Forged Steel Fittings from India and Korea

Investigation Nos. 701-TA-631 and 731-TA-1463-1464 (Final)

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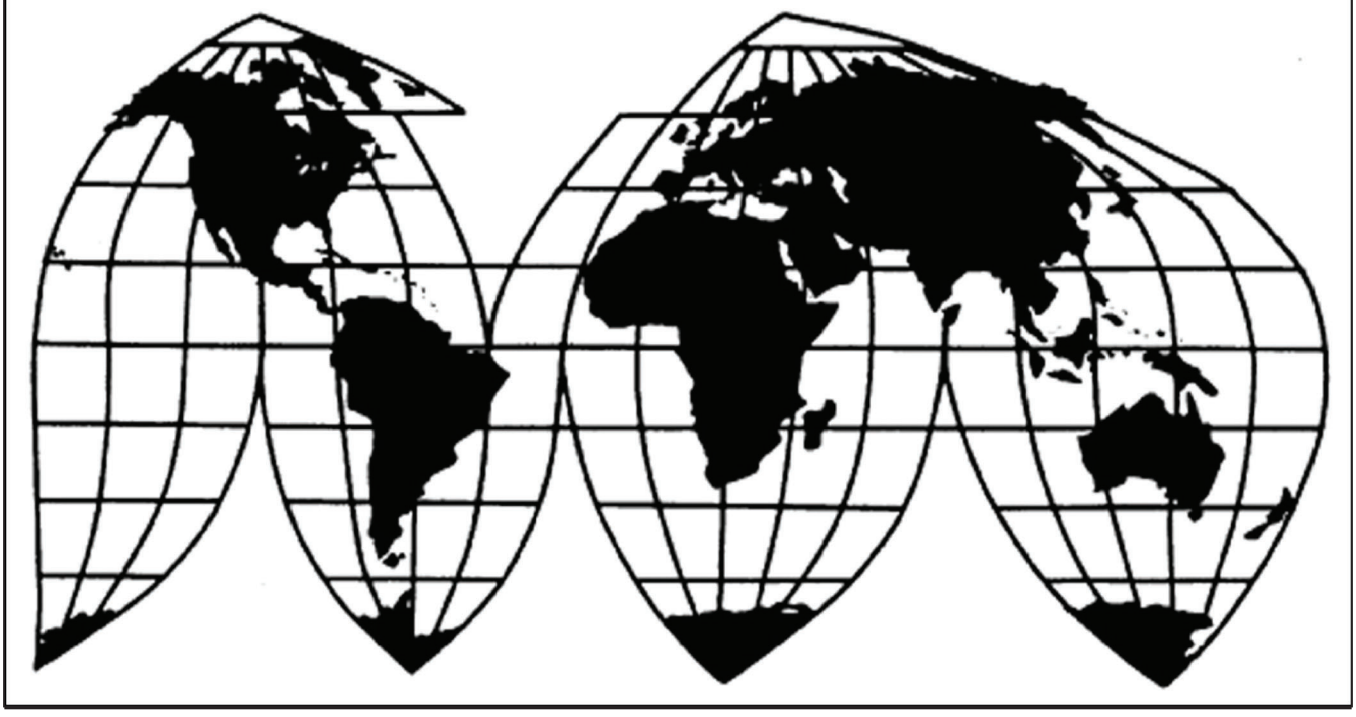
U.S. International Trade Commission



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Note.—Information that would reveal confidential operations of individual concerns may not be published.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-631 and 731-TA-1463-1464 (Final)

Forged Steel Fittings from India and Korea

DETERMINATIONS

On the basis of the record[1] developed in the subject investigations, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that an industry in the United States is materially injured by reason of imports of forged steel fittings from India and Korea, provided for in subheadings 7307.92.30, 7307.92.90, 7307.93.30, 7307.93.60, 7307.93.90, 7307.99.10, 7307.99.30, and 7307.99.50 of the Harmonized Tariff Schedule of the United States, that have been found by the U.S. Department of Commerce ("Commerce") to be sold in the United States at less than fair value ("LTFV"), and to be subsidized by the government of India.[2]

BACKGROUND

The Commission instituted these investigations effective October 23, 2019, following receipt of petitions filed with the Commission and Commerce by Bonney Forge Corporation (''Bonney''), Mount Union, Pennsylvania, and the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union (''USW''), Pittsburgh, Pennsylvania. The final phase of the investigations was scheduled by the Commission following notification of preliminary determinations by Commerce that imports of forged steel fittings from India were subsidized within the meaning of section 703(b) of the Act (19 U.S.C. 1671b(b)) and sold at LTFV within the meaning of 733(b) of the Act (19 U.S.C. 1673b(b)). Notice of the scheduling of the final phase of the Commission's investigations and of a public hearing 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* on June 19, 2020 (85 FR 37109). In light of the restrictions on access to the Commission building due to the COVID–19 pandemic, the Commission conducted its hearing through written testimony and video conference on October 15, 2020. All persons who requested the opportunity were permitted to participate.

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[1] The record is defined in § 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR 207.2(f)).

[2] Vice Chair Randolph J. Stayin not participating.

Views of the Commission

Based on the record in the final phase of these investigations, we determine that an industry in the United States is materially injured by reason of imports of forged steel fittings from India and Korea found by the U.S. Department of Commerce ("Commerce") to be sold in the United States at less than fair value ("LTFV"), and found to be subsidized by the government of India.[1]

I. Background

Bonney Forge Corporation ("Bonney Forge"), a U.S. producer of forged steel fittings, and the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union ("USW"), a union representing domestic workers producing forged steel fittings (jointly, "Petitioners"), filed the petitions in these investigations on October 23, 2019. Representatives of Petitioners appeared at the hearing accompanied by counsel and submitted prehearing and posthearing briefs, and final comments.

Representatives and counsel for Samyoung Fitting Company, LTD ("Respondent" or "Samyoung"), a producer of forged steel fittings in Korea, appeared at the hearing and submitted prehearing and posthearing briefs. Representatives of the government of Korea also appeared at the hearing and provided written testimony. No other parties participated in the hearing or filed briefs.

U.S. industry data are based on the questionnaire responses from four domestic producers that accounted for the vast majority of domestic production of forged steel fittings in 2019.[2] U.S. import data are based on data submitted in response to the Commission's importer questionnaires and proprietary Customs data.[3] Data concerning the subject industries are based on responses to the Commission's questionnaires from six foreign producers of subject merchandise: two producers/exporters in India, accounting for approximately *** percent of U.S. imports of subject merchandise from India in 2019;[4] and four producers/exporters in

[1] Vice Chair Randolph J. Stayin did not participate in these investigations.

[2] Confidential Report ("CR") at III-1; Public Report ("PR") at III-1.

[3] CR/PR at IV-1 and Table IV-1. The Commission received questionnaire responses from 31 importers, representing the majority of imports from subject countries and all other sources in 2019. CR/PR at IV-1.

[4] CR/PR at VII-3.

Korea, whose reported exports to the United States exceeded the reported U.S. imports of subject merchandise from Korea in 2019.[5]

II. Domestic Like Product

A. In General

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of imports of subject merchandise, the Commission first defines the "domestic like product" and the "industry."[6] 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."[7] 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."[8]

By statute, the Commission's "domestic like product" analysis begins with the "article subject to an investigation," *i.e.*, the subject merchandise as determined by Commerce.[9] Therefore, Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value is "necessarily the starting point of the Commission's like product analysis."[10] The Commission then defines the domestic like product in light of the imported articles Commerce has identified.[11]

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[5] CR/PR at VII-9.

[6] 19 U.S.C. § 1677(4)(A).

[7] 19 U.S.C. § 1677(4)(A).

[8] 19 U.S.C. § 1677(10).

[9] 19 U.S.C. § 1677(10). The Commission must accept Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value. *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).

[10] *Cleo Inc. v. United States*, 501 F.3d 1291, 1298 (Fed. Cir. 2007); *see also Hitachi Metals, Ltd. v. United States*, Case No. 19-1289, slip op. at 8-9 (Fed. Circ. Feb. 7, 2020) (the statute requires the Commission to start with Commerce's subject merchandise in reaching its own like product determination).

[11] *Cleo*, 501 F.3d at 1298 n.1 ("Commerce's {scope} finding does not control the Commission's {like product} determination."); *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

The decision regarding the appropriate domestic like product(s) 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.[12] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[13] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[14]

B. Product Description

In its final determinations, Commerce defined the imported merchandise within the scope of these investigations as:

> . . . carbon and alloy forged steel fittings, whether unfinished (commonly known as blanks or rough forgings) or finished. Such fittings are made in a variety of shapes including, but not limited to, elbows, tees, crosses, laterals, couplings, reducers, caps, plugs, bushings, unions (including hammer unions), and outlets. Forged steel fittings are covered regardless of end finish, whether threaded, socket-weld or other end connections. The scope includes integrally reinforced forged branch outlet fittings, regardless of whether they have one or more ends that is a socket welding, threaded, butt welding end, or other end connections.

(…Continued)
defined by Commerce); *Torrington Co. v. United States*, 747 F. Supp. 744, 748–52 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991) (affirming the Commission's determination defining six like products in investigations where Commerce found five classes or kinds).

[12] *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, (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).

[13] *See*, *e.g.*, S. Rep. No. 96-249 at 90-91 (1979).

[14] *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.").

While these fittings are generally manufactured to specifications ASME B16.11, MSS SP–79, MSS SP–83, MSS–SP–97, ASTM A105, ASTM A350 and ASTM A182, the scope is not limited to fittings made to these specifications.

The term forged is an industry term used to describe a class of products included in applicable standards, and it does not reference an exclusive manufacturing process. Forged steel fittings are not manufactured from casings. Pursuant to the applicable standards, fittings may also be machined from bar stock or machined from seamless pipe and tube.

All types of forged steel fittings are included in the scope regardless of nominal pipe size (which may or may not be expressed in inches of nominal pipe size), pressure class rating (expressed in pounds of pressure, *e.g.,* 2,000 or 2M; 3,000 or 3M; 6,000 or 6M; 9,000 or 9M), wall thickness, and whether or not heat treated.

Excluded from this scope are all fittings entirely made of stainless steel. Also excluded are flanges, nipples, and all fittings that have a maximum pressure rating of 300 pounds per square inch/PSI or less.

Also excluded from the scope are fittings certified or made to the following standards, so long as the fittings are not also manufactured to the specifications of ASME B16.11, MSS SP–79, MSS SP–83, MSS SP–97, ASTM A105, ASTM A350 and ASTM A182:

- American Petroleum Institute (API) 5CT, API 5L, or API 11B;
- American Society of Mechanical Engineers (ASME) B16.9;
- Manufacturers Standardization Society (MSS) SP–75;
- Society of Automotive Engineering (SAE) J476, SAE J514, SAE J516, SAE J517, SAE J518, SAE J1026, SAE J1231, SAE J1453, SAE J1926, J2044 or SAE AS 35411;
- Hydraulic hose fittings (*e.g.,* fittings used in high pressure water cleaning applications, in the manufacture of hydraulic engines, to connect rubber dispensing hoses to a dispensing nozzle or grease fitting) made to ISO 12151–1, 12151–2, 12151–3, 12151–4, 12151–5, or 12151–6;
- Underwriter's Laboratories (UL) certified electrical conduit fittings;
- ASTM A153, A536, A576, or A865;
- Casing conductor connectors made to proprietary specifications;

• Machined steel parts (*e.g.,* couplers) that are not certified to any specifications in this scope description and that are not for connecting steel pipes for distributing gas and liquids;

• Oil country tubular goods (OCTG) connectors (*e.g.,* forged steel tubular connectors for API 5L pipes or OCTG for offshore oil and gas drilling and extraction);

• Military Specification (MIL) MIL–C–4109F and MIL–F–3541; and

• International Organization for Standardization (ISO) ISO6150–B.

Also excluded from the scope are assembled or unassembled hammer unions that consist of a nut and two subs. To qualify for this exclusion, the hammer union must meet each of the following criteria: (1) The face of the nut of the hammer union is permanently marked with one of the following markings: ''FIG 100,'' ''FIG 110,'' ''FIG 100C,'' ''FIG 200,'' ''FIG 200C,'' ''FIG 201,'' ''FIG 202,'' ''FIG 206,'' ''FIG 207,'' ''FIG 211,'' ''FIG 300,'' ''FIG 301,'' ''FIG 400,'' ''FIG 600,'' ''FIG 602,'' ''FIG 607,'' ''FIG 1002,'' ''FIG 1003,'' ''FIG 1502,'' ''FIG 1505,'' ''FIG 2002,'' or ''FIG 2202''; (2) the hammer union does not bear any of the following markings: ''Class 3000,'' ''Class 3M,'' ''Class 6000,'' ''Class 6M,'' ''Class 9000,'' or ''Class 9M''; and (3) the nut and both subs of the hammer union are painted.

Also excluded from the scope are subs or wingnuts made to ASTM A788, marked with ''FIG 1002,'' ''FIG 1502,'' or ''FIG 2002,'' and with a pressure rating of 10,000 PSI or greater. These parts are made from AISI/SAE 4130, 4140, or 4340 steel and are 100 percent magnetic particle inspected before shipment.

Also excluded from the scope are tee, elbow, cross, adapter (or ''crossover''), blast joint (or ''spacer''), blind sub, swivel joint and pup joint which have wing nut or not. To qualify for this exclusion, these products must meet each of the following criteria: (1) Manufacturing and Inspection standard is API 6A or API 16C; and, (2) body or wing nut is permanently marked with one of the following markings: ''FIG 2002,'' ''FIG 1502,'' ''FIG 1002,'' ''FIG 602,'' ''FIG 206,'' or ''FIG any other number'' or MTR (Material Test Report) shows these FIG numbers.

To be excluded from the scope, products must have the appropriate standard or pressure markings and/or be accompanied by documentation showing product compliance to the applicable standard or pressure, *e.g.,* ''API 5CT'' mark and/or a mill certification report.

> Subject carbon and alloy forged steel fittings are normally entered under Harmonized Tariff Schedule of the United States (HTSUS) 7307.92.3010, 7307.92.3030, 7307.92.9000, 7307.99.1000, 7307.99.3000, 7307.99.5045, and 7307.99.5060. They may also be entered under HTSUS 7307.93.3010, 7307.93.3040, 7307.93.6000, 7307.93.9010, 7307.93.9040, 7307.93.9060, and 7326.19.0010.
>
> The HTSUS subheadings and specifications are provided for convenience and customs purposes; the written description of the scope is dispositive.[15]

Forged steel fittings are used in piping systems for oil and gas, in chemical and petrochemical plants, in electric power-generating plants, and in industrial piping systems for distributing liquids and gases under high pressure or that are corrosive in nature. Fittings connect pipes that are made to withstand the higher pressures in such systems, and the fittings themselves must also be able to withstand such pressures. Forged steel fittings typically are produced from steel that meets ASTM International ("ASTM") standard A105 or similar standards. They are connected to pipes (or couplings) either by being threaded or by welding.[16]

Socket-weld fittings are recommended for connections that require strength and duration. These types of forged fittings have a socket where the connecting pipe has to be sealed and welded (with a fillet-type seal weld) for installation. They are available in sizes up to 4 inches and in pressure ratings from class 3000 to class 6000, and class 9000. Typical applications for socket-weld fittings include pipe transmitting steam, explosive fluids or gases, acids and toxic fluids, and long-serving or durable installations.[17]

Threaded fittings are commonly applied in low-pressure pipeworks, such as water-distribution, fire protection, and cooling systems, or in installations that are not subject to vibration, or elongation or bending forces. Threaded fittings are generally avoided when the temperature of the fluid is subject to consistent variations, as sudden temperature changes may crack the threaded connection between the fitting and the pipe. Threaded fittings are

[15] *Forged Steel Fittings From the Republic of Korea: Final Affirmative Determination of Sales at Less Than Fair Value*, 85 Fed. Reg. 66302, 66303-04 (October 19, 2020) ("Commerce Final AD Determination (Korea)"); *Forged Steel Fittings From India: Final Affirmative Determination of Sales at Less Than Fair Value*, 85 Fed. Reg. 66306, 66307-08 (October 19, 2020) ("Commerce Final AD Determination (India)"); and *Forged Steel Fittings From India: Final Affirmative Countervailing Duty Determination*, 85 Fed. Reg. 66535, 66536-37 (October 20, 2020) ("Commerce Final CVD Determination (India)").

[16] CR/PR at I-12.

[17] CR/PR at I-12 to I-13 and Figure I-1.

available in sizes up to four inches and in pressure ratings from class 2000 to class 3000, and class 6000. Common shapes of threaded fittings include 45- and 90-degree elbows, equal and reducing tees, laterals, and street elbows.[18]

Integrally reinforced forged branch outlet fittings are a type of outlet fitting used to connect a branch pipe to a header pipe, primarily in oil and gas applications. They may be attached to the pipes through a threaded connection or a butt-welded connection. They are typically available in pressure ratings from class 3000 to class 6000, and class 9000. [19]

Other types of forged steel fitting products include plugs (round-, square-, or hex-head shaped), bushings (flush or hexagonal), half or full couplings, reducers and reducer inserts, unions, welding bosses, and outlets.[20]

C. Analysis

In the preliminary determinations, the Commission defined a single domestic like product consisting of all forged steel fittings coextensive with the scope of Commerce's investigations. The Commission found that all types of domestically produced forged steel fittings within the scope were produced from the same raw materials and share similar physical characteristics. It also found that all forged steel fittings generally were produced through the same production processes at the same facilities and by the same employees, were used primarily to connect pipes in oil and gas and other industrial applications, and were sold overwhelmingly to distributors. It concluded that the record did not indicate that there were clear dividing lines among forged steel fittings within the scope in terms of producer and customer perceptions.[21]

The record in these final phase investigations does not contain any new information that would warrant revisiting the definition of the domestic like product. Moreover, no party has argued for a definition of the domestic like product different from the definition adopted by the Commission in the preliminary determinations. Therefore, for the reasons set forth in the preliminary determinations, we define a single domestic like product consisting of forged steel fittings coextensive with the scope of the investigations.

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[18] CR/PR at I-13 and Figure I-2.

[19] CR/PR at I-14 and Figure I-4.

[20] CR/PR at I-14 and Figure I-3.

[21] *Forged Steel Fittings from India and Korea*, Inv. Nos 701-TA-631 and 731-TA-1463-1464 (Preliminary) USITC Pub. 5006 (Dec. 2019) at 10-11.

III. Domestic Industry

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 a major proportion of the total domestic production of the product."[22] In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

These investigations raise two domestic industry issues. The first concerns whether a firm that produces forged steel fittings by finishing rough forgings engages in sufficient production-related activity to qualify as a domestic producer. The second concerns whether appropriate circumstances exist to exclude any domestic producer from the domestic industry pursuant to the related party provision.

A. Sufficient Production-Related Activities

These investigations raise the issue of whether the further manufacture of blanks or rough forgings ("finishing" operations such as turning, boring, milling, drilling, grinding, polishing, and welding) constitutes sufficient production-related activity to be considered domestic production.[23] Anvil is the sole U.S. firm engaged in finishing-only operations for forged steel fittings.[24]

In the preliminary phase of these investigations, the Commission found that Anvil's further manufacturing of rough steel forgings into finished forged steel fittings qualified as domestic production under the factors the Commission generally considers. It found that substantial technical expertise was required to perform finishing operations for forged steel fittings and that the finishing process adds significant value to the product. The Commission

[22] 19 U.S.C. § 1677(4)(A).

[23] In deciding whether a firm qualifies as a domestic producer, the Commission generally has analyzed the overall nature of a firm's production-related activities in the United States, although production-related activity at minimum levels could be insufficient to constitute domestic production. The Commission generally considers six factors: (1) source and extent of the firm's capital investment; (2) technical expertise involved in U.S. production activities; (3) value added to the product in the United States; (4) employment levels; (5) quantity and type of parts sourced in the United States; and (6) any other costs and activities in the United States directly leading to production of the like product. *See, e.g.*, *Crystalline Silica Photovoltaic Cells and Modules from China*, Inv. Nos. 701-TA-481 and 731-TA-1190 (Final), USITC Pub. 4360 at 12-13 (Nov. 2012).

[24] CR/PR at I-17.

observed that, although Anvil did not source rough forgings from domestic suppliers, Anvil made substantial capital investments and employed a number of personnel in its finishing operations. In light of these considerations, the Commission concluded that Anvil, the sole U.S. firm engaged in finishing-only operations, engaged in sufficient production-related activities in the United States to qualify as a domestic producer of forged steel fittings.[25]

The record in the final phase continues to show that Anvil has made significant capital investments in its finishing operations, that substantial technical expertise is required to perform these operations, that the finishing process adds significant value to the product, and that these operations require a number of trained personnel. Anvil did not source any of its raw material from the United States. There is no new evidence in the final phase of these investigations to call into question our finding from the preliminary determinations that Anvil's finishing operations constituted sufficient production-related activities for Anvil to be considered a domestic producer. Indeed, the information collected in the final phase confirms our finding that substantial technical expertise is required to perform finishing operations for forged steel fittings and that finishing the rough forgings adds significant value.[26] Therefore, based on the record and in the absence of any contrary argument, we find that Anvil's finishing operations constitute sufficient production-related activities for Anvil to be considered a domestic producer.

B. Related Parties

We also 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. 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.[27] Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each investigation.[28]

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[25] USITC Pub. 5006 at 11-13.

[26] CR/PR at III-3 and Tables III-5 and III-6.

[27] *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).

[28] 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;

The record indicates that *** meets the statutory definition of a related party because it was affiliated with an importer of subject merchandise from *** during the period of investigation.[29] In addition, *** falls under the related party provision because it directly imported subject merchandise from ***. Furthermore, *** purchased subject imports *** from U.S. importer ***,[30] an importer of large volumes of subject imports, which also renders *** subject to possible exclusion under the related party provision by virtue of its control of ***.[31] The Commission has found such control to exist where a domestic producer was responsible for a predominant proportion of an importer's purchases and the importers' purchases were substantial.[32] [33] *** reported it accounted for *** percent of subject imports from India and *** percent of total subject imports in 2019,[34] and that *** was *** for subject imports of forged steel fittings.[35]

(…Continued)

(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.

[29] *** Importer Questionnaire Response, EDIS Doc. 717840 and *** Importer Questionnaire Response, EDIS Doc. 727022; *see also* CR/PR at Tables III-2 and III-13.

[30] CR/PR at III-13 n.6; Staff correspondence with ***, September 29, 2020.

[31] Statement of Administrative Action to the Uruguay Round Agreements Act (URAA), H.R. Rep. No. 103-316, Vol. I (1994) ("SAA") at 858; 19 U.S.C. § 1677(4)(B)(ii).

[32] *See*, *e.g.*, *Iron Construction Castings from Brazil, Canada, and China*, Inv. Nos.701-TA-248, 731-TA-262-263, 265 (Fourth Review), USITC Pub. 4655 at 11 (Dec. 2016) (finding purchaser to be related party); *Chlorinated Isocyanurates from China and Spain*, Inv. Nos. 731-TA-1082-1083 (Second Review), USITC Pub. 4646 at 12 (Nov. 2016) (assuming *arguendo* that purchaser was a related party due to transactions in one year of period of review).

[33] Chair Kearns does not foreclose the possibility that a domestic producer's control over an importer may exist in circumstances where its purchases are not a "predominant" portion of such imports.

[34] CR/PR at Table IV-1.

[35] CR/PR at III-13 n.6; Staff correspondence with ***, October 15, 2020.

We next consider whether appropriate circumstances exist to exclude *** from the domestic industry under the related party provision. Petitioners do not take a definitive position on whether the Commission should include or exclude ***.[36] Respondent argues that *** primary interests are in importing subject merchandise rather than in domestic production, and therefore appropriate circumstances exist for the Commission to exclude it from the domestic industry.[37]

*** was responsible for *** percent of U.S. production of forged steel fittings in 2019, and was the *** domestic producer.[38] ***, which opposes the petition,[39] primarily used rough forgings as inputs for the finished forged steel fittings it produced domestically. The combined imports of subject merchandise (unfinished and finished forgings) by *** and its affiliated importer *** as a share of *** domestic production were *** percent in 2017, *** percent in 2018, *** percent in 2019, *** percent in January-June ("interim") 2019, and *** percent in interim 2020.[40] ***.[41] As a ratio to its U.S. production, *** purchases of subject imports (both finished and unfinished forged steel fittings) were *** percent in 2017, *** percent in 2018, *** percent in 2019, *** percent in interim 2019, and *** percent in interim 2020.[42] While *** reported purchasing finished forged steel fittings from domestic producer ***[43] and U.S. importer ***,[44] the vast majority of ***.[45] When the antidumping and countervailing duty orders on forged steel fittings from China went into effect, *** substantially decreased its imports from that country, and rapidly turned to increasing imports and purchases of subject

[36] In particular, Petitioners assert that "while there are grounds for excluding *** as a related party in this final phase, the ***" and state that "we will continue to use the aggregate domestic producer data set that includes *** for this brief". Petitioners Posthearing Brief at 3 and Response to Commission Question 10 at 42-45.

[37] Respondent Posthearing Brief at 6-7 and Exhibit 4 at 2-4 (Responses to Commission Questions). Respondents also asserts that if *** is excluded "there will be effectively no change in the COGS-to-net-sales ratio for the domestic industry from 2018 to 2019. *Id.* Exhibit 4 at 3.

[38] CR/PR at Table III-1.

[39] CR/PR at Table III-1.

[40] Derived from Table III-13 and *** Importer Questionnaire Response, EDIS Doc. 717022. ***, and were equivalent to *** percent of its domestic production in 2017 and 2018, *** percent in 2019, and *** percent in interim 2019 and interim 2020. CR/PR at III-13 n.6 and Table III-13.

[41] CR/PR at Table III-13.

[42] CR/PR at Table III-14.

[43] *See* CR/PR at III-13 n.7.

[44] CR/PR at I III-13 n.6; *see also*, *** Preliminary Phase Importer Questionnaire Response at III-21, EDIS Doc. 693591 at 32.

[45] CR/PR at III-13 n.6. The vast majority of its ***. *Id*.

imports as the primary supply source for its inputs for the finished forgings it produces.[46] *** operations thus largely center on the use of subject imports to produce finished forged steel fittings.

*** consistent sourcing of unfairly traded imports over the period of investigation ("POI"), which included increasing levels of imports and purchases of subject imports relative to its production from 2017 to 2019 with respect to both unfinished and finished forged steel fittings, its focus on importing low-priced unfinished forged steel fittings to produce finish forged steel fittings, as well as its position on the petitions, indicate that its primary interests lie in importation rather than production. We recognize that *** reported that they did not sell unfinished fittings to other domestic producers because they did not wish to supply competitors.[47] However, this does not change our finding that *** primary interests lie in importation, particularly given Anvil's operations which center on the use of imported low-priced subject imports to produce finished forged steel fittings. In this regard, we observe that *** supply for its unfinished forgings during the POI shifted from one unfairly traded source to another. Specifically, its increase in subject imports and purchases of subject merchandise over the POI coincided with its decreases in purchases and imports of forged steel fittings from China after the imposition of antidumping and countervailing duties on those imports in 2018.[48] Based on the foregoing, and given that none of the parties have argued to the contrary, we find that appropriate circumstances exist to exclude *** from the domestic industry under the related party provision. We therefore define the domestic industry as all U.S. producers of the domestic like product except ***.

[46] CR/PR at Tables III-13 and III-14.

[47] *See* CR/PR at II-1; *see also* *** U.S. Producer Questionnaire Responses at IV-13 (a) & (b), EDIS Doc. 717444 at 41, *** U.S. Producer Questionnaire Responses at IV-13 (a) & (c), EDIS Doc. 717023 at 40, and *** U.S. Producer Questionnaire Responses at IV-13 (a) & (c), EDIS Doc. 717923 at 40.

[48] *See* CR/PR at Table III-13 and III-14.

IV. Cumulation[49]

For purposes of evaluating the volume and effects for a determination of material injury by reason of subject imports, section 771(7)(G)(i) of the Tariff Act requires the Commission to cumulate subject imports from all countries as to which petitions were filed and/or investigations self-initiated by Commerce on the same day, if such imports compete with each other and with the domestic like product in the U.S. market. In assessing whether subject imports compete with each other and with the domestic like product, the Commission generally has considered four factors:

(1) the degree of fungibility between subject imports from different countries and between subject imports and the domestic like product, including consideration of specific customer requirements and other quality related questions;

(2) the presence of sales or offers to sell in the same geographic markets of subject imports from different countries and the domestic like product;

(3) the existence of common or similar channels of distribution for subject imports from different countries and the domestic like product; and

(4) whether the subject imports are simultaneously present in the market.[50]

[49] Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product that account for less than 3 percent 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 shall be deemed negligible. 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 statute further provides that subject imports from a single country which comprise less than 3 percent of total such imports of the product may not be considered negligible if there are several countries subject to investigation with negligible imports and the sum of such imports from all those countries collectively accounts for more than 7 percent of the volume of all such merchandise imported into the United States. 19 U.S.C. § 1677(24)(A)(ii).

Imports from each subject country exceed the statutory negligibility threshold. Specifically, from October 2018 to September 2019, the 12 month period preceding the filing of the petitions, imports by quantity from India accounted for *** percent of total imports of forged steel fittings covered by the antidumping duty investigation and *** percent of total imports covered by the countervailing duty investigation, and imports by quantity from Korea accounted for *** percent of total imports. CR/PR at IV-7 and Table IV-3.

While no single factor is necessarily determinative, and the list of factors is not exclusive, these factors are intended to provide the Commission with a framework for determining whether the subject imports compete with each other and with the domestic like product.[51] Only a "reasonable overlap" of competition is required.[52]

Petitioners urge the Commission to cumulate subject imports from India and Korea for its analysis of material injury. They argue that subject imports of forged steel fittings and the domestic like product are fungible and interchangeable because they are made to industry specifications, are generally sold in the same channels of distribution, are sold to all regions throughout the United States, and have been present in every month of the POI for which data were available.[53]

Respondent argues that the Commission should assess subject imports from India and Korea separately for the purposes of its material injury analysis because there is no reasonable overlap of competition between subject imports from Korea and India. It asserts that subject imports from India comprise a much higher percentage of unfinished forged steel fittings and thus are not fully interchangeable with subject imports from Korea. It further alleges that domestically-produced forged steel fittings, subject imports from India, and subject imports from Korea are sold primarily through different channels of distribution. According to Respondent, the evidentiary record does not demonstrate the required reasonable overlap in competition between subject imports, and, as a result, cumulation is not appropriate for purposes of the Commission's material injury analysis.[54]

(…Continued)

[50] *See Certain Cast-Iron Pipe Fittings from Brazil, the Republic of Korea, and Taiwan*, Inv. Nos. 731-TA-278-280 (Final), USITC Pub. 1845 (May 1986), *aff'd*, *Fundicao Tupy, S.A. v. United States*, 678 F. Supp. 898 (Ct. Int'l Trade), aff'd, 859 F.2d 915 (Fed. Cir. 1988).

[51] *See*, *e.g.*, *Wieland Werke, AG v. United State*s, 718 F. Supp. 50 (Ct. Int'l Trade 1989).

