

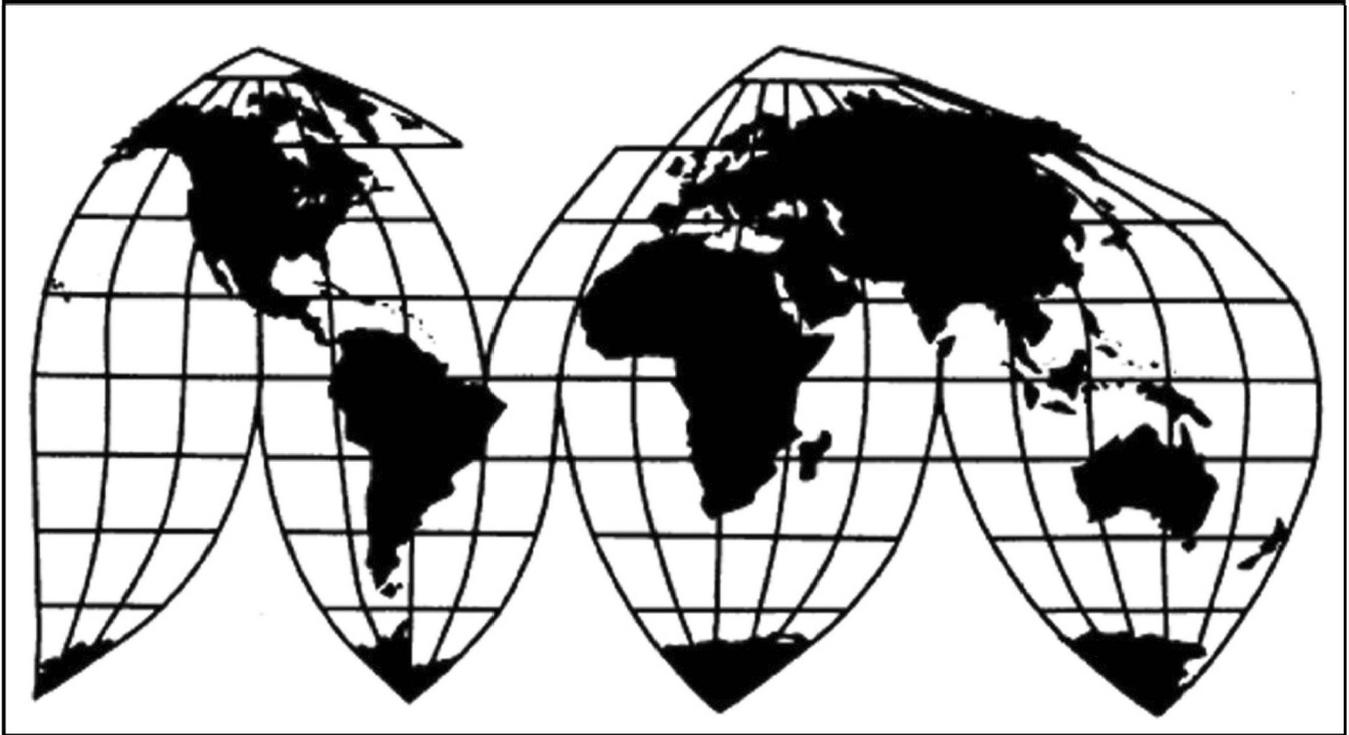
# **Glass Containers from China**

Investigation Nos. 701-TA-630 and 731-TA-1462 (Preliminary)

**Publication 4996**

**November 2019**

**U.S. International Trade Commission**



Washington, DC 20436

# U.S. International Trade Commission

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# CONTENTS

	Page
<b>Determinations</b> .....	1
<b>Views of the Commission</b> .....	3
<b>Part I: Introduction</b> .....	<b>I-1</b>
Background.....	I-1
Statutory criteria .....	I-1
Organization of report.....	I-3
Market summary .....	I-3
Summary data and data sources.....	I-4
Previous and related investigations .....	I-4
Nature and extent of alleged subsidies and sales at LTFV .....	I-5
Alleged subsidies .....	I-5
Alleged sales at LTFV .....	I-6
The subject merchandise .....	I-6
Commerce’s scope .....	I-6
Tariff treatment.....	I-7
The product.....	I-7
Description and applications.....	I-7
Manufacturing processes .....	I-8
Domestic like product issues.....	I-18
<b>Part II: Conditions of competition in the U.S. market</b> .....	<b>II-1</b>
U.S. market characteristics.....	II-1
Channels of distribution .....	II-2
Geographic distribution .....	II-4
Supply and demand considerations .....	II-5
U.S. supply .....	II-5
U.S. demand .....	II-10
Substitutability issues.....	II-16
Minimum order quantities .....	II-16
Lead times .....	II-17

## CONTENTS

	Page
Factors affecting purchasing decisions.....	II-18
<b>Part II: Conditions of competition in the U.S. market.....</b>	<b>II-1</b>
Comparison of U.S.-produced and imported glass containers .....	II-18
<b>Part III: U.S. producers' production, shipments, and employment .....</b>	<b>III-1</b>
U.S. producers .....	III-1
U.S. production, capacity, and capacity utilization .....	III-4
Alternative products.....	III-6
U.S. producers' U.S. shipments and exports.....	III-6
U.S. producers' inventories.....	III-8
U.S. producers' imports and purchases .....	III-8
U.S. employment, wages, and productivity .....	III-9
<b>Part IV: U.S. imports, apparent U.S. consumption, and market shares .....</b>	<b>IV-1</b>
U.S. importers.....	IV-1
U.S. imports.....	IV-2
Negligibility.....	IV-10
Apparent U.S. consumption .....	IV-11
U.S. market shares .....	IV-12
<b>Part V: Pricing data.....</b>	<b>V-1</b>
Factors affecting prices .....	V-1
Raw material costs .....	V-1
Transportation costs to the U.S. market .....	V-2
U.S. inland transportation costs.....	V-3
Pricing practices .....	V-3
Pricing methods.....	V-3
Sales terms and discounts .....	V-4
Price data.....	V-5
Price trends.....	V-14
Price comparisons .....	V-14
Lost sales and lost revenue .....	V-15

## CONTENTS

	Page
<b>Part VI: Financial experience of U.S. producers .....</b>	<b>VI-1</b>
Background.....	VI-1
Operations on glass containers.....	VI-2
Net sales .....	VI-7
Cost of goods sold and gross profit or (loss) .....	VI-8
SG&A expenses and operating income or (loss) .....	VI-9
All other expenses and net income or (loss).....	VI-9
Capital expenditures and research and development expenses.....	VI-11
Assets and return on assets .....	VI-12
Capital and investment .....	VI-13
<b>Part VII: Threat considerations and information on nonsubject countries.....</b>	<b>VII-1</b>
The industry in China.....	VII-3
Changes in operations.....	VII-5
Operations on glass containers .....	VII-6
Alternative products.....	VII-9
Exports.....	VII-10
U.S. inventories of imported merchandise .....	VII-12
U.S. importers' outstanding orders.....	VII-13
Antidumping or countervailing duty orders in third-country markets.....	VII-13
Information on nonsubject countries .....	VII-14
<b>Appendixes</b>	
A. <i>Federal Register</i> notices .....	A-1
B. List of staff conference witnesses .....	B-1
C. Summary data .....	C-1
D. <i>U.S. producers' and importers' range of AUVs</i> .....	D-1
E. <i>Market shares by channels of distribution</i> .....	E-1

## CONTENTS

Page

Note.—Information that would reveal confidential operations of individual concerns may not be published. Such information is identified by brackets in confidential reports and is deleted and replaced with asterisks (\*\*\*) in public reports.

## UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-630 and 731-TA-1462 (Preliminary)

Glass Containers from China

### DETERMINATIONS

On the basis of the record<sup>1</sup> developed in the subject investigations, the United States International Trade Commission (“Commission”) determines, pursuant to the Tariff Act of 1930 (“the Act”), that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of glass containers from China, provided for in subheading 7010.90.50 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value (“LTFV”) and to be subsidized by the government of China.<sup>2</sup>

### COMMENCEMENT OF FINAL PHASE INVESTIGATIONS

Pursuant to section 207.18 of the Commission’s rules, the Commission also gives notice of the commencement of the final phase of its investigations. The Commission will issue a final phase notice of scheduling, which will be published in the *Federal Register* as provided in section 207.21 of the Commission’s rules, upon notice from the U.S. Department of Commerce (“Commerce”) of affirmative preliminary determinations in the investigations under sections 703(b) or 733(b) of the Act, or, if the preliminary determinations are negative, upon notice of affirmative final determinations in those investigations under sections 705(a) or 735(a) of the Act. Parties that filed entries of appearance in the preliminary phase of the investigations need not enter a separate appearance for the final phase of the investigations. Industrial users, and, if the merchandise under investigation is sold at the retail level, representative consumer organizations have the right to appear as parties in Commission antidumping and countervailing duty investigations. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to the investigations.

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<sup>1</sup> The record is defined in sec. 207.2(f) of the Commission’s Rules of Practice and Procedure (19 CFR 207.2(f)).

<sup>2</sup> 84 FR 56168 and 84 FR 56174 (October 21, 2019).

## **BACKGROUND**

On September 25, 2019, the American Glass Packaging Coalition, Tampa, Florida, and Chicago, Illinois, filed petitions with the Commission and Commerce, alleging that an industry in the United States is materially injured or threatened with material injury by reason of subsidized imports of glass containers from China and LTFV imports of glass containers from China. Accordingly, effective September 25, 2019, the Commission, pursuant to sections 703(a) and 733(a) of the Act (19 U.S.C. 1671b(a) and 1673b(a)), instituted countervailing duty investigation No. 701-TA-630 and antidumping duty investigation No. 731-TA-1462 (Preliminary).

Notice of the institution of the Commission's investigations and of a public conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of October 2, 2019 (84 FR 52536). The conference was held in Washington, DC, on October 16, 2019, and all persons who requested the opportunity were permitted to appear in person or by counsel.

## Views of the Commission

Based on the record in the preliminary phase of these investigations, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of glass containers from China that are allegedly sold in the United States at less than fair value (“LTFV”) and that are allegedly subsidized by the government of China.

### I. The Legal Standard for Preliminary Determinations

The legal standard for preliminary antidumping and countervailing duty determinations requires the Commission to determine, based upon the information available at the time of the preliminary determinations, whether there is a reasonable indication that a domestic industry is materially injured or threatened with material injury, or that the establishment of an industry is materially retarded, by reason of the allegedly unfairly traded imports.<sup>1</sup> In applying this standard, the Commission weighs the evidence before it and determines whether “(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation.”<sup>2</sup>

### II. Background

**Parties to the investigation.** The American Glass Packaging Coalition (“Petitioner”), which includes two U.S. producers of glass containers, filed the petitions in these investigations

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<sup>1</sup> 19 U.S.C. §§ 1671b(a), 1673b(a) (2000); *see also American Lamb Co. v. United States*, 785 F.2d 994, 1001-04 (Fed. Cir. 1986); *Aristech Chem. Corp. v. United States*, 20 CIT 353, 354-55 (1996). No party argues that the establishment of an industry in the United States is materially retarded by the allegedly unfairly traded imports.

<sup>2</sup> *American Lamb*, 785 F.2d at 1001; *see also Texas Crushed Stone Co. v. United States*, 35 F.3d 1535, 1543 (Fed. Cir. 1994).

on September 25, 2019.<sup>3</sup> The Petitioner appeared at the staff conference and submitted a postconference brief.

A number of respondent entities have participated in these investigations. The following importers of subject merchandise participated in the staff conference and submitted postconference briefs: TricorBraun, Inc. (“TricorBraun”) and Berlin Packaging, LLC (“Berlin Packaging”). International Glass and Ceramics (“IGC”), an importer of subject merchandise, filed a postconference brief. Additionally, Spirited Packaging, an importer of subject merchandise, provided a brief written statement.

**Data Coverage.** U.S. industry data are based on questionnaire responses from four firms estimated to account for 91 percent of U.S. production of glass containers during 2018.<sup>4</sup> U.S. import data are based on official import statistics from the U.S. Department of Commerce (“Commerce”) that have been adjusted to remove products that are outside the scope of investigations.<sup>5</sup> Data on foreign producers of subject merchandise are based on questionnaire responses from 12 firms estimated to account for \*\*\* percent of imports of subject

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<sup>3</sup> The Petitioner includes U.S. producers Anchor Glass Container Corp. (“Anchor”) and Ardagh Glass Inc. (“Ardagh”).

<sup>4</sup> Confidential Report, Memorandum INV-RR-113 (Nov. 4, 2019), as revised by Memorandum INV-RR-118 (Nov. 7, 2019) (“CR”) at I-4; Public Report, *Glass Containers from China*, Inv. Nos. 701-TA-630 and 731-TA-1462 (Preliminary), USITC Pub. 4996 (November 2019) (“PR”) at I-4. Questionnaire responses were received from petitioning firms Anchor and Ardagh, as well as Owens-Brockway Glass Container, Inc. (“Owens”) and Gallo Glass Co., both of which \*\*\* the petitions. CR/PR at Table III-1. Other U.S. producers identified in the petitions, but which did not submit questionnaire responses, include Arkansas Glass, Longhorn Glass, Piramal Glass, and Rocky Mountain Bottling Company. CR/PR at I-4.

<sup>5</sup> CR/PR at I-4 & IV-5. The Commission received usable questionnaire responses from 21 importing firms, representing \*\*\* percent of imports from China under relevant HTS subheadings in 2018. CR/PR at IV-1.

merchandise in 2018, and for an estimated \*\*\* percent of overall production of glass containers in China.<sup>6</sup>

### III. Domestic Like Product

In determining whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of imports of the subject merchandise, the Commission first defines the “domestic like product” and the “industry.”<sup>7</sup> Section 771(4)(A) of the Tariff Act of 1930, as amended (“the Tariff Act”), defines the relevant domestic industry as the “producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product.”<sup>8</sup> In turn, the Tariff Act defines “domestic like product” as “a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation.”<sup>9</sup>

The decision regarding the appropriate domestic like product in an investigation is a factual determination, and the Commission has applied the statutory standard of “like” or “most similar in characteristics and uses” on a case-by-case basis.<sup>10</sup> No single factor is

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<sup>6</sup> CR/PR at VII-3.

<sup>7</sup> 19 U.S.C. § 1677(4)(A).

<sup>8</sup> 19 U.S.C. § 1677(4)(A).

<sup>9</sup> 19 U.S.C. § 1677(10).

<sup>10</sup> See, e.g., *Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *NEC Corp. v. Department of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int’l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *Torrington Co. v. United States*, 747 F. Supp. 744, 749 n.3 (Ct. Int’l Trade 1990), *aff’d*, 938 F.2d 1278 (Fed. Cir. 1991) (“every like product determination ‘must be made on the particular record at issue’ and the ‘unique facts of each case’”). The Commission generally considers a number of factors including the following: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes, and production employees; and, where appropriate,

(continued...)

dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.<sup>11</sup> The Commission looks for clear dividing lines among possible like products and disregards minor variations.<sup>12</sup> Although the Commission must accept Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at LTFV,<sup>13</sup> the Commission determines what domestic product is like the imported articles Commerce has identified.<sup>14</sup> The Commission may, where appropriate, include domestic articles in the domestic like product in addition to those described in the scope.<sup>15</sup>

In its notices of initiation, Commerce defined the imported merchandise within the scope of these investigations as:

...certain glass containers with a nominal capacity of 0.059 liters (2.0 fluid ounces) up to and including 4.0 liters (135.256 fluid ounces) and an opening or mouth with a nominal outer diameter of 14 millimeters up to and including 120

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(...continued)

(6) price. See *Nippon*, 19 CIT at 455 n.4; *Timken Co. v. United States*, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996).

<sup>11</sup> See, e.g., S. Rep. No. 96-249 at 90-91 (1979).

<sup>12</sup> See, e.g., *Nippon*, 19 CIT at 455; *Torrington*, 747 F. Supp. at 748-49; see also S. Rep. No. 96-249 at 90-91 (Congress has indicated that the like product standard should not be interpreted in "such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not 'like' each other, nor should the definition of 'like product' be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.").

<sup>13</sup> See, e.g., *USEC, Inc. v. United States*, 34 Fed. App'x 725, 730 (Fed. Cir. 2002) ("The ITC may not modify the class or kind of imported merchandise examined by Commerce."); *Algoma Steel Corp. v. United States*, 688 F. Supp. 639, 644 (Ct. Int'l Trade 1988), *aff'd*, 865 F.3d 240 (Fed. Cir.), *cert. denied*, 492 U.S. 919 (1989).

<sup>14</sup> *Hosiden Corp. v. Advanced Display Mfrs.*, 85 F.3d 1561, 1568 (Fed. Cir. 1996) (the Commission may find a single like product corresponding to several different classes or kinds defined by Commerce); *Cleo*, 501 F.3d at 1298 n.1 ("Commerce's {scope} finding does not control the Commission's {like product} determination."); *Torrington*, 747 F. Supp. at 748-52 (affirming the Commission's determination defining six like products in investigations where Commerce found five classes or kinds).

<sup>15</sup> See, e.g., *Pure Magnesium from China and Israel*, Inv. Nos. 701-TA-403 and 731-TA-895-96 (Final), USITC Pub. 3467 at 8 n.34 (Nov. 2001); *Torrington*, 747 F. Supp. at 748-49 (holding that the Commission is not legally required to limit the domestic like product to the product advocated by the petitioner, co-extensive with the scope).

millimeters. The scope includes glass jars, bottles, flasks and similar containers; with or without their closures; whether clear or colored; and with or without design or functional enhancements (including, but not limited to, handles, embossing, labeling, or etching).

Excluded from the scope of the investigations are: (1) glass containers made of borosilicate glass, meeting United States Pharmacopeia requirements for Type 1 pharmaceutical containers; (2) glass containers without ‘mold seams’, ‘joint marks’, or ‘parting lines’; and (3) glass containers without a ‘finish’ (i.e., the section of a container at the opening including the lip and ring or collar, threaded or otherwise compatible with a type of closure to seal the container’s contents, including but not limited to a lid, cap, or cork).

Glass containers subject to this investigation are specified within the Harmonized Tariff Schedule of the United States (“HTSUS”) under subheadings 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049, and 7010.90.5055. The HTSUS subheadings are provided for convenience and customs purposes only. The written description of the scope of the investigations is dispositive.<sup>16</sup>

Glass containers are bottles, jars, and other glass envelopments that are used for the package and transport of beverages, food, and other materials.<sup>17</sup> They include a “finish” at the opening that is compatible with a closure and that allows the container to be sealed for storage of its contents.<sup>18</sup> Glass containers are primarily used in the food and beverage industry, and they provide certain advantages over other container types because of their durability, strength, and ability to preserve food and beverage taste and flavor.<sup>19</sup> Manufacturing of glass containers entails the mixing of raw materials (e.g., sand, soda ash, cullet/recycled glass, etc.)

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<sup>16</sup> *Certain Glass Containers from the People’s Republic of China: Initiation of Countervailing Duty Investigation*, 84 Fed. Reg. 56,168 (Oct. 21, 2019); see also *Certain Glass Containers from the People’s Republic of China: Initiation of Less-Than-Fair-Value Investigation*, 84 Fed. Reg. 56,174 (Oct. 21, 2019).

<sup>17</sup> CR/PR at I-7-8. Other such products include “nutraceuticals” (e.g., vitamins). CR/PR at II-1 n.1.

<sup>18</sup> CR/PR at I-8.

<sup>19</sup> CR/PR at I-8.

to create a “batch” with the desired characteristics of a container; the melting of the batch in a furnace; the forming of molten glass into the desired shape through either a “blow and blow” or “press and blow” method; and finally an annealing process that cools the internal and external surfaces at a controlled rate.<sup>20</sup>

**A. Arguments of the Parties**

The Petitioner advocates that the Commission define a single domestic like product, coextensive with the scope of investigations.<sup>21</sup> TricorBraun<sup>22</sup> and Berlin Packaging<sup>23</sup> do not contest the Petitioner’s proposed definition of domestic like product in these preliminary determinations, but indicate that they may seek a separate definition of the domestic like product for some items in any final phase of these investigations.

**B. Analysis and Conclusions**

For the reasons explained below, we define a single domestic like product coextensive with the scope of these investigations.

*Physical Characteristics and Uses.* While glass containers vary in size<sup>24</sup> and shape, they share common traits such as their basic structure and having an opening that is compatible with

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<sup>20</sup> CR/PR at I-8-15.

<sup>21</sup> Petitioner’s Br. at 12; Conference Transcript (“Tr.”) at 33-35 (Pickard).

<sup>22</sup> TricorBraun Br. at 4.

<sup>23</sup> Berlin Packaging Br. at 3.

<sup>24</sup> The scope of investigations includes only certain sizes of glass containers: those with a nominal capacity of at least 0.059 liters (2.0 fluid ounces) and up to and including 4.0 liters (135.256 fluid ounces). Witnesses for the Petitioner indicated that there is no U.S. production of glass containers outside this size range. Conference Tr. at 63 (Shaddox).

a closure and that allows for the container to be sealed.<sup>25</sup> Additionally, glass containers are generally made from the same material, soda-lime glass,<sup>26</sup> and industry witnesses indicated that they share the same basic chemical composition across different shapes and sizes, with only certain variations to allow for different colors.<sup>27</sup> Glass containers share a common end use: the storage and transport of materials, especially food and beverages.<sup>28</sup>

*Interchangeability.* Glass containers have distinct shapes and sizes based on customer specifications, such that not all glass containers are interchangeable for all purposes.<sup>29</sup> Nonetheless, the Petitioner indicates that glass containers of similar design are generally interchangeable, and it cites as an example certain standard-type containers that are used across different customers and materials.<sup>30</sup>

*Manufacturing Facilities, Production Processes and Employees.* Manufacturing of glass containers involves the same basic manufacturing processes, which include mixing, melting, forming, and annealing.<sup>31</sup> Different forming methods, however, are used to produce different

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<sup>25</sup> Conference Tr. at 58-59 (Pickard). The Petitioner described a beer bottle, wine bottle, and food container as all sharing a basic structure: having a heel, body, shoulder, neck and finish, albeit with varying dimensions for these structures between different glass container types. *Id.*

<sup>26</sup> CR/PR at I-8.

<sup>27</sup> Conference Tr. at 60-61 (Shaddox).

<sup>28</sup> CR/PR at I-8; Conference Tr. at 59 (Pickard).

<sup>29</sup> Conference Tr. at 60 (Paulet) (emphasizing that customers dictate the size and shape of a container based on their particular strategy); *see also* Conference Tr. at 130-131 (Carruthers) (noting that a customer would not place wine or beer in a ketchup bottle).

<sup>30</sup> Conference Tr. at 62-63 (Shaddox); *see also* Conference Tr. at 59 (Pickard) (indicating that a common 12-ounce, long-neck bottle is used by multiple customers for beer, root beer, and other beverages).

<sup>31</sup> CR/PR at I-9-15.

types of glass containers,<sup>32</sup> and production facilities may also specialize in a particular product color for glass containers.<sup>33</sup> Witnesses for the domestic industry indicated that for glass containers using the same forming process and with the same color, such products of all sizes and shapes may be produced at the same facility, on the same equipment, and with the same employees.<sup>34</sup> The Petitioner<sup>35</sup> and respondents<sup>36</sup> disagree as to the difficulty in retooling a manufacturing facility to change forming methods, product color, and the resulting product mix.

*Channels of Distribution.* U.S. producers ship glass containers to distributors and various end users, including food manufacturers, alcoholic beverage manufacturers, other beverage manufacturers, and other end users.<sup>37</sup> Witnesses also indicated that U.S. producers maintain distinct channels for sales to small- and medium-sized customers, both for specialized and standard-type containers.<sup>38</sup>

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<sup>32</sup> Berlin Packaging Br. at 10; Conference Tr. at 131-133 (Brosch, Carruthers, O’Bryan) (indicating that the “blow and blow” method is typically used to make wine bottles, and that the “press and blow” method is used to make beer bottles).

<sup>33</sup> Conference Tr. at 132-133 (Brosch).

<sup>34</sup> Conference Tr. at 61 (Shaddox).

<sup>35</sup> Petitioner Br. at 7-8 & Exh. 10. Petitioner notes that \*\*\*. Petitioner argues that this indicates that the retooling of production facilities is a viable method to change a producer’s underlying product mix. *Id.*

<sup>36</sup> Conference Tr. at 130-131 (Carruthers and O’Bryan). Respondents argue that retooling of a production facility to change forming methods is more a “philosophical concept” than a viable method of changing product mix, arguing that it is very difficult and that the conversion of an Oklahoma mill by domestic producers took “almost a year” before customers received quality products. *Id.*

<sup>37</sup> CR/PR at Table II-1. No U.S. producer reported commercial U.S. shipments to retailers. *Id.*

<sup>38</sup> Petitioner’s Br. at Resp. to Staff Questions, 1-4; Conference Tr. at 49-50 (Paulet) (describing Ardagh’s programs for small customers, including buyourbottles.com (for standard-type beer and food containers) and Ardagh Direct (for small production runs of specialized containers)).

*Producer and Customer Perceptions.* U.S. producers testified at the staff conference that they attempt to make every type of glass container so as to “reach every spectrum of the customer base,” indicating that they perceive glass containers as a single product across all customer types.<sup>39</sup> They also indicated that once a customer selects a glass container’s shape, size, and features, the customer regards such products as interchangeable.<sup>40</sup> Witnesses for respondents indicated that while there may be distinct marketing considerations for certain types of glass containers, the “engineering and technical capabilities” are the same across all product types of glass containers.<sup>41</sup>

*Price.* Prices for glass containers vary significantly depending on factors such as size, shape, specialized features (*e.g.*, handles, embossing), and the size of production run.<sup>42</sup> Domestic industry witnesses describe glass containers as having a “value chain” where prices vary based on individual product performance, function, and cosmetic features,<sup>43</sup> but they also indicated that glass containers with a similar design have similar prices.<sup>44</sup>

*Conclusion.* Based on the record in the preliminary phase of these investigations, we define a single domestic like product that is coextensive with the scope of these investigations. Glass containers share similar physical structures and chemical compositions, a similar end use of storing and transporting goods, as well as similar channels of distribution. While the wide

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<sup>39</sup> Conference Tr. at 62 (Shaddox).

<sup>40</sup> Conference Tr. at 62-63 (Shaddox).

<sup>41</sup> Conference Tr. at 131 (Carruthers).

<sup>42</sup> CR/PR at Table D-1 (showing individual products with highest and lowest average unit values for domestic producers, with averages ranging from \$\*\*\* per gross to \$\*\*\* per gross); *see also* Conference Tr. at 62-63 (Shaddox).

<sup>43</sup> Conference Tr. at 61-62 (Shaddox).

<sup>44</sup> Conference Tr. at 62-63 (Shaddox) (indicating that a container with a specific shape is “exactly the same” even where different customers use the container to store materials of different value).

range of sizes and shapes of glass containers subject to investigation necessarily limits interchangeability and creates a wide range of possible prices between containers of different design, the available record indicates that glass containers with similar designs may be interchangeable and have similar prices. The record is mixed regarding manufacturing facilities, production processes, and employees. While individual manufacturing facilities may produce a wide range of product sizes and shapes on the same equipment and with the same employees, differences in forming methods and product color appear to limit the ability to manufacture some products at some facilities, and the feasibility of retooling production facilities to change product mix based on these criteria is contested by the parties.

Notwithstanding possible differences in manufacturing facilities for some items, the record indicates overlaps between different types of glass containers with respect to physical characteristics, end uses, and channels of distribution, as well as interchangeability, and similar prices between glass containers of similar design. Given the overlap in these criteria, and the lack of party argument proposing any alternative definition, we define a single domestic like product that is coextensive with the scope of these investigations for purposes of the preliminary determinations.<sup>45</sup>

#### **IV. Domestic Industry and Related Parties**

The domestic industry is defined as the domestic “producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes

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<sup>45</sup> In any final phase of these investigations, we invite parties to identify any proposed domestic like products in their comments on the Commission’s draft questionnaires, and specify with particularity those products for which they seek the Commission to collect separate data. 19 C.F.R. § 207.20(b).

a major proportion of the total domestic production of the product.”<sup>46</sup> In defining the domestic industry, the Commission’s general practice has been to include in the industry producers of all domestic production of the domestic like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

We must determine whether any producer of the domestic like product should be excluded from the domestic industry pursuant to Section 771(4)(B) of the Tariff Act.<sup>47</sup> This provision allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of subject merchandise or which are themselves importers.<sup>48</sup> Exclusion of such a producer is within the Commission’s discretion based upon the facts presented in each investigation.<sup>49</sup> These investigations raise a related party issue with respect to one domestic producer, Owens, which imported subject

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<sup>46</sup> 19 U.S.C. § 1677(4)(A).

<sup>47</sup> 19 U.S.C. § 1677(4)(B).

<sup>48</sup> See *Torrington Co. v. United States*, 790 F. Supp. 1161, 1168 (Ct. Int’l Trade 1992), *aff’d without opinion*, 991 F.2d 809 (Fed. Cir. 1993); *Sandvik AB v. United States*, 721 F. Supp. 1322, 1331-32 (Ct. Int’l Trade 1989), *aff’d mem.*, 904 F.2d 46 (Fed. Cir. 1990); *Empire Plow Co. v. United States*, 675 F. Supp. 1348, 1352 (Ct. Int’l Trade 1987).

<sup>49</sup> The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude a related party include the following:

- (1) the percentage of domestic production attributable to the importing producer;
- (2) the reason the U.S. producer has decided to import the product subject to investigation (whether the firm benefits from the LTFV sales or subsidies or whether the firm must import in order to enable it to continue production and compete in the U.S. market);
- (3) whether inclusion or exclusion of the related party will skew the data for the rest of the industry;
- (4) the ratio of import shipments to U.S. production for the imported product; and
- (5) whether the primary interest of the importing producer lies in domestic production or importation.

*Changzhou Trina Solar Energy Co. v. USITC*, 100 F. Supp.3d 1314, 1326-31 (Ct. Int’l. Trade 2015); see also *Torrington Co. v. United States*, 790 F. Supp. at 1168.

merchandise during the January 1, 2016 through June 30, 2019 period of investigation (“POI”) and \*\*\*; therefore, it meets the definition of a related party.<sup>50</sup>

While acknowledging that Owens \*\*\*, Petitioner nonetheless maintains that it should not be excluded from the domestic industry pursuant to the related parties provision.<sup>51</sup> Berlin Packaging takes no position on the definition of the domestic industry for purposes of the preliminary phase of these investigations.<sup>52</sup> As explained below, we define the domestic industry to include all U.S. producers of the domestic like product.

Owens is \*\*\* U.S. producer, accounting for \*\*\* percent of reported U.S. production in 2018, and it \*\*\*.<sup>53</sup> It is \*\*\*,<sup>54</sup> and it directly imported subject merchandise during the POI.<sup>55</sup> While it imported increasing volumes of subject merchandise between 2016 and 2018, these volumes were \*\*\* than its domestic production, and it \*\*\* during the January to June 2019 period (“interim 2019”).<sup>56</sup> Owens reported that it imported subject merchandise during the POI for \*\*\*.<sup>57</sup> Owens’s operating income to net sales ratio was \*\*\* than the domestic industry average during the POI.<sup>58</sup>

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<sup>50</sup> CR/PR at Tables III-2 & III-8.

<sup>51</sup> Petitioner’s Br. at 12.

<sup>52</sup> Berlin Packaging Br. at 4. TricorBraun does not address the definition of domestic industry in its arguments.

<sup>53</sup> CR/PR at Table III-1.

<sup>54</sup> CR/PR at Table III-2. \*\*\* an exporter of subject merchandise, is \*\*\* of Owens; \*\*\*. *Id.*

<sup>55</sup> CR/PR at Table III-8.

<sup>56</sup> CR/PR at Table III-8. Owens imported subject merchandise totaling \*\*\* gross in 2016, \*\*\* gross in 2017, and \*\*\* gross in 2018. It imported \*\*\* gross between January and June 2018 (“interim 2018”) and \*\*\* gross in interim 2019. Its subject imports as a share of domestic production were \*\*\* percent in 2016, \*\*\* percent in 2017, \*\*\* percent in 2018, and they were higher in interim 2018 (\*\*\*) percent) due to \*\*\* in interim 2019. *Id.*

<sup>57</sup> CR/PR at Table III-8.

<sup>58</sup> CR/PR at Table VI-3.

Owens's domestic production far surpasses its imports of subject merchandise, it is \*\*\*, and it \*\*\*. These factors indicate that its primary interest lies in domestic production rather than importation, and no party has argued for it to be excluded from the domestic industry. Accordingly, we find that appropriate circumstances do not exist to exclude it from the domestic industry as a related party.

In light of our findings with regard to domestic like product and related parties, we define the domestic industry as all domestic producers of glass containers.

## **V. Reasonable Indication of Material Injury by Reason of Subject Imports<sup>59</sup>**

### **A. Legal Standard**

In the preliminary phase of antidumping and countervailing duty investigations, the Commission determines whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.<sup>60</sup> In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production

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<sup>59</sup> Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product shall be deemed negligible if they account for less than three percent (or four percent in the case of a developing country in a countervailing duty investigation) of all such merchandise imported into the United States during the most recent 12 months for which data are available preceding the filing of the petition. *See* 19 U.S.C. §§ 1671b(a), 1673b(a), 1677(24)(A)(i), 1677(24)(B); *see also* 15 C.F.R. § 2013.1 (developing countries for purposes of 19 U.S.C. § 1677(36)). The record indicates that subject imports of glass containers from China exceeded the requisite statutory threshold. Based on official import statistics, subject imports accounted for 30.5 percent by quantity of total imports of glass containers from September 2018 through August 2019. CR/PR at Table IV-5. Consequently, we find that subject imports of glass containers from China are not negligible.

<sup>60</sup> 19 U.S.C. §§ 1671b(a), 1673b(a).

operations.<sup>61</sup> The statute defines “material injury” as “harm which is not inconsequential, immaterial, or unimportant.”<sup>62</sup> In assessing whether there is a reasonable indication that the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.<sup>63</sup> No single factor is dispositive, and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”<sup>64</sup>

Although the statute requires the Commission to determine whether there is a reasonable indication that the domestic industry is “materially injured or threatened with material injury by reason of” unfairly traded imports,<sup>65</sup> it does not define the phrase “by reason of,” indicating that this aspect of the injury analysis is left to the Commission’s reasonable exercise of its discretion.<sup>66</sup> In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the “by reason of” standard must ensure that subject imports are more than a minimal or tangential

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<sup>61</sup> 19 U.S.C. § 1677(7)(B). The Commission “may consider such other economic factors as are relevant to the determination” but shall “identify each {such} factor ... and explain in full its relevance to the determination.” 19 U.S.C. § 1677(7)(B).

<sup>62</sup> 19 U.S.C. § 1677(7)(A).

<sup>63</sup> 19 U.S.C. § 1677(7)(C)(iii).

<sup>64</sup> 19 U.S.C. § 1677(7)(C)(iii).

<sup>65</sup> 19 U.S.C. §§ 1671b(a), 1673b(a).

<sup>66</sup> *Angus Chemical Co. v. United States*, 140 F.3d 1478, 1484-85 (Fed. Cir. 1998) (“{T}he statute does not ‘compel the commissioners’ to employ {a particular methodology}.”), *aff’g*, 944 F. Supp. 943, 951 (Ct. Int’l Trade 1996).

cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.<sup>67</sup>

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.<sup>68</sup> In performing its examination, however, the Commission need not isolate

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<sup>67</sup> The Federal Circuit, in addressing the causation standard of the statute, observed that “[a]s long as its effects are not merely incidental, tangential, or trivial, the foreign product sold at less than fair value meets the causation requirement.” *Nippon Steel Corp. v. USITC*, 345 F.3d 1379, 1384 (Fed. Cir. 2003). This was further ratified in *Mittal Steel Point Lisas Ltd. v. United States*, 542 F.3d 867, 873 (Fed. Cir. 2008), where the Federal Circuit, quoting *Gerald Metals, Inc. v. United States*, 132 F.3d 716, 722 (Fed. Cir. 1997), stated that “this court requires evidence in the record ‘to show that the harm occurred ‘by reason of’ the LTFV imports, not by reason of a minimal or tangential contribution to material harm caused by LTFV goods.’” See also *Nippon Steel Corp. v. United States*, 458 F.3d 1345, 1357 (Fed. Cir. 2006); *Taiwan Semiconductor Industry Ass’n v. USITC*, 266 F.3d 1339, 1345 (Fed. Cir. 2001).

