for firms producing in U.S. FTZs, by shipment type, 2016–21

In millions of dollars and percentages. d.s. = data are suppressed to protect confidentiality

Shipment type	2016	2017	2018	2019	2020	2021
U.S. shipments (million \$)	d.s.	1,224	1,697	1,677	1,374	1,656
Export shipments (million \$)	d.s.	154	193	127	135	148
Total shipments (million \$)	1,210	1,378	1,890	1,804	1,509	1,805
U.S. shipments (%)	n.c.	88.8	89.8	93.0	91.0	91.8
Export shipments (%)	n.c.	11.2	10.2	7.0	9.0	8.2
Total shipments (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.11.

Table G.59 Vehicles and parts: outbound shipments for firms producing in U.S. FTZs, by shipment type, 2016–21

In millions of dollars.

Shipment type	2016	2017	2018	2019	2020	2021
U.S. Shipments: Domestic status inputs	31,945	39,060	41,123	40,836	40,121	49,213
U.S. Shipments: Privileged foreign status inputs	3,125	3,623	4,770	4,497	3,551	4,524
U.S. Shipments: Non-privileged foreign status inputs	6,719	7,244	7,094	7,633	6,090	7,776
U.S. shipments: Value-added and/or markup	20,404	24,174	24,004	26,776	16,983	17,521
Total U.S. shipments	62,193	74,101	76,991	79,743	66,744	79,034
Total export shipments	26,567	31,647	28,509	33,705	31,127	34,992
Total shipments	88,760	105,749	105,500	113,448	97,871	114,026

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 2.10 and 2.11.

Note: Export shipments is not broken out by input type or value add and/or markup to avoid data disclosure.

Table G.60 Vehicles and parts: outbound shipments for firms producing in U.S. FTZs, by shipment type, 2016–21

In percentages.

Shipment type	2016	2017	2018	2019	2020	2021
U.S. Shipments: Domestic status inputs	36.0	36.9	39.0	36.0	41.0	43.2
U.S. Shipments: Privileged foreign status inputs	3.5	3.4	4.5	4.0	3.6	4.0
U.S. Shipments: Non-privileged foreign status inputs	7.6	6.9	6.7	6.7	6.2	6.8
U.S. shipments: Value-added and/or markup	23.0	22.9	22.8	23.6	17.4	15.4
Total U.S. shipments	70.1	70.1	73.0	70.3	68.2	69.3
Total export shipments	29.9	29.9	27.0	29.7	31.8	30.7
Total shipments	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 2.10 and 2.11.

Note: Export shipments is not broken out by input type or value add and/or markup to avoid data disclosure.

Table G.61 Vehicles and parts: share and value of exports of merchandise warehoused but not produced in U.S. FTZs in 2021, by destination

In percentages and millions of dollars.

Destination	Share of exports (%)	Value of exports (million \$)
Exports that were entered from U.S. FTZ into U.S. Customs prior to exportation	89.1	132
Exports directly from FTZ (i.e., that did not enter U.S. Customs)	10.9	16
Total exports	100.0	148

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.13.

Table G.62 Vehicles and parts: share of firms producing in U.S. FTZs that have experienced effects associated with FTZ use and its importance on the firm's decision to operate within FTZs, by effect
In percentages. d.s. = data are suppressed to protect confidentiality.

Effect associated with U.S. FTZ use	Experienced and extremely important	Experienced and moderately or not very important	Experienced	Not experienced
Duty exemption	44.0	12.3	56.3	43.7
Duty reduction	81.0	19.0	100.0	0.0
Duty deferral	35.8	41.8	77.6	22.4
Savings on other U.S. Customs fees	44.0	46.1	90.1	9.9
Streamlined U.S. Customs procedures	45.9	38.1	84.1	15.9
Quota timing management	d.s.	d.s.	15.0	85.0
Other local/state benefits	12.3	13.8	26.1	73.9

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.1.

Table G.63 Vehicles and parts: Share of firms producing in U.S. FTZs that have experienced cost savings from FTZ use, by type of cost saving and effect associated with U.S. FTZ use
In percentages. * = low precision estimate.

Effect associated with U.S. FTZ use	Experienced production cost savings	Experienced logistical and administrative cost savings
Duty exemption	46.2	17.9
Duty reduction	83.0	31.0
Duty deferral	50.3	30.2
Savings on other U.S. Customs fees	58.3	33.9
Streamlined U.S. Customs procedures	17.6	50.7
Quota timing management	0.0	0.0
Other local/state benefits	8.5*	4.2*

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.2.

Table G.64 Vehicles and parts: Share of firms producing in U.S. FTZs that incurred fixed or recurring costs associated with FTZ compliance, operations, or set-up
In percentages.

Compliance cost incurred	Share
Yes	100.0
No	0.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.3.

Table G.65 Vehicles and parts: Share of firms producing in U.S. FTZs that incurred fixed or recurring costs associated with FTZ compliance, operations, or set-up and how much the effects of FTZ use outweigh these costs
In percentages. * = low precision estimate.

Effects of FTZ use outweigh costs of FTZ use	Share
Do not outweigh	7.0*
Slightly outweigh	8.5*
Moderately outweigh	33.2
Largely outweigh	51.4

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.3.

Table G.66 Vehicles and parts: Duties paid by firms producing in U.S. FTZs and estimated duty savings on merchandise that entered into U.S. Customs or were exported from production operations, by type, 2016–21
In millions of dollars. d.s. = data are suppressed to protect confidentiality.

Item	2016	2017	2018	2019	2020	2021
Duties paid on privileged foreign status merchandise entered into U.S. Customs	31	37	48	112	136	218
Duties paid on non-privileged foreign status merchandise entered into U.S. Customs	151	181	192	185	160	191
Estimate of duty savings on U.S. Customs entries as a result of your firm's use of FTZs	237	234	190	183	247	275
Estimate of duty savings on exports as a result of your firm's use of FTZs	d.s.	d.s.	d.s.	d.s.	d.s.	d.s.

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.4.

Note: Duty savings on U.S. Customs entries as a result of your firm's use of FTZs includes through duty reductions on entries of non-privileged foreign status goods. Estimate of duty savings on exports as a result of your firm's use of FTZs includes through duty exemptions on exports that did not make U.S. Customs entry.

Table G.67 Vehicles and parts: U.S. Customs duties paid by firms producing in U.S. FTZs on goods produced in FTZ production operations and exported to Canada and Mexico, by type, 2016–21

In millions of dollars. d.s. = data are suppressed to protect confidentiality.

Item	2016	2017	2018	2019	2020	2021
Duties paid on goods exported to Canada and Mexico	19	22	46	d.s.	d.s.	d.s.

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.5.

Note: U.S. Customs duties include (1) U.S. Customs duties paid on material inputs prior to admission into the FTZ; and (2) U.S. Customs duties paid on foreign status merchandise that made entry for export to Canada and Mexico. These duties do not include additional duties (e.g., 301, 232, 201, or antidumping duties or countervailing duties (AD/CVD)).

Table G.68 Vehicles and parts: Share of firms producing in U.S. FTZs whose use of U.S. FTZs affected firm activities for production operations and if it was a primary or minor factor

In percentages. d.s. = data are suppressed to protect confidentiality; * = low precision estimate.

Firm activity	Primary factor causing increase	Minor factor causing increase	Factor causing increase	Did not affect firms' decisions or factor causing decrease
Inward foreign direct investment	d.s.	d.s.	18.6	81.4
Domestic direct investment	10.5*	29.1	39.5	60.5
Firms U.S. employment	10.5*	40.2	50.7	49.3
Manufacturing output	10.5*	31.7	42.1	57.9

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.6.

Note: Firms with production activity in U.S. FTZs generally do not consider FTZ use to be a factor causing decreases across measures of firm activity.

Table G.69 Vehicles and parts: Share of firms producing in U.S. FTZs where FTZ usage has improved production and/or logistical capabilities

In percentages.

Type	Share
Production capabilities	38.5
Logistical capabilities	51.9

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 3.8 and 3.9.

Foreign Trade Zones

Table G.70 Vehicles and parts: Share of firms producing in U.S. FTZs that have non-FTZ operations in the United States that produce the same products as within FTZs

In percentages.

Item	Share
Non-FTZ operations producing same product as FTZ operations	24.2

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.11.

Table G.71 Vehicles and parts: Share of firms producing in U.S. FTZs that have production operations in countries outside the United States

In percentages.

Country	Share
Canada	31.7
Mexico	50.9
Other countries	64.0
No foreign operations	30.8

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 4.1.

Note: Production operations includes for related firms such as foreign affiliates or subsidiaries of the firms producing in U.S. FTZs.

Table G.72 Vehicles and parts: Share of firms producing in U.S. FTZs and operating in Canada and/or Mexico whose operations are within the same sector as the firm's U.S. FTZ production operations

In percentages.

Country of operation	Operations within the same sector
Canada	100.0
Mexico	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 4.2 and 4.7.

Table G.73 Vehicles and parts: Share of firms producing in U.S. FTZs and operating in Canada and/or Mexico that set up operations there because of the opportunity to participate in an FTZ-type program in that country, by country

In percentages.

Country	FTZ-type programs were a factor
Canada	0.0
Mexico	70.4

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 4.4 and 4.9.

Table G.74 Vehicles and parts: Share of firms producing in U.S. FTZs and operating in Mexico that participate in Mexican FTZ-type programs, by program

In percentages. d.s. = data are suppressed to protect confidentiality.

Mexican programs	Share
Manufacturing, Maquila and Export Services Industries Program	63.5
Sectorial Promotion Program	73.7
Rule 8	60.4
Authorized Economic Operators	48.5
Automotive Fiscal Deposit	d.s.
Recinto Fiscal	d.s.
Recinto Fiscalizado Estratégico	d.s.
Other Mexican government programs that provide customs duty benefits	d.s.
Does not participate in any Mexican program listed above	d.s.

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 4.8.

Note: Shares will not sum to 100 as firms can participate in multiple FTZ-type programs.

Table G.75 Vehicles and parts: Share of firms producing in U.S. FTZs that participate in Mexican FTZ-type programs that have been able to realize production cost savings as a result of participation in Mexican FTZ-type programs, by program

In percentages. d.s. = data are suppressed to protect confidentiality.

Canadian programs	Share
Manufacturing, Maquila and Export Services Industries Program	73.2
Sectorial Promotion Program	93.5
Rule 8	76.6
Authorized Economic Operators	38.1
Automotive Fiscal Deposit	d.s.
Recinto Fiscal	d.s.
Recinto Fiscalizado Estratégico	d.s.

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 4.10.

Table G.76 Vehicles and parts: Firms producing in U.S. FTZs and their familiarity with the operations of firms' competitors with facilities based in Canada or Mexico

In percentages.

Competitor type	Very or somewhat familiar with competitors' operations	Aware of competitors existence, but not familiar with their operations	Not aware of the existence of competitors in this country	
Canadian competitors		21.9	42.1	36.0
Mexican competitors		32.9	67.2	0.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 5.1.

Petroleum Refining

Table G.77 Petroleum refining: value of admissions or receipts of merchandise into U.S. FTZs for firms producing in U.S. FTZs, by status, 2016–21

In millions of dollars.