[52] The SAA expressly states that "the new section will not affect current Commission practice under which the statutory requirement is satisfied if there is a reasonable overlap of competition." H.R. Rep. No. 103-316, Vol. I at 848 (1994) (*citing Fundicao Tupy, S.A. v. United States*, 678 F. Supp. at 902; *see Goss Graphic Sys., Inc. v. United States*, 33 F. Supp. 2d 1082, 1087 (Ct. Int'l Trade 1998) ("cumulation does not require two products to be highly fungible"); *Wieland Werke, AG*, 718 F. Supp. at 52 ("Completely overlapping markets are not required.").

[53] Petitioners Prehearing Brief at 9-11, Posthearing Brief at 3-4 and Response to Commission Question 7, and Final Comments at 1-4.

[54] Respondent Prehearing Brief at 15-17.

The statutory threshold for cumulation is satisfied in these investigations because Petitioners filed the antidumping and countervailing duty petitions with respect to both subject countries on the same day, October 23, 2019.[55]

Fungibility. Forged steel fittings regardless of source are produced in accordance with Manufacturer's Standardization Society ("MSS") and ASTM specifications, as well as American Society of Mechanical Engineers ("ASME") design standards.[56] All three responding domestic producers and the majority of importers and purchasers reported that imports from the three subject countries are "always" or "frequently" interchangeable with each other and the domestic like product.[57] All of the U.S. producers' U.S. shipments and most of the shipments of imports from the subject countries are finished forged steel fittings.[58]

Both finished and unfinished forged steel fittings are produced in accordance with standard industry specifications and for similar ends uses, and the difference in the stage of finishing alone thus does not support a lack of fungibility. Further, Respondent's claim that subject imports from Korea were not completely fungible with subject imports from India[59] fails to take into account that both subject countries offered substantial volumes of finished forgings in the domestic market, as did the domestic industry, during the POI.[60] Consequently, the record indicates that the domestic like product and forged steel fittings from each subject source are fungible.

Channels of Distribution. U.S. producers reported selling *** to distributors over the POI.[61] While the majority of imports from India went to finishers/converters over the POI, shipments to distributors as a share of U.S. shipments of subject imports from India increased irregularly from *** percent in 2017 to *** percent in 2019.[62] The majority of imports from Korea went to end users (*** percent) in 2017 but shifted to distributors for the remainder of the POI – *** percent in 2018, *** percent in 2019, *** percent in interim 2019, and ***

[55] None of the statutory exceptions to cumulation apply.
[56] CR/PR at II-1.
[57] CR/PR at Table II-10.
[58] CR/PR at Tables III-10 and IV-4.
[59] Respondent Prehearing Brief at 15-16.
[60] CR/PR at Table IV-4.
[61] CR/PR at Table II-1.
[62] CR/PR at Table II-1. Commercial shipments of imports from India to distributors as a share of its total shipments of U.S. imports was *** percent in 2017, *** percent in 2018, *** percent in 2019, *** percent in interim 2019, and *** percent in interim 2020. *Id*.

percent in interim 2020.[63] Distributors of forged steel fittings include national distributors of pipes, valves, and fittings; regional distributors; and independent distributors.[64]

Despite Respondent's claim that there is a lack of overlap in channels of distribution,[65] the record indicates that the domestic industry, as well as subject imports from India and Korea, all made significant sales to distributors. Given that sales of subject imports from India to distributors were significant, and compete with both subject imports from Korea and the domestic industry in that channel, there exists an overlap with respect to channels of distribution sufficient to support cumulation in these investigations.

Geographic Overlap. Domestically produced forged steel fittings and imports from both the subject countries are sold throughout the contiguous United States and imports from both subject countries entered the United States at East, North, South, and West borders of entry.[66]

Simultaneous Presence in Market. Import data show that the domestic like product and subject imports from both subject countries have been present in all months of the period of investigation for which data were available.[67]

Conclusion. We find that subject imports from each country are fungible with the domestic like product and each other. We also find that subject imports from each subject country and the domestic like product are sold in the same channels of distribution and in the same geographic markets, and have been simultaneously present in the U.S. market. In light of the foregoing, we find that there is a reasonable overlap of competition between the domestic like product and imports from each subject country and between imports from each subject country. We consequently cumulate subject imports from India and Korea for purposes of our analysis of material injury by reason of subject imports.

[63] CR/PR at II-2 and Table II-1.
[64] CR/PR at II-2.
[65] Respondent Prehearing Brief at 16-17.
[66] CR/PR at Tables II-2 and IV-6.
[67] CR/PR at IV-13, Table IV-7, and Figures IV-4 & IV-5.

V. Material Injury by Reason of Subject Imports

Based on the record in the final phase of these investigations, we find that an industry in the United States is materially injured by reason of imports of dumped forged steel fittings from India and Korea and subsidized forged steel fittings from India.

A. Legal Standards

In the final phase of antidumping and countervailing duty investigations, the Commission determines whether an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[68] 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 operations.[69] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[70] In assessing whether 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.[71] 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."[72]

Although the statute requires the Commission to determine whether the domestic industry is "materially injured or threatened with material injury by reason of" unfairly traded imports,[73] 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.[74] 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

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[68] 19 U.S.C. §§ 1671d(b), 1673d(b).

[69] 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).

[70] 19 U.S.C. § 1677(7)(A).

[71] 19 U.S.C. § 1677(7)(C)(iii).

[72] 19 U.S.C. § 1677(7)(C)(iii).

[73] 19 U.S.C. §§ 1671d(b), 1673d(b).

[74] *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).

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 cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.[75]

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.[76] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[77] Nor does the

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[75] 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).

[76] Uruguay Round Agreements Act Statement of Administrative Action (SAA), H.R. Rep. 103-316 vol. I at 851-52 (1994) ("{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.

[77] 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*

"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.[78] It is clear that the existence of injury caused by other factors does not compel a negative determination.[79]

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."[80] The Commission ensures that it has "evidence in the record" to "show that the harm occurred 'by reason of' the LTFV imports," and that it is "not attributing injury from other sources to the subject imports."[81] The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[82]

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

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(…Continued)
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.").

[78] S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

[79] *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.").

[80] *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 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 comporting with the Court's guidance in *Mittal*.

[81] *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.

[82] *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.").

evidence standard.[83] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[84]

B. Conditions of Competition and the Business Cycle

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

1. Demand Conditions

U.S. demand for forged steel fittings, which are used primarily for piping systems used in the oil and gas industry, as well as the chemical and petrochemical industries, depends on the demand for energy, chemical, and petroleum products.[85] The parties agree that changes in oil and gas prices are an important condition of competition in the U.S. forged steel fittings market.[86] Oil and gas prices are drivers of U.S. oil exploration and production activity, including oil and gas rig activity, which in turn drives demand for the piping systems used in the oil and gas industries.[87] Oil and gas prices rose from 2017 to their peak level in 2018, declined in late 2018, then recovered in 2019, before declining precipitously in late 2019 and early 2020.[88] The Baker Hughes Rotary Rig Count shows the same general trend for the number of active oil rigs in North America.[89]

Apparent U.S. consumption for forged steel fittings followed similar trends. Apparent U.S. consumption for forged steel fittings increased from *** short tons in 2017 to *** short tons in 2018, before declining to *** short tons in 2019, a level *** percent higher than in 2017; it was *** percent lower in interim 2020, at *** short tons, than in interim 2019, at *** short tons.[90] The vast majority of market participants reported that demand for forged steel fittings decreased over the POI, citing a generally weakening energy sector in 2019 and the

[83] We provide in our discussion below a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

[84] *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.").

[85] CR/PR at I-3, II-7.

[86] *See, e.g.,* Petitioners Prehearing Brief at 13-15 and Respondent Prehearing Brief at 2-6.

[87] CR/PR at II-7 and II-8.

[88] CR/PR at Figure II-1.

[89] CR/PR at II-9 to II-10 and Figure II-2.

[90] CR/PR at Table C-2.

effects of the COVID-19 pandemic on the general economy and demand for energy products.[91] The record indicates that demand for forged steel fittings is inelastic. There would be no large changes in demand for the product in response to U.S. market price changes because there are no substitutes for forged steel fittings and they make up less than five percent of the cost of the entire project.[92]

2. Supply Conditions

The domestic industry supplied the largest share of the U.S. forged steel fittings market throughout the POI. There are three integrated domestic producers, with the *** accounting for *** percent of domestic production in 2019.[93] The domestic industry's share of the quantity of apparent U.S. consumption initially increased from *** percent in 2017 to *** percent in 2018 before declining to *** percent 2019; its share of apparent U.S. consumption was *** percent in interim 2019 and *** percent in interim 2020.[94]

Cumulated subject imports' share of the quantity of apparent U.S. consumption increased steadily over the POI, and was *** percent in 2017, *** percent in 2018, and *** percent in 2019; it was *** percent in interim 2019 and *** percent in interim 2020.[95] Cumulated subject imports increased from *** percent of total imports in 2017 to *** percent in 2018 and *** percent in 2019; they were *** percent in interim 2019 and *** percent in interim 2020.[96]

Nonsubject imports were the second largest source of supply to the U.S. market but declined throughout the POI. Nonsubject imports' share of the quantity of apparent U.S. consumption declined from *** percent in 2017 to *** percent in 2018 and *** percent in 2019; it was lower in interim 2020, at *** percent, than in interim 2019, at *** percent.[97]

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[91] CR/PR at II-10 and Table II-4.

[92] CR/PR at II-7.

[93] CR/PR at Table III-1. As discussed above, we found appropriate circumstances existed to exclude *** from the domestic industry as a related party.

[94] CR/PR at Table C-2. The domestic industry's share of the value of apparent U.S. consumption was *** percent in 2017, *** percent in 2018, *** percent in 2019, *** percent in interim 2019, and *** percent in interim 2020. *Id*.

[95] CR/PR at Tables IV-9, C-2. Subject imports' share of the value of apparent U.S. consumption was *** percent in 2017, *** percent in 2018, and *** percent in 2019. It was *** percent in interim 2019 and *** percent in interim 2020. *Id.*

[96] CR/PR at Table IV-2.

[97] CR/PR at Tables IV-2, C-2. Nonsubject imports' share of the value of apparent U.S. consumption was *** percent in 2017, *** percent in 2018, and *** percent in 2019. It was *** percent in interim 2019 and lower, at *** percent, in interim 2020. *Id.*

China, France, Germany, Italy, Mexico, Taiwan, and Thailand were reported sources of nonsubject imports during the POI.[98]

3. Substitutability and Other Conditions

As discussed above, forged steel fittings are typically produced according to MSS and ASTM specifications, as well as ASME design standards. We find a high degree of substitutability between domestically produced forged steel fittings and finished forged steel fittings imported from subject sources.[99] All responding domestic producers and the majority of responding U.S. importers and U.S. purchasers reported that the domestic like product and subject imports were always or frequently interchangeable.[100] [101]

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[98] CR/PR at IV-3 n.3. Imports from China, Italy, and Taiwan are subject to an antidumping duty order, and imports from China are also subject to a countervailing duty order. Imports from these countries became subject to duty deposit requirements for estimated preliminary antidumping and countervailing duties in March and May 2018 and to final antidumping duties in September and November 2018. *See Forged Steel Fittings From the People's Republic of China: Preliminary Affirmative Determination of Sales at Less Than Fair Value*, 83 Fed. Reg. 50339, 50340 (October 5, 2018) ("Commerce Preliminary AD Determination for China"); *Forged Steel Fittings From the People's Republic of China: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With Final Antidumping Duty Determination*, 83 Fed. Reg. 11170, 11171 (March 14, 2018) ("Commerce Preliminary CVD Determination for China"); *Forged Steel Fittings From Italy: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination and Extension of Provisional Measures*, 83 Fed. Reg. 22954, 22955 (May 17, 2018) (Commerce Preliminary AD Determination for Italy"); *Forged Steel Fittings From Taiwan: Preliminary Affirmative Determination of Sales at Less Than Fair Value*, 83 Fed. Reg. 22957, 22958 (April 17, 2018) (Commerce Preliminary AD Determination for Taiwan"); *Forged Steel Fittings From Italy and the People's Republic of China: Antidumping Duty Orders*, 83 Fed. Reg. 60397 (November 26, 2018); *Forged Steel Fittings From the People's Republic of China: Countervailing Duty Order*, 83 Fed. Reg. 60396 (November 26, 2018); and *Forged Steel Fittings From Taiwan: Antidumping Duty Order*, 83 Fed. Reg. 48280 (September 24, 2018).

[99] CR/PR at II-11.

[100] CR/PR at Table II-10.

[101] A majority of responding purchasers reported requiring their suppliers to become certified or qualified to sell forged steel fittings. CR/PR at II-14. None of the purchasers reported that any domestic or foreign supplier that sought certification had failed in its attempt to qualify or lost its approved status since 2017, and, as represented by Petitioners, qualification at the major oil companies takes approximately 6 months. CR/PR at II-15; Petitioners Posthearing Brief at 36; Hearing Transcript at 112. Respondent claims that a "premium" segment exists in the U.S. market. In particular, Respondent claims that due to safety concerns the three major U.S. oil companies (Exxon Mobil, Shell and Chevron) require their suppliers to be on an approved vendors or manufacturers lists ("AVLs" or "AMLs"), which generally preclude subject producers from competing in this premium segment because subject producers are not on these lists and these companies usually source forged steel fittings only from suppliers on their respective AVLs. Respondent Prehearing Brief at 8-11 and Exhibit 5, and Posthearing Brief, Response to Commission Questions at 29-31. We are not convinced that a "premium" segment exists in the U.S.

Both price and certain non-price factors are important in purchasing decisions. Price (11 firms), availability (11 firms), and quality (10 firms) were the most frequently cited top three purchasing factors by U.S. purchasers of forged steel fittings.[102] In rating the importance of 15 factors in purchasing decisions, the five factors purchasers most frequently identified as very important to purchasing decisions were availability, quality meets industry standards, product consistency, reliability of supply, and price.[103] Although purchasers reported that the domestic like product and subject imports were comparable on a majority of purchasing factors, majorities found the domestic like product superior in seven of 15 factors, including quality and availability.[104]

Majorities of domestic producers and U.S. importers reported that factors other than price were never or only sometimes important to purchasing decisions.[105] U.S. purchasers' views were mixed, with relatively even numbers of purchasers reporting that factors other than price were always, frequently, or sometimes significant.[106]

(…Continued)
market or that even if one existed forged steel fittings sourced from subject producers are excluded from competing in this segment. As noted above, forged steel fittings are highly substitutable products made to standard industry specifications. Moreover, the leading U.S. importer of forged steel fittings from Korea, ***, reported that forged steel fittings made to specification are interchangeable regardless of source. CR/PR at I-18. Respondent ***, including at least ***. *See* Respondent Prehearing Brief at Exhibit 6 and Petitioners Posthearing Brief, Answer to Commissioner Question 8 at 35. Respondent also acknowledged that it is on the AVLs of several companies located outside the United States. *See, e.g.,* Hearing Transcript at 142 (Zhang). Moreover, we note that Respondent has identified only the three oil companies as U.S. purchasers that require a supplier to be on an AML. However, that leaves many other U.S. purchasers that apparently do not purchase just from suppliers on an AML. Petitioners estimate that non-AVL purchases represent approximately 90 percent of the market in new wells and 83 percent of all rigs in the U.S. market are represented by non-AVL companies. Petitioners Posthearing Brief, Answer to Commissioner Question 16 at 62; *see also* Hearing Tr. at 200 (Schagrin) (estimating "the amount of drilling performed by the big companies that have {an} AML" is about 10-15 percent). Finally, much of the evidence of an alleged "premium" segment in the U.S. market submitted by Respondent pertains to the market in Korea and not the U.S. market. *See* Respondent Posthearing Brief at Exhibit 4.

[102] CR/PR at Table II-6.

[103] CR/PR at Table II-7. All 13 responding purchasers rated "availability" and "quality meets industry standards" as very important purchasing factors. Twelve of 13 responding purchasers rated "product consistency" and "reliability of supply" as very important, while 11 of 13 purchasers rated "price" as a very important factor in their purchasing decisions.

[103] CR/PR at Table II-9.

[104] CR/PR at Table II-9.

[105] CR/PR at Table II-12.

[106] CR/PR at Table II-12. Purchasers reported significant differences other than price included lead time, quality, availability, and technical support. CR/PR at II-20.

The majority of domestic producers' commercial shipments (*** percent) and U.S. importers' commercial shipments (*** percent) were sold through spot sales in 2019.[107] The vast majority of importers' sales were made from U.S. inventories.[108] U.S. producers of forged steel fittings reported selling exclusively to distributors throughout the POI. Importers of forged steel fittings from India and Korea reported selling to distributors, finishers/converters, and end users.[109] The primary channels of distribution for subject imports shifted over the POI from primarily to end users in 2017 to primarily to distributors and finishers/converters for the remainder of the POI.[110]

The primary raw material used in making forged steel fittings is special bar quality ("SBQ") hot-rolled steel bar. SBQ hot-rolled steel bar prices increased in 2017 and 2018, and then decreased in 2019 and interim 2020.[111] Raw materials as a share of the cost of goods sold ("COGS") for domestic forged steel fittings increased from *** percent in 2017 to *** percent in 2018 before decreasing to *** percent in 2019; it was *** percent in interim 2019 and *** percent in interim 2020.[112]

Pursuant to section 232 of the Trade Expansion Act of 1962,[113] the President proclaimed an additional 25 percent *ad valorem* duty on a series of steel mill products, including carbon and alloy hot-rolled steel bars and seamless steel tubular products, both used in the production of forged steel fittings, effective March 23, 2018. Imports of these products from different sources may be subject to quota limits or an additional 25 percent duty.[114]

Pursuant to section 301 of the Trade Act of 1974,[115] the Office of the U.S. Trade Representative imposed a 7.5 percent *ad valorem* duty on a series of products originating in

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[107] CR/PR at Table V-3. Domestic producers report they sold mostly through spot sales (*** percent), with the remainder sold through annual contracts (*** percent). U.S. importers report they sold predominantly through spot sales (*** percent), followed by short term (*** percent) and annual contracts (*** percent), with the remainder sold through long term contracts (*** percent). CR/PR at Table V-2.

[108] CR/PR at II-11 to II-12.

[109] CR/PR at Table II-1.

[110] CR/PR at Table II-1.

[111] CR/PR at V-1 and Figure V-1.

[112] Derived from CR/PR at Table VI-1 and Domestic producer Questionnaire Responses.

[113] 19 U.S.C. § 1862.

[114] CR/PR at I-10 to I-11 and n.16. *Adjusting Imports of Steel into the United States*, Presidential Proclamation 9705, dated March 8, 2018; 83 Fed. Reg. 11625 (Mar. 15, 2018). Imports of these products from Australia, Canada, and Mexico are exempt from these measures; imports from Argentina, Brazil, and Korea are subject to quota limits; imports from all other sources are subject to an additional 25 percent duty. *Id.*

[115] 19 U.S.C. § 2411.

China, including carbon and alloy hot-rolled steel bars and seamless steel tubular products that may be used in the production of forged steel fittings, effective February 14, 2020.[116] These duties are in addition to the existing section 232 duties on steel imports.

Finally, as noted above, forged steel fittings were the subject of recent trade investigations. In 2018, antidumping duty orders were issued on imports of forged steel fittings from China, Italy, and Taiwan, and a countervailing duty order was issued on imports of forged steel fittings from China.[117]

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."[118]

Cumulated subject imports from India and Korea rose sharply during the full years of the POI as nonsubject imports declined in the wake of the 2018 antidumping and countervailing duty investigations. Shipments of cumulated subject imports increased by *** percent from 2017 to 2019; they were *** short tons in 2017, *** short tons in 2018, and *** short tons in 2019.[119] Their market share by quantity was *** percent in 2017, *** percent in 2018, and *** percent in 2019. However, even with the decline in absolute terms during the COVID-19 pandemic as well as demand declines, particularly in the oil and gas

[116] CR/PR at I-11 to I-12 and n.23; 85 Fed. Reg. 3741 (Jan. 22, 2020). Carbon and alloy seamless steel tubular products were included in USTR's first list to the fourth enumeration of products originating in China that became subject to the additional 10 percent *ad valorem* section 301 duties (Annexes A and B to 84 Fed. Reg. 43304), effective September 1, 2019. *See* 84 Fed. Reg. 43304 (Aug. 20, 2019). These duties were increased to 25 percent while retaining the same effective date. *See* 84 Fed. Reg. 45821 (Aug. 30, 2019). Effective February 14, 2020, the duties were reduced to 7.5 percent. 85 Fed. Reg. 3741; *see also* U.S. notes 20(r), and 20(s) to subchapter III of HTS chapter 99, *HTSUS (2020) Revision 21*, USITC Publication 5118, September 2020, pp. 99-III-5 - 99-III-7, 99-III-223- 99-III-224.

[117] CR/PR at I-4. Preliminary duties in the form of cash deposit requirements were imposed in March 2018 (for the China CVD investigation), May 2018 (for the Taiwan AD investigation), May 2018 (for the Italy AD investigation) and October 2018 (for the China AD investigation), and the petitions in those investigations were filed on October 5, 2017. *See* Commerce Preliminary AD Determination for China, 83 Fed. Reg. at 50340; Commerce Preliminary CVD Determination for China, 83 Fed. Reg. at 11170; Commerce Preliminary AD Determination for Italy, 83 Fed Reg at 22954; Commerce Preliminary AD Determination for Taiwan, 83 Fed. Reg. 22957; and *Forged Steel Fittings from Taiwan*, Inv. No. 731-TA-1396 (Final), USITC Pub. 4823 (September 2018) at 1.

[118] 19 U.S.C. § 1677(7)(C)(i).

[119] CR/PR at Table IV-8. Shipments of cumulated subject imports were *** short tons in interim 2019 and *** short tons in interim 2020. *Id*.

industry, subject imports' share of the U.S. market remained at an elevated level during the interim 2020 period, at *** percent, which was nearly *** their market share in 2018.[120]

We find that the volume and increase in volume of subject imports during the POI are significant both in absolute terms and relative to consumption in the United States.

D. Price Effects of the Subject Imports

Section 771(7)(C)(ii) of the Tariff Act provides that, in evaluating the price effects of the 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.[121]

As addressed in section IV.B.3, the record indicates that there is a high degree of substitutability between the domestic like product and subject imports. Additionally, price (as well as several non-price factors) is an important consideration in purchasing decisions.

The Commission collected quarterly pricing data on six forged steel fittings products.[122] Three U.S. integrated producers and 11 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[123] These data yielded a total of 118 quarterly price comparisons between domestically produced forged

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[120] CR/PR at Table IV-9.

[121] 19 U.S.C. § 1677(7)(C)(ii).

[122] The pricing products were: **Product 1.** – ASME B16.11, 2" 2000 Tee (threaded), finished; **Product 2.** – ASME B16.11, 1" 2000 90 Elbow (threaded), finished; **Product 3.** – ASME B16.11, 2" 2000 90 Elbow (threaded), finished; **Product 4.** – ASME B16.11, ¾" 3000 Union (threaded), finished; **Product 5.** – ASME B16.11, 1.5" 3000 Union (threaded), finished; and **Product 6.** – ASME B16.11, 2" 3000 Coupling (threaded), finished. CR/PR at V-5 to V-6.

[123] CR/PR at V-6. Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' shipments of forged steel fittings, *** percent of U.S. shipments of subject imports from India and *** percent of U.S. shipments of subject imports from Korea in 2019. *Id.* The pricing data we have relied upon do not include domestic sales of forged steel fittings finished by *** as it has been excluded from the domestic industry, but they do include sales of finished forged steel fittings imported by ***.

steel fittings and subject imports.[124] From January 2017 to June 2020, subject imports undersold the domestic like product in 49 of the 118 quarterly comparisons, or in 34.9 percent of the comparisons, at margins ranging from 0.0 percent to 34.7 percent.[125] There were 531,591 pounds of subject imports in quarters with underselling and 711,246 pounds of subject imports in quarters with overselling for the entire period of investigation, with underselling comprising 57.2 percent of pricing comparisons by volume.[126]

Significantly, from 2018 through interim 2020, underselling of the domestic like product by subject imports increased in frequency and in volume. In 2018, subject imports undersold the domestic like product in *** of the *** quarterly comparisons, or in *** percent of the comparisons. However, subject imports undersold the domestic like product in *** of the *** quarterly comparisons, or in *** percent of the comparisons in 2019 and in *** of the *** quarterly comparisons, or in *** percent of the comparisons in interim 2020.[127] Additionally, the volume of subject imports in quarters with underselling were greater than those with overselling in both 2019 (*** pounds of subject imports involved in underselling versus *** pounds in overselling) and interim 2020 (*** pounds involved in underselling versus *** pounds in overselling).[128] The increasing frequency of underselling and the increasing percentage of subject import volume that was undersold represented by the underselling

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[124] ***, the leading importer of forged steel fittings from Korea during the POI, reported that it could not differentiate its commercial U.S. shipments and inventories of forged steel fittings by county of origin, which resulted in data reporting and reconciliation issues. *** further reported that its inventories contained forged steel fittings from China for which it was ***. The firm stated that its sales prices are based on an industry price list which is also used by other distributors and that its sales prices do not vary by country of origin. CR/PR at V-6 n.10; email from ***, dated October 16, 2020. As a consequence, *** reported that its pricing data for products 1-6 included ***. CR/PR at VII-16 n.9; *see also* *** Importer Questionnaire Response, and staff correspondence with ***, dated October 19, 2020.

We have adjusted the quantities and values reported by *** using the ratio of its imports from Korea to its total imports in each year. *See* CR/PR at IV-17, Table IV-8 note. In addition, the values reported by *** have been *** because *** stated that its reported price data did not deduct freight or rebates (*** reported that its freight costs averaged *** percent and its rebates averaged ***). *See* CR/PR at V-6, n.10. Petitioners argue that the shipment and pricing data provided by *** should be excluded because it ***. Petitioners Prehearing Brief at 21-27 and Posthearing Brief at 2, and Response to Commission Question 11 at 45-49. We have made adjustments to these data, however, to account for these discrepancies, and we are not persuaded that further adjustments to *** data or Petitioners' proposed data collection will yield more accurate data sets. We therefore have continued to rely on *** data, as adjusted, for our determinations.

[125] CR/PR at Table V-11.

[126] CR/PR at Table V-11.

[127] CR/PR at Table V-11.

[128] CR/PR at Table V-11.

correlates with a significant shift in market share from the domestic industry to subject imports.[129] Subject imports market share rose from *** percent in 2018 to *** percent in 2019, and was still at an elevated *** percent when demand was lower in interim 2020.[130]

Responses to the Commission's Purchaser Questionnaires and confirmed lost sales of forged steel fittings also indicate that subject imports were being sold at lower prices than the domestic product during the POI. Of the 13 purchasers that responded to questions on lost sales, six purchasers reported that they had purchased forged steel fittings imported from subject countries rather than the domestic product. All six of those purchasers reported that subject imports were priced lower than the domestic like product and five of six purchasers reported that price was the primary reason for the purchase of subject imports.[131] Further, majorities of responding purchasers indicated that the domestic like product was "inferior" to (meaning higher priced than) subject imports from India and Korea with respect to price.[132]

In light of the importance of price in purchasing decisions, the high degree of substitutability of the products, the increased underselling in 2019 and interim 2020, and confirmation from purchasers that subject imports were lower priced and that they sourced subject imports rather than domestic product primarily due to their lower prices, we find that the underselling by cumulated subject imports was significant. Further, this significant underselling facilitated cumulated subject imports' significant increase in market share, particularly in 2019. This increase in market share occurred as imports of forged steel fittings from nonsubject countries declined following the imposition of antidumping and countervailing duty orders on imports from China, Italy, and Taiwan in 2018. As this occurred, subject imports gained over two-thirds of the market share ceded by nonsubject imports from 2017 to 2018 and all of the market share ceded by nonsubject imports from 2018 to 2019 plus an additional

[129] Derived from CR/PR at Table V-11. We note that the average margin of underselling by subject imports also increased over the POI, from *** percent in 2017, to *** percent in 2018 to *** percent in 2019, to *** percent in the interim 2020 period. *Id.*

[130] CR/PR at Table IV-9.

[131] CR/PR at V-23.

[132] CR/PR at Table II-9. Four of six responding purchasers indicated that the domestic like product was "inferior to subject imports from India with respect to price; seven of nine responding purchasers indicated that the domestic product was "inferior" to subject imports from Korea regarding price. *Id*. Two purchasers also stated that U.S. producers had reduced prices from *** percent in order to compete with lower-priced imports from subject countries. CR/PR at V-25.

*** percentage points of market share from the domestic industry for an *** percentage point market share gain from 2018 to 2019.[133]

We have considered domestic price trends for forged steel fittings during the POI. Domestic prices increased over the period of investigation.[134] Domestic price increases ranged from *** to *** percent for all products between January 2017 and June 2020.

Import prices were only available from January 2018 to June 2020. Import price increases ranged from *** to *** percent for products 1, 2, 4, and 6 from India and from *** to *** percent for all products from Korea. Price decreases were recorded only for products 3 and 5 from India, and ranged from *** to *** percent.[135] Given this record, we cannot conclude that the cumulated subject imports had significant price-depressing effects on the prices of the domestic like product.

We have considered the evidence in the record as to whether subject imports prevented price increases that otherwise would have occurred to a significant degree. The domestic industry's ratio of COGS to sales was *** percent in 2017, *** percent in 2018, and *** percent in 2019; it was *** percent in interim 2019 and *** percent in interim 2020.[136] While unit COGS were *** percent higher in interim 2020 than in interim 2019, the domestic industry's average net sales unit value was only *** percent higher.[137] The low-priced subject imports also continued to hold a significant and elevated share of the U.S. market (*** percent) in interim 2020. However, we also take into account that the decline in demand in late 2019 and in interim 2020 contributed to the domestic industry's lower production and higher unit costs. Thus, we cannot conclude that cumulated subject imports prevented price increases which otherwise would have occurred to a significant degree.

Based on the record, we therefore find that underselling of the domestic like product by cumulated subject imports was significant. Further, this significant underselling allowed cumulated subject imports to capture significant market share, including *** percentage points of market share from 2018 to 2019 at the expense of the domestic industry. We therefore find that cumulated subject imports had significant adverse price effects on the domestic industry.

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[133] Between 2018 and 2019, subject imports gained *** percentage points of U.S. market share. Over that same time, nonsubject imports lost *** percentage points of market share, while domestic producers lost *** percentage points. CR/PR at Table C-2.

[134] CR/PR at Tables V-4 to V-9.

[135] *See* CR/PR at Table V-10.

[136] CR/PR at Table VI-3.

[137] CR/PR at Table VI-3.