<sup>68</sup> The Statement of Administrative Action (“SAA”) to the Uruguay Round Agreements Act (“URAA”) at 851-52 (“[T]he Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports.”); S. Rep. 96-249 at 75 (1979) (the Commission “will consider information which indicates that harm is caused by factors other than less-than-fair-value imports.”); H.R. Rep. 96-317 at 47 (1979) (“in examining the overall injury being experienced by a domestic industry, the ITC will take into account evidence presented to it which demonstrates that the harm attributed by the petitioner to the subsidized or dumped imports is attributable to such other factors;” those factors include “the volume and prices of nonsubsidized imports or imports sold at fair value, contraction in demand or changes in patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry”); accord *Mittal Steel*, 542 F.3d at 877.

the injury caused by other factors from injury caused by unfairly traded imports.<sup>69</sup> Nor does the “by reason of” standard require that unfairly traded imports be the “principal” cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.<sup>70</sup> It is clear that the existence of injury caused by other factors does not compel a negative determination.<sup>71</sup>

Assessment of whether material injury to the domestic industry is “by reason of” subject imports “does not require the Commission to address the causation issue in any particular way” as long as “the injury to the domestic industry can reasonably be attributed to the subject imports.”<sup>72</sup> The Commission ensures that it has “evidence in the record” to “show that the

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<sup>69</sup> SAA at 851-52 (“{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports.”); *Taiwan Semiconductor Industry Ass’n*, 266 F.3d at 1345 (“{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports ... . Rather, the Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports.” (emphasis in original)); *Asociacion de Productores de Salmon y Trucha de Chile AG v. United States*, 180 F. Supp. 2d 1360, 1375 (Ct. Int’l Trade 2002) (“{t}he Commission is not required to isolate the effects of subject imports from other factors contributing to injury” or make “bright-line distinctions” between the effects of subject imports and other causes.); *see also Softwood Lumber from Canada*, Inv. Nos. 701-TA-414 and 731-TA-928 (Remand), USITC Pub. 3658 at 100-01 (Dec. 2003) (Commission recognized that “{i}f an alleged other factor is found not to have or threaten to have injurious effects to the domestic industry, *i.e.*, it is not an ‘other causal factor,’ then there is nothing to further examine regarding attribution to injury”), *citing Gerald Metals*, 132 F.3d at 722 (the statute “does not suggest that an importer of LTFV goods can escape countervailing duties by finding some tangential or minor cause unrelated to the LTFV goods that contributed to the harmful effects on domestic market prices.”).

<sup>70</sup> S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

<sup>71</sup> *See Nippon Steel Corp.*, 345 F.3d at 1381 (“an affirmative material-injury determination under the statute requires no more than a substantial-factor showing. That is, the ‘dumping’ need not be the sole or principal cause of injury.”).

<sup>72</sup> *Mittal Steel*, 542 F.3d at 876 & 78; *see also id.* at 873 (“While the Commission may not enter an affirmative determination unless it finds that a domestic industry is materially injured ‘by reason of’ subject imports, the Commission is not required to follow a single methodology for making that determination ... {and has} broad discretion with respect to its choice of methodology.”) *citing United*  
(continued...)

harm occurred “by reason of” the LTFV imports,” and that it is “not attributing injury from other sources to the subject imports.”<sup>73</sup> The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed “rigid adherence to a specific formula.”<sup>74</sup>

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence standard.<sup>75</sup> Congress has delegated this factual finding to the Commission because of the agency’s institutional expertise in resolving injury issues.<sup>76</sup>

## **B. Conditions of Competition and the Business Cycle**

The following conditions of competition inform our analysis of whether there is a reasonable indication of material injury by reason of subject imports.

### **1. Demand Conditions**

Glass containers are used to store and transport food, beverages, and other products.<sup>77</sup>

The vast majority of glass containers are intermediate products, which are used to store and

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(...continued)

*States Steel Group v. United States*, 96 F.3d 1352, 1362 (Fed. Cir. 1996) and S. Rep. 96-249 at 75. In its decision in *Swiff-Train v. United States*, 793 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission’s causation analysis as comports with the Court’s guidance in *Mittal*.

<sup>73</sup> *Mittal Steel*, 542 F.3d at 873 (quoting from *Gerald Metals*, 132 F.3d at 722), 877-79. We note that one relevant “other factor” may involve the presence of significant volumes of price-competitive nonsubject imports in the U.S. market, particularly when a commodity product is at issue. In appropriate cases, the Commission collects information regarding nonsubject imports and producers in nonsubject countries in order to conduct its analysis.

<sup>74</sup> *Nucor Corp. v. United States*, 414 F.3d 1331, 1336, 1341 (Fed. Cir. 2005); see also *Mittal Steel*, 542 F.3d at 879 (“*Bratsk* did not read into the antidumping statute a Procrustean formula for determining whether a domestic injury was ‘by reason’ of subject imports.”).

<sup>75</sup> We provide in our discussion below a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

<sup>76</sup> *Mittal Steel*, 542 F.3d at 873; *Nippon Steel Corp.*, 458 F.3d at 1350, citing *U.S. Steel Group*, 96 F.3d at 1357; S. Rep. 96-249 at 75 (“The determination of the ITC with respect to causation is ... complex and difficult, and is a matter for the judgment of the ITC.”).

<sup>77</sup> CR/PR at II-1.

transport goods to end users.<sup>78</sup> A small portion of glass containers are end-use consumer goods, such as those used for home-canning or home décor.<sup>79</sup>

Demand for glass containers derives primarily from demand for the food or beverages stored within them.<sup>80</sup> Demand for glass containers exhibits some seasonality, with demand increasing at harvest season for some agricultural products, and for certain beverages in warm weather or holiday seasons.<sup>81</sup> Since the vast majority of glass containers are intermediate products, their share of the cost of end-use products that they store varies but generally accounts for a small share of such costs.<sup>82</sup> Responding firms reported various substitutes for glass containers, including aluminum cans, plastic/PET bottles, flexible pouches (*e.g.*, Tetra Paks), metal containers/kegs, and ceramic containers.<sup>83</sup> Additionally, the record indicates that shifts in demand to imported beverages that are bottled outside the United States have the effect of reducing demand for glass containers in the United States.<sup>84</sup>

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<sup>78</sup> CR/PR at II-1.

<sup>79</sup> CR/PR at II-1.

<sup>80</sup> CR/PR at II-10.

<sup>81</sup> CR/PR at II-10. Three of four responding domestic producers and 11 of 20 responding U.S. importers indicated that the market for glass containers is subject to business cycles, including increased demand in “fresh pick” seasons for fruits and vegetables, and increased demand for wine bottles during grape harvest season. CR/PR at II-12.

<sup>82</sup> CR/PR at II-11. Domestic producers provided varying cost estimates, with \*\*\* estimating that glass containers account for 4 percent of the cost of a bottle of wine and 18 percent for other beverages, and \*\*\* estimating that they generally account for 18 percent of the costs of food, non-alcoholic beverages, and other products. Importers provided estimates ranging from 15 percent of the cost of food and beverage containers, to as high as 45 percent of the cost for spirits. For glass containers sold without contents, responding firms indicated that the glass container accounts for between 90 and 99 percent of the final cost for such products. *Id.*

<sup>83</sup> CR/PR at II-15. Responding firms indicated that glass containers offer certain advantages over substitute products, including their relative recyclability, premium look, and better ability to preserve a product’s taste/freshness. CR/PR at II-10.

<sup>84</sup> *See, e.g.*, Conference Tr. at 117 (Brosch); CR/PR at II-15-16.

Available data indicate that U.S. consumption of beer declined during the POI,<sup>85</sup> while consumption of wine, spirits,<sup>86</sup> and food increased.<sup>87</sup> Data on the record indicate that apparent U.S. consumption of glass containers by quantity<sup>88</sup> decreased each year of the POI, from \*\*\* gross<sup>89</sup> in 2016 to \*\*\* gross in 2017 and \*\*\* gross in 2018. It was also lower in interim 2019 (\*\*\* gross) than in interim 2018 (\*\*\* gross).<sup>90</sup>

## 2. Supply Conditions

The domestic industry, subject imports, and nonsubject imports all supplied the U.S. market over the POI.

The domestic industry accounted for the largest share of the U.S. market by quantity, although its market share decreased throughout the POI. Its market share was \*\*\* percent in 2016, \*\*\* percent in 2017, and \*\*\* percent in 2018, and it was lower in interim 2019 (\*\*\*)

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<sup>85</sup> CR/PR at II-13 and Table II-6. According to data from the Beer Institute, U.S. shipments of domestic beer declined 2.4 percent between 2016 and 2018, and were 0.9 percent lower in interim 2019 than in interim 2018. Shipments of domestic beer declined most for those packaged in bottles; shipments of beer packaged in cans and kegs fluctuated and declined to a lesser degree than those for bottles. U.S. shipments of imported beer increased throughout the POI. *Id.*

<sup>86</sup> CR/PR at II-14-15. Industry data indicate that U.S. shipments of wine increased by 2.1 percent between 2016 and 2018, and that spirit shipments increased by 6.5 percent. *Id.*

<sup>87</sup> CR/PR at II-15. According to data from the U.S. Department of Agriculture, per-household food expenditures increased by 5.4 percent between 2016 and 2018, albeit inclusive of food not packaged in glass containers. *Id.*

<sup>88</sup> The parties have not taken a position as to whether quantity- or value-based data are a better measure for glass containers; Petitioner presents data for both in its arguments, and TricorBraun presents only quantity-based data in its arguments. *See, e.g.,* Petitioner Br. at 22-23; TricorBraun Br. at Exh. 4. For the purposes of these preliminary determinations, we rely primarily on quantity-based data for our analysis, while also taking into consideration value-based data, where appropriate.

<sup>89</sup> One gross equals 144 glass containers. CR/PR at I-3 n.11.

<sup>90</sup> CR/PR at Table IV-6. Apparent U.S. consumption by value increased between 2016 and 2018, from \$\*\*\* in 2016 to \$\*\*\* in 2017 and \$\*\*\* in 2018; it was lower in interim 2019 (\$\*\*\*) than in interim 2018 (\$\*\*\*). *Id.*

percent) than in interim 2018 (\*\*\*) percent).<sup>91</sup> The domestic industry's reported annual production capacity decreased from 207.9 million gross in 2016 to 205.0 million gross in 2017 and 191.1 million gross in 2018, and it was lower in interim 2019 (90.4 million gross) than in interim 2018 (99.3 million gross).<sup>92</sup> The domestic industry's annual capacity was \*\*\*.<sup>93</sup> Its capacity utilization fluctuated over the POI, at 85.7 percent in 2016, 83.2 percent in 2017, and 83.5 percent in 2018, and it was lower in interim 2019 (88.0 percent) than in interim 2018 (88.3 percent).<sup>94</sup> Additionally, a new market entrant, Arglass Southeast LLC, began construction of a manufacturing facility in August 2019 and intends to commence domestic production in 2021.<sup>95</sup>

Subject imports accounted for less market share than nonsubject imports and the domestic industry, but their market share increased each full year of the POI. By quantity, they were \*\*\* percent of apparent U.S. consumption in 2016, \*\*\* percent in 2017, and \*\*\* percent in 2018; their market share was lower in interim 2019 (\*\*\*) percent) than in interim 2018 (\*\*\*) percent).<sup>96</sup>

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<sup>91</sup> CR/PR at Table IV-7. By value, the domestic industry accounted for the largest market share as well, with this share declining throughout the POI. It was \*\*\* percent in 2016, \*\*\* percent in 2017, and \*\*\* percent in 2018; it was lower in interim 2019 (\*\*\*) percent) than in interim 2018 (\*\*\*) percent). *Id.*

<sup>92</sup> CR/PR at Table III-4. Numerous domestic producers reported plant closures, as well as furnace shutdowns to reduce production capacity at existing plants. Ardagh reported shutting down furnaces at two plants, \*\*\*. CR/PR at III-3 & Table III-3. \*\*\*. CR/PR at Table III-3.

<sup>93</sup> CR/PR at Table C-1.

<sup>94</sup> CR/PR at Table III-4.

<sup>95</sup> CR/PR at III-1 n.3.

<sup>96</sup> CR/PR at Table IV-7. By value, subject imports also accounted for the smallest market share, with their share increasing between 2016 and 2018. It was \*\*\* percent in 2016, \*\*\* percent in 2017, and \*\*\* percent in 2018; it was lower in interim 2019 (\*\*\*) percent) than in interim 2018 (\*\*\*) percent). *Id.*

Nonsubject imports collectively accounted for the second largest market share by quantity over the POI. Their market share was \*\*\* percent in 2016, \*\*\* percent in 2017, and \*\*\* percent in 2018; it was higher in interim 2019 (\*\*\* percent) than in interim 2018 (\*\*\* percent).<sup>97</sup> The largest sources for these imports during the POI were Mexico, Taiwan, and Canada.<sup>98</sup>

### 3. Substitutability and Other Conditions

The degree of substitutability between domestic and imported glass containers depends upon factors such as price, quality (including grade standards, and defect rates), and conditions of sale (including availability, lead times, minimum order quantities, price discounts/rebates, and reliability of supply).<sup>99</sup> Based on available record evidence, we find that there is a moderate-to-high degree of substitutability between domestically produced glass containers and subject imports when made to the same design and color.<sup>100</sup> All responding U.S. producers and a majority of importers reported that domestically produced glass containers and subject

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<sup>97</sup> CR/PR at Table IV-7. Nonsubject imports accounted for the second largest market share by value. Their share was \*\*\* percent in 2016, \*\*\* percent in 2017, and \*\*\* percent in 2018; it was higher in interim 2019 (\*\*\* percent) than in interim 2018 (\*\*\* percent). *Id.*

<sup>98</sup> CR/PR at Table IV-4. Mexico was the largest single source of nonsubject imports during the POI. CR/PR at IV-9.

<sup>99</sup> CR/PR at II-16.

<sup>100</sup> CR/PR at II-16. The record is mixed as to the degree to which both domestic producers and subject imports can supply the full range of glass containers demanded in the U.S. market. Witnesses for the domestic industry testified that “{t}here is no product that China supplies that we can’t supply.” Conference Tr. at 49 (Paulet). Responding importers, however, indicated that glass containers with certain traits are not available from domestic producers, including those with hand-applied elements, or certain colors of glass. CR/PR at II-19-20. In any final phase of these investigations, we will continue to examine the extent to which different specifications may affect interchangeability between products.

imports are “always” or “frequently” interchangeable.<sup>101</sup> U.S. purchasers asked to identify main factors affecting their purchasing decisions most frequently cited quality, followed by price, availability/lead time/schedule, customer service, and minimum order quantity.<sup>102</sup> Based on the record in the preliminary phase of these investigations, we find that price is an important factor in purchasing decisions for glass containers.<sup>103</sup>

While glass containers are primarily sold from inventory, U.S. producers reported selling a higher percentage of products from inventory than did U.S. importers; lead times were similar between U.S. producers and importers for glass containers sold from U.S.-held inventory, while lead times were greater for U.S. importers’ sales that were produced-to-order or from foreign-held inventory.<sup>104</sup> The vast majority of U.S. producers’ U.S. commercial shipments in 2018 were

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<sup>101</sup> CR/PR at Table II-8. Three responding U.S. producers reported that these articles were “always” interchangeable, one reported that they were “frequently” interchangeable. Of 16 responding U.S. importers, five reported that these articles are “always” interchangeable and six that they are “frequently” interchangeable. *Id.*

<sup>102</sup> CR/PR at Table II-7. Six purchasers identified quality, five identified price, four identified availability/lead time/schedule, three identified customer service, and two identified minimum order quantity as factors affecting purchasing decisions. *Id.*

<sup>103</sup> TricorBraun argues that glass containers are not purchased primarily on the basis of price, but rather that factors including quality and supply constraints/minimum production runs are more important factors. TricorBraun Br. at 15-16 & Exh. 5. While responding U.S. purchasers ranked quality as the most important factor, five of six of these purchasers also listed price as a top-three purchasing factor. The Petitioner also cites to statements made by TricorBraun during hearings concerning Section 301 of the Trade Act of 1974 (“section 301 tariffs”) in which TricorBraun described glass containers as “extremely price sensitive.” Petitioner’s Br. at Exhs. 20-21. We will continue to examine the importance of price in purchasing decisions of glass containers in any final phase of these investigations.

<sup>104</sup> CR/PR at II-17. U.S. producers reported that \*\*\* percent of their commercial U.S. shipments were sold from inventory, with lead times averaging nine days. Only U.S. producer \*\*\* reported selling glass containers on a produced-to-order basis, and it reported that lead times for such sales averaged 14 days. U.S. importers reported that 50.2 percent of their commercial U.S. shipments were sold from inventory (46.7 percent from U.S.-held inventories, and 3.5 percent from foreign-held inventories), with lead times averaging eight days for U.S. inventories and 79 days for foreign inventories. A further 49.8 percent of importers’ commercial U.S. shipments were produced-to-order, with lead times averaging 82 days. *Id.*

sold through long-term contracts, while sales terms for U.S. importers' were more mixed, with a plurality of sales made on a spot sale basis in 2018.<sup>105</sup> The vast majority of commercial U.S. shipments for domestic producers and importers were to similar channels of distribution,<sup>106</sup> including to distributors, alcoholic beverage manufacturers, other beverage manufacturers, and food manufacturers/other end users, albeit with different concentrations.<sup>107</sup>

The Petitioner and respondents disagree as to the levels of the domestic industry's minimum order quantities, and the degree to which such levels may affect purchasing decisions for glass containers. Berlin Packaging and TricorBraun argue that domestic producers have higher levels of minimum order quantities than do foreign producers of subject merchandise, which they claim necessitate that firms with small orders source from subject imports.<sup>108</sup> The Petitioner indicates that domestic producers have special programs targeting customers with small orders, whether for stock containers from inventory or for small production runs of

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<sup>105</sup> CR/PR at Table V-2. Long-term contracts represented 90.0 percent of responding U.S. producers' 2018 commercial U.S. shipments. Of responding U.S. importers, 41.6 percent of 2018 commercial U.S. shipments were on a spot basis, 25.7 percent on an annual contract basis, 20.2 percent on a short-term contract basis, and 12.4 percent on long-term contract basis. *Id.*

<sup>106</sup> We invite parties in comments on draft questionnaires for any final phase to suggest further channels of distribution for glass containers, including separate channels for glass containers to beer, wine, and spirits manufacturers.

<sup>107</sup> CR/PR at Table II-1. U.S. producers' largest share of reported shipments were to alcoholic beverage manufacturers (between 64.4 and 64.6 percent for 2016-2018), followed by food manufacturers/other end users (between 18.2 and 20.0 percent), other beverage manufacturers (between 9.9 and 10.1 percent), and distributors (between 5.4 and 7.3 percent). U.S. producers had no reported commercial U.S. shipments to retailers. U.S. importers' largest share of reported shipments were to alcoholic beverage manufacturers (between 29.8 and 34.7 percent) and food manufacturers/other end users (between 26.1 and 34.7 percent), followed by distributors (between 19.5 and 24.5 percent), other beverage manufacturers (between 9.0 and 17.1 percent), and retailers (between 2.1 and 2.4 percent). *Id.*

<sup>108</sup> Berlin Packaging Br. at 12-14; TricorBraun Br. at 4-5 & 6-10; Spirited Packaging Statement at 1-2.

specialized containers.<sup>109</sup> We will examine further in any final phase of these investigations the levels of minimum production runs for glass containers by domestic producers and foreign producers of subject merchandise, as well as their effect on purchasing decisions.

Raw materials used in the production of glass containers include cullet (recycled glass), sand, soda ash, and limestone, with cullet accounting for the largest percentage of raw material costs (33.9 percent) in 2018 followed by soda ash (27.0 percent), sand (26.2 percent), and limestone (7.3 percent).<sup>110</sup> Available record evidence generally indicates that raw material costs increased over the POI.<sup>111</sup>

Effective January 1, 2019, subject imports were subject to a 25 percent *ad valorem* duty pursuant to section 301 tariffs.<sup>112</sup> A majority of U.S. producers and a plurality of importers and purchasers reported that section 301 tariffs have not changed the supply of glass containers in the U.S. market, but a majority of firms reported that these tariffs have reduced the supply of subject imports while increasing the supply of glass containers from other sources.<sup>113</sup> A majority of U.S. producers reported that section 301 tariffs have not changed prices for glass

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<sup>109</sup> Petitioner's Br., Resp. to Staff Questions, at 1-3.

<sup>110</sup> CR/PR at Table V-1.

<sup>111</sup> CR/PR at V-1. While there are no published industry prices for cullet, \*\*\*, and these prices increased from \$\*\*\* to \$\*\*\* per ton for amber/gramber cullet and from \$\*\*\* to \$\*\*\* per ton for flint/clear cullet. Reported prices for industrial sand increased 4.1 percent between 2016 and 2018. Reported prices for soda ash decreased irregularly between January 2016 and March 2018 before increasing irregularly until September 2019. *Id.*

<sup>112</sup> 19 U.S.C. § 2411; CR/PR at I-7.

<sup>113</sup> CR/PR at Table II-4. Two of three responding U.S. producers reported that section 301 tariffs have not changed the supply of glass containers, as did six of 15 responding importers and three of seven responding purchasers. All three responding U.S. producers, 13 of 18 responding importers, and four of seven responding purchasers reported that section 301 tariffs have decreased the supply of subject imports; two of three responding U.S. producers, 10 of 15 responding importers, and four of six responding purchasers reported that they have increased the supply of glass containers from other sources. *Id.*

containers, while the vast majority of responding importers and purchasers reported that they have increased prices.<sup>114</sup>

### C. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the “Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant.”<sup>115</sup>

The volume of subject imports by quantity increased each year between 2016 and 2018, from \*\*\* gross in 2016 to \*\*\* in 2017 and \*\*\* in 2018, although it was lower in interim 2019 (\*\*\* gross) than in interim 2018 (\*\*\* gross).<sup>116</sup> Subject import volumes by quantity increased \*\*\* percent between 2016 and 2018.<sup>117</sup> The volume of subject imports increased while apparent U.S. consumption declined by \*\*\* percent, resulting in increased market share for subject imports during the POI. Subject import market share by quantity increased from \*\*\* percent in 2016 to \*\*\* percent in 2017 and \*\*\* percent in 2018, although it was lower in interim 2019 (\*\*\* percent) than in interim 2018 (\*\*\* percent).<sup>118</sup>

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<sup>114</sup> CR/PR at Table II-4. Two of three responding U.S. producers reported that section 301 tariffs had not changed prices for glass containers, while 14 of 17 responding importers and all seven responding purchasers reported that they had increased prices. *Id.*

<sup>115</sup> 19 U.S.C. § 1677(7)(C)(i).

<sup>116</sup> CR/PR at Table IV-2. By value, subject imports increased each year between 2016 and 2018, from \$\*\*\* in 2016 to \$\*\*\* in 2017 and \$\*\*\* in 2018, but they were lower in interim 2019 (\$\*\*\*) than in interim 2018 (\$\*\*\*). *Id.*

<sup>117</sup> CR/PR at Table IV-2. Subject import volumes, however, were \*\*\* percent lower in interim 2019 than in interim 2018. By value, subject import volumes increased \*\*\* percent between 2016 and 2018, and were \*\*\* lower in interim 2019 than in interim 2018. *Id.*

<sup>118</sup> CR/PR at IV-11 & Table IV-7. By value, subject import market share also increased, from \*\*\* percent in 2016 to \*\*\* percent in 2017 and \*\*\* percent in 2018, although it was lower in interim 2019 (\*\*\* percent) than in interim 2018 (\*\*\* percent). *Id.*

For purposes of these preliminary determinations, we find that the volume of subject imports, and the increase in that volume, were significant in absolute terms during the POI.<sup>119</sup>

**D. Price Effects of Subject Imports**

Section 771(7)(C)(ii) of the Tariff Act provides that, in evaluating the price effects of subject imports, the Commission shall consider whether –

(I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and

(II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.<sup>120</sup>

As addressed above, the current record indicates that there is a moderate-to-high degree of substitutability between subject imports and the domestically produced product, and that price is an important factor in purchasing decisions.

In the preliminary phase of these investigations, the Commission requested that U.S. producers and importers provide quarterly data for the total quantity and f.o.b. value for four glass container products shipped to unrelated U.S. customers between January 2016 and June

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<sup>119</sup> Commissioner Schmidlein also finds the volume of subject imports, and the increase in that volume, were significant relative to apparent U.S. consumption during the POI.

<sup>120</sup> 19 U.S.C. § 1677(7)(C)(ii).

2019.<sup>121</sup> Four U.S. producers and 13 importers provided usable pricing data on sales of the requested products.<sup>122</sup>

The pricing data show that subject imports oversold the domestic like product in 44 of 49 quarterly price comparisons (involving 2.7 million gross and 96.1 percent of imported products in the pricing data) and at overselling margins ranging from 1.7 percent to 179.5 percent. The data show that subject imports undersold the domestic like product in the remaining 5 of 49 quarterly comparisons at underselling margins ranging from 0.9 percent to 8.0 percent (involving 109,111 gross and 3.9 percent of imported products in the pricing data).<sup>123</sup> The Petitioner, however, argues that the pricing products proposed by it are overly broad and distorted by product mix.<sup>124</sup> Given evidence of the wide variety of items within the pricing products,<sup>125</sup> we invite parties to propose possible pricing products that will provide

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<sup>121</sup> The pricing products were: **Product 1.**— 750 ml, Claret style (also referred to as Bordeaux) wine bottle, green color; **Product 2.**— 12 oz., long neck style beverage bottle, flint (clear) color; **Product 3.**— 12 oz., sauce bottle, flint (clear) color; **Product 4.**— 17 oz., wide mouth pickle style jar, flint (clear) color. CR/PR at V-5.

<sup>122</sup> CR/PR at V-5. The pricing data accounted for approximately 23.2 percent of U.S. producers' U.S. shipments and \*\*\* percent of U.S. shipments of subject imports over the fourteen quarters of the POI. Not all firms reported pricing data for all products in all quarters. *Id.*

<sup>123</sup> CR/PR at Table V-8. One responding U.S. importer that provided pricing data for product 3 could not report such data on f.o.b. basis, but instead reported on a delivered basis. Accordingly, underselling data for this pricing product may be somewhat understated. CR/PR at Table V-5.

<sup>124</sup> *See, e.g.*, Petitioner Br., Resp. to Staff Questions, at 17-19 (indicating that \*\*\* has \*\*\* stock keeping units (“SKU”) for product 1, \*\*\* SKUs for product 2, and \*\*\* SKUs for product 3; and that its prices vary drastically for different SKUs within each of the pricing products). To account better for product mix, Petitioner suggests that pricing products should account for product weight and packaging costs. *Id.*

<sup>125</sup> *See, e.g.*, Table V-3 (indicating that pricing data for product 1 include products with frosting/decoration and that have higher prices than similar containers without such traits).

comparisons with the highest coverage in their comments on the draft questionnaires for any final phase of these investigations.<sup>126</sup>

We have also considered lost sales data. Of nine U.S. purchasers that responded to the lost sales lost revenue survey, eight reported purchasing subject imports instead of the domestic like product, six indicated that subject imports were lower priced than the domestic product, and four indicated that such purchases were primarily because of price.<sup>127</sup> The volume of these purchases of subject imports was limited, however, totaling only \*\*\* gross.<sup>128</sup> Given this limited quantity of confirmed lost sales, as well as the possible issues with respect to product mix in the pricing data, we are unable to make a finding concerning the degree of underselling for purposes of these preliminary determinations.

We have also considered price trends for the domestic product. In a market with declining demand (by quantity), prices increased for two of the domestically produced pricing products and decreased for the other two products during the POI.<sup>129 130</sup> Prices for subject imports, however, increased for each of the pricing products over the POI,<sup>131</sup> and as noted

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<sup>126</sup> 19 C.F.R. § 207.20(b).

<sup>127</sup> CR/PR at Table V-10. Non-price reasons for purchasing subject imports cited by purchasers include \*\*\*. *Id.*

<sup>128</sup> CR/PR at Table V-10. These reported volumes accounted for \*\*\* percent of apparent U.S. consumption in 2018. *Calculated from* CR/PR at Table V-10 *and* Table IV-6.

<sup>129</sup> Prices for the domestic product increased 12.5 percent for product 1 and \*\*\* percent for product 4, while decreasing \*\*\* percent for product 2 and \*\*\* percent for product 3. CR/PR at Table V-7.

<sup>130</sup> Respondents argue that increases in the domestic industry's average unit values ("AUV") during the POI show price increases in the domestic product. Berlin Packaging Br. at 22; TricorBraun Br. at 16-17. However, given the diverse product mix for glass containers and the range of AUVs reported by parties, such data may be distorted by product mix. *See, e.g.*, CR/PR at Table D-1.

<sup>131</sup> Prices for subject imports increased 18.5 percent for product 1, \*\*\* percent for product 2, \*\*\* percent for product 3, and \*\*\* percent for product 4. CR/PR at Table V-7.

above, were higher than the domestic product in the vast majority of quarterly price comparisons. No responding U.S. purchaser reported that domestic producers had reduced prices to compete with subject imports,<sup>132</sup> although the Petitioner has provided affidavits from \*\*\* and supporting correspondence between this firm and purchasers indicating that it lowered prices to compete with subject imports.<sup>133</sup>

As noted above, trends for the domestic industry's pricing data were mixed, while subject imports were priced higher than the domestic product in the vast majority of price comparisons.<sup>134</sup> <sup>135</sup> The domestic industry's cost of goods sold ("COGS") to net sales ratio increased over the POI, from 81.9 percent in 2016 to 83.4 percent in 2017 and 85.9 percent in 2018, and it was higher in interim 2019 (85.9 percent) than in interim 2018 (84.2 percent).<sup>136</sup> The industry's raw material costs as a ratio to net sales was largely steady over the POI, but the industry's raw material costs on a per-unit basis increased.<sup>137</sup> The domestic industry's other

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<sup>132</sup> CR/PR at V-17. Three purchasers reported that domestic producers had not reduced prices, one reported that they had increased prices, and seven reported that they did not know. *Id.*

<sup>133</sup> Petitioner's Br. at Exhs. 13 & 25-31.

<sup>134</sup> CR/PR at Table V-7.

<sup>135</sup> The Petitioner argues that the prevalence of long-term contracts for sales by domestic producers results in an inability for such firms to increase prices. Petitioner Br. at 21. We intend to examine further in any final phase of these investigations the impact of long-term contracts on domestic pricing.

<sup>136</sup> CR/PR at Table VI-1.

<sup>137</sup> CR/PR at Table VI-1. The domestic industry's raw material costs as a ratio to net sales were 16.1 percent in 2016 and 2017, and 16.2 percent in 2018, and it was lower in interim 2019 (15.8 percent) than in interim 2018 (16.2 percent). The industry's raw material costs on a per unit basis were \$4.19 per gross in 2016, \$4.23 in 2017, and \$4.42 in 2018, and it was higher in interim 2019 (\$4.41) than in interim 2018 (\$4.37). *Id.*

factory costs, however, increased more as a ratio to net sales and on a per-unit basis than did raw materials.<sup>138</sup>

The available pricing data indicate that subject imports oversold the domestic product, although we recognize that there may be issues with respect to product mix in the pricing data. Other available record evidence indicates that subject import volumes and market share increased between 2016 and 2018, that a majority of U.S. purchasers responding to the lost sales allegations reported that subject imports were lower priced than the domestic product, and that half of responding purchasers reported purchasing some subject imports instead of the domestic product primarily because of price. Given the totality of evidence, we cannot conclude that subject imports did not have adverse price effects on the domestic industry. We intend to further examine the nature of price competition between subject imports and the domestic like product in any final phase of these investigations.

**E. Impact of the Subject Imports<sup>139</sup>**

Section 771(7)(C)(iii) of the Tariff Act provides that the Commission, in examining the impact of the subject imports on the domestic industry, “shall evaluate all relevant economic factors which have a bearing on the state of the industry.” These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits,

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<sup>138</sup> CR/PR at Table VI-1. The domestic industry’s other factory costs as a ratio to net sales were 40.7 percent in 2016, 41.8 percent in 2017, and 43.8 percent in 2018, and it was higher in interim 2019 (44.9 percent) than in interim 2018 (42.2 percent). Other factory costs on a per-unit basis were \$10.56 per gross in 2016, \$11.03 in 2017, and \$12.00 in 2018, and they were higher in interim 2019 (\$12.55) than in interim 2018 (\$11.38). *Id.*

<sup>139</sup> Commerce initiated its investigation based on estimated dumping margins ranging from 40.45 percent to 255.68 percent for subject imports from China. *Certain Glass Containers from China: Initiation of Less-Than-Fair-Value Investigation*, 84 Fed. Reg. 56,174, 56,177 (Oct. 21, 2019).

net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debt, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”<sup>140</sup>

In a declining market by quantity, U.S. producers lost market share throughout the POI, and their production and financial performance generally declined.

The domestic industry’s market share by quantity declined during the POI, from \*\*\* percent in 2016 to \*\*\* percent in 2017 and \*\*\* percent in 2018; it also was lower in interim 2019 (\*\*\* percent) than in interim 2018 (\*\*\* percent).<sup>141</sup> The domestic industry’s production capacity<sup>142</sup> and capacity utilization<sup>143</sup> also both declined over the POI, and as previously noted, domestic producers reported plant closures and furnace shutdowns at existing plants during the POI.<sup>144</sup> Domestic producers’ production<sup>145</sup> and U.S. shipments<sup>146</sup> declined over the period, while their inventories increased throughout the POI.<sup>147</sup>

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<sup>140</sup> 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

<sup>141</sup> CR/PR at Table IV-7. By value as well, the domestic industry’s market share declined during the POI, from \*\*\* percent in 2016 to \*\*\* percent in 2017 and \*\*\* percent in 2018, and it was lower in interim 2019 (\*\*\* percent) than in interim 2018 (\*\*\* percent). *Id.*

<sup>142</sup> The domestic industry’s capacity decreased throughout the POI, from 207.9 million gross in 2016 to 205.0 million in 2017 and 191.1 million in 2018, and it was lower in interim 2019 (90.4 million gross) than in interim 2018 (99.3 million gross). CR/PR at Table III-4.

<sup>143</sup> The domestic industry’s capacity utilization was 85.7 percent in 2016, 83.2 percent in 2017, and 83.5 percent in 2018, and it was lower in interim 2019 (88.0 percent) than in interim 2018 and (88.3 percent). CR/PR at Table III-4.

<sup>144</sup> CR/PR at Table III-3.

<sup>145</sup> The domestic industry’s production declined throughout the POI, from 178.1 million gross in 2016 to 170.7 million in 2017 and 159.5 million in 2018, and it was also lower in interim 2019 (79.5 million gross) than in interim 2018 (87.7 million gross). CR/PR at Table III-4.

Most employment-related indicators for the domestic industry followed similar trends: remaining relatively steady between 2016 and 2017 before declining in 2018. The number of production-related workers (“PRWs”), wages paid, productivity, and total hours worked were all lower in 2018 than in 2016, and most were lower in interim 2019 than in interim 2018. Hourly wages fluctuated but finished the period higher.<sup>148</sup>

The domestic industry’s financial indicators declined over the period, although the domestic industry remained profitable in terms of gross profit and operating income throughout the POI. Net sales declined throughout the POI.<sup>149</sup> While the domestic industry’s

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(...continued)

<sup>146</sup> The domestic industry’s U.S. shipments were 166.8 million gross in 2016, 159.6 million gross in 2017, and 151.2 million gross in 2018, and they were lower in interim 2019 (74.8 million gross) than in interim 2018 (78.5 million gross). U.S. shipments by value also declined, from \$4.3 billion in 2016 to \$4.2 billion in 2017 and \$4.1 billion in 2018, and they were lower in interim 2019 (\$2.05 billion) than in interim 2018 (\$2.10 billion). CR/PR at Table III-6.

<sup>147</sup> The domestic industry’s end-of-period inventories increased from 25.5 million gross in 2016 to 27.5 million gross in 2017 and 30.7 million gross in 2018, and they were higher in interim 2019 (33.2 million gross) than in interim 2018 (32.9 million gross). The domestic industry’s ratio of inventories to U.S. shipments also increased over the POI, from 15.3 percent in 2016 to 17.2 percent in 2017 and 20.3 percent in 2018, and it was higher in interim 2019 (22.2 percent) than in interim 2018 (21.0 percent). CR/PR at Table III-7.