Status	2016	2017	2018	2019	2020	2021
Privileged foreign status	35,541	37,871	41,252	24,038	11,304	15,279
Non-privileged foreign status	23,346	25,429	29,023	22,227	8,780	11,875
Foreign status	58,887	63,299	70,275	46,265	20,085	27,154
Domestic Status	153,828	205,895	268,121	241,145	145,272	246,420
Total admissions or receipts	212,715	269,195	338,396	287,409	165,357	273,574

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.7.

Note: Total admissions do not include admissions of zone restricted status merchandise (ZRS). ZRS accounts for less than 0.5 percent of total admissions in any given year. These survey results comport with our understanding of how and the frequency with which ZRS is used by firm with U.S. FTZ production activity, based on discussions with industry experts.

Foreign Trade Zones

Table G.78 Petroleum refining: share of total admissions or receipts of merchandise into U.S. FTZs for firms producing in U.S. FTZs, by status, 2016–21

In millions of dollars.

Status	2016	2017	2018	2019	2020	2021
Privileged foreign status	16.7	14.1	12.2	8.4	6.8	5.6
Non-privileged foreign status	11.0	9.4	8.6	7.7	5.3	4.3
Foreign status	27.7	23.5	20.8	16.1	12.1	9.9
Domestic Status	72.3	76.5	79.2	83.9	87.9	90.1
Total admissions or receipts	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.7.

Note: Total admissions do not include admissions of zone restricted status merchandise (ZRS). ZRS accounts for less than 0.5 percent of total admissions in any given year. These survey results comport with our understanding of how and the frequency with which ZRS is used by firm with U.S. FTZ production activity, based on discussions with industry experts.

Table G.79 Petroleum refining: share and value of domestic status admissions for firms producing in U.S. FTZs, by origin location of materials being admitted

In percentages and millions of dollars.

Origin location	Share (%)	Value (million \$)
Foreign origin	25.0	64,473
Domestic origin	75.0	193,755
Total domestic status admissions	100.0	258,228

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.9.

Note: Total domestic status admissions includes firms' last full year of production; therefore, the total will not match previous tables.

Table G.80 Petroleum refining: outbound shipments for firms producing in U.S. FTZs, by shipment type, 2016–21

In millions of dollars.

Shipment type	2016	2017	2018	2019	2020	2021
US Shipments: Domestic status inputs	133,378	179,874	203,787	199,541	123,799	201,184
US Shipments: Privileged foreign status inputs	26,808	27,739	26,315	18,494	8,401	10,826
US Shipments: Non-privileged foreign status inputs	24,884	28,038	32,026	22,114	10,189	11,887
US shipments: Value add and/or markup	86,026	92,967	87,751	81,534	52,238	100,485
Total U.S. shipments	271,096	328,619	349,878	321,682	194,627	324,382
Export shipments: Domestic status inputs	16,023	23,166	35,281	37,406	17,191	28,028
Export shipments: Privileged foreign status inputs	3,973	4,481	4,218	3,533	1,700	2,568
Export shipments: Non-privileged foreign status inputs	4,611	4,664	4,389	3,705	2,152	1,516
Export shipments: Value add and/or markup	15,254	20,752	27,934	26,448	16,609	20,503
Total export shipments	39,861	53,063	71,822	71,092	37,651	52,616
Total shipments	310,957	381,681	421,701	392,774	232,278	376,998

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 2.10 and 2.11.

Table G.81 Petroleum refining: share of outbound shipments for firms producing in U.S. FTZs, by shipment type, 2016–21

In percentages.

Shipment type	2016	2017	2018	2019	2020	2021
US Shipments: Domestic status inputs	42.9	47.1	48.3	50.8	53.3	53.4
US Shipments: Privileged foreign status inputs	8.6	7.3	6.2	4.7	3.6	2.9
US Shipments: Non-privileged foreign status inputs	8.0	7.3	7.6	5.6	4.4	3.2
US shipments: Value add and/or markup	27.7	24.4	20.8	20.8	22.5	26.7
Total U.S. shipments	87.2	86.1	83.0	81.9	83.8	86.0
Export shipments: Domestic status inputs	5.2	6.1	8.4	9.5	7.4	7.4
Export shipments: Privileged foreign status inputs	1.3	1.2	1.0	0.9	0.7	0.7
Export shipments: Non-privileged foreign status inputs	1.5	1.2	1.0	0.9	0.9	0.4
Export shipments: Value add and/or markup	4.9	5.4	6.6	6.7	7.2	5.4
Total export shipments	12.8	13.9	17.0	18.1	16.2	14.0
Total shipments	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 2.10 and 2.11.

Table G.82 Petroleum refining: capital investments and net assets in facilities operating in U.S. FTZs for firms producing in FTZs, 2016–21

In millions of dollars.

Item	Type	2016	2017	2018	2019	2020	2021
Capital investment	Domestic direct investment	7,860	6,611	7,753	8,011	5,105	4,186
Capital investment	Foreign direct investment	996	651	1,089	1,189	604	370
Total capital investment	Domestic and foreign direct investment	8,856	7,262	8,842	9,200	5,709	4,556
Net assets	From domestic investments	73,069	75,091	77,135	78,454	60,160	55,474
Net assets	From foreign investments	18,692	16,292	16,855	16,829	14,527	5,718
Total net assets	From all investments	91,761	91,383	93,990	95,283	74,687	61,192

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.15.

Table G.83 Petroleum refining: share of total capital investments and total net assets in facilities operating in U.S. FTZs for firms producing in FTZs, by type, 2016–21

In percentages.

Item	Type	2016	2017	2018	2019	2020	2021
Capital investment	Domestic direct investment	88.8	91.0	87.7	87.1	89.4	91.9
Capital investment	Foreign direct investment	11.2	9.0	12.3	12.9	10.6	8.1
Total capital investment	Domestic and foreign direct investment	100.0	100.0	100.0	100.0	100.0	100.0
Net assets	From domestic investments	79.6	82.2	82.1	82.3	80.5	90.7
Net assets	From foreign investments	20.4	17.8	17.9	17.7	19.5	9.3
Total net assets	From all investments	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.15.

Table G.84 Petroleum refining: Share of firms producing in U.S. FTZs that have experienced cost savings from FTZ use, by type of cost saving and effect associated with U.S. FTZ use

In percentages. d.s. = data are suppressed to protect confidentiality.

Effect associated with U.S. FTZ use	Experienced production cost savings	Experienced logistical and administrative cost savings
Duty exemption	77.5	d.s.
Duty reduction	91.7	d.s.
Duty deferral	81.7	d.s.
Savings on other U.S. Customs fees	91.7	d.s.
Streamlined U.S. Customs procedures	74.2	49.2
Quota timing management	0.0	d.s.
Other local/state benefits	56.7	d.s.

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.2.

Table G.85 Petroleum refining: Share of firms producing in U.S. FTZs that incurred fixed or recurring costs associated with FTZ compliance, operations, or set-up and how much the effects of FTZ use outweigh these costs

In percentages.

Effects of FTZ use outweigh costs of FTZ use	Share
Do not outweigh	13.2
Slightly outweigh	14.0
Moderately outweigh	35.1
Largely outweigh	37.7

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.3.

Table G.86 Petroleum refining: Duties paid by firms producing in U.S. FTZs and estimated duty savings on merchandise that entered into U.S. Customs or were exported from production operations, by type, 2016–21

In millions of dollars.

Item	2016	2017	2018	2019	2020	2021
Duties paid on privileged foreign status merchandise entered into U.S. Customs	37	32	25	17	15	19
Duties paid on non-privileged foreign status merchandise entered into U.S. Customs	11	10	12	8	4	3
Estimate of duty savings on U.S. Customs entries as a result of your firm's use of FTZs	49	41	74	27	20	16
Estimate of duty savings on exports as a result of your firm's use of FTZs	d.s.	6	6	4	1	1

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.4.

Note: Duty savings on U.S. Customs entries as a result of your firm's use of FTZs includes through duty reductions on entries of non-privileged foreign status goods. Estimate of duty savings on exports as a result of your firm's use of FTZs includes through duty exemptions on exports that did not make U.S. Customs entry.

Table G.87 Petroleum refining: Share of firms producing in U.S. FTZs that have non-FTZ operations in the United States that produce the same products as within FTZs

In percentages.

Item	Share
Non-FTZ operations producing same product as FTZ operations	66.7

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.11.

Table G.88 Petroleum refining: Share of firms producing in U.S. FTZs that have production operations in countries outside the United States

In percentages. * = low precision estimate.

Country	Share
Canada	15.0*
Mexico	0.0
Other countries	32.5
No foreign operations	67.5

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 4.1.

Note: Production operations includes for related firms such as foreign affiliates or subsidiaries of the firms producing in U.S. FTZs.

Pharmaceutical Manufacturing

Table G.89 Pharmaceutical manufacturing: outbound shipments for firms producing in U.S. FTZs, by shipment type, 2016–21

In millions of dollars and percentages.

Shipment type	2016	2017	2018	2019	2020	2021
U.S. shipments (million \$)	20,952	17,101	21,692	30,440	30,267	36,009
Export shipments (million \$)	3,168	3,496	6,952	7,480	7,878	4,171
Total shipments (million \$)	24,120	20,597	28,644	37,920	38,144	40,180
U.S. shipments (%)	86.9	83.0	75.7	80.3	79.3	89.6
Export shipments (%)	13.1	17.0	24.3	19.7	20.7	10.4
Total shipments (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 2.10 and 2.11.

Table G.90 Pharmaceutical manufacturing: outbound shipments for firms producing in U.S. FTZs, by operation type and shipment type, 2021

In millions of dollars and percentages

Shipment type	Merchandise produced in U.S. FTZs (million \$)	Merchandise not produced in U.S. FTZs (million \$)	Merchandise produced in U.S. FTZs (%)	Merchandise not produced in U.S. FTZs (%)
U.S. shipments	10,952	25,057	72.4	100.0
Export shipments	4,166	5	27.6	0.0
Total shipments	15,118	25,062	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 2.10 and 2.11.

Table G.91 Pharmaceutical manufacturing: Share of firms producing in U.S. FTZs that have experienced effects associated with FTZ use and its importance on the firm's decision to operate within FTZs, by effect

In percentages.

Effect associated with U.S. FTZ use	Experienced and extremely important	Experienced and moderately or not very important	Experienced	Not experienced
Duty exemption	60.5	28.6	89.1	10.9
Duty reduction	52.9	20.2	73.1	26.9
Duty deferral	16.8	32.8	49.6	50.4
Savings on other U.S. Customs fees	10.9	41.2	52.1	47.9
Streamlined U.S. Customs procedures	21.0	46.2	67.2	32.8
Quota timing management	0.0	6.7	6.7	93.3
Other local/state benefits	34.5	4.2	38.7	61.3

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.1.

Table G.92 Pharmaceutical manufacturing: Share of firms producing in U.S. FTZs that have experienced cost savings from FTZ use, by type of cost saving and effect associated with U.S. FTZ use

In percentages. * = low precision estimate.

Effect associated with U.S. FTZ use	Experienced production cost savings	Experienced logistical and administrative cost savings
Duty exemption	84.9	10.9*
Duty reduction	66.4	19.3
Duty deferral	34.5	10.9*
Savings on other U.S. Customs fees	32.8	15.1*
Streamlined U.S. Customs procedures	37.0	34.5
Quota timing management	0.0	0.0
Other local/state benefits	31.9	21.9

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.2.