E. Impact of the Subject Imports[138]

Section 771(7)(C)(iii) of the Tariff Act provides that examining the impact of subject imports, the Commission "shall evaluate all relevant economic factors which have a bearing on the state of the industry."[139] These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debts, 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."[140] [141]

The domestic industry's output indicators generally increased from 2017 to 2018 and then decreased from 2018 to 2019 and during interim 2020. The domestic industry's capacity remained relatively constant throughout the period of investigation, increasing only *** percent over the period; it was *** short tons in 2017, *** short tons in 2018, and *** short tons in 2019, and was *** short tons in interim 2019 and *** short tons in interim 2020.[142] Production increased overall by *** percent from 2017 to 2019, initially increasing

[138] The statute instructs the Commission to consider the "magnitude of the dumping margin" in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its final determination of sales at less than fair value on subject imports from India, Commerce found dumping margins ranging from 195.60 percent to 293.40 percent for all subject producers in India (with the exception of Shakti Forge Industries for which Commerce calculated a *de minimis* dumping margin). Commerce Final AD Determination (India), 85 Fed. Reg. at 66306. In its final determination of sales at less than fair value on subject imports from Korea, Commerce found dumping margins ranging from 17.08 percent to 198.38 percent. Commerce Final AD Determination (Korea), 85 Fed. Reg. at 66302. We take into account in our analysis the fact that Commerce has made final findings that subject producers in India and Korea are selling subject imports in the United States at less than fair value. In addition to this consideration, our impact analysis has considered other factors affecting domestic prices. Our analysis of the significant underselling of subject imports, described in both the price effects discussion and below, is particularly probative to an assessment of the impact of the subject imports.

[139] 19 U.S.C. § 1677(7)(C)(iii); *see also* SAA at 851 and 885 ("In material injury determinations, the Commission considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they also may demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports.").

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

[141] As noted above, *** was excluded from the domestic industry; therefore, the figures for the domestic industry's operational and financial indicators were compiled using data from the ***.

[142] CR/PR at Table C-2.

from *** short tons in 2017 to *** short tons in 2018, before decreasing to *** short tons in 2019, and was *** short tons in interim 2019 and *** short tons in interim 2020.[143] Capacity utilization fluctuated over the period of investigation, from *** percent in 2017 to *** percent in 2018 and *** percent in 2019, and was *** percent in interim 2019 and *** percent in interim 2020.[144] U.S. shipments increased overall from 2017 to 2019, initially increasing from *** short tons in 2017 to *** short tons in 2018, before decreasing to *** short tons in 2019; they were *** short tons in interim 2019 and *** short tons in interim 2020.[145] The domestic industry's market share was *** percent in 2017, *** percent in 2018, and *** percent in 2019; it was *** percent in interim 2019 and *** percent in interim 2020.[146] The domestic industry's end-of-period inventories increased *** percent from 2017 to 2019, and were *** short tons in 2017, *** short tons in 2018, and *** short tons in 2019; they were *** short tons in interim 2019 and *** short tons in interim 2020.[147]

The number of production related workers increased overall from 2017 to 2019, increasing from *** in 2017 to *** in 2018 before declining modestly to *** in 2019. Total hours worked (per 1000 hours) also increased overall from 2017 to 2019, increasing from *** in 2017 to *** in 2018 and *** in 2019. Other employment indicia increased from 2017 to 2018, and then deteriorated from 2018 to 2019. Wages paid were $*** in 2017, $*** in 2018, and $*** in 2019. Productivity was *** short tons per 1,000 hours in 2017, *** short tons per 1,000 hours in 2018, and *** short tons per 1,000 hours in 2019; it was *** short tons per 1,000 hours in interim 2019 and *** short tons per 1,000 hours in interim 2020. Unit labor costs initially decreased per short ton and then increased; they were $*** per short ton in 2017, $*** per short ton in 2018, and $*** per short ton in 2019, and were $*** per short ton in interim 2019 and $*** per short ton in interim 2020.[148]

The domestic industry's financial indicia generally improved from 2017 to 2018, then declined from 2018 to 2019, and were lower in interim 2020 than in interim 2019. Net sales by value were $*** in 2017, $*** in 2018, and $*** in 2019; they were $*** in interim 2019 and $*** in interim 2020. The domestic industry's unit sales value was $*** in 2017, $*** in 2018, and $*** in 2019; it was $*** in interim 2019 and $*** in interim 2020. Total COGS were $*** in 2017, $*** in 2018, and $*** in 2019, and $*** in interim 2019 and $*** in interim 2020;

[143] CR/PR at Table C-2.
[144] CR/PR at Table C-2.
[145] CR/PR at Table C-2.
[146] CR/PR at Table C-2.
[147] CR/PR at Table C-2.
[148] CR/PR at Table C-2.

the industry's COGS to net sales ratio was *** percent in 2017, *** percent in 2018, and *** percent in 2019; it was *** percent in interim 2019 and *** percent in interim 2020. Gross profits were $*** in 2017, $*** in 2018, and $*** in 2019; they were $*** in interim 2019 and $*** in interim 2020. Operating income was $*** in 2017, $*** in 2018, and $*** in 2019; it was $*** in interim 2019 and $*** in interim 2020. Net income was $*** in 2017, $*** in 2018, and $*** in 2019; it was $*** in interim 2019 and $*** in interim 2020. Operating income as a ratio to net sales was *** percent in 2017, *** percent in 2018, and *** percent in 2019; it was *** percent in interim 2019 and *** percent in interim 2020.[149]

The domestic industry's capital expenditures and research and development expenses were mixed from 2017 to 2019. Capital expenditures increased from $*** in 2017 to $*** in 2018, before declining to $*** in 2019; they were $*** in interim 2019 and $*** in interim 2020.[150] Research and development expenditures decreased and were $*** in 2017, $*** in 2018, and $*** in 2019; they were $*** in interim 2019 and $*** in interim 2020.[151] The domestic industry's total net assets decreased from $*** in 2017 to $*** in 2018, and increased to $*** million in 2019.[152] The industry's operating return on assets was *** percent in 2017, *** percent in 2018, and *** percent in 2019.[153]

As reviewed above, the domestic industry's output and financial indicators generally improved from 2017 to 2018 as demand increased and as nonsubject imports retreated from the market in the wake of the filing of petitions for the imposition of antidumping and countervailing duties on forged steel fittings from China, Italy, and Taiwan. As these imports rapidly declined, however, subject imports rapidly increased, which resulted in moderating the domestic industry's increases in market share and performance in 2018 and contributed to decreases in 2019. The domestic industry would have had materially greater production, shipments, and revenues than it obtained, especially from 2018 to 2019, were it not for the increasing presence of low-priced subject imports. Indeed, the domestic industry lost *** percentage points of market share from 2018 to 2019, while subject imports – which increasingly undersold the domestic like product in quarterly comparisons and in a market in which price is an important purchasing factor – gained *** percentage points of market share over this time. The domestic industry would reasonably have been expected to have more substantial shipments in 2018 and 2019 with the decline in nonsubject imports following the

[149] CR/PR at Table VI-3.
[150] CR/PR at Table C-2.
[151] CR/PR at Table C-2.
[152] CR/PR at Table C-2.
[153] CR/PR at Table VI-7.

2018 orders on forged steel fittings from China, Italy, and Taiwan. Significant and increasing underselling by cumulated subject imports in 2019, however, instead led to a rapid rise in cumulated subject imports. Cumulated subject imports gained not only the share of the market surrendered by nonsubject imports, but in 2019 also took some of the market share domestic producers had gained in 2018.[154] Had domestic producers been able to gain further market share in 2018, and continued to increase market share in 2019 rather than losing market share to subject imports, domestic producer shipments and revenue would have been higher.

In conducting our impact analysis, we have also considered the role of other factors so as not to attribute injury from other factors to subject imports. We have already discussed the role of apparent U.S. consumption in these investigations, particularly declining demand in 2019 and interim 2020. Specifically, subject imports gained *** percentage points of market share from 2018 to 2019 even as apparent domestic consumption declined in 2019. As demand further contracted in the interim 2020 period as a result of extraordinary events, particularly the advent of the COVID-19 pandemic and declines in demand in the oil and gas industry, subject imports' share of the U.S. market remained at an elevated level during the interim 2020 period, at *** percent, which was nearly *** the market share recorded in 2018. Recognizing pandemic conditions and the downward force of demand declines in interim 2020 on the domestic industry's condition at the end of the POI therefore does not rebut that the industry's performance would have been stronger in the absence of the significant volume of low-priced subject imports from India and Korea.

We have also considered the role of nonsubject imports. Nonsubject imports' share of the market declined from 2017 to 2019 and declined further in interim 2020. The declining nonsubject import volume and market share did not apply the substantial pressure on the domestic shipments that the increasing volume of subject imports exerted, as evidenced by their relative market shares. Thus, nonsubject imports' steadily declining volumes and market share do not explain the domestic industry's injury that we attribute to subject imports. Were it not for the increase in subject import market share from 2018 to 2019 and the continued elevated subject import market share in interim 2020, the domestic industry would have performed materially better than it did in the face of declining nonsubject imports, with greater production, capacity utilization, and shipments, generating more revenue and the ability to

[154] Between 2018 and 2019, subject imports gained *** percentage points of U.S. market share. Over that same time, nonsubject imports lost *** percentage points of market share, while domestic producers lost *** percentage points. CR/PR at Table C-2.

spread its fixed costs over more sales, leading to a stronger financial performance during the POI.

Accordingly, we find that cumulated subject imports had a significant adverse impact on the domestic industry.

VI. Conclusion

For the reasons stated above, we determine that an industry in the United States is materially injured by reason of cumulated subject imports of forged steel fittings from India and Korea that Commerce has found to be sold in the United States at less than fair value and subsidized by the government of India.

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 Bonney Forge Corporation ("Bonney Forge"), Mount Union, Pennsylvania and the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union ("USW"), Pittsburgh, Pennsylvania (collectively "Petitioners"), 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 forged steel fittings ("FS fittings")[1] from India and Korea. The following tabulation provides information relating to the background of these investigations.[2]

Effective date	Action
October 23, 2019	Petitions filed with Commerce and the Commission; institution of Commission investigations (84 FR 57881, October 29, 2019)
November 12, 2019	Commerce's notice of initiation of its countervailing duty investigation (84 FR 64270, November 21, 2019) and its antidumping duty investigations (84 FR 64265, November 21, 2019)
December 9, 2019	Commission's preliminary determinations (84 FR 67959, December 12, 2019)
March 30, 2020	Commerce's preliminary countervailing duty determination and alignment of final determination with final antidumping duty determination (85 FR 17536, March 30, 2020)
May 28, 2020	Commerce's preliminary antidumping duty determinations, postponement of final determination, and extension of provisional measures (85 FR 32007 and 32010, May 28, 2020); scheduling of final phase of Commission investigations (85 FR 37109, June 19, 2020)
October 19, 2020	Commerce's final antidumping duty determinations (85 FR 66306 and 66302, October 19, 2020)
October 20, 2020	Commerce's final countervailing duty determination (85 FR 66535, October 20, 2020)
October 15, 2020	Commission's hearing
November 10, 2020	Commission's vote
November 25, 2020	Commission's views

[1] See the section entitled "The subject merchandise" in Part I of this report for a complete description of the merchandise subject in this proceeding.

[2] Pertinent *Federal Register* notices are referenced in appendix A, and may be found at the Commission's website (www.usitc.gov). Appendix B presents the witnesses who appeared at the Commission's hearing.

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 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--[3]

> *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.*

[3] Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

In addition, Section 771(7)(J) of the Act (19 U.S.C. § 1677(7)(J)) provides that—[4]

(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 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, 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

FS fittings are generally used in piping systems for oil and gas, in chemical plants, petrochemical plants, power plants, and industrial piping systems that require distribution of liquids and gases under high pressure or of gases and liquids that are corrosive in nature. The leading U.S. producers of FS fittings are Bonney Forge and Capitol Manufacturing, while leading producers of FS fittings outside the United States include *** of India and *** of Korea. The leading U.S. importers of FS fittings from India are ***, while the leading importers of FS fittings from Korea are ***. Leading importers of FS fittings from nonsubject sources (primarily China and Mexico) include ***. U.S. purchasers of FS fittings are principally distribution firms, such as MRC, DNOW, and Ferguson.[5]

[4] Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.
[5] Conference transcript, p. 24 (O' Connell).

Apparent U.S. consumption of FS fittings totaled approximately 25,567 short tons ($170.8 million) in 2019. Currently, six firms are known to produce FS fittings in the United States. U.S. producers' U.S. shipments of FS fittings totaled *** short tons ($***) in 2019, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. shipments of imports from subject sources totaled *** short tons ($***) in 2019 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. shipments of imports from nonsubject sources totaled *** short tons ($***) in 2019 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 firms that accounted for the vast majority of U.S. production of FS fittings during 2019. U.S. imports are based on proprietary Customs records and questionnaire data obtained from 31 firms that staff believe account for the majority of U.S. imports of FS fittings from India, Korea, and all other sources in 2019.[6]

Previous and related investigations

FS fittings have been the subject of prior countervailing and antidumping duty investigations in the United States.

On October 5, 2017, Bonney Forge, Mount Union, Pennsylvania, and USW, Pittsburgh, Pennsylvania submitted petitions alleging that an industry in the United States was materially injured and threatened with material injury by reason of subsidized imports of FS fittings from China and LTFV imports of FS fittings from China, Italy, and Taiwan. On September 14, 2018, the Commission determined that an industry in the United States was materially injured by reason of imports of FS fittings from Taiwan found by Commerce to be sold in the United States at LTFV.[7] Additionally, on November 19, 2018, the Commission determined that an industry in the United States was materially injured by reason of imports of FS fittings from China and Italy found by Commerce to be sold at LTFV and to be subsidized by the government of China.[8]

[6] This includes firms that represented the vast majority of such imports in the Commission's investigations concerning FS fittings from China, Italy, and Taiwan (Inv. Nos. 701-TA-589 and 731-TA-1394-1396).

[7] 83 FR 47640, September 20, 2018.

[8] 83 FR 60445, November 26, 2018.

Effective September 24, 2018, Commerce issued an antidumping duty order on U.S. imports of FS fittings from Taiwan. Effective November 26, 2018, Commerce issued antidumping duty orders on U.S. imports of FS fittings from China and Italy and a countervailing duty order on U.S. imports of FS fittings from China.[9]

Nature and extent of subsidies and sales at LTFV

Subsidies

On October 20, 2020, Commerce published a notice in the *Federal Register* of its final determination of countervailable subsidies for producers and exporters of FS fittings from India.[10] Table I-1 presents Commerce's findings of subsidization of FS fittings in India.

Table I-1
FS fittings: Commerce's final subsidy determination with respect to imports from India

Entity	Final countervailable subsidy margin (percent)
Shakti Forge Industries Pvt. Ltd. and Shakti Forge (collectively, Shakti)	2.64
Nikoo Forge Pvt. Ltd., Pan International, Patton International Limited, Sage Metals Limited, Kirtanlal Steel Private Limited, Disha Auto Components Private Limited, Dynamic Flow Products, Sara Sae Private Limited, and Parveen Industries Private Limited	300.77
All others	2.64

Source: 85 FR 66535, October 20, 2020.

Sales at LTFV

On October 19, 2020, Commerce published a notice in the *Federal Register* of its final determination of sales at LTFV with respect to imports from India and Korea.[11] Tables I-2 and I-3 present Commerce's dumping margins with respect to imports of FS fittings from India and Korea.

[9] 83 FR 48280, September 24, 2018; and 83 FR 60397 and 83 FR 60396, November 26, 2018.
[10] 85 FR 66535, October 20, 2020.
[11] 85 FR 66306 and 66302, October 19, 2020.

Table I-2
FS fittings: Commerce's final weighted-average LTFV margins with respect to imports from India

Exporter/Producer	Final dumping margin (percent)
Shakti Forge Industries Pvt. Ltd	0.00[1]
Nikoo Forge Pvt. Ltd.	293.40[2]
Pan International	293.40[2]
Disha Auto Components Pvt. Ltd	293.40[2]
Dynamic Flow Products	293.40[2]
Kirtanlal Steel Pvt Ltd	293.40[2]
Metal Forgings Pvt Ltd	293.40[2]
Patton International Limited	293.40[2]
Sage Metals Limited	293.40[2]
Technotrak Engineers	293.40[2]
All others	195.60

[1] De minimis.
[2] Adverse facts available.

Note: Commerce preliminarily determines that Shakti and Shakti Forge are a single entity.

Source: 85 FR 66306, October 19, 2020.

Table I-3
FS fittings: Commerce's final weighted-average LTFV margins with respect to imports from Korea

Exporter/Producer	Final dumping margin (percent)
Samyoung Fitting Co., Ltd	17.08
Sandong Metal Industry Co., Ltd	198.38[1]
ZEOtech Co., Ltd	198.38[1]
Pusan Coupling Corporation	198.38[1]
Shinchang Industries	198.38[1]
Shinwoo Tech	198.38[1]
Titus Industrial Korea Co, Ltd	198.38[1]
All others	17.08

[1] Adverse facts available.

Source: 85 FR 66302, October 19, 2020.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:[12]

> *The merchandise covered by this investigation is carbon and alloy forged steel fittings, whether unfinished (commonly known as blanks or rough forgings) or finished. Such fittings are made in a variety of shapes including, but not limited to, elbows, tees, crosses, laterals, couplings, reducers, caps, plugs, bushings, unions (including hammer unions), and outlets. Forged steel fittings are covered regardless of end finish, whether threaded, socket-weld or other end connections. The scope includes integrally reinforced forged branch outlet fittings, regardless of whether they have one or more ends that is a socket welding, threaded, butt welding end, or other end connections.*
>
> *While these fittings are generally manufactured to specifications ASME B16.11, MSS SP-79, MSS SP-83, MSS-SP-97, ASTM A105, ASTM A350 and ASTM A182, the scope is not limited to fittings made to these specifications.*
>
> *The term forged is an industry term used to describe a class of products included in applicable standards, and it does not reference an exclusive manufacturing process. Forged steel fittings are not manufactured from casings. Pursuant to the applicable standards, fittings may also be machined from bar stock or machined from seamless pipe and tube.*
>
> *All types of forged steel fittings are included in the scope regardless of nominal pipe size (which may or may not be expressed in inches of nominal pipe size), pressure class rating (expressed in pounds of pressure, e.g., 2,000 or 2M; 3,000 or 3M; 6,000 or 6M; 9,000 or 9M), wall thickness, and whether or not heat treated.*
>
> *Excluded from this scope are all fittings entirely made of stainless steel. Also excluded are flanges, nipples, and all fittings that have a maximum pressure rating of 300 pounds per square inch/PSI or less.*
>
> *Also excluded from the scope are fittings certified or made to the following standards, so long as the fittings are not also manufactured to the specifications of ASME B16.11, MSS SP-79, MSS SP-83, MSS SP-97, ASTM A105, ASTM A350 and ASTM A182:*

[12] 85 FR 66306 and 66302, October 19, 2020; and 85 FR 66535, October 20, 2020.

- *American Petroleum Institute (API) 5CT, API 5L, or API 11B;*
- *American Society of Mechanical Engineers (ASME) B16.9;*
- *Manufacturers Standardization Society (MSS) SP-75;*
- *Society of Automotive Engineering (SAE) J476, SAE J514, SAE J516, SAE J517, SAE J518, SAE J1026, SAE J1231, SAE J1453, SAE J1926, J2044 or SAE AS 35411;*
- *Hydraulic hose fittings (e.g., fittings used in high pressure water cleaning applications, in the manufacture of hydraulic engines, to connect rubber dispensing hoses to a dispensing nozzle or grease fitting) made to ISO 12151-1, 12151-2, 12151-3, 12151-4, 12151-5, or 12151-6;*
- *Underwriter's Laboratories (UL) certified electrical conduit fittings;*
- *ASTM A153, A536, A576, or A865;*
- *Casing conductor connectors made to proprietary specifications;*
- *Machined steel parts (e.g., couplers) that are not certified to any specifications in this scope description and that are not for connecting steel pipes for distributing gas and liquids;*
- *Oil country tubular goods (OCTG) connectors (e.g., forged steel tubular connectors for API 5L pipes or OCTG for offshore oil and gas drilling and extraction);*
- *Military Specification (MIL) MIL-C-4109F and MIL-F-3541; and*
- *International Organization for Standardization (ISO) ISO6150-B.*

Also excluded from the scope are assembled or unassembled hammer unions that consist of a nut and two subs. To qualify for this exclusion, the hammer union must meet each of the following criteria: (1) The face of the nut of the hammer union is permanently marked with one of the following markings: "FIG 100," "FIG 110," "FIG 100C," "FIG 200," "FIG 200C," "FIG 201," "FIG 202," "FIG 206," "FIG 207," "FIG 211," "FIG 300," "FIG 301," "FIG 400," "FIG 600," "FIG 602," "FIG 607," "FIG 1002," "FIG 1003," "FIG 1502," "FIG 1505," "FIG 2002," or "FIG 2202"; (2) the hammer union does not bear any of the following markings: "Class 3000," "Class 3M," "Class 6000," "Class 6M," "Class 9000," or "Class 9M"; and (3) the nut and both subs of the hammer union are painted.

Also excluded from the scope are subs or wingnuts made to ASTM A788, marked with "FIG 1002," "FIG 1502," or "FIG 2002," and with a pressure rating of 10,000 PSI or greater. These parts are made from AISI/SAE 4130, 4140, or 4340 steel and are 100 percent magnetic particle inspected before shipment.

Also excluded from the scope are tee, elbow, cross, adapter (or "crossover"), blast joint (or "spacer"), blind sub, swivel joint and pup joint which have wing nut or not. To qualify for this exclusion, these products

must meet each of the following criteria: (1) Manufacturing and Inspection standard is API 6A or API 16C; and, (2) body or wing nut is permanently marked with one of the following markings: "FIG 2002," "FIG 1502," "FIG 1002," "FIG 602," "FIG 206," or "FIG any other number" or MTR (Material Test Report) shows these FIG numbers.

To be excluded from the scope, products must have the appropriate standard or pressure markings and/or be accompanied by documentation showing product compliance to the applicable standard or pressure, e.g., "API 5CT" mark and/or a mill certification report.

Tariff treatment

Based upon the scope set forth by Commerce, information available to the Commission indicates that the merchandise subject to these investigations are imported under Harmonized Tariff Schedule of the United States ("*HTSUS*" or "HTS") statistical reporting numbers 7307.92.3010, 7307.92.3030, 7307.92.9000, 7307.93.3010, 7307.93.3040, 7307.93.6000, 7307.93.9010, 7307.93.9040, 7307.93.9060, 7307.99.1000, 7307.99.3000, 7307.99.5045, and 7307.99.5060. The column 1-general rate of duty is "Free" for HTS subheading 7307.92.30, 6.2 percent ad valorem for HTS subheadings 7307.92.90 and 7307.93.30, 5.5 percent ad valorem for HTS subheading 7307.93.60, 4.3 percent ad valorem for HTS subheading 7307.93.90, 3.7 percent ad valorem for HTS subheading 7307.99.10, 3.2 percent ad valorem for HTS subheading 7307.99.30, and 4.3 percent ad valorem for HTS subheading 7307.99.50. FS fittings may also be imported under HTS statistical reporting number 7326.19.0010. The general rate of duty is 2.9 percent ad valorem for HTS subheading 7326.19.00.[13]

FS fittings originating in Korea are eligible for special duty rates under the United States-Korea Free Trade Agreement Implementation Act.[14] The column 1-special rate of duty for FS fittings originating in Korea is "Free" for HTS subheadings 7307.92.90, 7307.99.10, 7307.99.30, 7307.99.50, and 7326.19.00; 1.2 percent *ad valorem* for HTS subheading 7307.93.30; 1.1 percent *ad valorem* for HTS subheading 7307.93.60; and 0.8 percent *ad valorem* for HTS subheading 7307.93.90.[15] Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

[13] *HTSUS (2020) Revision 21*, USITC Publication 5118, September 2020, pp. 73-22 - 73-23, 73-41, 73-43.

[14] *HTSUS (2020) Revision 21,* USITC Publication 5118, September 2020, HTS General Note 3(c), p. GN-7.

[15] *HTSUS (2020) Revision 21*, USITC Publication 5118, September 2020, pp. 73-22 - 73-23, 73-41.

Section 232 and 301 tariff treatment

HTS subheadings 7307.92, 7307.93, 7307.99, and 7326.19 were not included in the enumeration of steel mill products that are subject to the additional 25 percent ad valorem Section 232 national-security duties, effective March 23, 2018.[16] However, carbon and alloy hot-rolled steel bars and seamless steel tubular products, both used in the production of FS fittings, are included, and thus are subject to the additional 25-percent ad valorem section 232 duties. At this time, imports of these products originating in Australia, Canada, and Mexico are exempt from duties or quota limits; imports originating in Argentina, Brazil, and Korea are exempt from duties but instead are subject to quota limits;[17] and imports originating in all other

[16] Section 232 of the Trade Expansion Act of 1962, as amended (19 U.S.C. 1862) authorizes the President, on advice of the Secretary of Commerce, to adjust the imports of an article and its derivatives that are being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security. *Adjusting Imports of Steel into the United States*, Presidential Proclamation 9705, March 8, 2018, 83 FR 11625, March 15, 2018. Carbon and alloy hot-rolled steel bars are classifiable under HTS headings 7213, 7214, 7215, 7227, and 7228. Seamless carbon and alloy steel tubular products are classifiable under HTS heading 7304.

[17] The composition of the quota product groups may not exactly match the product scope of this investigation. See the CBP quota bulletin, "QB 20-602 2020 2QTR Absolute Quota for Steel Mill Articles: Argentina, Brazil and South Korea," March 11, 2020, available at https://www.cbp.gov/trade/quota/bulletins/qb-20-602-2020-2qtr-absolute-quota-steel-mill-articles-argentina-brazil-and-south-korea, for a full list of product groups as well as their specified quotas and HTS definitions for second-quarter 2020.

countries are subject to the 25 percent additional duties.[18] See also U.S. notes 16(a) and 16(b) in subchapter III of HTS chapter 99.[19]

Nonsubject FS fittings originating in China are subject to an additional 10 percent ad valorem duty under Section 301 of the Trade Act of 1974, as amended ("Trade Act"),[20] effective September 24, 2018.[21] This additional duty was subsequently escalated to 25 percent ad

[18] The President also issued subsequent Proclamations to exempt or adjust these duties for selected U.S. trade partners:

- Presidential Proclamation 9711, March 22, 2018, 83 FR 13361, March 28, 2018, exempted iron and steel mill products originating in Argentina, Australia, Brazil, Canada, the European Union ("EU") member countries, Korea, and Mexico, as of March 23, 2018.
- Presidential Proclamation 9740, April 30, 2018, 83 FR 20683, May 7, 2018, continued the duty exemptions for Argentina, Australia, Brazil, but with annual import quota limits on iron and steel mill products originating in Korea, as of May 1, 2018; and did not continue the duty exemptions on iron and steel mill products originating in Canada, Mexico, and the EU member countries, as of June 1, 2018.
- Presidential Proclamation 9759, May 31, 2018, 83 FR 25857, June 5, 2018, continued the duty exemptions but with annual import quota limits on iron and steel mill products originating in Argentina, Brazil, and Korea, as of June 1, 2018.
- Presidential Proclamation 9772, August 10, 2018, 83 FR 40429, August 15, 2018, continued the duty exemptions on iron and steel mill products originating in Australia, and continued the duty exemptions with annual import quota limits on iron and steel mill products originating in Argentina, Brazil, and Korea, as of June 1, 2018; but doubled the duty rate to 50 percent on such imported products originating in Turkey, as of August 13, 2018.
- Presidential Proclamation 9886, May 16, 2019, 84 FR 23421, May 21, 2019, restored the original additional duty rate of 25 percent on steel mill products originating from Turkey, as of May 21, 2019.
- Presidential Proclamation 9894, May 19, 2019, 84 FR 23987, May 23, 2019, restored the duty exemptions on steel mill products originating in Canada and Mexico, as of May 20, 2019.

[19] *HTSUS (2020) Revision 21*, USITC Publication 5118, September 2020, pp. 99-III-5 - 99-III-7, 99-III-223 - 99-III-224.

[20] Section 301 of the Trade Act (19 U.S.C. § 2411) authorizes the Office of the United States Trade Representative ("USTR"), at the direction of the President, to take appropriate action to respond to a foreign country's unfair trade practices. Following investigations into "China's acts, policies, and practices related to technology transfer, intellectual property, and innovation" (82 FR 40213, August 24, 2017), USTR published its determination, on April 6, 2018, that the acts, policies, and practices of China under investigation are unreasonable or discriminatory and burden or restrict U.S. commerce, and are thus actionable under section 301(b) of the Trade Act (83 FR 14906, April 6, 2018).

[21] HTS subheading 7307.92.30, 7307.92.90, 7307.93.30, 7307.93.60, 7307.93.90, 7307.99.10, 7307.99.30, 7307.99.50, and 7326.19.00 were included in the USTR's third enumeration ("Tranche 3" or "List 3") of products originating in China that became subject to the initial 10 percent ad valorem duty (Annexes A and C of annexes A and C of 83 FR 47974, September 21, 2018), effective September 24, 2018.

valorem, effective May 10, 2019.[22] In addition, the carbon and alloy hot-rolled steel bars and seamless steel tubular products for production of FS fittings, if originating in China, are also subject to an additional 7.5 percent ad valorem Section 301 duty, effective February 14, 2020.[23] See also U.S. notes 20(r), and 20(s) to subchapter III of HTS chapter 99.[24] These duties are in addition to the existing Section 232 duties on steel imports.

The product

Description and applications

FS fittings are used in piping systems for oil and gas, in chemical and petrochemical plants, electric power-generating plants, and industrial piping systems for distributing liquids and gases under high pressure or liquids and gases that are corrosive in nature. Fittings connect the pipes that are made to withstand the higher pressures in such systems, and the fittings themselves must also be able to withstand such pressures.

FS fittings typically are produced from steel that meets the ASTM A105 or similar standards. They are connected to pipes (or couplings) either by being threaded or by welding (figure I-1). *Socket-weld fittings* are recommended for connections that require strength and duration. These types of forged fittings have a socket where the connecting pipe has to be sealed and welded (with a fillet-type seal weld) for installation. They are available in sizes up to 4 inches and in pressure ratings from class 3000 to class 6000, and class 9000. Typical applications of socket-weld fittings are:

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[22] Escalation of this duty to 25 percent ad valorem was rescheduled from January 1, 2019 (annex B of 83 FR 47974, September 21, 2018) to March 2, 2019 (83 FR 65198, December 19, 2018), but was subsequently postponed until further notice (84 FR 7966, March 5, 2019), and then implemented, effective May 10, 2019 (84 FR 20459, May 9, 2019). A subsequent modification was provided for subject goods exported from China prior to May 10, 2019 not to be subject to the escalated 25 percent duty, as long as such goods entered into the United States prior to June 1, 2019 (84 FR 21892, May 15, 2019). See also U.S. notes 20(e) and 20(f) to subchapter III of HTS chapter 99. *HTSUS (2020) Revision 21*, USITC Publication 5118, September 2020, pp. 99-III-23 - 99-III-24, 99-III-42, 99-III-233.

[23] HTS subheadings 7213, 7214, 7215, 7227, and 7228 for carbon and alloy hot-rolled steel bars and HTS heading 7304 for carbon and alloy seamless steel tubular products were included in USTR's first list to the fourth enumeration ("List 1 to Tranche 4") of the products originating in China that became subject to the additional 10 percent ad valorem Section 301 duties (Annexes A and B to 84 FR 43304), effective September 1, 2019 (84 FR 43304, August 20, 2019), which was subsequently increased to 15 percent while retaining the same effective date (84 FR 45821, August 30, 2019). Effective February 14, 2020, the 15 percent duty was reduced to 7.5 percent for the products enumerated on List 1 to Tranche 4 (85 FR 3741, January 22, 2020).