<sup>148</sup> The domestic industry’s PRWs totaled 11,441 in 2016, 11,449 in 2017, and 11,150 in 2018, and was lower in interim 2019 (10,579) than in interim 2018 (11,386). Total hours worked were 23.3 million in 2016, 23.1 million in 2017, and 22.8 million in 2018, and were lower in interim 2019 (10.8 million) than in interim 2018 (11.5 million). Wages paid were \$1.11 billion in 2016, \$1.13 billion in 2017, and \$1.10 billion in 2018, and were lower in interim 2019 (\$536.2 million) than in interim 2018 (\$561.9 million). Productivity was 7.7 gross per hour in 2016, 7.4 in 2017, and 7.0 in 2018, and was lower in interim 2019 (7.3) than in interim 2018 (7.6). Hourly wages were \$47.70 in 2016, \$48.66 in 2017, and \$48.38 in 2018, and were higher in interim 2019 (\$49.53) than in interim 2018 (\$48.82). CR/PR at Table III-9.

<sup>149</sup> The domestic industry’s net sales by quantity were 174.0 million gross in 2016, 168.6 million in 2017, and 156.3 million in 2018, and were lower in interim 2019 (77.0 million) than in interim 2018 (82.2 million). By value, net sales also declined from \$4.51 billion in 2016 to \$4.44 billion in 2017 and \$4.28 billion in 2018, and were lower in interim 2019 (\$2.15 billion) than in interim 2018 (\$2.22 billion). CR/PR at Table VI-1.

operating income and gross profit were positive, they both decreased throughout the POI.<sup>150</sup>

<sup>151</sup> Similarly, operating income as a share of net sales decreased throughout the POI.<sup>152</sup>

Domestic producers' capital expenditures fluctuated but finished the period higher, while research and development expenses declined throughout the POI.<sup>153</sup> Three of four responding domestic producers also reported negative effects on investment and negative effects on growth and development due to subject imports.<sup>154</sup>

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<sup>150</sup> The domestic industry's gross profit was \$816.8 million in 2016, \$736.1 million in 2017, and \$603.3 million in 2018, and was lower in interim 2019 (\$303.6 million) than in interim 2018 (\$350.2 million). Its operating income was \$469.4 million in 2016, \$366.3 million in 2017, and \$220.2 million in 2018, and was lower in interim 2019 (\$127.5 million) than in interim 2018 (\$174.9 million). CR/PR at Table VI-1.

<sup>151</sup> Respondents argue that much of the declines in the domestic industry's performance resulted from expenses unrelated to subject import competition, including non-recurring costs and environmental penalties. Berlin Packaging Br. at 25-28 & Exhs. 8 & 10. The domestic industry's reported all other expenses increased substantially over the POI, from \$\*\*\* in 2016 to \$\*\*\* in 2017 and \$\*\*\* in 2018, but were lower in interim 2019 (\$\*\*\*) than in interim 2018 (\$\*\*\*). CR/PR at Table VI-1. \*\*\*. CR/PR at VI-10. We will further examine these expenses in any final phase of these investigations. Given their impact on the domestic industry's net income, for the purposes of these preliminary determinations, we accord more weight to the domestic industry's gross profit and operating income, which are not impacted by other expenses. The domestic industry's net income was \$370.7 million in 2016, \$112.4 million in 2017, and a loss of \$190.8 million in 2018. It was higher in interim 2019 (\$93.8 million) than in interim 2018 (\$67.3 million). CR/PR at Table VI-1

<sup>152</sup> The domestic industry's operating income as a share of net sales was 10.4 percent in 2016, 8.2 percent in 2017, and 5.1 percent in 2018, and it was lower in interim 2019 (5.9 percent) than in interim 2018 (7.9 percent). CR/PR at Table VI-1.

<sup>153</sup> Capital expenditures declined from \$296.2 million in 2016 to \$293.4 million in 2017, and increased to \$327.3 million in 2018. They were also higher in interim 2019 (\$188.1 million) than in interim 2018 (\$170.7 million). Research and development expenses decreased from \$\*\*\* in 2016 to \$\*\*\* in 2017 and \$\*\*\* in 2018, and were lower in interim 2019 (\$\*\*\*) than in interim 2018 (\$\*\*\*). CR/PR at Table VI-5.

<sup>154</sup> CR/PR at Table VI-7. Negative effects on investment reported by U.S. producers included reductions in capital investments, negative impacts on returns on investment, and cancellation, postponement, or rejection of expansion projects. Negative effects on growth and development reported included lowering of credit rating, problems issuing stocks or bonds, and lowered ability to service debt. *Id.* & CR/PR at Table VI-8.

As discussed above, subject imports' absolute volumes and their increase were significant, and they increased their market share in a declining market. In contrast, the domestic industry's production, shipments, market share, and performance all declined over the period. A majority of purchasers responding to lost sales allegations indicated that subject imports were priced lower than the domestic product and reported purchasing some subject imports rather than the domestic product. Based on the available record, we cannot conclude that the significant increases in subject imports did not cause the domestic industry to lose sales and revenues it would otherwise have obtained. Consequently, for purposes of these preliminary determinations, we do not find that there is clear and convincing evidence that the increases in subject imports did not have a significant adverse impact on the domestic industry.

We have considered whether there are other factors that may have had an impact on the domestic industry during the POI to ensure that we are not attributing injury from such other factors to subject imports. Respondents argue that the domestic industry's declines over the POI resulted from a decline in demand for beer bottles, a market that they claim domestic producers focus on but from which subject imports are largely absent.<sup>155</sup> Available industry data indicate that demand for beer declined in the United States during the POI, with shipments for domestic beer in bottles declining more relative to other sources of beer,

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<sup>155</sup> Berlin Packaging Br. at 6-9 & 30-35 & Exhs. 7, 8, 11, & 12; TricorBraun Br. at 20-24. In support of this argument, the respondents provide numerous public statements by U.S. producers that explain their declining production with reduced demand for beer bottles, and statements indicating that they intend to recalibrate production based on shifting market demand. *Id.*

particularly domestic beer in aluminum cans and imported beer.<sup>156</sup> The record is mixed, however, regarding the degree to which this shifting demand may explain the domestic industry's declining performance. The Petitioner notes that those furnaces and plants in the domestic industry that closed over the POI produced numerous products other than beer bottles.<sup>157</sup> The parties also disagree whether domestic producers' existing capacity for producing beer bottles can be retooled to make other types of glass containers due to differences in forming method and/or product color between products.<sup>158</sup> We will examine further in any final phase of these investigations how changes in demand for beer bottles may have impacted the domestic industry's performance.

Respondents further suggest that domestic producers' focus on producing large quantities of standard shapes/colors of glass containers results in small- and medium-sized customers not being able to source specialized containers from domestic producers in the requested quantities. The record in the preliminary phase of these investigations is mixed on this issue. While respondents provide examples of domestic producers declining orders

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<sup>156</sup> CR/PR at Table II-6. Shipments of domestic beer in aluminum cans declined less sharply than did shipments of domestic beer in bottles over the POI, and shipments of imported beer increased slightly, resulting in their respective shares of U.S. beer consumption increasing relative to that of domestic beer in bottles. The share of U.S. shipments of beer for domestic beer in bottles was 22.8 percent in 2016, 22.3 percent in 2017, and 20.8 percent in 2018, and was lower in interim 2019 (18.7 percent) than in interim 2018 (21.4 percent). The share of domestic beer in aluminum cans was 52.0 percent in 2016, 51.6 percent in 2017, and 52.4 in 2018, and it was higher in interim 2019 (53.7 percent) than in interim 2018 (51.3 percent); the share of imported beer was 16.1 percent in 2016, 16.8 percent in 2017, and 17.6 percent in 2018, and it was higher in interim 2019 (18.5 percent) than in interim 2018 (17.9 percent). *Id.*

<sup>157</sup> Petitioner's Br at 8-9 & Exh. 10 (indicating that \*\*\*).

<sup>158</sup> Petitioner's Br. at 7-8 & Exh. 10; Conference Tr. at 130-131 (Carruthers and O'Bryan).

because of either their small production run or a product's non-standard color or shape,<sup>159</sup> the Petitioner cites to programs of domestic producers that target small- and medium-sized customers for either standard-type containers or specialized containers, and it further provides examples of specialized containers provided to small firms by domestic producers.<sup>160</sup> We will examine further the domestic industry's supply of specialized glass containers to small- and medium-sized customers in any final phase of these investigations, and we invite parties to suggest methods to collect such data in their comments on the draft questionnaires.

We have also considered the role of nonsubject imports. Nonsubject imports' share of apparent U.S. consumption by quantity increased throughout the POI, from \*\*\* percent in 2016 to \*\*\* percent in 2017 and \*\*\* percent in 2018, and was higher in interim 2019 (\*\*\* percent) than in interim 2018 (\*\*\* percent).<sup>161</sup> We recognize that nonsubject imports collectively accounted for a larger market share (by quantity and value) than subject imports throughout the POI.<sup>162</sup> While IGC argues that glass containers from nonsubject sources, including Mexico, are of similar types to those manufactured by domestic producers (*e.g.*, mass-produced, standard-type bottles),<sup>163</sup> the record of this preliminary phase is unclear as to the product mix or pricing of nonsubject imports. We will examine further the role of nonsubject imports in the

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<sup>159</sup> Berlin Packaging Br. at 12-15; TricorBraun Br. at 4-5 & 6-10.

<sup>160</sup> Petitioner's Br., Resp. to Staff Questions at 1-4 & Exh. 40; Conference Tr. at 49-50 (Paulet).

<sup>161</sup> CR/PR at Table IV-7. By value, nonsubject imports' market share also increased throughout the POI. It was \*\*\* percent in 2016, \*\*\* percent in 2017, and \*\*\* percent in 2018, and was higher in interim 2019 (\*\*\* percent) than in interim 2018 (\*\*\* percent). *Id.*

<sup>162</sup> CR/PR at Table IV-7.

<sup>163</sup> IGC Br. at 4-5.

U.S. market in any final phase of these investigations, including the collection of pricing data for such products.

## **VI. Conclusion**

For the reasons stated above, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of glass containers from China that are allegedly sold at LTFV and allegedly subsidized by the government of China.



# Part I: Introduction

## Background

These investigations result from petitions filed with the U.S. Department of Commerce (“Commerce”) and the U.S. International Trade Commission (“USITC” or “Commission”) by the American Glass Packaging Coalition, Tampa, Florida, and Chicago, Illinois, on September 25, 2019 alleging that an industry in the United States is materially injured and threatened with material injury by reason of subsidized and less-than-fair-value (“LTFV”) imports of glass containers<sup>1</sup> from China. The following tabulation provides information relating to the background of these investigations.<sup>2 3</sup>

Effective date	Action
September 25, 2019	Petitions filed with Commerce and the Commission; institution of Commission investigations (84 FR 52536, October 2, 2019)
October 15, 2019	Commerce’s initiation of countervailing duty investigation (84 FR 56168, October 21, 2019); Commerce’s initiation of less-than-fair-value investigation (84 FR 56174, October 21, 2019)
October 16, 2019	Commission’s conference
November 8, 2019	Commission’s vote
November 12, 2019	Commission’s determinations
November 19, 2019	Commission’s views

## Statutory criteria

Section 771(7)(B) of the Tariff Act of 1930 (the “Act”) (19 U.S.C. § 1677(7)(B)) provides that in making its determinations of injury to an industry in the United States, the Commission--

*shall consider (I) the volume of imports of the subject merchandise, (II) the effect of imports of that merchandise on prices in the United States for domestic like products, and (III) the impact of imports of such*

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<sup>1</sup> See the section entitled “The subject merchandise” in Part I of this report for a complete description of the merchandise subject in this proceeding.

<sup>2</sup> Pertinent *Federal Register* notices are referenced in appendix A, and may be found at the Commission’s website ([www.usitc.gov](http://www.usitc.gov)).

<sup>3</sup> Appendix B presents the witnesses who appeared at the Commission’s conference.

*merchandise on domestic producers of domestic like products, but only in the context of production operations within the United States; and. . . may consider such other economic factors as are relevant to the determination regarding whether there is material injury by reason of imports.*

Section 771(7)(C) of the Act (19 U.S.C. § 1677(7)(C)) further provides that--<sup>4</sup>

*In evaluating the volume of imports of merchandise, the Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States is significant. . . . In evaluating the effect of imports of such merchandise on prices, the Commission shall consider whether. . . (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree. . . . In examining the impact required to be considered under subparagraph (B)(i)(III), the Commission shall evaluate (within the context of the business cycle and conditions of competition that are distinctive to the affected industry) all relevant economic factors which have a bearing on the state of the industry in the United States, including, but not limited to. . . (I) actual and potential decline in output, sales, market share, gross profits, operating profits, net profits, ability to service debt, productivity, return on investments, return on assets, and utilization of capacity, (II) factors affecting domestic prices, (III) actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, (IV) actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and (V) in {an antidumping investigation}, the magnitude of the margin of dumping.*

*In addition, Section 771(7)(J) of the Act (19 U.S.C. § 1677(7)(J)) provides that—<sup>5</sup>*

*(J) EFFECT OF PROFITABILITY.—The Commission may not determine that there is no material injury or threat of material injury to an industry in the*

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<sup>4</sup> Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

<sup>5</sup> Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

*United States merely because that industry is profitable or because the performance of that industry has recently improved.*

## Organization of report

Part I of this report presents information on the subject merchandise, alleged subsidy/dumping margins, and domestic like product. Part II of this report presents information on conditions of competition and other relevant economic factors. Part III presents information on the condition of the U.S. industry, including data on capacity, production, shipments, inventories, and employment. Parts IV and V present the volume of subject imports and pricing of domestic and imported products, respectively. Part VI presents information on the financial experience of U.S. producers. Part VII presents the statutory requirements and information obtained for use in the Commission's consideration of the question of threat of material injury as well as information regarding nonsubject countries.

## Market summary

Glass containers are mostly used for the transportation and packaging of beverages and other liquids or food products.<sup>6</sup> The leading U.S. producers of glass containers are \*\*\* and \*\*\*, while leading producers of glass containers outside the United States include \*\*\* of China.<sup>7</sup> The leading U.S. importers of glass containers from China are \*\*\* and \*\*\*. Leading importers of glass containers from nonsubject countries include \*\*\*<sup>8</sup> and \*\*\*.<sup>9</sup> <sup>10</sup> The majority of U.S. purchasers of glass containers are firms that bottle food and beverages. Purchasers that buy the highest volumes of glass containers are typically those that bottle beer, and include \*\*\*. Apparent U.S. consumption of glass containers totaled approximately \*\*\* gross<sup>11</sup> (\$\*\*\*) in 2018. Currently, eight firms are known to produce glass containers in the

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<sup>6</sup> Glass Packaging Institute, "Benefits of Glass Packaging," <http://www.gpi.org/learn-about-glass/benefits-glass-packaging>, retrieved October 15, 2019.

<sup>7</sup> Information on the industry in China is based on questionnaire data and may be incomplete due to lack of response.

<sup>8</sup> In 2018, Mexico was the largest source of nonsubject imports. \*\*\* was the leading importer of glass containers from Mexico.

<sup>9</sup> \*\*\*.

<sup>10</sup> Based on both questionnaire data and \*\*\* imports records.

<sup>11</sup> One gross equals 144 containers.

United States. U.S. producers' U.S. shipments of glass containers totaled 151 million gross (\$4.1 billion) in 2018, and accounted for \*\*\* percent of apparent U.S. consumption by quantity and \*\*\* percent by value. U.S. imports from subject sources totaled \*\*\* gross (\$\*\*\*) in 2018 and accounted for \*\*\* percent of apparent U.S. consumption by quantity and \*\*\* percent by value. U.S. imports from nonsubject sources totaled \*\*\* gross (\$\*\*\*) in 2018 and accounted for \*\*\* percent of apparent U.S. consumption by quantity and \*\*\* percent by value.

## Summary data and data sources

A summary of data collected in these investigations is presented in appendix C, table C-1. Except as noted, U.S. industry data are based on questionnaire responses of four<sup>12</sup> firms that accounted for an estimated 91 percent of U.S. production of glass containers during 2018.<sup>13</sup> U.S. imports are based on adjusted official import statistics.<sup>14</sup>

## Previous and related investigations

Glass containers have never been the subject of prior antidumping or countervailing duty investigations in the United States.

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<sup>12</sup> Responding firms are Anchor, Ardagh, Gallo Glass Co. ("Gallo"), and Owens. Staff are still seeking responses from Arkansas Glass, Longhorn Glass (subsidiary of Anheuser-Busch InBev), Piramal Glass, and Rocky Mountain Bottling Company (joint venture with MillerCoors and Owens-Illinois). Petition, Exh. I-1.

<sup>13</sup> Coverage estimate is based on questionnaire data of responding firms plus production estimates for the following firms: Arkansas Glass (\*\*\* gross per year), Longhorn Glass (\*\*\* gross per year), and Rock Mountain Bottling Company (\*\*\* gross per year). The coverage estimate excludes a production estimate of Piramal Glass due to lack of publicly available information. *Arkansas Glass Container Corporation Celebrates 70 Years*, Jonesboro Occasions Magazine, July, 2018, <https://www.jonesborooccasions.com/bizjuly18.html>, retrieved October 22, 2019; *Longhorn Glass to Complete \$40 Million Upgrade and Expand Capacity, Will Have One of the 'Fastest Bottle-Forming Machines in the World,'* PR Newswire, April 4, 2011, <https://www.prnewswire.com/news-releases/longhorn-glass-to-complete-40-million-upgrade-and-expand-capacity-will-have-one-of-the-fastest-bottle-forming-machines-in-the-world-119174109.html>, retrieved October 22, 2019; *When it comes to recycling glass, MillerCoors has Momentum on its side*, December 29, 2018, <https://coloradocleantech.com/when-it-comes-to-recycling-glass-millercoors-has-momentum-on-its-side>, retrieved October 22, 2019.

<sup>14</sup> Official import statistics have been adjusted to remove out-of-scope imports contained within HTS statistical reporting nos. 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055 based on reported out-of-scope imports from \*\*\* and \*\*\*. \*\*\* adjustment is based on questionnaire data. \*\*\* adjustment is based on \*\*\* import records and *Email from \*\*\**, October 11, 2019.

## Nature and extent of alleged subsidies and sales at LTFV

### Alleged subsidies

On October 21, 2019, Commerce published a notice in the *Federal Register* of the initiation of its countervailing duty investigation on glass containers from China.<sup>15</sup> Commerce identified the following government programs in China:<sup>16</sup>

- Policy loans to the glass container industry
- Export loans from Chinese state-owned banks
- Export seller's credit
- Export buyer's credit
- Treasury bonds loans program
- Export credit guarantees
- Preferential loans for state-owned enterprises ("SOEs")
- Preferential loans to glass containers producers and exporters classified as "honorable enterprises"
- Loans and interest subsidies provided pursuant to the northeast revitalization program
- Exemptions for SOEs from distributing dividends
- Loans and/or interest forgiveness for SOEs
- Income tax reduction for high and new technology enterprises
- Tax offsets for research and development under the EIT
- Preferential income tax for enterprises in the northeast region
- Forgiveness of tax arrears for the enterprises located in the old industrial bases of northeast China
- Reduction in or exemption from fixed assets investments orientation regulatory tax
- Income tax benefits for domestically-owned enterprises
- Engaging R&D
- Value-added tax (VAT) and tariff exemption for purchases of fixed assets under the foreign trade development fund
- Deed tax exemption for SOEs undergoing mergers or restructuring
- Provision of land to glass containers producers
- Provision of land to state owned enterprises
- Provision of electricity for less than adequate remuneration program
- Provision of soda ash for less than adequate remuneration program
- Provision of silica sand for less than adequate remuneration program

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<sup>15</sup> 84 FR 56168, October 21, 2019.

<sup>16</sup> *Certain Glass Containers from the People's Republic of China, Enforcement and Compliance Office of AD/CVD Operations Countervailing Duty Investigation Initiation Checklist*, October 15, 2019.

- Provision of calcium carbonate (limestone) for less than adequate remuneration program
- Provision of pig iron for less than adequate remuneration program
- The State Key Technology Project Fund program
- Foreign trade development fund grants program
- Export assistance grants program
- Government of People’s Republic of China and sub-central government subsidies for the development of famous brands and China world top brands.
- Grants to loss-making SOEs
- Export interest subsidies
- Small and medium-sized enterprise (SME) technology innovation fund.
- Special fund for energy savings technology reform.
- Grants for energy conservation and emission reduction

## **Alleged sales at LTFV**

On October 21, 2019, Commerce published a notice in the *Federal Register* of the initiation of its antidumping duty investigation on glass containers from China.<sup>17</sup> Commerce has initiated an antidumping duty investigation based on estimated dumping margins of 40.45 percent to 255.68 percent for glass containers from China.<sup>18</sup>

## **The subject merchandise**

### **Commerce’s scope**

In the current proceeding, Commerce has defined the scope as follows:<sup>19</sup>

*The merchandise covered by these investigations are certain glass containers with a nominal capacity of 0.059 liters (2.0 fluid ounces) up to and including 4.0 liters (135.256 fluid ounces) and an opening or mouth with a nominal outer diameter of 14 millimeters up to and including 120 millimeters. The scope includes glass jars, bottles, flasks and similar containers; with or without their closures; whether clear or colored; and with or without, design or functional enhancements (including, but not limited to, handles, embossing, labeling, or etching).*

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<sup>17</sup> 84 FR 56174, October 21, 2019.

<sup>18</sup> Ibid.

<sup>19</sup> 84 FR 56168, October 21, 2019.

*Excluded from the scope of these investigations are: (1) Glass containers made of borosilicate glass, meeting United States Pharmacopeia requirements for Type 1 pharmaceutical containers; (2) glass containers without 'mold seams', 'joint marks', or 'parting lines'; and (3) glass containers without a 'finish' (i.e., the section of a container at the opening including the lip and ring or collar, threaded or otherwise compatible with a type of closure to seal the container's contents, including but not limited to a lid, cap, or cork).*

## **Tariff treatment**

Based upon the scope set forth by the Commerce, information available to the Commission indicates that the merchandise subject to this investigation is imported under subheading 7010.90.50 of the Harmonized Tariff Schedule of the United States ("HTS") (including all of its statistical reporting numbers: 7010.90.5005; 7010.90.5009; 7010.90.5015; 7010.90.5019; 7010.90.5025; 7010.90.5029; 7010.90.5035; 7010.90.5039; 7010.90.5045; 7010.90.5049; 7010.90.5055.<sup>20</sup>

Glass containers classified in subheading 7010.90.50 are dutiable at a column-1 general rate of "free." The subject glass containers that are the product of China are subject to an additional 25 percent ad valorem duty under Section 301 of the Trade Act of 1974.<sup>21</sup> Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

## **The product**

### **Description and applications**

Glass containers refers to bottles, jars, and certain other glass envelopments with a nominal capacity between 0.059 and 4 liters. Glass containers may be composed of clear or colored glass, with or without designs or functional enhancements, such as handles, embossing, labeling, or etching. Most glass containers are made from soda-lime glass.<sup>22 23</sup> Glass containers

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<sup>20</sup> Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

<sup>21</sup> 83 FR 47974.

<sup>22</sup> O. Berk, "Let's Make a Bottle: Understanding the Glass Bottle Formation Processes," <https://www.oberk.com/packaging-crash-course/glass-bottle-formation>, retrieved October 18, 2019.

typically have "mold seams" (also referred to as "joint marks" or "parting lines"), which are raised lines of glass running vertically throughout the length of the container formed where the edges of different mold sections come together during the production process.<sup>24</sup> Glass containers have typically a "finish" at the opening, which includes the lip and "collar" or "ring," that is threaded, ribbed, or otherwise designed to be compatible with a closure (such as a lid, cap, cork, or other) in order to seal the container's contents.

Glass containers are mostly used for the transportation and packaging of beverages and other liquids or food products.<sup>25</sup> The subject merchandise includes, but is not limited to: beer, wine, and liquor bottles made of glass, non-alcoholic beverage bottles, ready-to-drink bottles, jars, and food containers. The food and beverage packaging industry uses glass containers because of their durability, strength, and impermeability.<sup>26</sup> In particular, glass is a preferred packaging material due to its ability to preserve a product's taste or flavor and maintain the health and integrity of the food or beverage. The U.S. Food and Drug Administration regards glass containers as being generally recognized as safe.<sup>27</sup> Furthermore, glass containers are recyclable and can be reused without any loss in quality or purity.<sup>28</sup>

## Manufacturing processes

Glass containers are primarily composed of the following raw materials: silica sand, soda ash, limestone, and cullet (recycled glass).<sup>29</sup> Cullet improves the furnace efficiencies and lowers

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(...continued)

<sup>23</sup> Glass bakeware and certain glass containers are sometimes made from borosilicate glass, which is not subject to the scope of this investigation. Borosilicate glass is a specialty glass with greater thermal resistance and durability compared to soda-lime glass. Corning Museum of Glass, "All About Glass," October 20, 2011, <https://www.cmog.org/article/finding-right-recipe-borosilicate-glass>, retrieved October 18, 2019.

<sup>24</sup> Glass Packaging Institute, "Benefits of Glass Packaging," <http://www.gpi.org/learn-about-glass/benefits-glass-packaging>, retrieved October 18, 2019, and O.Berk, "Let's Make a Bottle: Understanding the Glass Bottle Formation Processes," <https://www.oberk.com/packaging-crash-course/glass-bottle-formation>, retrieved October 18, 2019.

<sup>25</sup> Glass Packaging Institute, "Benefits of Glass Packaging," <http://www.gpi.org/learn-about-glass/benefits-glass-packaging>, retrieved October 18, 2019.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

<sup>29</sup> Glass Packaging Institute, "Learn About Glass," <http://www.gpi.org/learn-about-glass>, retrieved October 18, 2019 and O.Berk, "Let's Make a Bottle: Understanding the Glass Bottle Formation Processes," <https://www.oberk.com/packaging-crash-course/glass-bottle-formation>, retrieved October 18, 2019.

energy consumption. Cullet is usually color separated, crushed, and screened and vacuumed to remove contaminants.<sup>30</sup> Secondary raw materials include fining agents, decolorizers, and colorizers.<sup>31</sup> The most common fining agents are sulfates in combination with carbon. Of the sulfates used, sodium sulfate, or salt cake, is the most common. Sodium sulfate acts as a wetting agent to aid in melting the silica source and also as a fining agent.<sup>32</sup>

The manufacturing process for glass containers is a continuous operation, and consists of three production stages: mixing, melting, and forming. After the glass container is formed, the glass container is subject to annealing and inspection to prevent and detect damages, respectively.

### **Mixing**

The raw materials are stored in large silos at the batch house. When ready to use, the raw materials are measured and then sent to a mixer. Cullet may be added to the mixture, and may account for up to 95 percent of the total mix.<sup>33</sup> This mixture of sand, soda ash, limestone, cullet, and small quantities of other chemicals and decolorizers is referred to as the batch. Once the cullet is fully incorporated with the other raw materials, the batch mixture is transported to the furnace.<sup>34</sup> Figure I-1 provides additional information and a graphical depiction of the mixing process.

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<sup>30</sup> Glass Packaging Institute, "Learn About Glass," <http://www.gpi.org/learn-about-glass>, retrieved October 18, 2019.

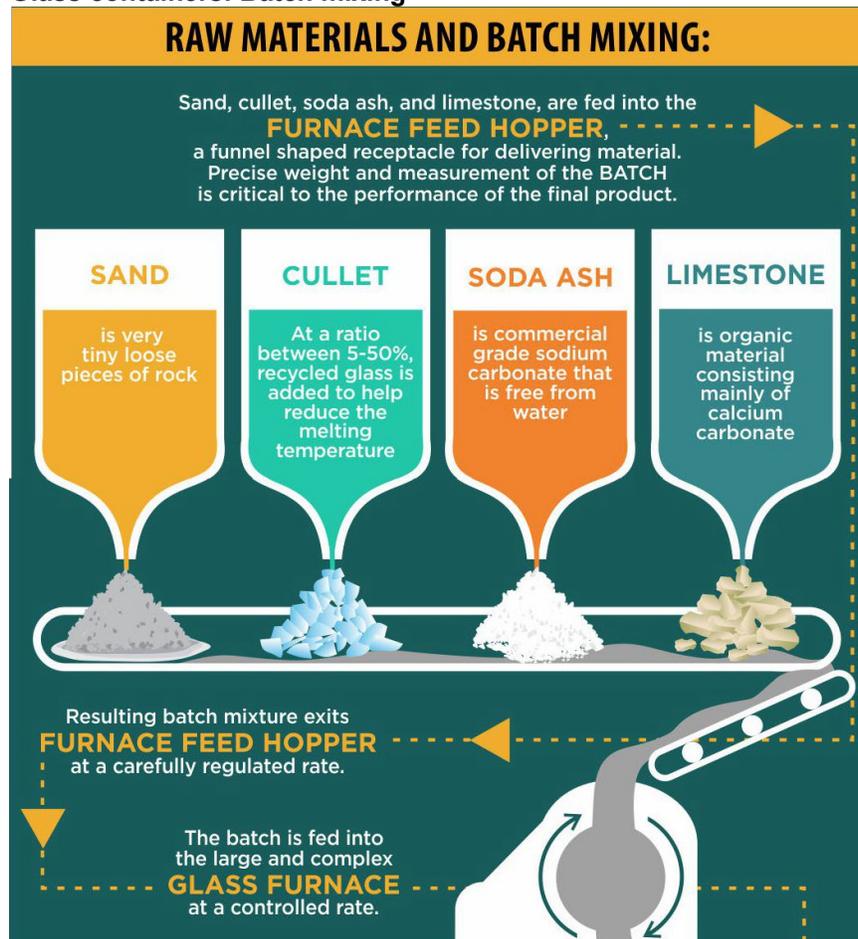
<sup>31</sup> A fining agent is used to aid in the melting of silica, which will in turn reduce the gas content of the molten glass. Glass Packaging Institute, "Learn About Glass," <http://www.gpi.org/learn-about-glass>, retrieved October 18, 2019.

<sup>32</sup> Glass Packaging Institute, "Learn About Glass," <http://www.gpi.org/learn-about-glass>, retrieved October 18, 2019.

<sup>33</sup> Industry states that their average batch contains approximately 40 percent cullet. Transcript, p. 77 (Paulet); and Glass Packaging Institute, "Glass Recycling Facts," <http://www.gpi.org/recycling/glass-recycling-facts>, retrieved October 18, 2019.

<sup>34</sup> Glass Packaging Institute, "Learn About Glass," <http://www.gpi.org/learn-about-glass>, retrieved October 18, 2019.

Figure I-1  
Glass containers: Batch mixing



Source: O.Berk, "From Grit to Glass, How Are Glass Bottles Made," <https://www.oberk.com/packaging-crash-course/from-grit-to-glass-how-it-is-made>, retrieved October 18, 2019.

## Melting

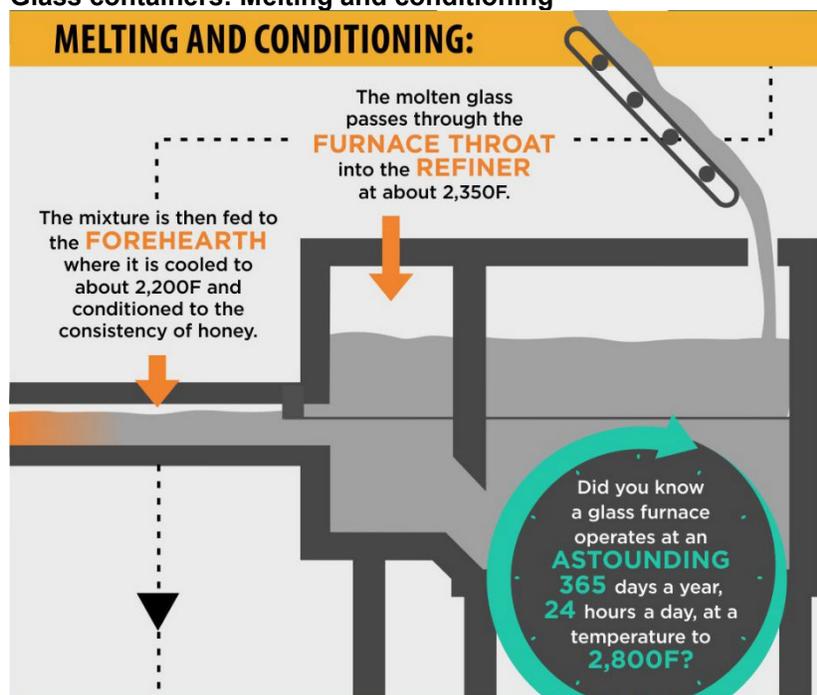
The batch is then fed into the furnace at a controlled rate. The furnace consists of three main parts: the melter, the refiner, and the forehearth. Most furnaces are designed to use natural gas as their fuel source.<sup>35</sup> The batch travels through the furnace, which has the capability to maintain accurate temperatures up to 3,200 degrees Fahrenheit.<sup>36</sup> Figure I-2 depicts the melting process.

<sup>35</sup> Furnaces are capable of using alternate fuels such as oil, propane, and electricity if necessary. Glass Packaging Institute, "Learn About Glass," <http://www.gpi.org/learn-about-glass>, retrieved October 18, 2019.

<sup>36</sup> Glass Packaging Institute, "Learn About Glass," <http://www.gpi.org/learn-about-glass>, retrieved October 18, 2019; and CM Furnaces, Inc., "Glass Furnaces for Melting and Fritting," <https://cmfurnaces.com/glass-furnaces/>, retrieved October 18, 2019.

The melter is a rectangular basin wherein the melting and fining occurs.<sup>37</sup> Above the glass level on each side of the melter are three to seven ports, which house natural gas burners. These ports direct the combustion air and exhaust gases to melt the raw materials into molten glass. The molten glass then flows through the refiner. The refiner acts as a holding basin where the glass is allowed to cool to a uniform temperature before entering the forehearth. The mixture is then fed into the forehearth, where it is carefully cooled to a desired temperature and viscosity before reaching the feeder. Glass manufacturing plants operate 24 hours per day, year-round.<sup>38</sup> Glass furnaces have a lifespan of approximately 10 years.<sup>39</sup>

**Figure I-2**  
**Glass containers: Melting and conditioning**



Note: In the image above, the melter would be the right most basin in the figure above.

Source: O.Berk, "From Grit to Glass, How Are Glass Bottles Made", <https://www.oberk.com/packaging-crash-course/from-grit-to-glass-how-it-is-made>, retrieved October 18, 2019.

<sup>37</sup> Fining is the process where gas is removed from the molten glass.

<sup>38</sup> The glass furnace needs to run continuously; otherwise, the molten glass will harden resulting in the furnace being inoperable. O.Berk, "Let's Make a Bottle: Understanding the Glass Bottle Formation Processes," <https://www.oberk.com/packaging-crash-course/glass-bottle-formation>, retrieved October 18, 2019; and Glass Packaging Institute, "Learn About Glass," <http://www.gpi.org/learn-about-glass>, retrieved October 18, 2019.

<sup>39</sup> Glass Packaging Institute, "Learn About Glass," <http://www.gpi.org/learn-about-glass>, retrieved October 18, 2019.

## Forming

The molten glass is extruded out of the furnace from holes in the bottom of the furnace, forming “gobs.” When molten glass exits the furnace, mechanized shears cut the molten glass at precise intervals to distribute the exact amount (gob) of molten glass required to form the glass bottle. The gobs are gravity fed into the forming machine. The gob falls into the blank mold, which forms the container’s neck and produces a hollow, partially formed container, known as a parison. There are two distinct methods for forming glass containers: the blow and blow and the press and blow methods.<sup>40</sup> The blow and blow method is preferred for forming containers with narrow-neck containers; the press and blow method is used to form jars and wide-neck containers.<sup>41</sup> Both of the forming methods use an individual section (IS) machine, which are designed to improve production efficiency by allowing for repairs in individual sections without shutting down other production operations.<sup>42</sup> How the liquid glass is formed into a parison is shown in Figure I-3.

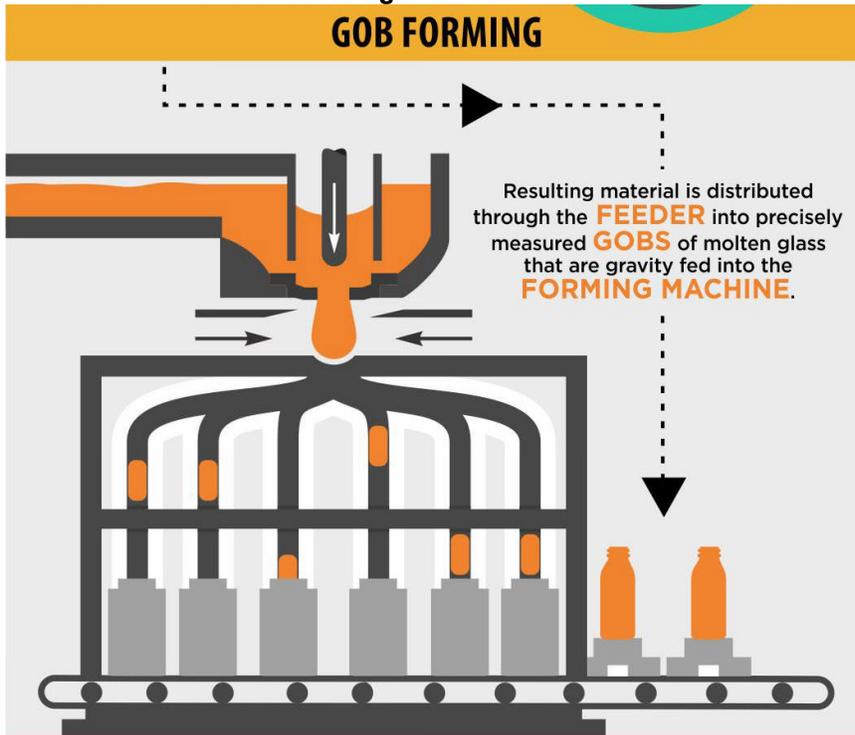
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<sup>40</sup> O.Berk, “Let’s Make a Bottle: Understanding the Glass Bottle Formation Processes,” <https://www.oberk.com/packaging-crash-course/glass-bottle-formation>, retrieved October 18, 2019.