Table G.93 Pharmaceutical manufacturing: Duties paid by firms producing in U.S. FTZs and estimated duty savings on merchandise that entered into U.S. Customs or were exported from production operations, by type, 2016–21

In millions of dollars. d.s. = data are suppressed to protect confidentiality.

Item	2016	2017	2018	2019	2020	2021
Estimate of duty savings on exports as a result of your firm's use of FTZs	d.s.	34	22	65	95	126

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.4.

Note: Duty savings on U.S. Customs entries as a result of your firm's use of FTZs includes through duty reductions on entries of non-privileged foreign status goods. Estimate of duty savings on exports as a result of your firm's use of FTZs includes through duty exemptions on exports that did not make U.S. Customs entry.

Table G.94 Pharmaceutical manufacturing: U.S. Customs duties paid by firms producing in U.S. FTZs on goods produced in FTZ production operations and exported to Canada and Mexico, by type, 2016–21

In thousands of dollars. d.s. = data are suppressed to protect confidentiality.

Item	2016	2017	2018	2019	2020	2021
Duties paid on goods exported to Canada and Mexico	d.s.	d.s.	d.s.	d.s.	27	74

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.5.

Note: U.S. Customs duties include (1) U.S. Customs duties paid on material inputs prior to admission into the FTZ; and (2) U.S. Customs duties paid on foreign status merchandise that made entry for export to Canada and Mexico. These duties do not include additional duties (e.g., 301, 232, 201, or antidumping duties or countervailing duties (AD/CVD)).

Table G.95 Pharmaceutical manufacturing: Share of firms producing in U.S. FTZs that have production operations in countries outside the United States

In percentages.

Country	Share
Canada	30.3
Mexico	21.9
Other countries	60.5
No foreign operations	32.8

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 4.1.

Note: Production operations includes for related firms such as foreign affiliates or subsidiaries of the firms producing in U.S. FTZs.

Table G.96 Pharmaceutical manufacturing: Firms producing in U.S. FTZs and its familiarity with the operations of firms' competitors with facilities based in Canada or Mexico

In percentages.

Competitor type	Very or somewhat familiar with competitors' operations	Aware of competitors existence, but not familiar with their operations	Not aware of the existence of competitors in this country
Canadian competitors	13.8	31.0	55.1
Mexican competitors	31.8	68.2	0.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 5.1.

Warehousing and Distribution

Table G.97 Warehousing and distribution: number of employees within U.S. FTZ production operations for firms producing in U.S. FTZs that also have non-production operations, 2016–21

In number of employees.

Item	2016	2017	2018	2019	2020	2021
Employees	95,729	103,459	110,107	119,233	133,806	143,209

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.7.

Table G.98 Warehousing and distribution: admissions or receipts of merchandise into U.S. FTZs for firms producing in U.S. FTZs with non-production operations, by admission type 2016–21

In millions of dollars.

Admission type	2016	2017	2018	2019	2020	2021
Privileged foreign status	9,772	9,928	9,350	7,724	5,830	7,421
Non-privileged foreign status	21,268	19,291	23,873	22,896	26,142	29,384
Foreign status	31,040	29,219	33,223	30,620	31,971	36,805
Domestic status	85,100	56,325	83,308	81,273	67,422	89,569
Total admissions or receipts	116,140	85,544	116,531	111,893	99,394	126,374

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.8.

Note: Total admissions do not include admissions of zone restricted status merchandise (ZRS). ZRS accounts for less than 0.5 percent of total admissions in any given year. These survey results comport with our understanding of how and the frequency with which ZRS is used by firm with U.S. FTZ production activity, based on discussions with industry experts.

Table G.99 Warehousing and distribution: share of admissions or receipts of merchandise into U.S. FTZs for firms producing in U.S. FTZs with non-production operations, by admission type 2016–21

In millions of dollars.

Admission type	2016	2017	2018	2019	2020	2021
Privileged foreign status	8.4	11.6	8.0	6.9	5.9	5.9
Non-privileged foreign status	18.3	22.6	20.5	20.5	26.3	23.3
Foreign status	26.7	34.2	28.5	27.4	32.2	29.1
Domestic status	73.3	65.8	71.5	72.6	67.8	70.9
Total admissions or receipts	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.8.

Note: Total admissions do not include admissions of zone restricted status merchandise (ZRS). ZRS accounts for less than 0.5 percent of total admissions in any given year. These survey results comport with our understanding of how and the frequency with which ZRS is used by firm with U.S. FTZ production activity, based on discussions with industry experts.

Table G.100 Warehousing and distribution: share and value of domestic status admissions for firms producing in U.S. FTZs with non-production operations, by origin location of materials being admitted

In percentages and millions of dollars.

Origin location	Share (%)	Value (million \$)
Foreign origin	34.2	133,720
Domestic origin	65.8	257,726
Total domestic status admissions	100.0	391,446

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.9.

Note: Total domestic status admissions includes firms' last full year of production; therefore, the total will not match previous tables.

Table G.101 Warehousing and distribution: U.S. shipments of merchandise produced in U.S. FTZs for firms producing in FTZs with non-production operations, by type, 2016–21

In millions of dollars.

Type	2016	2017	2018	2019	2020	2021
Domestic status inputs	25,366	33,843	49,887	50,235	40,301	54,863
Privileged foreign status inputs	7,193	7,165	7,157	4,818	3,699	3,981
Non-privileged foreign status inputs	10,111	11,512	11,736	8,535	7,486	10,177
Value added/markup	23,031	22,682	22,306	23,616	23,494	25,715
Total U.S. shipments	65,700	75,202	91,085	87,205	74,979	94,735

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.10.

Table G.102 Warehousing and distribution: U.S. shipments of merchandise produced in U.S. FTZs for firms producing in FTZs with non-production operations, by type, 2016–21

In percentages.

Type	2016	2017	2018	2019	2020	2021
Domestic status inputs	38.6	45.0	54.8	57.6	53.7	57.9
Privileged foreign status inputs	10.9	9.5	7.9	5.5	4.9	4.2
Non-privileged foreign status inputs	15.4	15.3	12.9	9.8	10.0	10.7
Value added/markup	35.1	30.2	24.5	27.1	31.3	27.1
Total U.S. shipments	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.10.

Table G.103 Warehousing and distribution: Export shipments of merchandise produced in U.S. FTZs for firms producing in FTZs with non-production operations, by type, 2016–21

In millions of dollars.

Type	2016	2017	2018	2019	2020	2021
Domestic status inputs	2,966	4,010	5,774	10,092	5,740	9,847
Privileged foreign status inputs	1,097	949	900	1,134	549	865
Non-privileged foreign status inputs	1,849	1,852	1,922	15,339	1,696	2,252
Value added/markup	4,490	6,665	6,427	7,764	8,347	6,837
Total export shipments	10,403	13,476	15,023	34,328	16,333	19,801

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.10.

Table G.104 Warehousing and distribution: Export shipments of merchandise produced in U.S. FTZs for firms producing in FTZs with non-production operations, by type, 2016–21

In percentages.

Type	2016	2017	2018	2019	2020	2021
Domestic status inputs	28.5	29.8	38.4	29.4	35.1	49.7
Privileged foreign status inputs	10.5	7.0	6.0	3.3	3.4	4.4
Non-privileged foreign status inputs	17.8	13.7	12.8	44.7	10.4	11.4
Value added/markup	43.2	49.5	42.8	22.6	51.1	34.5
Total export shipments	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.10.

Table G.105 Warehousing and distribution: Outbound shipments of merchandise produced in U.S. FTZs for firms producing in FTZs with non-production operations, by shipment type, 2016–21

In millions of dollars and percentages.

Shipment type	2016	2017	2018	2019	2020	2021
U.S. shipments (million \$)	65,700	75,202	91,085	87,205	74,979	94,735
Export shipments (million \$)	10,403	13,476	15,023	34,328	16,333	19,801
Total shipments (million \$)	76,103	88,678	106,108	121,533	91,312	114,536
U.S. shipments (%)	86.3	84.8	85.8	71.8	82.1	82.7
Export shipments (%)	13.7	15.2	14.2	28.2	17.9	17.3
Total shipments (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.10.

Foreign Trade Zones

Table G.106 Warehousing and distribution: Outbound shipments of merchandise not produced in U.S. FTZs for firms producing in FTZs with non-production operations, by shipment type, 2016–21

In millions of dollars and percentages.

Shipment type	2016	2017	2018	2019	2020	2021
U.S. shipments (million \$)	68,038	36,740	53,977	50,360	53,792	63,645
Export shipments (million \$)	1,080	1,690	2,178	2,304	2,618	3,737
Total shipments (million \$)	69,118	38,430	56,155	52,664	56,410	67,382
U.S. shipments (%)	98.4	95.6	96.1	95.6	95.4	94.5
Export shipments (%)	1.6	4.4	3.9	4.4	4.6	5.5
Total shipments (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.11.

Table G.107 Warehousing and distribution: Outbound shipments of merchandise for firms producing in FTZs with non-production operations, by shipment type, 2016–21

In millions of dollars and percentages.

Shipment type	2016	2017	2018	2019	2020	2021
U.S. shipments (million \$)	133,738	111,941	145,062	137,565	128,771	158,380
Export shipments (million \$)	11,483	15,166	17,201	36,632	18,951	23,538
Total shipments (million \$)	145,221	127,107	162,263	174,197	147,723	181,918
U.S. shipments (%)	92.1	88.1	89.4	79.0	87.2	87.1
Export shipments (%)	7.9	11.9	10.6	21.0	12.8	12.9
Total shipments (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 2.10 and 2.11.

Table G.108 Warehousing and distribution: share and value of exports of merchandise warehoused but not produced in U.S. FTZs in 2021 for firms producing in U.S. FTZs with non-production operations, by destination

In percentages and millions of dollars. * = low precision estimate.

Destination	Share of exports (%)	Value of exports (million \$)
Exports that were entered from U.S. FTZ into U.S. Customs prior to exportation	65.4	2,445
Exports directly from FTZ (i.e., that did not enter U.S. Customs)	34.6	1,292
Total exports	100.0	3,737

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.13.

Table G.109 Warehousing and distribution: share and value of total shipments of merchandise warehoused but not produced in U.S. FTZs in 2021 for firms producing in FTZs with non-production operations, by type

In percentages and millions of dollars.

Type	Share of total shipments (%)	Value of total shipments (million \$)
Shipments out of U.S. FTZ operations with production authority	97.6	65,789
Shipments out of U.S. FTZ operations without production authority	2.4	1,593
Total shipments	100.0	67,382

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.14.

Table G.110 Warehousing and distribution: total capital investments and net assets for firms producing in U.S. FTZs with non-production operations, 2016–21

In millions of dollars.

Item	2016	2017	2018	2019	2020	2021
Capital investments	11,897	23,309	24,830	25,290	52,295	25,306
Net assets	45,361	53,060	51,704	50,934	53,943	46,551

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 2.15.

Table G.111 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations that have experienced effects associated with FTZ use and its importance on the firms' decisions to operate within FTZs, by effect

In percentages.