[24] *HTSUS (2020) Revision 21*, USITC Publication 5118, September 2020, pp. 99-III-84 - 99-III-85, 99-III-94 - 99-III-95, 99-III-235.

- Steam
- Explosive fluids or gas
- Acids and toxic fluids
- Long-service or durable installations

Figure I-1
Socket weld, butt weld, and threaded fittings

Socket-weld elbow fitting

Butt-weld elbow fitting

Threaded elbow fitting

Note: Socket-weld and threaded fittings are within the product scope of these investigations. Butt-weld fittings are outside the product scope of these investigations, but a butt-weld elbow fitting image is included in Figure I-1 for comparison purposes with the socket-weld fitting. Counsel for the Petitioners testified that butt-weld fittings are produced from different raw materials and in separate production processes that use different manufacturing equipment. Butt-weld fittings are produced from pipe that is bent to produce the desired fitting shape while the vast majority of FS fittings are forged. Conference transcript, pp. 58-59 (Drake).

Source of photographs: Tianjin Profound Multinational Trade Co. Ltd. ("TPMCSTEEL"), "What Are the Differences Between Socket Weld and Butt Weld?" http://www.tpmcsteel.com/quality/butt-weld-socket-weld/, retrieved August 31, 2020.

Threaded fittings are common for pipeworks—such as water-distribution, fire-protection, and cooling systems—which are low-pressure applications, or installations that are not subject to vibration, elongation or bending forces. However, threaded fittings are generally avoided when the temperature of the fluid is subject to consistent variations, as sudden temperature changes would crack the threaded connection between the fitting and the pipe. Threaded fittings are available in sizes up to four inches and in pressure ratings from class 2000 to 3000 and 6000.

Common shapes of FS fittings (figure I-2) include:

- 45- and 90-degrees elbows
- Equal and reducing tees
- Laterals
- Street elbows

Figure I-2
Common shapes for FS fittings

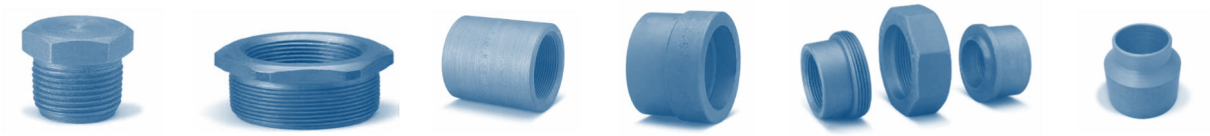
90-degree elbow **Tee** **Lateral** **Street elbow**

Source: Petition, Exhibit I-5 at 4.

Examples of other forged products that belong to the family of FS fittings (figure I-3) include:

- Plugs: round-, square-, or hex-head shaped
- Bushings: flush or hexagonal
- Couplings: half or full
- Reducers and reducer inserts
- Unions
- Welding bosses
- Outlets

Figure I-3
Examples of other FS fittings



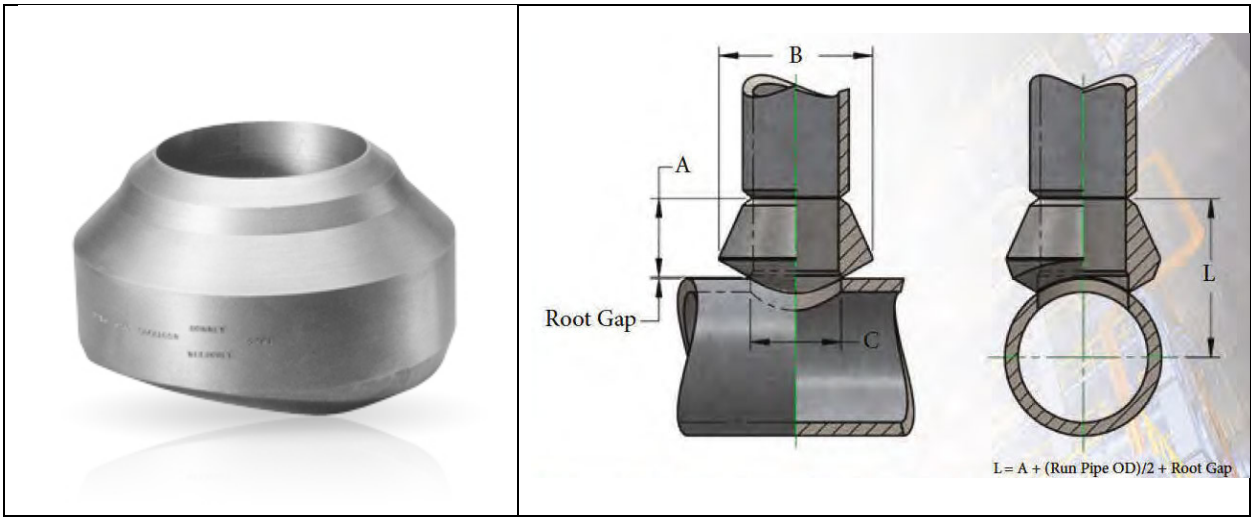
Plug **Bushing** **Coupling** **Reducer** **Unions** **Boss**

Source: Petition, Exhibit I-5 at 4-5.

Integrally reinforced forged branch outlet fittings are an example of an FS fitting outlet (figure I-4). These types of outlet fittings are used to connect a branch pipe to a header pipe, primarily in oil and gas applications. They may be attached to the pipes through a threaded connection or a butt-welded connection.[25] They are typically available in pressure ratings from class 3000 to 6000 and 9000.

[25] The scope of these investigations excludes butt-weld fittings by specification (ASME B16.9 and MSS SP-75), rather than by description. Although integrally reinforced branch outlet fittings may have butt-welded connections, they are specifically included in the scope of these investigations. Integrally reinforced branch outlet fittings are made from forged material like other FS fittings and they are made (continued...)

Figure I-4
Integrally reinforced forged branch outlet fittings



Source: Bonny Forge, "Weldolet," http://www.bonneyforge.com/products.php?pg=branch&subpg=weldolet, retrieved August 31, 2020. Petition, Exhibit I-6 at 18.

Manufacturing processes

The manufacturing process for FS fittings can be divided into two steps: forging and finishing.

Forging operations

The manufacturing of FS fittings normally begins with impression-die forging, also called "closed-die forging" (figure I-5).[26] In closed-die forging, a heated piece of steel bar is placed in a die resembling a mold, and then a hammer die is dropped onto the steel piece, causing the metal to flow and fill the die shapes. These metal-forming dies must be precisely machined and carefully heat-treated to form the steel piece correctly, as well as to withstand the tremendous forces involved. Forging dies are usually made of machine-cut and polished, high-alloy steel. The machinery throughout the process is highly specialized, and facilities must be equipped to

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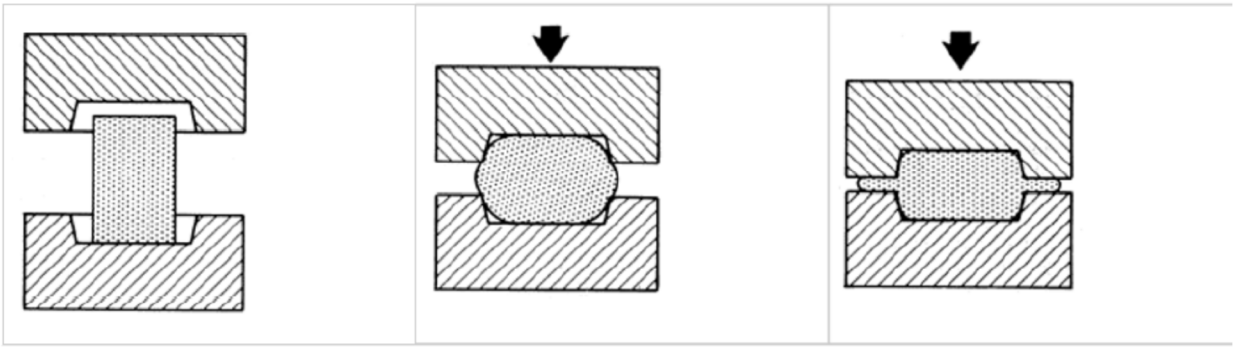
from the same grades of steel as other FS fittings. Branch outlet fittings are also made by the same producers, on the same equipment, and by the same manufacturing process as other FS fittings. Petition, pp. 6, 9.

[26] Alternatively, FS fittings can also be produced using an open-die forging process. Conference transcript, p. 64 (Almer). For both closed-die forging and open-die forging, pressure is applied to a work piece placed between two dies. However, the dies in the open-die process do not completely enclose the work piece; generally, it is the sides of the work piece that are unenclosed. An advantage of the open-die forging process is that the size of the forging is limited, at least in theory, only by the maximum possible size of a work piece. Forging Industry Association, "Types of Forging Processes," https://www.forging.org/types-of-forging-processes, retrieved August 31, 2020.

melt and move steel, as well as have the ability to absorb the shocks and vibrations generated by the hammering process. The forging process has been improved in recent years through increased automation, which includes induction heating, partial mechanical positioning and manipulation, and direct heat treatment of parts after forging.

Figure I-5
Closed-die forging process



Heated work piece is placed between two dies	Pressure is applied to the work piece	The height of work piece decreases and its width increases

Source: Forging Industry Association, "Impression Die Forging Process Operations," https://www.forging.org/impression-die-forging-process-operations, retrieved August 31, 2020, descriptive text added by USITC staff.

Forging produces steel pieces that are stronger than an equivalent cast or machined part. As the metal is shaped during the forging process, its internal grain structure forms to follow the general shape of the part. As a result, the grain structure is continuous throughout the part, giving rise to a steel product with improved strength characteristics. Forgings generally have approximately a 20-percent higher strength-to-weight ratio compared to cast or machined parts of the same material.

Finishing operations

After receipt of the rough forgings, a machining and assembly shop uses a line of metal-removal equipment, including turning, boring, milling, drilling, grinding, polishing and welding to complete the manufacture of FS fittings (figure I-6).[27] A range of coatings and treatments may be applied to protect the performance properties of the products. Certain

[27] After FS fittings are machined, they can undergo an optional "normalization" process to add toughness to the fittings. In the normalization process the machined FS fittings are heated to 1,675 degrees in a furnace. The amount of time the FS fitting stays in the furnace depends on the wall thickness of the fittings. Normalized FS fittings are mainly used in cold weather environments, such as Canadian markets. Conference transcript, pp. 62-63 (Almer).

products are assembled and adjusted by teams of trained personnel. All parts are labeled and documented to ensure their traceability, all the way back to the original input materials. The finished parts undergo rigorous quality and functionality tests before being washed, labeled, packed, and shipped.

Figure I-6
FS fittings: Rough (unfinished) and finished

Note: The FS fitting on the left is unfinished and the fitting on the right is finished.

Source: *Forged Steel Fittings from Taiwan, Investigation No. 731-TA-1396 (Final)*, USITC Publication 4823, September 2018, p. I-15.

Most FS fittings are forged but there are certain products within the scope of these investigations which are not forged (i.e., the raw material is not forged into a rough fitting shape prior to all other steps in the manufacturing process). The final shapes of these fittings do not require that they be forged into a rough shape prior to finishing. For example, a coupling can be produced from round bar or tube. Aside from the lack of forging, the steps taken to produce FS fittings which are not forged are the same as the steps taken to produce FS fittings that must be forged into shape prior to further manufacturing.[28]

Producers that perform both the forging and the machining and finishing operations are considered to be integrated producers. There are other producers, "finishers" or "converters," that acquire the rough forgings and only perform the machining and finishing operations. The three domestic integrated producers of FS fittings are Bonney Forge, Capitol Manufacturing, and Penn Machine, while Anvil operates finishing facilities for FS fittings in the United States.[29]

[28] Petitioners' postconference brief, Answers to Staff Questions, pp. 1-2.
[29] Ibid, p. 7.

Domestic like product issues

The petitioners propose a single domestic like product consisting of all FS fittings, co-extensive with the scope in these investigations. Petitioners argue that the domestic like product should include butt-weld outlets, but should not be broadened to cover out-of-scope merchandise such as butt-weld fittings made from bent pipe and flanges.[30] In these final phase investigations, no party requested data or other information necessary for analysis of the domestic like product.[31] Respondent Samyoung did not comment on the domestic like product definition.[32]

[30] Petition, pp. 12-14; and Petitioners' prehearing brief, p. 3.

[31] Petitioners' and respondent Templar Industries' comments on draft questionnaires, February 7, 2020.

[32] See generally respondent Samyoung's prehearing and posthearing briefs.

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

U.S. market characteristics

FS fittings are connection components for pipes used primarily in the oil and gas industry, as well as in chemical, petrochemical, and power plants. FS fittings sold in the United States typically are produced according to Manufacturers Standardization Society (MSS) and American Society for Testing Materials (ASTM) specifications, as well as American Society of Mechanical Engineers (ASME) design standards.[1]

U.S. producers include integrated producers that perform both the forging and machining and finishing operations, and finishers/converters. Most responding firms (3 of 4 U.S. producers and 20 of 22 importers) reported that there is no market for unfinished FS fittings. When asked to describe their efforts to sell unfinished FS fittings, most firms did not respond or indicated that they did not sell unfinished product. Importer *** stated that its FS fittings from Korea are not competitive with imports from India, China, or other countries and added that it only sells unfinished fittings when a customer specifically seeks its product quality. Importer *** stated that even though it does not purchase or sell unfinished FS fittings, there is a market to purchase unfinished product and finish it in the United States in order to sell it as a domestic product. Firms reported the following reasons for not selling unfinished FS fittings: no demand for unfinished forgings (2 U.S. producers and 12 importers), do not want to supply competitors (3 U.S. producers and 6 importers), and not profitable (no U.S. producers and 4 importers). ***.[2] ***.

Most responding firms (all U.S. producers and 21 of 24 importers) reported no changes in their product mix or marketing of FS fittings since January 1, 2017. Of the three importers that reported changes, one firm, ***, stated that consolidation of domestic distributors has changed their product mix. Importer *** stated that companies like *** are selling directly to end users and distributors; and *** stated that an increase in private label imports in the U.S. market has changed its product mix.

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[1] *Forged Steel Fittings from Taiwan, Investigation No. 731-TA-1396 (Final)*, USITC Publication 4823, September 2018, p. II-1.

[2] *Forged Steel Fittings from India and Korea, Investigation No. 731-TA-631 (Preliminary)*, *** importer questionnaire response.

Apparent U.S. consumption of FS fittings increased by 2.1 percent during 2017-19. It was 56.9 percent lower in January-June 2020 than in January-June 2019.

U.S. purchasers

The Commission received 13 usable questionnaire responses from firms that had purchased FS fittings since January 2017.[3] [4] All 13 responding purchasers are distributors, and they reported selling FS fittings to firms in a variety of domestic industries, including oil and gas, plumbing, automobile manufacturers, cold storage/commercial refrigeration, power companies, maintenance and repair firms, supply stores, and mechanical contractors. Responding U.S. purchasers were located throughout the United States. The largest responding purchasers of FS fittings were ***.

Channels of distribution

U.S. producers reported selling *** to distributors, as shown in table II-1. Imported product from Korea was shipped mainly to distributors. The majority of imports from India went to finishers/converters in 2017 and 2019 and to distributors in 2018. Nonsubject imports were sold to all three channels, with distributors accounting for the largest portion of sales. Distributors of FS fittings include national distributors of pipes, valves, and fittings; regional distributors; and independent distributors.[5]

[3] The following firms provided purchaser questionnaire responses: ***.

[4] Of the 12 purchasers that provided purchase data, 10 purchased the domestic FS fittings, 2 purchased subject imports from India, 5 purchased subject imports from Korea, and 8 purchased imports of FS fittings from other sources (including unknown sources). One purchaser, ***, did not provide data on its purchases.

[5] Conference transcript, p. 24 (O'Connell).

Table II-1
FS fittings: U.S. producers' and importers' U.S. commercial shipments, by sources and channels of distribution, 2017-19, January 2017 to June 2019, January to June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Share of U.S. shipments (percent)				
U.S. producers: to Distributors	***	***	***	***	***
to Finishers / converters	***	***	***	***	***
to End users	***	***	***	***	***
U.S. importers: India to Distributors	***	***	***	***	***
to Finishers / converters	***	***	***	***	***
to End users	***	***	***	***	***
U.S. importers: Korea to Distributors	***	***	***	***	***
to Finishers / converters	***	***	***	***	***
to End users	***	***	***	***	***
U.S. importers: Subject sources to Distributors	***	***	***	***	***
to Finishers / converters	***	***	***	***	***
to End users	***	***	***	***	***
U.S. importers: China to Distributors	***	***	***	***	***
to Finishers / converters	***	***	***	***	***
to End users	***	***	***	***	***
U.S. importers: All other sources: to Distributors	***	***	***	***	***
to Finishers / converters	***	***	***	***	***
to End users	***	***	***	***	***
U.S. importers: Nonsubject sources: to Distributors	***	***	***	***	***
to Finishers / converters	***	***	***	***	***
to End users	***	***	***	***	***
U.S. importers: All sources: to Distributors	***	***	***	***	***
to Finishers / converters	***	***	***	***	***
to End users	***	***	***	***	***

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

Geographic distribution

U.S. producers and importers reported selling FS fittings to all U.S. regions (table II-2). For U.S. producers, 24 percent of sales were within 100 miles of their production facility, 42 percent were between 101 and 1,000 miles, and 34 percent were over 1,000 miles. Subject importers sold 32 percent within 100 miles of their U.S. point of shipment, 57 percent between 101 and 1,000 miles, and 9 percent over 1,000 miles.

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

Region	U.S. producers	India	Korea	Subject U.S. importers
Northeast	4	5	6	9
Midwest	4	6	8	12
Southeast	4	6	7	10
Central Southwest	4	8	8	14
Mountains	4	6	7	11
Pacific Coast	4	5	5	8
Other[1]	4	2	3	4
All regions (except Other)	4	5	5	8
Reporting firms	4	8	9	14

Note: Other is all other U.S. markets, including AK, HI, PR, and VI.

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

Supply and demand considerations

U.S. supply

Table II-3 provides a summary of the supply factors regarding FS fittings from U.S. producers and from subject countries.

Table II-3
FS fittings: Supply factors that affect the ability to increase shipments to the U.S. market

Item	2017	2019	2017	2019	2017	2019	Shipments by market in 2019 (percent)		Able to shift to alternate products
	Capacity (short tons)		Capacity utilization (percent)		Inventories as a ratio to total shipments (percent)		Home market shipments	Exports to non-U.S. markets	No. of firms reporting "yes"
United States	***	***	***	***	***	***	***	***	2 of 4
India	***	***	***	***	***	***	***	***	2 of 2
Korea	***	***	***	***	***	***	***	***	1 of 4

Note: Responding U.S. producers accounted for the vast majority of U.S. production of FS fittings in 2019. Responding foreign producer/exporter firms accounted for the majority of U.S. imports of FS fittings from India and Korea in 2019. 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 FS fittings have the ability to respond to changes in demand with large changes in the quantity of shipments of U.S.-produced FS fittings to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of unused capacity and inventories. Factors mitigating the responsiveness of supply are the limited ability to shift shipments from alternate markets and limited ability to shift production to or from alternate products.

U.S. producers' capacity to produce FS fittings increased slightly from 2017 to 2019, and production increased irregularly from 2017 to 2019, leading to slightly higher capacity utilization in 2019 (*** percent) compared to 2017 (*** percent). The industry's capacity utilization rate in January-June 2020 was *** percent, indicating that U.S. producers had substantial available capacity.

U.S. producers reported producing the following other products on the same equipment used to produce FS fittings: ***. Two U.S. producers reported that they were unable to shift production to or from alternate products, although one of these producers (***) produces other products in the same facilities. Two U.S. producers (***) reported that they could shift production to or from other products, but that this ability was limited due to additional cost and specialized equipment.

Subject imports from India

Based on available information, producers of FS fittings from India have the ability to respond to changes in demand with moderate changes in the quantity of shipments of FS fittings to the U.S. market. The main contributing factors to this degree of responsiveness of supply are some availability of unused capacity and the ability to shift production to or from alternate products. Factors mitigating responsiveness of supply include limited inventories and a somewhat limited ability to shift shipments from alternate markets.

Indian producers' reported capacity to produce FS fittings *** from 2017 to 2019, while production increased by a larger amount, leading to *** higher capacity utilization in 2019 than in 2017. Both responding producers reported the ability to shift production between FS fittings and other products. Other products that responding foreign producers reportedly can produce on the same equipment as FS fittings are ***. Exports to non-U.S. markets accounted for a small share of Indian producers' total shipments in 2019. Reported other export markets include Europe, the Middle East, and Canada.

Subject imports from Korea

Based on available information, producers of FS fittings from Korea have the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of FS fittings to the U.S. market. The main contributing factors to this degree of responsiveness of supply are some availability of unused capacity and the ability to shift shipments from alternate markets. A factor mitigating responsiveness of supply is the limited ability to shift production to or from alternate products and limited inventories.

Korean producers' reported capacity and capacity utilization both increased from 2017 to 2019. Less than *** of Korean producers' shipments went to third-country export markets in 2019. Major export markets are ***. Three of the four Korean producers reported that they produced other products on the same equipment as they used for FS fittings including ***.

Imports from nonsubject sources

Imports from nonsubject sources accounted for *** percent of total U.S. imports in 2019. Importers identified a variety of nonsubject import sources including China, France, Germany, Italy, Mexico, Taiwan, and Thailand.

Supply constraints

U.S. producers generally reported no supply constraints except ***. Six of 24 responding importers reported supply constraints, generally associated with the antidumping and countervailing duties on FS fittings from China, Italy, and Taiwan. Five of the 13 responding purchasers reported that one or more suppliers refused or declined to provide FS fittings, including Korean supplier *** declined orders because of increased demand; and U.S. producer *** threatened to reject orders because the orders were not large enough. Purchasers also reported excess demand in 2018; extended wait times; and imports not available, long lead times, and cancelled backorders.

New suppliers

Seven of 13 responding purchasers indicated that new suppliers entered the U.S. market since January 1, 2017. Purchasers cited Titus Industrial (mentioned by four purchasers), Samyoung (Korea) (two purchasers), and Shakti (India) (one purchaser). Titus Industrial's website lists multiple manufacturing facilities including in India as well as other parts of Asia.[6]

U.S. demand

Based on available information, the overall demand for FS fittings is likely to experience small changes in response to changes in price. The main contributing factors are the lack of substitute products and the small cost share of FS fittings in most of its end-use products.

End uses and cost share

U.S. demand for FS fittings primarily depends on the demand for piping systems used in the oil and gas industry, as well as the chemical and petrochemical industries. FS fittings account for a small cost share of the overall cost of these piping systems. U.S. producer *** reported a cost share of 5 percent for piping systems. Most importers reported cost shares of 1 to 3 percent, for fertilizer equipment, "closures," pipe rack modules, and pressure vessels, although one importer reported a cost share of 25 to 30 percent for hose assemblies.[7]

[6] Titus Industrial website at https://titusindustrial.com/locations/.

[7] Since none of the purchasers were end users, and only end users were requested to respond to this question, no purchasers reported end uses or cost shares.

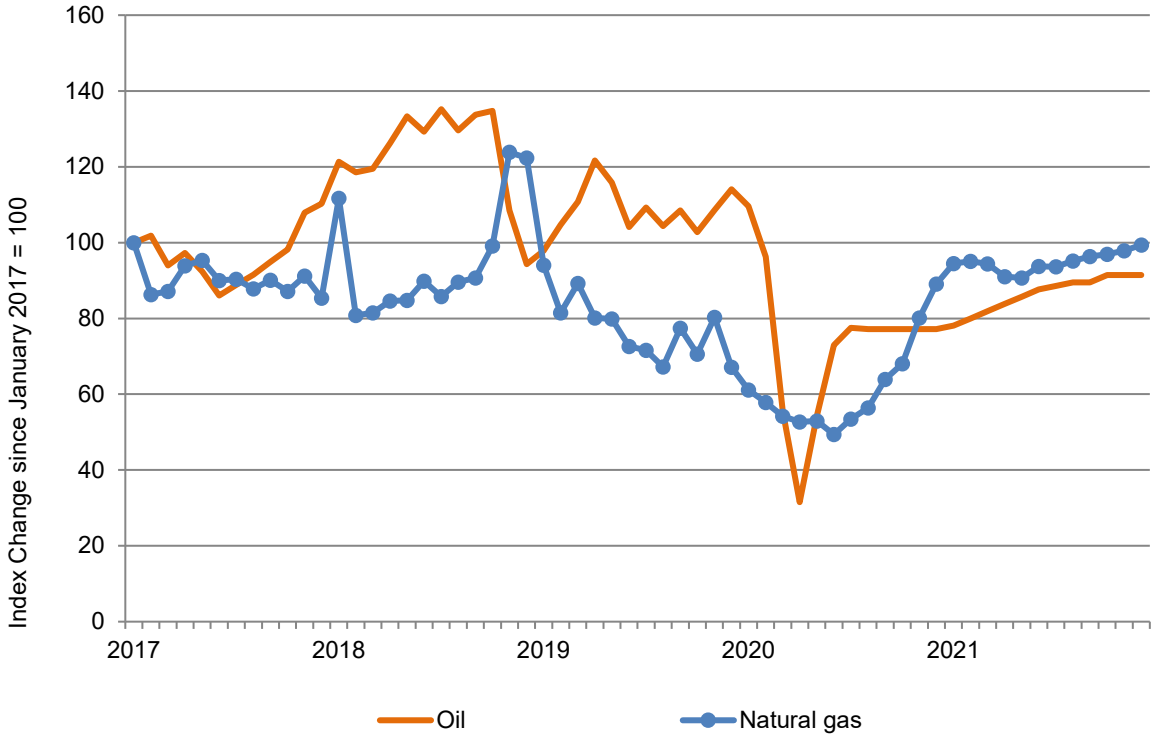
Business cycles

Most firms (3 of 4 U.S. producers, 15 of 25 importers, and 9 of 13 purchasers) reported that the FS fittings market was not subject to business cycles. Most firms (3 of 4 U.S. producers, 19 of 25 importers, and 11 of 13 purchasers) also reported that the FS fittings market was not subject to distinct conditions of competition. Among importers reporting that the market was subject to business cycles, firms pointed to the oil and gas industry as a driving factor, as well as seasonality including lower demand in winter, political environment, and economic conditions. *** noted that swings in the oil and gas market affect demand for FS fittings. U.S. producer *** also reported cycles impacted by oil and gas exploration and production. One purchaser (***) reported cycles that were influenced by changes in car models, that were seasonal or that reflected demand in the oil and gas sector. Other conditions reported by importers and purchasers were supply shortages, import pricing, "competition selling stale inventories to make turns," and the availability of thinner, cheaper product that does not meet standards.

Demand trends

As reported above, demand for FS fittings is driven mostly by demand for oil and gas exploration and production, which is influenced by oil and gas prices. Overall, during January 2017-June 2020, crude oil and natural gas prices decreased by 24.5 percent and 50.6 percent, respectively (figure II-1). Crude oil prices, after an initial decrease in the first half of 2017, increased during the second half of 2017 through most of 2018 with prices reaching their peak in October 2018. Crude oil prices fluctuated between November 2018 through February 2020, and then fell precipitously through April 2020 when they were 68.5 percent below the price at the beginning of the period. Since then, prices have recovered somewhat, but remain well below the prices in January 2017. Natural gas prices were slightly less volatile than crude oil prices, generally decreasing in 2017, increasing in 2018, then decreasing by 47.5 percent from January 2019 to June 2020. The U.S. Energy Information Administration projects that between August 2020 and December 2021, the price of crude oil will increase by 8.6 percent and the price of natural gas will increase by 39.1 percent.

Figure II-1
Oil and gas prices: Price indices for crude oil and natural gas, monthly, January 2017–September 2020 (actual) and August 2020–December 2021 (projected)

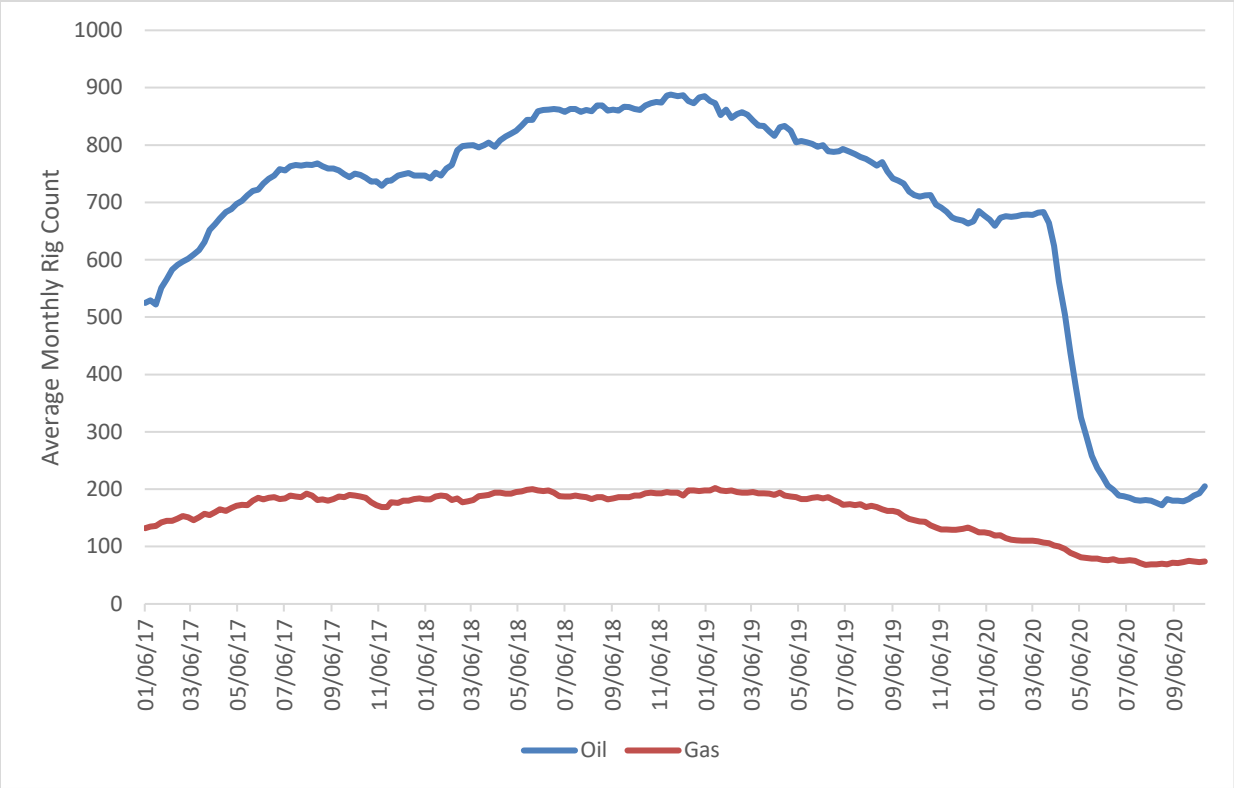


Note: Crude oil price is West Texas Intermediate spot price and natural gas price is Henry Hub spot price.
Source: U.S. Energy Information Administration, Short Term Energy Outlook, https://www.eia.gov/outlooks/steo/, retrieved October 26, 2020.