<sup>41</sup> Ibid.

<sup>42</sup> Glass Packaging Institute, “Learn About Glass,” <http://www.gpi.org/learn-about-glass>, retrieved October 18, 2019.

Figure I-3  
Glass containers: Gob forming



Source: O.Berk, "From Grit to Glass, How Are Glass Bottles Made", <https://www.oberk.com/packaging-crash-course/from-grit-to-glass-how-it-is-made>, retrieved October 18, 2019.

The blow and blow method is a production process where compressed air is applied twice to produce the final container shape.<sup>43</sup> As shown in the left side of Figure I-4, a gob enters a blank mold.<sup>44</sup> Compressed air is injected into the blank mold forming the parison. The parison is inverted 180 degrees and transferred from the blank mold to the blow mold.<sup>45</sup> After the parison is reheated, compressed air is applied to inflate the parison to form the finished container. The finished container is then removed from the blow mold and proceeds to the annealing process.

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<sup>43</sup> "The Glass Bottle Manufacturing Process," Qorpak, <http://www.qorpak.com/pages/glassbottlemanufacturingprocess>, retrieved October 18, 2019.

<sup>44</sup> Blank molds are the industry term for the metal molds that form the parison. SKS Bottle & Packaging, "Glass Glossary," [https://www.sks-bottle.com/Glass\\_Glossary.html](https://www.sks-bottle.com/Glass_Glossary.html), retrieved October 18, 2019.

<sup>45</sup> Ibid.

The press and blow method is a production process where the parison is pressed with a plunger and then blown to form the final shape of the container.<sup>46</sup> As shown on the right side of Figure I-4, a metal plunger is first used to shape the gob into the parison. The parison is then inverted over to the blow mold, where compressed air blows the container into its final shape. The finished container is then removed and proceeds to the annealing process. Press and blow methods are typically used for manufacturing wide-mouth bottles and jars because the wide opening size allows the plunger into the parison.<sup>47</sup>

**Figure I-4**  
**Glass containers: Container formation processes**

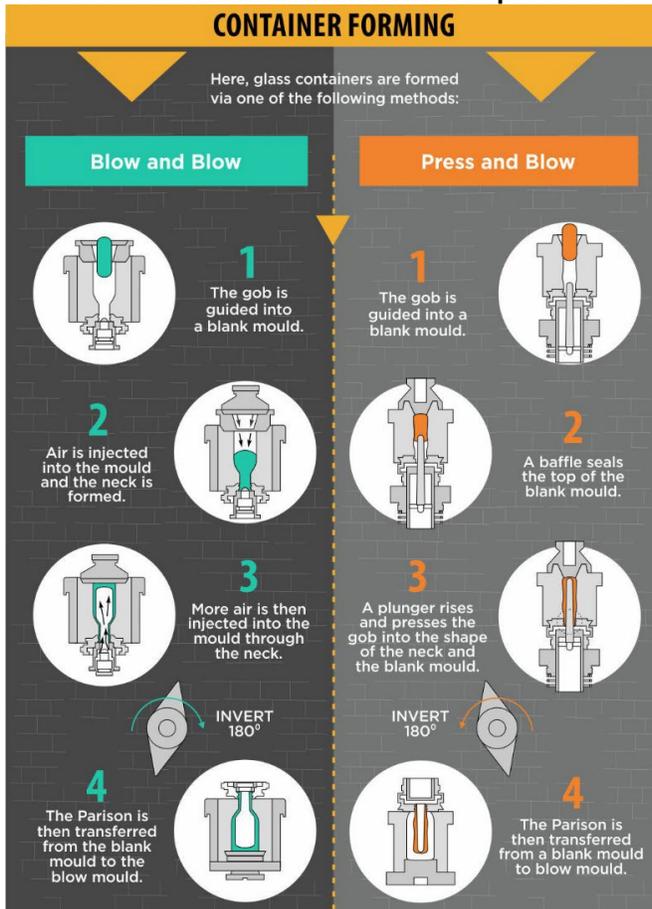
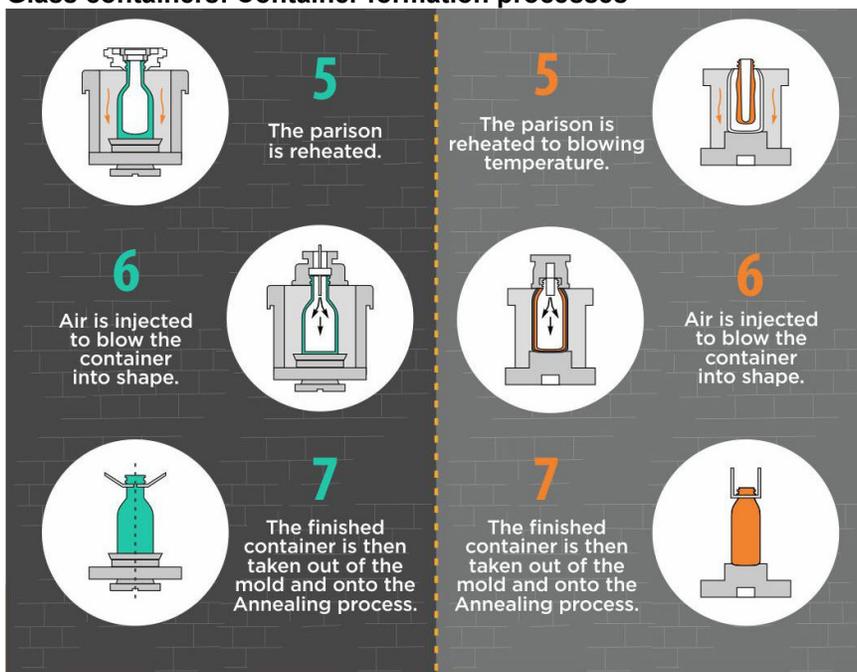


Figure continued on next page.

<sup>46</sup> "The Glass Bottle Manufacturing Process," Qorpak, <http://www.qorpak.com/pages/glassbottlemanufacturingprocess>, retrieved October 18, 2019.

<sup>47</sup> O. Berk, "Let's Make a Bottle: Understanding the Glass Bottle Formation Processes," <https://www.oberk.com/packaging-crash-course/glass-bottle-formation>, retrieved October 18, 2019; and "The Glass Bottle Manufacturing Process," Qorpak, <http://www.qorpak.com/pages/glassbottlemanufacturingprocess>, retrieved October 18, 2019.

**Figure I-4--Continued**  
**Glass containers: Container formation processes**



Source: O.Berk, "From Grit to Glass, How Are Glass Bottles Made", <https://www.oberk.com/packaging-crash-course/from-grit-to-glass-how-it-is-made>, retrieved October 18, 2019.

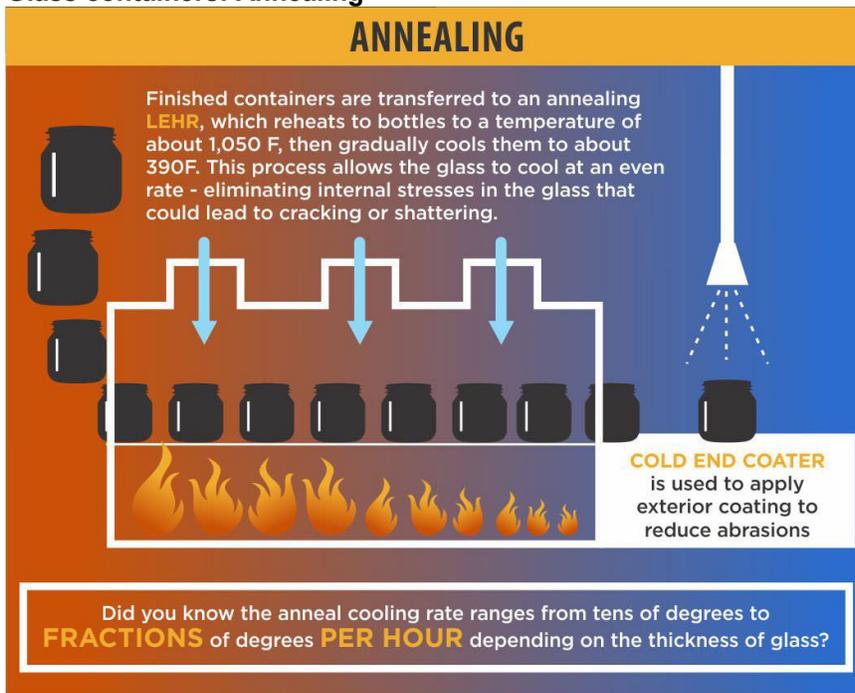
### Annealing

After formation, the finished glass containers cross a cooling plate where the temperature drops to around 900 degrees Fahrenheit. The glass containers are then loaded into the annealing lehr, which brings the temperature back up to near melting point, then slowly reduces the temperature to below 900 degrees.<sup>48</sup> The annealing process cools the internal and external surfaces of glass containers at an even rate, which reduces the chance of surface deformities.<sup>49</sup> As glass containers exit the annealing lehr, the exteriors of the glass containers are sprayed with a lubricant that reduces the chance of breakage during the inspection processes. Figure I-5 illustrates the annealing process and contains some additional information.

<sup>48</sup> The lehr is a long belt-fed, tunnel shaped oven that reduces the temperature of the glass containers to minimize thermal stresses and prevent damaging. SKS Bottle & Packaging, "Glass Glossary," [https://www.sks-bottle.com/Glass\\_Glossary.html](https://www.sks-bottle.com/Glass_Glossary.html), retrieved October 18, 2019.

<sup>49</sup> O.Berk, "Let's Make a Bottle: Understanding the Glass Bottle Formation Processes," <https://www.oberk.com/packaging-crash-course/glass-bottle-formation>, retrieved October 18, 2019.

**Figure I-5**  
**Glass containers: Annealing**



Source: O.Berk, "From Grit to Glass, How Are Glass Bottles Made", <https://www.oberk.com/packaging-crash-course/from-grit-to-glass-how-it-is-made>, retrieved October 18, 2019.

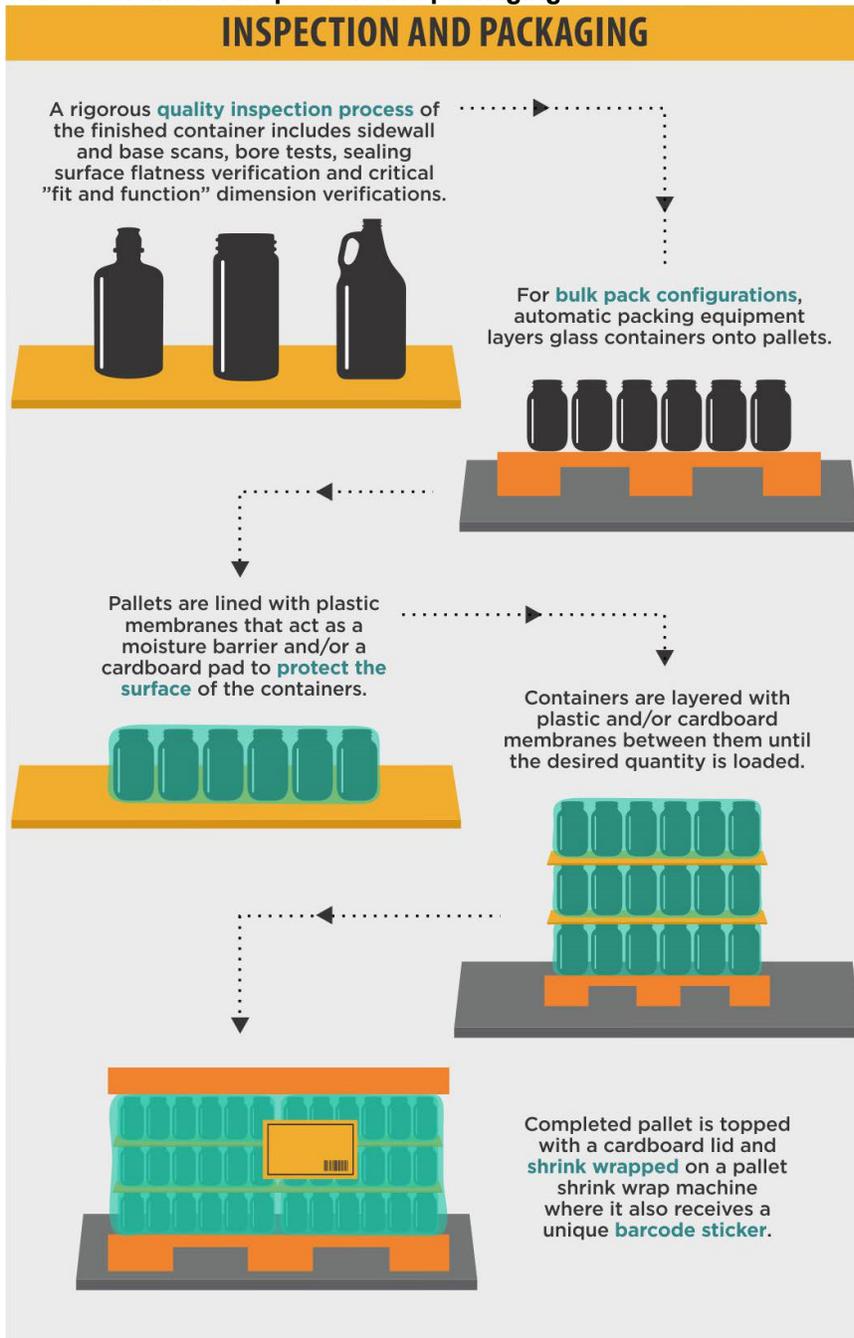
### **Inspection, Packaging, and shipping**

Once cooled, the glass containers undergo a series of inspections. The first of which involves rotating the bottles and using cameras to check for imperfections in the glass. Various machines check the top of the bottle to ensure the threads and dimensions of the glass container are correct. Finally, employees visually inspect the glass containers. Rejected containers are recycled into cullet then re-melted. Glass containers that pass inspection are then ready for packaging. Glass containers are typically packaged in bulk or carton packaging. Bulk packaging refers to packaging glass containers on pallets with corrugated sheets between each layer. Carton packaging refers to packaging glass containers into the customers' shipping cartons. The finished glass containers is then palletized and either shipped directly to the customer or stored in warehouses.<sup>50</sup> The inspection and packaging processes are represented in Figure I-6.

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<sup>50</sup> O.Berk, "Let's Make a Bottle: Understanding the Glass Bottle Formation Processes," <https://www.oberk.com/packaging-crash-course/glass-bottle-formation>, retrieved October 18, 2019.

**Figure I-6**  
**Glass containers: Inspection and packaging**



Source: From Grit to Glass, How Are Glass Bottles Made - Infographic, O.Berk, 2017, <https://www.oberk.com/packaging-crash-course/from-grit-to-glass-how-it-is-made>.

## Domestic like product issues

No issues with respect to domestic like product have been raised in these investigations. The petitioner proposes a domestic like product coextensive with the scope of these investigations.<sup>51</sup> For purposes of the preliminary phase of these investigations and reserving the right to argue for a separate like product definition should the Commission proceed to final phase investigations, neither respondent party challenges petitioner's proposed definition.<sup>52</sup>

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<sup>51</sup> Petitioner's postconference brief, p. 12.

<sup>52</sup> Respondent TricorBraun's postconference brief, p. 4; Berlin's postconference brief, p. 3.

## Part II: Conditions of competition in the U.S. market

### U.S. market characteristics

Glass containers are generally used to transport and store food products, beverages, and other liquids, as well as nutraceuticals.<sup>1</sup> The glass containers subject to these investigations have a nominal capacity of 0.059 liters to 4.0 liters, can be clear or colored, and may or may not have functional elements such as embossing, etching, handles, or labels. The vast majority of glass containers are intermediate goods: either bottles used to transport and store alcoholic and non-alcoholic beverages (including beer, wine, other spirits, soft drinks, chilled coffee-based drinks, etc.) or jars to transport and store food products such as jams and jellies, or baby food. Food jars are typically less-specialized products and easier to produce than containers such as wine bottles.<sup>2</sup> A small proportion are end-use consumer goods, such as jars used in home-canning or for home décor. Glass containers are typically sold by the gross or case.<sup>3</sup>

Approximately four-fifths of the domestic glass container market was supplied in 2018 by domestic producers, and three domestic producers reportedly are estimated to comprise nearly 90 percent of domestic production.<sup>4</sup> Imports from China accounted for \*\*\* percent of the U.S. apparent consumption in 2018, and nonsubject sources accounted for \*\*\* percent. U.S. producers' share decreased from \*\*\* percent to \*\*\* percent between 2016 and 2018, and was \*\*\* percentage points lower in January to June ("interim") 2019 than in interim 2018. Demand across various parts of the glass container market reportedly fluctuate based on variations in end-use patterns.<sup>5</sup> Apparent U.S. consumption of glass containers decreased during January 2016 to June 2019. Overall, apparent U.S. consumption decreased by \*\*\* percent between 2016 and 2018, and was \*\*\* percent lower in the first half of 2019 than the first half of 2018.

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<sup>1</sup> "Nutraceuticals" are reportedly "everything in a GNC or the vitamin section of your local drug store" and "may be defined as a substance, which has physiological benefit or provides protection against chronic disease." Conference transcript, p. 129 (Carruthers) and Nasri, Hamid, et al. "New Concepts in Nutraceuticals as Alternative for Pharmaceuticals," *International Journal of Preventative Medicine*, December 2014, p. 1487.

<sup>2</sup> Conference transcript, p. 147 (Carruthers).

<sup>3</sup> Case packs can vary in number of containers, but often are 6, 12, or 24 containers. A gross is always 144 containers.

<sup>4</sup> Conference transcript, p. 45 (Paulet) and p. 117 (Brosch).

<sup>5</sup> Conference transcript, p. 67 (Paulet). For example, a year with a great yield of grapes in the West Coast would yield a short-term increase in demand for wine bottles, but consumer preferences that shifted toward beer or sparkling seltzers in aluminum cans would decrease demand for beer bottles. Conference transcript, p. 68 (Paulet) and p. 151 (Brosch).

Availability and timely delivery of the product to customers is reportedly very important in the glass container industry, as the inability of a manufacturer to store or transport its product may cause major disruptions in its production processes.<sup>6</sup> Glass container manufacturers maintain or may open warehouses close to important end users in order to supply important customers, which often require just-in-time delivery.<sup>7</sup>

## **Channels of distribution**

Slightly less than two-thirds of U.S. producers' shipments of glass containers were made to alcoholic beverage manufacturers and another approximately 10 percent were sold to other beverage manufacturers (table II-1). Food manufacturers and other end users accounted for approximately one-fifth of U.S. producers' shipments, and this share increased by nearly two percentage points during 2016-18, while shipments to distributors, which already accounted for the smallest share of shipments, decreased by approximately the same amount over that time. The petitioner noted that it maintains a direct-to-consumer website portal for smaller purchases of food jars or beer bottles.<sup>8</sup>

Between 2016 and 2018, the share of importers' shipments of glass containers from China to distributors and other beverage manufacturers increased, while the share shipped to alcoholic beverage manufacturers, food manufacturers, and other end users decreased. The shares shipped to the two largest channels, alcoholic beverage manufacturers, food manufacturers, and other end users decreased, from 69.4 percent to 55.9 percent, while the shares shipped to distributors and other beverage manufacturers increased from 28.5 percent to 41.6 percent. In 2018, each of these four channels accounted for more than 17 percent but less than 30 percent of shipments.<sup>9</sup>

Shipments of glass containers from all other sources to food manufacturers and other end users accounted for the largest share of their shipments, increasing from slightly more than two-fifths in 2016 to more than half in 2018. The majority of this increase in share occurred as the share of shipments to alcoholic and other beverage manufacturers declined.

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<sup>6</sup> Conference transcript, pp. 168-169 (Bottene).

<sup>7</sup> Conference transcript, p. 84 (Shaddox).

<sup>8</sup> Conference transcript, pp. 49-50 (Paulet and Shaddox). Petitioner Ardagh closed the wine portion of its direct-to-consumer website around March 2018 since it "wasn't very successful." Conference transcript, p. 64 (Shaddox).

<sup>9</sup> The amount sold through the final channel, to retailers, increased slightly but never exceeded 3.0 percent in any period.

Table II-1

**Glass containers: U.S. producers' and importers' U.S. shipments, by sources and channels of distribution, 2016-18, January to June 2018, and January to June 2019**

Item	Period				
	Calendar year			January-June	
	2016	2017	2018	2018	2019
<b>Share of reported shipments (percent)</b>					
<b>U.S. producers' U.S. shipments of glass containers:</b>					
Distributors	7.3	6.5	5.4	5.6	4.2
Retailers	---	---	---	---	---
Alcoholic beverage manufacturers	64.4	64.5	64.6	64.7	65.4
Other beverage manufacturers	10.1	9.9	9.9	10.2	10.3
Food manufacturers and other end users	18.2	19.1	20.0	19.4	20.0
<b>U.S. importers' U.S. shipments of glass containers from China:</b>					
Distributors	19.5	19.9	24.5	23.7	17.2
Retailers	2.1	2.2	2.4	2.1	3.0
Alcoholic beverage manufacturers	34.7	33.3	29.8	32.9	31.2
Other beverage manufacturers	9.0	14.7	17.1	16.0	20.0
Food manufacturers and other end users	34.7	29.9	26.1	25.2	28.6
<b>U.S. importers' U.S. shipments of glass containers from all other sources:</b>					
Distributors	6.5	5.3	4.9	5.1	5.4
Retailers	0.3	0.5	0.6	0.7	0.6
Alcoholic beverage manufacturers	28.4	29.2	24.5	25.2	26.2
Other beverage manufacturers	24.6	20.7	19.5	21.0	19.1
Food manufacturers and other end users	40.2	44.3	50.4	48.0	48.6
<b>U.S. importers' U.S. shipments of glass containers from all import sources:</b>					
Distributors	10.3	10.0	11.8	11.9	9.1
Retailers	0.9	1.0	1.3	1.2	1.3
Alcoholic beverage manufacturers	30.2	30.5	26.4	28.0	27.8
Other beverage manufacturers	20.1	18.8	18.7	19.2	19.4
Food manufacturers and other end users	38.6	39.7	41.9	39.8	42.4

Source: Compiled from data submitted in response to Commission questionnaires.

## Geographic distribution

Three of four U.S. producers reported selling glass containers to all regions in the United States and one (\*\*\*) reported only serving the Pacific Coast (table II-2). Importers reported selling to all regions of the United States as well, with the Pacific Coast – where most wine production in the United States is concentrated<sup>10</sup> – being serviced by the greatest number of importers (17 of 19). Many small- to medium-sized wineries do not typically have their own bottling facilities, so they contract with mobile filling stations to bottle their wine; these mobile filling stations may need to be booked up to a year in advance.<sup>11</sup>

**Table II-2**  
**Glass containers: Geographic market areas in the United States served by U.S. producers and importers**

Region	U.S. producers	Importers
Northeast	3	14
Midwest	3	15
Southeast	3	14
Central Southwest	3	14
Mountain	3	14
Pacific Coast	4	17
Other	3	5
All regions (except Other)	3	12
Reporting firms	4	19

Note: All other U.S. markets, including AK, HI, PR, and VI.

Source: Compiled from data submitted in response to Commission questionnaires.

For U.S. producers, 19 percent of sales were within 100 miles of their production facility, 66 percent were between 101 and 1,000 miles, and 15 percent were over 1,000 miles. Importers sold 59 percent within 100 miles of their U.S. point of shipment, 32 percent between 101 and 1,000 miles, and 9 percent over 1,000 miles. The vast majority of petitioner Ardagh’s customers require just-in-time delivery, which requires maintaining sufficient inventory to service them.<sup>12</sup>

<sup>10</sup> Conference transcript, p. 75 (Shaddox).

<sup>11</sup> Conference transcript, p. 142 (Wessel).

<sup>12</sup> Conference transcript, p. 84 (Shaddox).

## Supply and demand considerations

### U.S. supply

Table II-3 provides a summary of the supply factors regarding glass containers from U.S. producers and from foreign producers of subject merchandise.

**Table II-3**

**Glass containers: Supply factors that affect the ability to increase shipments to the U.S. market**

Country	Capacity (million gross)		Capacity utilization (percent)		Ratio of inventories to total shipments (percent)		Shipments by market, 2018 (percent)		Able to shift to alternate products
	2016	2018	2016	2018	2016	2018	Home market shipments	Exports to non-U.S. markets	No. of firms reporting “yes”
United States	207.9	191.1	85.7	83.5	***	***	***	***	0 of 4
China	30.0	29.6	93.3	89.0	***	***	***	***	2 of 11

Note: Responding U.S. producers accounted for more than 90 percent of U.S. production of glass containers in 2018. Responding foreign producer/exporter firms accounted for more than half of U.S. imports of glass containers from China during 2018. For additional data on the number of responding firms and their share of U.S. production and of U.S. imports from each subject country, please refer to Part I, “Summary Data and Data Sources.”

Source: Compiled from data submitted in response to Commission questionnaires.

### Domestic production

Based on available information, U.S. producers of glass containers have the ability to respond to changes in demand with small-to-moderate changes in the quantity of shipments of U.S.-produced glass containers to the U.S. market. The main contributing factors to this degree of responsiveness of supply are a slightly higher availability of unused capacity in 2018 than 2016 and an increased level of inventories. Factors mitigating responsiveness of supply include relatively high levels of capacity utilization, limited ability to shift shipments from alternate markets, no ability to shift production to or from alternate products, and a potentially limited ability to shift between different container types within the scope of these investigations.

U.S. production declined more than capacity declined, leading to a 2.2 percentage point decrease in capacity utilization between 2016 and 2018. During that time, the ratio of inventories to total shipments also increased by \*\*\* percentage points. Some inventories are necessary, however, to service certain portions of the glass container market since furnaces can only produce one color of glass at a time, and certain colors and bottle types are only run at

particular times of the year. In addition, the vast majority of petitioner Ardagh's customers require just-in-time delivery, which requires maintaining sufficient inventory to service them.<sup>13</sup> Export shipments fluctuated downward from \*\*\* percent of total shipments in 2016 to \*\*\* percent in 2018. Principal export markets reported include Canada, Mexico, and Brazil.

Some domestic production facilities are focused on making a certain type of container, and no producer indicated the ability to make any out-of-scope products using the same equipment and machinery used to make glass containers. Petitioner Ardagh's representatives testified that it may be able to switch facilities' production among container types: "...most of our West Coast facilities are wine producing facilities, because that's the wine market for the United States. But other locations that produce wine {bottles} in the same plant also produce beer {bottles}, also produce food product {containers}. It's just dependent on the demand... {In Seattle} we also do juice bottles. We have done beer bottles in the past. So the asset that we have is not as flexible as one could like, but it is possible to switch from one type of container to another with not that much difficulty."<sup>14</sup> Ardagh's Chairman and CEO also highlighted this issue of flexibility, noting "Our issues are really that we have too much capacity for beer and too little capacity for wine and food, and that's why we're carrying out this review to see how we best recalibrate our production capacity."<sup>15</sup> However, certain facilities or furnaces are specialized to make certain types of containers.<sup>16</sup>

Some beverage producers manufacture some of their own glass bottles. Ardagh reported that "companies which satisfy some of their requirements through self-manufacture include AB InBev and Gallo, which manufacture glass packaging in the United States, and AB InBev and Constellation Brands, which produce glass packaging in Mexico."<sup>17</sup>

The majority of domestic production is concentrated in beer bottles. In the first three quarters of 2018, beer bottles accounted for 54 percent of glass container production, a decrease of 2 percent from 2017.<sup>18</sup> The ability to switch between types of glass containers

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<sup>13</sup> Conference transcript, pp. 25 and 84 (Shaddox).

<sup>14</sup> Conference transcript, pp. 75-76 (Shaddox and Paulet).

<sup>15</sup> Ardagh Third Quarter 2017 Earnings Call, Respondent Berlin's postconference brief, exh. 7.

<sup>16</sup> For example, petitioner states "\*\*\*\*." Petitioner's postconference brief, p. 7.

<sup>17</sup> Ardagh's Form 20-F, Petitioner's postconference brief, exh. 17, p. 11.

<sup>18</sup> Cattaneo, "2019 Packaging Outlook: Glass Packaging," Packaging Strategies, <https://www.packagingstrategies.com/articles/91045-packaging-outlook-glass-packaging>, retrieved October 28, 2019.

being produced may require more than just changing out a mold.<sup>19</sup> A video describing Ardagh's production process states: "Job changes changing the mold in order to produce a different container are extremely complex and precisely managed operations. The flow of molten glass is not like a faucet that can be turned on and off. The furnace is not shut down and the molten glass in the furnace must be kept at the same level, so performing a job change is like trying to change the oil in your car as you're driving down the interstate. Molds are precision-engineered components with many finely machined parts. We have to take the mold for the current job off and put the mold for the upcoming job on. To operate efficiently, we try to minimize job changes, so accurate forecasts from our customers are vital."<sup>20</sup> To make a certain bottle shape, a specific mold is needed. If not available in that plant, molds can be shipped across the country.<sup>21</sup>

### **Subject imports from China**

Based on available information, producers of glass containers from China have the ability to respond to changes in demand with moderate to large changes in the quantity of shipments of glass containers to the U.S. market. The main contributing factors to this degree of responsiveness of supply are augmented by a somewhat increased quantity of unused capacity in China, the ability to shift shipments from alternate markets to the United States, and relatively high inventories of imported Chinese containers held by importers (\*\*% percent as a ratio to U.S. shipments of imports in 2018). Factors mitigating responsiveness of supply include limited overseas inventories, and a limited ability to shift production to or from alternate products.

Glass container-making capacity in China decreased by 1.6 percent between 2016 and 2018, and was 5.1 percent lower in January to June 2019 than in the same months in 2018. After the capacity expansion, capacity utilization decreased from 93.3 to 89.0 percent between 2016 and 2018, but reached 90.4 percent in the first half of 2019 (compared with 89.2 percent in the first half of 2018).<sup>22</sup> Only two of 11 Chinese producers noted manufacturing other products on the same equipment as glass containers. One foreign producer did not specify the product(s), while foreign producer \*\*\* reported producing lids. Out-of-scope

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<sup>19</sup> Conference transcript, p. 148 (Carruthers).

<sup>20</sup> Ardagh Group, "Ardagh Group Glassmaking Process," July 6, 2017, timestamp 5:41 to 6:30. <https://www.youtube.com/watch?v=gub3eyj0LQ8>, retrieved October 25, 2019.

<sup>21</sup> Conference transcript, p. 76 (Paulet).

<sup>22</sup> Though production decreased slightly, environmental and government restrictions in China led to a lower capacity in interim 2019 than in interim 2018. See Part VII for more information.

product made using the same equipment accounted for \*\*\* percent of joint production in 2016 to 2018. Nearly 70 percent of China's shipments of glass containers were made to its home market; this share was even higher in interim 2019 (73.4 percent). Though the United States was China's main export destination (accounting for 16.9 percent of its exports in 2018), and exports to countries other than the United States were slightly smaller (13.9 percent in 2018), these shares were roughly equal in the first half of 2019 - 13.2 percent to the United States compared with 13.4 percent to other countries.

### ***Impact of Section 301 investigation and tariffs<sup>23</sup>***

Firms were asked whether the implementation of tariffs in the section 301 investigation in response to Chinese trade practices influenced the glass container market in the United States. Three of 4 responding U.S. producers, 18 of 20 responding importers, and all 6 responding purchasers indicated that it had some impact.

As seen in table II-4, among the changes reported by a plurality of U.S. producers and a majority of importers and purchasers were a decrease in supply of glass containers from China and an increase in supply from other (nonsubject) sources. While 2 of 3 responding U.S. producers reported no impact on prices, 14 of 17 responding importers and all 7 responding purchasers reported that prices had increased due to the Section 301 tariffs.

Importers' responses regarding U.S. supply, overall demand, and the price of raw materials were more evenly split between increases, fluctuating, and no change in those elements. Most responding purchasers noted that it had either caused fluctuations in supply from U.S. producers or did not have an effect.

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<sup>23</sup> For more information on the Section 301 proceeding, please see Part I.

**Table II-4****Glass containers: Firms' responses regarding impact of 301 investigation**

Item	Number of firms reporting			
	Increase	No change	Decrease	Fluctuate
Impact on U.S. supply of glass containers:				
U.S. producers	---	2	---	1
Importers	4	6	---	5
Purchasers	---	3	1	3
Impact on China's supply of glass containers:				
U.S. producers	---	---	3	---
Importers	---	4	13	1
Purchasers	---	3	4	---
Impact on supply from sources other than China:				
U.S. producers	2	1	---	---
Importers	10	3	---	2
Purchasers	4	2	---	---
Impact on prices:				
U.S. producers	---	2	---	1
Importers	14	2	---	1
Purchasers	7	---	---	---
Impact on overall demand for glass containers:				
U.S. producers	---	2	1	---
Importers	3	8	2	4
Purchasers	1	4	---	2
Impact on glass container raw materials:				
U.S. producers	---	3	---	---
Importers	5	5	0	4
Purchasers	2	3	---	2

Source: Compiled from data submitted in response to Commission questionnaires.

**Imports from nonsubject sources**

Nonsubject imports accounted for \*\*\* of total U.S. imports of glass containers in 2018. The largest source of nonsubject imports during 2016 to 2018 was Mexico, followed by Taiwan and Canada. Combined, these countries accounted for \*\*\* percent of nonsubject imports in 2018.

**Supply constraints**

Importers of glass containers reported a number of issues that constrained their purchases from domestic sources. In general, the most frequently reported of these included much higher domestic minimum order quantities than those offered by foreign producers in China, availability and production scheduling of certain colors or shapes of glass containers, and

a lack of domestic design/decoration capabilities for small runs.<sup>24</sup> A representative for petitioner Ardagh testified that it had struggled during the reshuffling of how to fulfill its commitments while shutting down furnaces in reaction to decreasing shipments.<sup>25</sup>

## **U.S. demand**

The demand for glass containers is derived mainly from the demand for the food or beverages which are stored and transported in the containers. Based on available information, the overall demand for glass containers is likely to experience small changes in response to changes in price. The main contributing factors are the relatively low cost share in most of the items which glass containers are used, the derived demand nature of the glass container market, and the preference of consumers for glass containers for a number of reasons, including its recyclability and preserving the freshness and flavor of food.<sup>26</sup> Glass containers may provide a longer shelf life for the food or beverage stored inside than plastic or a higher-end or premium look.<sup>27</sup> Demand for glass containers is also somewhat driven by variations in the supply of agricultural products for which glass containers are used, e.g., to keep fresh food or wine from spoiling. This, along with increased demand for beverages in glass bottles during warm weather, and to a lesser extent, holidays near the end of the year, makes demand for glass bottles somewhat seasonal.<sup>28</sup> At the end of 2018, Ardagh noted that its “Sales volumes are affected by a number of factors, including factors impacting customer demand, seasonality and the capacity of Glass Packaging’s plants. Demand for glass containers may be influenced by

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<sup>24</sup> Further details regarding constraints noted by importers is provided in the final section of Part II entitled “Comparison of U.S.-produced and imported glass containers.”

<sup>25</sup> “[C]ertainly, if, again, you look back if we hadn't been injured and if we hadn't lost all this demand we would still have the capacity in place. If we didn't have to have to do that whole reshuffle, we probably wouldn't have dropped the ball as many times as we have over the past few months.” Conference transcript, pp. 86-87 (Paulet).

<sup>26</sup> “Why glass is coming back in fashion for food makers,” Smartbrief.com, October 23, 2019, <https://www.smartbrief.com/original/2019/10/why-glass-coming-back-fashion-food-makers-0>, retrieved October 30, 2019.