Effect associated with U.S. FTZ use	Experienced and extremely important	Experienced and moderately important	Experienced and not very important	Experienced	Not experienced
Duty exemption	47.8	9.6	16.0	73.4	26.6
Duty reduction	55.7	12.3	13.4	81.4	18.6
Duty deferral	45.9	19.8	18.4	84.1	15.9
Savings on other U.S. Customs fees	39.1	19.2	19.0	77.2	22.8
Streamlined U.S. Customs procedures	32.8	19.1	24.9	76.8	23.2
Quota timing management	4.5	d.s.	d.s.	11.4	88.6
Other local/state benefits	19.1	9.9	3.2	32.1	67.9

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.1.

Table G.112 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations that have experienced cost savings from FTZ use, by type of cost saving and effect associated with U.S. FTZ use

In percentages.

Effect associated with U.S. FTZ use	Experienced production cost savings	Experienced logistical and administrative cost savings
Duty exemption	62.6	16.9
Duty reduction	71.4	22.4
Duty deferral	69.7	27.0
Savings on other U.S. Customs fees	62.3	25.6
Streamlined U.S. Customs procedures	41.2	39.8
Quota timing management	5.4	2.9*
Other local/state benefits	15.3	7.7

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.2.

Table G.113 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations that incurred fixed or recurring costs associated with FTZ compliance, operations, or set-up

In percentages.

Compliance cost incurred	Share
Yes	90.9
No	9.1

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.3.

Foreign Trade Zones

Table G.114 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations that incurred fixed or recurring costs associated with FTZ compliance, operations, or set-up and how much the effects of FTZ use outweigh these costs

In percentages.

Effects of FTZ use outweigh costs of FTZ use	Share
Do not outweigh	14.6
Slightly outweigh	6.0
Moderately outweigh	26.2
Largely outweigh	53.2

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.3.

Table G.115 Warehousing and distribution: Duties paid by firms producing in U.S. FTZs with non-production operations and estimated duty savings on merchandise that entered into U.S. Customs or were exported from production operations, by type, 2016–21

In millions of dollars.

Item	2016	2017	2018	2019	2020	2021
Duties paid on privileged foreign status merchandise entered into U.S. Customs	21	31	52	123	156	261
Duties paid on non-privileged foreign status merchandise entered into U.S. Customs	54	83	75	51	80	109
Estimate of duty savings on U.S. Customs entries as a result of your firm's use of FTZs	88	87	91	102	97	112
Estimate of duty savings on exports as a result of your firm's use of FTZs	10	15	19	29	113	184

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.4.

Note: Duty savings on U.S. Customs entries as a result of your firm's use of FTZs includes through duty reductions on entries of non-privileged foreign status goods. Estimate of duty savings on exports as a result of your firm's use of FTZs includes through duty exemptions on exports that did not make U.S. Customs entry.

Table G.116 Warehousing and distribution: U.S. Customs duties paid by firms producing in U.S. FTZs with non-production operations on goods produced in FTZ production operations and exported to Canada and Mexico, by type, 2016–21

In millions of dollars.

Item	2016	2017	2018	2019	2020	2021
Duties paid on goods exported to Canada and Mexico	6	8	11	13	9	10

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.5.

Note: U.S. Customs duties include (1) U.S. Customs duties paid on material inputs prior to admission into the FTZ; and (2) U.S. Customs duties paid on foreign status merchandise that made entry for export to Canada and Mexico. These duties do not include additional duties (e.g., 301, 232, 201, or antidumping duties or countervailing duties (AD/CVD)).

Table G.117 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations whose use of U.S. FTZs affected firm activities for production operations and if it was a primary or minor factor

In percentages.

Firm activity	Primary factor causing increase	Minor factor causing increase	Factor causing increase	Did not affect firms' decisions or factor causing decrease
Inward foreign direct investment	12.3	8.2	20.5	79.5
Domestic direct investment	10.8	26.1	36.9	63.1
Firms U.S. employment	12.5	27.5	40.0	60.0
Manufacturing output	13.3	27.3	40.6	59.4

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.6.

Note: Firms with production activity in U.S. FTZs generally do not consider FTZ use to be a factor causing decreases across measures of firm activity.

Table G.118 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations whose use of U.S. FTZs affected firm activities for non-production operations and if it was a primary or minor factor

In percentages. d.s. = data are suppressed to protect confidentiality.

Firm activity	Primary factor causing increase	Minor factor causing increase	Factor causing increase	Did not affect firms' decisions or factor causing decrease
Inward foreign direct investment	d.s.	d.s.	4.9	95.1
Domestic direct investment	7.0	12.9	19.9	80.2
Firms U.S. employment	5.7	17.3	23.0	77.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.7.

Note: Firms with production activity in U.S. FTZs generally do not consider FTZ use to be a factor causing decreases across measures of firm activity.

Table G.119 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations where FTZ usage has improved production or logistical capabilities

In percentages.

Type	Share
Production capabilities	29.2
Logistical capabilities	40.6

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 3.8 and 3.9.

Table G.120 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations whose production in U.S. FTZs impacts reliance on inputs, by source of material inputs and reliance on source category

In percentages. d.s. = data are suppressed to protect confidentiality.

Source of material inputs	Leads to less reliance on source	Leads to greater reliance on source	Leads to change in reliance on source	Does not affect reliance on source
U.S. domestic suppliers	6.1	3.8	9.9	90.1
Suppliers in Canada	d.s.	5.6	5.6	94.4
Suppliers in Mexico	d.s.	4.4	4.3	95.7
Suppliers in other countries	2.2	19.5	21.6	78.4

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.10.

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Table G.121 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations that have non-FTZ operations in the United States that produce the same products as within FTZs

In percentages.

Item	Share
Non-FTZ operations producing same product as FTZ operations	17.4

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 3.11.

Table G.122 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations that have production operations in countries outside the United States

In percentages.

Country	Share
Canada	26.1
Mexico	33.7
Other countries	65.2
No foreign operations	29.5

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 4.1.

Note: Production operations includes for related firms such as foreign affiliates or subsidiaries of the firms producing in U.S. FTZs.

Table G.123 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations and operating in Canada and/or Mexico whose operations are within the same sector as the firm's U.S. FTZ production operations

In percentages.

Country of operation	Operations within the same sector
Canada	68.4
Mexico	91.6

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 4.2 and 4.7.

Table G.124 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations and operating in Canada and/or Mexico that set up operations there because of the opportunity to participate in an FTZ-type program in that country, by country

In percentages

Country	FTZ-type programs were a factor
Canada	0.0
Mexico	82.3

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 4.4 and 4.9.

Table G.125 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations and operating in Mexico that participate in Mexican FTZ-type programs, by program

In percentages. d.s. = data are suppressed to protect confidentiality.

Mexican programs	Share
Manufacturing, Maquila and Export Services Industries Program	58.3
Sectorial Promotion Program	50.6
Rule 8	46.1
Authorized Economic Operators	32.6
Automotive Fiscal Deposit	d.s.
Recinto Fiscal	d.s.
Recinto Fiscalizado Estratégico	d.s.
Other Mexican government programs that provide customs duty benefits	19.4
Does not participate in any Mexican program listed above	26.2

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 4.8.

Note: Shares will not sum to 100 as firms can participate in multiple FTZ-type programs.

Table G.126 Warehousing and distribution: Share of firms producing in U.S. FTZs with non-production operations that participate in Mexican FTZ-type programs that have been able to realize production cost savings as a result of participation in Mexican FTZ-type programs, by program

In percentages. d.s. = data are suppressed to protect confidentiality.

Canadian programs	Share
Manufacturing, Maquila and Export Services Industries Program	88.1
Sectorial Promotion Program	75.9
Rule 8	62.8
Authorized Economic Operators	49.9
Automotive Fiscal Deposit	d.s.
Recinto Fiscal	d.s.
Recinto Fiscalizado Estratégico	d.s.

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 4.10.

Table G.127 Warehousing and distribution: Firms producing in U.S. FTZs with non-production operations and their familiarity with the operations of firms' competitors with facilities based in Canada or Mexico

In percentages.

Competitor type	Very or somewhat familiar with competitors' operations	Aware of competitors existence, but not familiar with their operations	Not aware of the existence of competitors in this country
Canadian competitors	15.8	29.9	54.3
Mexican competitors	31.8	68.2	0.0

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to question 5.1.

Appendix H

Data for Figures and Supplemental Data Tables

Data Tables Corresponding to Figures

Table H.1 The approximate location of U.S. Foreign-Trade Zones, 2023

In millions of dollars. This table corresponds to figures ES.1 and 2.1.

Location column 1	Location column 2	Location column 3	Location column 4	Location column 5
Valdez, AK	Anchorage, AK	Fairbanks, AK	Kodiak, AK	Mobile, AL
Huntsville, AL	Birmingham, AL	Montgomery, AL	Dothan, AL	Little Rock, AR
West Memphis, AR	Nogales, AZ	Phoenix, AZ	Sierra Vista, AZ	Tucson, AZ
Yuma, AZ	Mesa, AZ	Western Maricopa County, AZ	San Francisco, CA	San Jose, CA
Long Beach, CA	Oakland, CA	Sacramento, CA	San Diego, CA	Palmdale, CA
Los Angeles, CA	Port Hueneme, CA	Merced, CA	Stockton, CA	Palm Springs, CA
Victorville, CA	Riverside County, CA	Eureka, CA	Imperial County, CA	Kern County, California, CA
El Paso County, CO	Denver, CO	Jefferson County, CO	Windsor Locks, CT	Bridgeport, CT
New Haven, CT	New London, CT	Wilmington, DE	Broward County, FL	Miami, FL
Orlando, FL	Jacksonville, FL	Panama City, FL	Tampa, FL	Palm Beach County, FL
Brevard County, FL	Homestead, FL	Manatee County, FL	Miami (Wynwood), FL	Pinellas County, FL
Volusia County, Florida, FL	Fort Myers, FL, FL	Sebring, FL	St. Lucie County, FL	Fort Lauderdale, FL
Pensacola, FL	Seminole County, FL	Miami-Dade County, FL	Atlanta, GA	Savannah, GA
Brunswick, GA	Honolulu, HI	Polk County, IA	Quad-Cities, Iowa/Illinois, IA	Cedar Rapids, IA
Northwest Iowa, IA	Boundary County, ID	Caldwell, Idaho, ID	Chicago, IL	Granite City, IL
Peoria, IL	Lawrence County, IL	Rockford, IL	Decatur, IL	Jo-Daviess & Carroll Counties, IL
Indianapolis, IN	South Bend, IN	Burns Harbor, IN	Clark County, IN	Evansville, IN
Fort Wayne, IN	Kansas City, KS	Sedgwick County, KS	Louisville, KY	Boone County, KY
Western Kentucky, KY	New Orleans, LA	Lake Charles, LA	Gramercy, LA	Shreveport, LA
Baton Rouge, LA	Alexandria, LA	Terrebonne Parish, LA	Cameron Parish, LA	Plaquemines Parish, LA
Boston, MA	New Bedford, MA	Holyoke, MA	Prince George's County, MD	BWI Airport, MD
Baltimore, MD	Washington County, MD	Bangor, ME	Madawaska, ME	Waterville, ME
Sault Ste. Marie, MI	Battle Creek, MI	Detroit, MI, MI	Flint, MI	Kent/Ottawa/Muskegon Counties, MI
St. Clair County, MI	Lansing, MI	Duluth, MN	Minneapolis-St. Paul, MN	Koochiching County, MN
Kansas City, MO	St. Louis, MO	Springfield, MO	Harrison County, MS	Vicksburg/Jackson, MS
Southaven, MS	Tunica County, MS	Great Falls, MT	Toole County, MT	Butte-Silver Bow, MT