Based on data published by Baker Hughes,[8] the number of oil rigs in the United States decreased between January 2017 and September 2020 (figure II-2). In general, the number of active rigs increased in 2017 and 2018 and declined slightly in 2019. The number of active oil rigs has declined by about 70 percent in 2020 between January 3, 2020 and October 16, 2020, with most of the decrease occurring between March and August. Natural gas oil rigs have also declined during the same period.

[8] Baker Hughes is a drilling contractor and GE subsidiary that publishes data on North American and international rig counts. See http://phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-rigcountsoverview.

Figure II-2
Rotary rig count: Weekly average number of active rotary oil and gas rigs in North America, weekly, January 6, 2017-October 16, 2020



Source: Baker Hughes website, https://rigcount.bakerhughes.com/na-rig-count, retrieved October 29, 2020.

Most firms reported that demand for FS fittings has declined overall since January 1, 2017 (table II-4). U.S. producer *** reported fluctuating demand, explaining that demand strengthened in 2017 due to strength in the oil and gas market, but weakened in 2019 as the energy sector weakened and has dropped dramatically since the onset of the COVID-19 pandemic hit at the same time that energy markets "crashed." Importers also reported that the COVID-19 pandemic, a slow oil and gas market, the energy market, section 232 tariffs, and general economic trends affected demand for FS fittings. Petitioner stated that demand increased in 2017 and 2018 but had declined rapidly from 2018 to 2019.[9]

[9] Petitioner's posthearing brief, p. 1.

Table II-4
FS fittings: Firms' responses regarding U.S. demand and demand outside the United States

Item	Number of firms reporting			
	Increase	No change	Decrease	Fluctuate
Demand inside the United States: U.S. producers	1	1	3	---
Importers	1	4	15	3
Purchasers	---	1	7	5
Demand outside the United States: U.S. producers	---	1	2	---
Importers	1	5	6	2
Purchasers	---	---	---	4
Demand for end use product(s): Purchasers	---	---	---	1

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

Substitute products

All responding U.S. producers and nearly all responding importers and purchasers reported that there were no substitutes for FS fittings. One importer stated that stainless steel fittings could be substituted for FS fittings but would be more expensive. One purchaser reported malleable iron fittings could be substituted in low pressure applications, but it stated that the price of malleable iron fittings did not affect the price of FS fittings.

Substitutability issues

The degree of substitution between domestic and imported FS fittings depends upon such factors as relative prices, quality (e.g., grade standards, defect rates, etc.), and conditions of sale (e.g., price discounts/rebates, lead times between order and delivery dates, reliability of supply, product services, etc.). Based on available data, staff believes that there is a high degree of substitutability between domestically produced FS fittings and finished FS fittings imported from subject sources.[10]

Lead times

FS fittings are primarily sold from inventory. U.S. producers reported that *** percent of their commercial shipments were from inventories, with lead times averaging 5 days. Subject

[10] Unfinished FS fittings (prior to finishing) are not directly substitutable for finished FS fittings. See Part IV for a comparison of imports of unfinished fittings, by source.

importers reported that *** percent of their commercial shipments were from U.S. inventories, with lead times averaging 7 days.

Knowledge of country sources

Eleven purchasers indicated they had marketing/pricing knowledge of domestic product, three of Indian product, seven of Korean product, and seven of product from nonsubject countries.

As shown in table II-5, most purchasers always make purchasing decisions based on the producer. Purchaser responses on how frequently they make purchasing decisions based on the country of origin were more varied, with five reporting they always do and four they sometimes do. Most of the purchasers' customers usually or sometimes make purchasing decisions based on the producer or country of origin. Of the seven purchasers that reported that they always make decisions based on the manufacturer, three firms cited customer agreements or customer approval, and one cited having long-term relationships with qualified vendors rather than purchases based on price.[11]

Table II-5
FS fittings: Purchasing decisions based on producer and country of origin

Purchaser/customer decision	Always	Usually	Sometimes	Never
Purchaser makes decision based on producer	7	3	3	---
Purchaser's customers make decision based on producer	1	3	7	2
Purchaser makes decision based on country	5	2	4	2
Purchaser's customers make decision based on country	1	5	5	2

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

Factors affecting purchasing decisions

The most often cited top three factors firms consider in their purchasing decisions for FS fittings were price (11 firms), quality (10 firms) and availability/dependability/lead time (11 firms) as shown in table II-6. Quality was the most frequently cited first-most important factor (cited by 7 firms), followed by price (2 firms); price was the most frequently reported second-most important factor (6 firms); and availability was the most frequently reported third-most important factor (8 firms).

[11] Three purchasers did not report why they always purchase based on the producer.

Table II-6
FS fittings: Ranking of factors used in purchasing decisions as reported by U.S. purchasers, by factor

Factor	First	Second	Third	Total
Price/cost	2	6	3	11
Availability/lead time/dependability/consistency	1	2	8	11
Quality	7	3	---	10
Traditional or approved/certified supplier	2	1	1	4
Country of origin	1	---	1	2

Note: One purchaser reported both price and availability as third factor.

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

The majority of purchasers (10 of 13) reported that they usually or sometimes purchase the lowest-priced product. Four purchasers reported that they usually purchase the lowest-priced product, six sometimes do, two never do, and one always does.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 15 factors in their purchasing decisions (table II-7). The factors rated as very important by more than half of responding purchasers were availability and quality meets industry standards (13 each); product consistency and reliability of supply (12 each); price (11); delivery time (10); and discounts offered (7). Factors for which more firms reported they were somewhat or not important than they were very important included minimum quantity requirements, packaging, payment terms, and U.S. transportation costs.

Table II-7
FS fittings: Importance of purchase factors, as reported by U.S. purchasers, by factor

Factor	Very important	Somewhat important	Not important
Availability	13	---	---
Delivery terms	6	7	---
Delivery time	10	2	1
Discounts offered	7	3	3
Minimum quantity requirements	1	7	5
Packaging	2	7	4
Payment terms	2	8	3
Price	11	2	---
Product consistency	12	1	---
Product range	7	4	2
Quality meets industry standards	13	---	---
Quality exceeds industry standards	4	6	3
Reliability of supply	12	1	---
Technical support/service	3	7	3
U.S. transportation costs	2	8	3

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

Quality

Factors that a number of purchasers reported as determining quality were certification (ASTM, ASME, or API), meeting customer specifications, and meeting industry specifications or standards. Purchasers also determine the quality of a product by evaluating its minimal rejections, appearance (finish), normalization (an additional heat treatment process that increases toughness), dimension tolerances, thread quality, and range of specifications met by the product. Non-product quality factors included facility audits, source of raw material, data on material specifications, reputation of supplier, and material test results.

Supplier certification

Eight of 13 responding purchasers require their suppliers to become certified or qualified to sell FS fittings to their firm. Purchasers reported that the time to qualify a new supplier ranged from one to three months. To qualify producers, four purchasers reported suppliers need to be certified, four reported requiring samples, and three reported audits. Other requirements included compliance to industry specifications, product quality, producer quality (e.g. vendor reliability, visits to facility, audits of the manufacturer's process, and use of an approved manufacturer list), availability, and insurance. Petitioner stated that suppliers can also go through a process to be put on an approved vendor list (AVL)—also known as an approved manufacturer list (AML)—but argued that there are no physical differences in the

product sold through the AVLs/AMLs than those sold to other end users. .[12] None of the purchasers reported that any domestic or foreign supplier had failed in its attempt to qualify its FS fittings or had lost its approved status since 2017.

Changes in purchasing patterns

Purchasers were asked about changes in their purchasing patterns from different sources since 2017 (table II-8). Three purchasers reported that they had decreased purchases of domestic FS fittings, with two of these firms reporting a decline in business and one reporting that it shifted from purchasing from a master distributor to purchasing directly from the manufacturer. Three purchasers reported increased purchases of domestic FS fittings by adding domestic product to its product offerings (one purchaser) and shifting from Italian to domestic FS fittings because of duties on Italian product (two purchasers). Three purchasers reported reasons for increased purchases from India or Korea including price, restrictions on imports from other countries, added a new item, and ***. Three purchasers reported that they had reduced purchases from India or Korea because of reduced demand.

Seven of 13 responding purchasers reported that they had changed suppliers since January 1, 2017. Specifically, firms dropped ***, dropped or reduced purchases from ***. Firms added or increased purchases from *** (allowed purchaser to increased customer base to include firms that only purchase domestic product), and *** (extended credit).[13] Firms also reported changes because of price and changes in the type of product needed.

[12] Petitioner's posthearing brief, Answers to Commissioner Questions, p. 32.

[13] One purchaser reported adding ***, *** , *** and dropping ***. The countries of origin of these products were unclear.

Table II-8
FS fittings: Changes in purchase patterns from U.S., subject, and nonsubject countries

Source of purchases	Did not purchase	Decreased	Increased	Constant	Fluctuated
United States	1	3	3	3	2
India	6	1	3	---	---
Korea	4	2	3	---	2
Nonsubject	3	6	1	---	1
Unknown	4	2	1	2	1

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

Importance of purchasing domestic product

Eight of 12 purchasers reported that most or all (for 70 to 100 percent of their purchases) did not require purchasing U.S.-produced product. Six reported that domestic product was required by law (for 1 to 10 percent of their purchases), eight reported it was required by their customers (for 5 to 80 percent of their purchases), and one reported other preferences for domestic product (because of availability).

Comparisons of domestic products, subject imports, and nonsubject imports

Purchasers were asked a number of questions comparing FS fittings produced in the United States, subject countries, and nonsubject countries. First, purchasers were asked for a country-by-country comparison on the same 15 factors (table II-9) for which they were asked to rate the importance. Most responding purchasers reported that U.S. product was superior to Indian product for 8 of the 15 following factors: availability, delivery terms, delivery time, minimum quantity requirements, product consistency, quality exceeding industry standards, reliability of supply, and technical support/service. A majority reported that Indian product was superior on price. The U.S. and Indian product were comparable on the following six factors: discounts offered, packaging, payment terms, product range, quality meets industry standards, and U.S. transportation costs. Most purchasers reported that U.S. and Korean product were comparable for nine factors: availability, discount offered, packaging, payment terms, product consistency, product range, quality meets industry standards, technical support/service, and U.S. transportation costs; and that U.S. product was superior for seven factors: availability, delivery terms, delivery time, minimum quantity requirements, quality exceeds industry standards, reliability of supply, and technical support/service. Four purchasers reported that U.S. and Korean product were superior or comparable for two factors—availability and technical support/service. Most purchasers reported that the Korean product was priced lower than the U.S. product.

Most responding purchasers reported U.S.-produced FS fittings and FS fittings from nonsubject countries were comparable for 12 factors, and a plurality of purchasers reported

U.S. product was superior for availability, delivery terms, delivery time, reliability of supply, and technical support/service. Two firms each reported that the U.S. product was comparable or inferior to nonsubject product on price.[14] Most responding purchasers reported that Korean and Indian FS fittings were comparable for all factors except price, for which two firms each reported that Indian FS fittings were priced lower than Korean FS fittings and that the two sources were comparable in price.

Almost all responding purchasers reported 5 factors (availability, price, product consistency, quality meets industry standards, and reliability of supply) as very important (see table II-9). Of these five factors, most responding purchasers rated Indian product as inferior to U.S. product for all factors except two: price, for which Indian product was rated as superior, and quality meets industry standards, for which most purchasers rated U.S. and Indian product as comparable. For these 5 factors, most purchasers rated Korean FS fittings as inferior or comparable to U.S. product for all factors except price, for which Korean product was rated as superior to U.S. product, meaning the price of Korean product is lower than the price of U.S. product.

Table II-9
FS fittings: Purchasers' comparisons between U.S.-produced and imported product

Factor	U.S. vs. India			U.S. vs. Korea			India vs. Korea		
	S	C	I	S	C	I	S	C	I
Availability	4	3	---	4	4	1	---	3	1
Delivery terms	5	2	---	7	2	---	---	4	---
Delivery time	7	---	---	8	1	---	---	3	1
Discounts offered	---	4	1	---	5	3	---	4	---
Minimum quantity requirements	5	2	---	5	4	---	---	3	1
Packaging	3	4	---	2	7	---	---	3	1
Payment terms	3	4	---	3	5	1	---	4	---
Price	---	2	4	---	2	7	2	2	---
Product consistency	4	3	---	4	5	---	---	3	1
Product range	3	4	---	2	7	---	---	3	1
Quality meets industry standards	3	4	---	3	6	---	---	3	1
Quality exceeds industry standards	5	1	---	4	3	1	---	3	1
Reliability of supply	6	1	---	6	3	---	---	3	1
Technical support/service	4	3	---	4	4	1	---	3	1
U.S. transportation costs	2	4	---	3	5	---	---	3	1

Table continued on next page.

[14] Only one purchaser compared Indian and Korean product to that from nonsubject sources.

Table II-9 (Continued)
FS fittings: Purchasers' comparisons between U.S.-produced and imported product

Factor	U.S. vs. nonsubject			India vs. nonsubject			Korea vs. nonsubject		
	S	C	I	S	C	I	S	C	I
Availability	2	2	---	---	1	---	---	1	---
Delivery terms	3	1	---	---	1	---	---	1	---
Delivery time	4	---	---	---	1	---	---	1	---
Discounts offered	---	3	---	---	1	---	---	1	---
Extension of credit	1	3	---	---	1	---	---	1	---
Minimum quantity requirements	1	3	---	---	---	1	---	1	---
Packaging	1	3	---	---	1	---	---	1	---
Price	---	2	2	---	---	1	---	1	---
Product consistency	1	3	---	---	---	1	---	1	---
Product range	1	3	---	---	---	1	---	1	---
Quality meets industry standards	1	3	---	---	---	1	---	1	---
Quality exceeds industry standards	1	2	---	---	---	1	---	1	---
Reliability of supply	3	1	---	---	1	---	---	1	---
Technical support/service	2	2	---	---	---	1	1	---	---
U.S. transportation costs	---	3	---	---	---	1	---	1	---

Note: A rating of superior means that price/U.S. transportation cost is generally lower. For example, if a firm reported "U.S. superior," it meant that the U.S. product was generally priced lower than the imported product.
Note: S=first listed country's product is superior; C=both countries' products are comparable; I=first list country's product is inferior.

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

Comparison of U.S.-produced and imported FS fittings

In order to determine whether U.S.-produced FS fittings can generally be used in the same applications as imports from India and Korea, U.S. producers, importers, and purchasers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in table II-10, all responding U.S. producers and half of responding purchasers reported that the U.S. product was always interchangeable with subject imports from India and Korea. The majority of responding importers reported that FS fittings from all country pairs were always or frequently interchangeable.

Among the four importers that reported that sources were sometimes interchangeable, *** stated that FS fittings are a commodity product, but that country of origin restrictions and pricing can limit interchangeability; *** reported that products made to specification are interchangeable; *** reported that in some applications, forged steel unions may not be interchangeable, but all other products are fully interchangeable; and *** reported that it does not source certain parts domestically and may not be interchangeable. Three purchasers reported reasons product from different countries were not interchangeable including: interchangeability depends on the application; Japan is the only

source of specific safety critical parts; U.S. producers do not include normalization as a standard practice, thus the standard U.S. product is not interchangeable with Korean product; customers that purchase U.S. product are unwilling to accept imported product; and producers in Taiwan do not normalize as a standard practice.

Table II-10
FS fittings: Interchangeability between FS fittings produced in the United States and in other countries, by country pair

Country pair	U.S. producers				U.S. importers				U.S. purchasers			
	A	F	S	N	A	F	S	N	A	F	S	N
United States vs. India	4	---	---	---	6	5	4	---	4	3	1	---
United States vs. Korea	3	---	---	---	8	3	4	---	6	3	2	---
India vs. Korea	3	---	---	---	5	3	3	---	3	3	1	---
United States vs. Other	2	1	---	---	6	6	5	2	4	2	2	1
India vs. Other	3	---	---	---	5	5	3	---	3	2	1	---
Korea vs. Other	2	---	---	---	5	6	3	---	4	3	1	---

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

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

As can be seen from table II-11, most responding purchasers reported that domestically produced product always met minimum quality specifications. Purchasers had more mixed responses with respect to the subject countries. One of the 5 responding purchasers reported that Indian FS fittings always met minimum quality specifications, two reported that they usually did, and two reported that they sometimes did. With respect to Korea, 4 of 10 responding purchasers reported that Korean FS fittings always met minimum quality specifications, four reported that they usually did, and two reported that they sometimes did.

Table II-11
FS fittings: Ability to meet minimum quality specifications, by source

Source of purchases	Always	Usually	Sometimes	Rarely or never
United States	9	2	---	---
India	1	2	2	---
Korea	4	4	2	---
Nonsubject sources	1	2	1	---

Note: Purchasers were asked how often domestically produced or imported FS fittings meets minimum quality specifications for their own or their customers' uses.

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

In addition, U.S. producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of FS fittings from the United States, subject, or nonsubject countries. As seen in table II-12, almost all responding U.S. producers

reported that differences other than price between domestic product and subject imports were never significant in their sales of FS fittings, and most importers reported that such differences were sometimes or never significant in their sales. In contrast, none of the purchasers reported that there were never differences other than price for FS fittings from any of the country pairs except U.S. product compared with nonsubject product. Three of seven responding purchasers reported there were always differences other than price between U.S. and Indian FS fittings. Four of 10 responding purchasers reported there were always differences other than price between U.S. and Korea FS fittings.

Several importers provided additional comments. Importer *** reported that differences other than price between U.S. and Korean product were always significant depending on the requirements of the customer, stating that domestic producers use "round" ends for their products and that Korean producers make "octagonal or hexagonal" ends, which are preferred over domestic or Indian products. *** stated that lower quality products are usually the lowest priced and are often avoided by the end-user companies. *** also indicated that some end-users will only accept domestic products whereas others will accept the quality of imported products. *** stated that quality and machining process are considered over price along with freight rates and delivery times. *** stated that certain customers will only buy FS fittings from an approved manufacturer whose products it has certified. *** stated that it sources from different regions based on quality, lead times, and cost. Purchasers reported that significant differences other than price (in addition to those factors reported under interchangeability) included lead time, quality, availability, and technical support.

Table II-12
FS fittings: Significance of differences other than price between FS fittings produced in the United States and in other countries, by country pair

Country pair	U.S. producers				U.S. importers				U.S. purchasers			
	A	F	S	N	A	F	S	N	A	F	S	N
United States vs. India	---	---	1	3	1	2	7	4	3	2	2	---
United States vs. Korea	---	---	---	3	1	1	6	5	4	3	3	---
India vs. Korea	---	---	---	3	1	---	5	5	2	2	3	---
United States vs. Other	---	---	1	2	3	1	10	3	4	2	2	1
India vs. Other	---	---	1	2	---	1	7	3	2	2	1	---
Korea vs. Other	---	---	---	2	1	1	6	3	2	3	1	---

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

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

Elasticity estimates

This section discusses elasticity estimates. No parties provided comments on these estimates in their prehearing or posthearing briefs.

U.S. supply elasticity

The domestic supply elasticity for FS fittings measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of FS fittings. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift to production of other products, the existence of inventories, and the availability of alternate markets for U.S.-produced FS fittings. Analysis of these factors above indicates that the U.S. industry has the ability to greatly increase or decrease shipments to the U.S. market; an estimate in the range of 5 to 7 is suggested.

U.S. demand elasticity

The U.S. demand elasticity for FS fittings measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of FS fittings. This estimate depends on factors discussed above such as the existence, availability, and commercial viability of substitute products, as well as the component share of the FS fittings in the production of any downstream products. Based on the available information, the aggregate demand for FS fittings is likely to be inelastic; a range of -0.1 to -0.4 is suggested.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.[15] Product differentiation, in turn, depends upon such factors as quality (e.g., chemistry, appearance, finishing process, etc.) and conditions of sale (e.g., availability, sales terms/discounts/promotions, etc.). Based on available information, the elasticity of substitution between U.S.-produced FS fittings and imported FS fittings is likely to be in the range of 4 to 7.

[15] The substitution elasticity measures the responsiveness of the relative U.S. consumption levels of the subject imports and the domestic like products to changes in their relative prices. This reflects how easily purchasers switch from the U.S. product to the subject product (or vice versa) when prices change.

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 firms that accounted for the vast majority of U.S. production of FS fittings during 2019.

U.S. producers

The Commission issued a U.S. producer questionnaire to six firms based on information contained in the petitions, and one firm identified through Staff research. Four firms provided usable data on their operations.[1] [2] Staff believes that these responses represent the vast majority of U.S. production of FS fittings.

Table III-1 lists U.S. producers of FS fittings, their production locations, positions on the petitions, and shares of total production.

[1] U.S. producer, ***, reported that the total value of FS fittings is ***. Staff correspondence with ***, September 3, 2020.

[2] In addition, *** certified that it did not produce FS fittings in the United States. *** certified "no" response; and staff correspondence with ***, August 12, 2020. A seventh firm, ***, was identified as a possible producer of FS fittings but did not respond to the questionnaire.

Table III-1
FS fittings: U.S. producers of FS fittings, their positions on the petitions, production locations, and shares of reported production, 2019

Firm	Position on petitions	Production location(s)	Share of production (percent)
Anvil	***	Longview, TX Houston, TX	***
Bonney Forge	Petitioner	Mount Union, PA Houston, TX	***
Capitol Manufacturing	***	Crowley, LA Allentown, PA Catasauqua, PA	***
PMW	***	Aston, PA Houston, TX Swedesboro, NJ	***
Total			***

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.

Table III-2
FS fittings: U.S. producers' ownership, related and/or affiliated firms

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

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

As indicated in table III-2, no U.S. producers are related to foreign producers of the subject merchandise and one U.S. producer (***) is related to a U.S. importer of the subject merchandise (***). In addition, as discussed in greater detail below, one U.S. producer (***) directly imports the subject merchandise.

Table III-3 presents U.S. producers' reported changes in operations since January 1, 2017.

Table III-3
FS fittings: U.S. producers' reported changes in operations, since January 1, 2017

Item / Firm	Reported changes in operations
Plant closings:	
***	***
Relocations:	
***	***
Consolidations:	
***	***
Prolonged shutdowns or curtailments:	
***	***
***	***
***	***
Revised labor agreements:	
***	***

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

Production related activities

Three of the four principal producers of FS fittings in the United States operate integrated facilities; Bonney Forge, Capitol Manufacturing, and PMW forge and finish FS fittings in the United States. The fourth firm, Anvil, finishes imported forgings in the United States. Table III-4 presents these four firms' assessments concerning the complexity and importance of finishing operations. Table III-5 presents Anvil's responses to narrative questions relating to its finishing operations. Table III-6 presents a summary of production related activities factors reported by integrated and finisher producers.

Table III-4
FS fittings: U.S. producers' rating of the complexity and importance of finishing activities, since January 1, 2017

Item	Complexity rating				
	1 Not at all complex	2	3	4	5 Very complex
Anvil	***	***	***	***	***
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
All firms	***	***	***	***	***
	Narrative				
Anvil	***				
Bonney Forge	***				
Capitol Manufacturing	***				
PMW	***				

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

Table III-5
FS fittings: U.S. producer Anvil's narrative responses regarding its finishing operations, since January 1, 2017

Item	Narrative
Capital investments	***
Technical expertise	***
Value added	***
Employment	***
Quantity, type and source of parts	***
Costs and activities	***

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

Table III-6
Forged steel fittings: Summary of sufficient production-related activities factors by domestic entity, since January 1, 2017

Item	Data relating to sufficient production activities factors	
	Integrated producers	Finisher only producer
Capital investments	***	***
Technical expertise	***	***
Value added	***	***
Employment	***	***
Quantity, type and source of parts	***	***

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

U.S. production, capacity, and capacity utilization

Table III-7 and figure III-1 present U.S. producers' production, capacity, and capacity utilization. Domestic producers' production of FS fittings fluctuated and increased overall by *** percent between 2017 and 2019, increasing by *** percent during 2017-18 then decreasing by *** percent during 2018-19. Capacity increased by *** percent during 2017-19. *** reported an increase in FS fittings capacity between 2017 and 2019. Production was *** percent lower in January-June 2020 than in January-June 2019, while capacity was *** percent higher during the same period. Capacity utilization ranged from *** and *** percent during 2017-19 and was *** percentage points lower in January-June 2020 than the same period in 2019.

All four responding producers reported constraints in the manufacturing process. Production constraints include capital investment for equipment and facility, mix of products sold, available machinery and labor, and the ability to get forgings.

Table III-7
FS fittings: U.S. producers' production, capacity, and capacity utilization, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Capacity (short tons)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finisher only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Production (short tons)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finisher only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Capacity utilization (percent)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finisher only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Share of production (percent)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finisher only producer	***	***	***	***	***
All producers	***	***	***	***	***

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

Figure III-1
FS fittings: U.S. producers' production, capacity, and capacity utilization, 2017-19, January-June 2019, and January-June 2020

* * * * * * *

Table III-8 presents U.S. producers' production of FS fittings whether produced from blanks, machined bar, or tubing. The majority of U.S. production of FS fittings (*** percent in 2019) consists of integrated producers using their own blanks/forgings and machined bar or tubing. Producer (***) also reported small quantities of FS fittings made from *** blanks. All of finisher producer Anvil's production is made from ***.

Table III-8
FS fittings: U.S. producers' production by source, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
Production:					
Own blanks/forgings	***	***	***	***	***
Machined bar or tubing	***	***	***	***	***
Subtotal, forging or bar	***	***	***	***	***
Domestic blanks	***	***	***	***	***
Imported subject blanks	***	***	***	***	***
Imported nonsubject blanks	***	***	***	***	***
Subtotal, imported blanks	***	***	***	***	***
Subtotal, domestic and imported blanks	***	***	***	***	***
Total	***	***	***	***	***
	Ratios and shares (percent)				
Share of production:					
Own blanks/forgings	***	***	***	***	***
Machined bar or tubing	***	***	***	***	***
Subtotal, forging or bar	***	***	***	***	***
Domestic blanks	***	***	***	***	***
Imported subject blanks	***	***	***	***	***
Imported nonsubject blanks	***	***	***	***	***
Subtotal, imported blanks	***	***	***	***	***
Subtotal, domestic and imported blanks	***	***	***	***	***
Total	***	***	***	***	***

Note.--Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.
Note.—***. Staff correspondence with ***, October 27, 2020.

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

Alternative products

As shown in table III-9, the majority (*** percent) of product produced during 2019 was in-scope merchandise. Two firms, ***, reported producing alternative products including ***.

*** reported that they are able to switch production from FS fittings to other products but it is very limited. Machinery and equipment are purchased to focus on specific products and there are significant limits on shifting production to other products.[3]

Table III-9
FS fittings: U.S. producers' overall plant capacity and production on the same equipment as subject production, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
Overall capacity	***	***	***	***	***
Production: FS fittings	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***
	Ratios (percent)				
Overall capacity utilization	***	***	***	***	***
	Share of production (percent)				
Share of total production: FS fittings	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***

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

[3] *** reported "***." *** reported "***."

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

Table III-10 presents U.S. producers' U.S. shipments, export shipments, and total shipments, while table III-11 presents information concerning U.S. producers' U.S. shipments for use in apparent consumption including the incremental value associated with finishing.[4] U.S. shipments by quantity increased overall during 2017-19, by *** percent, and were *** percent lower in January-June 2020 than in January-June 2019. Unit values increased by *** percent between 2017 and 2019 and were *** percent higher in January-June 2020 than in January-June 2019. U.S. producers' U.S. shipments accounted for the majority of total shipments (*** percent in 2019). Export shipments decreased by *** percent between 2017 and 2019 and were *** percent lower in interim 2020 than in interim 2019.[5] Export shipments as a share of total shipments decreased from *** percent in 2017 to *** percent in 2019.

[4] The following discussion is for integrated producers only.

[5] Two U.S. producers, ***, reported export shipments, primarily to ***. ***.

Table III-10
FS fittings: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. shipments: -- Integrated producers	***	***	***	***	***
Finisher only producer	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Value (1,000 dollars)				
U.S. shipments: -- Integrated producers	***	***	***	***	***
Finisher only producer	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. shipments: -- Integrated producers	***	***	***	***	***
Finisher only producer	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Share of quantity (percent)				
U.S. shipments: -- Integrated producers	***	***	***	***	***
Finisher only producer	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Share of value (percent)				
U.S. shipments: -- Integrated producers	***	***	***	***	***
Finisher only producer	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***

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

Table III-11
FS fittings: U.S. producers' U.S. shipments for use in apparent consumption, 2017-19, January to June 2019, and January to June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. shipments	***	***	***	***	***
	Value (1,000 dollars)				
U.S. shipments.-- Fully domestic value	***	***	***	***	***
Value added to imports	***	***	***	***	***
Total	***	***	***	***	***

Note.--The quantity for U.S. producers' U.S. shipments reflects the quantity of FS fittings sold in the United States from integrated producers. The value for U.S. producers' U.S. shipments reflects the value of FS fittings sold in the United States from integrated producers plus the additional value added to imported FS fittings from the finisher only producer. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported once as an import.

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

U.S. producers' inventories

Table III-12 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**.** U.S. producers' inventories increased by *** percent during 2017-19, and were *** percent lower in January-June 2020 than in January-June 2019. The ratio of inventories to production increased by *** percentage points between 2017 and 2019, ranging between *** percent and *** percent, and was *** percentage points higher in interim 2020 than in interim 2019. Similarly, the ratio of inventories to U.S. shipments increased by *** percentage points during 2017-19, ranging between *** percent and *** percent, and was *** percentage points higher in interim 2020 than in interim 2019.

Table III-12
FS fittings: U.S. producers' inventories, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. producers' end-of-period inventories	***	***	***	***	***
	Ratio (percent)				
Ratio of inventories to.-- U.S. production	***	***	***	***	***
U.S. shipments	***	***	***	***	***
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 subject FS fittings are presented in tables III-13 and III-14, respectively. *** directly imported and purchased the subject merchandise.[6] In addition, *** reported purchasing FS fittings from domestic producers and distributors.[7]

Table III-13
FS fittings: U.S. producers' U.S. production and imports, 2017-19, January-June 2019, and January-June 2020

* * * * * * *

[6] ***. Staff correspondence with ***, September 29, 2020. ***. Staff correspondence with ***, October 15, 2020.

[7] *** reported purchasing ***. *** reported purchasing ***.

Table III-14
FS fittings: U.S. producers' U.S. production and purchases, 2017-19, January-June 2019, and January-June 2020

* * * * * * *

U.S. employment, wages, and productivity

Table III-15 shows U.S. producers' employment-related data. PRWs, hours worked, wages paid, hourly wages, and unit labor costs increased between 2017 and 2019, while hours worked per PRW and productivity decreased during the same period. All employment-related indicators, except for hourly wages and unit labor costs, were lower in January-June 2020 than in January-June 2019.