<sup>27</sup> Conference transcript, p. 42 (Paulet) and pp. 143-144 (Brosch). “Consumers continue to see glass as an eco-friendly package that is inert and ocean-friendly, 100 percent recyclable as well as reusable. Glass containers require no plastic or chemical liner, still perceived as best for taste and superior for creating premium and specialty experiences.” Cattaneo, “2019 Packaging Outlook: Glass Packaging,” Packaging Strategies, <https://www.packagingstrategies.com/articles/91045-packaging-outlook-glass-packaging>, retrieved October 28, 2019.

<sup>28</sup> Petitioner’s postconference brief, p. 14, and conference transcript, p. 150 (Brosch).

trends in the consumption of beverages, industry trends in packaging, including marketing decisions, and the impact of environmental regulations.”<sup>29</sup>

### **End uses and cost share**

The demand for glass containers is mainly derived from the demand for the food, beverage, or other items that are stored and/or transported in the containers. The largest drivers of demand for glass containers are non-alcoholic beverages and alcoholic beverages such as beer, wine and spirits, as well as for food.<sup>30</sup> Six responding firms also noted the use of glass containers to store food, such as olive oil, and one reported their use for personal care products. At the staff conference, representatives of Ardagh stated that this derived demand is dependent on consumers’ tastes and fluctuate with preferences within those markets: wine demand is “vibrant” and sales of Frappuccino-type drinks are “resurgent,” but demand for beer is shifting from bottles to cans.<sup>31</sup>

Glass containers accounts for a somewhat small share of the cost of the end-use products in which it is used. A number of importers were unable to provide reasonable cost share estimates.<sup>32</sup> \*\*\* noted that glass containers account for approximately 4 percent of the cost of a bottle of wine and 18 percent of the cost of other beverages. \*\*\* also reported that glass containers would account for 18 percent of the cost of food, non-alcoholic beverages, and other products. Importer \*\*\* estimated that they would account for 15 percent of food and non-food storage. Importer \*\*\* estimated they would account for 15 percent of alcoholic beverages, and 20 percent in food storage and non-alcoholic beverage uses. Importer \*\*\* estimated the cost share to be much higher, at 45 percent for the cost of spirits.<sup>33</sup>

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<sup>29</sup> Ardagh’s Form 20-F, included as petitioner’s postconference brief, exh. 17, p. 46.

<sup>30</sup> Conference transcript, p. 141 (Carruthers). Food accounted for 20 percent of glass container shipments last year globally. “Why glass is coming back in fashion for food makers,” Smartbrief.com, October 23, 2019, <https://www.smartbrief.com/original/2019/10/why-glass-coming-back-fashion-food-makers-0>, retrieved October 30, 2019.

<sup>31</sup> Conference transcript, pp. 45-46 (Shaddox and Paulet).

<sup>32</sup> Five importers reported cost shares of either 95 or 100 percent of the cost of food or various beverages. These responses were not used.

<sup>33</sup> For glass containers sold without contents, Importer \*\*\* estimated that the glass containers represent 99 percent of the cost of beverage dispensers and decorative canisters. Importer \*\*\* estimated the costs for glass canisters to be 90 percent.

## Business cycles and distinct conditions of competition

Three of 4 U.S. producers and 11 of 20 responding importers indicated that the market was subject to business cycles, but only 1 producer and 2 importers indicated that the market is subject to distinct conditions of competition. Specifically, firms noted that there is an increase in demand during the “fresh pick” season for fruits and vegetables, and that there is increased demand for wine bottles in the harvest season – typically September through November. Importer \*\*\* explained that there has been three back-to-back bumper crops for wine, which has driven retail prices down for wine, forcing wineries to find ways to reduce costs. Importers \*\*\* noted a movement in customers’ preferences toward cans from bottles. Similarly, \*\*\* noted a movement toward cans for both national and craft beers. Importer \*\*\* reported that multiple U.S. manufacturers have “changed their sales strategy by discontinuing and/or severely limiting sales to domestic distributors like our company and are now selling much more product directly to end user wineries.”

## Demand trends

The largest proportion of producers and importers reported decreasing demand in the United States for glass containers, and increasing demand for glass bottles outside the United States (table II-5).

**Table II-5**  
**Glass containers: Firms’ responses regarding U.S. demand and demand outside the United States**

Item	Increase	No change	Decrease	Fluctuate
<b>Demand in the United States</b>				
U.S. producers	---	---	3	1
Importers	5	4	6	4
<b>Demand outside the United States</b>				
U.S. producers	2	---	---	---
Importers	5	2	1	4

Source: Compiled from data submitted in response to Commission questionnaires.

## Derived demand components

### *Beer shipments*

The largest proportion of U.S. producers' shipments were made to the beer industry. According to the Beer Institute, consumption of beer in the United States declined by 2.4 percent between 2016 and 2018, from 6,440 million gallons to 6,285 million gallons. Domestic beer domestic beer in total decreased by 4.2 percent during this time, from 5,406 million gallons in 2016 to 5,179 million gallons in 2018, and was 1.6 percent lower in interim 2019 than in interim 2018 (table II-6). The majority of this decline is due to a decrease in shipments of domestic beer in bottles, which decreased by 11.0 percent between 2016 and 2018 (from 1,470 million gallons to 1.309 million gallons), and was 13.1 percent lower in the first half of 2019 compared with the first half of 2018.<sup>34</sup> Though U.S. shipments of domestic beer in aluminum decreased from 2016 to 2017, it increased slightly in 2018 and was higher in the 2019 interim period than the same period in 2018. U.S. shipments of imported beer increased in each period and in all containers. U.S. shipments of imported beer in bottles increased by 4.5 percent in during 2016-18, reaching 713 million gallons in 2018, and was 0.7 percent higher in the first half of 2019 compared with the first half of 2018 as well. This increase, along with the decrease in domestic shipments of beer in bottles increased the share of the market for bottled beer from 31.7 to 35.3 percent for imported beer, and decreased the share of the market for bottled beer from 68.3 to 64.7 percent for domestic beer.

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<sup>34</sup> This decrease is equivalent to a decrease of nearly 12 million gross beer bottles in 2016-18, and nearly 7.5 million gross beer bottles lower in the first half of 2019 than the first half 2018.

Table II-6

**Beer: Volumes and shares of domestic beer sold in the United States, by container type, 2016-18, January to June 2018, and January to June 2019**

Item	Period				
	Calendar year			January to June	
	2016	2017	2018	2018	2019
<b>Volume of reported shipments (million gallons)</b>					
<b>Shipments of domestic beer in:</b>					
Bottles	1,470	1,416	1,309	678	589
Cans	3,347	3,281	3,293	1,626	1,689
Draft	588	594	577	299	283
Total	5,406	5,290	5,179	2,603	2,561
<b>Shipments of imported beer:</b>					
Total	1,034	1,067	1,105	568	582
<b>Total shipments</b>	<b>6,440</b>	<b>6,358</b>	<b>6,285</b>	<b>3,171</b>	<b>3,142</b>
<b>Share of total reported U.S. shipments of domestic and imported beer (percent)</b>					
<b>Shipments of domestic beer in:</b>					
Bottles	22.8	22.3	20.8	21.4	18.7
Cans	52.0	51.6	52.4	51.3	53.7
Draft	9.1	9.3	9.2	9.4	9.0
Total	83.9	83.2	82.4	82.1	81.5
<b>Shipments of imported beer:</b>					
Total	16.1	16.8	17.6	17.9	18.5
<b>Growth of reported shipments from prior period (percent)</b>					
	<b>2016-18</b>	<b>2016-17</b>	<b>2017-18</b>	<b>J-J 2018 to J-J 2019</b>	
<b>Shipments of domestic beer in:</b>					
Bottles	▼(11.0)	▼(3.7)	▼(7.6)	▼(13.1)	
Cans	▼(1.6)	▼(2.0)	▲0.4	▲3.9	
Draft	▼(1.9)	▲1.0	▼(2.9)	▼(5.4)	
Total	▼(4.2)	▼(2.1)	▼(2.1)	▼(1.6)	
<b>Total shipments</b>	<b>▼(2.4)</b>	<b>▼(1.3)</b>	<b>▼(1.1)</b>	<b>▼(0.9)</b>	

Note: Volumes originally reported in 31 gallon barrels of beer.

Source: The Beer Institute National Packaging Report,  
<https://www.beerinstitute.org/industryinsights/packaging-mix/>.

### ***Wine and spirits shipments***

Both wine and spirits volumes in the U.S. market have increased since 2016, with spirits increasing more than wine. Wine entering the market increased by 0.6 percent between 2016 and 2017 (from 423.2 million 9L case equivalents to 425.8 million 9L case equivalents) and 1.5 percent between 2017 and 2018 (to 431.8 million 9L case equivalents), for an overall increase of 2.1 percent.<sup>35</sup> Spirits volumes increased by 3.5 percent from 2016 to 2017 (from 221.3

<sup>35</sup> These data include shipments of cider, which were approximately 23.6-23.7 million 9L case equivalents in both 2016 and 2018. Without these cider data, the volumes of total wine entering the market would be 399.6 million, 402.1 million (assuming the same volume of cider shipments in 2017 as in 2016 and 2018), and 408.1 million 9L case equivalents in 2016, 2017 and 2018.

million 9L case equivalents to 229.0 million 9L case equivalents) and by 2.9 percent from 2017 to 2018 (to 235.6 million 9L case equivalents), for an overall increase of 6.5 percent.<sup>36 37</sup>

### ***Household food expenditures***

According to the United States Department of Agriculture, per-household food expenditures increased by 5.4 percent on a constant dollar basis between 2016 and 2018.<sup>38</sup> This data incorporates both food made at home and food consumed away from home.

### **Substitute products**

All four U.S. producers and 12 responding importers indicated that there are substitutes for glass containers. The most frequently mentioned substitutes were aluminum cans, noted by all U.S. producers and nine importers. In addition, responding firms reported more substitutes: plastic/PET bottles (noted by 11 firms), flexible bags/pouches/packaging, including Tetra Pak (5), boxed wine (3), metal containers (3), kegs (2), and ceramic (1). Since glass containers are used to store and transport food and beverages, there are also indirect substitutes for glass containers when beverage or food consumers choose among products packaged in various types of containers. For example, if consumers choose to drink increasing amounts of hard seltzers typically sold in aluminum cans, or bottles of beer imported from countries that do not

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<sup>36</sup> bw166, "Wine shipments into US reach 400 million cases for calendar 2016. Beer, wine, and spirits all show growth," January 15, 2017, <https://bw166.com/2017/01/15/beer-wine-spirits-show-growth-calendar-2016-wine-shipments-us-reach-400-million-cases/>, retrieved October 21, 2019, and bw166, "U.S. beverage alcohol spending hits \$253.8 billion in 2018, +5.1% versus 2017," January 13, 2019, <https://bw166.com/2019/01/13/u-s-beverage-alcohol-spending-hits-253-8-billion-in-2018-5-1-versus-2017/>, retrieved October 21, 2019.

<sup>37</sup> Approximately 78 percent of wine in the year ending June 15, 2019 was sold using glass packaging. Wine Analytics Report, "Packaging innovations behind sales shift," <https://wineanalyticsreport.com/report/july-2019-wine-packaging/>. Based on this percentage, and 12 750mL bottles per case, these data would be equivalent to 26.0 million gross bottles of wine (excluding cider) in 2016 and 26.5 million gross bottles of wine (excluding cider) in 2018. For spirits, based solely on 12 750mL bottle equivalent, the data would be approximately 18.4 million gross bottles in 2016 and 19.6 million gross bottles in 2018. Based on 12-ounce bottle equivalents for cider, the data would be equivalent to 4.15 million gross bottles in 2016 and 4.17 million gross bottles in 2018. Note, however, that wine, spirits, and cider bottles come in many different sizes. For example, wine bottles are available in sizes ranging from split bottles (187.5 mL, or ¼ a standard wine bottle) to Melchizedek or Midas size (30L or 40 standard wine bottles). Tilden, Marshall III, "Your Cheat Sheet to Wine Bottle Sizes," Wine Enthusiast, <https://www.winemag.com/2018/08/28/wine-bottle-sizes/>, retrieved October 28, 2019.

<sup>38</sup> United States Department of Agriculture, [https://www.ers.usda.gov/webdocs/DataFiles/50606/normalized\\_food\\_expenditures.xlsx?v=8833.8](https://www.ers.usda.gov/webdocs/DataFiles/50606/normalized_food_expenditures.xlsx?v=8833.8), retrieved October 28, 2019.

use glass bottles exported from the United States, it may take the place of beer sold in bottles, and therefore demand for glass bottles.

## **Substitutability issues**

The degree of substitution between domestic and imported glass containers depends upon such factors as relative prices, quality (e.g., grade standards, defect rates, etc.), and conditions of sale (e.g., availability, lead times between order and delivery dates, minimum order quantities, price discounts/rebates, reliability of supply, etc.). Based on available data, staff believes that there is moderate-to-high degree of substitutability between domestically produced glass containers and glass containers imported from China. Although quality of the glass containers produced in China is as high as or higher than those produced in the United States, differences in minimum order quantities, design work, and availability are the main factors that reduce substitutability.

## **Minimum order quantities**

Purchasers of glass containers reported difficulties in obtaining bottles from domestic producers in small-batch quantities. Respondent Berlin submitted multiple instances when it was unable to source containers domestically because it did not meet minimum order quantities (“MOQs”) totaling over a million containers, and one instance with a MOQ of over half a million containers.<sup>39</sup> Importers Berlin, International Glass & Ceramics (“IGC”), TricorBraun, \*\*\* noted that domestic minimum quantity requirements are all too high to be a viable option to supply their small and medium-sized clients. Respondent IGC states that “it is very difficult, if not impossible, to place an order with a U.S. bottle maker for a new design for spirits unless it is for a minimum quantity of just under a million bottles,” and that “Chinese bottle makers can accept very low minimum runs for a custom made bottle, as low as 60,000 on a regular basis, or 20,000 bottles at a time.”<sup>40</sup>

A witness from distributor TricorBraun described the lifecycle for container end users as moving from small-batch needs, for which it needs to import glass containers, to large-batch needs, which it can source from U.S. producers. “So, oftentimes, it's a startup customer that you start with at zero and then you grow them -- as Berlin said, you grow them to the point where they either get acquired by a multi-national, which is a very common story or they get

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<sup>39</sup> Respondent Berlin’s postconference brief, p. 13.

<sup>40</sup> Respondent IGC’s postconference brief, p. 2.

big enough where we can run them domestically because they're now at the minimum order quantities that will work in a domestic environment.”<sup>41</sup> Respondent IGC relates that a similar growth occurred with its former client which grew from a startup in 2012 to the current top-selling producer of Kombucha in the United States.<sup>42</sup>

## Lead times

Glass containers are primarily sold from inventory, and \*\*\*. U.S. producers reported that \*\*\* percent of their commercial shipments were sold from inventories, with lead times between 2 and 14 days, but averaging 9 days. \*\*\* commercial shipments sold on a produced-to-order basis have lead times averaging 14 days. Petitioners noted the importance of just-in-time delivery for the vast majority of their sales.<sup>43</sup> Both respondents appearing at the staff conference maintain large warehouses in “wine country” that have their customers’ bottles customized with labels and boxes ready to be filled.<sup>44</sup> Nearly half (49.8 percent) of importers’ commercial shipments were sold on a produced-to-order basis, with the remainder sold out of U.S.- or foreign-held inventories (46.7 and 3.5 percent, respectively).<sup>45</sup> The average lead time for importers’ shipments from their U.S. inventories was 9 days,<sup>46</sup> and was 79 days from foreign inventories and 82 days for produced-to-order shipments.

Due to the nature of the glass industry and melting furnaces, glass container manufacturers can only run one color of glass at a time. It takes a concerted effort to change from one color to another. As a result, certain color campaigns may only be run once per year.<sup>47</sup> If that production window is missed, a purchaser may have to wait another year to get that product made.

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<sup>41</sup> Conference transcript, p. 140 (Carruthers).

<sup>42</sup> Respondent IGC’s postconference brief, pp. 3-4.

<sup>43</sup> “Even if a customer may be bringing in product to a warehouse in advance of filling, they, like everybody else, are running an operation that requires specific you know you need to be on this dock door at this time to unload it because I've got my forklift driver doing three other things during the day, so there's expectations. Even if it's not coming in to be filled, there's still expectations for just-in-time deliveries based on requirements.” Conference transcript, p. 84 (Shaddox). This lead time could be built into contracts and, since Ardagh maintains 60 to 90 percent of its inventory for its customers, the lead time it is based on the distance to the customer’s filling facility. Ibid and conference transcript, p. 85 (Shaddox and Paulet).

<sup>44</sup> Conference transcript, p. 150 (Carruthers).

<sup>45</sup> Twelve importers indicated they sell on a produced-to-order basis, 14 sell out of their U.S. inventories and 3 out of foreign-held inventories.

<sup>46</sup> Importer \*\*\* response, (\*\*\* lead time from U.S. inventory), was not used in this calculation.

<sup>47</sup> Conference transcript, p. 149 (Carruthers).

## Factors affecting purchasing decisions

Purchasers responding to lost sales lost revenue allegations<sup>48</sup> were asked to identify the main purchasing factors their firm considered in their purchasing decisions for glass containers. Quality was listed as the most important factor by a majority of responding purchasers. The other most important factors listed were price and minimum order quantities, although four purchasers also mentioned availability/lead times/scheduling as the second- and third-most important factors (table II-7).

**Table II-7**  
**Glass containers: Ranking of factors used in purchasing decisions as reported by U.S. purchasers, by factor**

Factor	First	Second	Third	Total
Quality	4	2	0	6
Price	2	2	2	6
Minimum order quantity	1	0	1	2
Availability/lead time/schedule	0	2	2	4
Service/customer service/field support	0	1	2	3
Other	0	2	2	4

Note: Other factors include “Flexibility to meet non-forecasted demands across a broad ranges of products” and “lost contracts” for the second-most important, and “availability of molds” and “Minimum order quantities and resulting working capital required to support our customers immediate needs and lack of space to inventory at their locations” for the third-most important factors. In addition, respondent \*\*\* added a fourth factor: “Pricing of the product and the freight costs to arrive at our warehouses.”  
Note: Responses from \*\*\*. Some responses listed more than one factor for each ranking.

Source: Compiled from data submitted in response to Commission questionnaires.

## Comparison of U.S.-produced and imported glass containers

In order to determine whether U.S.-produced glass containers can generally be used in the same applications as imports from China and from nonsubject source Mexico, as well as from other nonsubject sources. U.S. producers and importers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in table II-8, a majority of producers indicated that they are “always” interchangeable for all comparisons,

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<sup>48</sup> This information is compiled from responses by purchasers identified by Petitioners or other U.S. producers to the lost sales lost revenue allegations. See Part V for additional information.

whereas a plurality of importers indicated that they are “frequently” interchangeable for all comparisons.

**Table II-8**  
**Glass containers: Interchangeability between glass containers produced in the United States and in other countries, by country pair**

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting			
	A	F	S	N	A	F	S	N
<b>U.S. vs. subject countries:</b> U.S. vs. China	3	1	---	---	5	6	4	1
<b>Nonsubject countries comparisons:</b> U.S. vs. Mexico	3	1	---	---	4	5	3	---
U.S. vs. other	3	1	---	---	4	8	3	---
China vs. Mexico	3	1	---	---	2	4	2	1
China vs. other	3	1	---	---	3	4	4	---
Mexico vs. other	3	1	---	---	2	3	3	---

Note: A=Always, F=Frequently, S=Sometimes, N=Never.

Source: Compiled from data submitted in response to Commission questionnaires.

Five importers listed constraints which limit the interchangeability between glass containers made in the United States and China or in general about glass containers made in China. First, importer \*\*\* reported that China produces containers in various shapes and sizes of opening, and has a small minimum order quantity. Importer \*\*\* reported three reasons why the products are “sometimes” interchangeable: “{1.} For any new brands in liquor, beverage, or food, a low minimum run is a KEY factor. U.S. glass container producers have very high minimum runs. China has a low minimum run: 20,000 bottles per run. {2.} Decoration demand is high for U.S. liquor brands. Several of \*\*\* liquor brands \*\*\* are all decorated glass bottles. It is hard for American liquor companies to find U.S.-based decorators while China has a lot of decoration factories. 3. Much longer lead time for new bottle development in the U.S. It is much faster in China to go from a concept to a physical bottle.” Importer \*\*\* also noted design, labeling, and bottle shape/ dimensions, adding that all molds that have been invested in are different. An investment of over \$2 {million} would be required to replicate molds currently in non-U.S. plants to make the same bottle designs {it is} currently sourcing in China and Mexico today.” At the staff conference, representatives of Ardagh explained that the design of the bottle belongs to the customer, but the mold is maintained at Ardagh’s facility, for the exclusive

use of the customer, which it has paid for, although Ardagh physically maintains the mold.<sup>49</sup> Importer \*\*\* only buys fully decorated bottles from China, with one or more hand-applied elements like heat transfer labels or metal appliqué, which it noted is unavailable from domestic producers. Importer \*\*\* explained that interchangeability among all sources is limited by manufacturing platform capabilities, quality, and the color of glass (e.g., flint vs. clear). Importer \*\*\* stated that China has access to white sand, which produces a clearer bottle.

With respect to nonsubject countries, importer \*\*\* noted that Mexico produces more decorative glass than functional glass containers, with quality that is not as good as the glass containers imported from China. Importer \*\*\* reported that glass containers from Italy can be 100 percent airtight, whereas those from China cannot. Importer \*\*\* stated that it has “limited access to bottles made in Mexico through the domestic manufacturer that acquired the production facilities in Mexico.”

In addition, U.S. producers and importers were asked to assess how often differences other than price were significant in sales of glass containers from the United States, subject, or nonsubject countries. As seen in table II-9, U.S. producers were evenly split as to whether there were either “sometimes” or “never” factors other than price that are important in the glass container market. A majority of importers, however, reported that there are “always” factors other than price that are significant in this market in comparing the United States to China.

**Table II-9**  
**Glass containers: Significance of differences other than price between glass containers produced in the United States and in other countries, by country pair**

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting			
	A	F	S	N	A	F	S	N
<b>U.S. vs. subject countries:</b> U.S. vs. China	---	---	2	2	9	4	3	1
<b>Nonsubject countries comparisons:</b> U.S. vs. Mexico	---	---	2	2	2	4	4	1
U.S. vs. other	---	---	2	2	3	4	4	1
China vs. Mexico	---	---	2	2	4	2	2	1
China vs. other	---	---	2	2	3	4	3	1
Mexico vs. other	---	---	2	2	1	4	2	1

Note: A = Always, F = Frequently, S = Sometimes, N = Never.

Source: Compiled from data submitted in response to Commission questionnaires.

<sup>49</sup> Conference transcript, pp. 73 and 74-75 (Shaddox and Paulet).

A majority (13 of 17) of responding importers that described factors other than price that are important in this industry. Various importers noted an assortment of issues. Six importers reported that domestic minimum order quantities play an important role in limiting their ability to purchase from domestic sources. Six importers also stated that the quality of glass containers from domestic sources is a factor (with one adding that quality of domestic packaging used is also a factor),<sup>50</sup> as well as limited availability of U.S. glass containers. Additional issues surrounding limited availability included concerns about U.S. capacity (noted by two importers), lead times, flexibility in production and scheduling.<sup>51</sup> In addition, three importers noted that U.S. product offerings (i.e., product range) are a factor in the market, and four others described specific examples: high clarity glass bottles, multiple glass colors (like \*\*\*, etc.), and thick-base and heavier-weight bottles.<sup>52</sup> Four noted that U.S. producers are unable to make more custom-decorated containers (e.g., decal artwork, hand-painted artwork, or decorative metal appliqués). Two importers reported that U.S. producers are bypassing distributors and selling direct to customers instead, and one reported limited U.S. distribution contacts. Lastly, U.S. transportation costs and technical service were noted as differentiating factors by one importer each.

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<sup>50</sup> A representative from importer Berlin stated that many small to medium bottlers want case packs from bottle producers. Case packs are corrugated boxes with dividers holding 6, 12, or 24 bottles separated by dividers. He contends that many glass manufacturers, including those in the United States and other countries, won't support case packing for small runs, but China will. Conference transcript, p. 115 (Brosch). However, petitioners note that "\*\*\*\*." Petitioner's postconference brief, ex. 10, p. 2.

<sup>51</sup> For example, at the staff conference, a representative for importer/purchaser TricorBraun testified that, "Being late with an order is not an option." Its customers, small wineries in California, "rent mobile filling lines to fill their products. These rentals are short-term and scheduled many months in advance." Conference transcript, p. 107 (O'Bryan).

<sup>52</sup> Importer Berlin also noted that it was unable to source certain \*\*\*. Respondent Berlin's postconference brief, p. 14.



## Part III: U.S. producers' production, shipments, and employment

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the subsidies and dumping margins was presented in *Part I* of this report and information on the volume and pricing of imports of the subject merchandise is presented in *Part IV* and *Part V*. Information on the other factors specified is presented in this section and/or *Part VI* and (except as noted) is based on the questionnaire responses of four<sup>1</sup> firms that accounted for an estimated 91 percent<sup>2</sup> of U.S. production of glass containers during 2018.<sup>3</sup>

### U.S. producers

The Commission issued U.S. producer questionnaires to eight firms based on information contained in the petition. Four firms provided usable data on their productive operations. Staff believes that these responses represented an estimated 91 percent of U.S. production of glass containers in 2018.<sup>4</sup>

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<sup>1</sup> Responding firms are Anchor, Ardagh, Gallo Glass Co., and Owens. Staff are still seeking responses from Arkansas Glass, Longhorn Glass (subsidiary of Anheuser-Busch InBev), Piralma Glass, and Rocky Mountain Bottling Company (joint venture with MillerCoors and Owens). Petition, Exh. I-1.

<sup>2</sup> Coverage estimate is based on questionnaire data of responding firms plus production estimates for the following firms: Arkansas Glass (\*\* gross per year), Longhorn Glass (\*\* gross per year), and Rocky Mountain Bottling Company (\*\* gross per year). The coverage estimate excludes a production estimate of Piralma Glass due to lack of publicly available information. *Arkansas Glass Container Corporation Celebrates 70 Years*, Jonesboro Occasions Magazine, July, 2018, <https://www.jonesborooccasions.com/bizjuly18.html>, accessed October 22, 2019; *Longhorn Glass to Complete \$40 Million Upgrade and Expand Capacity, Will Have One of the 'Fastest Bottle-Forming Machines in the World,'* PR Newswire, April 4, 2011, <https://www.prnewswire.com/news-releases/longhorn-glass-to-complete-40-million-upgrade-and-expand-capacity-will-have-one-of-the-fastest-bottle-forming-machines-in-the-world-119174109.html>, retrieved October 22, 2019; *When it comes to recycling glass, MillerCoors has Momentum on its side*, December 29, 2018, <https://coloradocleantech.com/when-it-comes-to-recycling-glass-millercoors-has-momentum-on-its-side>, accessed October 22, 2019.

<sup>3</sup> In August 2019, a new market entrant, Arglass, began construction of a \$123 million glass containers manufacturing facility in Georgia. <https://www.glass-international.com/news/view/construction-of-arglass-container-glass-plants-to-start>, retrieved October 24, 2019. Respondents state that the Arglass facility is designed to produce “emergency batches, shorter runs, and customized products.” Berlin postconference brief, pp. 2-3.

<sup>4</sup> See fn. 2.

Table III-1 lists U.S. producers of glass containers, their production locations, positions on the petition, and shares of total production.

**Table III-1**

**Glass containers: U.S. producers, their position on the petition, location of production, and share of reported production, 2018**

Firm	Position on petition	Production location(s)	Share of production (percent)
Anchor	Petitioner	Elmira, NY Henryetta, OK Jacksonville, FL Lawrenceburg, IN Shakopee, MN Warner Robins, GA	***
Ardagh	Petitioner	Bridgeton, NJ Burlington, WI Dolton, IL Dunkirk, IN Henderson, NC Lincoln, IL	***
Gallo	***	Modesto, CA	***
Owens	***	Windsor, CO Waco, TX Tracy, CA Vernon, CA Brockport, PA Muskogee, OK	***
Total			100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Table III-2 presents information on U.S. producers' ownership, related and/or affiliated firms of glass containers. There had been some consolidation in the industry prior to January 1, 2016. Ardagh acquired Anchor in 2012 in a transaction involving total cash consideration of \$880 million.<sup>5</sup> Then in 2013, Ardagh proposed a \$1.7 billion acquisition of Saint-Gobain Containers, Inc., the second largest U.S. manufacturer of glass containers at the time.<sup>6</sup> The Federal Trade Commission ("FTC") challenged the proposed acquisition on antitrust grounds, alleging that the merged firm and its competitor, Owens-Illinois, would control 75 percent of the U.S. market for beer and spirits customers. The FTC permitted the acquisition in 2014 after

<sup>5</sup> *Acquisition of Anchor Glass by Ardagh Group*, January 30, 2013, <https://www.ardaghgroup.com/news-centre/acquisition-of-anchor-glass-by-ardagh-group>, retrieved October 23, 2013.

<sup>6</sup> *Ardagh Group S.A., Saint-Gobain Containers, Inc., and Compagnie de Saint-Gobain, In the Matter of*, <https://www.ftc.gov/enforcement/cases-proceedings/131-0087/ardagh-group-sa-saint-gobain-containers-inc-compagnie-de>, retrieved October 23, 2019.

Ardagh agreed to sell six of the manufacturing plants it acquired in its 2012 acquisition of Anchor, along with Anchor’s former corporate headquarters in Tampa, Florida.<sup>7</sup>

As indicated in table III-2, one U.S. producer, \*\*\*, is related to an importer/exporter of the subject merchandise and a foreign producer of the subject merchandise. In addition, as discussed in greater detail below, the same U.S. producer, \*\*\*, directly imports the subject merchandise, and another U.S. producer, \*\*\*, purchased the subject merchandise from U.S. importers in January-June 2019.

**Table III-2**  
**Glass containers: U.S. producers' ownership, related and/or affiliated firms**

Item / Firm	Firm Name	Affiliated/Ownership
<b>Ownership:</b>		
***	***	***
***	***	***
***	***	***
***	***	***
<b>Related importers/exporters:</b>		
***	***	***
<b>Related producers:</b>		
***	***	***
***	***	***
***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table III-3 presents U.S. producers’ reported changes in operations since January 1, 2016. In testimony, Ardagh explained that it was forced to close two plants in Milford, Massachusetts, and Lincoln, Illinois. Ardagh also shut down one furnace at its Ruston, Louisiana, location and one furnace at its Seattle, Washington, location.<sup>8 9</sup>

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<sup>7</sup> Ibid.

<sup>8</sup> Conference transcript, p. 31 (Holz).

<sup>9</sup> Petitioner also states that \*\*\*. Petitioner’s postconference brief, p. 9, *citing* affidavit of \*\*\*, Exh. 10.

**Table III-3**

**Glass containers: U.S. producers' reported changes in operations, since January 1, 2016**

Item / Firm	Reported changed in operations
<b>Plant closings:</b>	
***	***
***	***
<b>Expansions:</b>	
***	***
***	***
<b>Prolonged shutdowns or curtailments:</b>	
***	***
***	***
***	***
***	***
<b>Revised labor agreements:</b>	
***	***
***	***

Source: Compiled from data submitted in response to Commission questionnaires.

## **U.S. production, capacity, and capacity utilization**

Table III-4 and figure III-1 present U.S. producers' production, capacity, and capacity utilization data. Total production capacity for the U.S. industry decreased by 8.1 percent from 2016 to 2018. Total capacity was 9.0 percent lower in January-June 2019 than in January-June 2018. Total industry production of glass containers decreased by 10.4 percent from 2016 to 2018. \*\*\* reported a \*\*\* percent decrease in production from 2016 to 2018. \*\*\* reported a \*\*\* percent decrease from 2016 to 2018 and a \*\*\* percent lower production in January-June 2019 than in January-June 2018. Overall capacity utilization decreased from 85.7 percent in 2016 to 83.2 percent in 2017 and was 83.5 percent in 2018. \*\*\* was the largest producer in 2018, with a \*\*\* percent share of production, followed by \*\*\*, with \*\*\* percent. These two largest producers combined represented \*\*\* percent of reported U.S. production in 2018.

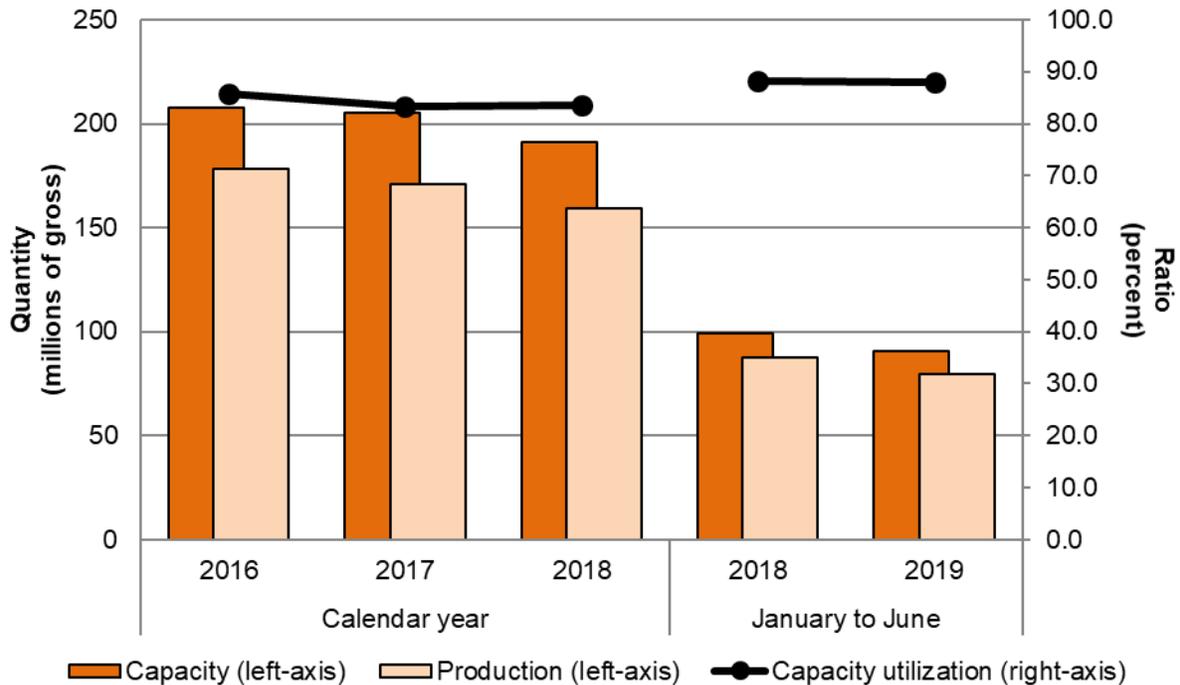
**Table III-4**

**Glass containers: U.S. producers' capacity, production, and capacity utilization, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Capacity (gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total capacity	207,906,664	205,041,162	191,121,825	99,268,928	90,361,865
	<b>Production (gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total production	178,109,887	170,662,110	159,531,473	87,655,156	79,521,770
	<b>Capacity utilization (percent)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Overall capacity utilization	85.7	83.2	83.5	88.3	88.0
	<b>Share of production (percent)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total production	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

**Figure III-1**  
**Glass containers: U.S. producers' capacity, production, and capacity utilization, 2016-18, January to June 2018, and January to June 2019**



Source: Compiled from data submitted in response to Commission questionnaires.

U.S. producers were asked to indicate which production methods they used to produce glass containers in the United States. Table III-5 presents their responses. See part I for a description of the primary production methods.

**Table III-5**  
**Glass containers: U.S. producers' production method**

Item	No. of firms
Press and blow	3
Blow and blow	4
Other	1

Note.--\*\*\* described its "other" production method as "\*\*\*."

Source: Compiled from data submitted in response to Commission questionnaires.

### Alternative products

None of the responding U.S. producers reported production of alternative products.

### U.S. producers' U.S. shipments and exports

Table III-6 presents U.S. producers' U.S. shipments, export shipments, and total shipments of glass containers. U.S. shipments decreased by 9.4 percent from 2016 to 2018, by

quantity, and 4.6 percent, by value. U.S. shipments were 4.8 percent lower in January-June 2019 than in January-June 2018, by quantity, and 2.3 percent, by value. U.S. shipments comprised \*\*\* percent of the share of U.S. producers' total shipments in 2018. Only \*\*\* and \*\*\* reported export shipments.<sup>10</sup> Total export shipments decreased by \*\*\* percent from 2016 to 2018, by quantity. \*\*\* reported a decrease in export shipments of \*\*\* percent from 2016 to 2018, by quantity. Average unit values of U.S. shipments increased by 5.2 percent from 2016 to 2018 and were 2.6 percent higher in January-June 2019 than in January-June 2018.