Foreign Trade Zones

Location column 1	Location column 2	Location column 3	Location column 4	Location column 5
Mecklenburg County, NC	Raleigh-Durham, NC	Lenoir County, NC	Piedmont Triad Area, NC	Grand Forks, ND
Fargo, ND	Omaha, NE	Lincoln, NE	Portsmouth, NH	Mt. Olive, New Jersey, NJ
Newark/Elizabeth, NJ	Salem/Millville, NJ	New Jersey, NJ	Lakewood, NJ	Albuquerque, NM
Doña Ana County, NM	Clark County, NV	Reno, NV	New York, NY	Buffalo, NY
Niagara County, NY	Orange County, NY	Suffolk County, NY	Clinton County, NY	Onondaga County, NY
Watertown, NY	Ogdensburg, NY	Albany, NY	Rochester, NY	Oneida County, NY
Genesee County, NY	Ontario County, NY	Toledo, OH	Cleveland, OH	Cincinnati, OH
Dayton, OH	Clinton County, OH	Franklin County, OH	Findlay, OH	Akron/Canton, OH
Lawrence County, OH	Rogers County, OK	Oklahoma, OK	Muskogee, OK	Durant, OK
Portland, OR	Coos Bay, OR	Pittston, PA	Pittsburgh, PA	Philadelphia, PA
Berks County, PA	Erie, PA	Jefferson County, PA	Lehigh Valley, PA	Central Pennsylvania, PA
Mayaguez, PR	San Juan, PR	Ponce, PR	Providence and North Kingstown, RI	Dorchester County, SC
Spartanburg County, SC	West Columbia, SC	Sioux Falls, SD	Memphis, TN	Nashville, TN
Chattanooga, TN	Knoxville, TN	Tri-Cities, TN	Memphis, TN	West Tennessee Area, TN
McAllen, TX	Galveston, TX	DFW Airport, TX	Brownsville, TX	El Paso, TX
San Antonio, TX	Houston, TX	Laredo, TX	Starr County, TX	Eagle Pass, TX
Ellis County, TX	Beaumont, TX	Port Arthur, TX	Orange, TX	Corpus Christi, TX
Freeport, TX	El Paso, TX	Calhoun/Victoria Counties, TX	Hidalgo County, TX	Midland, TX
Dallas/Fort Worth, TX	Liberty County, TX	Austin, TX	Fort Worth, TX	Texas City, TX
Gregg County, TX	Waco, TX	Amarillo, TX	Bowie County, TX	Lubbock, TX
Conroe (Montgomery County), TX	Athens, TX	Lufkin, TX	Smith County, TX	Salt Lake City, UT
Norfolk, VA	Washington Dulles International Airport, VA	Culpeper County, VA	Richmond, VA	Dublin, VA
Burlington, VT	Brattleboro, VT	Seattle, WA	Everett, WA, WA	Tacoma, WA
Cowlitz County, WA	Whatcom County, WA	Bellingham, WA	Grays Harbor, WA	Moses Lake, WA
Tacoma, WA	Olympia, WA	Spokane, WA	Vancouver, WA	Milwaukee, WI
Brown County, WI	Dane County, WI	Charleston, WV	Martinsburg, WV	Casper, WY

Source: ITA, OFIS database, accessed February 14, 2023.

Table H.2 U.S. FTZ admissions and outbound shipments by firms producing in FTZs, by status, 2016–21

In millions of dollars. This table corresponds to figure ES.2.

Shipments	Status	2016	2017	2018	2019	2020	2021
Admissions	Domestic status	225.0	300.8	381.5	360.4	254.6	379.4
Admissions	Foreign status	101.1	101.4	115.3	97.7	74.7	92.9
Shipments destined for U.S. market	Domestic status	234.4	257.2	291.6	286.4	206.1	301.2
Shipments destined for U.S. market	Foreign status	78.3	84.5	94.2	83.2	56.5	68.0
Shipments destined for U.S. market	Value added/mark-up	135.2	147.1	145.9	145.1	111.1	166.2
Shipments destined for export	Domestic status	34.2	46.7	53.6	64.6	41.2	54.6
Shipments destined for export	Foreign status	19.6	19.1	19.9	19.7	18.3	21.1
Shipments destined for export	Value added/mark-up	24.1	33.2	44.2	39.9	29.5	31.1

Source: USITC, Foreign Trade Zones Questionnaire, 2022, weighted responses to questions 2.8, 2.10, and 2.11.

Note: Admissions do not include admissions of zone restricted status merchandise (ZRS). ZRS accounts for less than 0.5 percent of total admissions in any given year. These survey results comport with our understanding of how and the frequency with which ZRS is used by firm with U.S. FTZ production activity, based on discussions with industry experts. Export shipments can include direct export shipments (where the foreign status portion of the finished goods were not cleared through Customs prior to exportation) or indirect export shipments (where the foreign status portion of the finished goods was first cleared through Customs prior to exportation).

Table H.3 Average MFN tariff rate on raw material inputs and intermediate inputs into industrial products, by country, 2021

In percentages. This table corresponds to figure ES.3 and 1.1.

Country	Raw material inputs (%)	Intermediate inputs (%)
Mexico	3.0	4.0
United States	0.2	3.7
Canada	0.1	0.2

Source: USITC, *2022 Harmonized Tariff Schedule of the United States, Revision 2*, February 22, 2022; Government of Mexico, *Tariff Schedule of Mexico*, July 1, 2020; CBSA, *Customs Tariff 2021, Revision 6*, December 21, 2021; WTO, *Market Access: Unfinished Business - Post Uruguay Round Inventory and Issues*, 2001, 26; WITS, “UNCTAD Classification of Goods by Stages of Processing - UNCTAD-SoP1: Raw Materials,” accessed April 1, 2022; WITS, “UNCTAD Classification of Goods by Stages of Processing - UNCTAD-SoP2: Intermediate Goods,” accessed April 1, 2022.

Note: Table excludes any specific or compound tariff rates (i.e., the average applied NTR rate is taken from the zero and non-zero ad valorem tariff lines only). Products are HS subheadings that fall within the list of multilateral trade negotiation industrial product categories as identified by the WTO and are classified as raw materials under UNCTAD’s classification of goods by stage of processing.

Table H.4 Average MFN tariff rate on intermediate inputs into industrial products, 2021

In percentages. This table corresponds to figure 1.2.

Country	Average MFN tariff rate for subheading (AVE only, no distinct)
Mexico	4.0
United States	3.7
Canada	0.2

Source: USITC, *2022 Harmonized Tariff Schedule of the United States, Revision 2*, February 22, 2022; Government of Mexico, *Tariff Schedule of Mexico*, July 1, 2020; CBSA, *Customs Tariff 2021, Revision 6*, December 21, 2021; WTO, *Market Access: Unfinished Business - Post Uruguay Round Inventory and Issues*, 2001, 26; WITS, “UNCTAD Classification of Goods by Stages of Processing - UNCTAD-SoP2: Intermediate Goods,” accessed April 1, 2022.

Note: Table excludes specific or compound tariff rates (i.e., the average applied NTR rate is taken from the zero and non-zero ad valorem tariff lines only). Products are HS subheadings that fall within the list of multilateral trade negotiation industrial product categories as identified by the WTO and are classified as intermediate goods under UNCTAD’s classification of goods by stage of processing.

Table H.5 Merchandise received into U.S. FTZs and exports from U.S. FTZs, 1990–2020

In billions of dollars and percentages. This table corresponds to figure 2.2.

Year	Merchandise received (billion \$)	Exports (billion \$)	Ratio of exports to merchandise received (%)
1980	2.7	0.7	25.9
1981	3.0	0.9	30.7
1982	3.4	1.5	45.3
1983	6.5	1.7	25.7
1984	15.0	2.6	17.3
1985	24.8	3.9	15.7
1986	40.2	4.9	12.2
1987	48.9	5.4	11.0
1988	58.7	7.2	12.3
1989	76.3	10.7	14.0
1990	90.1	11.6	12.9
1991	84.4	10.5	12.4
1992	98.7	11.7	11.8
1993	104.0	11.7	11.2
1994	119.6	17.4	14.5
1995	143.5	16.9	11.8
1996	168.6	17.1	10.1
1997	177.9	16.9	9.5
1998	157.1	17.0	10.8
1999	173.6	16.8	9.7
2000	238.0	15.0	6.3
2001	225.2	15.4	6.8
2002	204.1	15.6	7.6
2003	247.0	19.0	7.7
2004	305.0	19.0	6.2
2005	410.0	23.0	5.6
2006	491.0	30.0	6.1
2007	501.9	31.6	6.3
2008	692.6	40.5	5.8
2009	430.6	28.2	6.5
2010	534.3	34.8	6.5
2011	640.9	54.3	8.5
2012	732.2	69.9	9.5
2013	835.8	79.5	9.5
2014	798.1	99.2	12.4
2015	659.4	84.6	12.8
2016	610.4	75.7	12.4
2017	669.2	87.1	13.0
2018	793.8	112.9	14.2
2019	767.0	111.4	14.5
2020	624.9	94.2	15.1
2021	835.6	123.6	14.8

Source: FTZ Board, Annual Report to Congress, various years.

Note: As reported in FTZ Board reports, merchandise received include foreign and domestic status merchandise admitted to the zone. Export shipments from zones include merchandise that is manufactured within the zone, as well as products that have passed through the zone without substantial transformation.

Table H.6 FTZ employment by firms producing in FTZs, by sector, 2016–21

In thousands of employees. This table corresponds to figure 2.4.

Sector	2016	2017	2018	2019	2020	2021
Vehicles and parts	110,368	114,094	118,197	121,830	137,105	126,441
Nonelectrical machinery	45,012	48,222	53,863	61,751	68,163	83,522
Fuels	83,454	83,971	81,173	86,859	68,053	56,456
Electronics	22,809	25,491	21,941	22,872	25,910	28,821
Pharmaceuticals	22,161	21,571	22,472	25,325	26,392	27,089
Other sectors	52,124	52,487	55,321	52,317	56,836	62,945

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.3 and 2.7.

Note: Other sectors are made up of the chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous sectors.

Table H.7 Sum of all capital investment in U.S. FTZs facilities received by firms producing in FTZs, by type of investor (foreign vs. domestic) and type of firm (foreign-owned vs. domestically owned), 2016–21

In billions of dollars. d.s. = data are suppressed to protect confidentiality. This table corresponds to figure 2.5.

Ownership	Firms owned by domestic parent	Firms owned by foreign parent
Domestic direct investment	d.s.	46.8
Foreign direct investment	d.s.	68.9
Total investment by all firms	150.8	115.7

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 1.4 and 2.15.**Table H.8** Share of total capital investment in U.S. FTZs facilities received by firms producing in FTZs, by sector, 2016–21

In percentages. This table corresponds to figure 2.6.