Table III-15
FS fittings: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
Production and related workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***
Productivity (short tons per 1,000 hours)	***	***	***	***	***
Unit labor costs (dollars per short ton)	***	***	***	***	***

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 importer questionnaires to 75 firms believed to be importers of subject FS fittings, as well as to all U.S. producers of FS fittings.[1] Usable questionnaire responses were received from 31 companies, which staff believe represent the majority of U.S. imports from India and Korea, and all other sources in 2019.[2] FS fittings enter under HTS subheadings that contain substantial out-of-scope merchandise. Thus, import data presented in this report are derived from importer questionnaire responses and proprietary Customs records. Table IV-1 lists all responding U.S. importers of FS fittings from India, Korea, and other sources, their locations, and their shares of U.S. imports, in 2019.

[1] 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 subheading subheadings 7307.92.30, 7307.92.90, 7307.99.10, 7307.99.30, and 7307.99.50 in 2019.

[2] An additional 25 firms certified that they did not import FS fittings from any source since January 1, 2017. ***, participated in the preliminary phase of the investigations as importers of FS fittings, but confirmed during the final phase of the investigations that they are purchasers of FS fittings and not the importers of record. Staff correspondence with ***, September 2, 2020. ***, participated in the preliminary phase of the investigations as an importer of FS fittings, but certified that it did not import FS fittings from any source since January 1, 2017 in this final phase. See staff correspondence with ***, September 23, 2020.

Table IV-1
FS fittings: U.S. importers by source, 2019

Firm	Headquarters	Share of imports by source (percent)						
		India	Korea	Subject	China	All other	Non-subject	All imports
American Piping	Chesterfield, MO	***	***	***	***	***	***	***
American Supply	Pearl, MS	***	***	***	***	***	***	***
Anvil	Exeter, NH	***	***	***	***	***	***	***
Bechtel	Houston, TX	***	***	***	***	***	***	***
BK Metal	Houston, TX	***	***	***	***	***	***	***
Caterpillar	Deerfield, IL	***	***	***	***	***	***	***
CIS Investments	Bixby, OK	***	***	***	***	***	***	***
Dnow	Cypress, TX	***	***	***	***	***	***	***
Dwyer	Houston, TX	***	***	***	***	***	***	***
Ferguson	Newport News, VA	***	***	***	***	***	***	***
FMC Technologies	Stephenville, TX	***	***	***	***	***	***	***
IPI	Atlanta, GA	***	***	***	***	***	***	***
ITEX	Houston, TX	***	***	***	***	***	***	***
Manufactured Specialties	St. Charles, IL	***	***	***	***	***	***	***
Matco-Norca	Brewster, NY	***	***	***	***	***	***	***
McDermott	Houston, TX	***	***	***	***	***	***	***
Mega	Scanzorosciate, IT	***	***	***	***	***	***	***
Merit Brass	Cleveland, OH	***	***	***	***	***	***	***
Missouri Pipe	St. Louis, MO	***	***	***	***	***	***	***
Mitsui	New York, NY	***	***	***	***	***	***	***
National Oilwell	Houston, TX	***	***	***	***	***	***	***
Nichirin	Lewisburg, TN	***	***	***	***	***	***	***
Norca	Lake Success, NY	***	***	***	***	***	***	***
Service Metal	St. Louis, MO	***	***	***	***	***	***	***
Sid Tool	Melville, NY	***	***	***	***	***	***	***
Silbo	Montvale, NJ	***	***	***	***	***	***	***
SK Bend	Houston, TX	***	***	***	***	***	***	***
Smith Cooper	Commerce, CA	***	***	***	***	***	***	***
Tenaris	Houston, TX	***	***	***	***	***	***	***
TI Automotive	Auburn Hills, MI	***	***	***	***	***	***	***
Toyota	Georgetown, KY	***	***	***	***	***	***	***
Total		***	***	***	***	***	***	***

Note.--U.S. importers ***, did not provide the Commission with importer questionnaires in connection with this proceeding. However, they provided questionnaires in a prior proceeding involving FS fittings from China, Italy, and Taiwan, which staff incorporated. ***. Staff correspondence with ***, August 11, 2020, and ***, October 12, 2020.

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 FS fittings from India, Korea, and all other sources. During 2017-19, total U.S. imports increased overall by *** percent and were *** percent lower in January-June 2020 than in January-June 2019. Subject U.S. imports increased by *** percent between 2017 and 2019, while nonsubject imports decreased by *** percent. Subject and nonsubject imports were lower in January-June 2020 than in January-June 2019, by *** percent and *** percent respectively. Subject imports as a share of total imports increased by *** percentage points, from *** percent in 2017 to *** percent in 2019. Conversely, imports from nonsubject sources decreased by the same amount (*** percentage points) and accounted for *** percent of total U.S. imports in 2019. Leading nonsubject sources of imports include China and Mexico.[3] The ratio of subject imports to U.S. production increased by *** percentage points during 2017-19, from *** percent in 2017 to *** percent in 2019.

[3] *** accounted for the majority of reported imports from China (*** percent in 2019). *** accounted for the majority of reported imports from all other sources (*** percent in 2019), all of which were from Mexico. Other nonsubject sources of imports reported by responding firms included Austria, Canada, Czech Republic, Finland, France, Germany, Italy, Japan, Malaysia, Netherlands, Norway, Poland, Romania, Singapore, Spain, Sri Lanka, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, and United Kingdom.

Table IV-2
FS fittings: U.S. imports by source, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Value (1,000 dollars)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Table continued on next page.

Table IV-2--Continued
FS fittings: U.S. imports by source, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Share of quantity (percent)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Share of value (percent)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Ratio to U.S. production				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Note.— Effective September 24, 2018, U.S. imports of FS fittings from Taiwan are subject to an antidumping duty order. Effective November 26, 2018, U.S. imports of FS fittings from China and Italy are subject to antidumping duty orders; U.S. imports of FS fittings from China are also subject to a countervailing duty order. For a more detailed discussion, see part I section entitled “previous and related investigations.”
Note.—***.

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

Figure IV-1
FS fittings: U.S. import quantities and average unit values, 2017-19, January-June 2019, and January-June 2020

* * * * * * *

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[4] 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.[5] Table IV-3 presents the individual shares of total imports accounted by subject countries, by quantity, during October 2018 through September 2019.

Table IV-3
FS fittings: U.S. imports in the twelve-month period preceding the filing of the petition, October 2018 through September 2019

Item	Oct 2018 through Sept 2019	
	Quantity (short tons)	Share quantity (percent)
U.S. imports from.--		
India AD	***	***
India CVD	***	***
Korea	***	***
All other sources	***	***
All import sources	***	***

Note—Shakti Forge Industries received a de minimis dumping margin. 85 FR 66306, October 19, 2020. Thus, the quantity presented for "India AD" was adjusted to exclude imports for which responding firms identified Shakti Forge as the foreign producer.

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

[4] 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)).

[5] Section 771 (24) of the Act (19 U.S.C § 1677(24)).

Cumulation considerations

In assessing whether imports should be cumulated, the Commission determines whether U.S. imports from the subject countries compete with each other and with the domestic like product and has generally considered four factors: (1) fungibility, (2) presence of sales or offers to sell in the same geographical markets, (3) common or similar channels of distribution, and (4) simultaneous presence in the market. Information regarding channels of distribution, market areas, and interchangeability appear in Part II. Additional information concerning fungibility, geographical markets, and simultaneous presence in the market is presented below.

Fungibility

Table IV-4 and figure IV-2 present U.S. producers' U.S. shipments and U.S. importers' U.S. imports by level of processing. Table IV-5 and figure IV-3 present U.S. producers' and U.S. importers' U.S. shipments by type. All U.S. producers' U.S. shipments and the majority of U.S. importers' subject U.S. imports (*** percent) consist of finished FS fittings. Both U.S. producers and U.S. importers sold a variety of FS fittings in 2019 with the vast majority consisting of elbows, tees, and "other."[6]

[6] "Other" FS fittings identified by U.S. producers and importers included bushings, caps, couplings, plugs, and unions. A small quantity of products in the "other" category were unidentified or unknown.

Table IV-4
FS fittings: U.S. producers' U.S. shipments and U.S. importers' U.S. imports by level of processing, 2019

	Unfinished	Finished	All levels of processing
	Quantity (short tons)		
U.S. producers' U.S. shipments	***	***	***
U.S. importers' U.S. imports from.--			
India	***	***	***
Korea	***	***	***
Subject sources	***	***	***
China	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
U.S. producers and U.S. importers	***	***	***
	Share across (percent)		
U.S. producers U.S. shipments	***	***	***
U.S. importers' U.S. imports from.--			
India	***	***	***
Korea	***	***	***
Subject sources	***	***	***
China	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
U.S. producers and U.S. importers	***	***	***
	Share down (percent)		
U.S. producers U.S. shipments	***	***	***
U.S. importers' U.S. imports from.--			
India	***	***	***
Korea	***	***	***
Subject sources	***	***	***
China	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
U.S. producers and U.S. importers	***	***	***

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

Figure IV-2
Forged steel fittings: U.S. producers' and U.S. importers' U.S. shipments by level of processing, 2019

* * * * * * *

Table IV-5
FS fittings: U.S. producers' and U.S. importers' U.S. shipments by type, 2019

	Product type					
	Elbows	Tees	Crosses	Laterals	Other	All types
	Quantity (short tons)					
U.S. producers' U.S. shipments	***	***	***	***	***	***
U.S. importers' U.S. shipments from.--						
India	***	***	***	***	***	***
Korea	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
China	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
U.S. producers and U.S. importers	***	***	***	***	***	***
	Share across (percent)					
U.S. producers' U.S. shipments	***	***	***	***	***	***
U.S. importers' U.S. shipments from.--						
India	***	***	***	***	***	***
Korea	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
China	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
U.S. producers and U.S. importers	***	***	***	***	***	***
	Share down (percent)					
U.S. producers' U.S. shipments	***	***	***	***	***	***
U.S. importers' U.S. shipments from.--						
India	***	***	***	***	***	***
Korea	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
China	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
U.S. producers and U.S. importers	***	***	***	***	***	***

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

Figure IV-3
FS fittings: U.S. producers' and U.S. importers' U.S. shipments by type, 2019

* * * * * * *

Geographical markets

FS fittings produced in the United States are shipped nationwide (see Part II for more information on geographic markets). U.S. imports of subject merchandise from India and Korea entered multiple U.S. ports of entry across the nation. Table IV-6 presents U.S. imports of FS fittings, by source and border of entry in 2019, based on proprietary Customs records. The majority of FS fittings from each subject country entered through southern borders of entry.

Table IV-6
FS fittings: U.S. imports by border of entry, 2019

Item	Border of entry				
	East	North	South	West	All borders
	Quantity (short tons)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Share across (percent)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Share down (percent)				
U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Note.--Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.
Note.—Data are not available for December 2019.

Source: Compiled from proprietary Customs records for companies that certified they import FS fittings to the Commission's questionnaire using HTS statistical reporting numbers 7307.99.1000, 7307.99.3000, 7307.99.5045, and 7307.99.5060, accessed July 20, 2020.

Presence in the market

FS fittings produced in the United States were present in the market throughout the period for which data were available. Table IV-7 and figures IV-4 and IV-5 present monthly data for U.S. imports of FS fittings from subject and nonsubject sources between January 2017 and November 2019. U.S. imports from India and Korea were present in each month during January 2017-November 2019.

Table IV-7
FS fittings: U.S. imports by month, January 2017 through November 2019

U.S. imports	India	Korea	Subject	China	All other	Non-subject	All imports
	Quantity (short tons)						
2017.-- January	***	***	***	***	***	***	***
February	***	***	***	***	***	***	***
March	***	***	***	***	***	***	***
April	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***
August	***	***	***	***	***	***	***
September	***	***	***	***	***	***	***
October	***	***	***	***	***	***	***
November	***	***	***	***	***	***	***
December	***	***	***	***	***	***	***
2018.-- January	***	***	***	***	***	***	***
February	***	***	***	***	***	***	***
March	***	***	***	***	***	***	***
April	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***
August	***	***	***	***	***	***	***
September	***	***	***	***	***	***	***
October	***	***	***	***	***	***	***
November	***	***	***	***	***	***	***
December	***	***	***	***	***	***	***
2019.-- January	***	***	***	***	***	***	***
February	***	***	***	***	***	***	***
March	***	***	***	***	***	***	***
April	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***
August	***	***	***	***	***	***	***
September	***	***	***	***	***	***	***
October	***	***	***	***	***	***	***
November	***	***	***	***	***	***	***

Note.--Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.
Note.—Data are not available after November 2019.

Source: Compiled from proprietary Customs records for companies that certified they import FS fittings to the Commission's questionnaire using HTS statistical reporting numbers 7307.99.1000, 7307.99.3000, 7307.99.5045, and 7307.99.5060, accessed July 20, 2020.

Figure IV-4
FS fittings: U.S. imports from individual subject sources, by month, January 2017 through November 2019

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Figure IV-5
FS fittings: U.S. imports from aggregated subject and nonsubject sources, by month, January 2017 through November 2019

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Apparent U.S. consumption

Table IV-8 presents data on apparent U.S. consumption and U.S. market shares for FS fittings. Apparent U.S. consumption increased by 2.1 percent and 13.9 percent from 2017 to 2019, based on quantity and value respectively. Apparent U.S. consumption was 56.9 percent and 44.0 percent lower in January-June 2020 than in January-June 2019, based on quantity and value respectively.

Table IV-8
FS fittings: U.S. shipments of domestic product, U.S. shipments of imports, and apparent U.S. consumption, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. importers' U.S. shipments from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Apparent U.S. consumption	25,037	30,667	25,567	15,001	6,467
	Value (1,000 dollars)				
U.S. producers' U.S. shipments.--					
Fully domestic value	***	***	***	***	***
Value added to imports	***	***	***	***	***
Total	***	***	***	***	***
U.S. importers' U.S. shipments from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
Apparent U.S. consumption	149,986	191,116	170,828	94,093	52,666

Note.—Average unit values for importers' U.S. shipments from Korea varied widely during the period for which data were collected. For example, in 2019, average unit values ranged from $*** per short ton (***) to $*** per short ton (***).
Note.--***. Staff correspondence with ***, October 16, 2020.
Note.—***. Staff correspondence with ***, September 8, 2020.

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

U.S. market shares

U.S. market share data are presented in table IV-9 and figure IV-6. U.S. producers' market share increased by *** percentage points between 2017 and 2019. Subject import market share also increased by *** percentage points during the same period.

Table IV-9
FS fittings: U.S. consumption and market shares, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
Apparent U.S. consumption	25,037	30,667	25,567	15,001	6,467
	Share of quantity (percent)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. importers' U.S. shipments from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Value (1,000 dollars)				
Apparent U.S. consumption	149,986	191,116	170,828	94,093	52,666
	Share of value (percent)				
U.S. producers' U.S. shipments.--					
Fully domestic value	***	***	***	***	***
Value added to imports	***	***	***	***	***
Total	***	***	***	***	***
U.S. importers' U.S. shipments from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

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

Figure IV-6
Forged steel fittings: Apparent U.S. consumption, 2017-19, January to June 2019, and January to June 2020

* * * * * * *

Part V: Pricing data

Factors affecting prices

Integrated U.S. producers typically utilize special bar quality ("SBQ") hot-rolled steel bar as their principal raw material input in the production of FS fittings.[1] [2] A small share of FS fittings is produced from seamless pipe. Independent finishers, including Anvil, use unfinished forgings as the main raw material. U.S. producers' raw materials as a share of the cost of goods sold ("COGS") increased from *** percent in 2017 to *** percent in 2018 and then decreased to *** percent in 2019, and was *** percent in interim 2020.

As shown in figure V-1, the prices of carbon SBQ bar decreased overall between January 2017 and June 2020, by *** percent while the price of alloy SBQ bar increased by *** percent. These prices increased in 2017 and 2018, reaching their peaks in November and December 2018, and declined in 2019 through August 2020. Between January 2017 and December 2018, the prices of carbon SBQ bar and alloy SBQ bar increased by *** percent and *** percent, respectively. Between December 2018 and June 2020, the prices of carbon SBQ bar and alloy SBQ bar declined by *** percent and *** percent, respectively.

[1] Conference transcript, pp. 69-70 (Almer).

[2] SBQ 1-inch round 1000 series (carbon) hot-rolled steel bars are typically imported under subheadings 7213.99.0016, 7213.99.0060, 7214.99.0031, or 7214.99.0045, while SBQ 1-inch round 4100 series (alloy) hot-rolled steel bars are typically imported under subheadings 7227.90.6040 or 7228.30.8015. Both of these product types are included among the steel mill-product imports subject to the additional 25-percent ad valorem Section 232 national-security tariffs announced by the President on March 8, 2018. Please see Part I, "Tariff treatment," for additional detail.

Figure V-1
Raw materials: Prices of carbon steel SBQ bar and alloy steel SBQ bar, monthly, January 2017-September 2020

* * * * * * *

Source: American Metal Market, accessed October 27, 2020.

Impact of Section 232 tariffs on steel[3]

Three U.S. producers reported that the Section 232 tariffs had increased raw material prices, with two of these firms reporting that these tariffs had caused FS fittings prices to increase (table V-1). ***. Among importers, 11 firms reported an increase in raw material prices and 8 reported an increase in FS fittings prices as a result of Section 232

[3] On March 8, 2018, the President announced that an additional 25 percent ad valorem rate of duty with respect to steel articles defined at the Harmonized Tariff Schedule 6-digit level as 7206.10 through 7216.50, 7216.99 through 7301.10, 7302.10, 7302.40 through 7302.90, and 7304.10 through 7306.90, would apply to imports of steel articles from all countries except Canada and Mexico. On March 23, 2018, these tariffs went into effect. Between March and May 2018, exemptions to these tariffs were announced for Argentina, Australia, Brazil, Canada, Mexico, member countries of the European Union, and South Korea, and import quotas were agreed to by Argentina, Brazil, and South Korea. Since the President's May 19, 2019 proclamation, the Section 232 tariff on imported steel is in effect for all countries except Argentina, Australia, Brazil, Canada, Mexico, and South Korea. For more information, see https://www.cbp.gov/trade/remedies/232-tariffs-aluminum-and-steel, retrieved November 18, 2019.

tariffs, while 9 firms reported no change in their raw material prices as a result of Section 232 tariffs and 11 reported no resultant change in FS fittings prices.

Table V-1
FS fittings: Firms' responses regarding the impact of the 232 tariffs

Item	Number of firms reporting			
	Increase	No change	Decrease	Fluctuate
U.S. producers.--				
Raw material costs	3	1	---	---
Prices of forged steel fittings	2	1	---	1
U.S. importers.--				
Raw material costs	11	9	---	4
Prices of forged steel fittings	8	11	2	2

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

U.S. inland transportation costs

All four U.S. producers and 17 of 18 responding importers reported that they typically arrange transportation to their customers. U.S. producers reported that their U.S. inland transportation costs ranged from 2 to 5 percent, and importers reported costs ranging from less than one percent to 10 percent.

Pricing practices

Pricing methods

U.S. producers generally sell FS fittings using set price lists (table V-2). Petitioner Bonney Forge, which uses a multiplier to discount from its published price list, implemented a new price list for FS fittings in January 2019, its first published price increase since 2011.[4] Eleven of 24 responding importers reported selling on a transaction-by-transaction basis, and 10 reported using a set price list. *** also sells some items ***. *** stated that its customers are given a discount factor off its published list price, that all customers are offered a cash discount of *** percent if they pay the invoice on time, and that some customers are also offered a rebate.

[4] Bonney Forge's domestic competitors also had price increases. Conference transcript, pp. 25, 68 (O'Connell).

Table V-2
FS fittings: U.S. producers' and importers' reported price setting methods, by number of responding firms

Method	U.S. producers	U.S. importers
Transaction-by-transaction	---	11
Contract	---	6
Set price list	3	10
Other	2	7
Responding firms	3	24

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 FS fittings through the spot market and through annual contracts (table V-3). Three U.S. producers reported selling only in the spot market. ***. Importers reported mainly spot and short-term contract sales.

Table V-3
FS fittings: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2019

Type of sale	U.S. producers	Subject U.S. importers
Long-term contracts	***	***
Annual contracts	***	***
Short-term contracts	***	***
Spot sales	***	***
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.

Three purchasers reported that they purchase product daily, three purchase weekly, and three purchase monthly. Six of 13 responding purchasers reported that their purchasing frequency had changed since 2017, citing that their reported purchase frequency had changed with changes in demand (four specifically reported demand had declined).[5] Most (10 of 13) purchasers contact 1 to 5 suppliers before making a purchase.

[5] None of the purchasers reported demand had increased.

Sales terms and discounts

All four U.S. producers reported typically quoting prices on an f.o.b. basis. Importers' responses were nearly evenly split between quoting prices on a delivered or an f.o.b. basis. Three of the four responding U.S. producers reported offering various discounts including total volume discounts and rebate programs. Ten of 24 importers reported having no discount policy, and the remaining firms reported some type of discounts including total volume discounts (reported by 7 firms) and quantity discounts (6 firms). Bonney Forge negotiates volume discounts from its price lists with its customers and these discounts generally do not change over time unless the buyer or seller asks for a change.[6] Bonney Forge indicated in the preliminary phase that its discounts from its price list have remained relatively the same since the introduction of its new price sheet in 2019.[7]

Price leadership

Twelve of 13 responding purchasers reported one or more price leaders. The firm most frequently reported as a price leader was Bonney Forge (listed by 7 purchasers), followed by Capitol/Phoenix (listed by 5 purchasers). Other price leaders that were listed by only one purchaser including Titus, Anvil, Tsuda, Smith Cooper, and PMW. Bonney Forge was reported to have a price list "everyone in the industry operated off of" and most companies adjust their prices when Bonney Forge updates their price list. Capitol was reported to "help it (Bonney Forge) setting" the standard price list. Both Bonney Forge and Capitol were reported to announce price increases, follow market conditions, and dictate prices.

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 FS fittings products shipped to unrelated U.S. customers during January 2017-June 2020.

Product 1.-- ASME B16.11, 2" 2000 Tee (threaded), finished

Product 2.-- ASME B16.11, 1" 2000 90 Elbow (threaded), finished

Product 3.-- ASME B16.11, 2" 3000 90 Elbow (threaded), finished

[6] Conference transcript, p. 47 (O'Connell).
[7] Conference transcript, p. 46 (O'Connell).

Product 4.--ASME B16.11, ¾" 3000 Union (threaded), finished

Product 5.-- ASME B16.11, 1.5" 3000 Union (threaded), finished

Product 6.--ASME B16.11, 2" 3000 Coupling (threaded), finished

Three U.S. producers and 11 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[8] [9] [10] [11] Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' shipments of FS fittings, *** percent of U.S. shipments of subject imports from India in 2019, and *** percent of U.S. shipments of subject imports from Korea in 2019.

Price data for products 1-6 are presented in tables V-4 to V-9 and figures V-2 to V-7. Nonsubject country prices are presented in Appendix E.

[8] 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.

[9] ***.

[10] ***.

[11] ***.

Table V-4
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by quarter, January 2017 through June 2020

Period	United States		India			Korea		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***

Note: Product 1: ASME B16.11, 2” 2000 Tee (threaded), finished.

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

Table V-5
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by quarter, January 2017 through June 2020

Period	United States		India			Korea		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***

Note: Product 2: ASME B16.11, 1” 2000 90 Elbow (threaded), finished.

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

Table V-6
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 and margins of underselling/(overselling), by quarter, January 2017 through June 2020

Period	United States		India			Korea		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***

Note: Product 3: ASME B16.11, 2” 3000 90 Elbow (threaded), finished.

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

Table V-7
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by quarter, January 2017 through June 2020

Period	United States		India			Korea		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***

Note: Product 4: ASME B16.11, ¾" 3000 Union (threaded), finished.

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

Table V-8
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 5 and margins of underselling/(overselling), by quarter, January 2017 through June 2020

Period	United States		India			Korea		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***

Note: Product 5: ASME B16.11, 1.5” 3000 Union (threaded), finished.

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

Table V-9
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 6 and margins of underselling/(overselling), by quarter, January 2017 through June 2020

Period	United States		India			Korea		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***

Note: Product 6: ASME B16.11, 2” 3000 Coupling (threaded), finished.

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

Figure V-2
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by quarter, January 2017 through June 2020

* * * * * * *

* * * * * * *

Note: Product 1: ASME B16.11, 2" 2000 Tee (threaded), finished.

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

Figure V-3
FS fittings: Weighted-average prices and quantities of domestic and imported product 2, by quarter, January 2017 through June 2020

* * * * * * *

* * * * * * *

Note: Product 2: ASME B16.11, 1” 2000 90 Elbow (threaded), finished.

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

Figure V-4
FS fittings: Weighted-average prices and quantities of domestic and imported product 3, by quarter, January 2017 through June 2020

* * * * * * *

* * * * * * *

Note: Product 3: ASME B16.11, 2” 3000 90 Elbow (threaded), finished.

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

Figure V-5
FS fittings: Weighted-average prices and quantities of domestic and imported product 4, by quarter, January 2017 through June 2020

* * * * * * *

* * * * * * *

Note: Product 4: ASME B16.11, ¾" 3000 Union (threaded), finished.

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

Figure V-6
FS fittings: Weighted-average prices and quantities of domestic and imported product 5, by quarter, January 2017 through June 2020

* * * * * * *

* * * * * * *

Note: Product 5: ASME B16.11, 1.5” 3000 Union (threaded), finished.

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

Figure V-7
FS fittings: Weighted-average prices and quantities of domestic and imported product 6, by quarter, January 2017 through June 2020

* * * * * * *

* * * * * * *

Note: Product 6: ASME B16.11, 2” 3000 Coupling (threaded), finished.

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

Price trends

In general, prices increased during January 2017-June 2020. Table V-10 summarizes the price trends, by country and by product. As shown in the table, domestic price increases ranged from *** to *** percent during January 2017-June 2020. Import prices were only available from January 2018 to June 2020. Domestic price increases ranged from *** to *** percent for all products between January 2018 to June 2020 while import price increases ranged from *** to *** percent for products 1, 2, 4, and 6 from India and from *** to *** percent for all products from Korea. Price decreases ranged from *** to *** percent for products 3 and 5 from India between January 2018 to June 2020.

Table V-10
FS fittings: Summary of weighted-average f.o.b. prices for products 1-6 from the United States and subject countries

Item	Number of quarters	Low price (dollars per pound)	High price (dollars per pound)	Change in price over period (percent)	Price change from first quarter 2018 to second quarter 2020 (percent)
Product 1:					
United States	***	***	***	***	***
India	***	***	***	***	***
Korea	***	***	***	***	***
Product 2:					
United States	***	***	***	***	***
India	***	***	***	***	***
Korea	***	***	***	***	***
Product 3:					
United States	***	***	***	***	***
India	***	***	***	***	***
Korea	***	***	***	***	***
Product 4:					
United States	***	***	***	***	***
India	***	***	***	***	***
Korea	***	***	***	***	***
Product 5:					
United States	***	***	***	***	***
India	***	***	***	***	***
Korea	***	***	***	***	***
Product 6:					
United States	***	***	***	***	***
India	***	***	***	***	***
Korea	***	***	***	***	***

Note: Percentage change from the first quarter in 2017 to the second quarter 2020.

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

Price comparisons

As shown in table V-11, prices for product imported from India were below those for U.S.-produced product in 35 of 58 instances (*** pounds); margins of underselling ranged from *** to *** percent. In the remaining 23 instances (*** pounds), prices for product from India were between *** and *** percent above prices for the domestic product. Prices for product imported from Korea were below those for U.S.-produced product in 14 of 60 instances (*** pounds); margins of underselling ranged from *** to *** percent. In the remaining 46 instances (*** pounds), prices for product from Korea were between *** and *** percent above prices for the domestic product.

Table V-11
FS fittings: Instances of underselling/overselling and the range and average of margins, by country, January 2017-June 2020

Source	Underselling				
	Number of quarters	Quantity (pounds)	Average margin (percent)	Margin range (percent)	
				Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Product 4	***	***	***	***	***
Product 5	***	***	***	***	***
Product 6	***	***	***	***	***
Total, underselling	49	531,591	6.3	0.0	34.7
India	***	***	***	***	***
Korea	***	***	***	***	***
Total, underselling	49	531,591	6.3	0.0	34.7
2017	***	***	***	***	***
2018	***	***	***	***	***
2019	***	***	***	***	***
2020	***	***	***	***	***
Total, underselling	49	531,591	6.3	0.0	34.7
Source	(Overselling)				
	Number of quarters	Quantity (pounds)	Average margin (percent)	Margin range (percent)	
				Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Product 4	***	***	***	***	***
Product 5	***	***	***	***	***
Product 6	***	***	***	***	***
Total, overselling	69	711,246	(13.7)	(0.4)	(43.4)
India	***	***	***	***	***
Korea	***	***	***	***	***
Total, overselling	69	711,246	(13.7)	(0.4)	(43.4)
2017	***	***	***	***	***
2018	***	***	***	***	***
2019	***	***	***	***	***
2020	***	***	***	***	***
Total, overselling	69	711,246	(13.7)	(0.4)	(43.4)

Note: These 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

In the preliminary phase of the investigation, the Commission requested that U.S. producers of FS fittings report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of FS fittings from India during January 2016-September 2019. The petition contained no lost sales or lost revenue allegations, and no allegations were submitted by non-petitioning producers.[12]

In the final phase of the investigation, all four U.S. producers reported that they had to reduce prices and one producer reported that it had to roll back announced price increases. Four producers reported that they had lost sales.

Staff contacted 39 purchasers and received responses from 13 purchasers. Responding purchasers reported purchasing *** short tons of FS fittings during January 2017-June 2020 (table V-12).

[12] ***.

Table V-12
FS fittings: Purchasers' reported purchases and imports, January 2017-June 2020, by purchaser

Purchaser	Purchases and imports in January 2017 through June 2020 (short tons)			Subject country sources	Change in domestic share[2] (pp, 2017-19)	Change in subject country share[2] (pp, 2017-19)
	Domestic	Subject	All other[1]			
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
Total	***	***	***	NA	***	***

Note: All other 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.

One of 12 responding purchasers reported that, since 2017, it had purchased imported FS fittings from India instead of U.S.-produced product and 5 of the 13 responding purchasers reported that they had purchased imported FS fittings from Korea instead of U.S.-produced product. All five of the purchasers that purchased imported FS fitting from India and Korea reported that subject import prices were lower than U.S.-produced product. One of these purchasers reported that price was a primary reason for the decision to purchase Indian product rather than U.S.-produced product and three reported that price was a primary reason for purchases of Korean product rather than U.S.-produced product. No purchaser estimated the quantity of FS fittings from India purchased instead of domestic product.[13] Two purchasers estimated the quantity of fittings purchased from Korea instead of domestic product; quantities ranged from *** short tons to *** short tons (tables V-13 and V-14). Two purchasers reported non-price reasons for purchasing Korean product. *** reported that ***.

[13] The only purchaser that reported purchasing Indian product rather than U.S. product, *** did not report the quantity of product it purchased from any source.