**Table III-6**  
**Glass containers: U.S. producers' U.S. shipments, export shipments, and total shipments, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
<b>Quantity (gross)</b>					
U.S. shipments	166,775,558	159,604,458	151,153,341	78,534,412	74,794,304
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
<b>Value (1,000 dollars)</b>					
U.S. shipments	4,269,310	4,155,328	4,072,422	2,095,360	2,046,470
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
<b>Unit value (dollars per gross)</b>					
U.S. shipments	25.60	26.04	26.94	26.68	27.36
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
<b>Share of quantity (percent)</b>					
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
<b>Share of value (percent)</b>					
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

<sup>10</sup> \*\*\* listed \*\*\* as its principal export markets while \*\*\* listed \*\*\*.

## U.S. producers' inventories

Table III-7 presents U.S. producers' end-of-period inventories and the ratio of these inventories to U.S. producers' production, U.S. shipments, and total shipments. Due to requirements of "just-in-time" delivery, producers generally hold inventories for their customers.<sup>11</sup> Producers reported end-of-period inventories of 30.7 million gross in 2018, a ratio to production of 19.3 percent. Inventories increased by 20.8 percent from 2016 to 2018. \*\*\* reported the largest aggregate increase in inventories, a \*\*\* percent increase. \*\*\* reported a \*\*\* percent increase from 2016 to 2018 while \*\*\* reported a \*\*\* percent increase. Total inventories were 0.9 percent higher in January-June 2019 than in January-June 2018.

**Table III-7**  
**Glass containers: U.S. producers' inventories, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
U.S. producers' end-of-period inventories	25,451,309	27,490,525	30,736,870	32,922,659	33,215,294
	<b>Ratio (percent)</b>				
Ratio of inventories to.--					
U.S. production	14.3	16.1	19.3	18.8	20.9
U.S. shipments	15.3	17.2	20.3	21.0	22.2
Total shipments	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

## U.S. producers' imports and purchases

U.S. producers' imports and purchases of glass containers are presented in table III-8. \*\*\* reported \*\*\*. \*\*\* reported \*\*\*. \*\*\*. \*\*\*.

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<sup>11</sup> Ardagh reported "holding between 60 to 90 percent inventory and sometimes more" for customers. Conference transcript, pp. 84-85 (Shaddox, Paulet).

**Table III-8**  
**Glass containers: U.S. producers' imports, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
Ardagh's U.S. production	***	***	***	***	***
Ardagh's U.S. imports from nonsubject sources	***	***	***	***	***
	<b>Ratio (percent)</b>				
Ardagh's ratio to U.S. production of imports from nonsubject sources	***	***	***	***	***
	<b>Narrative</b>				
Ardagh's reason for importing	***				
	<b>Quantity (gross)</b>				
Owens's U.S. production	***	***	***	***	***
Owens's U.S. imports from.-- China	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	<b>Ratio (percent)</b>				
Owens's ratio to U.S. production of imports from.-- China	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	<b>Narrative</b>				
Owens's reason for importing	***				

Note.--\*\*\*'s nonsubject sources include \*\*\*.

Note.--\*\*\*'s nonsubject sources include \*\*\*.

Note.--Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.

Source: Compiled from data submitted in response to Commission questionnaires.

## U.S. employment, wages, and productivity

Table III-9 shows U.S. producers' employment-related data. Total production and related workers ("PRWs") decreased by 2.5 percent from 2016 to 2018. PRWs were 7.1 percent lower in January-June 2019 than in January-June 2018. Total hours worked decreased by 2.2 percent from 2016 to 2018 and were 5.9 percent lower in January-June 2019 than in January-June 2018. Productivity (gross per hour) decreased by 8.4 percent from 2016 to 2018 and was 3.5 percent lower in January-June 2019 than in January-June 2018. Hourly wages increased from \$47.70 in 2016 to \$48.38 in 2018, an increase of 1.4 percent, and were 1.5 percent higher in January-June 2019 than in January-June 2020.

**Table III-9****Glass containers: U.S. producers' employment related data, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
Production and related workers (PRWs) (number)	11,441	11,449	11,150	11,386	10,579
Total hours worked (1,000 hours)	23,260	23,131	22,752	11,510	10,825
Hours worked per PRW (hours)	2,033	2,020	2,041	1,011	1,023
Wages paid (\$1,000)	1,109,616	1,125,607	1,100,705	561,876	536,197
Hourly wages (dollars per hour)	\$47.70	\$48.66	\$48.38	\$48.82	\$49.53
Productivity (gross per hour)	7.7	7.4	7.0	7.6	7.3
Unit labor costs (dollars per gross)	\$6.23	\$6.60	\$6.90	\$6.41	\$6.74

Source: Compiled from data submitted in response to Commission questionnaires.

## **Part IV: U.S. imports, apparent U.S. consumption, and market shares**

### **U.S. importers**

The Commission issued importers' questionnaires to 120 firms believed to be importers of glass containers, as well as to all U.S. producers of glass containers.<sup>1</sup> Usable questionnaire responses were received from 21 companies, representing \*\*\* percent of U.S. imports from China in 2018 under HTS subheadings 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049, and 7010.90.5055. Table IV-1 lists all responding U.S. importers of glass containers from China, Mexico, and other sources, their locations, and their shares of U.S. imports, in 2018.

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<sup>1</sup> The Commission issued questionnaires to those firms identified in the petition, along with firms that, based on a review of data provided by U.S. Customs and Border Protection ("Customs"), may have accounted for more than one percent of total imports under HTS subheadings 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049, and 7010.90.5055 in 2018.

**Table IV-1**  
**Glass containers: U.S. importers by source, 2018**

Firm	Headquarters	Share of imports by source (percent)				
		China	Mexico	All other sources	Nonsubject sources	All import sources
Amici	San Diego, CA	***	***	***	***	***
Amigo	Coppell, TX	***	***	***	***	***
Ardagh	Chicago, IL	***	***	***	***	***
Berlin	Chicago, IL	***	***	***	***	***
Evergreen	Naperville, IL	***	***	***	***	***
Granth	Southbury, CT	***	***	***	***	***
IGC	Pomona, CA	***	***	***	***	***
MA Silva	Santa Rosa, CA	***	***	***	***	***
McKernan	Reno, NV	***	***	***	***	***
Midwest	Pewaukee, WI	***	***	***	***	***
Northwest Pioneer	Kent, WA	***	***	***	***	***
Owens	Perrysburg, OH	***	***	***	***	***
Richards	Portland, OR	***	***	***	***	***
Saxco Brick	Traverse City, MI	***	***	***	***	***
Saxco International	Concord, CA	***	***	***	***	***
Silver Spur	Cerritos, CA	***	***	***	***	***
Spirited	Stockton, CA	***	***	***	***	***
TricorBraun	Creve Couer, MO	***	***	***	***	***
Veritiv	Atlanta, GA	***	***	***	***	***
Walmart	Bentonville, AR	***	***	***	***	***
West Coast	El Dorado Hills, CA	***	***	***	***	***
Total		100.0	100.0	100.0	100.0	100.0

Note.--Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.

Source: Compiled from data submitted in response to Commission questionnaires.

## U.S. imports

Table IV-2 and figure IV-1 present data for U.S. imports of glass containers from China, Mexico, and all other sources. During 2016-18, U.S. imports of glass containers from China increased, in terms of quantity, by \*\*\* percent (\*\*\*) percent by value). U.S. imports of glass containers from China, in terms of quantity, were \*\*\* percent lower during January to June ("interim") 2019 compared to January to June 2018 (\*\*\*) percent by value). During 2016-18, U.S. imports of glass containers from Mexico increased, in terms of quantity, by 53.9 percent (69.5 percent by value). U.S. imports of glass containers from Mexico, in terms of quantity, were 2.4 percent lower during the 2019 interim period compared to the 2018 interim period but were 8.7 percent greater in terms of value. U.S. imports of glass containers from all nonsubject sources, including Mexico, increased, in terms of quantity, by \*\*\* percent (\*\*\*) percent by value). U.S. imports of glass containers from all nonsubject sources, including Mexico were, in terms of quantity, \*\*\* percent higher during the 2019 interim period

compared to the 2018 interim period (\*\*\*) percent by value). In 2018, imports from China accounted for \*\*\* percent of imports and imports from Mexico accounted for \*\*\* percent of all imports of glass containers. In 2018, the largest nonsubject sources for U.S. imports of glass containers was Mexico, followed by Taiwan, Canada, Germany, and Italy.

The average unit value of U.S. imports of glass containers from China fell by \$\*\*\* per gross over the period to \$\*\*\* per gross in 2018. While the average unit value of U.S. imports of glass containers from Mexico increased by \$\*\*\* per gross over the period to \$\*\*\* per gross. The average unit value of U.S. imports of glass containers from nonsubject countries increased by \$\*\*\* per gross over the period to \$\*\*\* per gross, in 2018. During 2016-18, as a ratio to U.S. production, imports from China increased by \*\*\* percentage points, while imports from nonsubject countries increased by \*\*\* percentage points.

**Table IV-2**  
**Glass containers: U.S. imports by source, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
U.S. imports from.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	<b>Value (1,000 dollars)</b>				
U.S. imports from.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	<b>Unit value (dollars per gross)</b>				
U.S. imports from.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Table continued on next page.

**Table IV-2—Continued**

**Glass containers: U.S. imports by source, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Share of quantity (percent)</b>				
U.S. imports from.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	100.0	100.0	100.0	100.0	100.0
	<b>Share of value (percent)</b>				
U.S. imports from.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	100.0	100.0	100.0	100.0	100.0
	<b>Ratio to U.S. production</b>				
U.S. imports from.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Table continued on next page.

Table IV-2—Continued

Glass containers: U.S. imports by source, 2016-18, January to June 2018, and January to June 2019

Item	Between calendar years			Between partial year periods
	2016-18	2016-17	2017-18	2018-19
	<b>Change in quantity (percent)</b>			
U.S. imports from.-- China	▲***	▲***	▲***	▼***
Mexico	▲***	▲***	▲***	▼***
All other sources	▲***	▲***	▲***	▲***
Nonsubject sources	▲***	▲***	▲***	▲***
All import sources	▲***	▲***	▲***	▼***
	<b>Change in value (percent)</b>			
U.S. imports from.-- China	▲***	▲***	▲***	▼***
Mexico	▲***	▲***	▲***	▲***
All other sources	▲***	▲***	▲***	▼***
Nonsubject sources	▲***	▲***	▲***	▲***
All import sources	▲***	▲***	▲***	▲***
	<b>Change in unit value (percent)</b>			
U.S. imports from.-- China	▼***	▼***	▼***	▲***
Mexico	▲***	▲***	▲***	▲***
All other sources	▲***	▲***	▲***	▼***
Nonsubject sources	▲***	▼***	▲***	▲***
All import sources	▲***	▼***	▲***	▲***
	<b>Change in share of quantity (percentage points)</b>			
U.S. imports from.-- China	▼***	▼***	▲***	▼***
Mexico	▲***	▲***	▼***	▲***
All other sources	▼***	▼***	▼***	▲***
Nonsubject sources	▲***	▲***	▼***	▲***
	<b>Change in share of value (percentage points)</b>			
U.S. imports from.-- China	▼***	▼***	▼***	▼***
Mexico	▲***	▲***	▲***	▲***
All other sources	▼***	▼***	▼***	▼***
Nonsubject sources	▲***	▲***	▲***	▲***

Note.--Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. ▲ represents an increase. ▼ represents a decrease.

Note.--Official import statistics have been adjusted to remove out-of-scope imports contained within HTS statistical reporting nos. 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055 based on reported out-of-scope imports from \*\*\* and \*\*\*. \*\*\* adjustment is based on questionnaire data. \*\*\* Adjustment is based on \*\*\* import records and Email from \*\*\*, October 11, 2019.

Source: Adjusted official U.S. import statistics for HTS statistical reporting number 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 & 7010.90.5055, accessed October 15, 2019.

**Figure IV-1**

**Glass containers: U.S. import volumes and prices, 2016-18, January to June 2018, and January to June 2019**

\* \* \* \* \*

Note.--Official import statistics have been adjusted to remove out-of-scope imports contained within HTS statistical reporting nos. 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055 based on reported out-of-scope imports from \*\*\* and \*\*\*. \*\*\* adjustment is based on questionnaire data. \*\*\* Adjustment is based on \*\*\* import records and Email from \*\*\*, October 11, 2019.

Source: Adjusted official U.S. import statistics for HTS statistical reporting number 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 & 7010.90.5055, accessed October 15, 2019.

Table IV-3 presents U.S. imports of glass containers from China by HTS number. The petitioner notes, Chinese glass producers initially targeted food containers, which are relatively lightweight, less complex, and less expensive.<sup>2</sup> Having established a strong presence in the U.S. market, Chinese imports began to move into higher value products, especially wine bottles. Respondent Berlin Packaging reports the increased desire by consumers for environmentally conscious, sustainable products have increased imports of glass containers. However, the demand for glass bottles in the beer market has declined with the growing use of aluminum cans and popularity of imported beer.<sup>3</sup>

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<sup>2</sup> Petitioner’s postconference brief, p. 2.

<sup>3</sup> Respondent Berlin Packaging’s postconference brief, pp. 6-9.

**Table IV-3**  
**Glass containers: U.S. imports from China, by HTS number, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
7010.90.5005	94,094	82,043	106,492	50,631	59,993
7010.90.5009	245,777	265,358	263,946	113,195	89,873
7010.90.5015	976,639	943,292	640,927	336,605	255,367
7010.90.5019	2,455,515	3,015,240	3,634,788	1,893,407	1,829,891
7010.90.5025	1,186,497	1,107,150	1,023,744	553,726	416,643
7010.90.5029	754,332	891,313	1,263,770	650,488	395,542
7010.90.5035	524,860	571,924	533,557	290,617	315,440
7010.90.5039	544,243	662,562	864,040	400,041	320,525
7010.90.5045	184,498	326,954	385,917	209,758	191,114
7010.90.5049	467,000	501,041	604,744	261,516	196,173
7010.90.5055	3,580,701	4,199,024	4,910,072	2,455,441	2,083,270
Total - Official Statistics	11,014,156	12,565,901	14,231,997	7,215,425	6,153,831
Adjustment for China	***	***	***	***	***
Total	***	***	***	***	***
	<b>Value (1,000 dollars)</b>				
7010.90.5005	9,213	10,534	13,726	6,534	5,075
7010.90.5009	19,573	22,359	17,813	8,450	5,436
7010.90.5015	35,980	35,389	24,386	12,510	11,409
7010.90.5019	150,853	180,446	205,900	107,691	112,488
7010.90.5025	28,631	25,756	25,359	13,490	11,017
7010.90.5029	21,218	26,729	37,636	19,113	12,722
7010.90.5035	10,866	11,827	11,965	6,445	7,034
7010.90.5039	12,469	15,357	19,748	8,459	7,764
7010.90.5045	2,857	4,335	5,452	2,634	2,654
7010.90.5049	7,930	8,691	11,626	4,482	3,963
7010.90.5055	50,648	59,406	79,258	35,756	35,939
Total - Official Statistics	350,237	400,831	452,867	225,566	215,502
Adjustment for China	***	***	***	***	***
Total	***	***	***	***	***

Table continued on next page.

**Table IV-3—Continued**

**Glass containers: U.S. imports from China, by HTS number, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Unit value (dollars per gross)</b>				
7010.90.5005	97.91	128.40	128.89	129.06	84.60
7010.90.5009	79.64	84.26	67.49	74.65	60.49
7010.90.5015	36.84	37.52	38.05	37.17	44.68
7010.90.5019	61.43	59.84	56.65	56.88	61.47
7010.90.5025	24.13	23.26	24.77	24.36	26.44
7010.90.5029	28.13	29.99	29.78	29.38	32.16
7010.90.5035	20.70	20.68	22.43	22.18	22.30
7010.90.5039	22.91	23.18	22.86	21.14	24.22
7010.90.5045	15.49	13.26	14.13	12.56	13.89
7010.90.5049	16.98	17.35	19.22	17.14	20.20
7010.90.5055	14.14	14.15	16.14	14.56	17.25
Total	31.80	31.90	31.82	31.26	35.02
Adjustment for China	***	***	***	***	***
Total	***	***	***	***	***

Note.--Official import statistics have been adjusted to remove out-of-scope imports contained within HTS statistical reporting nos. 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055 based on reported out-of-scope imports from \*\*\* and \*\*\*. \*\*\* adjustment is based on questionnaire data. \*\*\* adjustment is based on \*\*\* import records and Email from \*\*\*, October 11, 2019.

Note. --HTS subheadings refer to the following products: 7010.90.5005: jars and wide mouth containers (capacity greater than 1 liter); 7010.90.5009: certain growlers and certain above average size bottles for wine and spirit (capacity greater than 1 liter); 7010.90.5015: jars and wide mouth containers (capacity between 0.473 and 1 liter); 7010.90.5019: standard 750ML Wine and spirit bottles, certain growlers (capacity between 0.473 and 1 liter); 7010.90.5025: jars and wide mouth containers (capacity between 0.33 and 0.473 liters); 7010.90.5029: beer, soda, hard cider bottles (capacity between 0.33 and 0.473 liters); 7010.90.5035: wide mouth containers (capacity between 0.15 and 0.33 liters); 7010.90.5039: 5-11 fl oz bottles (capacity between 0.15 and 0.33 liters); 7010.90.5045: tiny wide mouth containers (capacity between 0.118 and 0.15 liters); 7010.90.5049: 4 to 5 fl oz bottles (capacity between 0.118 and 0.15 liters); 7010.90.5055: perfume and other small volume bottles and jars (capacity under 0.118 liters).

Source: Official U.S. import statistics for HTS statistical reporting number 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055 and compiled from data submitted in response to Commission questionnaires.

Table IV-4 presents data on U.S. imports of glass containers (shown in descending order, by quantity, for 2018) from nonsubject sources including Mexico, Taiwan, and Canada. During 2016-18, Mexico was the largest sources of U.S. imports accounting for \*\*\* percent of total U.S. imports of glass containers in 2018.

**Table IV-4**  
**Glass containers: U.S. imports, by nonsubject sources, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
U.S. imports from.--					
Mexico	***	***	***	***	***
Taiwan	***	***	***	***	***
Canada	***	***	***	***	***
Germany	***	***	***	***	***
Italy	***	***	***	***	***
France	***	***	***	***	***
United Arab Emirates	***	***	***	***	***
Adjustment for all other sources	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
	<b>Share of quantity (percent)</b>				
U.S. imports from.--					
Mexico	***	***	***	***	***
Taiwan	***	***	***	***	***
Canada	***	***	***	***	***
Germany	***	***	***	***	***
Italy	***	***	***	***	***
France	***	***	***	***	***
United Arab Emirates	***	***	***	***	***
Adjustment for all other sources	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***

Note.--Official import statistics have been adjusted to remove out-of-scope imports contained within HTS statistical reporting nos. 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055 based on reported out-of-scope imports from \*\*\* and \*\*\*. \*\*\* adjustment is based on questionnaire data. \*\*\* adjustment is based on \*\*\* import records and Email from \*\*\*, October 11, 2019.

Source: Official U.S. import statistics for HTS statistical reporting number 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055 and compiled from data submitted in response to Commission questionnaires.

## Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.<sup>4</sup> Negligible imports are generally defined in the Act, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.<sup>5</sup> Imports from China accounted for 30.5 percent of total imports of glass containers by quantity during September 2018 through August 2019. Table IV-5 presents data on U.S. imports of glass containers in the twelve month period preceding the filing of the petition.

**Table IV-5**  
**Glass containers: U.S. imports in the twelve month period preceding the filing of the petition, September 2018 through August 2019**

Item	September 2018 through August 2019	
	Quantity (gross)	Share quantity (percent)
U.S. imports from.-- China	12,618,413	30.5
Mexico	14,182,193	34.3
All other sources	14,601,245	35.3
Nonsubject sources	28,783,438	69.5
All import sources	41,401,851	100.0

Source: Official U.S. import statistics for HTS statistical reporting number 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055.

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<sup>4</sup> Sections 703(a)(1), 705(b)(1), 733(a)(1), and 735(b)(1) of the Act (19 U.S.C. §§ 1671b(a)(1), 1671d(b)(1), 1673b(a)(1), and 1673d(b)(1)).

<sup>5</sup> Section 771 (24) of the Act (19 U.S.C § 1677(24)).

## Apparent U.S. consumption

Table IV-6 presents data on apparent U.S. consumption and U.S. market shares for glass containers. During 2016-18, apparent U.S. consumption, in terms of quantity, decreased by \*\*\* percent while apparent U.S. consumption, in terms of value, increased by \*\*\* percent.

**Table IV-6**  
**Glass containers: U.S. shipments of domestic product, U.S. shipments of imports, and apparent U.S. consumption, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
U.S. producers' U.S. shipments	166,775,558	159,604,458	151,153,341	78,534,412	74,794,304
U.S. imports from.--					
China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Apparent U.S. consumption	***	***	***	***	***
	<b>Value (1,000 dollars)</b>				
U.S. producers' U.S. shipments	4,269,310	4,155,328	4,072,422	2,095,360	2,046,470
U.S. imports from.--					
China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Apparent U.S. consumption	***	***	***	***	***

Note.-- Official import statistics have been adjusted to remove out-of-scope imports contained within HTS statistical reporting nos. 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055 based on reported out-of-scope imports from \*\*\* and \*\*\*. \*\*\* adjustment is based on questionnaire data. \*\*\* adjustment is based on \*\*\* import records and Email from \*\*\*, October 11, 2019.

Source: Adjusted official U.S. import statistics for HTS statistical reporting number 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055, and compiled from data submitted in response to Commission questionnaires.

## **U.S. market shares**

U.S. market share data are presented in table IV-7 and figure IV-2. During 2016-18, U.S. producers' share of apparent U.S. consumption has decreased both by quantity and value \*\*\* percentage points and \*\*\* percentage points, respectively. U.S. imports from China, as a share of U.S. consumption, based on quantity, increased by \*\*\* percentage points (\*\* percentage points based on value) from 2016 to 2018. U.S. imports from Mexico, as a share of U.S. consumption, based on quantity, increased by \*\*\* percentage points (\*\* percentage points based on value) from 2016 to 2018. U.S. imports from all nonsubject sources, including Mexico, as a share of U.S. consumption, based on quantity, increased by \*\*\* percentage points (\*\* percentage points based on value) from 2016 to 2018.

**Table IV-7**

**Glass containers: Market shares, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
Apparent U.S. consumption	***	***	***	***	***
	<b>Share of quantity (percent)</b>				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	<b>Share of value (percent)</b>				
Apparent U.S. consumption	***	***	***	***	***
	<b>Value (1,000 dollars)</b>				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Note.--Official import statistics have been adjusted to remove out-of-scope imports contained within HTS statistical reporting nos. 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055 based on reported out-of-scope imports from \*\*\* and \*\*\*. \*\*\* adjustment is based on questionnaire data. \*\*\* adjustment is based on \*\*\* import records and Email from \*\*\*, October 11, 2019.

Source: Adjusted official U.S. import statistics for HTS statistical reporting number 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055, and compiled from data submitted in response to Commission questionnaires.

**Figure IV-2**

**Glass containers: Apparent U.S. consumption, 2016-18, January to June 2018, and January to June 2019**

\* \* \* \* \*

Note.--Official import statistics have been adjusted to remove out-of-scope imports contained within HTS statistical reporting nos. 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055 based on reported out-of-scope imports from \*\*\* and \*\*\*. \*\*\* adjustment is based on questionnaire data. \*\*\* adjustment is based on \*\*\* import records and Email from \*\*\*, October 11, 2019.

Source: Adjusted official U.S. import statistics for HTS statistical reporting number 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055, and compiled from data submitted in response to Commission questionnaires.

Table IV-8 presents information on U.S. producers' and U.S. importers' production or imports based on product type, color, and design element. Table IV-9 presents U.S. producers' and U.S. importers' shipments by product type. Respondent TricorBraun noted that, imports of glass containers from China are concentrated on serving small-to-medium sized customers that demand special shapes, weights, colors, and design elements not used by large scale wineries and breweries.<sup>6</sup> The petitioner reports that, Ardagh Group's Flex Run service allows for limited run series and customization of glass bottles.<sup>7</sup>

**Table IV-8**  
**Glass containers: U.S. producers' and U.S. importers' product mix**

Item	U.S. Producers	U.S. Importers
	Count of firms	
Product types:		
Clear beer bottles	3	6
Colored beer bottles	3	8
750 mL wine bottles, Claret style, green	3	11
750 mL wine bottles, Burgundy style, green	3	11
750 mL wine bottles, other styles, other colors	3	12
> or < 750 mL, wine bottles	3	12
750 mL liquor bottles	4	12
1L liquor bottles	4	9
1.75L liquor bottles	4	8
Clear glass non-alcoholic beverage bottles	3	10
Colored glass non-alcoholic beverage bottles	4	6
Glass jars	3	14
Glass containers, excl food storage and packaging	2	12
Glass perfume bottles	0	3
Other	2	5
Colors.--		
Flint (clear)	4	21
Blue	2	11
Green	3	18
Amber	3	14
Other	2	7
Design or functional elements.--		
Handles	3	10
Embossing	4	11
Etching	2	7
Labeling	1	9
Other	1	9

Source: Compiled from data submitted in response to Commission questionnaires.

<sup>6</sup> Respondent TricorBraun's postconference brief, p. 5.

<sup>7</sup> Petitioner's postconference brief, exh. 39.

**Table IV-9**

**Glass containers: U.S. producers' and U.S. importers' shipments by product, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
<b>Quantity (gross)</b>					
U.S. producers' U.S. shipments.-- Product 1 (a wine bottle product)	***	***	***	***	***
Product 2 (a beer bottle product)	***	***	***	***	***
Product 3 (a sauce bottle product)	***	***	***	***	***
Product 4 (a wide mouth jar product)	***	***	***	***	***
All other products	***	***	***	***	***
U.S. shipments	***	***	***	***	***
<b>Share of quantity (percent)</b>					
U.S. producers' U.S. shipments.-- Product 1 (a wine bottle product)	***	***	***	***	***
Product 2 (a beer bottle product)	***	***	***	***	***
Product 3 (a sauce bottle product)	***	***	***	***	***
Product 4 (a wide mouth jar product)	***	***	***	***	***
All other products	***	***	***	***	***
U.S. shipments	***	***	***	***	***
<b>Ratio to U.S. importers' data (percent)</b>					
U.S. producers' U.S. shipments.-- Product 1 (a wine bottle product)	***	***	***	***	***
Product 2 (a beer bottle product)	***	***	***	***	***
Product 3 (a sauce bottle product)	***	***	***	***	***
Product 4 (a wide mouth jar product)	***	***	***	***	***
All other products	***	***	***	***	***
U.S. shipments	***	***	***	***	***
<b>Ratio to apparent consumption (percent)</b>					
U.S. producers' U.S. shipments.-- Product 1 (a wine bottle product)	***	***	***	***	***
Product 2 (a beer bottle product)	***	***	***	***	***
Product 3 (a sauce bottle product)	***	***	***	***	***
Product 4 (a wide mouth jar product)	***	***	***	***	***
All other products	***	***	***	***	***
U.S. shipments	***	***	***	***	***

Table continued on next page.

**Table IV-9—Continued**

**Glass containers: U.S. producers' and U.S. importers' shipments by product, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
U.S. importers' U.S. shipments: China.--					
Product 1 (a wine bottle product)	***	***	***	***	***
Product 2 (a beer bottle product)	***	***	***	***	***
Product 3 (a sauce bottle product)	***	***	***	***	***
Product 4 (a wide mouth jar product)	***	***	***	***	***
All other products	***	***	***	***	***
U.S. shipments: China	***	***	***	***	***
	<b>Share of quantity (percent)</b>				
U.S. importers' U.S. shipments: China.--					
Product 1 (a wine bottle product)	***	***	***	***	***
Product 2 (a beer bottle product)	***	***	***	***	***
Product 3 (a sauce bottle product)	***	***	***	***	***
Product 4 (a wide mouth jar product)	***	***	***	***	***
All other products	***	***	***	***	***
U.S. shipments: China	***	***	***	***	***
	<b>Ratio to U.S. producers' data (percent)</b>				
U.S. importers' U.S. shipments: China.--					
Product 1 (a wine bottle product)	***	***	***	***	***
Product 2 (a beer bottle product)	***	***	***	***	***
Product 3 (a sauce bottle product)	***	***	***	***	***
Product 4 (a wide mouth jar product)	***	***	***	***	***
All other products	***	***	***	***	***
U.S. shipments: China	***	***	***	***	***
	<b>Ratio to apparent consumption (percent)</b>				
U.S. importers' U.S. shipments: China.--					
Product 1 (a wine bottle product)	***	***	***	***	***
Product 2 (a beer bottle product)	***	***	***	***	***
Product 3 (a sauce bottle product)	***	***	***	***	***
Product 4 (a wide mouth jar product)	***	***	***	***	***
All other products	***	***	***	***	***
U.S. shipments: China	***	***	***	***	***

Note.--Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.

Source: Compiled from data submitted in response to Commission questionnaires.



# Part V: Pricing data

## Factors affecting prices

### Raw material costs

The major raw materials used in the production of glass containers are cullet (recycled glass), sand, soda ash, and limestone. There is no industry published prices for cullet, however \*\*\*. Prices for cullet increased from \$\*\*\* to \$\*\*\* per ton for amber/gramber on a simple average basis, and from \$\*\*\* to \$\*\*\* per ton for flint glass during 2016 to 2018.<sup>1</sup> A representative for Ardagh stated that approximately 40 percent of its raw material costs were accounted for by cullet.<sup>2</sup> The price of cullet depends on the color of the glass that is being produced, and prices for different colors of glass cullet vary throughout the regions of the United States.<sup>3</sup> U.S. producers reported that cullet accounted for 33.9 percent of the cost of raw materials in 2018, followed by soda ash and silica (sand), which accounted for 27.0 and 26.2 percent of raw material costs, respectively. The remainder is accounted for by limestone (7.3 percent) and other materials (5.6 percent).

Reported prices for industrial sand changed infrequently between January 2016 and August 2018 (the most recent period for which data are available), increasing by 2.2 percent from January to April 2016, 0.2 percent during January 2017, and 1.7 percent during January 2018, for an overall increase of 4.2 percent.<sup>4</sup> Reported prices for soda ash changed more often, decreasing irregularly by 6.8 percent between January 2016 and March 2018, before increasing irregularly by 8.6 percent between March 2018 and September 2019. Prices for soda ash were below the January 2018 level in every reported monthly data point until June 2019.<sup>5</sup>

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<sup>1</sup> Petitioner's postconference brief, exh. 1, p. 15.

<sup>2</sup> Conference transcript, p. 77 (Paulet).

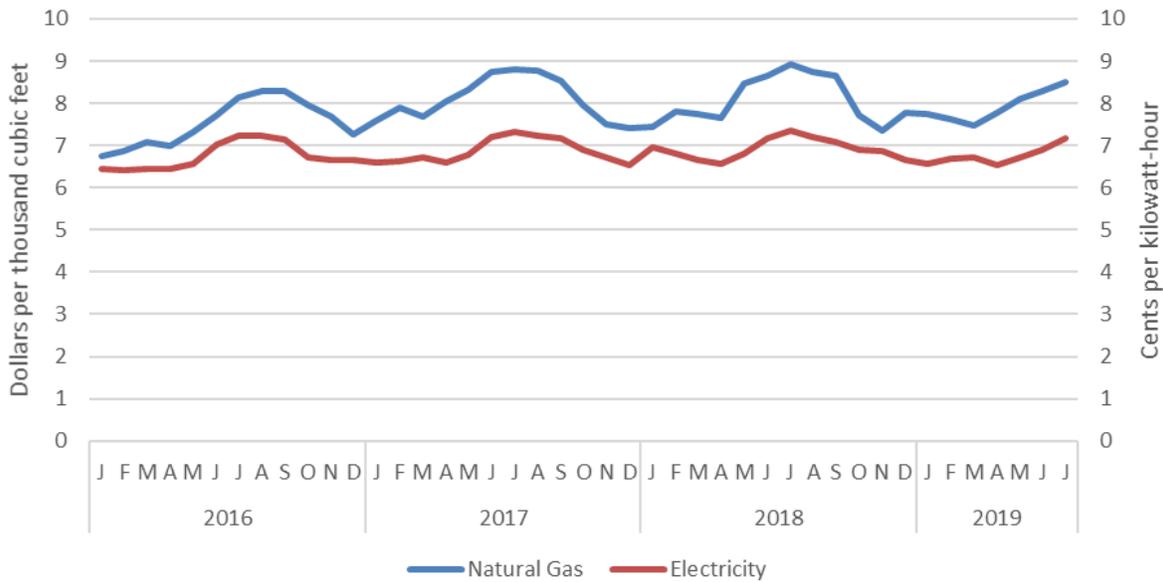
<sup>3</sup> Conference transcript, p. 79 (Paulet).

<sup>4</sup> U.S. Bureau of Labor Statistics, Producer Price Index by Industry: Industrial Sand Mining: Industrial Glass Sand \*\*\*, as provided by FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/PCU2123222123221>, retrieved October 23, 2019.

<sup>5</sup> U.S. Bureau of Labor Statistics, Producer Price Index by Industry: Potash, Soda, and Borate Mineral Mining: Sodium Carbonate and Sulfate \*\*\*, as provided by FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/PCU2123912123913>, retrieved October 23, 2019.

All four producers indicated that their raw material costs have increased since January 1, 2016. Overall, raw material prices, as a share of cost of goods sold (“COGS”), decreased from 19.7 percent in 2016 to 18.8 percent in 2018 and were 18.4 percent in the first half of 2019 compared with 19.2 percent in the first half of 2018. Other factory costs accounted for the largest proportion of COGS. These other costs include energy, which has increased in price for both natural gas and electricity since January 2016 (figure V-1).

**Figure V-1**  
**U.S. price of natural gas sold to commercial customers and average price of electricity sold to industrial customers, January 2016 to July 2019, monthly**



Source: Energy Information Administration, “Electric Power Monthly,” September 2018 and September 2019 , Table 5.3, and <https://www.eia.gov/dnav/ng/hist/n3020us3m.htm>, retrieved October 23, 2019.

### Transportation costs to the U.S. market

Transportation costs for glass containers shipped from China to the United States averaged 19.7 percent as a ratio to customs value in 2018. These estimates were derived from official import data and represent the transportation and other charges on imports.<sup>6</sup>

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<sup>6</sup> The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2018 and then dividing by the customs value based on the HTS subheadings 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 and 7010.90.5055.

## U.S. inland transportation costs

All U.S. producers and 17 of 19 responding importers reported that they typically arrange transportation to their customers. Most U.S. producers reported that their U.S. inland transportation costs ranged from 7 to 10 percent, averaging 8.7 percent, while most importers reported costs of 3 to 15 percent, averaging 7.4 percent.<sup>7</sup>

## Pricing practices

### Pricing methods

U.S. producers and importers reported that using transaction-by-transaction negotiations, contracts, and price lists are all common methods of determining prices in the glass container industry (table V-1). Transaction-by-transaction prices was the most frequent method reported by importers, but was not used by producer \*\*\*.

**Table V-1**

**Glass containers: U.S. producers' and importers' reported price setting methods, by number of responding firms**

Method	U.S. producers	Importers
Transaction-by-transaction	3	15
Contract	4	9
Set price list	4	11
Other	---	3
Responding firms	4	19

Note: The sum of responses down may not add up to the total number of responding firms as each firm was instructed to check all applicable price setting methods employed.

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. producers reported selling the vast majority (90.0 percent in 2018) of their glass containers via long-term contracts, whereas a plurality (41.6 percent) importers' sales were made in the spot market. As shown in table V-2, U.S. producers and importers reported their 2018 U.S. commercial shipments of glass containers by type of sale.

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<sup>7</sup> One producer and two importers reported values of 80 percent or higher.

**Table V-2**  
**Glass containers: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2018**

<b>Type of sale</b>	<b>U.S. producers</b>	<b>Importers</b>
Long-term contracts	90.0	12.4
Annual contracts	***	25.7
Short-term contracts	***	20.2
Spot sales	***	41.6
Total	100.0	100.0

Note: Because of rounding, figures may not add to the totals shown.

Source: Compiled from data submitted in response to Commission questionnaires.

Only one producer sells via short-term contracts, and two sell via annual contracts, but all four sell on a long-term contract basis. Three of four producers' long-term contracts typically do not contain price renegotiation provisions, and all four fix prices but not quantities and the prices change subject to raw material price changes. Indexes used by U.S. producers include those for sand, energy, limestone, soda ash, intermediate materials, and corrugated packaging material. In contrast, all five importers reporting long-term contract provision detail indicated that prices can be renegotiated and are not indexed to raw material price changes. These contracts may fix price, quantity, or both.