Sector	Share
Vehicles and parts	26.7
Nonelectrical machinery	23.9
Fuels	16.7
Pharmaceuticals	14.6
Electronics	9.1
Other sectors	9.1

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.3 and 2.15.

Note: Other sectors includes the chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous sectors.

Table H.9 Value of U.S. FTZ admissions by firms producing in FTZs, by admission type, 2016–21

In billions of dollars. This table corresponds to figure 2.7.

Admission type	2016	2017	2018	2019	2020	2021
Domestic status	225.0	300.8	381.5	360.4	254.6	379.4
Privileged foreign status	41.3	44.2	50.0	35.1	20.1	26.6
Non-privileged foreign status	59.8	57.2	65.3	62.6	54.6	66.3
Total	326.1	402.2	496.8	458.1	329.2	472.3

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.8.

Note: Total admissions do not include admissions of zone-restricted status merchandise which accounts for less than 0.5 percent of total admissions in any given year. These survey results comport with our understanding of how and the frequency with which ZRS is used by firm with U.S. FTZ production activity, based on discussions with industry experts.

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Table H.10 Value of U.S. FTZ admissions of merchandise by firms producing in FTZs, by sector, 2016–21

In billions of dollars. This table corresponds to figure 2.8.

Sector	2016	2017	2018	2019	2020	2021
Fuels	212.7	269.2	338.4	287.4	165.4	273.6
Vehicles and parts	60.2	73.8	80.8	86.8	82.3	100.1
Electronics	14.4	19.7	23.8	24.9	19.4	28.3
Pharmaceuticals	13.0	10.2	14.5	19.6	24.8	26.9
Nonelectrical machinery	7.6	8.1	9.4	12.3	12.8	15.9
Other sectors	18.1	21.2	30.0	27.1	24.7	27.5

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.3 and 2.8.

Note: Other sectors includes chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous sectors.

Table H.11 Outgoing shipments from firms producing in FTZs, by destination, 2016–21

In billions of dollars. This table corresponds to figure 2.9.

Destination	2016	2017	2018	2019	2020	2021
Destined for U.S. market	447.9	488.8	531.6	514.6	373.8	535.4
Destined for export	78.0	99.0	117.7	124.2	89.0	106.8

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.10 and 2.11.

Note: Other sectors includes chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous sectors.

Table H.12 Outgoing shipments from firms producing in FTZs, by destination and product type, 2021

In billions of dollars. This table corresponds to figure 2.10.

Produced/Warehoused	All shipments	Export shipments	U.S. shipments
Produced in FTZ	574.8	103.0	471.7
Solely warehoused in FTZ	67.4	3.7	63.6
All shipments	642.2	106.8	535.4

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.10 and 2.11.

Note: Table includes value added in the zone (i.e., foreign and domestic content, labor value-added, etc.). Export shipments can include direct export shipments (where the foreign status portion of the finished goods were not cleared through Customs prior to exportation) or indirect export shipments (where the foreign status portion of the finished goods was first cleared through Customs prior to exportation). Because of rounding, figures may not add to totals shown.

Table H.13 Share of value of U.S. shipments from U.S. FTZs by status, 2021

In percentages. This table corresponds to figure 2.11.

Status	All shipments
Domestic status	56.3
Privileged foreign status	3.5
Non-privileged foreign status	9.2
Value added in the U.S. FTZ	31.0
All shipments	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.10 and 2.11.

Table H.14 Value of U.S. shipments from firms producing in FTZs, by sector, 2016–21

In billions of dollars. This table corresponds to figure 2.12.

Sector	2016	2017	2018	2019	2020	2021
Fuels	269.9	326.8	347.9	319.9	193.2	322.8
Vehicles and parts	61.2	72.9	75.3	78.1	65.4	77.4
Nonelectrical machinery	13.9	16.5	19.9	24.6	23.3	27.5
Pharmaceuticals	12.1	8.8	6.5	12.1	8.4	11.0
Electronics	6.0	8.1	7.5	6.2	5.8	6.5
Other sectors	16.8	12.8	13.2	15.6	17.4	21.6

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.10 and 2.11.

Note: Other sectors includes chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous sectors

Table H.15 Share of direct vs. indirect exports by firms producing in FTZs, 2021

In percentages. This table corresponds to figure 2.13.

Exports	Share
Exports to Canada that made Customs entry	10.6
Exports to Mexico that made Customs entry	17.0
Exports to other countries that made Customs entry	49.9
Exports that did not make Customs entry	22.6
Total	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.12.**Table H.16** Share of export shipments manufactured within their zones by firms producing in FTZs by sector, by type (direct vs. indirect) and destination market for indirect, 2021

In percentages. This table corresponds to figure 2.14.

Sector	Indirect exports shipments to Canada	Indirect export shipments to Mexico	Indirect export shipments to all other markets	Direct export shipments
Fuels	0.5	28.9	55.7	14.9
Vehicles and parts	25.5	4.1	43.7	26.7
Pharmaceuticals	0.3	0.0	33.7	65.9
Nonelectrical machinery	31.9	4.4	19.1	44.6
Electronics	2.2	0.9	96.3	0.7
Other sectors	10.9	15.5	32.3	41.3

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.3 and 2.12.

Note: Other sectors includes chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous sectors.

Table H.17 Share of export shipments by firms producing in U.S. FTZs by zone status and value added, 2021

In percentages. This table corresponds to figure 2.15.

Status	Share
Domestic status	51.1
Privileged foreign status	7.2
Non-privileged foreign status	12.6
Mark-up/Value-added	29.1
All status	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.10 and 2.11.**Table H.18** Value of export shipments from firms producing in FTZs, by sector, 2016–21

In billions of dollars. This table corresponds to figure 2.16.

Sector	2016	2017	2018	2019	2020	2021
Fuels	39.7	52.9	71.6	71.0	37.5	52.0
Vehicle and parts	26.4	31.5	28.3	33.6	31.0	34.8
Pharmaceuticals	3.2	3.5	7.0	7.5	7.9	4.2
Nonelectrical machinery	1.6	1.8	2.2	3.4	3.3	3.8
Electronics	1.8	2.3	2.6	2.6	3.1	3.7
Other sectors	4.2	5.2	4.0	3.9	3.7	4.5

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.10.

Note: Other sectors in the figure above include chemicals, minerals and metals, textiles, agriculture and food, other transportation, and miscellaneous.

Table H.19 Share of firms producing in U.S. FTZs that consider their FTZ use to be a primary factor, minor factor, or non-factor causing increases across various measures of firm activity

In percentages. This table corresponds to figures ES.4 and 3.1.

Firm indicator	Primary factor causing increase (%)	Minor factor causing increase (%)	Did not affect firm's decisions (%)	Total (%)
Inward FDI	9.0	7.1	83.8	100.0
Domestic direct investment	10.0	24.8	65.2	100.0
Employment	13.0	27.4	59.6	100.0
Output	14.7	26.3	59.0	100.0

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 3.6.

Note: Firms with production activity in U.S. FTZs generally do not consider FTZ use to be a factor causing decreases across measures of firm activity. This response is suppressed within this figure to protect confidentiality.

Table H.20 Changes in employment of firms actively producing in U.S. FTZs, based on according to whether they consider FTZ use to be a primary factor causing increases in employment, 2016–21

In percentages. This table corresponds to figure 3.2.

Employment	2016	2017	2018	2019	2020	2021
Firms considering U.S. FTZ use to be primary factor causing increase in employment	100.0	108.4	102.5	99.7	126.0	131.7
All other firms	100.0	102.4	105.3	111.5	112.7	113.1
All firms	100.0	102.9	105.1	110.4	113.9	114.7

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.7 and 3.6.

Note: Fewer than 15 percent of firms consider U.S. FTZ usage to be a primary factor causing increased employment.

Table H.21 Changes in net assets from domestic direct investment (DDI) of firms actively producing in U.S. FTZs, according to whether they consider FTZ use to be a primary factor causing increases in DDI, 2016–21

In percentages. This table corresponds to figure 3.3.

Net assets from DDI	2016	2017	2018	2019	2020	2021
Firms considering FTZ use to be primary factor causing increase in DDI	100.0	94.8	136.0	146.9	197.6	184.9
All other firms	100.0	106.3	106.5	107.5	94.3	91.3
All firms	100.0	105.8	107.8	109.1	98.6	95.2

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 3.6.

Note: Fewer than 10 percent of firms consider U.S. FTZ usage to be a primary factor causing increased DDI.

Table H.22 Changes in total shipments for firms actively producing in U.S. FTZs, according to whether they consider FTZ use to be a primary factor causing increases in output, 2016–21

In percentages. This table corresponds to figure 3.4.

Total shipments	2016	2017	2018	2019	2020	2021
Firms considering FTZ use to be primary factor causing increase in manufacturing output	100.0	150.1	143.3	225.3	140.3	155.4
All other firms	100.0	118.1	124.0	111.5	65.1	135.6
All firms	100.0	122.2	126.5	126.3	74.9	138.1

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to questions 2.10 and 3.6.

Note: Fewer than 15 percent of firms consider U.S. FTZ usage to be a primary factor causing increased output.

Table H.23 U.S. general imports of crude oil by tariff line and rate provision code and share of the total under HTS 2709.00.10, 1989–2021

In barrels and percentages. This table corresponds to figure 1 in Box 3.4.

Year	FTZ or bonded warehouse (barrels)	Entered immediately into consumption (barrels)	Share 2709.00.10 (%)
1989	75,921,174	2,070,631,092	18.4
1990	111,944,394	2,112,120,577	18.5
1991	127,480,941	1,996,867,689	20.9
1992	178,068,835	2,098,114,163	22.6
1993	193,019,907	2,347,806,951	22.8
1994	202,815,908	2,501,391,559	22.2
1995	299,808,884	2,404,458,402	23.1
1996	966,688,527	1,698,529,794	25.6
1997	1,677,318,591	1,399,820,000	28.6
1998	1,873,819,656	1,383,891,807	27.8
1999	2,066,085,675	1,157,669,601	24.4
2000	2,191,479,518	1,207,681,201	28.1
2001	2,122,392,378	1,392,311,716	31.6
2002	1,942,498,560	1,565,723,679	33.0
2003	2,004,069,053	1,756,828,846	32.5
2004	2,182,548,862	1,746,842,324	34.6
2005	2,281,813,658	1,614,178,938	34.8
2006	2,300,196,484	1,580,694,867	36.0
2007	2,256,796,955	1,556,222,024	35.5
2008	2,151,077,729	1,565,556,923	36.6
2009	1,973,682,445	1,451,530,618	39.2
2010	2,064,091,625	1,417,122,576	39.7
2011	2,031,761,276	1,339,819,613	43.3
2012	1,911,744,714	1,211,007,841	45.9
2013	1,649,100,239	1,174,857,319	50.6
2014	1,559,706,353	1,147,212,053	55.1
2015	1,462,083,327	1,205,190,904	58.2
2016	1,502,271,220	1,316,214,949	57.4
2017	1,243,883,520	1,651,264,610	58.4
2018	956,850,022	1,738,599,493	61.8
2019	598,125,834	1,780,254,010	62.8
2020	393,063,719	1,697,465,773	63.7
2021	276,175,947	1,927,858,158	62.8

Source: USITC DataWeb/Census, General imports, HTS subheadings 2709.00.10 and 2709.00.20, accessed September 16, 2022.