***.

Table V-13
FS fittings: Purchasers' responses to purchasing subject imports instead of domestic product, by purchaser

Purchaser	Subject imports purchased instead of domestic (Y/N)	Imports priced lower (Y/N)	If purchased subject imports instead of domestic, was price a primary reason		
			Y/N	If Yes, quantity (short tons)	If No, non-price reason
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total	Yes--5; No--8	Yes--5; No--0	Yes--3; No--2	***	

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

Table V-14
FS fittings: Purchasers' responses to purchasing subject imports instead of domestic product, by country

Source	Count of purchasers reporting subject instead of domestic	Count of purchasers reported that imports were priced lower	Count of purchasers reporting that price was a primary reason for shift	Quantity subject purchased (short tons)
India	1	1	1	***
Korea	5	5	3	***
Any subject source	5	5	3	***

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

Of the 13 responding purchasers, two reported that U.S. producers had reduced prices in order to compete with lower-priced imports from India and/or Korea; four reported that U.S. producers had not reduced prices, and seven reported that they did not know (table V-15 and V-16). The reported estimated price reduction ranged from *** percent, *** percent for FS fittings from India and *** percent for FS fittings from Korea.

Table V-15
FS fittings: Purchasers' responses to U.S. producer price reductions, by purchaser

Purchaser	Producers reduced price	If producer reduced prices:	
		Estimated U.S. price reduction (percent)	Additional information, if available
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
Total / average	Yes--2; No—4	***	

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

Table V-16
FS fittings: Purchasers' responses to U.S. producer price reductions, by country

Source	Count of purchasers reporting U.S. producers reduced prices	Simple average of estimated U.S. price reduction (percent)	Range of estimated U.S. price reductions (percent)
India	1	***	***
Korea	2	***	***
All subject sources	2	***	***

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

Part VI: Financial experience of U.S. producers

Background

Four firms provided usable financial results on their FS fittings operations.[1] All responding U.S. producers reported financial data on a GAAP basis and for calendar-year annual periods. In 2019, *** accounted for *** percent of the U.S. producers' net sales by quantity, *** accounted for *** percent, *** accounted for *** percent, and *** accounted for *** percent.[2] The combined net sales quantity of FS fittings consisted of commercial sales (*** percent) and transfers to related firms (*** percent) in 2019.[3] Accordingly, the tables below present a combined revenue total.

Staff conducted a verification of ***'s U.S. producer questionnaire. The verification adjustments were incorporated into this report. ***.

Operations on FS fittings

Income-and-loss data for U.S. producers' FS fittings operations are presented in table VI-1. Table VI-2 presents corresponding changes in average per short ton values. Table VI-3 presents selected company-specific financial data.

[1] Three of the firms (Bonney Forge, Capitol Manufacturing, and PMW) are integrated FS fittings producers and one firm (Anvil) has finishing-only operations.

[2] By value, *** accounted for *** percent of net sales, *** accounted for *** percent, *** accounted for *** percent, and *** accounted for *** percent in 2019.

[3] ***. U.S. producer's questionnaire response of ***, question II-12.

Table VI-1
FS fittings: Results of operations of U.S. producers, 2017-19, January to June 2019, and January to June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
Total net sales	***	***	***	***	***
	Value (1,000 dollars)				
Total net sales	***	***	***	***	***
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Total COGS	***	***	***	***	***
Gross profit	***	***	***	***	***
SG&A expense	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
All other expense, net	***	***	***	***	***
Net income or (loss)	***	***	***	***	***
Depreciation/amortization	***	***	***	***	***
Cash flow	***	***	***	***	***
	Ratio to net sales (percent)				
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Average COGS	***	***	***	***	***
Gross profit	***	***	***	***	***
SG&A expense	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Net income or (loss)	***	***	***	***	***
	Ratio to total COGS (percent)				
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Average COGS	***	***	***	***	***

Table continued on next page.

Table VI-1—Continued
FS fittings: Results of operations of U.S. producers, 2017-19, January to June 2019, and January to June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Unit value (dollars per short ton)				
Total net sales	***	***	***	***	***
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Average COGS	***	***	***	***	***
Gross profit	***	***	***	***	***
SG&A expense	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Net income or (loss)	***	***	***	***	***
	Number of firms reporting				
Operating losses	***	***	***	***	***
Net losses	***	***	***	***	***
Data	***	***	***	***	***

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

Table VI-2
FS fittings: Changes in AUVs, between calendar years and between partial year periods

Item	Between calendar years			Between partial year period
	2017-19	2017-18	2018-19	2019-20
	Change in AUVs (percent)			
Total net sales	***	***	***	***
Cost of goods sold.-- Raw materials	***	***	***	***
Direct labor	***	***	***	***
Other factory costs	***	***	***	***
Average COGS	***	***	***	***
	Change in AUVs (dollars per short ton)			
Total net sales	***	***	***	***
Cost of goods sold.-- Raw materials	***	***	***	***
Direct labor	***	***	***	***
Other factory costs	***	***	***	***
Average COGS	***	***	***	***
Gross profit	***	***	***	***
SG&A expense	***	***	***	***
Operating income or (loss)	***	***	***	***
Net income or (loss)	***	***	***	***

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

Table VI-3
FS fittings: Select results of operations of U.S. producers, by company, 2017-19, January to June 2019, and January to June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Total net sales (short tons)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Total net sales (1,000 dollars)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Cost of goods sold (1,000 dollars)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Gross profit or (loss) (1,000 dollars)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***

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Table VI-3—Continued
FS fittings: Select results of operations of U.S. producers, by company, 2017-19, January to June 2019, and January to June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	SG&A expenses (1,000 dollars)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Operating income or (loss) (1,000 dollars)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Net income or (loss) (1,000 dollars)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	COGS to net sales ratio (percent)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***

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Table VI-3—Continued
FS fittings: Select results of operations of U.S. producers, by company, 2017-19, January to June 2019, and January to June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Gross profit or (loss) to net sales ratio (percent)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	SG&A expense to net sales ratio (percent)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Operating income or (loss) to net sales ratio (percent)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Net income or (loss) to net sales ratio (percent)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***

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Table VI-3—Continued
FS fittings: Select results of operations of U.S. producers, by company, 2017-19, January to June 2019, and January to June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Unit net sales value (dollars per short ton)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Unit raw materials (dollars per short ton)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Unit direct labor (dollars per short ton)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Unit other factory costs (dollars per short ton)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***

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Table VI-3—Continued
FS fittings: Select results of operations of U.S. producers, by company, 2017-19, January to June 2019, and January to June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Unit COGS (dollars per short ton)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Unit gross profit or (loss) (dollars per short ton)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Unit SG&A expenses (dollars per short ton)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Unit operating income or (loss) (dollars per short ton)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Unit net income or (loss) (dollars per short ton)				
Bonney Forge	***	***	***	***	***
Capitol Manufacturing	***	***	***	***	***
PMW	***	***	***	***	***
Integrated producers	***	***	***	***	***
Anvil	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***

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

Net sales

As shown in table VI-1, total net sales by quantity and value increased from 2017 to 2018 but declined from 2018 to 2019, resulting in an increase of *** percent and *** percent from 2017 to 2019, respectively. Total net sales by quantity and value were notably lower in January-June 2020 compared to the same period in 2019. As shown in table VI-3, ***.[4] ***. *** reported lower net sales, by quantity and value, in January-June 2020 compared to January-June 2019. ***.[5] ***.[6] ***.[7]

The U.S. producers' net sales average unit value ("AUV") increased from $*** in 2017 to $*** in 2019. U.S. producers' net sales AUV was higher in January-June 2020 ($***) than in January-June 2019 ($***). ***.[8] ***

[4] ***. Email from ***, September 3, 2020.
[5] Email from ***, September 15, 2020.
[6] Email from ***, September 15, 2020.
[7] Email from ***, September 15, 2020.
[8] ***. Email from ***, September 21, 2020. ***. Email from ***, September 21, 2020.

***.[9] ***.

Cost of goods sold and gross profit or (loss)

As seen in table VI-1, the average cost of goods sold ("COGS") to net sales ratio declined irregularly from *** percent in 2017 to *** percent in 2019 and was higher in January-June 2020 compared to January-June 2019. As shown in table VI-3, ***.[10]

Other factory costs ("OFC") were the largest component of FS fittings COGS throughout 2017-19 and during both interim periods. It accounted for between *** percent (2018) and *** percent (January-June 2020) of total COGS. OFC include both a variable and a fixed component, whereas raw materials and direct labor are variable costs. Accordingly, OFC represented the largest full year share of COGS in 2017, the year in which net sales quantity was lowest during the full year period.[11] The average per unit OFC declined irregularly from

[9] In response to questions from staff, ***. Email from ***, September 3, 2020.
[10] ***. Email from ***, September 15, 2020.
[11] ***. Email from ***, September 3, 2020. ***. Email from ***, September 3, 2020.

$*** in 2017 to $*** in 2019 and were higher in January-June 2020 compared to January-June 2019.[12]

Raw material costs were the second largest component of COGS representing between *** percent (January-June 2020) and *** percent (2018), followed by direct labor, which represented between *** percent (January-June 2020) and *** percent (2017).[13] The average per unit raw material costs increased from $*** in 2017 to $*** in 2019 but were lower in January-June 2020 compared to January-June 2019. Lastly, the average per unit direct labor costs irregularly increased from $*** in 2017 to $*** in 2019 and were higher in January-June 2020 compared to January-June 2019.

Raw material costs associated with integrated production reflect purchased steel bars and seamless steel pipe/tube. ***.[14] Table VI-4 presents a break-out of the raw material costs, by type, for calendar year 2019.

Table VI-4
FS fittings: Raw material costs, by type, 2019

Raw materials	Calendar 2019	
	Value (1,000 dollars)	Share of value (percent)
Steel bar	***	***
Seamless steel pipe/tube	***	***
Integrated inputs	***	***
Purchased unfinished steel fittings (blanks/forgings):		
Import - Subject	***	***
Import - Nonsubject	***	***
Import source	***	***
Unfinished steel fittings	***	***
Other material inputs	***	***
Total, raw materials	***	***

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

[12] ***. Email from ***, September 15, 2020.

[13] See footnote 10 in this section regarding ***'s direct labor costs.

[14] ***. Emails from ***, September 3 and October 21, 2020.

***.[15] [16] [17]

Gross profit irregularly increased from $*** in 2017 to $*** in 2019 because the increase in revenue exceeded the increase in COGS. Gross profit was lower when comparing January-June 2020 ($***) to January-June 2018 ($***), due to the greater decline in revenue than in COGS. Gross profit ratio (gross profit to net sales ratio) increased irregularly from *** percent in 2017 to *** percent in 2019 and was lower in January-June 2020 (*** percent) compared to January-June 2019 (*** percent).

SG&A expenses and operating income

Total SG&A expenses increased irregularly from 2017 to 2019 but were lower in January-June 2020 compared to January-June 2019. The SG&A expenses ratio (SG&A expenses as a share of net sales value) declined from *** percent in 2017 to *** percent in 2018 then increased to *** in 2019. The SG&A expenses ratio was higher in January-June 2020 compared to January-June 2019.

Operating income increased from $*** in 2017 to $*** in 2018 but declined to $*** in 2019. Operating income ratio (total operating income divided by total net sales) increased from *** percent in 2017 to *** percent in 2018 but declined to *** percent in 2019. The U.S. industry reported operating loss and operating loss margin in January-June 2020 compared to operating income and operating income margin in the same period in 2019.

[15] ***'s U.S. producers' questionnaire response at III-9c. ***. Email from ***, September 3, 2020.

[16] Estimated value added (total conversion costs (direct labor and other factory costs) as a share of total COGS) for the finishing only producer, ***, ranged from a low of *** percent in January-June 2019 to a high of *** percent in 2017 (calculated from ***'s U.S. producers' questionnaire response at III-9a).

[17] ***. Petitioners' postconference brief, Answers to staff questions, p. 1.

Other expenses and net income

Classified below the operating income level are interest expense, other expense, and other income. In table VI-1, these items are aggregated and only the net amount is shown. The net "all other expenses" declined from 2017 to 2019 and was lower in January-June 2020 compared to January-June 2019.

Net income irregularly increased from $*** in 2017 to $*** in 2018 but declined to $*** in 2019. Net income ratio (total net income divided by total net sales) increased from *** percent in 2017 to *** percent in 2018 but declined to *** percent in 2019. The U.S. industry reported net loss and net loss margin in January-June 2020 compared to net income and net income margin in the same period in 2019.[18]

Capital expenditures and research and development expenses

Table VI-5 presents U.S. producers' capital expenditures and research and development ("R&D") expenses related to their FS fittings operations and table VI-6 presents corresponding narrative descriptions. *** to report R&D expenses.

Table VI-5
FS fittings: Capital expenditures and research and development expenses for U.S. producers, by firm, 2017-19, January to June 2019, and January to June 2020

Item	Fiscal year			January to June	
	2017	2018	2019	2019	2020
	Capital expenditures (1,000 dollars)				
Integrated producers	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***
	Research and development expenses (1,000 dollars)				
Integrated producers	***	***	***	***	***
Finishing only producer	***	***	***	***	***
All producers	***	***	***	***	***

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

[18] A variance analysis is not shown due to the difference in cost structures among the reporting firms and reported differences in product mix.

Table VI-6
FS fittings: Nature and focus of capital expenditures and R&D expenses for U.S. producers, by firm, 2017-19, January to June 2019, and January to June 2020

Firm	Nature and focus of capital expenditures
***	***
***	***
***	***
***	***
	Nature and focus of R&D expenses
***	***
***	***

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

Assets and return on assets

Table VI-7 presents data on the U.S. producers' total assets and their return on assets (operating income divided by total assets) related to operations on FS fittings.[19]

Table VI-7
FS fittings: Value of assets used in production, warehousing, and sales, and operating return on assets for U.S. producers, 2017-19

Firm	Fiscal years		
	2017	2018	2019
	Total net assets (1,000 dollars)		
Integrated producers	***	***	***
Finishing only producer	***	***	***
All producers	***	***	***
	Operating return on assets (percent)		
Integrated producers	***	***	***
Finishing only producer	***	***	***
All producers	***	***	***

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

[19] With respect to a company's overall operations, staff notes that total asset value (i.e., the bottom line number on the asset side of a company's balance sheet) reflects an aggregation of a number of assets which are generally not product specific. Accordingly, high level corporate allocations may be required in order to report a total asset value for FS fittings.

Capital and investment

The Commission requested U.S. producers of FS fittings to describe any actual or potential negative effects of imports of FS fittings from India and Korea on their firms' growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table VI-8 presents the number of firms reporting an impact in each category and table VI-9 provides the U.S. producers' narrative responses.

Table VI-8
FS fittings: Actual and anticipated negative effects of imports on investment and growth and development

Item	No	Yes
Negative effects on investment	1	3
Cancellation, postponement, or rejection of expansion projects		1
Denial or rejection of investment proposal		0
Reduction in the size of capital investments		2
Return on specific investments negatively impacted		2
Other		2
Negative effects on growth and development	3	1
Rejection of bank loans		0
Lowering of credit rating		0
Problem related to the issue of stocks or bonds		0
Ability to service debt		0
Other		1
Anticipated negative effects of imports	1	3

Note: ***.

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

Table VI-9
FS fittings: Narratives relating to actual and anticipated negative effects of imports on investment and growth and development, since January 1, 2017

Item / Firm	Narrative
Cancellation, postponement, or rejection of expansion projects:	
***	***
Reduction in the size of capital investments:	
***	***
***	***
Return on specific investments negatively impacted:	
***	***
***	***
Other negative effects on investments:	
***	***
***	***
Other effects on growth and development:	
***	***
Anticipated effects of imports:	
***	***
***	***
***	***

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*[1]*--*
>
> *(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,*

---

[1] 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).[2]

Information on the nature of the 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.

[2] 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 India

The Commission issued foreign producers' or exporters' questionnaires to 30 firms believed to produce and/or export FS fittings from India.[3] Usable responses to the Commission's questionnaire were received from two firms: Shakti Forge and Vaibhav.[4] These firms' exports to the United States accounted for approximately *** percent of U.S. imports of FS fittings from India in 2019. Table VII-1 presents information on the FS fittings operations of the responding producers and exporters in India.

Table VII-1
FS fittings: Summary data for producers in India, 2019

Firm	Production (short tons)	Share of reported production (percent)	Exports to the United States (short tons)	Share of reported exports to the United States (percent)	Total shipments (short tons)	Share of firm's total shipments exported to the United States (percent)
Shakti Forge	***	***	***	***	***	***
Vaibhav	***	***	***	***	***	***
All firms	***	***	***	***	***	***

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

Changes in operations

As presented in table VII-2 producers in India reported several operational and organizational changes since January 1, 2017.

Table VII-2
FS fittings: Indian producers' reported changes in operations, since January 1, 2017

Item / Firm	Reported changes in operations
Expansions:	
***	***
***	***

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

[3] These firms were identified through a review of information submitted in the petitions and contained in proprietary Customs records.

[4] Two firms, ***, which provided a questionnaire response in the preliminary phase of the investigations, certified that the products they manufacture are outside of the scope of the investigations. ***, which provided a questionnaire response in the preliminary phase of the investigations, did not provide a questionnaire response in this final phase.

Operations on FS fittings

Table VII-3 presents information on the FS fittings operations of the responding producers and exporters in India. Indian producers' capacity for FS fittings more than doubled during 2017-19 and was *** percent lower in January-June 2020 than in January-June 2019. Similarly, production more than tripled during 2017-19, and was *** percent lower in interim 2020 than in interim 2019. Production is projected to increase in 2021 while capacity is projected to remain the same.

Export shipments to the United States increased by *** percent from *** short tons to *** short tons during 2017-19 and were *** percent lower in interim 2020 than in interim 2019. Export shipments to the United States as a share of total shipments increased from *** percent in 2017 to *** percent in 2019 and are projected to remain high at *** percent in 2021.

Table VII-3
FS fittings: Data for producers in India, 2017-19, January-June 2019, and January-June 2020, and projected 2020 and 2021

Item	Actual experience					Projections	
	Calendar year			January to June		Calendar year	
	2017	2018	2019	2019	2020	2020	2021
	Quantity (short tons)						
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***
	Ratios and shares (percent)						
Capacity utilization	***	***	***	***	***	***	***
Inventories/production	***	***	***	***	***	***	***
Inventories/total shipments	***	***	***	***	***	***	***
Share of shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

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.

Alternative products

As shown in table VII-4, responding Indian firms produced other products on the same equipment and machinery used to produce FS fittings. ***. The vast majority of capacity is dedicated to the production of FS fittings, which accounted for between *** percent of total production during 2017-19.

Table VII-4
FS fittings: Indian producers' overall capacity and production on the same equipment as subject production, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
Overall capacity	***	***	***	***	***
Production:					
Forged steel fittings	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***
	Ratios and shares (percent)				
Overall capacity utilization	***	***	***	***	***
Share of production:					
Forged steel fittings	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***

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 certain iron and/or steel fittings from India are the United States, the United Arab Emirates, and Germany, accounting for 54.3 percent, 10.1 percent, and 4.0 percent in 2019, respectively (table VII-5).[5]

[5] Data for HS subheadings 7307.92 and 7307.93 are excluded because they include larger shares of nonsubject fittings. The majority of subject FS fittings are exported under the 7307.99 subheading. Some nonsubject fittings are still included under this subheading.

Table VII-5
Certain iron and/or steel fittings: Exports from India by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Quantity (short tons)		
United States	14,251	15,289	19,142
United Arab Emirates	2,751	3,469	3,568
Germany	1,290	1,445	1,414
Saudi Arabia	958	765	1,032
United Kingdom	1,018	917	990
Poland	476	703	712
Oman	788	933	684
Nepal	891	631	583
Chile	0	180	508
All other destination markets	5,974	6,624	6,600
All destination markets	28,398	30,957	35,233
	Value (1,000 dollars)		
United States	35,785	46,253	54,574
United Arab Emirates	7,846	10,670	12,332
Germany	4,107	4,819	5,387
Saudi Arabia	2,622	3,568	4,398
United Kingdom	9,298	2,717	3,210
Poland	1,060	1,647	1,568
Oman	1,717	2,004	1,915
Nepal	1,782	1,615	1,543
Chile	1	879	3,513
All other destination markets	24,937	27,717	31,004
All destination markets	89,153	101,889	119,446

Table continued on next page.

Table VII-5--Continued
Certain iron and/or steel fittings: Exports from India by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Unit value (dollars per short ton)		
United States	2,511	3,025	2,851
United Arab Emirates	2,852	3,075	3,456
Germany	3,184	3,335	3,810
Saudi Arabia	2,738	4,662	4,262
United Kingdom	9,136	2,962	3,244
Poland	2,224	2,343	2,202
Oman	2,178	2,148	2,802
Nepal	2,000	2,558	2,645
Chile	8,013	4,872	6,917
All other destination markets	4,174	4,184	4,698
All destination markets	3,139	3,291	3,390
	Share of quantity (percent)		
United States	50.2	49.4	54.3
United Arab Emirates	9.7	11.2	10.1
Germany	4.5	4.7	4.0
Saudi Arabia	3.4	2.5	2.9
United Kingdom	3.6	3.0	2.8
Poland	1.7	2.3	2.0
Oman	2.8	3.0	1.9
Nepal	3.1	2.0	1.7
Chile	0.0	0.6	1.4
All other destination markets	21.0	21.4	18.7
All destination markets	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 2019 data.

Source: Official exports statistics under HS subheading 7307.99 as reported by the Indian Ministry of Commerce in the Global Trade Atlas database, accessed October 19, 2020.

The industry in Korea

The Commission issued foreign producers' or exporters' questionnaires to 18 firms believed to produce and/or export FS fittings from Korea.[6] Usable responses to the Commission's questionnaire were received from four firms: BK Metal, Keonsae, Samyoung, and Sung Kwang.[7] These firms' exports to the United States exceeded reported U.S. imports of FS fittings from Korea in 2019. Table VII-6 presents information on the FS fittings operations of the responding producers and exporters in Korea.

Table VII-6
FS fittings: Summary data for producers in Korea, 2019

Firm	Production (short tons)	Share of reported production (percent)	Exports to the United States (short tons)	Share of reported exports to the United States (percent)	Total shipments (short tons)	Share of firm's total shipments exported to the United States (percent)
BK Metal	***	***	***	***	***	***
Keonsae	***	***	***	***	***	***
Samyoung	***	***	***	***	***	***
Sung Kwang	***	***	***	***	***	***
All firms	8,517	100.0	***	***	8,724	***

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

Changes in operations

As presented in table VII-7 producers in Korea reported several operational and organizational changes since January 1, 2017.

[6] These firms were identified through a review of information submitted in the petition and contained in proprietary Customs records.

[7] ***, which provided a questionnaire response in the preliminary phase of the investigations, did not provide a questionnaire response in this final phase.

Table VII-7
FS fittings: Korean producers' reported changes in operations, since January 1, 2017

Item / Firm	Reported changes in operations
Expansions:	
***	***
Revised labor agreements:	
***	***
***	***

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

Operations on FS fittings

Table VII-8 presents information on the FS fittings operations of the responding producers and exporters in Korea. Korean producers' capacity for FS fittings increased by 11.7 percent during 2017-19 and was 3.8 percent lower in January-June 2020 than in January-June 2019. Similarly, production increased by 38.5 percent during 2017-19 and was 13.5 percent lower in interim 2020 than in interim 2019. Capacity and production are both projected to decrease in 2021.

Export shipments to the United States increased from *** short tons to *** short tons during 2017-19 and were *** percent lower in interim 2020 than in interim 2019. Export shipments to the United States as a share of total shipments increased from *** percent in 2017 to *** percent in 2019 and are projected to decrease to *** percent in 2021.

Table VII-8
FS fittings: Data for producers in Korea, 2017-19, January-June 2019, and January-June 2020, and projected 2020 and 2021

Item	Actual experience					Projections	
	Calendar year			January to June		Calendar year	
	2017	2018	2019	2019	2020	2020	2021
	Quantity (short tons)						
Capacity	9,195	9,945	10,275	5,138	4,945	9,526	9,526
Production	6,151	7,750	8,517	4,315	3,731	7,242	6,982
End-of-period inventories	***	***	***	***	***	***	***
Shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	5,201	7,999	8,724	4,596	3,441	6,561	6,840
	Ratios and shares (percent)						
Capacity utilization	66.9	77.9	82.9	84.0	75.4	76.0	73.3
Inventories/production	***	***	***	***	***	***	***
Inventories/total shipments	***	***	***	***	***	***	***
Share of shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

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.

Alternative products

As shown in table VII-9, responding Korean firms produced other products on the same equipment and machinery used to produce FS fittings. Two firms, ***, reported production of alternative products with *** accounting for *** such production. The great majority of overall capacity is dedicated to production of FS fittings which accounted for *** percent in 2019. Out-of-scope production included pipe nipples, pipe, sleeves, flanges, and heavy wall fittings.

Table VII-9
FS fittings: Korea producers' overall capacity and production on the same equipment as subject production, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
Overall capacity	***	***	***	***	***
Production:					
FS fittings	6,151	7,750	8,517	4,315	3,731
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***
	Ratios and shares (percent)				
Overall capacity utilization	***	***	***	***	***
Share of production:					
FS fittings	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***

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

Exports

According to GTA, the leading export markets for FS fittings from Korea are the United States, Japan, and China, accounting for 29.1 percent, 17.6 percent, and 7.8 percent in 2019, respectively (table VII-10).[8]

[8] Data for HS subheadings 7307.92 and 7307.93 are excluded because they include larger shares of nonsubject fittings. The majority of subject FS fittings are exported under the 7307.99 subheading. Some nonsubject fittings are still included under this subheading.

Table VII-10
Certain iron and/or steel fittings: Exports from Korea by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Quantity (short tons)		
United States	10,044	10,339	8,642
Japan	6,113	6,178	5,233
China	2,056	3,375	2,311
Vietnam	5,186	3,014	1,805
India	1,110	913	1,107
Poland	12	58	791
Oman	540	500	778
Russia	408	816	739
Qatar	2,530	824	691
All other destination markets	12,688	8,317	7,624
All destination markets	40,686	34,334	29,723
	Value (1,000 dollars)		
United States	52,689	60,950	50,212
Japan	44,356	51,878	45,513
China	22,762	40,487	35,489
Vietnam	23,384	11,485	8,018
India	8,338	10,727	8,545
Poland	54	192	12,349
Oman	994	1,022	1,633
Russia	1,319	2,175	1,462
Qatar	7,925	2,541	1,919
All other destination markets	70,021	62,261	59,016
All destination markets	231,844	243,719	224,155

Table continued on next page.

Table VII-10--Continued
Certain iron and/or steel fittings: Exports from Korea by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Unit value (dollars per short ton)		
United States	5,246	5,895	5,810
Japan	7,256	8,397	8,697
China	11,072	11,995	15,353
Vietnam	4,509	3,811	4,443
India	7,510	11,743	7,718
Poland	4,569	3,327	15,605
Oman	1,842	2,045	2,097
Russia	3,233	2,666	1,979
Qatar	3,133	3,085	2,776
All other destination markets	5,519	7,486	7,741
All destination markets	5,698	7,099	7,542
	Share of quantity (percent)		
United States	24.7	30.1	29.1
Japan	15.0	18.0	17.6
China	5.1	9.8	7.8
Vietnam	12.7	8.8	6.1
India	2.7	2.7	3.7
Poland	0.0	0.2	2.7
Oman	1.3	1.5	2.6
Russia	1.0	2.4	2.5
Qatar	6.2	2.4	2.3
All other destination markets	31.2	24.2	25.7
All destination markets	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 2019 data.

Source: Official exports statistics under HS subheading 7307.99 as reported by Korea Customs and Trade Development Institution in the Global Trade Atlas database, accessed October 19, 2020.

Subject countries combined

Table VII-11 presents summary data on FS fittings operations of the reporting subject producers in the subject countries.

Table VII-11
FS fittings: Data on the industry in subject countries, 2017-19, January-June 2019, and January-June 2020, and projected 2020 and 2021

Item	Actual experience					Projections	
	Calendar year			January to June		Calendar year	
	2017	2018	2019	2019	2020	2020	2021
	Quantity (short tons)						
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***
	Ratios and shares (percent)						
Capacity utilization	***	***	***	***	***	***	***
Inventories/production	***	***	***	***	***	***	***
Inventories/total shipments	***	***	***	***	***	***	***
Share of shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

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. inventories of imported merchandise

Table VII-12 presents data on U.S. importers' reported inventories of FS fittings. Inventories of subject imports increased by *** percent between 2017 and 2019 (from *** short tons to *** short tons) and were *** percent higher in interim 2020 than in interim 2019. The ratio of subject importers' inventories to U.S. shipments of imports increased from *** percent in 2017 to *** percent in 2019 and was higher in interim 2020 (*** percent) than in interim 2019 (*** percent).[9]

[9] Several responding importers, including *** could not readily differentiate inventories of FS fittings by county of origin, which resulted in data reporting and reconciliation issues. *** reported that its systems do not readily track the country of origin of each particular fitting incorporated in or waiting to be incorporated in a downstream product in any given year. Staff correspondence with ***, September 8, 2020. *** both similarly reported that they do not segregate sales and inventory data by country of origin. ***. *** importer questionnaire and staff correspondence with ***, October 21, 2020 and ***, October 19, 2020. In addition, *** was unable to provide inventory data, stating that it maintains over 100 ERP systems with over 20 million part numbers and does not track inventories in the level of detail requested in the questionnaire. Staff correspondence with ***, August 28, 2020.

Table VII-12
FS fittings: U.S. importers' inventories, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Inventories (short tons); Ratios (percent)				
Imports from India					
Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from Korea					
Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from subject sources					
Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from China					
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	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from all import sources:					
Inventories	2,223	2,652	3,580	3,217	3,165
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***

Note.—Staff removed *** reported inventories of imports from Korea after *** was unable to distinguish its sales and inventories by country of origin. ***. Thus, overall inventories of imports from Korea may be understated. Staff adjusted ***. Thus, overall inventories of imports from India may be overstated.

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 FS fittings after June 30, 2020 (table VII-13). Fifteen of 29 responding firms indicated that they had arranged such imports. Six responding firms indicated they had arranged imports from subject sources, while twelve firms indicated they had arranged imports from nonsubject sources.

Table VII-13
Forged steel fittings: Arranged imports, July 2020 through June 2021

Item	Period				
	Jul-Sept 2020	Oct-Dec 2020	Jan-Mar 2021	Apr-Jun 2021	Total
	Quantity (short tons)				
Arranged U.S. imports from.--					
India	***	***	***	***	***
Korea	***	***	***	***	***
Subject 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

Since 2003, the European Commission ("EC") has applied antidumping duties on EU imports of certain tube and pipe fittings from Korea. The duties range from 32.4 percent to 44.0 percent. The antidumping measures were most recently reviewed and extended in April 2019. The products subject to the EC antidumping measures include certain fittings that are covered by the scope of this investigation, such as butt-weld outlets. Threaded FS fittings, which are within the scope of these investigations, are excluded from the EC's antidumping measure, but other non-threaded FS fittings (e.g. socket-weld FS fittings) are included.[10] There are no other known trade remedy actions on FS fittings in other third-country markets.

[10] Commission Implementing Regulation (EU) 2019/566 (OJ L 99 10.4.2019, p. 9-35). https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0566&from=EN.