### **Sales terms and discounts**

Two U.S. producers and 15 importers indicated that they typically quote prices on an f.o.b. basis, but 3 U.S. producers and 9 importers typically quote prices on a delivered basis.<sup>8</sup> Discounts are common in the glass container industry. Three producers reported offering quantity discounts, four offer total volume discounts, and three offer other discounts. Among importers, 11 offer quantity discounts, 6 offer total volume discounts, and 4 offer other discounts, whereas 7 have no discount policy.

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<sup>8</sup> U.S. producer \*\*\* reported quoting on both a delivered and f.o.b. basis.

## Price data

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following glass containers products shipped to unrelated U.S. customers during January 2016-June 2019.

**Product 1.**-- 750 ml, Claret style (also referred to as Bordeaux) wine bottle, green color

**Product 2.**-- 12 oz., long neck style beverage bottle, flint (clear) color

**Product 3.**-- 12 oz., sauce bottle, flint (clear) color

**Product 4.**-- 17 oz., wide mouth pickle style jar, flint (clear) color

Four U.S. producers and 13 importers provided usable pricing data for sales of the requested products in gross,<sup>9</sup> although not all firms reported pricing for all products for all quarters.<sup>10</sup> Pricing data reported by these firms accounted for approximately 23.2 percent of U.S. producers' shipments of glass containers and \*\*\* percent of U.S. shipments of subject imports from China over the 14 quarters.

Price data for products 1-4 are presented in tables V-3 to V-6 and figures V-2 to V-5.

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<sup>9</sup> 1 gross = 144 containers.

<sup>10</sup> Per-unit pricing data are calculated from total quantity and total value data provided by U.S. producers and importers. The precision and variation of these figures may be affected by rounding, limited quantities, and producer or importer estimates.

**Table V-3**

**Glass containers: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by quarter, January 2016 to June 2019**

Period	United States		China		
	Price (dollars per gross)	Quantity (gross)	Price (dollars per gross)	Quantity (gross)	Margin (percent)
<b>2016:</b>					
Jan.-Mar.	37.13	1,774,294	69.80	138,489	(88.0)
Apr.-June	39.99	2,002,985	69.09	220,473	(72.8)
July-Sept.	39.75	1,723,564	70.47	175,613	(77.3)
Oct.-Dec.	36.91	1,816,994	66.66	98,745	(80.6)
<b>2017:</b>					
Jan.-Mar.	39.38	1,895,416	68.47	150,580	(73.9)
Apr.-June	41.29	2,113,537	70.29	187,874	(70.2)
July-Sept.	39.87	1,947,011	69.85	172,618	(75.2)
Oct.-Dec.	35.90	1,692,038	59.42	180,779	(65.5)
<b>2018:</b>					
Jan.-Mar.	38.54	1,633,181	65.40	192,926	(69.7)
Apr.-June	41.38	1,977,534	73.81	300,279	(78.4)
July-Sept.	41.83	1,942,024	73.28	260,957	(75.2)
Oct.-Dec.	37.63	1,735,836	66.83	127,596	(77.6)
<b>2019:</b>					
Jan.-Mar.	42.21	1,705,991	75.57	145,402	(79.0)
Apr.-June	41.78	1,891,429	82.69	184,462	(97.9)

Product 1: 750 ml, Claret style (also referred to as Bordeaux) wine bottle, green color

Note: Data from importer \*\*\* contains data in the last three quarters of 2018 for glass bottles that were imported, sent out for frosting/decorating, and then sold, and have a higher price than if the bottles were not frosted/decorated. These prices were approximately \*\*\* dollars higher than if they were not frosted/decorated, but this would affect \*\*\* of data during that period.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table V-4**

**Glass containers: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by quarter, January 2016 to June 2019**

Period	United States		China		
	Price (dollars per gross)	Quantity (gross)	Price (dollars per gross)	Quantity (gross)	Margin (percent)
<b>2016:</b>					
Jan.-Mar.	***	***	--	--	--
Apr.-June	***	***	--	--	--
July-Sept.	***	***	--	--	--
Oct.-Dec.	***	***	--	--	--
<b>2017:</b>					
Jan.-Mar.	***	***	--	--	--
Apr.-June	***	***	--	--	--
July-Sept.	***	***	--	--	--
Oct.-Dec.	***	***	***	***	***
<b>2018:</b>					
Jan.-Mar.	***	***	***	***	***
Apr.-June	***	***	***	***	***
July-Sept.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
<b>2019:</b>					
Jan.-Mar.	***	***	***	***	***
Apr.-June	***	***	***	***	***

Product 2: 12 oz., long neck style beverage bottle, flint (clear) color

Source: Compiled from data submitted in response to Commission questionnaires.

**Table V-5**  
**Glass containers: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 and margins of underselling/(overselling), by quarter, January 2016 to June 2019**

Period	United States		China		
	Price (dollars per gross)	Quantity (gross)	Price (dollars per gross)	Quantity (gross)	Margin (percent)
<b>2016:</b>					
Jan.-Mar.	30.11	476,083	29.11	12,326	3.3
Apr.-June	29.87	476,953	30.82	20,662	(3.2)
July-Sept.	28.60	552,426	31.28	25,876	(9.4)
Oct.-Dec.	29.59	471,850	30.10	29,894	(1.7)
<b>2017:</b>					
Jan.-Mar.	30.54	500,062	30.28	17,027	0.9
Apr.-June	30.59	485,895	28.13	34,610	8.0
July-Sept.	28.55	545,764	29.31	30,498	(2.7)
Oct.-Dec.	29.26	470,383	28.84	22,882	1.4
<b>2018:</b>					
Jan.-Mar.	28.98	386,071	28.44	22,266	1.9
Apr.-June	28.68	378,575	29.78	18,739	(3.8)
July-Sept.	27.18	461,052	29.24	10,668	(7.6)
Oct.-Dec.	29.00	396,591	30.90	11,423	(6.6)
<b>2019:</b>					
Jan.-Mar.	***	***	***	***	***
Apr.-June	***	***	***	***	***

Product 3: 12 oz., sauce bottle, flint (clear) color

Note: \*\*\*, which accounted for slightly more than \*\*\* percent of Product 3 data, was unable to report its data on the requested f.o.b. basis, reporting instead on a delivered basis. It reported that its U.S. inland transportation costs were between \*\*\* and \*\*\* percent during the period requested. Prices were not adjusted in the calculations due to the variability in these costs.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table V-6**

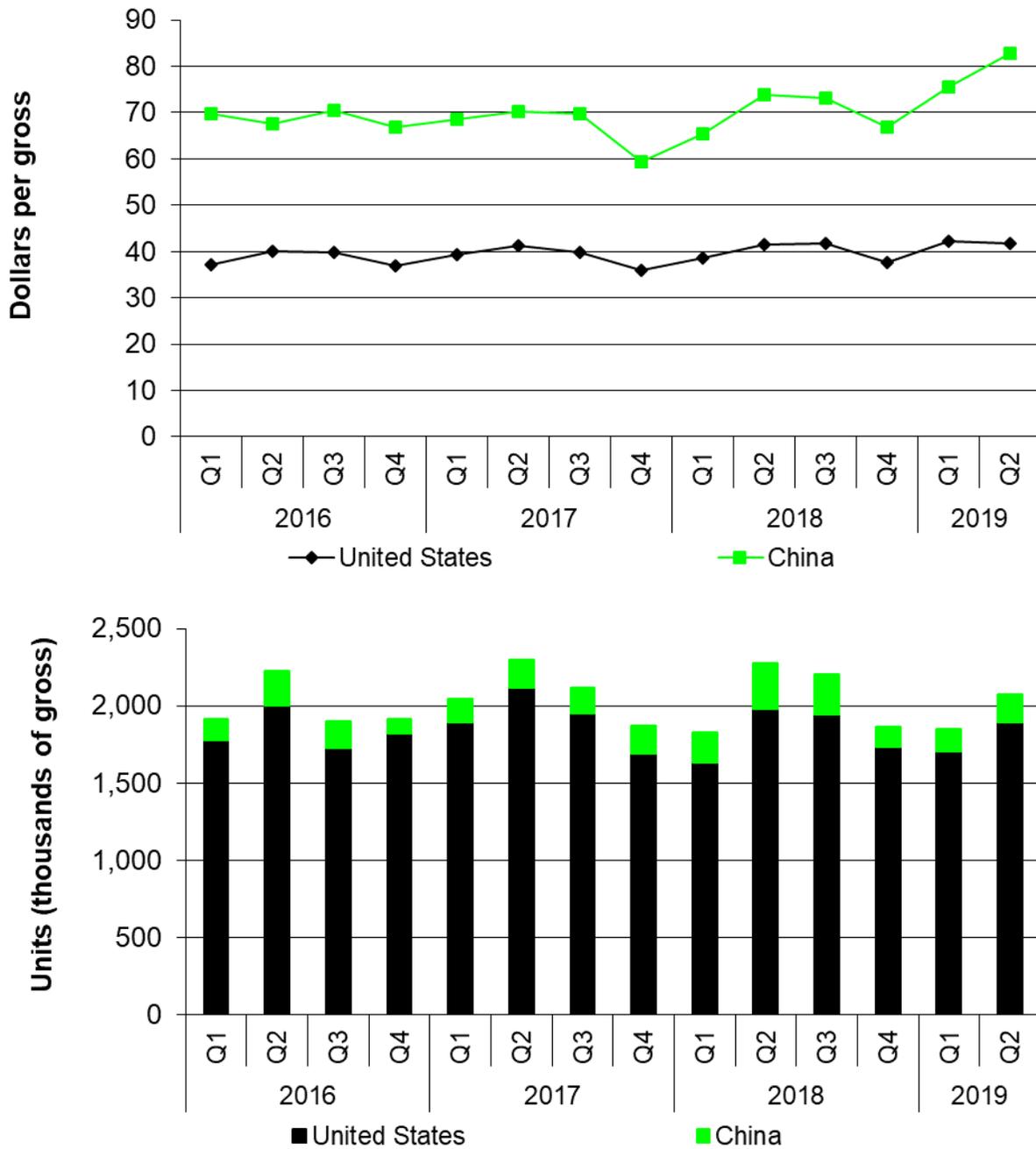
**Glass containers: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by quarter, January 2016 to June 2019**

Period	United States		China		
	Price (dollars per gross)	Quantity (gross)	Price (dollars per gross)	Quantity (gross)	Margin (percent)
<b>2016:</b>					
Jan.-Mar.	***	***	***	***	***
Apr.-June	***	***	***	***	***
July-Sept.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
<b>2017:</b>					
Jan.-Mar.	***	***	***	***	***
Apr.-June	***	***	***	***	***
July-Sept.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
<b>2018:</b>					
Jan.-Mar.	***	***	***	***	***
Apr.-June	***	***	***	***	***
July-Sept.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
<b>2019:</b>					
Jan.-Mar.	***	***	***	***	***
Apr.-June	***	***	***	***	***

Product 4: 17 oz., wide mouth pickle style jar, flint (clear) color

Source: Compiled from data submitted in response to Commission questionnaires.

**Figure V-2**  
**Glass containers: Weighted-average prices and quantities of domestic and imported product 1, by quarter, January 2016 to June 2019**



Product 1: 750 ml, Claret style (also referred to as Bordeaux) wine bottle, green color

Source: Compiled from data submitted in response to Commission questionnaires.

**Figure V-3**  
**Glass containers: Weighted-average prices and quantities of domestic and imported product 2, by quarter, January 2016 to June 2019**

\* \* \* \* \*

Source: Compiled from data submitted in response to Commission questionnaires.

**Figure V-4**  
**Glass containers: Weighted-average prices and quantities of domestic and imported product 3, by quarter, January 2016 to June 2019**

\* \* \* \* \*

Source: Compiled from data submitted in response to Commission questionnaires.

**Figure V-5**  
**Glass containers: Weighted-average prices and quantities of domestic and imported product 4, by quarter, January 2016 to June 2019**

\* \* \* \* \*

Source: Compiled from data submitted in response to Commission questionnaires.

## Price trends

In general, prices increased during January 2016 to June 2019. Table V-7 summarizes the price trends, by country and by product. As shown in the table, domestic prices increased for two products (by \*\*\* and \*\*\* percent) and decreased for two products (by \*\*\* percent) between the first quarter of 2016 and the second quarter of 2019. Import prices increased during that time for all three available pricing products. Prices for product 2, the long neck 12 oz. clear beverage bottle, also increased (by \*\*\* percent) from the first available data point in the fourth quarter of 2017 to the second quarter of 2019. Import price increases ranged from \*\*\* to \*\*\* percent.

**Table V-7**  
**Glass containers: Summary of weighted-average f.o.b. prices for products 1-4 from the United States and China**

Item	Number of quarters	Low price (per gross)	High price (per gross)	Change in price (percent)
<b>Product 1</b>				
United States	14	35.90	42.21	12.5
China	14	59.42	82.69	18.5
<b>Product 2</b>				
United States	14	***	***	***
China	7	***	***	---
<b>Product 3</b>				
United States	14	***	***	***
China	14	***	***	***
<b>Product 4</b>				
United States	14	***	***	***
China	14	***	***	***

Note: Percentage change from the first quarter in which data were available to the last quarter in which price data were available.

Source: Compiled from data submitted in response to Commission questionnaires.

## Price comparisons

As shown in table V-8, prices for product imported from China were higher than those from the United States in 44 of 49 instances (2.7 million gross), and sold between \*\*\* and \*\*\* percent above the U.S. prices for those products. Prices for product imported from China below those for U.S.-produced product in the remaining five instances (109,111 gross); margins of underselling ranged from 0.9 to 8.0 percent.<sup>11</sup>

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<sup>11</sup> A limited number of data points include some value-added elements to the prices such as delivery or decoration such as “frosting” on a container.

**Table V-8**

**Glass containers: Instances of underselling/overselling and the range and average of margins, by country, January 2016 to June 2019**

Product	Underselling					
	Number of quarters	Quantity (gross)		Average margin (percent)	Margin range (percent)	
		United States	China		Min	Max
Product 1	0	0	0	---	---	---
Product 2	0	0	0	---	---	---
Product 3	5	2,318,494	109,111	3.1	0.9	8.0
Product 4	0	0	0	---	---	---
Total	5	2,318,494	109,111	3.1	0.9	8.0
Product	(Overselling)					
	Number of quarters	Quantity (gross)		Average margin (percent)	Margin range (percent)	
		United States	China		Min	Max
Product 1	14	25,851,834	2,536,793	(77.2)	(65.5)	(97.9)
Product 2	7	***	***	***	***	***
Product 3	9	***	***	***	***	***
Product 4	14	***	***	***	***	***
Total	44	76,159,310	2,715,220	(98.8)	(1.7)	(179.5)

Note: Quantity data include only quarters in which there is a comparison between the U.S. and subject product.

Source: Compiled from data submitted in response to Commission questionnaires.

## Lost sales and lost revenue

The Commission requested that U.S. producers of glass containers report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of glass containers from China from January 2016 to the date the petition was filed. Of the 4 responding U.S. producers, all 4 reported that they had to reduce prices, two reported they had to roll back announced price increases, and all four firms reported that they had lost sales. One U.S. producer (\*\*\*) submitted lost sales and lost revenue allegations. This producer identified 14 firms with which it lost sales or revenue (13 consisting of both lost sales and lost revenue allegations, and 1 consisting of only a lost revenue allegation).

Staff contacted these 14 purchasers and received responses from 9 purchasers: 4 distributors, 4 food manufacturers, and 1 wine producer. Responding purchasers reported buying 23.6 million gross of glass containers during 2016 to 2018 (table V-9). Of these purchases, 46.0 percent were from U.S. producers, 22.8 percent were from China, and 31.3 percent were from other sources.

**Table V-9**

**Glass containers: Purchasers' responses to purchasing patterns**

Purchaser	Purchases in 2016-2018 (gross)			Change in domestic share (pp, 2016-18)	Change in subject country share (pp, 2016-18)
	Domestic	China	All other		
***	***	***	***	***	***
***	***	***	***	▼***	▲***
***	***	***	***	***	***
***	***	***	***	▼***	▼***
***	***	***	***	▼***	▲***
***	***	***	***	***	▲***
***	***	***	***	▼***	▲***
***	***	***	***	▼***	▲***
***	***	***	***	▼***	▲***
***	***	***	***	▼***	▲***
Total	***	***	***	▼***	▲***

Note: Includes all other sources and unknown sources.

Note: Percentage points (pp) change: Change in the share of the firm's total purchases of domestic and/or subject country imports between first and last years.

Source: Compiled from data submitted in response to Commission questionnaires.

Purchasers were asked about changes in their purchasing patterns from different sources since 2016. Of the nine responding purchasers, three reported decreasing purchases from domestic producers, one reported increasing purchases, three reported no change, and two reported fluctuating purchases. Purchaser \*\*\* reported that its increasing sales necessitated increased purchases from domestic producers. Explanations for decreasing purchases of domestic product included: “End user purchasing from China & Mexico based on US glass pricing being too high,” “poor quality of glass and higher prices,” and “Loss of business; customers buying direct from domestic manufacturers.” Purchaser \*\*\* relayed that its fluctuating purchases were due to a mix of U.S. and Chinese purchases. Purchaser \*\*\* noted about its fluctuating purchases: “U.S. manufacturers began selling directly to our beer customers where we were distributing U.S. glass thereby reducing our purchases. As an offset, following the tariff increase on Chinese product, we bought more wine bottles from domestic suppliers in 2018.”

With respect to purchases from China, three of six responding purchasers reported increasing purchases from domestic producers, one reported increasing purchases, two reported no change, and two reported fluctuating purchases. Purchaser \*\*\* stated that its increased purchases of glass containers in 2017 was “\*\*\*” and purchaser \*\*\* noted that its increased purchases were due to \*\*\*. Purchaser \*\*\* increased its purchases from China based on higher

quality and lower prices. Purchaser \*\*\* noted that with regard to its fluctuating purchases, “\*\*\*.”

With respect to purchases from other countries, one purchaser decreased its purchases from Mexico, one increased its purchases from Mexico and two increased their purchases from other countries, three reported constant levels of purchases of imports from other countries, and one (\*\*\*) reported fluctuating purchases from both Mexico and other countries. Purchaser \*\*\* decrease in purchases from Mexico was reported to be due to the “\*\*\*.” \*\*\* constant level of purchases was due to the availability of specific bottles. The increased purchases from Mexico by \*\*\* was due to increased volume, and the increased purchases from all other sources were because of \*\*\* and overall demand growth for \*\*\*, which added that the Section 301 tariffs have also had an effect.

Of the nine responding purchasers, eight reported that, since 2016, they had purchased imported glass containers from China instead of U.S.-produced product. Six of the eight reported that subject import prices were lower than U.S.-produced product, and four of these purchasers reported that price was a primary reason for the decision to purchase imported product rather than U.S.-produced product.<sup>12</sup> Two of these purchasers estimated the quantity of glass containers from China purchased instead of domestic product; quantities totaled \*\*\* gross (table V-10). Purchasers identified poor quality, communication, customer service, flexibility, and delivery, as well as availability, terms, and high minimum order quantities as non-price reasons for purchasing imported rather than U.S.-produced product.

All three responding purchasers reported that U.S. producers had not reduced prices in order to compete with lower-priced imports from China.<sup>13</sup> \*\*\* noted that domestic producers have increased prices each year.

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<sup>12</sup> Two of these purchasers are \*\*\*.

<sup>13</sup> The seven other purchasers reported that they did not know if U.S. producers had reduced prices to compete with imports from China.

**Table V-10**

**Glass containers: Purchasers' responses to purchasing subject imports instead of domestic product**

Purchaser	Subject imports purchased instead of domestic (Y/N)	Imports priced lower (Y/N)	If purchased imports instead of domestic, was price a primary reason		
			Y/N	If Yes, quantity purchased instead of domestic (gross)	If No, non-price reason
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
<b>Total</b>	Yes--8; No--1	Yes--6; No--2	Yes--4; No--4	***	

Note: \*\*\*.

Note: \*\*\*.

Source: Compiled from data submitted in response to Commission questionnaires.

In responding to the lost sales/lost revenue survey, some purchasers provided additional information on purchases and market dynamics. Purchaser \*\*\* stated that “Ardagh was our sole supplier. They were bought by a French company and the quality of glass they produced was not in specification and they were out of stock because they were producing wine bottles for export to France. We could not get what we needed and when we did receive an order, the quality was terrible and we had to return numerous pallets.” \*\*\* reported that, “While price is always a consideration in our supply decisions, we also take into account availability, plant capacity, and certainty of supply (lead time, quality, and on-time delivery). In recent years, we note that we have had some supply and service disruptions from one domestic supplier.”

Finally, purchaser \*\*\* provided more detail regarding pricing and other issues: “In some limited cases, our competitors have brought in glass from other foreign manufacturers to compete more aggressively on pricing at certain customer accounts. In these cases, we have gone back to our domestic incumbent supplier to review pricing to maintain the account. In some cases, the domestic manufacturer has reduced pricing to maintain the account. In 2017, our major domestic manufacturer, created a new sales team to target small and medium accounts directly. We have seen them aggressively reduce pricing to sell lower volumes directly to smaller accounts, often at pricing lower than what they sell to us for significantly higher volumes. Also, as a result of the tariffs in 2018 on China glass products, some of our customers requested us to move some of their volume back to US producers instead of paying the 25 percent tariff on Chinese glass, which we have done. Our US manufacturers did not reduce their pricing to get this volume. As stated earlier, our primary US manufacturing partner has announced a 9.5 percent price increase for 2020 shipments as a result of their capacity now being full. Finally, we have experienced lead time, quality, and delivery issues as a result of domestic manufacturers’ capacity constraints.”



# Part VI: Financial experience of U.S. producers

## Background

Four U.S. producers provided usable financial results on their glass container operations. All U.S. producers reported financial data on a calendar year basis. Three of the responding U.S. producers provided their financial data on the basis of generally accepted accounting principles (“GAAP”), while the remaining company relied on International Financial Reporting Standards (“IFRS”) as its accounting basis. Figure VI-1 presents each responding firm’s share of the total reported net sales quantity in 2018.

**Figure VI-1**  
**Glass containers: Share of net sales quantity, by firm, 2018**

\* \* \* \* \*

## Operations on glass containers

Table VI-1 presents aggregated data on U.S. producers' operations in relation to glass containers over the period examined, while table VI-2 presents corresponding changes in average unit values. Table VI-3 presents selected company-specific financial data.

**Table VI-1**  
**Glass containers: Results of operations of U.S. producers, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
Total net sales	174,029,912	168,622,894	156,285,128	82,223,021	77,043,346
	<b>Value (1,000 dollars)</b>				
Total net sales	4,514,452	4,444,572	4,277,753	2,216,749	2,152,680
Cost of goods sold.--					
Raw materials	728,937	714,070	690,884	359,289	339,444
Direct labor	1,131,155	1,135,213	1,108,186	571,849	542,775
Other factory costs	1,837,564	1,859,142	1,875,393	935,387	966,865
Total COGS	3,697,656	3,708,425	3,674,463	1,866,526	1,849,084
Gross profit	816,796	736,147	603,290	350,224	303,596
SG&A expense	347,394	369,808	383,077	175,297	176,051
Operating income or (loss)	469,402	366,338	220,213	174,927	127,545
Interest expense	***	***	***	***	***
All other expenses	***	***	***	***	***
All other income	***	***	***	***	***
Net income or (loss)	370,705	112,416	(190,785)	67,260	93,773
Depreciation/amortization	374,194	384,791	379,854	193,156	203,753
Cash flow	744,898	497,207	189,068	260,416	297,526
	<b>Ratio to net sales (percent)</b>				
Cost of goods sold.--					
Raw materials	16.1	16.1	16.2	16.2	15.8
Direct labor	25.1	25.5	25.9	25.8	25.2
Other factory costs	40.7	41.8	43.8	42.2	44.9
Average COGS	81.9	83.4	85.9	84.2	85.9
Gross profit	18.1	16.6	14.1	15.8	14.1
SG&A expense	7.7	8.3	9.0	7.9	8.2
Operating income or (loss)	10.4	8.2	5.1	7.9	5.9
Net income or (loss)	8.2	2.5	(4.5)	3.0	4.4

Table continued on next page.

**Table VI-1—Continued**

**Glass containers: Results of operations of U.S. producers, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Ratio to total COGS (percent)</b>				
Cost of goods sold.--					
Raw materials	19.7	19.3	18.8	19.2	18.4
Direct labor	30.6	30.6	30.2	30.6	29.4
Other factory costs	49.7	50.1	51.0	50.1	52.3
Average COGS	100.0	100.0	100.0	100.0	100.0
	<b>Unit value (dollars per gross)</b>				
Total net sales	25.94	26.36	27.37	26.96	27.94
Cost of goods sold.--					
Raw materials	4.19	4.23	4.42	4.37	4.41
Direct labor	6.50	6.73	7.09	6.95	7.05
Other factory costs	10.56	11.03	12.00	11.38	12.55
Average COGS	21.25	21.99	23.51	22.70	24.00
Gross profit	4.69	4.37	3.86	4.26	3.94
SG&A expense	2.00	2.19	2.45	2.13	2.29
Operating income or (loss)	2.70	2.17	1.41	2.13	1.66
Net income or (loss)	2.13	0.67	(1.22)	0.82	1.22
	<b>Number of firms reporting</b>				
Operating losses	---	---	1	---	1
Net losses	---	2	2	2	1
Data	4	4	4	4	4

Source: Compiled from data submitted in response to Commission questionnaires.

**Table VI-2**

**Glass containers: Changes in AUVs between calendar years and partial year periods**

Item	Between Calendar years			Between partial year period
	2016-18	2016-17	2017-18	2018-19
	<b>Change in AUVs (dollars per gross)</b>			
Total net sales	▲1.43	▲0.42	▲1.01	▲0.98
Cost of goods sold.--				
Raw materials	▲0.23	▲0.05	▲0.19	▲0.04
Direct labor	▲0.59	▲0.23	▲0.36	▲0.09
Other factory costs	▲1.44	▲0.47	▲0.97	▲1.17
Average COGS	▲2.26	▲0.75	▲1.52	▲1.30
Gross profit	▼(0.83)	▼(0.33)	▼(0.51)	▼(0.32)
SG&A expense	▲0.45	▲0.20	▲0.26	▲0.15
Operating income or (loss)	▼(1.29)	▼(0.52)	▼(0.76)	▼(0.47)
Net income or (loss)	▼(3.35)	▼(1.46)	▼(1.89)	▲0.40

Source: Compiled from data submitted in response to Commission questionnaires.

**Table VI-3**  
**Glass containers: Results of operations of U.S. producers, by firm, 2016-18, January to June 2018,**  
**and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Total net sales (gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total net sales quantity	174,029,912	168,622,894	156,285,128	82,223,021	77,043,346
	<b>Total net sales (1,000 dollars)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total net sales value	4,514,452	4,444,572	4,277,753	2,216,749	2,152,680
	<b>Cost of goods sold (1,000 dollars)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total COGS	3,697,656	3,708,425	3,674,463	1,866,526	1,849,084
	<b>Gross profit or (loss) (1,000 dollars)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total gross profit or (loss)	816,796	736,147	603,290	350,224	303,596
	<b>SG&amp;A expenses (1,000 dollars)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total SG&A expenses	347,394	369,808	383,077	175,297	176,051
	<b>Operating income or (loss) (1,000 dollars)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total operating income or (loss)	469,402	366,338	220,213	174,927	127,545

Table continued on next page.

Table VI-3—Continued

Glass containers: Results of operations of U.S. producers, by firm, 2016-18, January to June 2018, and January to June 2019

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Net income or (loss) (1,000 dollars)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total net income or (loss)	370,705	112,416	(190,785)	67,260	93,773
	<b>COGS to net sales ratio (percent)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Average COGS to net sales ratio	81.9	83.4	85.9	84.2	85.9
	<b>Gross profit or (loss) to net sales ratio (percent)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Avg. gross profit or (loss) to net sales	18.1	16.6	14.1	15.8	14.1
	<b>SG&amp;A expense to net sales ratio (percent)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Avg. SG&A expense to net sales	7.7	8.3	9.0	7.9	8.2
	<b>Operating income or (loss) to net sales ratio (percent)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Avg. operating income or (loss) to net sales	10.4	8.2	5.1	7.9	5.9
	<b>Net income or (loss) to net sales ratio (percent)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Avg. net income or (loss) to net sales	8.2	2.5	(4.5)	3.0	4.4

Table continued on next page.

Table VI-3—Continued

Glass containers: Results of operations of U.S. producers, by firm, 2016-18, January to June 2018, and January to June 2019

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Unit net sales value (dollars per gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Average unit net sales value	25.94	26.36	27.37	26.96	27.94
	<b>Unit raw materials (dollars per gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Average unit raw materials	4.19	4.23	4.42	4.37	4.41
	<b>Unit direct labor (dollars per gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Average unit direct labor	6.50	6.73	7.09	6.95	7.05
	<b>Unit other factory costs (dollars per gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Average unit other factory costs	10.56	11.03	12.00	11.38	12.55
	<b>Unit COGS (dollars per gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Average unit COGS	21.25	21.99	23.51	22.70	24.00
	<b>Unit gross profit or (loss) (dollars per gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Average unit gross profit or (loss)	4.69	4.37	3.86	4.26	3.94

Table continued on next page.

**Table VI-3—Continued**

**Glass containers: Results of operations of U.S. producers, by firm, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Unit SG&amp;A expenses (dollars per gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Average unit SG&A expense	2.00	2.19	2.45	2.13	2.29
	<b>Unit operating income or (loss) (dollars per gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Average unit operating income or (loss)	2.70	2.17	1.41	2.13	1.66
	<b>Unit net income or (loss) (dollars per gross)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Average unit net income or (loss)	2.13	0.67	(1.22)	0.82	1.22

Source: Compiled from data submitted in response to Commission questionnaires.

## Net sales

While glass container revenue primarily represents commercial sales, a small amount of transfers to related firms were reported. Transfers to related firms represented \*\*\* percent of total net sales volume in 2018, and thus are not shown separately in this section of the report. Both the quantity and value of the industry's net sales decreased from 2016 to 2018, and were lower in January-June 2019 than they were in January-June 2018. The reported aggregate net sales quantity declined by 10.2 percent from 2016 to 2018, while the aggregate net sales value declined by 5.2 percent. The larger decrease by quantity reflects the increase in the industry's average net sales unit value (from \$25.94 per gross in 2016 to \$27.37 per gross in 2018). The industry's average net sales unit value was also higher during the first half of 2019 (at \$27.94) than during the first half of 2018 (at \$26.96). The directional trends of the individual companies were very uniform, with \*\*\* companies reporting an overall decline in net sales, by both quantity and value, from 2016 to 2018, and lower net sales, by quantity and value, in the first half of 2019 compared to the same period in 2018. While the directional trends were uniform, there was a wide variation of net sales AUVs, with \*\*\* reporting the lowest AUVs (\*\*\* per gross in 2018), and \*\*\* reporting the highest net sales AUVs (\*\*\* per gross in 2018).

The difference in the companies' net sales AUVs can at least partially be attributed to a difference in product mix. \*\*\*,<sup>1</sup>

### Cost of goods sold and gross profit or (loss)

Raw material costs, direct labor, and other factory costs accounted for 18.8, 30.2, and 51.0 percent of total COGS, respectively, in 2018. On a per-gross basis, raw material costs increased from \$4.19 in 2016 to \$4.42 in 2018, and were higher during the first half of 2019 than during the first half of 2018. \*\*\* of the companies reported an increase in raw material costs on a per-gross basis from 2016 to 2018, while \*\*\* reported higher average unit raw material costs in January-June 2019 than in January-June 2018. Table VI-4 presents raw materials, by type.

**Table VI-4**  
**Glass containers: Raw materials by type, 2018**

Raw materials	Calendar year 2018		
	Value (1,000 dollars)	Unit value (dollars per gross)	Share of value (percent)
Cullet	234,394	1.50	33.9
Soda ash	186,341	1.19	27.0
Silica	181,083	1.16	26.2
Limestone	50,278	0.32	7.3
Other material inputs	38,787	0.25	5.6
Total raw materials	690,884	4.42	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

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<sup>1</sup> \*\*\*'s U.S. producer questionnaires at II-14.

The average unit cost of direct labor increased from \$6.50 per gross in 2016 to \$7.09 per gross in 2018, and was higher in January-June 2019 (at \$7.05 per gross) than during the same period in 2018 (at \$6.95 per gross).

The industry's average unit other factory costs increased from \$10.56 per gross in 2016 to \$12.00 per gross in 2018, and were higher in the first half of 2019 (at \$12.55 per gross) than they were during the same period in 2018 (at \$11.38 per gross). Like the companies' net sales AUVs, there is also a wide variation in the reported per-unit other factory costs, with \*\*\* reporting the lowest other factory costs per-gross and \*\*\* reporting the highest.

While the industry's net sales AUV increased between 2016 to 2018, the industry's average per-unit COGS increased to a greater extent, leading to a lower gross profit per unit. This lower per-unit gross profit, combined with a decrease in net sales volume, resulted in a decrease in gross profit from \$816.8 million in 2016 to \$603.3 million in 2018. The same scenario (per-unit COGS increasing more than net sales AUVs) led to gross profit being lower in January-June 2019 (at \$303.6 million) than during the same period in 2018 (at \$350.2 million).

### **SG&A expenses and operating income or (loss)**

As seen in table VI-1, total SG&A expenses increased from \$347.4 million in 2016 to \$383.1 million in 2018, and were higher in interim 2019 (at \$176.1 million) than during interim 2018 (at \$175.3 million).<sup>2</sup> The SG&A expense ratio (SG&A expenses as a share of sales) increased from 7.7 percent in 2016 to 9.0 percent in 2018, and was higher during the first half of 2019 than during the first half of 2018. Operating income followed a similar trend as gross profit, decreasing from \$469.4 million in 2016 to \$220.2 million in 2018, and was lower in interim 2019 (at \$127.5 million) than during interim 2018 (at \$174.9 million).

### **All other expenses and net income or (loss)**

Classified below the operating income level are interest expense, other expense, and other income. As seen in table VI-1, the industry's interest expense increased from \$\*\*\* in 2016 to \$\*\*\* in 2017, and decreased to \$\*\*\* in 2018. All other expenses increased from \$\*\*\* in 2016 to \$\*\*\* in 2017, and again to \$\*\*\* in 2018, but were lower in January-June 2019 (at \$\*\*\*) than during

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<sup>2</sup> \*\*\*. \*\*\*.

the same period of 2018 (at \$\*\*\*). \*\*\*, \*\*\*, \*\*\*.

These \*\*\* resulted in a steep decrease in net income from \$370.7 million in 2016 to a net loss of \$190.8 million in 2018. Net income was higher in January-June 2019 (at \$93.8 million) than during the same period in 2018 (at \$67.3 million).<sup>3</sup>

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<sup>3</sup> A variance analysis is not shown due to the difference in product mixes and cost structures among the reporting firms.

## Capital expenditures and research and development expenses

Table VI-5 presents capital expenditures and research and development (“R&D”) expenses by firm. Capital expenditures increased from \$296.2 million in 2016 to \$327.3 million in 2018, and were higher during interim 2019 than during interim 2018. \*\*\* accounted for the majority of the increase in capital expenditures during the period examined. The company reported that its capital expenditures were related to \*\*\*.<sup>4</sup> \*\*\* were the only companies to report any R&D expenses. \*\*\*.<sup>5</sup>

**Table VI-5**  
**Glass containers: Capital expenditures and R&D expenses of U.S. producers, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Capital expenditures (1,000 dollars)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total capital expenditures	296,226	293,372	327,294	170,694	188,111
	<b>Research and development expenses (1,000 dollars)</b>				
Anchor	***	***	***	***	***
Ardagh	***	***	***	***	***
Gallo	***	***	***	***	***
Owens	***	***	***	***	***
Total research and development expenses	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

<sup>4</sup> \*\*\*’s U.S. producer questionnaire at III-13.

<sup>5</sup> \*\*\*’s U.S. producer questionnaire at III-13.

## Assets and return on assets

Table VI-6 presents data on the U.S. producers' total assets and their return on assets ("ROA").<sup>6</sup> Total assets decreased overall from \$4.5 billion in 2016 to \$4.3 billion in 2018. The industry's operating return on assets decreased from 10.5 percent in 2016 to 5.1 percent in 2018.