Table H.24 Admissions into FTZ dedicated warehousing and distribution facilities, 2016–21

In billions of dollars and percentages. This table corresponds to figure 3.5.

Type of admissions	2016	2017	2018	2019	2020	2021
Foreign status goods (billions \$)	117	137	167	167	165	187
Domestic status goods (billions \$)	107	123	123	134	119	183
Share foreign status to total admissions (%)	52.2	52.7	57.6	55.5	58.2	50.5

Source: Foreign-Trade Zones Board, “82nd Annual Report,” August 2021, pg. 6 and Foreign-Trade Zones Board, “83rd Annual Report,” August 2022, pg. 6

Notes: Warehouse and distribution facilities are separate from production facilities. Domestic status inputs include both domestic-origin goods sourced domestically and foreign-origin goods that have been imported and entered for consumption before FTZ admission.

Supplemental Data Tables

Table H.25 Number of approved FTZs by status, 2016–21

Status	2016	2017	2018	2019	2020	2021
Approved and active FTZs	195	191	195	193	195	197
Approved but inactive FTZs	68	71	65	67	66	61
All approved FTZs	263	262	260	260	261	258

Source: FTZ Board, 78th Annual Report, November 2017, 6; FTZ Board, 79th Annual Report, November 2018, 6; FTZ Board, 80th Annual Report, November 2019, 6; FTZ Board, 81st Annual Report, November 2020, 6; FTZ Board, 82nd Annual Report, August 2021, 6; FTZ Board, 83rd Annual Report, August 2022, 1,6.

Table H.26 Number of active production operations and FTZ employment, 2016–21

In number of companies and number of employees.

Item	2016	2017	2018	2019	2020	2021
Active production operations	324	329	330	348	347	356
FTZ employment	420,000	450,000	440,000	460,000	470,000	480,000

Source: FTZ Board, 78th Annual Report, November 2017, 6; FTZ Board, 79th Annual Report, November 2018, 6; FTZ Board, 80th Annual Report, November 2019, 6; FTZ Board, 81st Annual Report, November 2020, 6; FTZ Board, 82nd Annual Report, August 2021, 6; FTZ Board, 83rd Annual Report, August 2022, 1,6.

Note: The FTZ Board reports employment in tens of thousands of employees as the lowest level of specificity when reporting total employment.

Table H.27 Number of new subzones established or expanded and companies responsible for establishment/expansion by period, 2016–21

Item	2016	2017	2018	2019	2020	2021
New manufacturing subzones	11	11	11	12	7	6
New warehousing subzones	6	17	13	15	12	6
All new subzones	17	28	24	27	19	12
Expansion of manufacturing subzones	2	8	4	7	3	2
Expansion of warehousing subzones	9	5	5	1	5	4
Expanded subzones	11	13	9	8	8	6

Source: FTZ Board, OFIS database, accessed October 10, 2022.

Note: Subzones may contain multiple sites, and that most subzone/subzone expansion applications by firms planning to undertake manufacturing activity also planned to designate sites within the subzone for warehousing and storage as well.

Table H.28 Number of companies responsible for establishment/expansion by period, 2016–21

Companies establishing new subzones	16	28	22	26	19	12
Companies expanding subzones	10	13	8	7	7	5

Source: FTZ Board, OFIS database, accessed October 10, 2022.

Note: Companies may have access more than one subzone.

Table H.29 Number of grants and denials of production authority by the FTZ Board and the companies and zones affected, 2016–21

Item	2016	2017	2018	2019	2020	2021
Grants of production authority by subzone	54	65	51	61	67	58
Grants of production authority by zone	33	46	39	47	47	43
Grants of production authority by company	48	51	47	55	62	53
Production authority denied by	2	1	5	1	1	0

Source: FTZ Board, OFIS database, accessed October 10, 2022.

Note: All firms and zones for which production authority denials occurred from 2016–2021 were unique (i.e., no zone or company saw more than one production authority denial over this period).

Table H.30 U.S. merchandise trade admissions into U.S. FTZs by admission type, 2016–21

In billions of dollars and percentages.

Admission type	2016	2017	2018	2019	2020	2021
Domestic status admissions (billions \$)	385.0	418.6	497.1	487.6	370.6	541.9
Foreign status admissions (billions \$)	225.3	250.6	296.7	279.4	254.2	293.7
All admissions (billions \$)	610.4	669.2	793.8	767	624.9	835.6
Domestic status admissions (%)	63.1	62.6	62.6	63.6	59.3	64.9
Foreign status admissions (%)	36.9	37.4	37.4	36.4	40.7	35.1
All admissions (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: FTZ Board, 78th Annual Report, November 2017, 6; FTZ Board, 79th Annual Report, November 2018, 6; FTZ Board, 80th Annual Report, November 2019, 6; FTZ Board, 81st Annual Report, November 2020, 6; FTZ Board, 82nd Annual Report, August 2021, 6; FTZ Board, 83rd Annual Report, August 2022, 1,6.

Note: The FTZ Board only collects data from zone operators in its annual report if those operators have admitted foreign status merchandise into their operations in the previous calendar year.

Table H.31 U.S. merchandise trade admissions into U.S. FTZs with production authority by admission type, 2016–21

In billions of dollars and percentages.

Admission type	2016	2017	2018	2019	2020	2021
Domestic status admissions (billions \$)	277.9	296.0	374.1	353.5	252.0	359.0
Foreign status admissions (billions \$)	108.2	114.1	129.9	112.4	89.2	106.8
All admissions (billions \$)	386.1	410.1	504.0	465.9	341.2	465.8
Domestic status admissions (%)	72.0	72.2	74.2	75.9	73.9	77.1
Foreign status admissions (%)	28.0	27.8	25.8	24.1	26.1	22.9
All admissions (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: FTZ Board, 78th Annual Report, November 2017, 6; FTZ Board, 79th Annual Report, November 2018, 6; FTZ Board, 80th Annual Report, November 2019, 6; FTZ Board, 81st Annual Report, November 2020, 6; FTZ Board, 82nd Annual Report, August 2021, 6; FTZ Board, 83rd Annual Report, August 2022, 1,6.

Note: The FTZ Board only collects data from zone operators in its annual report if those operators have admitted foreign status merchandise into their operations in the previous calendar year. The FTZ Board Report presents total admissions of companies with grants of production authority and does not present admissions used in production by the companies.

Foreign Trade Zones

Table H.32 General U.S. imports admitted into U.S. FTZs or bonded warehouses by chapter, 2016–21

In millions of dollars. — (em dash) = not applicable.

HS chapter	HS chapter description	2016	2017	2018	2019	2020	2021
27	Mineral fuels and oils	63,144	68,777	72,639	44,703	19,790	23,975
85	Electrical machinery, equipment, and parts	38,549	43,486	51,975	62,275	61,750	74,421
84	Nuclear reactors, boilers, and machinery	35,772	44,801	45,664	42,774	47,341	54,878
87	Automotive vehicles, parts, and accessories	26,795	25,206	26,594	27,564	22,616	27,658
71	Pearls, precious or semi-precious stones precious metals	13,116	13,399	13,948	11,281	7,852	10,803
29	Organic chemicals	8,116	5,153	6,004	7,316	11,162	11,555
30	Pharmaceutical products	5,100	5,663	8,372	12,785	12,059	9,025
All other chapters	—	31,481	34,974	35,261	37,776	34,687	40,130
Total	—	222,075	241,460	260,456	246,474	217,258	252,444

Source: USITC DataWeb/Census, accessed October 27, 2022.

Note: Chapters are sorted by import value in 2016.

Table H.33 General U.S. imports admitted into U.S. FTZs or bonded warehouses by chapter, 2016–21

In percentages. — (em dash) = not applicable.

HS chapter	HS chapter description	2016	2017	2018	2019	2020	2021
27	Mineral fuels and oils	28.4	28.5	27.9	18.1	9.1	9.5
85	Electrical machinery, equipment, and parts	17.4	18.0	20.0	25.3	28.4	29.5
84	Nuclear reactors, boilers, and machinery	16.1	18.6	17.5	17.4	21.8	21.7
87	Automotive vehicles, parts, and accessories	12.1	10.4	10.2	11.2	10.4	11.0
71	Pearls, precious or semi-precious stones precious metals	5.9	5.5	5.4	4.6	3.6	4.3
29	Organic chemicals	3.7	2.1	2.3	3.0	5.1	4.6
30	Pharmaceutical products	2.3	2.3	3.2	5.2	5.6	3.6
All other chapters	—	14.2	14.5	13.5	15.3	16.0	15.9
Total	—	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC DataWeb/Census, accessed October 27, 2022.

Note: Chapters are sorted by import value in 2016.

Table H.34 General U.S. imports admitted into U.S. FTZs or bonded warehouses by source, 2016–21

In millions of dollars.

Source	2016	2017	2018	2019	2020	2021
China	47,805	56,363	68,256	68,829	77,082	90,620
Germany	20,165	20,854	20,299	20,493	17,861	19,522
Vietnam	7,303	8,200	8,373	14,852	12,097	17,723
Japan	12,533	13,615	13,744	13,746	11,396	12,855
Mexico	10,748	15,391	17,829	13,294	10,494	11,633
All other sources	123,521	127,037	131,956	115,260	88,327	100,092
Grand Total	222,075	241,460	260,456	246,474	217,258	252,444

Source: USITC DataWeb/Census, accessed October 27, 2022.

Note: Sources are sorted by import value in 2021.

Table H.35 General U.S. imports admitted into U.S. FTZs or bonded warehouses by source, 2016–21

In percentages.

Source	2016	2017	2018	2019	2020	2021
China	21.5	23.3	26.2	27.9	35.5	35.9
Germany	9.1	8.6	7.8	8.3	8.2	7.7
Vietnam	3.3	3.4	3.2	6.0	5.6	7.0
Japan	5.6	5.6	5.3	5.6	5.2	5.1
Mexico	4.8	6.4	6.8	5.4	4.8	4.6
All other sources	55.6	52.6	50.7	46.8	40.7	39.6
Grand Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC DataWeb/Census, accessed October 27, 2022.

Note: Sources are sorted by import value in 2021.

Table H.36 General U.S. imports admitted into U.S. FTZs or bonded warehouses by source, 2016–21

In percentages.

Source	2016	2017	2018	2019	2020	2021
China	21.5	23.3	26.2	27.9	35.5	35.9
Germany	9.1	8.6	7.8	8.3	8.2	7.7
Vietnam	3.3	3.4	3.2	6.0	5.6	7.0
Japan	5.6	5.6	5.3	5.6	5.2	5.1
Mexico	4.8	6.4	6.8	5.4	4.8	4.6
All other sources	55.6	52.6	50.7	46.8	40.7	39.6
Grand Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: USITC DataWeb/Census, accessed October 27, 2022.

Note: Sources are sorted by import value in 2021.

Table H.37 U.S. imports for consumption withdrawn from U.S. FTZs or bonded warehouses by chapter, 2016–21

In millions of dollars.