Information on nonsubject countries

FS fittings are produced and traded in substantial quantities throughout the world. Global Trade Atlas (GTA) publishes data on global exports of certain iron and/or steel fittings for HS subheading 7307.99.[11] As shown in table VII-14, global exports of certain iron and/or steel fittings totaled 734 thousand short tons in 2019, valued at $4.2 billion. Since 2017, the volume of global exports has fallen by 7.0 percent. In quantity, China is the world's largest exporter of certain iron and/or steel fittings, accounting for nearly 295,000 short tons shipped at a value of $1 billion in 2019. Exports from China represented 40.1 percent of global exports, by quantity, in 2019. Other leading nonsubject exporters of certain iron and/or steel fittings include Italy, Germany, and the United States, with global export shares ranging from 4.6 percent to 7.9 percent in 2019. The United States was the world's largest exporter of certain iron and/or steel fittings in value terms, exporting approximately $390 million in 2019. Combined, subject country (India and Korea) exports totaled roughly 65,000 short tons in 2019, a 6.0-percent decrease relative to 2017, although their share of global exports has remained the same since 2017. Together, India and Korea's exports of certain iron and/or steel fittings represented approximately 8.8 percent of global certain iron and/or steel fitting exports in 2019.

[11] Data for HS subheadings 7307.92 and 7307.93 are excluded because they include larger shares of nonsubject fittings. The majority of subject FS fittings are exported under the 7307.99 subheading. However, some nonsubject fittings are included under the 7307.99 subheading.

Table VII-14
Certain iron and/or steel fittings: Global exports by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Quantity (short tons)		
United States	35,890	38,724	33,959
India	28,398	30,957	35,233
South Korea	40,686	34,334	29,723
Subject countries	69,084	65,291	64,955
China	266,076	293,370	294,622
Italy	61,755	61,169	57,775
Germany	45,301	49,112	46,173
Poland	22,148	28,787	28,891
Singapore	15,065	10,729	15,652
Czech Republic	23,357	20,745	14,183
Netherlands	8,194	12,181	13,162
Mexico	11,515	12,949	12,936
Sweden	11,449	12,527	12,670
All other destination markets	219,143	221,298	139,133
All destination markets	788,978	826,882	734,112
	Value (1,000 dollars)		
United States	345,274	378,304	389,776
India	89,153	101,889	119,446
South Korea	231,844	243,719	224,155
Subject countries	320,997	345,608	343,601
China	823,721	1,014,177	1,023,709
Italy	409,385	441,074	417,208
Germany	528,704	617,397	584,352
Poland	135,216	195,772	201,213
Singapore	71,957	70,079	93,986
Czech Republic	87,402	111,383	81,730
Netherlands	114,450	134,040	139,565
Mexico	73,812	68,378	60,392
Sweden	63,347	73,110	71,114
All other destination markets	1,258,171	783,114	825,787
All destination markets	4,232,435	4,232,435	4,232,435

Table continued on next page.

Table VII-14--Continued
Certain iron and/or steel fittings: Global exports by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Unit value (dollars per short ton)		
United States	9,620	9,769	11,478
India	3,139	3,291	3,390
South Korea	5,698	7,099	7,542
Subject countries	4,646	5,293	5,290
China	3,096	3,457	3,475
Italy	6,629	7,211	7,221
Germany	11,671	12,571	12,656
Poland	6,105	6,801	6,965
Singapore	4,776	6,531	6,005
Czech Republic	3,742	5,369	5,762
Netherlands	13,967	11,004	10,604
Mexico	6,410	5,281	4,668
Sweden	5,533	5,836	5,613
All other destination markets	5,741	3,539	5,935
All destination markets	5,364	5,119	5,765
	Share of quantity (percent)		
United States	4.5	4.7	4.6
India	3.6	3.7	4.8
South Korea	5.2	4.2	4.0
Subject countries	8.8	7.9	8.8
China	33.7	35.5	40.1
Italy	7.8	7.4	7.9
Germany	5.7	5.9	6.3
Poland	2.8	3.5	3.9
Singapore	1.9	1.3	2.1
Czech Republic	3.0	2.5	1.9
Netherlands	1.0	1.5	1.8
Mexico	1.5	1.6	1.8
Sweden	1.5	1.5	1.7
All other destination markets	27.8	26.8	19.0
All destination markets	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 2019 data.

Source: Official exports statistics under HS subheading 7307.99 reported by various national statistical authorities in the Global Trade Atlas database, accessed October 19, 2020.

China

China is the world's largest exporter of certain iron and/or steel fittings. According to GTA, China exported nearly 295,000 short tons in 2019 with a value of over $1 billion (table VII-15). Chinese FS fittings exports to the United States totaled 68,112 short tons in 2019, valued at $258 million. This represents 23.1 percent of all Chinese certain iron and/or steel fittings exports, by volume, making the United States the largest market for Chinese certain iron and/or steel fittings exports. Other top markets include Korea, Russia, Indonesia, Malaysia, Vietnam and Canada, with exports to those markets ranging from almost 9,000 short tons to nearly 13,000 short tons in 2019.

Table VII-15
Certain iron and/or steel fittings: Exports from China by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Quantity (short tons)		
United States	80,405	97,610	68,112
India	6,213	6,703	7,489
South Korea	6,643	8,850	10,664
Subject countries	12,856	15,553	18,154
Russia	6,748	6,792	12,646
Indonesia	3,651	5,424	9,391
Malaysia	11,878	6,658	9,160
Vietnam	4,110	4,891	8,948
Canada	8,599	10,324	8,882
Japan	8,307	8,527	8,833
Germany	4,090	5,325	7,013
Australia	4,338	6,210	6,702
All other destination markets	121,093	126,055	136,782
All destination markets	266,076	293,370	294,622
	Value (1,000 dollars)		
United States	242,193	334,513	258,383
India	15,589	16,815	23,655
South Korea	18,083	27,835	30,661
Subject countries	33,672	44,650	54,316
Russia	16,934	21,046	41,680
Indonesia	11,199	16,484	23,987
Malaysia	27,680	12,887	15,551
Vietnam	13,821	15,233	25,467
Canada	26,997	38,505	29,259
Japan	42,402	49,141	50,272
Germany	21,280	31,544	39,433
Australia	22,158	29,803	29,120
All other destination markets	365,386	420,372	456,242
All destination markets	823,721	1,014,177	1,023,709

Table continued on next page.

Table VII-15--Continued
Certain iron and/or steel fittings: Exports from China by destination market, 2017-19

Exporter	Calendar year		
	2017	2018	2019
	Unit value (dollars per short ton)		
United States	3,012	3,427	3,794
India	2,509	2,508	3,159
South Korea	2,722	3,145	2,875
Subject countries	2,619	2,871	2,992
Russia	2,509	3,099	3,296
Indonesia	3,067	3,039	2,554
Malaysia	2,330	1,935	1,698
Vietnam	3,363	3,115	2,846
Canada	3,140	3,730	3,294
Japan	5,104	5,763	5,691
Germany	5,203	5,923	5,623
Australia	5,107	4,799	4,345
All other exporters	3,017	3,335	3,336
All reporting exporters	3,096	3,457	3,475
	Share of quantity (percent)		
United States	30.2	33.3	23.1
India	2.3	2.3	2.5
South Korea	2.5	3.0	3.6
Subject countries	4.8	5.3	6.2
Russia	2.5	2.3	4.3
Indonesia	1.4	1.8	3.2
Malaysia	4.5	2.3	3.1
Vietnam	1.5	1.7	3.0
Canada	3.2	3.5	3.0
Japan	3.1	2.9	3.0
Germany	1.5	1.8	2.4
Australia	1.6	2.1	2.3
All other exporters	45.5	43.0	46.4
All reporting exporters	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 2019 data.

Source: Official exports statistics under HS subheading 7307.99 reported by various national statistical authorities in the Global Trade Atlas database, accessed October 19, 2020.

Italy

According to GTA, Italy was the third-largest global exporter of certain iron and/or steel fittings, by volume, in 2019 and the fourth largest exporter in value terms. Italian exports of certain iron and/or steel fittings totaled nearly 58,000 short tons in 2019, valued at $417 million (Table VII-16). Germany was the top destination market of certain iron and/or steel fittings, by volume, from Italy in 2019, surpassing the United States which was the largest destination market in the previous year, and the third largest destination market in 2019. The 5,407 short tons of certain iron and/or steel fittings exported to the United States represented 9.4 percent of Italy's certain iron and/or steel fitting exports for 2019.

Table VII-16
Certain iron and/or steel fittings: Exports from Italy by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Quantity (short tons)		
United States	9,120	9,717	5,407
India	574	189	771
South Korea	797	1,080	889
Subject countries	1,372	1,270	1,660
Germany	13,067	7,831	8,212
United Kingdom	3,174	4,169	7,368
France	3,595	4,834	4,069
Poland	3,159	3,421	3,613
Singapore	542	331	2,822
Czech Republic	1,777	2,127	1,617
Austria	1,675	1,639	1,394
Russia	729	772	1,266
All other destination markets	23,546	25,057	20,347
All destination markets	61,755	61,169	57,775
	Value (1,000 dollars)		
United States	37,516	45,113	38,948
India	5,076	2,006	7,290
South Korea	6,025	9,631	6,856
Subject countries	11,101	11,637	14,147
Germany	58,978	54,972	50,449
United Kingdom	27,148	30,026	39,756
France	33,944	38,367	35,273
Poland	14,994	17,152	19,363
Singapore	4,703	4,111	10,259
Czech Republic	5,650	8,827	7,318
Austria	8,120	9,115	8,213
Russia	5,558	6,890	8,626
All other destination markets	201,673	214,864	184,854
All destination markets	409,385	441,074	417,208

Table continued.

Table VII-16--Continued
Certain iron and/or steel fittings: Exports from Italy by destination market, 2017-19

Exporter	Calendar year		
	2017	2018	2019
	Unit value (dollars per short ton)		
United States	4,114	4,643	7,203
India	8,836	10,602	9,456
South Korea	7,556	8,914	7,715
Subject countries	8,092	9,166	8,524
Germany	4,514	7,020	6,143
United Kingdom	8,553	7,201	5,396
France	9,443	7,936	8,670
Poland	4,746	5,013	5,359
Singapore	8,671	12,410	3,635
Czech Republic	3,180	4,150	4,525
Austria	4,849	5,563	5,892
Russia	7,624	8,927	6,813
All other exporters	8,565	8,575	9,085
All reporting exporters	6,629	7,211	7,221
	Share of quantity (percent)		
United States	14.8	15.9	9.4
India	0.9	0.3	1.3
South Korea	1.3	1.8	1.5
Subject countries	2.2	2.1	2.9
Germany	21.2	12.8	14.2
United Kingdom	5.1	6.8	12.8
France	5.8	7.9	7.0
Poland	5.1	5.6	6.3
Singapore	0.9	0.5	4.9
Czech Republic	2.9	3.5	2.8
Austria	2.7	2.7	2.4
Russia	1.2	1.3	2.2
All other exporters	38.1	41.0	35.2
All reporting exporters	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 2019 data.

Source: Official exports statistics under HS subheading 7307.99 reported by various national statistical authorities in the Global Trade Atlas database, accessed October 19, 2020.

APPENDIX A

FEDERAL REGISTER NOTICES

The Commission makes available notices relevant to its investigations and reviews on its website, 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 57881, October 29, 2019	*Forged Steel Fittings From India and Korea; Institution of Anti-Dumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations*	https://www.govinfo.gov/content/pkg/FR-2019-10-29/pdf/2019-23558.pdf
84 FR 64270, November 21, 2019	*Forged Steel Fittings From India: Initiation of Countervailing Duty Investigation*	https://www.govinfo.gov/content/pkg/FR-2019-11-21/pdf/2019-25044.pdf
84 FR 64265, November 21, 2019	*Forged Steel Fittings From India and the Republic of Korea: Initiation of Less-Than-Fair-Value Investigations*	https://www.govinfo.gov/content/pkg/FR-2019-11-21/pdf/2019-25043.pdf
84 FR 67959 December 12, 2019	*Forged Steel Fittings From India and Korea: Determinations*	https://www.govinfo.gov/content/pkg/FR-2019-12-12/pdf/2019-26766.pdf
85 FR 17536 March 30, 2020	*Forged Steel Fittings From India: Preliminary Affirmative Countervailing Duty Determination, and Alignment of Final Determination With Final Antidumping Duty Determination*	https://www.govinfo.gov/content/pkg/FR-2020-03-30/pdf/2020-06548.pdf
85 FR 32007 May 28, 2020	*Forged Steel Fittings From India: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures*	https://www.govinfo.gov/content/pkg/FR-2020-05-28/pdf/2020-11448.pdf
85 FR 32010 May 28, 2020	*Forged Steel Fittings From the Republic of Korea: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures*	https://www.govinfo.gov/content/pkg/FR-2020-05-28/pdf/2020-11447.pdf
85 FR 66302 October 19, 2020	*Forged Steel Fittings From the Republic of Korea: Final Affirmative Determination of Sales at Less Than Fair Value*	https://www.govinfo.gov/content/pkg/FR-2020-10-19/pdf/2020-23110.pdf
85 FR 66306 October 19, 2020	*Forged Steel Fittings From India: Final Affirmative Determination of Sales at Less Than Fair Value*	https://www.govinfo.gov/content/pkg/FR-2020-10-19/pdf/2020-23111.pdf
85 FR 66535 October 20, 2020	*Forged Steel Fittings From India: Final Affirmative Countervailing Duty Determination*	https://www.govinfo.gov/content/pkg/FR-2020-10-20/pdf/2020-23272.pdf

APPENDIX B

LIST OF HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

Those listed below appeared in the United States International Trade Commission's hearing via videoconference:

Subject: Forged Steel Fittings from India and Korea

Inv. Nos.: 701-TA-631 and 731-TA-1463-1464 (Final)

Date and Time: October 15, 2020 - 9:30 a.m.

FOREIGN GOVERNMENT WITNESSES:

Government of Korea

Mr. Hyounggyu Yoo, Deputy Director, Trade Legal Affairs and Planning Division, Ministry of Trade, Industry and Energy ("MOTIE")

Ms. Seuyeun Lee, Second Secretary, North American and European Economic Affairs Division, Ministry of Foreign Affairs ("MOFA")

OPENING REMARKS:

Petitioners (**Elizabeth J. Drake**, Schagrin Associates)
Respondent (**Matthew McConkey**, Mayer Brown LLP)

In Support of the Imposition of Antidumping and Countervailing Duty Orders:

Schagrin Associates
Washington, DC
on behalf of

Bonney Forge Corporation
The United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Serviced Workers International Union ("USW")

John Leone, Chairman and Chief Executive Officer, Bonney Forge Corporation

Chuck Almer, Vice President of Operations, Bonney Forge Corporation

In Support of the Imposition of
Antidumping and Countervailing Duty Orders (continued):

Heather McClure, Vice President and Chief Financial Officer, Bonney Forge Corporation

Ken O'Connell, Vice President, Business Development Eastern Region, Bonney Forge Corporation

Susan Leone, Executive Vice President, WFI International, a subsidiary of Bonney Forge Corporation

Roy Houseman, Legislative Director, USW

Roger B. Schagrin)
Elizabeth J. Drake) – OF COUNSEL
Benjamin J. Bay)

In Opposition to the Imposition of
Antidumping and Countervailing Duty Orders:

Mayer Brown LLP
Washington, DC
on behalf of

Samyoung Fitting Co., Ltd.

Ickho Cho, Chief Executive Officer, Samyoung Fitting Co., Ltd.

Jong-Seon Shim, Accountant, KPMG Korea

Warren Payne, Senior Trade Policy Advisor, Mayer Brown LLP

Matthew McConkey)
JoonBeom Pae)
) – OF COUNSEL
Jing Zhang)
Jennifer Parry)

REBUTTAL/CLOSING REMARKS:

Petitioners (**Roger B. Schagrin**, Schagrin Associates)
Respondent (**Matthew McConkey**, Mayer Brown LLP)

-END-

APPENDIX C

SUMMARY DATA

Table C-1: FS Fittings: Summary data concerning the total U.S. market C-3

Table C-2: FS Fittings: Summary data concerning the total U.S. market excluding one U.S. producer *** C-5

Table C-1

Forged steel fittings: Summary data concerning the U.S. market, 2017-19, January to June 2019, and January to June 2020

(Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to June		Comparison years			Jan-Jun
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
U.S. consumption quantity:									
Amount	25,037	30,667	25,567	15,001	6,467	▲2.1	▲22.5	▼(16.6)	▼(56.9)
Producers' share (fn1)	***	***	***	***	***	▲***	▲***	▼***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▲***	▲***	▲***	▼***
Korea	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▼***
China	***	***	***	***	***	▼***	▼***	▼***	▼***
All other sources	***	***	***	***	***	▼***	▼***	▼***	▼***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources	***	***	***	***	***	▼***	▼***	▲***	▼***
U.S. consumption value:									
Amount	149,986	191,116	170,828	94,093	52,666	▲13.9	▲27.4	▼(10.6)	▼(44.0)
Producers' share (fn1):									
Fully domestic value	***	***	***	***	***	▲***	▲***	▼***	▲***
Value added to imports	***	***	***	***	***	▼***	▲***	▼***	▼***
Total	***	***	***	***	***	▲***	▲***	▼***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▲***	▲***	▲***	▼***
Korea	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▼***
China	***	***	***	***	***	▼***	▲***	▼***	▼***
All other sources	***	***	***	***	***	▼***	▼***	▼***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▲***
All import sources	***	***	***	***	***	▼***	▼***	▲***	▼***
U.S. importers' U.S. shipments from:									
India:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Korea									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▲***	▲***	▲***	▼***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
China:									
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	2,223	2,652	3,580	3,217	3,165	▲61.0	▲19.3	▲35.0	▼(1.6)

Table continued.

Table C-1--Continued
Forged steel fittings: Summary data concerning the U.S. market, 2017-19, January to June 2019, and January to June 2020
(Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to June		Comparison years			Jan-Jun
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
U.S. producers':									
Average capacity quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Production quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Capacity utilization (fn1)	***	***	***	***	***	▲***	▲***	▼***	▼***
U.S. shipments:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Value (fn2):									
Fully domestic value	***	***	***	***	***	▲***	▲***	▼***	▼***
Value added to imports	***	***	***	***	***	▲***	▲***	▼***	▼***
Total	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▲***	▼***	▲***	▲***
Export shipments:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
Value	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit value	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Inventories/total shipments (fn1)	***	***	***	***	***	▲***	▼***	▲***	▲***
Production workers	***	***	***	***	***	▲***	▲***	▼***	▼***
Hours worked (1,000s)	***	***	***	***	***	▲***	▲***	▼***	▼***
Wages paid ($1,000)	***	***	***	***	***	▲***	▲***	▼***	▼***
Hourly wages (dollars per hour)	***	***	***	***	***	▲***	▲***	▲***	▲***
Productivity (short tons per 1,000 hours)	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit labor costs	***	***	***	***	***	▲***	▼***	▲***	▲***
Net sales:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Value	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▲***	▲***	▲***	▲***
Cost of goods sold (COGS)	***	***	***	***	***	▲***	▲***	▼***	▼***
Gross profit or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▼***	▼***
SG&A expenses	***	***	***	***	***	▲***	▲***	▼***	▼***
Operating income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▼***	▼***
Net income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▼***	▼***
Capital expenditures	***	***	***	***	***	▲***	▲***	▼***	▼***
Research and development expenses	***	***	***	***	***	▼***	▼***	▼***	▼***
Net assets	***	***	***	***	***	▲***	▲***	▲***	***
Unit COGS	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit SG&A expenses	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit operating income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit net income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▼***	▼***
COGS/sales (fn1)	***	***	***	***	***	▼***	▼***	▲***	▲***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▲***	▼***	▼***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▲***	▼***	▼***

Notes:

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.--The quantity for U.S. producers' U.S. shipments reflects the quantity of FS fitting sold in the United States from integrated producers; The value for U.S. producers' U.S. shipments reflects the value of FS fittings sold in the United States from integrated producers plus the additional value added to imported FS fittings from finisher only producers. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported once as an import. Unit value of U.S. shipments is only presented for integrated producers.

fn3.--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: Compiled from data submitted in response to Commission questionnaires.

Related party exclusion

Table C-2
Forged steel fittings: Summary data concerning the U.S. market excluding one U.S. producer *, 2017-19, January to June 2019, and January to June 2020**
(Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to June		Comparison years			Jan-Jun
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
U.S. consumption quantity:									
Amount	***	***	***	***	***	▲***	▲***	▼***	▼***
Producers' share (fn1):									
Included producers	***	***	***	***	***	▲***	▲***	▼***	▲***
Excluded producers	***	***	***	***	***	***	***	***	***
All producers	***	***	***	***	***	▲***	▲***	▼***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▲***	▲***	▲***	▼***
Korea	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▼***
China	***	***	***	***	***	▼***	▼***	▼***	▼***
All other sources	***	***	***	***	***	▼***	▼***	▼***	▼***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources	***	***	***	***	***	▼***	▼***	▲***	▼***
U.S. consumption value:									
Amount	***	***	***	***	***	▲***	▲***	▼***	▼***
Producers' share (fn1):									
Included producers	***	***	***	***	***	▲***	▲***	▼***	▲***
Excluded producers	***	***	***	***	***	▼***	▲***	▼***	▼***
All producers	***	***	***	***	***	▲***	▲***	▼***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▲***	▲***	▲***	▼***
Korea	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▼***
China	***	***	***	***	***	▼***	▲***	▼***	▼***
All other sources	***	***	***	***	***	▼***	▼***	▼***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▲***
All import sources	***	***	***	***	***	▼***	▼***	▲***	▼***
U.S. importers' U.S. shipments from:									
India:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Korea									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▲***	▲***	▲***	▼***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
China:									
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	***	***	***	***	***	▲***	▲***	▲***	▼***

Table continued.

Table C-2--Continued
Forged steel fittings: Summary data concerning the U.S. market excluding one U.S. producer *, 2017-19, January to June 2019, and January to June 2020**
(Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to June		Comparison years			Jan-Jun
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
Included U.S. producers':									
Average capacity quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Production quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Capacity utilization (fn1)	***	***	***	***	***	▲***	▲***	▼***	▼***
U.S. shipments:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Value	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▲***	▼***	▲***	▲***
Export shipments:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
Value	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit value	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Inventories/total shipments (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
Production workers	***	***	***	***	***	▲***	▲***	▼***	▼***
Hours worked (1,000s)	***	***	***	***	***	▲***	▲***	▼***	▼***
Wages paid ($1,000)	***	***	***	***	***	▲***	▲***	▼***	▼***
Hourly wages (dollars per hour)	***	***	***	***	***	▲***	▲***	▲***	▲***
Productivity (short tons per 1,000 hours)	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit labor costs	***	***	***	***	***	▲***	▼***	▲***	▲***
Net sales:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Value	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▲***	▼***	▲***	▲***
Cost of goods sold (COGS)	***	***	***	***	***	▲***	▲***	▼***	▼***
Gross profit or (loss) (fn2)	***	***	***	***	***	▲***	▲***	▼***	▼***
SG&A expenses	***	***	***	***	***	▲***	▲***	▼***	▼***
Operating income or (loss) (fn2)	***	***	***	***	***	▲***	▲***	▼***	▼***
Net income or (loss) (fn2)	***	***	***	***	***	▲***	▲***	▼***	▼***
Capital expenditures	***	***	***	***	***	▲***	▲***	▼***	▼***
Research and development expenses	***	***	***	***	***	▼***	▼***	▼***	▼***
Net assets	***	***	***	***	***	▲***	▲***	▲***	***
Unit COGS	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit SG&A expenses	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit operating income or (loss) (fn2)	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit net income or (loss) (fn2)	***	***	***	***	***	▲***	▲***	▼***	▼***
COGS/sales (fn1)	***	***	***	***	***	▼***	▼***	▲***	▲***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▲***	▼***	▼***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▲***	▼***	▼***

Notes:

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: Compiled from data submitted in response to Commission questionnaires.

APPENDIX D

U.S. PRODUCERS' AND U.S. IMPORTERS' U.S. SHIPMENTS BY TYPE

Table D-1

FS fittings: U.S. producers' and U.S. importers' U.S. shipments by type, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. producers' U.S. shipments.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. producers' U.S. shipments.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. producers' U.S. shipments.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. producers' U.S. shipments.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. producers' U.S. shipments.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Quantity (short tons)				
U.S. importers' U.S. shipments of imports from India.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. importers' U.S. shipments of imports from India.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***

Table continued on next page.

Table D-1--Continued

FS fittings: U.S. producers' and U.S. importers' U.S. shipments by type, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Unit value (dollars per short ton)				
U.S. importers' U.S. shipments of imports from India.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. importers' U.S. shipments of imports from India.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. importers' U.S. shipments of imports from India.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Quantity (short tons)				
U.S. importers' U.S. shipments of imports from Korea.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. importers' U.S. shipments of imports from Korea.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. importers' U.S. shipments of imports from Korea.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***

Table continued on next page.

Table D-1--Continued

FS fittings: U.S. producers' and U.S. importers' U.S. shipments by type, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Share of quantity (percent)				
U.S. importers' U.S. shipments of imports from Korea.--					
Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. importers' U.S. shipments of imports from Korea.--					
Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Quantity (short tons)				
U.S. importers' U.S. shipments of imports from subject sources.--					
Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. importers' U.S. shipments of imports from subject sources.--					
Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. importers' U.S. shipments of imports from subject sources.--					
Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. importers' U.S. shipments of imports from subject sources.--					
Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***

Table continued on next page.

Table D-1--Continued

FS fittings: U.S. producers' and U.S. importers' U.S. shipments by type, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Share of value (percent)				
U.S. importers' U.S. shipments of imports from subject sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Quantity (short tons)				
U.S. importers' U.S. shipments of imports from China.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. importers' U.S. shipments of imports from China.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. importers' U.S. shipments of imports from China.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. importers' U.S. shipments of imports from China.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. importers' U.S. shipments of imports from China.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***

Table continued on next page.

Table D-1--Continued

FS fittings: U.S. producers' and U.S. importers' U.S. shipments by type, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. importers' U.S. shipments of imports from all other sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Value (1,000 dollars)				
U.S. importers' U.S. shipments of imports from all other sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. importers' U.S. shipments of imports from all other sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. importers' U.S. shipments of imports from all other sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. importers' U.S. shipments of imports from all other sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Quantity (short tons)				
U.S. importers' U.S. shipments of imports from nonsubject sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***

Table continued on next page.

Table D-1--Continued

FS fittings: U.S. producers' and U.S. importers' U.S. shipments by type, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Value (1,000 dollars)				
U.S. importers' U.S. shipments of imports from nonsubject sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. importers' U.S. shipments of imports from nonsubject sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. importers' U.S. shipments of imports from nonsubject sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. importers' U.S. shipments of imports from nonsubject sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Quantity (short tons)				
U.S. importers' U.S. shipments of imports from all import sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***

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Table D-1--Continued

FS fittings: U.S. producers' and U.S. importers' U.S. shipments by type, 2017-19, January-June 2019, and January-June 2020

Item	Calendar year			January to June	
	2017	2018	2019	2019	2020
	Value (1,000 dollars)				
U.S. importers' U.S. shipments of imports from all import sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. importers' U.S. shipments of imports from all import sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of quantity (percent)				
U.S. importers' U.S. shipments of imports from all import sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***
	Share of value (percent)				
U.S. importers' U.S. shipments of imports from all import sources.-- Unfinished	***	***	***	***	***
Finished	***	***	***	***	***
All levels of finishing	***	***	***	***	***

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.

APPENDIX E

NONSUBJECT COUNTRY PRICE DATA

Three importers reported price data for China for products 1-6. Price data reported by these firms accounted for 14.8 percent of U.S. commercial shipments from China in 2019. These price items and accompanying data are comparable to those presented in tables V-4 to V-9. Price and quantity data for China are shown in tables E-1 to E-6 and in figures E-1 to E-6 (with domestic and subject sources).

In comparing nonsubject country pricing data with U.S. producer pricing data, prices for product imported from China were lower than prices for U.S.-produced product in 35 instances and higher in 31 instances. In comparing nonsubject country pricing data with subject country pricing data, prices for product imported from China were lower than prices for product imported from subject countries in 49 instances and higher in 34 instances. A summary of price differentials is presented in table E-7.

Table E-1
FS fittings: Weighted-average f.o.b. prices and quantities of imported product 1, by quarters, January 2017-June 2020

Period	United States		China		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2018:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2019:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2020:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***

Note: Product 1: ASME B16.11, 2” 2000 Tee (threaded), finished.

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

Table E-2
FS fittings: Weighted-average f.o.b. prices and quantities of imported product 2, by quarters, January 2017-June 2020

Period	United States		China		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2018:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2019:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2020:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***

Note: Product 2: ASME B16.11, 1” 2000 90 Elbow (threaded), finished.

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

Table E-3
FS fittings: Weighted-average f.o.b. prices and quantities of imported product 3, by quarters, January 2017-June 2020

Period	United States		China		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2018:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2019:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2020:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***

Note: Product 3: ASME B16.11, 2” 3000 90 Elbow (threaded), finished.

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

Table E-4
FS fittings: Weighted-average f.o.b. prices and quantities of imported product 4, by quarters, January 2017-June 2020

Period	United States		China		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2018:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2019:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2020:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***

Note: Product 4: ASME B16.11, ¾" 3000 Union (threaded), finished.

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

Table E-5
FS fittings: Weighted-average f.o.b. prices and quantities of imported product 5, by quarters, January 2017-June 2020

Period	United States		China		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2018:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2019:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2020:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***

Note: Product 5: ASME B16.11, 1.5” 3000 Union (threaded), finished.

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

Table E-6
FS fittings: Weighted-average f.o.b. prices and quantities of imported product 6, by quarters, January 2017-June 2020

Period	United States		China		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2018:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2019:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2020:					
Jan.-Mar.	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***

Note: Product 6: ASME B16.11, 2” 3000 Coupling (threaded), finished.

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

Figure E-1
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by quarters, January 2017-June 2020

* * * * * * *

* * * * * * *

Note: Product 1: ASME B16.11, 2” 2000 Tee (threaded), finished.

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

Figure E-2
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, by quarters, January 2017-June 2020

* * * * * * *

* * * * * * *

Note: Product 2: ASME B16.11, 1” 2000 90 Elbow (threaded), finished.

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

Figure E-3
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 3, by quarters, January 2017-June 2020

* * * * * * *

* * * * * * *

Note: Product 3: ASME B16.11, 2” 3000 90 Elbow (threaded), finished.

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

Figure E-4
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by quarters, January 2017-June 2020

* * * * * * *

* * * * * * *

Note: Product 4: ASME B16.11, ¾" 3000 Union (threaded), finished.

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

Figure E-5
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 5, by quarters, January 2017-June 2020

* * * * * * *

* * * * * * *

Note: Product 5: ASME B16.11, 1.5” 3000 Union (threaded), finished.

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

Figure E-6
FS fittings: Weighted-average f.o.b. prices and quantities of domestic and imported product 6, by quarters, January 2017-June 2020

* * * * * * *

* * * * * * *

Note: Product 6: ASME B16.11, 2” 3000 Coupling (threaded), finished.

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

Table E-7
FS fittings: Summary of underselling/(overselling), by country, January 2017-June 2020

Comparison	Total number of comparisons	Lower		Higher	
		Number of quarters	Quantity (pounds)	Number of quarters	Quantity (pounds)
Nonsubject source vs United States.--					
China vs. United States	***	***	***	***	***
Nonsubject source vs subject source.--					
China vs India	***	***	***	***	***
China vs Korea	***	***	***	***	***

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