**Table VI-6**  
**Glass containers: U.S. producers' total assets and return on assets, 2016-18**

Firm	Calendar years		
	2016	2017	2018
	<b>Total net assets (1,000 dollars)</b>		
Anchor	***	***	***
Ardagh	***	***	***
Gallo	***	***	***
Owens	***	***	***
Total net assets	4,464,796	4,484,305	4,336,953
	<b>Operating return on assets (percent)</b>		
Anchor	***	***	***
Ardagh	***	***	***
Gallo	***	***	***
Owens	***	***	***
Average operating ROA	10.5	8.2	5.1

Source: Compiled from data submitted in response to Commission questionnaires.

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<sup>6</sup> The return on assets ("ROA") is calculated as operating income divided by total assets. With respect to a firm's overall operations, the total asset value reflects an aggregation of a number of assets which are generally not product specific. Thus, high-level allocations are generally required in order to report a total asset value for the subject product.

## Capital and investment

The Commission requested U.S. producers of glass containers to describe any actual or potential negative effects of imports of dried tart cherries from China on their firms' growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table VI-7 presents the number of firms reporting an impact in each category and table VI-8 provides the U.S. producers' narrative responses.

**Table VI-7**  
**Glass containers: Actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2016**

Item	No	Yes
Negative effects on investment	***	***
Cancellation, postponement, or rejection of expansion projects		***
Denial or rejection of investment proposal		***
Reduction in the size of capital investments		***
Return on specific investments negatively impacted		***
Other		***
Negative effects on growth and development		***
Rejection of bank loans		***
Lowering of credit rating		***
Problem related to the issue of stocks or bonds		***
Ability to service debt		***
Other		***
Anticipated negative effects of imports	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

**Table VI-8**

**Glass containers: Narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2016**

Item / Firm	Narrative
<b>Cancellation, postponement, or rejection of expansion projects:</b>	
***	***
<b>Denial or rejection of investment proposal:</b>	
***	***
<b>Reduction in the size of capital investments:</b>	
***	***
***	***
<b>Return on specific investments negatively impacted:</b>	
***	***
***	***
<b>Other negative effects on investments:</b>	
***	***
***	***
<b>Lowering of credit rating:</b>	
***	***

Table continued on next page.

**Table VI-8—Continued**

**Glass containers: Narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2016**

Item / Firm	Narrative
<b>Problem related to the issue of stocks or bonds:</b>	
***	***
<b>Ability to service debt:</b>	
***	***
<b>Other effects on growth and development:</b>	
***	***
***	***
***	***
<b>Anticipated effects of imports:</b>	
***	***
***	***
***	***
***	***

Source: Compiled from data submitted in response to Commission questionnaires.



## Part VII: Threat considerations and information on nonsubject countries

Section 771(7)(F)(i) of the Act (19 U.S.C. § 1677(7)(F)(i)) provides that—

*In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors<sup>1</sup>--*

- (I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement), and whether imports of the subject merchandise are likely to increase,*
- (II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,*
- (III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,*
- (IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices, and are likely to increase demand for further imports,*
- (V) inventories of the subject merchandise,*

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<sup>1</sup> Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that “The Commission shall consider {these factors} . . . as a whole in making a determination of whether further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted under this title. The presence or absence of any factor which the Commission is required to consider . . . shall not necessarily give decisive guidance with respect to the determination. Such a determination may not be made on the basis of mere conjecture or supposition.”

- (VI) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,*
- (VII) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both),*
- (VIII) the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and*
- (IX) any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).<sup>2</sup>*

Information on the nature of the “alleged” subsidies was presented earlier in this report; information on the volume and pricing of imports of the subject merchandise is presented in Parts IV and V; and information on the effects of imports of the subject merchandise on U.S. producers’ existing development and production efforts is presented in Part VI. Information on inventories of the subject merchandise; foreign producers’ operations, including the potential for “product-shifting;” any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

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<sup>2</sup> Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, “. . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other WTO member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry.”

## The industry in China

The Commission issued foreign producers' or exporters' questionnaires to 87 firms believed to produce and/or export glass containers from China.<sup>3</sup> Usable responses to the Commission's questionnaire were received from 12 firms.<sup>4</sup> These firms' exports to the United States accounted for over \*\*\* percent of U.S. imports of glass containers from China in 2018. According to estimates requested of the responding Chinese producers, the production of glass containers in China reported in questionnaires accounts for approximately \*\*\* percent of overall production of glass containers in China.<sup>5</sup> Table VII-1 presents information on the glass containers operations of the responding producers in China and table VII-2 presents information of the glass containers operations of the responding resellers in China.

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<sup>3</sup> These firms were identified through a review of information submitted in the petition and contained in \*\*\* records.

<sup>4</sup> Staff received useable foreign producer questionnaire responses from eight firms in China that produce glass containers and an additional four firms that resell as exports to the United States.

<sup>5</sup> The estimates provided by glass producers in China appear to be inconsistent. \*\*\* estimated that it accounts for \*\*\* percent of overall production of glass containers in China while \*\*\* estimated that it accounts for \*\*\* percent of overall production of glass containers in China. However, in 2018, \*\*\* and \*\*\* produced \*\*\* gross and \*\*\* gross, respectively. Additionally, \*\*\* and \*\*\* both estimated that they account for \*\*\* percent of overall production of glass containers in China while \*\*\* and \*\*\* produced \*\*\* gross and \*\*\* gross, respectively.

**Table VII-1**  
**Glass containers: Summary data for producers in China, 2018**

<b>Firm</b>	<b>Production (gross)</b>	<b>Share of reported production (percent)</b>	<b>Exports to the United States (gross)</b>	<b>Share of reported exports to the United States (percent)</b>	<b>Total shipments (gross)</b>	<b>Share of firm's total shipments exported to the United States (percent)</b>
Changxing Huazhong	***	***	***	***	***	***
Fenyang Huazhong	***	***	***	***	***	***
Huaxing (Guangdong)	***	***	***	***	***	***
Jiangmen Gaoxin	***	***	***	***	***	***
Sanhui Glass	***	***	***	***	***	***
Shandong Sanhui	***	***	***	***	***	***
Wuxi Huazhong	***	***	***	***	***	***
Yamamura	***	***	***	***	***	***
Total	***	100.0	***	100.0	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

**Table VII-2**  
**Glass containers: Summary data on non-producer exporters in China, 2018**

<b>Non-producer exporters</b>	<b>Resales exported to the United States (gross)</b>	<b>Share of resales exported to the United States (percent)</b>
Anhua	***	***
Happyann	***	***
Iboya	***	***
Wuhu Anhua	***	***
Total	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

## Changes in operations

As presented in table VII-3 producers in China reported several operational and organizational changes since January 1, 2016, including \*\*\* prolonged shutdowns or curtailments.

**Table VII-3  
Glass containers: China producers' reported changes in operations, since January 1, 2016**

Item / Firm	Reported changed in operations
<b>Plant closings:</b>	
***	***
<b>Relocations:</b>	
***	***
<b>Expansions:</b>	
***	***
<b>Prolonged shutdowns or curtailments:</b>	
***	***
***	***
***	***
***	***
<b>Other:</b>	
***	***
***	***

Source: Compiled from data submitted in response to Commission questionnaires.

## Operations on glass containers

Table VII-4 presents information on the glass containers operations of the responding producers and exporters in China. During 2016-18, Chinese capacity to produce glass containers decreased by 1.6 percent. During 2016-18, Chinese glass container production capacity<sup>6</sup> decreases were driven by \*\*\*<sup>7</sup> and \*\*\*<sup>8</sup>. During January to June 2019 (“interim”), capacity was 768,067 gross lower than during January to June 2018. Capacity utilization decreased by 4.4 percentage points from 2016-18 and was 1.2 percentage points higher during the 2019 interim period compared with the 2018 interim period. Chinese producers’ reported production of glass containers decreased by 6.2 percent during 2016-18 and was 505,879 gross lower in the 2019 interim period compared with the 2018 interim period.

During 2016-18, end-of-period inventories decreased by 33.5 percent but were 225,800 gross greater in the in the 2019 interim period compared with the 2018 interim period. During 2016-18, total exports of glass containers to the United States from China increased by 1.8 percent. In the 2019 interim period, total export shipments to the United States were 679,681 gross lower compared with the 2018 interim period. During 2016-18, exports to the United States as a share of total shipments increased by 0.5 percentage points but were 4.2 percentage points lower in the 2019 interim period compared with the 2018 interim period.

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<sup>6</sup> During 2016-18, \*\*\*. \*\*\*. \*\*\* foreign producer questionnaire response, section II-2a. In addition, \*\*\*. \*\*\* foreign producer questionnaire response, section II-2a.

<sup>7</sup> \*\*\* \*\*\* foreign producer questionnaire response, section II-2a.

<sup>8</sup> \*\*\*. \*\*\* foreign producer questionnaire response, section II-2a; and \*\*\*, email message to USITC staff, October 22, 2019.

During 2019-2020, Chinese producers estimate their glass container capacity and production will decrease by 2.7 percent and 1.2 percent, respectively. Industry reports indicate that the glass product manufacturing industry<sup>9</sup> is growing steadily in China, driven by various factors including government support, rising income levels, and expansion of downstream industries.<sup>10</sup> Respondent Berlin Packaging notes that, the Chinese glass container industry is designed to serve small-and-medium sized enterprises whereas the U.S. industry is designed to serve larger clients.<sup>11</sup>

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<sup>9</sup> The glass product manufacturing industry includes out-of-scope glass production.

<sup>10</sup> “IBIS World Report: Glass Product Manufacturing Industry in China – Market Research Report”, January 2019, p. 2.

<sup>11</sup> Respondent Berlin Packaging’s postconference brief, pp. 2-3.

**Table VII-4**  
**Glass containers: Data for producers in China, 2016-18, January to June 2018, and January to June 2019, and projections for calendar years 2019-2020**

Item	Actual experience					Projections	
	Calendar year			January to June		Calendar year	
	2016	2017	2018	2018	2019	2019	2020
	<b>Quantity (gross)</b>						
Capacity	30,048,704	30,071,699	29,564,765	15,138,153	14,370,086	26,740,652	26,017,395
Production	28,044,224	27,647,546	26,299,580	13,502,660	12,996,781	23,684,912	23,392,514
End-of-period inventories	2,267,226	1,747,137	1,508,402	1,659,636	1,885,436	1,642,634	1,570,577
Shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	19,293,661	19,701,412	18,383,753	9,112,212	9,306,629	17,224,560	17,298,535
Export shipments to:							
United States	4,638,249	4,796,280	4,478,934	2,351,741	1,669,563	2,754,270	2,851,622
All other markets	4,382,010	3,669,942	3,675,628	2,057,855	1,696,154	3,624,467	3,314,415
Total exports	9,020,259	8,466,222	8,154,562	4,409,596	3,365,717	6,378,737	6,166,037
Total shipments	28,313,920	28,167,634	***	***	***	23,603,297	23,464,572
	<b>Ratios and shares (percent)</b>						
Capacity utilization	93.3	91.9	89.0	89.2	90.4	88.6	89.9
Inventories/production	8.1	6.3	5.7	6.1	7.3	6.9	6.7
Inventories/total shipments	8.0	6.2	5.7	6.1	7.4	7.0	6.7
Share of shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	68.1	69.9	69.3	67.4	73.4	73.0	73.7
Export shipments to:							
United States	16.4	17.0	16.9	17.4	13.2	11.7	12.2
All other markets	15.5	13.0	13.9	15.2	13.4	15.4	14.1
Total exports	31.9	30.1	30.7	32.6	26.6	27.0	26.3
Total shipments	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	<b>Quantity (gross)</b>						
Resales exported to the United States	126,396	186,556	368,866	140,261	142,758	330,054	293,359
Total exports to the United States	4,764,645	4,982,836	4,847,800	2,492,002	1,812,321	3,084,324	3,144,981
	<b>Ratios and shares (percent)</b>						
Share of total exports to the United States:							
Exported by producers	97.3	96.3	92.4	94.4	92.1	89.3	90.7
Exported by resellers	2.7	3.7	7.6	5.6	7.9	10.7	9.3
Adjusted share of total shipments exported to the United States	16.8	17.7	18.3	18.4	14.3	13.1	13.4

Source: Compiled from data submitted in response to Commission questionnaires.

## Alternative products

As shown in table VII-5, responding Chinese firms produced other products on the same equipment and machinery used to produce glass containers. Three firms, \*\*\* reported production of out-of-scope products on the same machinery used to produce glass containers. During 2016-18, out-of-scope production ranged between \*\*\* percent and \*\*\* percent of total production on the same machinery used to produce glass containers.

**Table VII-5**  
**Glass containers: Chinese producers' overall capacity and production on the same equipment as subject production, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
Overall capacity	***	***	***	***	***
Production:					
Glass containers	***	***	***	***	***
Borosilicate glass containers	***	***	***	***	***
Free blow / without mold	***	***	***	***	***
Without finish	***	***	***	***	***
Other	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***
	<b>Ratios and shares (percent)</b>				
Overall capacity utilization	***	***	***	***	***
Share of production:					
Glass containers	***	***	***	***	***
Borosilicate glass containers	***	***	***	***	***
Free blow / without mold	***	***	***	***	***
Without finish	***	***	***	***	***
Other	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	100.0	100.0	100.0	100.0	100.0

Note.--Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.

Source: Compiled from data submitted in response to Commission questionnaires.

## Exports

According to GTA, the leading export markets for glass articles for conveyance/ packaging of goods from China are the United States followed by the Philippines, (in terms of quantity) and Vietnam, (in terms of value). Table VII-6 presents data in descending quantity order based on 2018 exports. During 2018, the United States was the top export market for glass articles for conveyance/packing of goods from China, accounting for 33.1 percent in terms of quantity (26.3 percent, in terms of value), followed by the Philippines, accounting for 6.0 percent, in terms of quantity (3.2 percent, in terms of value).

**Table VII-6**  
**Glass articles for conveyance/packing of goods: Exports from China by destination market, 2016-18**

Destination market	Calendar year		
	2016	2017	2018
	<b>Quantity (1,000 kilograms)</b>		
United States	457,926	531,950	565,883
Philippines	107,383	109,286	103,079
Vietnam	60,202	85,106	93,856
Indonesia	105,524	117,678	91,078
Canada	69,477	78,540	83,319
Australia	94,046	91,974	80,769
New Zealand	61,625	55,487	51,417
Hong Kong	46,145	44,869	47,147
Thailand	71,701	36,698	37,784
All other destination markets	554,808	533,415	553,616
Total exports	1,628,837	1,685,003	1,707,948
	<b>Value (1,000 dollars)</b>		
United States	346,833	381,137	443,185
Philippines	53,950	54,054	53,329
Vietnam	114,871	150,305	186,933
Indonesia	73,014	75,685	70,893
Canada	48,693	53,940	66,635
Australia	54,379	52,342	55,912
New Zealand	27,781	25,797	25,509
Hong Kong	35,465	33,148	33,798
Thailand	45,356	28,756	30,277
All other destination markets	650,762	647,062	720,486
Total exports	1,451,104	1,502,227	1,686,958

Table continued on next page.

Table VII-6—Continued

Glass articles for conveyance/packing of goods: Exports from China by destination market, 2016-18

Destination market	Calendar year		
	2016	2017	2018
	<b>Unit value (dollars per kilogram)</b>		
United States	0.76	0.72	0.78
Philippines	0.50	0.49	0.52
Vietnam	1.91	1.77	1.99
Indonesia	0.69	0.64	0.78
Canada	0.70	0.69	0.80
Australia	0.58	0.57	0.69
New Zealand	0.45	0.46	0.50
Hong Kong	0.77	0.74	0.72
Thailand	0.63	0.78	0.80
All other destination markets	1.17	1.21	1.30
Total exports	0.89	0.89	0.99
	<b>Share of quantity (percent)</b>		
United States	28.1	31.6	33.1
Philippines	6.6	6.5	6.0
Vietnam	3.7	5.1	5.5
Indonesia	6.5	7.0	5.3
Canada	4.3	4.7	4.9
Australia	5.8	5.5	4.7
New Zealand	3.8	3.3	3.0
Hong Kong	2.8	2.7	2.8
Thailand	4.4	2.2	2.2
All other destination markets	34.1	31.7	32.4
Total exports	100.0	100.0	100.0
	<b>Share of value (percent)</b>		
United States	23.9	25.4	26.3
Philippines	3.7	3.6	3.2
Vietnam	7.9	10.0	11.1
Indonesia	5.0	5.0	4.2
Canada	3.4	3.6	4.0
Australia	3.7	3.5	3.3
New Zealand	1.9	1.7	1.5
Hong Kong	2.4	2.2	2.0
Thailand	3.1	1.9	1.8
All other destination markets	44.8	43.1	42.7
Total exports	100.0	100.0	100.0

Note.--Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. United States is shown at the top, all remaining top export destinations shown in descending order of 2018 data.

Source: Official exports statistics under HS subheading 7010.90 as reported by China Customs in the Global Trade Atlas database, accessed October 15, 2019.

## U.S. inventories of imported merchandise

Table VII-7 presents data on U.S. importers' reported inventories of glass containers. During 2016-18, U.S. importers' end-of-period inventories of imports from China increased by 20.5 percent. While inventories of imports from China increased in each year between 2016 and 2018, its ratio to U.S. imports, U.S. shipments of imports, and total shipments of imports decreased by \*\*\* percentage points, \*\*\* percentage points, and \*\*\* percentage points, respectively. U.S. importers' end-of-period inventories from Mexico fluctuated during 2016-18, but decreased overall by \*\*\* percent; imports from all other sources excluding Mexico increased by \*\*\* percent during that time.

**Table VII-7**  
**Glass containers: U.S. importers' end-of-period inventories of imports by source, 2016-18, January to June 2018, and January to June 2019**

Item	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Inventories (gross); Ratios (percent)</b>				
Imports from China.-- Inventories	1,653,086	1,801,843	1,991,649	2,192,842	1,864,627
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from Mexico.-- Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from All other sources.-- Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from nonsubject sources.-- Inventories	1,927,387	2,070,600	2,530,234	2,670,067	2,441,990
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from all import sources.-- Inventories	3,580,473	3,872,443	4,521,883	4,862,909	4,306,617
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

## U.S. importers' outstanding orders

The Commission requested importers to indicate whether they imported or arranged for the importation of glass containers from China after June 30, 2019 (table VII-8). During July 2019 through June 2020 responding importers reported \*\*\* gross of arranged imports of glass containers from China, \*\*\* gross of arranged imports from Mexico, and \*\*\* gross of arranged imports from all other sources, excluding Mexico. Arranged imports from China accounted for \*\*\* percent of total arranged imports during July 2019 through June 2020.

**Table VII-8**  
**Glass containers: Arranged imports, July 2019 through June 2020**

Item	Period				Total
	Jul-Sept 2019	Oct-Dec 2019	Jan-Mar 2020	Apr-Jun 2020	
	Quantity (gross)				
Arranged U.S. imports from.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

## Antidumping or countervailing duty orders in third-country markets

There are no known trade remedy actions on glass containers from China in third-country markets.<sup>12</sup>

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<sup>12</sup> Based upon and importer questionnaire responses and publicly available information from the WTO's dispute web portal.

## Information on nonsubject countries

Table VII-9 presents the leading exporters of glass containers (HTS 7010.90) during 2016-18. The data presented include subject glass containers as well as out-of-scope products. Global exports of glass containers increased by 8.0 percent between 2017 and 2018. China accounted for the largest share of global exports, by value, in 2018 (16.4 percent), followed by Germany (12.7 percent), Italy (8.4 percent) and France (7.8 percent).

**Table VII-9**  
**Glass articles for conveyance/packing of goods: Global exports by exporter, 2016-18**

Exporter	Calendar year		
	2016	2017	2018
	<b>Value (1,000 dollars)</b>		
United States	356,241	388,073	333,506
China	1,451,104	1,502,227	1,686,958
Germany	1,090,054	1,186,190	1,305,338
Italy	721,126	763,241	862,998
France	667,946	717,222	801,257
Mexico	488,884	448,289	470,548
Portugal	420,332	413,361	433,718
Poland	285,010	353,365	414,694
Spain	334,873	319,866	332,474
Belgium	225,807	246,860	251,702
Netherlands	256,839	259,332	251,460
India	187,890	195,905	242,590
All other exporters	2,840,131	2,721,139	2,890,254
Total	9,326,237	9,515,070	10,277,497
	<b>Share of value (percent)</b>		
United States	3.8	4.1	3.2
China	15.6	15.8	16.4
Germany	11.7	12.5	12.7
Italy	7.7	8.0	8.4
France	7.2	7.5	7.8
Mexico	5.2	4.7	4.6
Portugal	4.5	4.3	4.2
Poland	3.1	3.7	4.0
Spain	3.6	3.4	3.2
Belgium	2.4	2.6	2.4
Netherlands	2.8	2.7	2.4
India	2.0	2.1	2.4
All other exporters	30.5	28.6	28.1
Total	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 7010.90 reported by various national statistical authorities in the Global Trade Atlas database, accessed October 21, 2019.

**APPENDIX A**

***FEDERAL REGISTER* NOTICES**



The Commission makes available notices relevant to its investigations and reviews on its website, [www.usitc.gov](http://www.usitc.gov). In addition, the following tabulation presents, in chronological order, *Federal Register* notices issued by the Commission and Commerce during the current proceeding.

Citation	Title	Link
84 FR 52536, October 2, 2019	<i>Glass Containers From China; Institution of Anti-Dumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations</i>	<a href="https://www.govinfo.gov/content/pkg/FR-2019-10-02/pdf/2019-21347.pdf">https://www.govinfo.gov/content/pkg/FR-2019-10-02/pdf/2019-21347.pdf</a>
84 FR 56168, October 21, 2019	<i>Certain Glass Containers From the People's Republic of China: Initiation of Countervailing Duty Investigation</i>	<a href="https://www.govinfo.gov/content/pkg/FR-2019-10-21/pdf/2019-22868.pdf">https://www.govinfo.gov/content/pkg/FR-2019-10-21/pdf/2019-22868.pdf</a>
84 FR 56174, October 21, 2019	<i>Certain Glass Containers From the People's Republic of China: Initiation of Less-Than-Fair- Value Investigation</i>	<a href="https://www.govinfo.gov/content/pkg/FR-2019-10-21/pdf/2019-22869.pdf">https://www.govinfo.gov/content/pkg/FR-2019-10-21/pdf/2019-22869.pdf</a>



**APPENDIX B**

**LIST OF STAFF CONFERENCE WITNESSES**



**CALENDAR OF PUBLIC PRELIMINARY CONFERENCE**

Those listed below appeared as witnesses at the United States International Trade Commission’s preliminary conference:

- Subject:** Glass Containers from China
- Inv. Nos.:** 701-TA-630 and 731-TA-1462 (Preliminary)
- Date and Time:** October 16, 2019 - 9:30 a.m.

A session was held in connection with these preliminary phase investigations in the Main Hearing Room (Room 101), 500 E Street, SW., Washington, DC.

**OPENING REMARKS:**

In Support of Imposition (**Daniel B. Pickard**, Wiley Rein LLP)  
In Opposition to Imposition (**Jeffrey S. Neeley**, Husch Blackwell LLP)

**In Support of the Imposition of**  
**Antidumping and Countervailing Duty Orders:**

Wiley Rein LLP  
Washington, DC  
on behalf of

American Glass Packaging Coalition

**Bertrand Paulet**, Chief Executive Officer, Ardagh Glass, Inc.

**John T. Shaddox**, Chief Commercial Officer, Ardagh Glass, Inc.

**Thomas Holz**, Chief Financial Officer, Ardagh Glass, Inc.

**Joshua R. Markus**, General Counsel, Ardagh Glass, Inc.

**Amy E. Sherman**, International Trade Analyst,  
WR Trade Analytics Group

**Daniel B. Pickard** )  
 ) – OF COUNSEL  
**Derick G. Holt** )

**In Opposition to the Imposition of  
Antidumping and Countervailing Duty Orders:**

Husch Blackwell LLP  
Washington, DC  
on behalf of

TricorBraun

**Court Carruthers**, President and Chief Executive Officer, TricorBraun  
**Mark O’Bryan**, Chief Operations Office, TricorBraun  
**Keith Strobe**, Executive Chairman, TricorBraun  
**Kathy Brooks**, Vice President – WinePak, TricorBraun  
**Andrew Bottene**, Vice President Sales – WinePak, TricorBraun

**Jeffrey S. Neeley** )  
 ) – OF COUNSEL  
**Stephen W. Brophy** )

Hogan Lovells US LLP  
Washington, DC  
on behalf of

Berlin Packaging LLC

**Adam Brosch**, Senior Director, Global Supply Chain, Berlin Packaging LLC

**Jared R. Wessel** )  
 ) – OF COUNSEL  
**Michael G. Jacobson** )

**REBUTTAL/CLOSING REMARKS:**

In Support of Imposition (**Daniel B. Pickard**, Wiley Rein LLP)  
In Opposition to Imposition (**Jeffrey S. Neeley**, Husch Blackwell LLP;  
and **Jared R. Wessel**, Hogan Lovells US LLP)

**-END-**

**APPENDIX C**  
**SUMMARY DATA**



Table C-1

Glass containers: Summary data concerning the U.S. market, 2016-18, January to June 2018, and January to June 2019

(Quantity=gross; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per gross; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	2016	Calendar year 2017	2018	January to June 2018	2019	2016-18	Calendar year 2016-17	2017-18	Jan-Jun 2018-19
U.S. consumption quantity:									
Amount.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▼***	▼***
Importers' share (fn1):									
China.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Mexico.....	***	***	***	***	***	▲***	▲***	▲***	▲***
All other sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
U.S. consumption value:									
Amount.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▼***	▼***
Importers' share (fn1):									
China.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Mexico.....	***	***	***	***	***	▲***	▲***	▲***	▲***
All other sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
U.S. imports from:									
China:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Mexico:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***
All other sources:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Nonsubject sources:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
All import sources:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
U.S. producers':									
Average capacity quantity.....	207,906,664	205,041,162	191,121,825	99,268,928	90,361,865	▼(8.1)	▼(1.4)	▼(6.8)	▼(9.0)
Production quantity.....	178,109,887	170,662,110	159,531,473	87,655,156	79,521,770	▼(10.4)	▼(4.2)	▼(6.5)	▼(9.3)
Capacity utilization (fn1).....	85.7	83.2	83.5	88.3	88.0	▼(2.2)	▼(2.4)	▲0.2	▼(0.3)

Table continued.

**Table C-1--Continued**

**Glass containers: Summary data concerning the U.S. market, 2016-18, January to June 2018, and January to June 2019**

(Quantity=gross; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per gross; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year		2018	January to June		Calendar year		2017-18	Jan-Jun 2018-19
	2016	2017		2018	2019	2016-18	2016-17		
<b>U.S. shipments:</b>									
Quantity.....	166,775,558	159,604,458	151,153,341	78,534,412	74,794,304	▼(9.4)	▼(4.3)	▼(5.3)	▼(4.8)
Value.....	4,269,310	4,155,328	4,072,422	2,095,360	2,046,470	▼(4.6)	▼(2.7)	▼(2.0)	▼(2.3)
Unit value.....	\$25.60	\$26.04	\$26.94	\$26.68	\$27.36	▲5.2	▲1.7	▲3.5	▲2.6
<b>Export shipments:</b>									
Quantity.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	25,451,309	27,490,525	30,736,870	32,922,659	33,215,294	▲20.8	▲8.0	▲11.8	▲0.9
Inventories/total shipments (fn1).....	***	***	***	***	***	▲***	▲***	▲***	▲***
Production workers.....	11,441	11,449	11,150	11,386	10,579	▼(2.5)	▲0.1	▼(2.6)	▼(7.1)
Hours worked (1,000s).....	23,260	23,131	22,752	11,510	10,825	▼(2.2)	▼(0.6)	▼(1.6)	▼(5.9)
Wages paid (\$1,000).....	1,109,616	1,125,607	1,100,705	561,876	536,197	▼(0.8)	▲1.4	▼(2.2)	▼(4.6)
Hourly wages (dollars per hour).....	\$47.70	\$48.66	\$48.38	\$48.82	\$49.53	▲1.4	▲2.0	▼(0.6)	▲1.5
Productivity (gross per hour).....	7.7	7.4	7.0	7.6	7.3	▼(8.4)	▼(3.6)	▼(5.0)	▼(3.5)
Unit labor costs.....	\$6.23	\$6.60	\$6.90	\$6.41	\$6.74	▲10.7	▲5.9	▲4.6	▲5.2
<b>Net sales:</b>									
Quantity.....	174,029,912	168,622,894	156,285,128	82,223,021	77,043,346	▼(10.2)	▼(3.1)	▼(7.3)	▼(6.3)
Value.....	4,514,452	4,444,572	4,277,753	2,216,749	2,152,680	▼(5.2)	▼(1.5)	▼(3.8)	▼(2.9)
Unit value.....	\$25.94	\$26.36	\$27.37	\$26.96	\$27.94	▲5.5	▲1.6	▲3.8	▲3.6
Cost of goods sold (COGS).....	3,697,656	3,708,425	3,674,463	1,866,526	1,849,084	▼(0.6)	▲0.3	▼(0.9)	▼(0.9)
Gross profit or (loss) (fn2).....	816,796	736,147	603,290	350,224	303,596	▼(26.1)	▼(9.9)	▼(18.0)	▼(13.3)
SG&A expenses.....	347,394	369,808	383,077	175,297	176,051	▲10.3	▲6.5	▲3.6	▲0.4
Operating income or (loss) (fn2).....	469,402	366,338	220,213	174,927	127,545	▼(53.1)	▼(22.0)	▼(39.9)	▼(27.1)
Net income or (loss) (fn2).....	370,705	112,416	(190,785)	67,260	93,773	▼***	▼(69.7)	▼***	▲39.4
Capital expenditures.....	296,226	293,372	327,294	170,694	188,111	▲10.5	▼(1.0)	▲11.6	▲10.2
Unit COGS.....	\$21.25	\$21.99	\$23.51	\$22.70	\$24.00	▲10.7	▲3.5	▲6.9	▲5.7
Unit SG&A expenses.....	\$2.00	\$2.19	\$2.45	\$2.13	\$2.29	▲22.8	▲9.9	▲11.8	▲7.2
Unit operating income or (loss) (fn2).....	\$2.70	\$2.17	\$1.41	\$2.13	\$1.66	▼(47.8)	▼(19.5)	▼(35.1)	▼(22.2)
Unit net income or (loss) (fn2).....	\$2.13	\$0.67	\$(1.22)	\$0.82	\$1.22	▼***	▼(68.7)	▼***	▲48.8
COGS/sales (fn1).....	81.9	83.4	85.9	84.2	85.9	▲4.0	▲1.5	▲2.5	▲1.7
Operating income or (loss)/sales (fn1).....	10.4	8.2	5.1	7.9	5.9	▼(5.2)	▼(2.2)	▼(3.1)	▼(2.0)
Net income or (loss)/sales (fn1).....	8.2	2.5	(4.5)	3.0	4.4	▼(12.7)	▼(5.7)	▼(7.0)	▲1.3

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "--". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.

fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

Source: Adjusted official U.S. import statistics for HTS statistical reporting number 7010.90.5005, 7010.90.5009, 7010.90.5015, 7010.90.5019, 7010.90.5025, 7010.90.5029, 7010.90.5035, 7010.90.5039, 7010.90.5045, 7010.90.5049 & 7010.90.5055, accessed October 15, 2019, and compiled from data submitted in response to Commission questionnaires.

**APPENDIX D**

**U.S. PRODUCERS' AND IMPORTERS' RANGE OF AUVs**



The Commission asked U.S. producers and importers to report their: (1) highest per unit value glass container product produced or imported; (2) highest volume glass container product produced or imported; and (3) lowest per unit value glass container product produced or imported. Firms were asked to list the unit value (dollars per gross) for each, and a description of each product. The responses are presented in tables D-1 and D-2.

**Table D-1**  
**Glass containers: U.S. producers' range of AUVs**

Firm	Average unit value of US shipments (dollars per gross)	Lowest AUV product		Highest volume product		Highest AUV product	
		Price (dollars per gross)	Description	Price (dollars per gross)	Description	Price (dollars per gross)	Description
Anchor	***	***	***	***	***	***	***
Ardagh	***	***	***	***	***	***	***
Gallo	***	***	***	***	***	***	***
Owens	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

**Table D-2**  
**Glass containers: U.S. importers' range of AUVs**

Firm	Average unit value of US shipments (dollars per gross)	Lowest AUV product		Highest volume product		Highest AUV product	
		Price (dollars per gross)	Description	Price (dollars per gross)	Description	Price (dollars per gross)	Description
Amici	***	***	***	***	***	***	***
Amigo	***	***	***	***	***	***	***
Ardagh	***	***	***	***	***	***	***
Berlin	***	***	***	***	***	***	***
Evergreen	***	***	***	***	***	***	***
Granth	***	***	***	***	***	***	***

Table continued.

**Table D-2--Continued**  
**Glass containers: U.S. importers' range of AUVs**

Firm	Average unit value of US shipments (dollars per gross)	Lowest AUV product		Highest volume product		Highest AUV product	
		Price (dollars per gross)	Description	Price (dollars per gross)	Description	Price (dollars per gross)	Description
MA Silva	***	***	***	***	***	***	***
Mckernan	***	***	***	***	***	***	***
Midwest	***	***	***	***	***	***	***
Northwest Pioneer	***	***	***	***	***	***	***
Owens	***	***	***	***	***	***	***
Richards	***	***	***	***	***	***	***
Saxco Brick	***	***	***	***	***	***	***
Saxco International	***	***	***	***	***	***	***

Table continued.

**Table D-2--Continued**  
**Glass containers: U.S. importers' range of AUVs**

Firm	Average unit value of US shipments (dollars per gross)	Lowest AUV product		Highest volume product		Highest AUV product	
		Price (dollars per gross)	Description	Price (dollars per gross)	Description	Price (dollars per gross)	Description
Silver Spur	***	***	***	***	***	***	***
Spirited	***	***	***	***	***	***	***
TricorBraun	***	***	***	***	***	***	***
IGC	***	***	***	***	***	***	***
Veritiv	***	***	***	***	***	***	***
Walmart	***	***	***	***	***	***	***
West Coast	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

**APPENDIX E**

**MARKET SHARES BY CHANNELS OF DISTRIBUTION**



**Table E-1**

**Glass containers: Market shares, by channels of distribution, 2016-18, January to June 2018, and January to June 2019**

U.S. shipments to distributors	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Distributors	***	***	***	***	***
	<b>Share of quantity (percent)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Distributors	***	***	***	***	***
	<b>Ratio of overall consumption (percent)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Distributors	***	***	***	***	***

Table continued on next page.

**Table E-1--Continued**

**Glass containers: Market shares, by channels of distribution, 2016-18, January to June 2018, and January to June 2019**

U.S. shipments to retailers	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Retailers	***	***	***	***	***
	<b>Share of quantity (percent)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Retailers	***	***	***	***	***
	<b>Ratio of overall consumption (percent)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Retailers	***	***	***	***	***

Table continued on next page.

Table E-1--Continued

Glass containers: Market shares, by channels of distribution, 2016-18, January to June 2018, and January to June 2019

U.S. shipments to alcoholic beverage manufacturers	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.--					
China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Alcoholic beverage manufacturers	***	***	***	***	***
	<b>Share of quantity (percent)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.--					
China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Alcoholic beverage manufacturers	***	***	***	***	***
	<b>Ratio of overall consumption (percent)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.--					
China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Alcoholic beverage manufacturers	***	***	***	***	***

Table continued on next page.

**Table E-1--Continued**

**Glass containers: Market shares, by channels of distribution, 2016-18, January to June 2018, and January to June 2019**

U.S. shipments to other beverage manufacturers	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.--					
China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Other beverage manufacturers	***	***	***	***	***
	<b>Share of quantity (percent)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.--					
China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Other beverage manufacturers	***	***	***	***	***
	<b>Ratio of overall consumption (percent)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.--					
China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Other beverage manufacturers	***	***	***	***	***

Table continued on next page.

**Table E-1--Continued**

**Glass containers: Market shares, by channels of distribution, 2016-18, January to June 2018, and January to June 2019**

U.S. shipments to food manufacturers and other end users	Calendar year			January to June	
	2016	2017	2018	2018	2019
	<b>Quantity (gross)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Food manufacturers and other end users	***	***	***	***	***
	<b>Share of quantity (percent)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Food manufacturers and other end users	***	***	***	***	***
	<b>Ratio of overall consumption (percent)</b>				
U.S. producers' U.S. shipments:	***	***	***	***	***
U.S. importers' U.S. shipments.-- China	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Total, to Food manufacturers and other end users	***	***	***	***	***

Note.--U.S. import are based on data compiled from Commission questionnaires and therefore understate the overall importer universe reported in part IV across all five channels.

Note.--Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.

Source: Compiled from data submitted in response to Commission questionnaires.