HS chapter	HS chapter description	2016	2017	2018	2019	2020	2021
27	Mineral fuels and oils	55,043	60,169	68,446	43,666	20,307	21,841
85	Electrical machinery, equipment, and parts	35,568	38,982	53,682	60,858	57,413	67,562
84	Nuclear reactors, boilers, and machinery	32,890	42,310	47,309	43,118	46,667	50,879
87	Automotive vehicles, parts, and accessories	29,657	27,809	29,708	29,852	25,469	31,368
71	Pearls, precious or semi-precious stones precious metals	12,230	13,550	15,156	13,584	10,608	13,434
30	Pharmaceutical products	9,846	9,471	12,814	17,377	19,028	15,134
All other chapters	—	31,460	35,699	42,401	40,768	36,022	41,933
Total	—	206,695	227,991	269,518	249,222	215,515	242,151

Source: Census Bureau, official U.S. import statistics from U.S. FTZs and bonded warehouses, requested by USITC and accessed August 2022.

Note: These values represent the dutiable value of foreign merchandise contained in entries from U.S. FTZs. These merchandise entries, if manufactured within the zone by production operators, may contain domestic value-added content that is represented in the total zone value of the good for resale, but not the dutiable value of the good. 19 C.F.R. § 146.65(b). The chapters are sorted by import value in 2016.

Table H.38 Share of U.S. imports for consumption withdrawn from U.S. FTZs or bonded warehouses by chapter, 2016–21

In percentages.

HS chapter	HS chapter description	2016	2017	2018	2019	2020	2021
27	Mineral fuels and oils	26.6	26.4	25.4	17.5	9.4	9.0
85	Electrical machinery, equipment, and parts	17.2	17.1	19.9	24.4	26.6	27.9
84	Nuclear reactors, boilers, and machinery	15.9	18.6	17.6	17.3	21.7	21.0
87	Automotive vehicles, parts, and accessories	14.3	12.2	11.0	12.0	11.8	13.0
71	Pearls, precious or semi-precious stones precious metals	5.9	5.9	5.6	5.5	4.9	5.5
30	Pharmaceutical products	4.8	4.2	4.8	7.0	8.8	6.2
All other chapters	—	15.2	15.7	15.7	16.4	16.7	17.3
Total	—	100.0	100.0	100.0	100.0	100.0	100.0

Source: Census Bureau, official U.S. import statistics from U.S. FTZs and bonded warehouses, requested by USITC and accessed August 2022.

Note: These shares represent the dutiable value of foreign merchandise contained in entries from U.S. FTZs. These merchandise entries, if manufactured within the zone by production operators, may contain domestic value-added content that is represented in the total zone value of the good for resale, but not the dutiable value of the good. 19 C.F.R. § 146.65(b). The chapters are sorted by import value in 2016.

Table H.39 U.S. imports for consumption withdrawn from U.S. FTZs or bonded warehouses by source and period, 2016–21

In millions of dollars.

Country	2016	2017	2018	2019	2020	2021
China	46,853	54,727	71,527	72,570	77,193	84,920
Japan	11,944	12,746	14,997	14,920	12,514	20,032
Germany	18,044	19,255	20,926	20,315	17,880	18,999
Vietnam	7,619	7,745	10,304	13,037	10,641	16,784
Mexico	9,325	14,254	18,409	12,976	10,460	10,203
All other source	112,909	119,265	133,354	115,404	86,828	91,213
Total	206,695	227,991	269,518	249,222	215,515	242,151

Source: Census special run of official U.S. import statistics.

Note: These values represent the dutiable value of foreign merchandise contained in entries from U.S. FTZs. These merchandise entries, if manufactured within the zone by production operators, may contain domestic value-added content that is represented in the total zone value of the good for resale, but not the dutiable value of the good. 19 C.F.R. § 146.65(b). Additionally, CBP assigns the entire value of the entry to the country with the highest value share on the entry form (CBP Form 7501). This assignment is reflected in the data presented above. The sources are sorted by import value in 2021.

Table H.40 Share of U.S. imports for consumption withdrawn from U.S. FTZs or bonded warehouses by source and period, 2016–21

In percentages.

Country	2016	2017	2018	2019	2020	2021
China	22.7	24.0	26.5	29.1	35.8	35.1
Japan	5.8	5.6	5.6	6.0	5.8	8.3
Germany	8.7	8.4	7.8	8.2	8.3	7.8
Vietnam	3.7	3.4	3.8	5.2	4.9	6.9
Mexico	4.5	6.3	6.8	5.2	4.9	4.2
All other source	54.6	52.3	49.5	46.3	40.3	37.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Census special run of official U.S. import statistics.

Note: These shares represent the dutiable value of foreign merchandise contained in entries from U.S. FTZs. These merchandise entries, if manufactured within the zone by production operators, may contain domestic value-added content that is represented in the total zone value of the good for resale, but not the dutiable value of the good. 19 C.F.R. § 146.65(b). Additionally, CBP assigns the entire value of the entry to the country with the highest value share on the entry form (CBP Form 7501). This assignment is reflected in the data presented above. The sources are sorted by import value in 2021.

Table H.41 Total U.S. exports (excluding to Canada) withdrawn from U.S. FTZs or bonded warehouses, by chapter and period, 2016–21

In millions of dollars.

Chapter	HS chapter description	2016	2017	2018	2019	2020	2021
87	Automotive vehicles, parts, and accessories	18,082	17,190	15,636	17,109	15,631	13,424
27	Mineral fuels and oils	8,188	7,986	6,216	2,864	86	259
85	Electrical machinery, equipment, and parts	1,385	898	971	1,881	2,905	3,170
84	Nuclear reactors, boilers, and machinery	1,028	1,440	1,733	5,107	7,231	8,530
All other chapters	—	2,560	2,750	2,836	3,148	3,541	4,644
Total	—	31,243	30,265	27,392	30,109	29,393	30,028

Source: Census special run of official U.S. export statistics.

Note: HTS chapter 87—automotive vehicles, parts, and accessories; chapter 27—mineral fuels, mineral oils and products of their distillation, bituminous substances, mineral waxes; chapter 85—electrical machinery, equipment, and parts; and chapter 84—nuclear reactors, boilers, and machinery. The chapters are sorted by export value in 2016.

Table H.42 Share of total U.S. exports (excluding to Canada) withdrawn from U.S. FTZs or bonded warehouses, by chapter and period, 2016–21

In millions of dollars.

Chapter	HS chapter description	2016	2017	2018	2019	2020	2021
87	Automotive vehicles, parts, and accessories	57.9	56.8	57.1	56.8	53.2	44.7
27	Mineral fuels and oils	26.2	26.4	22.7	9.5	0.3	0.9
85	Electrical machinery, equipment, and parts	4.4	3.0	3.5	6.2	9.9	10.6
84	Nuclear reactors, boilers, and machinery	3.3	4.8	6.3	17.0	24.6	28.4
All other chapters	—	8.2	9.1	10.4	10.5	12.0	15.5
Total	—	100.0	100.0	100.0	100.0	100.0	100.0

Source: Census special run of official U.S. export statistics.

Note: HTS chapter 87—automotive vehicles, parts, and accessories; chapter 27—mineral fuels, mineral oils and products of their distillation, bituminous substances, mineral waxes; chapter 85—electrical machinery, equipment, and parts; and chapter 84—nuclear reactors, boilers, and machinery. The chapters are sorted by export value in 2016.

Table H.43 Number of firms with U.S. FTZ production activities by sector, 2016–21

In number of firms.

Sectors	2016	2017	2018	2019	2020	2021
Nonelectrical machinery	35	37	41	43	47	47
Vehicles and parts	32	35	35	37	37	35
Miscellaneous	21	21	22	23	29	34
Electronics	26	26	25	27	27	27
Pharmaceuticals	18	19	19	22	24	24
Minerals and metals	11	10	12	15	18	23
Other transportation	20	20	20	21	21	22
Fuels	21	21	21	21	20	19
Chemicals	16	15	18	15	15	15
Textiles	8	8	8	10	10	10
Agriculture and food	9	9	9	9	9	9
All sectors	216	220	230	243	255	263

Source: USITC, *Foreign Trade Zones Questionnaire*, 2022, weighted responses to question 2.3.**Table H.44** Number of employees in U.S. FTZs, by type of operation, 2016–21

In number of employees and percentages.

Type of operation	2016	2017	2018	2019	2020	2021
Production operations (number of employees)	344,400	360,000	343,200	363,400	366,600	374,400
Warehousing operations (number of employees)	75,600	90,000	96,800	96,600	103,400	105,600
All operations (number of employees)	420,000	450,000	440,000	460,000	470,000	480,000
Production operations (%)	82.0	80.0	78.0	79.0	78.0	78.0
Warehousing operations (%)	18.0	20.0	22.0	21.0	22.0	22.0
All operations (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: FTZ Board, 78th Annual Report, November 2017, 6; FTZ Board, 79th Annual Report, November 2018, 6; FTZ Board, 80th Annual Report, November 2019, 6; FTZ Board, 81st Annual Report, November 2020, 6; FTZ Board, 82nd Annual Report, August 2021, 6; FTZ Board, 83rd Annual Report, August 2022, 1,4,6.

Note: The FTZ Board reports employment in hundreds of employees as the lowest level of specificity when reporting employment by operation type.

Table H.45 Value of U.S. merchandise trade admissions into U.S. FTZs, by admission type, 2016–21

In billions of dollars and percentages.

Admission type	2016	2017	2018	2019	2020	2021
Foreign status	225	251	297	279	254	294
Domestic status	385	419	497	488	371	542
Total	610	669	794	767	625	836
Foreign status	36.9	37.4	37.4	36.4	40.7	35.1
Domestic status	63.1	62.6	62.6	63.6	59.3	64.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: FTZ Board, 78th Annual Report, November 2017, 6; FTZ Board, 79th Annual Report, November 2018, 6; FTZ Board, 80th Annual Report, November 2019, 6; FTZ Board, 81st Annual Report, November 2020, 6; FTZ Board, 82nd Annual Report, August 2021, 6; FTZ Board, 83rd Annual Report, August 2022, 1,6.

Note: The FTZ Board only collects and reports data from zone operators in its annual report if those operators admitted foreign status merchandise into their operations in the previous calendar year.

Table H.46 Value of export shipments from U.S. FTZs by type, 2016–21

In billions of dollars and percentages.

Type	2016	2017	2018	2019	2020	2021
From production operation (%)	50.6	58.3	73.2	71.8	54.8	76.3
From warehousing/distribution (%)	25.1	28.8	39.7	39.6	39.4	47.3
Total (%)	75.7	87.1	112.9	111.4	94.2	123.6
From production operation (%)	66.8	66.9	64.8	64.5	58.2	61.7
From warehousing/distribution (%)	33.2	33.1	35.2	35.5	41.8	38.3
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: FTZ Board, 78th Annual Report, November 2017, 6; FTZ Board, 79th Annual Report, November 2018, 6; FTZ Board, 80th Annual Report, November 2019, 6; FTZ Board, 81st Annual Report, November 2020, 6; FTZ Board, 82nd Annual Report, August 2021, 6; FTZ Board, 83rd Annual Report, August 2022, 1,6.

Note: Export figures are based on material inputs and do not include value added.